

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2017 SAGINAW CO (7303)



Spring, 2018

Saginaw Co

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2017. The report includes the determination of liabilities and contribution rates resulting from the participation of Saginaw Co (7303) 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. Saginaw Co is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2017 annual actuarial valuation is to:

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



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

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
Funded Ratio	84%	86%

^{*} 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:	October 1, 2019	October 1, 2019	October 1, 2018	October 1, 2018	October 1, 2019	October 1, 2019	October 1, 2018	October 1, 2018		
Division										
01 - General	-	-	- '	- 1	\$ 16,129	\$ 20,809	\$ 11,360	\$ 18,380		
02 - Sheriff POAM	-	-		-	28,833	34,439	22,652	31,061		
09 - UAW Managers	-	-	-	-	74,769	83,991	58,667	72,500		
10 - UAWProfessional	-	-	-	- 1	7,555	8,651	5,083	6,727		
11 - Gnrl Local486		-	-	-	7,147	8,009	6,153	7,446		
13 - Sheriff/Cooks	-	-	-	-	1,524	1,802	944	1,361		
14 - Nurses	-	=	-	*	7,568	8,338	7,876	9,031		
15 - Hlth Dept	-	-	-	-	22,183	24,459	18,598	22,012		
16 - Elctd Commsnrs	-	-	-	E	3,225	3,643	2,188	2,815		
17 - Animal Control	-	-	-	-	2,392	2,626	1,899	2,250		
18 - Judges	-	-	-	·=	0	0	0	0		
19 - Dist Judges	-	-	-	-	4,095	4,331	3,710	4,064		
20 - Sheriff FOP	-	-		-	381	381	840	840		
21 - Shrff/Lts/Capts	-		-	-	31,393	32,955	26,860	29,203		
23 - P.O.A.M. Non 312	-	+1	H	-	8,999	10,373	7,903	9,964		
91 - Juvenile Probtn	-	-	-	-	4,677	5,013	3,929	4,433		
92 - Dist Court Prob	×	-	*	-	3,499	3,789	2,897	3,332		
93 - Pros Attys Union	-		-	-	6,759	7,455	5,663	6,707		
94 - Upper Management	χ.	-		-	18,556	20,094	15,845	18,152		
95 - NonUnion Mgmnt	-		-	-	876	876	603	603		
96 - UAW Para prof.	-	Ħ	-	-	206	212	190	199		
Municipality Total					\$ 250,766	\$ 282,246	\$ 203,860	\$ 251,080		

Employee contribution rates reflected in the valuations are shown below:

	Employee Cor	ntribution Rate
Valuation Date:	12/31/2017	12/31/2016
Division		
01 - General	3.88%	3.88%
02 - Sheriff POAM	4.00%	4.00%
09 - UAW Managers	3.20%	3.20%
10 - UAWProfessional	0.00%	0.00%
11 - Gnrl Local486	0.00%	0.00%
13 - Sheriff/Cooks	1.00%	1.00%
14 - Nurses	0.00%	0.00%
15 - Hlth Dept	0.00%	0.00%
16 - Elctd Commsnrs	0.00%	0.00%
17 - Animal Control	0.00%	0.00%
18 - Judges	0.00%	0.00%
19 - Dist Judges	0.00%	0.00%
20 - Sheriff FOP	0.00%	0.00%
21 - Shrff/Lts/Capts	0.00%	0.00%
23 - P.O.A.M. Non 312	4.00%	4.00%
91 - Juvenile Probtn	3.45%	3.45%
92 - Dist Court Prob	3.84%	3.84%
93 - Pros Attys Union	0.00%	0.00%
94 - Upper Management	0.00%	0.00%
95 - NonUnion Mgmnt	0.00%	0.00%
96 - UAW Para prof.	4.34%	4.34%

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.

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.
 - More non-vested terminations of employment than assumed would decrease required contributions.
 - More disabilities or survivor (death) benefits than assumed would increase required contributions.
 - 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 <u>Appendix</u>, or visit our <u>Defined Benefit resource page</u> 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 83% (instead of 84%); and
- Your total employer contribution requirement for the fiscal year starting October 1, 2019 would be \$3,624,108 (instead of \$3,386,952).

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	Annı	ıal Returns		Valuation Assumption	Hi	gher Returns
12/31/2017 Valuation Results		5.75%		6.75%		7.75%		8.75%
Accrued Liability	\$	177,519,037	\$	161,457,891	\$	147,795,277	\$	136,075,683
Valuation Assets ¹	\$	124,434,953	\$	124,434,953	\$	124,434,953	\$	124,434,953
Unfunded Accrued Liability	\$	53,084,084	\$	37,022,938	\$	23,360,324	\$	11,640,730
Funded Ratio		70%		77%		84%		92%
Monthly Normal Cost	\$	20,531	\$	15,297	\$	11,345	\$	8,356
Monthly Amortization Payment	\$	644,446	\$	467,131	\$	270,901	\$	173,890
Total Employer Contribution ²	\$	664,977	\$	482,428	\$	282,246	\$	182,246

¹ The Valuation Assets include assets from Surplus divisions, if any.

² 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.

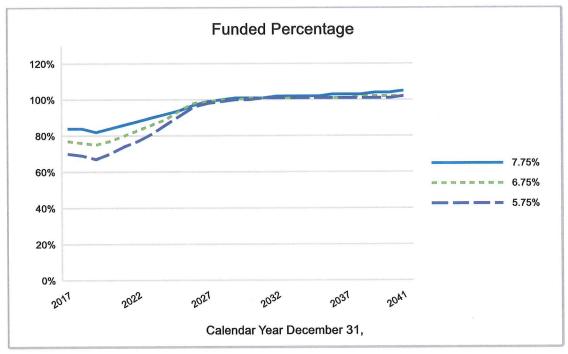
The 7.75% scenarios provide an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.75% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements. 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.

Valuation Year Ending 12/31	Fiscal Year Beginning 10/1	Act	uarial Accrued Liability	Val	uation Assets ²	Funded Percentage	mputed Annual Employer Contribution
7.75% ¹						*	
WITH 5-Y	EAR PHASE-	IN					
2017	2019	\$	147,795,277	\$	124,434,953	84%	\$ 3,009,192
2018	2020		146,400,000		122,500,000	84%	3,540,000
2019	2021		144,600,000		119,000,000	82%	4,160,000
2020	2022		142,300,000		119,300,000	84%	4,110,000
2021	2023		139,600,000		119,700,000	86%	4,100,000
2022	2024		136,500,000		119,300,000	87%	4,250,000
NO 5-YE	 AR PHASE-IN	l					
2017	2019	\$	147,795,277	\$	124,434,953	84%	\$ 3,386,952
2018	2020		146,400,000		122,500,000	84%	3,680,000
2019	2021		144,600,000		119,100,000	82%	4,090,000
2020	2022		142,300,000		119,700,000	84%	4,030,000
2021	2023		139,600,000		120,200,000	86%	4,030,000
2022	2024		136,500,000		119,800,000	88%	4,160,000
6.75% ¹							
NO 5-YE	AR PHASE-IN						
2017	2019	\$	161,457,891	\$	124,434,953	77%	\$ 5,789,136
2018	2020		159,700,000		121,300,000	76%	6,140,000
2019	2021		157,400,000		117,300,000	75%	6,630,000
2020	2022		154,600,000		119,100,000	77%	6,660,000
2021	2023		151,400,000		121,000,000	80%	6,750,000
2022	2024		147,800,000		122,100,000	83%	 6,980,000
5.75% ¹							
	AR PHASE-IN						
2017	2019	\$	177,519,037	\$	124,434,953	70%	\$ 7,979,724
2018	2020		175,200,000		120,200,000	69%	8,520,000
2019	2021		172,300,000		115,400,000	67%	9,070,000
2020	2022		169,000,000		118,300,000	70%	9,200,000
2021	2023		165,100,000		121,400,000	74%	9,380,000
2022	2024		161,000,000		124,000,000	77%	9,700,000

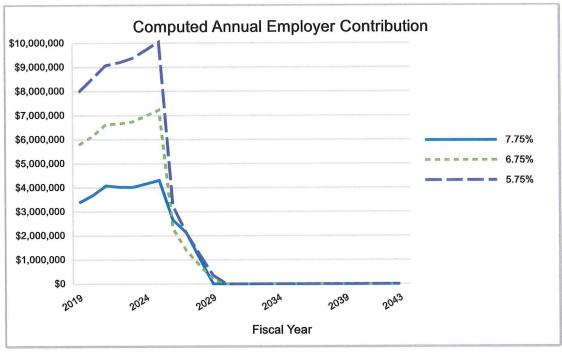
¹ Represents both the interest rate for discounting liabilities and the future investment return assumption on the Market Value of assets.

² 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.

Employer Contribution Details For the Fiscal Year Beginning October 1, 2019

Table 1

			Empl	oyer Contribut	ions ¹	Computed			
Division	Total Normal Cost	Employee Contribut. Rate	Employer Normal Cost	Payment of the Unfunded Accrued	Computed	Employer Contribut.	Blended ER Rate No Phase-In ⁵	Blended ER Rate With Phase-In ⁵	Employee Contribut. Conversion Factor ²
Percentage of Payroll									
01 - General	12.90%	3.88%	-	-	-	-			
02 - Sheriff POAM	16.68%	4.00%	-	-	-	1-			
09 - UAW Managers	16.38%	3.20%	-	-	1-	-			
10 - UAWProfessional	11.76%	0.00%	-	-	-	-			
11 - Gnrl Local486	10.02%	0.00%	-	-	-	-			
13 - Sheriff/Cooks	0.00%	1.00%	-	-					
14 - Nurses	10.49%	0.00%	.=	-	.=	-			
15 - Hlth Dept	11.11%	0.00%	-	-	-	-			
16 - Elctd Commsnrs	0.00%	0.00%	-	-	-	-			
17 - Animal Control	0.00%	0.00%	-	-	-	-			
18 - Judges	0.00%	0.00%	-	-	-	-			
19 - Dist Judges	16.60%	0.00%	-	-	-	-			
20 - Sheriff FOP	12.47%	0.00%	-	-	, -	-			
21 - Shrff/Lts/Capts	0.00%	0.00%	-	-	-	-			
23 - P.O.A.M. Non 312	15.03%	4.00%	-	-	-	=			
91 - Juvenile Probtn	0.00%	3.45%	-	-	-	-			
92 - Dist Court Prob	0.00%	3.84%	-	-	-	-			
93 - Pros Attys Union	10.93%	0.00%	_	-	-	-			
94 - Upper Management	0.00%	0.00%	=	-	-	-			
95 - NonUnion Mgmnt	0.00%	0.00%	-	-	-	-			
96 - UAW Para prof.	13.63%	4.34%	-	-	-	-			
Estimated Monthly Contribution ³									
01 - General			\$ 1,333	\$ 19,476	\$ 20,809	\$ 16,129		1	
02 - Sheriff POAM			2,648		34,439	28,833		1	

Table 1 (continued)

			Empl	oyer Contribut	ions ¹	Computed			
Division	Total Normal Cost	Employee Contribut. Rate	Employer Normal Cost		Computed Employer Contribut. No Phase-In	Employer Contribut. With Phase-In	Blended ER Rate No Phase-In ⁵	Blended ER Rate With Phase-In ⁵	Employee Contribut. Conversion Factor ²
09 - UAW Managers			1,619	82,372	83,991	74,769			
10 - UAWProfessional			1,660	6,991	8,651	7,555			
11 - Gnrl Local486			872	7,137	8,009	7,147			
13 - Sheriff/Cooks			0	1,802	1,802	1,524			
14 - Nurses			298	8,040	8,338	7,568			
15 - Hlth Dept			574	23,885	24,459	22,183			
16 - Elctd Commsnrs			0	3,643	3,643	3,225			
17 - Animal Control			0	2,626	2,626	2,392			
18 - Judges			0	0	0	0			
19 - Dist Judges			214	4,117	4,331	4,095			
20 - Sheriff FOP			381	0	381	381			
21 - Shrff/Lts/Capts			0	32,955	32,955	31,393			
23 - P.O.A.M. Non 312			1,233	9,140	10,373	8,999			
91 - Juvenile Probtn			0	5,013	5,013	4,677			
92 - Dist Court Prob			0	3,789	3,789	3,499			
93 - Pros Attys Union			301	7,154	7,455	6,759			
94 - Upper Management			0	20,094	20,094	18,556			
95 - NonUnion Mgmnt			0	876	876	876			
96 - UAW Para prof.			212	0	212	206			
Total Municipality			\$ 11,345	\$ 270,901	\$ 282,246	\$ 250,766			
Estimated Annual Contribution ³			\$ 136,140	\$ 3,250,812	\$ 3,386,952	\$ 3,009,192			

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

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

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.

⁴ If projected assets exceed projected liabilities as of the beginning of the October 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.

SAGINAW	СО	(7303)	1	2017

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

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
/esting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
1	55/20	55/20
arly Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	3.88%	3.88%
OC Plan for New Hires:	1/1/2000	1/1/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

02 - Sheriff POAM: Closed	to new nires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	4%	4%
DC Plan for New Hires:	9/30/2000	9/30/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	_	-
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	3.20%	3.20%
DC Plan for New Hires:	3/1/1998	3/1/1998
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

10 - UAWProfessional: Closed to new hires		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
	55/15	55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	3/1/1998	3/1/1998
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/20	55/20
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years

 Employee Contributions:
 0%
 0%

 DC Plan for New Hires:
 9/30/2000
 9/30/2000

Act 88: Yes (Adopted 10/19/1965) Yes (Adopted 10/19/1965)

13 - Sheriff/Cooks: Closed to new hires

11 - Gnrl Local486: Closed to new hires

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
	55/20	55/20
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	1%	1%
DC Plan for New Hires:	9/30/2000	9/30/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
lormal Retirement Age:	60	60
/esting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
,	55/20	55/20
Early Retirement (Reduced):	55/15	55/15
inal Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/1999	1/1/1999
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

15 - Hith Dept: Closed to new nires		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
	55/20	55/20
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/1999	1/1/1999
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

16 - Elctd Commsnrs: Closed to new hires		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0%	0%
DC Plan for New Hires:	3/1/1998	3/1/1998
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

17 - Animal Control: Closed	d to new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
	55/20	55/20
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/2000	1/1/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)
18 - Judges: Closed to new	hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/1999	1/1/1999
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)
19 - Dist Judges: Closed to	new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)

1/1/1999

Yes (Adopted 10/19/1965)

0%

1/1/1999

Yes (Adopted 10/19/1965)

Act 88:

Employee Contributions: DC Plan for New Hires:

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/2000	1/1/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/1999	1/1/1999
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

		1일 등 보고 보고 있다. 그 집에 되었다. 그 1200년에 되었습니다. 그 1240년 등 1200년 전 120년 등 1 1
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	4%	4%
DC Plan for New Hires:	9/30/2000	9/30/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/20	55/20
-	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	3.45%	3.45%
DC Plan for New Hires:	9/30/2000	9/30/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

92 - Dist Court Prob: Closed to new hires		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/20	55/20
	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	3.84%	3.84%
DC Plan for New Hires:	1/1/2000	1/1/2000
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

93 - Pros Attys Union: Clos	ed to new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
•	55/20	55/20
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	1/1/1999	1/1/1999
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

94 - Upper Management: Cl	losed to new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0%	0%
RS50% Percentage:	50%	50%
DC Plan for New Hires:	6/20/2006	6/20/2006
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)
95 - NonUnion Mgmnt: Clos	sed to new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/15	55/15
and the same statement of the same state of the	25 and Out	25 and Out
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	0%	0%
DC Plan for New Hires:	6/20/2006	6/20/2006
Act 88:	Yes (Adopted 10/1/2005)	Yes (Adopted 10/1/2005)
96 - UAW Para prof.: Closed	d to new hires	
	2017 Valuation	2016 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	50/25	50/25
, , , , , , , , , , , , , , , , , , , ,	55/15	55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	5 years	5 years
Employee Contributions:	4.34%	4.34%
DC Plan for New Hires:	6/20/2006	6/20/2006
Act 88:	Yes (Adopted 10/19/1965)	Yes (Adopted 10/19/1965)

Participant Summary

Table 3

	2017	Va	luation	2016	Va	aluation	2017 Valuation			
Division	Number		Annual Payroll ¹	Number		Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²	
01 - General										
Active Employees	9	\$	355,522	11	\$	431,557	60.6	29.2	29.2	
Vested Former Employees	13		91,232	14		96,128	54.8	12.3	13.2	
Retirees and Beneficiaries	140		1,772,531	146		1,756,980	72.9			
02 - Sheriff POAM										
Active Employees	7	\$	405,367	8	\$	526,172	50.0	25.1	25.9	
Vested Former Employees	4		27,685	5		32,690	52.1	6.4	10.2	
Retirees and Beneficiaries	60	ĺ	1,497,347	59		1,445,058	69.9			
09 - UAW Managers		Γ			Г					
Active Employees	4	\$	277,172	5	\$	343,888	55.8	28.7	28.7	
Vested Former Employees	3		55,598	3		55,598	49.6	12.6	12.6	
Retirees and Beneficiaries	91	İ	3,296,372	91	1	3,216,675	67.4			
10 - UAWProfessional		Г			Г					
Active Employees	5	\$	300,691	5	\$	295,880	58.5	29.2	29.2	
Vested Former Employees	7		37,170	8		40,963	55.6	7.0	9.4	
Retirees and Beneficiaries	61		919,334	61	١	923,298	70.1			
11 - Gnrl Local486		Τ			Γ					
Active Employees	2	\$	121,726	3	\$	151,267	52.9	26.6	26.6	
Vested Former Employees	2		19,562	2		19,562	53.4	12.6	20.2	
Retirees and Beneficiaries	13		254,919	12		233,565	65.9			
13 - Sheriff/Cooks		T		V.	Г					
Active Employees	0	\$	0	0	\$	0	0.0	0.0	0.0	
Vested Former Employees	0		0	0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	6	1	123,484	6		123,484	67.5			
14 - Nurses		T			T					
Active Employees	1	\$	57,290	1	\$	56,236	57.9	29.5	29.5	
Vested Former Employees	2		23,507	2		23,507	55.3	12.4	13.7	
Retirees and Beneficiaries	18	1	286,921	19		307,335	75.1			
15 - Hlth Dept		T								
Active Employees	3	\$	110,107	4	\$	129,843	59.1	32.5	32.5	
Vested Former Employees	9		41,813	10		56,434	54.8	8.9	11.0	
Retirees and Beneficiaries	69		886,838	69	1	871,945	72.2			
16 - Elctd Commsnrs		T			T					
Active Employees	0	\$	0	0	\$	0	0.0	0.0	0.0	
Vested Former Employees	2		6,027	2		6,027	62.6	10.0	10.0	
Retirees and Beneficiaries	16		165,418	16		163,122	72.0	1		

Table 3 (continued)

	2017	Valuation	2016	Va	luation	2017 Valuation			
Division	Number	Annual Payroll ¹	Number		Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²	
17 - Animal Control									
Active Employees	0	\$ (0	\$	0	0.0	0.0	0.0	
Vested Former Employees	0	(0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	5	108,647	5		108,647	60.2			
18 - Judges									
Active Employees	0	\$ (1	\$	27,434	0.0	0.0	0.0	
Vested Former Employees	0	(0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	6	80,799	5	1	52,594	78.5			
19 - Dist Judges									
Active Employees	1	\$ 27,434	1 1	\$	27,434	62.3	27.4	27.4	
Vested Former Employees	0		0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	5	81,26	5 5	İ	80,186	78.3			
20 - Sheriff FOP				T					
Active Employees	1	\$ 74,619	2	\$	144,119	55.9	30.5	30.5	
Vested Former Employees	0	(0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	15	568,18	2 14	1	516,631	65.3		1	
21 - Shrff/Lts/Capts									
Active Employees	0	\$	1	\$	77,865	0.0	0.0	0.0	
Vested Former Employees	0		0 0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	14	601,62	5 13	1	545,186	64.2		İ	
23 - P.O.A.M. Non 312		*		T				Ì	
Active Employees	3	\$ 206,90	7 3	\$	226,794	56.1	25.5	25.5	
Vested Former Employees	1	9,06	2 1		9,062	50.6	9.3	9.3	
Retirees and Beneficiaries	18	624,17	18	1	610,817	64.1			
91 - Juvenile Probtn				Τ					
Active Employees	0	\$	0 0	\$	0	0.0	0.0	0.0	
Vested Former Employees	0		0 0		0	0.0	0.0	0.0	
Retirees and Beneficiaries	5	141,91	2 5	1	141,912	69.3		1	
92 - Dist Court Prob				Ī					
Active Employees	0	\$	0 0	\$	0	0.0	0.0	0.0	
Vested Former Employees	2	36,25	8 2		36,258	54.5	15.5	17.2	
Retirees and Beneficiaries	3	103,64	1	İ	103,649	64.2	İ		
93 - Pros Attys Union		PMI		T					
Active Employees	1 1	\$ 80,78	0 1	\$	79,554	67.7	28.9	28.9	
Vested Former Employees	0	1.0	0 0		0		0.0	0.0	
Retirees and Beneficiaries	7	270,80			270,805				
94 - Upper Management				T					
Active Employees	0	\$	0 0	\$	0	0.0	0.0	0.0	
Vested Former Employees	0	1	0 0		0		0.0	0.0	
Retirees and Beneficiaries	10	600,12	2 10		587,346				

Table 3 (continued)

	2017	Va	aluation	2016	Va	aluation	2	2017 Valuati	on
Division	Number		Annual Payroll ¹	Number		Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
95 - NonUnion Mgmnt									
Active Employees	0	\$	0	0	\$	0	0.0	0.0	0.0
Vested Former Employees	0		0	0		0	0.0	0.0	0.0
Retirees and Beneficiaries	1		63,982	1		62,676	69.2		
96 - UAW Para prof.									
Active Employees	1	\$	62,298	1	\$	61,040	61.4	35.5	35.5
Vested Former Employees	0		0	0		0	0.0	0.0	0.0
Retirees and Beneficiaries	3		58,878	4		70,874	59.4		
Total Municipality									
Active Employees	38	\$	2,079,913	47	\$	2,579,083	57.0	28.4	28.5
Vested Former Employees	45		347,914	49		376,229	54.5	10.3	12.1
Retirees and Beneficiaries	<u>566</u>		12,507,211	<u>569</u>		12,192,785	70.1		
Total Participants	649			665					

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

² Description can be found under Miscellaneous and Technical Assumptions in the Appendix.

Reported Assets (Market Value)

Table 4

	2017 Va	luation	2016 Va	luation
Division	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - General	\$ 16,943,550	\$ 237,587	\$ 16,552,975	\$ 247,045
02 - Sheriff POAM	16,680,770	596,874	15,858,251	654,028
09 - UAW Managers	31,770,020	134,681	30,900,919	170,009
10 - UAWProfessional	9,584,944	130,359	9,281,064	148,078
11 - Gnrl Local486	2,736,712	0	2,599,645	0
13 - Sheriff/Cooks	1,042,974	0	1,035,626	0
14 - Nurses	2,052,563	3,253	2,068,913	3,196
15 - Hith Dept	6,859,664	41,114	6,828,665	44,051
16 - Elctd Commsnrs	1,151,569	0	1,168,466	1,537
17 - Animal Control	949,949	0	932,209	0
18 - Judges	813,556	0	700,474	67,276
19 - Dist Judges	462,254	0	433,706	0
20 - Sheriff FOP	6,707,208	26,509	6,409,094	58,810
21 - Shrff/Lts/Capts	4,534,714	0	4,243,142	51,721
23 - P.O.A.M. Non 312	7,923,971	204,345	7,534,225	192,678
91 - Juvenile Probtn	878,602	0	894,241	0
92 - Dist Court Prob	1,112,046	20,099	1,061,529	19,752
93 - Pros Attys Union	2,572,144	0	2,508,458	0
94 - Upper Management	5,084,609	0	4,827,480	0
95 - NonUnion Mgmnt	560,699	0	554,689	0
96 - UAW Para prof.	1,185,649	39,007	1,105,349	35,676
Municipality Total	\$ 121,608,167	\$ 1,433,828	\$117,499,120	\$ 1,693,857
Combined Assets	\$123,0	41,995	\$119,1	92,977

¹ Reserve for Employer Contributions and Benefit Payments

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 <u>Appendix</u>.

² Reserve for Employee Contributions

Flow of Valuation Assets

Table 5

Year Ended	Employer C	ontri	butions	E	mployee	nvestment Income (Valuation		Benefit		mployee ntribution		Net		Valuation Asset
12/31	Required	F	Additional	Cor	ntributions	Assets)		Payments	I	Refunds		Transfers		Balance
2007	\$ 3,042,832			\$	220,975	\$ 7,437,289	\$	(6,482,434)	\$	(4,111)	\$	91,996	\$	96,240,566
2008	3,161,891				187,842	3,863,205	1	(7,805,116)		(3,575)	ľ	421,418	*	96,066,231
2009	3,106,777				134,975	2,741,524		(9,213,487)		0		144,517		92,980,537
2010	3,114,732				127,851	3,822,727		(9,373,913)		0		80,076		90,752,010
2011	4,151,136	\$	0		122,049	3,948,807		(9,603,674)		0		114,001		89,484,329
2012	4,672,827		0		112,274	3,535,581		(9,781,816)		0		19,921		88,043,116
2013	5,342,289		0		99,342	4,817,789		(10,624,888)		0		122,127		87,799,775
2014	397,713		51,623,224		80,446	10,421,658		(11,277,194)		0		22,954		139,068,576
2015	378,427		0		70,844	5,986,477		(11,572,834)		0		31,311		133,962,801
2016	401,184		0		61,122	5,839,888		(11,882,833)		0		0		128,382,162
2017	1,108,584		32,766		54,021	7,102,195		(12,244,775)		0		0		124,434,953

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	Acc	Actuarial	Valı	uation Assets ¹	Percent Funded	(0	Unfunded Overfunded) Accrued Liabilities
01 - General	Acc	rued Liability	vait	ation Assets	r ercent r unaea		Liabilities
Active Employees	\$	2,228,041	\$	554,497	24.9%	\$	1,673,544
Vested Former Employees		700,367	•	700,367	100.0%	Υ	0
Retirees And Beneficiaries		16,112,363		16,112,363	100.0%		0
Pending Refunds		8,418		8,418	100.0%		0
Total	\$	19,049,189	\$	17,375,645	91.2%	\$	1,673,544
02 - Sheriff POAM	<u>_</u>	10,010,100	H	,00,0.10	011270	H	.,,
Active Employees	\$	3,621,235	\$	913,692	25.2%	\$	2,707,543
Vested Former Employees		204,725		204,725	100.0%		0
Retirees And Beneficiaries		16,354,247		16,354,247	100.0%		0
Pending Refunds		580		580	100.0%		0
Total	\$	20,180,787	\$	17,473,244	86.6%	\$	2,707,543
09 - UAW Managers		as done of contract of Section		10000 P 10 10 10 P 1000 00 00			
Active Employees	\$	2,080,321	\$	81,365	3.9%	\$	1,998,956
Vested Former Employees		342,833		53,302	15.5%		289,531
Retirees And Beneficiaries		36,915,401		32,131,227	87.0%		4,784,174
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	39,338,555	\$	32,265,894	82.0%	\$	7,072,661
10 - UAWProfessional							
Active Employees	\$	1,698,025	\$	1,093,383	64.4%	\$	604,642
Vested Former Employees		291,252		291,252	100.0%		0
Retirees And Beneficiaries		8,440,655		8,440,655	100.0%		0
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	10,429,932	\$	9,825,290	94.2%	\$	604,642
11 - Gnrl Local486							
Active Employees	\$	663,876	\$	16,633	2.5%	\$	647,243
Vested Former Employees		153,607		153,607	100.0%		0
Retirees And Beneficiaries		2,597,454		2,597,454	100.0%		0
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	3,414,937	\$	2,767,694	81.0%	\$	647,243
13 - Sheriff/Cooks							
Active Employees	\$	0	\$	0	0.0%	\$	0
Vested Former Employees		0		0	0.0%		0
Retirees And Beneficiaries		1,216,105		1,054,782	86.7%		161,323
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	1,216,105	\$	1,054,782	86.7%	\$	161,323

Table 6 (continued)

Division		Actuarial rued Liability	Valu	ation Assets ¹	Percent Funded	(Unfunded Overfunded) Accrued Liabilities
14 - Nurses						_	
Active Employees	\$	341,994	\$	0	0.0%	\$	341,994
Vested Former Employees		155,675		3,253	2.1%		152,422
Retirees And Beneficiaries		2,266,446		2,075,837	91.6%		190,609
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	2,764,115	\$	2,079,090	75.2%	\$	685,025
15 - Hith Dept						١.	
Active Employees	\$	666,673	\$	19,315	2.9%	\$	647,358
Vested Former Employees		264,751		21,799	8.2%		242,952
Retirees And Beneficiaries		8,091,318		6,937,788	85.7%		1,153,530
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	9,022,742	\$	6,978,902	77.3%	\$	2,043,840
16 - Elctd Commsnrs							
Active Employees	\$	0	\$	0	0.0%	\$	0
Vested Former Employees		67,496		0	0.0%		67,496
Retirees And Beneficiaries		1,408,894		1,164,606	82.7%		244,288
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	1,476,390	\$	1,164,606	78.9%	\$	311,784
17 - Animal Control							
Active Employees	\$	0	\$	0	0.0%	\$	0
Vested Former Employees		0		0	0.0%		0
Retirees And Beneficiaries		1,185,312		960,703	81.1%		224,609
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	1,185,312	\$	960,703	81.1%	\$	224,609
18 - Judges						Г	
Active Employees	\$	0	\$	48,265	0.0%	\$	(48,265)
Vested Former Employees		0		0	0.0%		0
Retirees And Beneficiaries		774,501		774,501	100.0%		0
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	774,501	\$	822,766	106.2%	\$	(48,265)
19 - Dist Judges		10 E 10 E					
Active Employees	\$	190,729	\$	0	0.0%	\$	190,729
Vested Former Employees		. 0		0	0.0%		0
Retirees And Beneficiaries		649,506		467,487	72.0%		182,019
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		0
Total	\$	840,23 5	\$	467,487	55.6%	\$	372,748
20 - Sheriff FOP					nga protestation is	T	*
Active Employees	\$	535,968	\$	813,093	151.7%	\$	(277,125)
Vested Former Employees	•	0		0	0.0%		0
Retirees And Beneficiaries		5,996,856		5,996,856	100.0%		0
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		0
Total	\$	6,532,824	\$	6,809,949	104.2%	\$	(277,125)

Table 6 (continued)

Division	Actuarial rued Liability	Valu	uation Assets ¹	Percent Funded	(0	Unfunded Overfunded) Accrued Liabilities
21 - Shrff/Lts/Capts						
Active Employees	\$ 0	\$	0	0.0%	\$	0
Vested Former Employees	0		0	0.0%		0
Retirees And Beneficiaries	7,559,957		4,586,051	60.7%		2,973,906
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 7,559,957	\$	4,586,051	60.7%	\$	2,973,906
23 - P.O.A.M. Non 312						
Active Employees	\$ 1,482,369	\$	661,563	44.6%	\$	820,806
Vested Former Employees	57,476		57,476	100.0%		0
Retirees And Beneficiaries	7,501,298		7,501,298	100.0%		0
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 9,041,143	\$	8,220,337	90.9%	\$	820,806
91 - Juvenile Probtn						
Active Employees	\$ 0	\$	0	0.0%	\$	0
Vested Former Employees	0		0	0.0%		0
Retirees And Beneficiaries	1,315,725		888,549	67.5%		427,176
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 1,315,725	\$	888,549	67.5%	\$	427,176
92 - Dist Court Prob						
Active Employees	\$ 0	\$	0	0.0%	\$	0
Vested Former Employees	367,082		43,915	12.0%		323,167
Retirees And Beneficiaries	1,101,047		1,101,047	100.0%		0
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 1,468,129	\$	1,144,962	78.0%	\$	323,167
93 - Pros Attys Union						
Active Employees	\$ 426,593	\$	0	0.0%	\$	426,593
Vested Former Employees	0		0	0.0%		0
Retirees And Beneficiaries	2,785,136		2,601,263	93.4%		183,873
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 3,211,729	\$	2,601,263	81.0%	\$	610,466
94 - Upper Management						
Active Employees	\$ 0	\$	0	0.0%	\$	0
Vested Former Employees	0	Ì	0	0.0%		0
Retirees And Beneficiaries	7,243,951		5,142,172	71.0%		2,101,779
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 7,243,951	\$	5,142,172	71.0%	\$	2,101,779
95 - NonUnion Mgmnt						
Active Employees	\$ 0	\$	0	0.0%	\$	0
Vested Former Employees	0		0	0.0%		0
Retirees And Beneficiaries	644,550	1	567,047	88.0%		77,503
Pending Refunds	<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$ 644,550	\$	567,047	88.0%	\$	77,503

Table 6 (continued)

Division	Ac	Actuarial crued Liability	Val	uation Assets ¹	Percent Funded	(0	Unfunded Overfunded) Accrued Liabilities
96 - UAW Para prof.							
Active Employees	\$	418,914	\$	572,965	136.8%	\$	(154,051)
Vested Former Employees		0		0	0.0%		0
Retirees And Beneficiaries		665,555		665,555	100.0%		0
Pending Refunds		<u>0</u>		<u>0</u>	0.0%		<u>0</u>
Total	\$	1,084,469	\$	1,238,520	114.2%	\$	(154,051)
Total Municipality							
Active Employees	\$	14,354,738	\$	4,774,771	33.3%	\$	9,579,967
Vested Former Employees		2,605,264		1,529,696	58.7%		1,075,568
Retirees and Beneficiaries	- 1	130,826,277		118,121,488	90.3%		12,704,789
Pending Refunds		8,998		<u>8,998</u>	<u>100.0%</u>		<u>0</u>
Total	\$	147,795,277	\$	124,434,953	84.2%	\$	23,360,324

¹ 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	\$ 104,989,442	\$ 82,375,896	78%	\$ 22,613,546
2004	109,067,562	85,338,467	78%	23,729,095
2005	116,271,363	87,919,362	76%	28,352,001
2006	121,846,675	91,934,019	75%	29,912,656
2007	125,684,383	96,240,566	77%	29,443,817
2008	135,044,418	96,066,231	71%	38,978,187
2009	136,732,789	92,980,537	68%	43,752,252
2010	137,462,228	90,752,010	66%	46,710,218
2011	138,842,567	89,484,329	64%	49,358,238
2012	139,666,340	88,043,116	63%	51,623,224
2013	142,346,636	87,799,775	62%	54,546,861
2014	142,319,348	139,068,576	98%	3,250,772
2015	149,188,929	133,962,801	90%	15,226,128
2016	148,676,653	128,382,162	86%	20,294,491
2017	147,795,277	124,434,953	84%	23,360,324

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 - General

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 19,151,816	\$ 15,020,616	78%	\$ 4,131,200
2008	20,136,698	14,740,482	73%	5,396,216
2009	20,208,441	13,880,928	69%	6,327,513
2010	20,009,957	13,239,723	66%	6,770,234
2011	20,294,019	12,758,515	63%	7,535,504
2012	19,902,410	12,289,309	62%	7,613,101
2013	19,599,081	12,057,652	62%	7,541,429
2014	19,285,438	19,890,908	103%	(605,470)
2015	19,932,465	19,017,088	95%	915,377
2016	19,511,279	18,095,218	93%	1,416,061
2017	19,049,189	17,375,645	91%	1,673,544

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

Table 9-01: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee	
Valuation Date			Annual	Employer	Contribution
December 31	Number		Payroll	Contribution ¹	Rate ²
2007	49	\$	1,663,682	\$ 34,152	3.88%
2008	33	1	1,161,510	\$ 45,027	3.88%
2009	33		1,226,665	\$ 55,451	3.88%
2010	28		1,004,444	\$ 62,454	3.88%
2011	25		939,216	\$ 78,236	3.88%
2012	23		853,425	\$ 90,848	3.88%
2013	14		516,849	\$ 108,120	3.88%
2014	13		481,646	\$ 1,886	3.88%
2015	11		428,361	\$ 25,718	3.88%
2016	11		431, 557	\$ 18,380	3.88%
2017	9		355, 522	\$ 20,809	3.88%

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

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 78 for past benefit provision changes.

For each valuation year, the computed employer contribution is based on the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Division 02 - Sheriff POAM

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 17,404,182	\$ 12,459,731	72%	\$ 4,944,451
2008	18,097,683	12,530,204	69%	5,567,479
2009	18,063,622	12,048,918	67%	6,014,704
2010	18,167,949	11,679,664	64%	6,488,285
2011	18,461,481	11,607,609	63%	6,853,872
2012	18,511,500	11,349,958	61%	7,161,542
2013	18,705,014	11,360,963	61%	7,344,051
2014	19,002,807	18,813,211	99%	189,596
2015	20,164,050	18,311,403	91%	1,852,647
2016	20,052,544	17,785,293	89%	2,267,251
2017	20,180,787	17,473,244	87%	2,707,543

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

Table 9-02: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee
Valuation Date		Annual	Employer	Contribution
December 31	Number	Payroll	Contribution ¹	Rate ²
2007	16	\$ 1,051,611	\$ 37,574	4.00%
2008	9	556,792	\$ 44,048	4.00%
2009	9	551,299	\$ 51,357	4.00%
2010	9	556,221	\$ 60,714	4.00%
2011	9	575,442	\$ 72,406	4.00%
2012	9	571,396	\$ 87,744	4.00%
2013	9	566,327	\$ 110,062	4.00%
2014	9	570,129	\$ 4,699	4.00%
2015	8	515,941	\$ 52,750	4.00%
2016	8	526, 172	\$ 31,061	4.00%
2017	7	405, 36 7	\$ 34,439	4.00%

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

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 78 for past benefit provision changes.

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.

Division 09 - UAW Managers

Table 8-09: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 29,073,477	\$ 22,201,445	76%	\$ 6,872,032
2008	33,655,793	23,427,965	70%	10,227,828
2009	34,503,332	22,726,869	66%	11,776,463
2010	34,834,216	22,176,771	64%	12,657,445
2011	34,545,933	21,684,388	63%	12,861,545
2012	35,308,533	21,474,996	61%	13,833,537
2013	36,644,206	22,159,800	61%	14,484,406
2014	36,649,796	36,329,218	99%	320,578
2015	38,994,658	35,022,651	90%	3,972,007
2016	39,428,338	33,466,341	85%	5,961,997
2017	39,338,555	32,265,894	82%	7,072,661

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

Table 9-09: Computed Employer Contributions - Comparative Schedule

	Active Employees			Computed	Employee
Valuation Date			Annual	Employer	Contribution
December 31	Number		Payroll	Contribution ¹	Rate ²
2007	31	\$	1,823,338	\$ 51,074	3.20%
2008	19		1,138,639	\$ 82,298	3.20%
2009	19		1,215,989	\$ 101,445	3.20%
2010	18		1,183,514	\$ 116,671	3.20%
2011	17		1,055,648	\$ 131,408	3.20%
2012	16		907,495	\$ 165,447	3.20%
2013	12	1	745,579	\$ 213,459	3.20%
2014	10		606,318	\$ 3,814	3.20%
2015	6		378,264	\$ 105,819	3.20%
2016	5		343,888	\$ 72,500	3.20%
2017	4		277, 172	\$ 83,991	3.20%

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

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.

For each valuation year, the computed employer contribution is based on the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Division 10 - UAWProfessional

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date	Actuarial	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
December 31	Accrued Liability			
2007	\$ 10,624,411	\$ 8,526,110	80%	\$ 2,098,301
2008	10,967,405	8,098,960	74%	2,868,445
2009	11,121,208	7,664,257	69%	3,456,951
2010	11,117,976	7,365,110	66%	3,752,866
2011	11,280,242	7,230,548	64%	4,049,694
2012	11,301,354	7,063,933	63%	4,237,421
2013	10,905,024	6,712,078	62%	4,192,946
2014	10,375,412	10,926,965	105%	(551,553)
2015	10,764,715	10,561,101	98%	203,614
2016	10,570,308	10,156,082	96%	414,226
2017	10,429,932	9,825,290	94%	604,642

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	Employee
	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	18	\$	920,299	\$ 18,457	0.00%
2008	9		499,823	\$ 24,076	0.00%
2009	8		494,821	\$ 30,422	0.00%
2010	8		489,208	\$ 35,429	0.00%
2011	9		526,168	\$ 43,203	0.00%
2012	9		530,101	\$ 52,269	0.00%
2013	7		381,854	\$ 61,756	0.00%
2014	6		331,768	\$ 2,178	0.00%
2015	6		338,418	\$ 7,778	0.00%
2016	5		295, 880	\$ 6,727	0.00%
2017	5		300, 691	\$ 8,651	0.00%

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

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.

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

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 2,899,137	\$ 2,034,522	70%	\$ 864,615
2008	3,076,394	2,001,772	65%	1,074,622
2009	2,975,074	1,924,910	65%	1,050,164
2010	3,037,755	1,908,266	63%	1,129,489
2011	3,067,062	1,884,508	61%	1,182,554
2012	3,075,893	1,857,645	60%	1,218,248
2013	3,202,910	1,857,577	58%	1,345,333
2014	3,333,390	3,003,686	90%	329,704
2015	3,499,114	2,890,865	83%	608,249
2016	3,392,102	2,800,065	83%	592,037
2017	3,414,937	2,767,694	81%	647,243

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

Table 9-11: Computed Employer Contributions - Comparative Schedule

	Active	Active Employees		Computed	Employee
Valuation Date			Annual	Employer	Contribution Rate ²
December 31	Number		Payroll	Contribution ¹	Rate-
2007	10	\$	404,372	\$ 7,734	0.00%
2008	6		231,803	\$ 8,774	0.00%
2009	6	1	237,885	\$ 8,974	0.00%
2010	5		198,973	\$ 10,041	0.00%
2011	5		198,723	\$ 11,570	0.00%
2012	5		198,311	\$ 13,264	0.00%
2013	3		112,301	\$ 16,461	0.00%
2014	3		148,770	\$ 2,300	0.00%
2015	3		137,587	\$ 13,720	0.00%
2016	3		151, 267	\$ 7,446	0.00%
2017	2		121, 726	\$ 8,009	0.00%

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

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.

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.

Division 13 - Sheriff/Cooks

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,171,090	\$ 819,506	70%	\$ 351,584
2008	1,326,516	804,034	61%	522,482
2009	1,329,109	732,077	55%	597,032
2010	1,326,847	703,697	53%	623,150
2011	1,226,506	630,201	51%	596,305
2012	1,219,383	613,436	50%	605,947
2013	1,207,932	610,762	51%	597,170
2014	1,236,883	1,260,847	102%	(23,964)
2015	1,277,816	1,188,713	93%	89,103
2016	1,236,899	1,115,468	90%	121,431
2017	1,216,105	1,054,782	87%	161,323

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

Table 9-13: Computed Employer Contributions - Comparative Schedule

	Active	Emp	loyees	Computed	Employee	
Valuation Date		Annual		Employer	Contribution	
December 31	Number		Payroll	Contribution ¹	Rate ²	
2007	5	\$	193,655	\$ 3,466	1.00%	
2008	2		65,922	\$ 4,017	1.00%	
2009	2	1	71,599	\$ 4,737	1.00%	
2010	2		69,882	\$ 5,273	1.00%	
2011	1		36,711	\$ 5,144	1.00%	
2012	1		36,820	\$ 6,023	1.00%	
2013	1		36,441	\$ 7,000	1.00%	
2014	0		0	\$ 0	0.00%	
2015	0		0	\$ 1,859	0.00%	
2016	0		0	\$ 1,361	1.00%	
2017	0		0	\$ 1,802	1.00%	

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

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.

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.

Division 14 - Nurses

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 2,969,253	\$ 2,449,313	82%	\$ 519,940
2008	2,935,889	2,476,099	84%	459,790
2009	2,921,768	2,359,304	81%	562,464
2010	2,910,479	2,239,647	77%	670,832
2011	2,928,508	2,091,845	71%	836,663
2012	2,910,595	1,948,813	67%	961,782
2013	2,922,195	1,835,982	63%	1,086,213
2014	2,884,099	2,626,807	91%	257,292
2015	3,001,013	2,435,782	81%	565,231
2016	2,968,029	2,231,858	75%	736,171
2017	2,764,115	2,079,090	75%	685,025

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

Table 9-14: Computed Employer Contributions - Comparative Schedule

	Active	Employees		Computed	Employee
Valuation Date			Annual	Employer	Contribution
December 31	Number		Payroll	Contribution ¹	Rate ²
2007	6	\$	288,478	\$ 4,989	0.00%
2008	3		146,401	\$ 3,965	0.00%
2009	3		155,484	\$ 5,462	0.00%
2010	3		152,204	\$ 6,892	0.00%
2011	2		102,584	\$ 8,985	0.00%
2012	2		102,354	\$ 11,906	0.00%
2013	1		50,662	\$ 16,120	0.00%
2014	1	1	50,699	\$ 278	0.00%
2015	1		51,524	\$ 15,056	0.00%
2016	1		56, 236	\$ 9,031	0.00%
2017	1		57, 290	\$ 8,338	0.00%

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

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.

For each valuation year, the computed employer contribution is based on the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Division 15 - HIth Dept

Table 8-15: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 8,229,526	\$ 6,315,433	77%	\$ 1,914,093
2008	8,626,232	6,194,171	72%	2,432,061
2009	8,646,444	5,925,674	69%	2,720,770
2010	8,720,667	5,763,585	66%	2,957,082
2011	8,636,783	5,571,562	65%	3,065,221
2012	8,573,513	5,489,782	64%	3,083,731
2013	8,770,805	5,461,552	62%	3,309,253
2014	8,828,631	8,332,651	94%	495,980
2015	9,191,875	7,890,854	86%	1,301,021
2016	9,210,648	7,402,568	80%	1,808,080
2017	9,022,742	6,978,902	77%	2,043,840

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

Table 9-15: Computed Employer Contributions - Comparative Schedule

	Active	ve Employees		Computed	Employee	
Valuation Date			Annual	Employer	Contribution	
December 31	Number		Payroll	Contribution ¹	Rate ²	
2007	27	\$	928,261	\$ 17,031	0.00%	
2008	17		570,302	\$ 21,152	0.00%	
2009	17	1	590,015	\$ 24,674	0.00%	
2010	15		528,044	\$ 28,366	0.00%	
2011	14		499,392	\$ 32,648	0.00%	
2012	14		494,260	\$ 38,031	0.00%	
2013	8		255,145	\$ 48,902	0.00%	
2014	7		238,745	\$ 1,400	0.00%	
2015	6		212,736	\$ 35,222	0.00%	
2016	4		129,843	\$ 22,012	0.00%	
2017	3		110, 107	\$ 24,459	0.00%	

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

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.

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.

Division 16 - Elctd Commsnrs

Table 8-16: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,484,242	\$ 1,189,434	80%	\$ 294,808
2008	1,516,883	1,109,081	73%	407,802
2009	1,510,587	1,002,216	66%	508,371
2010	1,522,345	940,103	62%	582,242
2011	1,520,974	876,994	58%	643,980
2012	1,503,643	816,921	54%	686,722
2013	1,490,242	780,672	52%	709,570
2014	1,470,430	1,448,212	99%	22,218
2015	1,532,560	1,357,078	89%	175,482
2016	1,498,061	1,260,204	84%	237,857
2017	1,476,390	1,164,606	79%	311,784

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	Active Employees		Computed	Employee
	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	4	\$	60,095	\$ 2,347	0.00%
2008	2		32,688	\$ 3,179	0.00%
2009	2		32,236	\$ 4,108	0.00%
2010	1		15,959	\$ 5,259	0.00%
2011	1		15,884	\$ 6,318	0.00%
2012	1		16,099	\$ 7,947	0.00%
2013	0		0	\$ 10,167	0.00%
2014	0		0	\$ 0	0.00%
2015	0		0	\$ 4,574	0.00%
2016	0		0	\$ 2,815	0.00%
2017	0		0	\$ 3,643	0.00%

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

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.

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.

Division 17 - Animal Control

Table 8-17: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,037,974	\$ 728,184	70%	\$ 309,790
2008	927,730	743,634	80%	184,096
2009	944,706	747,042	79%	197,664
2010	970,773	758,479	78%	212,294
2011	982,208	761,323	78%	220,885
2012	1,016,933	765,397	75%	251,536
2013	1,029,536	785,421	76%	244,115
2014	1,103,126	1,081,161	98%	21,965
2015	1,213,107	1,061,808	88%	151,299
2016	1,199,513	1,004,078	84%	195,435
2017	1,185,312	960,703	81%	224,609

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

Table 9-17: Computed Employer Contributions - Comparative Schedule

	Active	Active Employees		Employee
Valuation Date		Annual	Employer	Contribution
December 31	Number	Payroll	Contribution ¹	Rate ²
2007	2	\$ 90,340	\$ 2,671	0.00%
2008	2	82,737	\$ 1,870	0.00%
2009	2	87,243	\$ 2,118	0.00%
2010	2	89,687	\$ 2,448	0.00%
2011	2	86,834	\$ 2,761	0.00%
2012	2	94,539	\$ 3,567	0.00%
2013	2	92,542	\$ 3,993	0.00%
2014	2	107,496	\$ 608	0.00%
2015	0	0	\$ 3,654	0.00%
2016	0	0	\$ 2,250	0.00%
2017	0	0	\$ 2,626	0.00%

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

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.

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.

Division 18 - Judges

Table 8-18: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,122,311	\$ 890,135	79%	\$ 232,176
2008	870,777	674,588	77%	196,189
2009	899,069	660,996	74%	238,073
2010	891,720	658,389	74%	233,331
2011	879,354	637,313	73%	242,041
2012	867,918	616,065	71%	251,853
2013	865,307	605,018	70%	260,289
2014	837,054	854,423	102%	(17,369)
2015	764,963	839,828	110%	(74,865)
2016	743,465	826,940	111%	(83,475)
2017	774,501	822,766	106%	(48,265)

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

Table 9-18: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee	
Valuation Date December 31	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	3	\$	82,302	\$ 1,857	0.00%
2008	2		54,868	\$ 1,469	0.00%
2009	2		56,978	\$ 1,754	0.00%
2010	1		27,434	\$ 1,861	0.00%
2011	1		27,538	\$ 2,135	0.00%
2012	1		27,168	\$ 2,493	0.00%
2013	1		28,489	\$ 3,002	0.00%
2014	1		27,434	\$ 0	0.00%
2015	1		27,434	\$ 0	0.00%
2016	1		27,434	\$ 0	0.00%
2017	0		0	\$ 0	0.00%

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

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.

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.

Division 19 - Dist Judges

Table 8-19: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,087,270	\$ 853,927	79%	\$ 233,343
2008	1,102,321	854,101	77%	248,220
2009	1,211,493	862,841	71%	348,652
2010	1,186,822	882,320	74%	304,502
2011	1,192,004	906,515	76%	285,489
2012	798,085	932,821	117%	(134,736)
2013	783,928	657,120	84%	126,808
2014	772,769	515,133	67%	257,636
2015	811,675	485,597	60%	326,078
2016	850,450	467,143	55%	383,307
2017	840,235	467,487	56%	372,748

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

Table 9-19: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee
Valuation Date		Annual	Employer	Contribution
December 31	Number	Payroll	Contribution ¹	Rate ²
2007	3	\$ 82,302	\$ 2,139	0.00%
2008	3	82,302	\$ 2,372	0.00%
2009	3	85,467	\$ 2,918	0.00%
2010	3	82,302	\$ 2,695	0.00%
2011	3	82,614	\$ 2,802	0.00%
2012	2	54,336	\$ 0	0.00%
2013	2	56,978	\$ 1,898	0.00%
2014	2	54,868	\$ 4,741	0.00%
2015	2	54,868	\$ 6,314	0.00%
2016	1	27,434	\$ 4,064	0.00%
2017	1	27,434	\$ 4,331	0.00%

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

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.

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.

Division 20 - Sheriff FOP

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 7,450,313	\$ 6,104,070	82%	\$ 1,346,243
2008	8,118,694	6,319,592	78%	1,799,102
2009	8,174,582	6,279,416	77%	1,895,166
2010	8,296,149	6,136,690	74%	2,159,459
2011	7,424,929	5,643,842	76%	1,781,087
2012	7,465,796	5,584,843	75%	1,880,953
2013	6,621,436	5,017,221	76%	1,604,215
2014	6,614,575	7,267,704	110%	(653,129)
2015	6,566,960	7,134,874	109%	(567,914)
2016	6,512,662	6,966,547	107%	(453,885)
2017	6,532,824	6,809,949	104%	(277,125)

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

Table 9-20: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee	
Valuation Date December 31	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	11	\$	721,835	\$ 12,663	0.00%
2008	8		556,083	\$ 16,958	0.00%
2009	8		582,929	\$ 19,012	0.00%
2010	7		506,113	\$ 21,267	0.00%
2011	5		367,338	\$ 17,700	0.00%
2012	5		359,760	\$ 20,868	0.00%
2013	3		208,483	\$ 19,039	0.00%
2014	3		215,514	\$ 1,529	0.00%
2015	2		145,475	\$ 908	0.00%
2016	2		144,119	\$ 840	0.00%
2017	1		74,619	\$ 381	0.00%

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

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.

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

Division 21 - Shrff/Lts/Capts

Table 8-21: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 3,836,042	\$ 2,889,583	75%	\$ 946,459
2008	4,139,263	2,948,289	71%	1,190,974
2009	4,201,089	2,861,615	68%	1,339,474
2010	4,236,423	2,755,217	65%	1,481,206
2011	5,020,206	3,121,737	62%	1,898,469
2012	5,092,140	3,068,826	60%	2,023,314
2013	6,598,786	3,763,079	57%	2,835,707
2014	6,608,487	5,097,274	77%	1,511,213
2015	7,282,536	4,880,405	67%	2,402,131
2016	7,346,656	4,625,975	63%	2,720,681
2017	7,559,957	4,586,051	61%	2,973,906

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	Active Employees		Computed	Employee
	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	2	\$	143,928	\$ 6,217	0.00%
2008	1		71,891	\$ 8,361	0.00%
2009	1		79,413	\$ 10,273	0.00%
2010	1		77,857	\$ 11,983	0.00%
2011	3		222,991	\$ 19,204	0.00%
2012	3		228,719	\$ 22,391	0.00%
2013	3		216,478	\$ 36,561	0.00%
2014	3		212,881	\$ 19,519	0.00%
2015	1		72,833	\$ 47,408	0.00%
2016	1		77,865	\$ 29,203	0.00%
2017	0		0	\$ 32,955	0.00%

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

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.

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.

Table 8-23: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 7,012,471	\$ 5,036,379	72%	\$ 1,976,092
2008	7,722,879	4,916,106	64%	2,806,773
2009	7,814,124	4,806,309	62%	3,007,815
2010	7,823,108	4,753,523	61%	3,069,585
2011	8,097,500	4,756,597	59%	3,340,903
2012	8,231,285	4,703,619	57%	3,527,666
2013	8,167,289	4,754,827	58%	3,412,462
2014	8,428,134	8,683,821	103%	(255,687)
2015	8,798,885	8,501,834	97%	297,051
2016	9,055,614	8,322,609	92%	733,005
2017	9,041,143	8,220,337	91%	820,806

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

Table 9-23: Computed Employer Contributions - Comparative Schedule

	Active	Employees	Computed	Employee
Valuation Date		Annual	Employer	Contribution
December 31	Number	Payroll	Contribution ¹	Rate ²
2007	12	\$ 693,801	\$ 15,523	4.00%
2008	6	338,658	\$ 20,886	4.00%
2009	6	337,939	\$ 23,350	4.00%
2010	5	284,169	\$ 25,079	4.00%
2011	5	306,129	\$ 30,712	4.00%
2012	4	237,691	\$ 36,232	4.00%
2013	3	177,391	\$ 39,992	4.00%
2014	3	209,708	\$ 1,607	4.00%
2015	3	184,022	\$ 7,579	4.00%
2016	3	226,794	\$ 9,964	4.00%
2017	3	206,907	\$ 10,373	4.00%

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

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.

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.

Division 91 - Juvenile Probtn

Table 8-91: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,315,958	\$ 973,577	74%	\$ 342,381
2008	1,323,310	986,068	75%	337,242
2009	1,327,127	941,592	71%	385,535
2010	1,320,595	900,679	68%	419,916
2011	1,310,998	865,255	66%	445,743
2012	1,301,493	834,828	64%	466,665
2013	1,355,111	803,258	59%	551,853
2014	1,329,960	1,159,578	87%	170,382
2015	1,370,230	1,063,688	78%	306,542
2016	1,343,414	963,183	72%	380,231
2017	1,315,725	888,549	68%	427,176

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

Table 9-91: Computed Employer Contributions - Comparative Schedule

	Active	Employees	Computed	Employee
Valuation Date December 31	Number	Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	1	\$ 48,971	\$ 2,198	3.45%
2008	1	50,064	\$ 2,533	3.45%
2009	1	52,846	\$ 3,226	3.45%
2010	1	52,266	\$ 3,837	3.45%
2011	1	51,702	\$ 4,573	3.45%
2012	1	51,587	\$ 5,584	3.45%
2013	0	0	\$ 8,077	0.00%
2014	0	0	\$ 708	0.00%
2015	0	0	\$ 7,789	0.00%
2016	0	0	\$ 4,433	3.45%
2017	0	0	\$ 5,013	3.45%

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

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.

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.

Division 92 - Dist Court Prob

Table 8-92: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,007,781	\$ 832,132	83%	\$ 175,649
2008	1,057,842	839,559	79%	218,283
2009	1,133,694	885,407	78%	248,287
2010	1,225,491	934,868	76%	290,623
2011	1,262,745	947,183	75%	315,562
2012	1,282,916	960,227	75%	322,689
2013	1,372,272	983,234	72%	389,038
2014	1,383,026	1,249,209	90%	133,817
2015	1,444,757	1,208,421	84%	236,336
2016	1,455,753	1,164,642	80%	291,111
2017	1,468,129	1,144,962	78%	323,167

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

Table 9-92: Computed Employer Contributions - Comparative Schedule

	Active	Active Employees		Computed	Employee	
Valuation Date December 31	Number		Annual Employer Payroll Contribution	Employer Contribution ¹	Contribution Rate ²	
2007	3	\$	143,756	\$ 1,636	3.84%	
2008	3		151,163	\$ 2,460	3.84%	
2009	3		160,314	\$ 2,730	3.84%	
2010	2		104,454	\$ 3,065	3.84%	
2011	2		105,580	\$ 3,753	3.84%	
2012	2		105,362	\$ 4,351	3.84%	
2013	1		51,382	\$ 6,009	3.84%	
2014	1		51,225	\$ 1,124	3.84%	
2015	0		0	\$ 5,759	0.00%	
2016	0		0	\$ 3,332	3.84%	
2017	0		0	\$ 3,789	3.84%	

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

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.

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.

Division 93 - Pros Attys Union

Table 8-93: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 2,584,877	\$ 2,003,804	78%	\$ 581,073
2008	2,386,680	1,765,640	74%	621,040
2009	2,500,001	1,932,219	77%	567,782
2010	2,652,842	2,097,445	79%	555,397
2011	2,720,200	2,235,267	82%	484,933
2012	2,878,247	2,309,542	80%	568,705
2013	2,927,625	2,350,397	80%	577,228
2014	3,139,907	2,967,524	95%	172,383
2015	3,255,535	2,837,782	87%	417,753
2016	3,232,141	2,701,848	84%	530,293
2017	3,211,729	2,601,263	81%	610,466

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

Table 9-93: Computed Employer Contributions - Comparative Schedule

The Latest Town	Active	Active Employees		Computed	Employee
Valuation Date December 31	Number		Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	7	\$	551,261	\$ 7,159	0.00%
2008	6	1	477,852	\$ 7,647	0.00%
2009	6		500,867	\$ 7,327	0.00%
2010	5		414,075	\$ 6,855	0.00%
2011	5		412,512	\$ 6,823	0.00%
2012	3		244,413	\$ 7,809	0.00%
2013	3		240,880	\$ 9,648	0.00%
2014	1		77,264	\$ 635	0.00%
2015	1		78,257	\$ 11,135	0.00%
2016	1		79, 554	\$ 6,707	0.00%
2017	1		80,780	\$ 7,455	0.00%

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

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.

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.

Division 94 - Upper Management

Table 8-94: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 4,519,896	\$ 3,617,934	80%	\$ 901,962
2008	5,028,892	3,379,599	67%	1,649,293
2009	5,179,666	3,516,958	68%	1,662,708
2010	5,154,390	3,669,725	71%	1,484,665
2011	6,173,163	4,072,092	66%	2,101,071
2012	6,589,694	4,139,270	63%	2,450,424
2013	7,316,333	3,999,761	55%	3,316,572
2014	7,188,840	5,658,834	79%	1,530,006
2015	7,504,816	5,403,779	72%	2,101,037
2016	7,203,912	5,199,655	72%	2,004,257
2017	7,243,951	5,142,172	71%	2,101,779

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

Table 9-94: Computed Employer Contributions - Comparative Schedule

	Active Employees		Computed	Employee	
Valuation Date			Annual	Employer	Contribution
December 31	Number		Payroll	Contribution ¹	Rate ²
2007	7	\$	785,865	\$ 10,830	0.00%
2008	5		560,090	\$ 13,724	0.00%
2009	5		617,645	\$ 13,939	0.00%
2010	5		546,310	\$ 12,434	0.00%
2011	4		436,254	\$ 18,185	0.00%
2012	2		247,615	\$ 19,828	0.00%
2013	1		82,006	\$ 27,409	0.00%
2014	1		81,719	\$ 11,256	0.00%
2015	1	١.	81,689	\$ 25,177	0.00%
2016	0		0	\$ 18,152	0.00%
2017	0		. 0	\$ 20,094	0.00%

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

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.

For each valuation year, the computed employer contribution is based on the employee rate changes during the applicable fiscal year, the computed employer contribution will be adjusted.

Division 95 - NonUnion Mgmnt

Table 8-95: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 448,612	\$ 374,535	83%	\$ 74,077
2008	642,217	361,625	56%	280,592
2009	645,988	336,850	52%	309,138
2010	649,049	308,581	48%	340,468
2011	653,894	289,480	44%	364,414
2012	655,605	271,515	41%	384,090
2013	653,599	259,933	40%	393,666
2014	653,574	658,895	101%	(5,321)
2015	591,916	633,482	107%	(41,566)
2016	649,311	597,453	92%	51,858
2017	644,550	567,047	88%	77,503

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

Table 9-95: Computed Employer Contributions - Comparative Schedule

NEW YEAR	Active Employees		Computed	Employee
Valuation Date December 31	Number	Annual Payroll	Employer Contribution ¹	Contribution Rate ²
2007	1	\$ 62,066	\$ 686	0.00%
2008	0		\$ 1,580	0.00%
2009	0		\$ 1,839	0.00%
2010	0		\$ 2,117	0.00%
2011	0		\$ 2,436	0.00%
2012	0		\$ 2,793	0.00%
2013	0		\$ 3,153	0.00%
2014	0		\$0	0.00%
2015	0		\$0	0.00%
2016	0		\$ 603	0.00%
2017	0		\$ 876	0.00%

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

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.

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.

Division 96 - UAW Para prof.

Table 8-96: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,253,744	\$ 920,196	73%	\$ 333,548
2008	1,384,320	894,662	65%	489,658
2009	1,421,665	884,139	62%	537,526
2010	1,406,675	879,528	63%	527,147
2011	1,163,858	911,555	78%	252,303
2012	1,179,404	951,370	81%	228,034
2013	1,208,005	983,468	81%	224,537
2014	1,193,010	1,242,515	104%	(49,505)
2015	1,225,283	1,235,768	101%	(10,485)
2016	1,215,554	1,228,992	101%	(13,438)
2017	1,084,469	1,238,520	114%	(154,051)

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

Table 9-96: Computed Employer Contributions - Comparative Schedule

	Active	Employees	Computed	Employee
Valuation Date		Annual	Employer	Contribution
December 31	Number	Payroll	Contribution ¹	Rate ²
2007	4	\$ 166,460	\$ 2,398	4.34%
2008	2	91,310	\$ 3,225	4.34%
2009	2	96,885	\$ 3,674	4.34%
2010	2	94,620	\$ 3,655	4.34%
2011	2	102,928	\$ 1,881	4.34%
2012	2	100,721	\$ 1,925	4.34%
2013	1	59,758	\$ 1,950	4.34%
2014	1	59,728	\$ 173	4.34%
2015	1	60,310	\$ 200	4.34%
2016	1	61, 04 0	\$ 199	4.34%
2017	1	62, 298	\$ 212	4.34%

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

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.

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

Division 01 - General

Table 10-01: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1							
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	915,377	4	\$	773,356	7	\$	128,064			
(Gain)/Loss	12/31/2016	562,167	10		608,902	9		81,300			
(Gain)/Loss	12/31/2017	174,709	10	. s	199,088	10		24,348			
Total				\$	1,581,346		\$	233,712			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 02 - Sheriff POAM

Table 10-02: Layered Amortization Schedule

				Am	ounts for Fis	scal Year Begi	nni	ng 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	100	utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	1,852,647	4	\$	1,551,022	7	\$	256,848
(Gain)/Loss	12/31/2016	544,142	10		589,385	9		78,684
(Gain)/Loss	12/31/2017	329,715	10		375,724	10		45,960
Total				\$	2,516,131		\$	381,492

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 09 - UAW Managers

Table 10-09: Layered Amortization Schedule

				Am	ounts for Fis	nni	ing 10/1/2019	
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding L Balance ³	Remaining Amortization Period ²	Δ	Annual mortization Payment
Initial	12/31/2015 \$	3,972,007	4	\$	3,308,677	7	\$	547,908
(Gain)/Loss	12/31/2016	2,271,173	10		2,459,999	9		328,428
(Gain)/Loss	12/31/2017	804,430	10		916,681	10		112,128
Total				\$	6,685,357		\$	988,464

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 10 - UAWProfessional

Table 10-10: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1						
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment		
Initial	12/31/2015 \$	203,614	4	\$	178,912	7	\$	29,628		
(Gain)/Loss	12/31/2016	219,419	10	Y	237,656	9		31,728		
(Gain)/Loss	12/31/2017	161,711	10		184,276	10		22,536		
Total				\$	600,844		\$	83,892		

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 11 - Gnrl Local486

Table 10-11: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/201							
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		itstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	608,249	5	\$	540,857	8	\$	79,800			
(Gain)/Loss	12/31/2016	1,439	10		1,555	9		204			
(Gain)/Loss	12/31/2017	40,498	10		46,149	10		5,640			
Total				\$	588,561		\$	85,644			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 13 - Sheriff/Cooks

Table 10-13: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/2019							
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	200000000000000000000000000000000000000	tstanding Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	89,103	5	\$	79,215	8	\$	11,688			
(Gain)/Loss	12/31/2016	36,326	10		39,345	9		5,256			
(Gain)/Loss	12/31/2017	33,578	10		38,263	10		4,680			
Total			1	\$	156,823		\$	21,624			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 14 - Nurses

Table 10-14: Layered Amortization Schedule

				Am	ounts for Fis	scal Year Begi	nni	ng 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	565,231	4	\$	473,801	7	\$	78,456
(Gain)/Loss	12/31/2016	209,518	10		226,932	9		30,300
(Gain)/Loss	12/31/2017	(88,071)	10		(100,361)	10		(12,276)
Total				\$	600,372		\$	96,480

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 15 - HIth Dept

Table 10-15: Layered Amortization Schedule

				Am	ounts for Fig	scal Year Begi	nni	ng 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	1,301,021	4	\$	1,090,396	7	\$	180,564
(Gain)/Loss	12/31/2016	589,825	10		638,862	9		85,296
(Gain)/Loss	12/31/2017	148,902	10		169,680	10		20,760
Total				\$	1,898,938		\$	286,620

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 16 - Elctd Commsnrs

Table 10-16: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/2019							
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	N. Taradian	ıtstanding L Balance ³	Remaining Amortization Period ²	Δ	Annual mortization Payment			
Initial	12/31/2015 \$	175,482	4	\$	146,584	7	\$	24,276			
(Gain)/Loss	12/31/2016	74,461	10		80,650	9		10,764			
(Gain)/Loss	12/31/2017	62,265	10		70,953	10		8,676			
Total			:	\$	298,187		\$	43,716			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

 $^{^3}$ This is the remaining balance as of the valuation date, projected to the beginning of the fiscal year shown above.

Division 17 - Animal Control

Table 10-17: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/201							
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	100000000000000000000000000000000000000	itstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	151,299	4	\$	117,112	7	\$	19,392			
(Gain)/Loss	12/31/2016	59,574	10		64,526	9		8,616			
(Gain)/Loss	12/31/2017	25,157	10		28,668	10		3,504			
Total				\$	210,306		\$	31,512			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 18 - Judges

Table 10-18: Layered Amortization Schedule

Type of UAL				Amounts for Fiscal Year Beginning 10/1/2019							
	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	(74,865)	10	\$	(84,962)	10	\$	(10,392)			
(Gain)/Loss	12/31/2016	(3,474)	10		(3,767)	9		(504)			
(Gain)/Loss	12/31/2017	39,972	10		45,550	10		5,568			
Total				\$	(43,179)		\$	(5,328)			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 19 - Dist Judges

Table 10-19: Layered Amortization Schedule

Type of UAL		A			Amounts for Fiscal Year Beginning 10/1/2019						
	Date Established	Original Balance ¹	Original Amortization Period ²		itstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment			
Initial	12/31/2015 \$	326,078	5	\$	255,226	8	\$	37,656			
(Gain)/Loss	12/31/2016	70,576	10		76,440	9		10,200			
(Gain)/Loss	12/31/2017	11,143	10		12,698	10		1,548			
Total				\$	344,364		\$	49,404			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 20 - Sheriff FOP

Table 10-20: Layered Amortization Schedule

		A			Amounts for Fiscal Year Beginning 10/1/2019						
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Outstanding UAL Balance ³		Remaining Amortization Period ²		Annual Amortization Payment			
Initial	12/31/2015 \$	(567,914)	10	\$	(668,565)	10	\$	(81,780)			
(Gain)/Loss	12/31/2016	162,145	10		175,630	9		23,448			
(Gain)/Loss	12/31/2017	213,100	10		242,836	10		29,700			
Total				\$	(250,099)		\$	(28,632)			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 21 - Shrff/Lts/Capts

Table 10-21: Layered Amortization Schedule

				Am	ounts for Fig	scal Year Begi	nni	ng 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Outstanding UAL Balance ³		Remaining Amortization Period ²		Annual mortization Payment
Initial	12/31/2015 \$	2,402,131	5	\$	1,982,574	8	\$	292,500
(Gain)/Loss	12/31/2016	429,068	10		464,737	9		62,052
(Gain)/Loss	12/31/2017	293,486	10		334,440	10		40,908
Total				\$	2,781,751		\$	395,460

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 23 - P.O.A.M. Non 312

Table 10-23: Layered Amortization Schedule

		A			Amounts for Fiscal Year Beginning 10/1/2019						
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Outstanding UAL Balance ³		Remaining Amortization Period ²		Annual mortization Payment			
Initial	12/31/2015 \$	297,051	5	\$	268,512	8	\$	39,612			
(Gain)/Loss	12/31/2016	448,278	10		485,546	9		64,824			
(Gain)/Loss	12/31/2017	37,591	10		42,837	10		5,244			
Total				\$	796,895		\$	109,680			

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 91 - Juvenile Probtn

Table 10-91: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/2019						
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Outstanding UAL Balance ³		Remaining Amortization Period ²		Annual mortization Payment		
Initial	12/31/2015 \$	306,542	4	\$	249,593	7	\$	41,328		
(Gain)/Loss	12/31/2016	95,806	10		103,769	9		13,860		
(Gain)/Loss	12/31/2017	35,646	10		40,620	10		4,968		
Total				\$	393,982		\$	60,156		

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 92 - Dist Court Prob

Table 10-92: Layered Amortization Schedule

		Amounts for Fiscal Yea					inning 10/1/201	
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Outstanding UAL Balance ³		Remaining Amortization Period ²		Annual mortization Payment
Initial	12/31/2015 \$	236,336	4	\$	184,568	7	\$	30,564
(Gain)/Loss	12/31/2016	75,529	10		81,812	9		10,920
(Gain)/Loss	12/31/2017	28,597	10		32,587	10		3,984
Total				\$	298,967		\$	45,468

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 93 - Pros Attys Union

Table 10-93: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10				ng 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	100	utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	417,753	4	\$	343,466	7	\$	56,880
(Gain)/Loss	12/31/2016	147,625	10		159,895	9		21,348
(Gain)/Loss	12/31/2017	54,685	10		62,316	10		7,620
Total		6		\$	565,677		\$	85,848

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 94 - Upper Management

Table 10-94: Layered Amortization Schedule

				Am	ounts for Fig	scal Year Begi	nni	ing 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²		utstanding \L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	2,101,037	9	\$	2,039,643	10	\$	249,480
(Gain)/Loss	12/31/2016	(175,560)	11		(192,052)	10		(23,496)
(Gain)/Loss	12/31/2017	108,686	10		123,852	10		15,144
Total				\$	1,971,443		\$	241,128

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 95 - NonUnion Mgmnt

Table 10-95: Layered Amortization Schedule

				Amou	unts for Fis	scal Year Begi	nning 10	0/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	-	standing Balance ³	Remaining Amortization Period ²	Amort	nual ization nent
(Gain)/Loss	12/31/2016	\$ 51,885	10	\$	56,194	9	\$	7,500
(Gain)/Loss	12/31/2017	21,638	10		24,657	10		3,012
Total				\$	80,851	V	\$	10,512

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

Division 96 - UAW Para prof.

Table 10-96: Layered Amortization Schedule

				Amounts for Fiscal Year Beginning 10/1/20				ing 10/1/2019
Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	100	utstanding L Balance ³	Remaining Amortization Period ²	A	Annual mortization Payment
Initial	12/31/2015 \$	(10,485)	10	\$	(8,392)	10	\$	(1,032)
(Gain)/Loss	12/31/2016	(3,726)	10		(4,039)	9		(540)
(Gain)/Loss	12/31/2017	(141,768)	10		(161,550)	10		(19,764)
Total				\$	(173,981)		\$	(21,336)

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

² According to the MERS amortization policy, each type of UAL (layer) is amortized over a specific period (see Appendix on MERS website).

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

GASB 68 Information

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

Actuarial Valuation Date:		12/31/2017
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: Inactive employees entitled to but not yet receiving benefits: Active employees:		566 45 <u>38</u> 649
Covered employee payroll: (Needed for Required Supplementary Information)	\$	2,079,913
Average expected remaining service lives of all employees (active and inactive):		0
Total Pension Liability as of 12/31/2016 measurement date:	\$ \$	145,505,305 144,698,575
Total Pension Liability as of 12/31/2017 measurement date:	\$	271,358
Service Cost for the year ending on the 12/31/2017 measurement date: Change in the Total Pension Liability due to:	22.	,
 Benefit changes¹: Differences between expected and actual experience²: Changes in assumptions²: 	\$ \$ \$	0 5,196 0

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

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

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.

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

Benefit Provision History

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

01 - General	
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
5/1/2006	Member Contribution Rate 3.88%
5/1/2006	Benefit B-4 (80% max)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/2000	DC Adoption Date 01-01-2000
5/1/1996	Benefit F50 (With 25 Years of Service)
5/1/1996	Benefit F55 (With 20 Years of Service)
1/1/1995	Benefit F55 (With 25 Years of Service)
1/1/1993	6 Year Vesting
1/1/1993	Benefit B-3 (80% max)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Member Contribution Rate 0.00%
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
1/1/1988	Benefit C-2/Base B-1
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
4/1/1982	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
1/1/1967	Benefit C-1 (Old)
10/19/1965	Covered by Act 88
1/1/1959	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
1/1/1959	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1959	10 Year Vesting
1/1/1959	Benefit C (Old)
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October
	Defined Benefit Normal Retirement Age - 60

02 - Sheriff POAM

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)

02 - Sheriff POAM

1/1/2001	E2 2.5% COLA for future retirees (01/01/1995)
9/30/2000	DC Adoption Date 09-30-2000
4/1/2000	Member Contribution Rate 4.00%
1/1/2000	E2 2.4% COLA for future retirees (01/01/1995)
4/1/1995	Benefit B-4 (80% max)
4/1/1995	Member Contribution Rate 7.09%
1/1/1995	25 Years & Out
1/1/1995	E2 2.5% COLA for future retirees (01/01/1995)
1/1/1992	6 Year Vesting
1/1/1992	Benefit B-3 (80% max)
1/1/1992	Benefit F50 (With 25 Years of Service)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Benefit B-2
1/1/1989	Member Contribution Rate 0.00%
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)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1983	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
1/1/1967	Benefit C-1 (Old)
10/19/1965	Covered by Act 88
1/1/1959	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1959	10 Year Vesting
1/1/1959	Benefit C (Old)
1/1/1959	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
	Fiscal Month - October
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

09 - UAW Managers

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
1/1/2006	E2 2.5% COLA for future retirees (06/01/2005)
12/1/2005	Member Contribution Rate 3.20%
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
3/1/1998	DC Adoption Date 03-01-1998
1/1/1998	25 Years & Out
1/1/1998	Benefit F55 (With 15 Years of Service)
1/1/1994	Benefit F55 (With 20 Years of Service)
1/1/1993	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1993	6 Year Vesting

09 - UAW Managers

		_	
	1/1/1993		Benefit B-4 (80% max)
	1/1/1993		Benefit F50 (With 25 Years of Service)
	9/1/1990		Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
	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)
	1/1/1985		Flexible E 2% COLA Adopted (01/01/1985)
	1/1/1983		Member Contribution Rate 0.00%
	4/1/1982		Member Contribution Rate 4.00%
	1/1/1980		Flexible E 2% COLA Adopted (01/01/1980)
	12/8/1972		Blanket Resolution (All Service)
1	10/19/1965		Covered by Act 88
			Defined Benefit Normal Retirement Age - 60
			Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
			Fiscal Month - October

10 - UAWProfessional

Option B Yes
Accelerated to 15-year Amortization
Service Credit Purchase Estimates - Yes
Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
Temporary 20 Years & Out (10/01/2002 - 12/05/2002)
DC Adoption Date 03-01-1998
Benefit F55 (With 15 Years of Service)
Benefit B-3 (80% max)
Benefit F50 (With 25 Years of Service)
Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
6 Year Vesting
Benefit B-2
Benefit F55 (With 20 Years of Service)
Flexible E 2% COLA Adopted (01/01/1989)
Flexible E 2% COLA Adopted (01/01/1988)
Benefit FAC-5 (5 Year Final Average Compensation)
10 Year Vesting
Benefit C-2/Base B-1
Benefit F55 (With 25 Years of Service)
Member Contribution Rate 0.00%
Flexible E 2% COLA Adopted (01/01/1987)
Member Contribution Rate 4.00%
Blanket Resolution (All Service)
Covered by Act 88
Defined Benefit Normal Retirement Age - 60
Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
Fiscal Month - October

11 - Gnrl Local486

OIIII EOOUITOO	
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
9/30/2000	DC Adoption Date 09-30-2000
4/1/1996	6 Year Vesting
4/1/1996	Benefit B-3 (80% max)
4/1/1996	Benefit F55 (With 20 Years of Service)
1/1/1994	Benefit C-2/Base B-1
1/1/1994	Benefit F55 (With 25 Years of Service)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
9/1/1987	Member Contribution Rate 0.00%
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1985	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1985	10 Year Vesting
1/1/1985	Benefit C-1 (Old)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1982	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

13 - Sheriff/Cooks

10/1/00/17	0.0
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
10/1/2001	Benefit B-4 (80% max)
10/1/2001	Member Contribution Rate 1.00%
9/30/2000	DC Adoption Date 09-30-2000
3/1/2000	Benefit F50 (With 25 Years of Service)
1/1/1994	6 Year Vesting
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Benefit F55 (With 20 Years of Service)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
9/1/1987	Benefit FAC-5 (5 Year Final Average Compensation)

13 - Sheriff/Cooks

9/1/1987	10 Year Vesting
9/1/1987	Benefit C-2/Base B-1
9/1/1987	Benefit F55 (With 25 Years of Service)
9/1/1987	Member Contribution Rate 0.00%
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60

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

Fiscal Month - October

14 - Nurses

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
1/1/1999	DC Adoption Date 01-01-1999
4/1/1996	Benefit F50 (With 25 Years of Service)
1/1/1993	Benefit B-3 (80% max)
1/1/1991	6 Year Vesting
1/1/1991	Benefit B-2
1/1/1991	Benefit F55 (With 20 Years of Service)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Benefit C-2/Base B-1
1/1/1989	Benefit F55 (With 25 Years of Service)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
1/1/1988	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1988	10 Year Vesting
1/1/1988	Member Contribution Rate 0.00%
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1982	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

15 - Hith Dept

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-vear Amortization

15 - Hith Dept	
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/1999	DC Adoption Date 01-01-1999
12/1/1996	Benefit F50 (With 25 Years of Service)
1/1/1993	Benefit B-3 (80% max)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1990	6 Year Vesting
1/1/1990	Benefit B-2
1/1/1990	Benefit F55 (With 20 Years of Service)
1/1/1990	Member Contribution Rate 0.00%
1/1/1988	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1988	10 Year Vesting
1/1/1988	Benefit C-2/Base B-1
1/1/1988	Benefit F55 (With 25 Years of Service)
4/1/1982	Member Contribution Rate 4.00%
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

16 - Elctd Commsnrs

Liota Goillinoi	
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
3/1/1998	DC Adoption Date 03-01-1998
1/1/1998	25 Years & Out
1/1/1998	Benefit F55 (With 15 Years of Service)
1/1/1995	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1995	E2 2.5% COLA for future retirees (01/01/1995)
1/1/1993	Benefit B-4 (80% max)
1/1/1993	Benefit F50 (With 25 Years of Service)
1/1/1993	Benefit F55 (With 20 Years of Service)
1/1/1991	Member Contribution Rate 0.00%
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1990	6 Year Vesting
1/1/1990	Benefit B-2
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)
1/1/1985	Member Contribution Rate 4.00%
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)

16 - Elctd Commsnrs

1/1/1980 Flexible E 2% COLA Adopted (01/01/1980)

12/8/1972 Blanket Resolution (All Service)

10/19/1965 Covered by Act 88

Defined Benefit Normal Retirement Age - 60

Fiscal Month - October

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

17 - Animal Control

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/2001	Benefit F50 (With 25 Years of Service)
1/1/2000	DC Adoption Date 01-01-2000
1/1/1994	6 Year Vesting
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Benefit F55 (With 20 Years of Service)
1/1/1992	10 Year Vesting
1/1/1992	Benefit C-2/Base B-1
1/1/1992	Benefit F55 (With 25 Years of Service)
1/1/1992	Member Contribution Rate 0.00%
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1989	Benefit FAC-5 (5 Year Final Average Compensation)
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)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1984	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

18 - Judges

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2001	E2 2.5% COLA for future retirees (04/01/2001)
1/1/1999	DC Adoption Date 01-01-1999
1/1/1998	25 Years & Out
1/1/1998	Benefit F55 (With 15 Years of Service)
1/1/1994	Benefit B-4 (80% max)

Fiscal Month - October

18 - Judges	
1/1/1994	Benefit F50 (With 25 Years of Service)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/03/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/03/1991)
1/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1990	6 Year Vesting
1/1/1990	Benefit B-2
1/1/1990	Benefit F55 (With 20 Years of Service)
1/1/1990	Member Contribution Rate 0.00%
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)
1/1/1985	Member Contribution Rate 4.00%
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

19 - Dist Judges

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2001	E2 2.5% COLA for future retirees (04/01/2001)
1/1/1999	DC Adoption Date 01-01-1999
1/1/1998	25 Years & Out
1/1/1998	Benefit F55 (With 15 Years of Service)
1/1/1994	Benefit B-4 (80% max)
1/1/1994	Benefit F50 (With 25 Years of Service)
9/1/1990	Temporary 2.25% Multiplier (no max) (09/01/1990 - 01/01/1991)
9/1/1990	Temporary Benefit F55 (With 20 Years of Service) (09/01/1990 - 01/01/1991)
1/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1990	6 Year Vesting
1/1/1990	Benefit B-2
1/1/1990	Benefit F55 (With 20 Years of Service)
1/1/1990	Member Contribution Rate 0.00%
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)
1/1/1985	Member Contribution Rate 4.00%
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60

19 - Dist Judges

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

20 - Sheriff FOP

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
2/15/2011	Non-Standard Transfer Rules
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/2000	25 Years & Out
1/1/2000	Benefit F55 (With 15 Years of Service)
1/1/2000	DC Adoption Date 01-01-2000
1/1/1994	Benefit B-4 (80% max)
5/1/1992	6 Year Vesting
5/1/1992	Benefit B-3 (80% max)
5/1/1992	Benefit F50 (With 25 Years of Service)
1/1/1991	Benefit B-2
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)
1/1/1986	Member Contribution Rate 0.00%
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1983	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1983	10 Year Vesting
1/1/1983	Benefit C-2/Base B-1
1/1/1983	Benefit F55 (With 25 Years of Service)
1/1/1983	Member Contribution Rate 4.00%
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

21 - Shrff/Lts/Capts

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/2001	25 Years & Out
1/1/2001	Benefit F55 (With 15 Years of Service)
1/1/2001	E2 2.5% COLA for future retirees (01/01/2001)
1/1/1999	DC Adoption Date 01-01-1999

21 - Shrff/Lts/Capts

1/1/1994	Benefit B-4 (80% max)
5/1/1992	6 Year Vesting
5/1/1992	Benefit B-3 (80% max)
5/1/1992	Benefit F50 (With 25 Years of Service)
5/1/1992	Member Contribution Rate 0.00%
1/1/1991	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1991	10 Year Vesting
1/1/1991	Benefit B-2
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)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
1/1/1980	Flexible E 2% COLA Adopted (01/01/1980)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

23 - P.O.A.M. Non 312

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
9/30/2000	DC Adoption Date 09-30-2000
12/1/1999	25 Years & Out
12/1/1999	Benefit FAC-5 (5 Year Final Average Compensation)
12/1/1999	6 Year Vesting
12/1/1999	Benefit B-4 (80% max)
12/1/1999	Member Contribution Rate 4.00%
12/1/1999	E2 2.5% COLA for future retirees (12/01/1999)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

91 - Juvenile Probtn

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
6/1/2005	Benefit B-4 (80% max)
6/1/2005	Member Contribution Rate 3.45%

91 - Juvenile Probtn

10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
10/1/2001	25 Years & Out
9/30/2000	DC Adoption Date 09-30-2000
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	6 Year Vesting
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Benefit F50 (With 25 Years of Service)
1/1/1994	Benefit F55 (With 20 Years of Service)
1/1/1994	Member Contribution Rate 0.00%
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)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

Fiscal Month - October

92 - Dist Court Prob

	하다 하나 보다 하는 것 같아. 하나 나를 보는 것 같아 하는 것이 되었다. 그 나는 것이 없는 사람들은 그 나를 가지 않아 가지 않아 가지 않아 하나 없다.
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
3/1/2006	Benefit B-4 (80% max)
3/1/2006	Member Contribution Rate 3.84%
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
10/1/2001	25 Years & Out
1/1/2000	DC Adoption Date 01-01-2000
12/1/1996	Benefit F50 (With 25 Years of Service)
12/1/1996	Benefit F55 (With 20 Years of Service)
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	6 Year Vesting
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Benefit F55 (With 25 Years of Service)
1/1/1994	Member Contribution Rate 0.00%
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)
1/1/1985	Flexible E 2% COLA Adopted (01/01/1985)
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

93 - Pros Attys Union

	트레스 사용 회장 등 사용하는 전 전환자 회사를 보면 보고 있다면 되었다. 이 프로그램 등 보고 있다면 보고 있다면 보고 있다면 보고 있다면 보고 있다면 보다 되었다면 되었다. 기계 등 보고 있다면 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계 기계
10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
10/1/2002	Temporary 20 Years & Out (10/01/2002 - 12/03/2002)
1/1/1999	DC Adoption Date 01-01-1999
11/1/1995	6 Year Vesting
10/1/1995	Benefit FAC-5 (5 Year Final Average Compensation)
10/1/1995	10 Year Vesting
10/1/1995	Benefit B-3 (80% max)
10/1/1995	Benefit F50 (With 25 Years of Service)
10/1/1995	Benefit F55 (With 20 Years of Service)
10/1/1995	Member Contribution Rate 0.00%
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

94 - Upper Management

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
6/20/2006	DC Adoption Date 06-20-2006
1/1/2000	E2 2.5% COLA for future retirees (02/01/1999)
2/1/1999	25 Years & Out
2/1/1999	Benefit FAC-3 (3 Year Final Average Compensation)
2/1/1999	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
2/1/1999	6 Year Vesting
2/1/1999	Benefit B-4 (80% max)
2/1/1999	Benefit F55 (With 15 Years of Service)
2/1/1999	Member Contribution Rate 0.00%
12/8/1972	Blanket Resolution (All Service)
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

95 - NonUnion Mgmnt

10/1/2017	Accelerated to 15-year Amortization
10/1/2017	Option B Yes
12/1/2016	Service Credit Purchase Estimates - Yes
6/20/2006	DC Adoption Date 06-20-2006
1/1/2006	E2 2.5% COLA for future retirees (10/01/2005)
10/1/2005	Benefit B-4 (80% max)
10/1/2005	Benefit F55 (With 15 Years of Service)

95 - NonUnion Mgmnt

10/1/2005	Member Contribution Rate 0.00%
10/1/2005	Blanket Resolution (All Service)
10/1/2005	Covered by Act 88
10/1/2005	25 Years & Out
10/1/2005	Benefit FAC-5 (5 Year Final Average Compensation)
10/1/2005	6 Year Vesting
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

Fiscal Month - October

Defined Benefit Normal Retirement Age - 60

96 - UAW Para prof.

10/1/2017	Option B Yes
10/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2008	Temporary 20 Years & Out (04/01/2008 - 10/01/2008)
6/20/2006	DC Adoption Date 06-20-2006
4/1/2006	Benefit FAC-5 (5 Year Final Average Compensation)
4/1/2006	6 Year Vesting
4/1/2006	Benefit B-4 (80% max)
4/1/2006	Benefit F50 (With 25 Years of Service)
4/1/2006	Benefit F55 (With 15 Years of Service)
4/1/2006	Member Contribution Rate 4.34%
10/19/1965	Covered by Act 88
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years
	Fiscal Month - October

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	1.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	80%

Miscellaneous and Technical Assumptions

Loads - None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
All Closed Divisions	Accelerated to 15-Year Amortization

Please see the Appendix on the MERS website for a detailed description of the amortization options available for closed divisions within an open municipality.