



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2015
BATTLE CREEK, CITY OF (1302)



Spring, 2016

Battle Creek, City of

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2015. The report includes the determination of liabilities and contribution rates resulting from the participation of Battle Creek, City of (1302) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is a nonprofit organization, independent from the State, that has provided retirement plans for municipal employees for more than 65 years. Battle Creek, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

The purpose of the December 31, 2015 annual actuarial valuation is to:

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 1, 2017
- 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, 2015 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, and this December 31, 2015 valuation report reflects changes in assumptions and methods. 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-2015AnnualActuarialValuation-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
Alan Sonnanstine, MAAA, ASA

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Executive Summary

New Actuarial Assumptions and Methods

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The Experience Study is a comprehensive, detailed analysis that reviews MERS' funding policy and compares actual experience with the current actuarial assumptions; the study recommends adjustments as necessary. The most recent study was completed in 2015, and this December 31, 2015 valuation report reflects several changes in actuarial assumptions.

The main assumption and method changes were:

- The mortality table was adjusted to reflect longer lifetimes.
- The assumed annual rate of investment return, net of all expenses, was lowered from 8% to 7.75%.
- The asset smoothing was changed from 10 to 5 years.
- The amortization period was moved to a fixed period amortization for the December 31, 2014 annual valuations.
 - o The period will continue to gradually decrease for both open and closed divisions until the current unfunded accrued liability (UAL) is completely paid off.
 - o Moving to this type of "fixed period amortization" means that all unfunded liabilities will be fully funded by a specific date in the future.
 - o Once the amortization period drops below 15 years (10 years for closed divisions), any future liability and asset gains or losses will be spread over a 15-year fixed period for open divisions and a 10-year fixed period for closed divisions — creating "layers" of UAL on an annual basis.
 - o This transparent method allows tracking of what changed your UAL, and sets a fixed period in time in which that UAL change will be fully funded.

Various other actuarial assumptions were revised, but the revisions had a smaller impact than the two assumption changes above (first two bullets). For a summary of all of the actuarial assumptions and methods, please refer to the division-specific assumptions described on the last page of this report, and to the [Appendix](#).

The new amortization period layers and the new 5-year asset smoothing do not impact this 2015 annual valuation, other than the 6 year projections. These method changes will first impact the December 31, 2016 annual valuations.

The impacts of the assumption changes on the funded ratio and the required employer contributions are displayed on the next few pages. While these changes in assumptions will mean larger liabilities and contributions than anticipated by the prior assumptions for most employers, they will ensure each employer makes reasonable progress towards funding the unfunded liabilities of the employer. When

discussing changes in assumptions it is important to remember that, although the assumptions used impact the annual contributions, the true cost of the plan will be based on what will actually happen in the future – independent of the assumptions used. MERS recognizes that many municipalities are already taking steps to reduce their UAL. The MERS Board approved a “phase in” of the total impact of the assumption changes over the next 5 years (impacting fiscal years beginning 2017 – 2021) as an option for you. Of course, if the employer pays less in the first 4 years, they will likely have to pay somewhat more in later years.

MERS created a dedicated resource page on their website, www.mersofmich.com, regarding this topic, with links to frequently asked questions, upcoming events and additional details.

Impacts from the Assumption Changes

The new actuarial assumptions changed your December 31, 2015 percent funded from 65% to 62%, a change of -3%.

The new assumptions changed your total monthly employer contribution requirement, before any phase-in, from \$445,823 to \$506,786, a change of \$60,963 (a 14% increase). Under the 5-year phase-in the first year increase is instead 3% (from \$445,823 to \$457,998 monthly).

Additional detail is shown on the following pages.

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:

For comparison purposes, we have included your December 31, 2015 funded ratio if it had been calculated under the previous assumptions. Note: Your actual funded level as of December 31, 2015 is the amount listed under the new assumptions.

	New Assumptions	Previous Assumptions	
	12/31/2015	12/31/2015	12/31/2014
Funded Ratio	62%	65%	67%

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. Note: Your minimum required contribution is the amount listed under the new assumptions, with phase-in. For comparison purposes, we have included your computed employer contribution if it had been calculated under the previous assumptions.

	Percentage of Payroll				Monthly \$ Based on Valuation Payroll			
	New Assumptions		Previous Assumptions		New Assumptions		Previous Assumptions	
	Phase-in	Full Impact			Phase-in	Full Impact		
Valuation Date:	12/31/2015	12/31/2015	12/31/2015	12/31/2014	12/31/2015	12/31/2015	12/31/2015	12/31/2014
Fiscal Year Beginning:	July 1, 2017	July 1, 2017	July 1, 2017	July 1, 2016	July 1, 2017	July 1, 2017	July 1, 2017	July 1, 2016
Division								
01 - Gnrl NonUn.	32.07%	35.64%	31.07%	30.62%	\$ 115,437	\$ 128,269	\$ 112,227	\$ 95,678
10 - General AFSCME	-	-	-	-	69,708	81,776	66,690	65,035
11 - Gnrl Transit	-	-	-	-	18,015	20,243	17,458	16,948
12 - Gnrl BCSA	-	-	-	-	65,178	72,746	63,285	63,841
13 - Gnrl Housing	-	-	-	-	10,808	12,544	10,374	8,211
14 - SEIU Local	-	-	-	-	65,527	75,943	62,921	61,491
15 - City Mngr.	375.83%	375.83%	374.60%	138.91%	86,182	86,182	86,212	26,791
16 - Cntrl Disp.	-	-	-	-	375	995	218	0
17 - Corr.Offrcs	0.00%	0.00%	0.01%	0.00%	0	0	0	0
18 - General AFSCME after 1	4.95%	5.29%	4.83%	4.92%	11,741	12,549	11,540	6,609
19 - Gen. SEIU hired after	4.87%	5.01%	4.80%	4.78%	8,350	8,582	8,290	5,056
20 - Gen. BCSA hired after	5.22%	5.44%	5.10%	5.18%	2,228	2,324	2,205	717
HA - GNL Trans hired after	6.65%	6.93%	6.54%	6.38%	4,449	4,633	4,403	2,462
Municipality Total					\$ 457,998	\$ 506,786	\$ 445,823	\$ 352,839

Under the new assumptions, both the full impact and the phased in employer contribution requirements are shown in the table above. The phase in allows the employer to spread the increase of the new actuarial assumptions over 5 fiscal years. By default, MERS will invoice you the phased in contribution amount. However, MERS strongly encourages employers to contribute more than the minimum required contribution, including paying the full amount of the impact of the changes, if possible.

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2015	12/31/2014
Division		
01 - Gnrl NonUn.	3.00%	2.00%
10 - General AFSCME	2.50%	2.50%
11 - Gnrl Transit	2.50%	2.50%
12 - Gnrl BCSA	4.16%	4.16%

Valuation Date:	Employee Contribution Rate	
	12/31/2015	12/31/2014
Division		
13 - Gnl Housing	1.50%	1.50%
14 - SEIU Local	2.50%	2.50%
15 - City Mngr.	0.00%	0.00%
16 - Cntrl Disp.	7.20%	7.20%
17 - Corr.Offrcs	3.12%	3.12%
18 - General AFSCME after 1	2.50%	2.50%
19 - Gen. SEIU hired after	2.50%	2.50%
20 - Gen. BCSA hired after	2.50%	2.50%
HA - GNL Trans hired after	0.00%	0.00%

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

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the entire employer would be \$ 747,017, instead of \$ 506,786.
- To accelerate to a 100% funding ratio in 20 years, estimated monthly employer contributions for the entire employer would be \$ 533,366, instead of \$ 506,786.

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

Actuarial valuations do not affect the ultimate cost of the plan; the benefit payments (current and future) determine the cost of the plan. Actuarial valuations only affect the timing of the contributions into the plan. Because assumptions are for the long term, plan experience will not match the actuarial assumptions in any given year (except by coincidence). Each annual actuarial valuation will adjust the required employer contributions up or down based on the prior year’s actual experience.

Comments on Asset Smoothing

The actuarial value of assets, used to determine both your funded ratio and your required employer contribution, is based on a smoothed value of assets (10-year smoothing prior to 2016; 5-year smoothing beginning in 2016). A smoothing method reduces the volatility of the valuation results, which affects your required employer contribution and funded ratio. The smoothed actuarial rate of return for 2015 was 5.21%.

As of December 31, 2015 the actuarial value of assets is 113% of market value. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 7.75% investment return assumption.

If the December 31, 2015 valuation results were based on market value on that date instead of smoothed funding value: i) the funded percent of your entire municipality would be 55% (instead of 62%); and ii) your total employer contribution requirement for the fiscal year starting July 1, 2017 would be \$ 6,854,448 (instead of \$ 6,081,432).

The asset smoothing method is a powerful tool for reducing the volatility of your required employer contributions. **However, if the current 13% difference between the smoothed value and the market value of assets is not made up, the result would be gradual increases in your employer contribution requirement over the next few years (to around the levels described above).**

Risk Characteristics of Defined Benefit Plans

It is important to understand that retirement plans, by their nature, are exposed to certain risks. While risks cannot be eliminated entirely, they can be mitigated 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 mitigate the economic and demographic risks, and the contribution volatility risks. For example, the investment risk is the largest economic risk and is mitigated by having a balanced portfolio and a clearly defined investment strategy. Demographic risks vary based on the age of the workforce and are mitigated by preparing special studies called experience studies on a regular basis to determine if the assumptions used are reasonable compared to the experience. Risk may be mitigated through a plan design that provides benefits that are sustainable in the long run. An Experience Study is completed every five years to review the assumptions and methods. The next Experience Study will be completed in 2020.

Alternate Scenarios to Estimate the Potential Volatility of Results ("What If Scenarios")

The calculations in this report are based on assumptions about long-term economic and demographic behavior. These assumptions will never materialize in a given year, except by coincidence. Therefore the results will vary from one year to the next. The volatility of the results depends upon the characteristics of the plan. For example:

- Open divisions that have substantial assets compared to their active employee payroll will have more volatile employer contribution rates due to investment return fluctuations.
- Open divisions that have substantial accrued liability compared to their active employee payroll will have more volatile employer contribution rates due to demographic experience fluctuations.
- Small divisions will have more volatile contribution patterns than larger divisions because statistical fluctuations are relatively larger among small populations.
- Shorter amortization periods result in more volatile contribution patterns.

The analysis in this section is intended to review the potential volatility of the actuarial valuation results. It is important to note that calculations in this report are mathematical estimates based upon assumptions regarding future events, which may or may not materialize. Actuarial calculations can and do vary from one valuation to the next, sometimes significantly depending on the group's size.

Many assumptions are important in determining the required employer contributions.

For example:

- Lower investment returns would result in higher required employer contributions, and vice-versa.

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

In the table below, we show the impact of varying one actuarial assumption: the future annual rate of investment return. Lower investment returns would result in higher required employer contributions, and vice-versa.

The relative impact of each investment return scenario below will vary from year to year, as the participant demographics change. The impact of each scenario should be analyzed for a given year, not from year to year. The results in the table are based on the December 31, 2015 valuation, and are for the municipality in total, not by division. These results do not reflect a 5-year phase in of the impact of the new actuarial assumptions.

	Assumed Future Annual Smoothed Rate of Investment Return			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	5.75%	6.75%	7.75%	8.75%
12/31/2015 Valuation Results				
Accrued Liability	\$ 174,320,912	\$ 156,973,006	\$ 142,257,026	\$ 129,685,546
Valuation Assets	\$ 88,014,967	\$ 88,014,967	\$ 88,014,967	\$ 88,014,967
Unfunded Accrued Liability	\$ 86,305,945	\$ 68,958,039	\$ 54,242,059	\$ 41,670,579
Funded Ratio	51%	56%	62%	68%
Monthly Normal Cost	\$ 238,453	\$ 182,587	\$ 139,209	\$ 105,392
Monthly Amortization Payment	\$ 473,051	\$ 421,387	\$ 367,577	\$ 310,351
Total Employer Contribution¹	\$ 711,504	\$ 603,974	\$ 506,786	\$ 416,011

¹ 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.

Six Year Projection Scenarios

The table on the following page illustrates the plan's projected liabilities and computed employer contributions for the next six fiscal years, under the new actuarial assumptions and under three future economic/assumption scenarios. All four projections take into account the past financial losses that will continue to affect the smoothed rate of return for the next four years. Under the 7.75% scenarios, two sets of projections are shown:

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

The 7.75% scenarios provide an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.75% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements. The 6.75% and 5.75% projections provide an indication of the potential required employer contribution if MERS were to realize investment returns of 6.75% and 5.75% over the long-term.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets	Funded Percentage	Computed Annual Employer Contribution
7.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
WITH 5-YEAR PHASE-IN					
2015	2017	\$ 142,257,026	\$ 88,014,967	62%	\$ 5,495,976
2016	2018	145,331,625	86,640,587	60%	5,470,548
2017	2019	148,315,612	85,605,775	58%	6,003,696
2018	2020	151,114,058	84,554,265	56%	6,625,992
2019	2021	153,683,468	83,253,242	54%	7,226,364
2020	2022	156,097,574	84,547,843	54%	7,482,120
NO 5-YEAR PHASE-IN					
2015	2017	\$ 142,257,026	\$ 88,014,967	62%	\$ 6,081,432
2016	2018	145,331,625	86,640,587	60%	5,868,132
2017	2019	148,315,612	85,932,732	58%	6,217,572
2018	2020	151,114,058	85,428,837	57%	6,667,452
2019	2021	153,683,468	84,487,034	55%	7,108,644
2020	2022	156,097,574	86,004,648	55%	7,360,656
6.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	\$ 156,973,006	\$ 88,014,967	56%	\$ 7,247,688
2016	2018	160,186,712	85,809,033	54%	7,041,960
2017	2019	163,295,895	84,888,500	52%	7,401,516
2018	2020	166,205,683	84,769,880	51%	7,855,212
2019	2021	168,874,236	84,180,336	50%	8,306,736
2020	2022	171,378,247	86,138,611	50%	8,589,060
5.75% Assumed Interest Discount Rate and Future Annual Market Rate of Return					
NO 5-YEAR PHASE-IN					
2015	2017	\$ 174,320,912	\$ 88,014,967	51%	\$ 8,538,048
2016	2018	177,677,166	84,977,207	48%	8,341,812
2017	2019	180,914,088	83,922,086	46%	8,714,976
2018	2020	183,936,798	84,331,681	46%	9,176,136
2019	2021	186,705,427	84,228,577	45%	9,645,636
2020	2022	189,300,545	86,374,583	46%	10,000,968

Employer Contribution Details (Without a 5-year Phase-In) For the Fiscal Year Beginning July 1, 2017

Table 1

Division	Amort. Period for Unfund. Liab. ^{4,5}	Employer Contributions ¹			Blended Employer Contribut. ⁶	Employee Contribution Rate	Employee Contribut. Conversion Factor ²
		Normal Cost	Unfunded Accrued Liability	Total Computed Employer Contribut.			
Percentage of Payroll							
01 - Gnrl NonUn.	23	10.25%	25.39%	35.64%		3.00%	0.88%
10 - General AFSCME	23	-	-	-	20.01%	2.50%	
11 - Gnrl Transit	23	-	-	-	19.66%	2.50%	
12 - Gnrl BCSA	23	-	-	-	52.19%	4.16%	
13 - Gnrl Housing	20	-	-	-		1.50%	
14 - SEIU Local	23	-	-	-	21.94%	2.50%	
15 - City Mngr.	23	16.76%	359.07%	375.83%		0.00%	0.91%
16 - Cntrl Disp.	16	-	-	-		7.20%	
17 - Corr.Offrcs	23	7.69%	-7.70%	0.00%		3.12%	0.88%
18 - General AFSCME aft	23	5.22%	0.07%	5.29%	20.01%	2.50%	0.89%
19 - Gen. SEIU hired af	23	4.93%	0.08%	5.01%	21.94%	2.50%	0.90%
20 - Gen. BCSA hired af	23	5.34%	0.10%	5.44%	52.19%	2.50%	0.84%
HA - GNL Trans hired af	23	6.91%	0.02%	6.93%	19.66%	0.00%	0.90%
Estimated Monthly Contribution³							
01 - Gnrl NonUn.	23	\$ 36,890	\$ 91,379	\$ 128,269			
10 - General AFSCME	23	23,960	57,816	81,776			
11 - Gnrl Transit	23	6,427	13,816	20,243			
12 - Gnrl BCSA	23	9,295	63,451	72,746			
13 - Gnrl Housing	20	7,879	4,665	12,544			
14 - SEIU Local	23	22,799	53,144	75,943			
15 - City Mngr.	23	3,843	82,339	86,182			
16 - Cntrl Disp.	16	0	995	995			
17 - Corr.Offrcs	23	387	(387)	0			
18 - General AFSCME aft	23	12,383	166	12,549			
19 - Gen. SEIU hired af	23	8,445	137	8,582			
20 - Gen. BCSA hired af	23	2,281	43	2,324			
HA - GNL Trans hired af	23	4,620	13	4,633			
Total Municipality		\$ 139,209	\$ 367,577	\$ 506,786			
Estimated Annual Contribution³		\$ 1,670,508	\$ 4,410,924	\$ 6,081,432			

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.

³ 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, 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 July 1, 2017 fiscal year, the negative unfunded accrued liability is amortized (spread) over 10 years. 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.
- ⁵ If the division is closed to new hires, with new hires not covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the amortization period will decrease as follows: Under Amortization Option A, the period will decrease by 2 years each valuation year, until it reaches 6 or 5 years. Then it decreases by 1 year each valuation year until the UAL is paid off. Under Amortization Option B, the period will decrease by 2 years each valuation year, until it reaches 16 or 15 years. Thereafter, the period will reduce by 1 year each valuation year, until the UAL is paid off. This will result in amortization payments that increase faster than the usual 3.75% each year. If the division is closed to new hires, with new hires (and transfers) covered by MERS Defined Benefit Plan or Hybrid Plan provisions, the standard open division amortization period will apply.
- ⁶ For linked divisions, the employer will be invoiced the Total Required Employer Contribution rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-2308.

Note that the Employer Contribution Details shown in Table 1 do **not** reflect phase-in over 5 fiscal years (beginning in 2017) of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 1 above. The contribution requirements including the 5-year phase-in are shown on page 8.

Please see the Comments on Asset Smoothing.

Benefit Provisions

Table 2

01 - Gnrl NonUn.: Open Division

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	3%	2%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

10 - General AFSCME: Closed to new hires, linked to Division 18

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

11 - Gnl Transit: Closed to new hires, linked to Division HA

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

Table 2 (continued)

12 - Gnrl BCSA: Closed to new hires, linked to Division 20

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	4.16%	4.16%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

13 - Gnrl Housing: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	1.50%	1.50%
DC Plan for New Hires:	12/1/2013	12/1/2013
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

14 - SEIU Local: Closed to new hires, linked to Division 19

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25	50/25
	55/15	55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

Table 2 (continued)

15 - City Mngr.: Open Division

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25 55/15	50/25 55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	0%	0%
RS50% Percentage:	50%	50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

16 - Cntrl Disp.: Closed to new hires

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	3 years	3 years
COLA for Future Retirees:	2.50% (Non-Compound)	2.50% (Non-Compound)
Employee Contributions:	7.20%	7.20%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

17 - Corr.Offrcs: Open Division

	2015 Valuation	2014 Valuation
Benefit Multiplier:	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	3.12%	3.12%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

Table 2 (continued)

18 - General AFSCME after 12/1/10: Open Division, linked to Division 10

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

19 - Gen. SEIU hired after 7/1/2011: Open Division, linked to Division 14

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

20 - Gen. BCSA hired after 1/1/2012: Open Division, linked to Division 12

	2015 Valuation	2014 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	3 years	3 years
Employee Contributions:	2.50%	2.50%
Act 88:	Yes (Adopted 7/10/1973)	Yes (Adopted 7/10/1973)

HA - GNL Trans hired after 3/1/10: Open Division, linked to Division 11

	2015 Valuation	2014 Valuation
Benefit Multiplier:	Hybrid Plan - 1.25% Multiplier	Hybrid Plan - 1.25% Multiplier
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	-	-
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 7/10/1983)	Yes (Adopted 7/10/1983)

Participant Summary

Table 3

Division	2015 Valuation		2014 Valuation		2015 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
01 - Gnrl NonUn.							
Active Employees	56	\$ 3,938,414	52	\$ 3,749,622	46.4	11.3	12.1
Vested Former Employees	12	226,679	11	194,726	51.4	10.9	14.4
Retirees and Beneficiaries	91	2,329,404	88	2,115,786	74.1		
10 - General AFSCME							
Active Employees	64	\$ 3,048,947	74	\$ 3,506,111	50.1	17.7	17.9
Vested Former Employees	7	106,033	8	117,493	51.6	13.6	15.9
Retirees and Beneficiaries	128	2,393,905	116	2,186,267	67.2		
11 - Gnrl Transit							
Active Employees	19	\$ 818,690	21	\$ 922,129	54.2	15.1	15.1
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	30	502,167	29	460,441	64.9		
12 - Gnrl BCSA							
Active Employees	21	\$ 1,369,555	22	\$ 1,442,714	52.6	21.2	21.2
Vested Former Employees	3	38,206	3	38,206	51.9	11.6	16.8
Retirees and Beneficiaries	35	1,340,707	37	1,392,489	66.2		
13 - Gnrl Housing							
Active Employees	11	\$ 671,847	11	\$ 650,340	52.3	13.6	13.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	7	246,987	7	247,265	70.8		
14 - SEIU Local							
Active Employees	60	\$ 2,876,019	67	\$ 3,128,958	51.5	15.6	16.2
Vested Former Employees	11	145,142	11	141,224	52.9	14.1	16.2
Retirees and Beneficiaries	83	1,871,060	82	1,837,885	67.4		
15 - City Mngr.							
Active Employees	2	\$ 250,936	2	\$ 231,433	50.7	4.0	5.9
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	9	522,213	9	543,913	63.6		
16 - Cntrl Disp.							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	5	53,928	5	53,928	52.9	10.2	13.7
Retirees and Beneficiaries	4	101,531	4	99,405	67.4		
17 - Corr.Offrcs							
Active Employees	1	\$ 55,018	1	\$ 58,695	28.7	0.5	0.5
Vested Former Employees	4	35,257	4	35,257	45.8	7.4	15.0
Retirees and Beneficiaries	1	28,471	1	28,471	60.3		

Table 3 (continued)

Division	2015 Valuation		2014 Valuation		2015 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
18 - General AFSCME after							
Active Employees	49	\$ 2,110,015	36	\$ 1,611,962	41.5	2.6	4.1
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
19 - Gen. SEIU hired afte							
Active Employees	35	\$ 1,339,053	35	\$ 1,269,348	38.2	2.7	3.8
Vested Former Employees	1	1,738	1	1,738	41.1	2.4	6.1
Retirees and Beneficiaries	0	0	0	0	0.0		
20 - Gen. BCSA hired afte							
Active Employees	3	\$ 204,667	3	\$ 166,152	48.1	3.4	3.4
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HA - GNL Trans hired afte							
Active Employees	14	\$ 566,021	12	\$ 463,172	45.5	2.4	2.4
Vested Former Employees	1	663	0	0	25.6	1.7	2.5
Retirees and Beneficiaries	0	0	0	0	0.0		
Total Municipality							
Active Employees	335	\$ 17,249,182	336	\$ 17,200,636	47.4	11.5	12.1
Vested Former Employees	44	607,646	43	582,572	50.7	11.4	14.8
Retirees and Beneficiaries	388	9,336,445	373	8,911,922	68.6		
Total Participants	767		752				

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

Division	2015 Valuation		2014 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - Gnrl NonUn.	\$ 14,426,277	\$ 1,056,248	\$ 15,147,135	\$ 1,193,617
10 - General AFSCME	21,637,927	1,331,894	23,242,306	1,576,896
11 - Gnrl Transit	4,563,557	273,173	4,906,943	289,051
12 - Gnrl BCSA	7,927,888	768,440	8,692,730	735,069
13 - Gnrl Housing	3,859,156	106,498	4,108,747	95,798
14 - SEIU Local	16,738,386	1,214,008	18,478,101	1,175,372
15 - City Mngr.	697,751	7,409	946,784	7,361
16 - Cntrl Disp.	1,307,562	14,351	1,430,792	14,258
17 - Corr.Offrcs	639,166	31,128	679,814	29,881
18 - General AFSCME after 12/1/10	316,865	151,850	236,231	106,762
19 - Gen. SEIU hired after 7/1/2011	173,189	108,198	133,462	59,303
20 - Gen. BCSA hired after 1/1/2012	36,178	14,862	26,739	9,682
HA - GNL Trans hired after 3/1/10	118,175	0	83,931	0
Municipality Total	\$ 72,442,077	\$ 5,078,059	\$ 78,113,715	\$ 5,293,050
Combined Reserves	\$ 77,520,136		\$ 83,406,765	

¹ Reserve for Employer Contributions and Benefit Payments

² Reserve for Employee Contributions

The December 31, 2015 valuation assets are equal to 1.135382 times the reported market value of assets (compared to 1.059937 as of December 31, 2014). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the [Appendix](#).

Flow of Valuation Assets

Table 5

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2005	\$ 2,715,851		\$ 529,593	\$ 4,478,251	\$ (3,891,930)	\$ (26,244)	\$ 72,121	\$ 73,555,512
2006	2,763,281		535,345	5,917,344	(4,212,790)	(28,067)	0	78,530,625
2007	2,931,754		541,549	6,363,231	(4,584,252)	(97,397)	0	83,685,510
2008	2,968,152		551,782	3,716,560	(5,114,794)	(48,257)	0	85,758,953
2009	2,959,132		552,800	3,637,611	(5,698,007)	(39,591)	0	87,170,898
2010	2,868,331		453,617	4,281,248	(6,516,632)	(59,121)	49,333	88,247,674
2011	4,106,953	\$ 0	420,760	3,474,621	(7,369,893)	(49,719)	(2,802,205)	86,028,191
2012	3,425,331	133,259	396,893	3,504,637	(8,079,082)	(11,672)	26,998	85,424,555
2013	3,646,578	1,904,258	398,173	5,034,108	(8,415,175)	(38,371)	1	87,954,127
2014	3,776,984	0	419,888	4,832,408	(8,762,592)	(13,880)	198,983	88,405,918
2015	4,004,442	99,850	443,676	4,113,925	(9,048,762)	(56,391)	52,309	88,014,967

Notes:

Transfers in and out are usually related to the transfer of participants between municipalities, and to employer and employee payments for service credit purchases (if any) that the governing body has approved.

Additional employer contributions, if any, are shown separately starting in 2011. Prior to 2011, additional contributions are combined with the required employer contributions.

In the actuarial valuation additional employer contributions are combined with required contributions and used to reduce computed future required employer contributions.

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

Actuarial Accrued Liabilities and Valuation Assets As of December 31, 2015

Table 6

Division	Actuarial Accrued Liability	Valuation Assets ¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - Gnrl NonUn.				
Active Employees	\$ 10,267,037	\$ 866,074	8.4%	\$ 9,400,963
Vested Former Employees	1,344,687	150,975	11.2%	1,193,712
Retirees And Beneficiaries	21,913,308	16,538,402	75.5%	5,374,906
Pending Refunds	<u>23,129</u>	<u>23,129</u>	100.0%	<u>0</u>
Total	\$ 33,548,161	\$ 17,578,580	52.4%	\$ 15,969,581
10 - General AFSCME				
Active Employees	\$ 11,685,921	\$ 1,698,605	14.5%	\$ 9,987,316
Vested Former Employees	834,501	834,501	100.0%	0
Retirees And Beneficiaries	23,527,599	23,527,599	100.0%	0
Pending Refunds	<u>18,816</u>	<u>18,816</u>	100.0%	<u>0</u>
Total	\$ 36,066,837	\$ 26,079,521	72.3%	\$ 9,987,316
11 - Gnrl Transit				
Active Employees	\$ 2,780,134	\$ 370,890	13.3%	\$ 2,409,244
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	5,108,309	5,108,309	100.0%	0
Pending Refunds	<u>12,337</u>	<u>12,337</u>	100.0%	<u>0</u>
Total	\$ 7,900,780	\$ 5,491,536	69.5%	\$ 2,409,244
12 - Gnrl BCSA				
Active Employees	\$ 6,964,058	\$ 743,532	10.7%	\$ 6,220,526
Vested Former Employees	217,855	24,908	11.4%	192,947
Retirees And Beneficiaries	13,839,003	9,105,214	65.8%	4,733,789
Pending Refunds	<u>0</u>	<u>0</u>	0.0%	<u>0</u>
Total	\$ 21,020,916	\$ 9,873,654	47.0%	\$ 11,147,262
13 - Gnrl Housing				
Active Employees	\$ 2,553,591	\$ 1,878,056	73.5%	\$ 675,535
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	2,623,527	2,623,527	100.0%	0
Pending Refunds	<u>949</u>	<u>949</u>	100.0%	<u>0</u>
Total	\$ 5,178,067	\$ 4,502,532	87.0%	\$ 675,535
14 - SEIU Local				
Active Employees	\$ 10,083,690	\$ 988,002	9.8%	\$ 9,095,688
Vested Former Employees	1,036,472	942,303	90.9%	94,169
Retirees And Beneficiaries	18,416,159	18,416,159	100.0%	0
Pending Refunds	<u>36,361</u>	<u>36,361</u>	100.0%	<u>0</u>
Total	\$ 29,572,682	\$ 20,382,825	68.9%	\$ 9,189,857

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
15 - City Mngr.				
Active Employees	\$ 200,827	\$ 7,409	3.7%	\$ 193,418
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	5,577,286	793,217	14.2%	4,784,069
Pending Refunds	0	0	0.0%	0
Total	\$ 5,778,113	\$ 800,626	13.9%	\$ 4,977,487
16 - Cntrl Disp.				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	441,444	315,681	71.5%	125,763
Retirees And Beneficiaries	1,181,660	1,181,660	100.0%	0
Pending Refunds	3,535	3,535	100.0%	0
Total	\$ 1,626,639	\$ 1,500,876	92.3%	\$ 125,763
17 - Corr.Offrcs				
Active Employees	\$ 6,193	\$ 283,144	4,572.0%	\$ (276,951)
Vested Former Employees	130,957	130,957	100.0%	0
Retirees And Beneficiaries	343,652	343,652	100.0%	0
Pending Refunds	3,287	3,287	100.0%	0
Total	\$ 484,089	\$ 761,040	157.2%	\$ (276,951)
18 - General AFSCME after 12/1/10				
Active Employees	\$ 529,145	\$ 513,974	97.1%	\$ 15,171
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	18,197	18,197	100.0%	0
Total	\$ 547,342	\$ 532,171	97.2%	\$ 15,171
19 - Gen. SEIU hired after 7/1/2011				
Active Employees	\$ 331,747	\$ 313,667	94.6%	\$ 18,080
Vested Former Employees	4,388	4,388	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	1,427	1,427	100.0%	0
Total	\$ 337,562	\$ 319,482	94.6%	\$ 18,080
20 - Gen. BCSA hired after 1/1/2012				
Active Employees	\$ 62,944	\$ 57,950	92.1%	\$ 4,994
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 62,944	\$ 57,950	92.1%	\$ 4,994
HA - GNL Trans hired after 3/1/10				
Active Employees	\$ 132,369	\$ 133,649	101.0%	\$ (1,280)
Vested Former Employees	525	525	100.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 132,894	\$ 134,174	101.0%	\$ (1,280)

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets ¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Total Municipality				
Active Employees	\$ 45,597,656	\$ 7,854,952	17.2%	\$ 37,742,704
Vested Former Employees	4,010,829	2,404,238	59.9%	1,606,591
Retirees and Beneficiaries	92,530,503	77,637,739	83.9%	14,892,764
Pending Refunds	118,038	118,038	100.0%	0
Total Participants	\$ 142,257,026	\$ 88,014,967	61.9%	\$ 54,242,059
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions 18, 10				
Active Employees	\$ 12,215,066	\$ 2,212,579	18.1%	\$ 10,002,487
Vested Former Employees	834,501	834,501	100.0%	0
Retirees and Beneficiaries	23,527,599	23,527,599	100.0%	0
Pending Refunds	37,013	37,013	100.0%	0
Total	\$ 36,614,179	\$ 26,611,692	72.7%	\$ 10,002,487
Linked Divisions HA, 11				
Active Employees	\$ 2,912,503	\$ 504,539	17.3%	\$ 2,407,964
Vested Former Employees	525	525	100.0%	0
Retirees and Beneficiaries	5,108,309	5,108,309	100.0%	0
Pending Refunds	12,337	12,337	100.0%	0
Total	\$ 8,033,674	\$ 5,625,710	70.0%	\$ 2,407,964
Linked Divisions 20, 12				
Active Employees	\$ 7,027,002	\$ 801,482	11.4%	\$ 6,225,520
Vested Former Employees	217,855	24,908	11.4%	192,947
Retirees and Beneficiaries	13,839,003	9,105,214	65.8%	4,733,789
Pending Refunds	0	0	0.0%	0
Total	\$ 21,083,860	\$ 9,931,604	47.1%	\$ 11,152,256
Linked Divisions 19, 14				
Active Employees	\$ 10,415,437	\$ 1,301,669	12.5%	\$ 9,113,768
Vested Former Employees	1,040,860	946,691	91.0%	94,169
Retirees and Beneficiaries	18,416,159	18,416,159	100.0%	0
Pending Refunds	37,788	37,788	100.0%	0
Total	\$ 29,910,244	\$ 20,702,307	69.2%	\$ 9,207,937

¹ Includes both employer and employee assets.

Please see the Comments on Asset Smoothing.

See the MERS Fiscal Responsibility Policy on the MERS website at:

http://www.mersofmich.com/Portals/0/Assets/PageResources/MERS/PlanDocument/Pension/MERSPlanDocument_Section46.pdf.

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2001	\$ 76,271,131	\$ 59,488,390	78%	\$ 16,782,741
2002	80,336,233	61,264,130	76%	19,072,103
2003	86,671,937	65,724,348	76%	20,947,589
2004	92,602,174	69,677,870	75%	22,924,304
2005	98,161,300	73,555,512	75%	24,605,788
2006	103,019,360	78,530,625	76%	24,488,735
2007	108,343,302	83,685,510	77%	24,657,792
2008	114,485,126	85,758,953	75%	28,726,173
2009	117,667,634	87,170,898	74%	30,496,736
2010	121,967,784	88,247,674	72%	33,720,110
2011	125,554,938	86,028,191	69%	39,526,747
2012	125,080,017	85,424,555	68%	39,655,462
2013	128,362,120	87,954,127	69%	40,407,993
2014	132,642,371	88,405,918	67%	44,236,453
2015	142,257,026	88,014,967	62%	54,242,059

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

Division 01 - Gnrl NonUn.

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 23,944,247	\$ 18,186,221	76%	\$ 5,758,026
2006	25,079,309	18,948,871	76%	6,130,438
2007	25,786,814	19,673,236	76%	6,113,578
2008	26,704,641	19,486,827	73%	7,217,814
2009	27,086,420	18,980,302	70%	8,106,118
2010	28,139,605	18,498,320	66%	9,641,285
2011	28,719,364	17,717,784	62%	11,001,580
2012	28,445,176	17,201,716	61%	11,243,460
2013	28,920,190	17,110,935	59%	11,809,255
2014	30,180,098	17,320,168	57%	12,859,930
2015	33,548,161	17,578,580	52%	15,969,581

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

Table 9-01: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	56	\$ 3,681,502	16.50%	2.00%
2006	56	3,764,706	16.90%	2.00%
2007	53	3,739,599	17.18%	2.00%
2008	50	3,475,062	20.49%	2.00%
2009	52	3,688,557	21.40%	2.00%
2010	48	3,321,913	25.71%	2.00%
2011	47	3,325,529	28.91%	2.00%
2012	49	3,513,560	29.29%	2.00%
2013	50	3,505,149	30.35%	2.00%
2014	52	3,749,622	30.62%	2.00%
2015	56	3,938,414	35.64%	3.00%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 10 - General AFSCME

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 27,344,528	\$ 21,189,632	77%	\$ 6,154,896
2006	28,290,683	22,713,433	80%	5,577,250
2007	29,391,569	24,067,849	82%	5,323,720
2008	30,476,499	24,602,751	81%	5,873,748
2009	30,931,179	25,382,663	82%	5,548,516
2010	31,695,838	26,016,328	82%	5,679,510
2011	32,153,521	25,978,676	81%	6,174,845
2012	32,140,644	26,043,511	81%	6,097,133
2013	32,923,896	26,215,800	80%	6,708,096
2014	33,785,664	26,306,791	78%	7,478,873
2015	36,066,837	26,079,521	72%	9,987,316

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

Table 9-10: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	142	\$ 5,856,100	13.38%	2.50%
2006	143	5,886,162	12.87%	2.50%
2007	140	5,964,726	12.66%	2.50%
2008	136	6,040,939	14.00%	2.50%
2009	129	5,841,342	14.15%	2.50%
2010	113	4,907,939	15.70%	2.50%
2011	96	4,447,277	\$ 60,959	2.50%
2012	91	3,935,769	\$ 57,221	2.50%
2013	78	3,433,686	\$ 58,710	2.50%
2014	74	3,506,111	\$ 65,035	2.50%
2015	64	3,048,947	\$ 81,776	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 11 - Gnl Transit

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 4,831,770	\$ 3,985,075	82%	\$ 846,695
2006	5,206,246	4,307,851	83%	898,395
2007	5,654,231	4,645,208	82%	1,009,023
2008	6,044,798	4,831,082	80%	1,213,716
2009	6,164,769	4,961,344	80%	1,203,425
2010	6,398,996	5,089,138	80%	1,309,858
2011	6,792,528	5,220,156	77%	1,572,372
2012	7,046,884	5,309,103	75%	1,737,781
2013	7,368,535	5,405,653	73%	1,962,882
2014	7,425,844	5,507,426	74%	1,918,418
2015	7,900,780	5,491,536	70%	2,409,244

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

Table 9-11: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	38	\$ 1,355,560	12.14%	2.50%
2006	34	1,244,168	12.64%	2.50%
2007	31	1,240,108	13.30%	2.50%
2008	32	1,264,369	14.44%	2.50%
2009	35	1,389,512	13.93%	2.50%
2010	31	1,245,573	\$ 14,966	2.50%
2011	30	1,248,167	\$ 17,132	2.50%
2012	29	1,247,665	\$ 18,161	2.50%
2013	24	1,067,838	\$ 18,189	2.50%
2014	21	922,129	\$ 16,948	2.50%
2015	19	818,690	\$ 20,243	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 12 - Gnrl BCSA

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 12,562,014	\$ 8,727,625	69%	\$ 3,834,389
2006	13,528,838	9,314,881	69%	4,213,957
2007	14,936,058	10,283,713	69%	4,652,345
2008	16,233,895	10,727,912	66%	5,505,983
2009	16,834,204	10,890,369	65%	5,943,835
2010	18,287,546	11,222,688	61%	7,064,858
2011	19,498,544	10,596,421	54%	8,902,123
2012	19,174,093	10,216,513	53%	8,957,580
2013	19,738,162	10,086,955	51%	9,651,207
2014	20,213,419	9,992,873	49%	10,220,546
2015	21,020,916	9,873,654	47%	11,147,262

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

Table 9-12: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	31	\$ 1,793,396	16.77%	4.16%
2006	28	1,709,751	18.80%	4.16%
2007	28	1,708,339	20.73%	4.16%
2008	31	1,951,546	22.41%	4.16%
2009	31	2,054,806	23.27%	4.16%
2010	22	1,319,575	37.41%	4.16%
2011	24	1,546,987	\$ 55,466	4.16%
2012	23	1,434,721	\$ 54,268	4.16%
2013	23	1,461,271	\$ 59,354	4.16%
2014	22	1,442,714	\$ 63,841	4.16%
2015	21	1,369,555	\$ 72,746	4.16%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 13 - Gnl Housing

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 3,019,491	\$ 1,465,563	49%	\$ 1,553,928
2006	3,161,171	1,500,042	47%	1,661,129
2007	3,370,371	1,587,309	47%	1,783,062
2008	3,245,000	1,651,560	51%	1,593,440
2009	3,333,272	1,746,352	52%	1,586,920
2010	3,669,970	1,818,280	50%	1,851,690
2011	3,955,186	1,884,314	48%	2,070,872
2012	4,075,358	2,111,297	52%	1,964,061
2013	4,339,820	4,379,313	101%	(39,493)
2014	4,645,898	4,456,553	96%	189,345
2015	5,178,067	4,502,532	87%	675,535

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

Table 9-13: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	10	\$ 381,614	32.57%	1.50%
2006	11	447,215	30.55%	1.50%
2007	12	518,413	29.43%	1.50%
2008	12	505,626	28.33%	1.50%
2009	11	530,871	27.71%	1.50%
2010	13	602,973	28.82%	1.50%
2011	13	615,755	31.57%	1.50%
2012	12	647,094	31.37%	1.50%
2013	13	703,972	9.60%	1.50%
2014	11	650,340	\$ 8,211	1.50%
2015	11	671,847	\$ 12,544	1.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 14 - SEIU Local

Table 8-14: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 19,910,651	\$ 16,509,840	83%	\$ 3,400,811
2006	20,870,478	17,780,252	85%	3,090,226
2007	21,979,653	18,981,747	86%	2,997,906
2008	22,773,684	19,201,960	84%	3,571,724
2009	23,973,170	19,842,162	83%	4,131,008
2010	24,778,206	20,308,324	82%	4,469,882
2011	26,591,360	20,734,278	78%	5,857,082
2012	26,669,481	20,637,251	77%	6,032,230
2013	27,111,309	20,750,141	77%	6,361,168
2014	27,956,726	20,831,443	75%	7,125,283
2015	29,572,682	20,382,825	69%	9,189,857

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

Table 9-14: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	120	\$ 4,609,752	11.70%	2.50%
2006	116	4,700,497	11.37%	2.50%
2007	117	4,795,569	11.32%	2.50%
2008	114	4,800,746	12.93%	2.50%
2009	109	4,771,596	13.90%	2.50%
2010	100	4,298,849	15.31%	2.50%
2011	84	3,642,189	\$ 57,214	2.50%
2012	78	3,448,701	\$ 55,641	2.50%
2013	70	3,170,776	\$ 56,299	2.50%
2014	67	3,128,958	\$ 61,491	2.50%
2015	60	2,876,019	\$ 75,943	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 15 - City Mngr.

Table 8-15: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 3,600,251	\$ 1,334,799	37%	\$ 2,265,452
2006	3,643,263	1,465,693	40%	2,177,570
2007	3,742,626	1,612,267	43%	2,130,359
2008	5,277,094	2,092,857	40%	3,184,237
2009	5,424,741	1,854,233	34%	3,570,508
2010	5,464,593	1,697,637	31%	3,766,956
2011	5,508,689	1,582,539	29%	3,926,150
2012	5,510,200	1,459,650	27%	4,050,550
2013	5,659,625	1,321,703	23%	4,337,922
2014	5,766,202	1,011,334	18%	4,754,868
2015	5,778,113	800,626	14%	4,977,487

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

Table 9-15: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	2	\$ 209,783	62.78%	0.00%
2006	2	214,030	62.75%	0.00%
2007	2	229,437	58.81%	0.00%
2008	2	206,689	94.60%	0.00%
2009	2	247,814	87.42%	0.00%
2010	2	242,478	93.59%	0.00%
2011	2	247,780	97.84%	0.00%
2012	2	256,419	106.72%	0.00%
2013	2	239,173	121.87%	0.00%
2014	2	231,433	138.91%	0.00%
2015	2	250,936	375.83%	0.00%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 16 - Cntrl Disp.

Table 8-16: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 2,698,754	\$ 1,646,168	61%	\$ 1,052,586
2006	2,949,628	1,942,126	66%	1,007,502
2007	3,162,270	2,228,569	70%	933,701
2008	3,372,668	2,527,237	75%	845,431
2009	3,521,563	2,838,167	81%	683,396
2010	3,050,392	2,883,558	95%	166,834
2011	1,801,204	1,546,437	86%	254,767
2012	1,436,711	1,541,444	107%	(104,733)
2013	1,472,927	1,538,184	104%	(65,257)
2014	1,500,422	1,531,662	102%	(31,240)
2015	1,626,639	1,500,876	92%	125,763

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

Table 9-16: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	22	\$ 940,627	11.67%	7.20%
2006	20	901,497	11.82%	7.20%
2007	21	982,174	10.93%	7.20%
2008	19	922,526	11.81%	7.20%
2009	20	988,564	11.06%	7.20%
2010	0	0	\$ 67	0.00%
2011	0	0	\$ 1,156	0.00%
2012	0	0	\$ 0	0.00%
2013	0	0	\$ 0	0.00%
2014	0	0	\$ 0	0.00%
2015	0	0	\$ 995	0.00%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 17 - Corr.Offrcs

Table 8-17: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 249,594	\$ 510,589	205%	\$ (260,995)
2006	289,744	557,476	192%	(267,732)
2007	319,710	605,612	189%	(285,902)
2008	356,847	636,767	178%	(279,920)
2009	398,316	675,306	170%	(276,990)
2010	481,556	711,082	148%	(229,526)
2011	490,940	717,874	146%	(226,934)
2012	435,200	722,728	166%	(287,528)
2013	447,884	737,311	165%	(289,427)
2014	462,403	752,232	163%	(289,829)
2015	484,089	761,040	157%	(276,951)

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

Table 9-17: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2005	2	\$ 96,710	0.00%	3.12%
2006	2	99,360	0.00%	3.12%
2007	2	99,204	0.00%	3.12%
2008	2	104,889	0.00%	3.12%
2009	2	115,295	0.00%	3.12%
2010	1	61,084	0.00%	3.12%
2011	1	56,073	0.00%	3.12%
2012	0	0	\$ 0	0.00%
2013	1	59,571	0.00%	3.12%
2014	1	58,695	0.00%	3.12%
2015	1	55,018	0.00%	3.12%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 18 - General AFSCME after 12/1/10

Table 8-18: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ 30,809	\$ 38,693	126%	\$ (7,884)
2012	97,827	114,705	117%	(16,878)
2013	224,963	232,289	103%	(7,326)
2014	378,614	363,551	96%	15,063
2015	547,342	532,171	97%	15,171

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

Table 9-18: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2011	16	\$ 631,087	4.67%	2.50%
2012	26	996,013	4.46%	2.50%
2013	34	1,365,798	4.67%	2.50%
2014	36	1,611,962	4.92%	2.50%
2015	49	2,110,015	5.29%	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 19 - Gen. SEIU hired after 7/1/2011

Table 8-19: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2011	\$ 1,988	\$ 0	0%	\$ 1,988
2012	26,191	39,491	151%	(13,300)
2013	85,341	103,141	121%	(17,800)
2014	196,839	204,319	104%	(7,480)
2015	337,562	319,482	95%	18,080

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

Table 9-19: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2011	5	\$ 138,822	5.09%	2.50%
2012	16	510,841	4.86%	2.50%
2013	28	928,192	4.59%	2.50%
2014	35	1,269,348	4.78%	2.50%
2015	35	1,339,053	5.01%	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division 20 - Gen. BCSA hired after 1/1/2012

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	14,554	17,078	117%	(2,524)
2014	38,187	38,604	101%	(417)
2015	62,944	57,950	92%	4,994

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

Table 9-20: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2011	0	\$ 0	0.00%	0.00%
2013	1	65,925	4.33%	2.50%
2014	3	166,152	5.18%	2.50%
2015	3	204,667	5.44%	2.50%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

Division HA - GNL Trans hired after 3/1/10

Table 8-HA: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2010	\$ 1,082	\$ 2,319	214%	\$ (1,237)
2011	10,805	11,019	102%	(214)
2012	22,252	27,146	122%	(4,894)
2013	54,914	55,624	101%	(710)
2014	92,055	88,962	97%	3,093
2015	132,894	134,174	101%	(1,280)

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

Table 9-HA: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2010	2	\$ 67,555	6.26%	0.00%
2011	3	125,196	6.89%	0.00%
2012	7	266,832	7.08%	0.00%
2013	9	370,383	6.77%	0.00%
2014	12	463,172	6.38%	0.00%
2015	14	566,021	6.93%	0.00%

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

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.

Note: The contributions shown in Table 9 for the 12/31/2015 valuation do **not** reflect phase-in over 5 fiscal years (beginning in 2017) 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 8.

See the Benefit Provision History on page 43 for past benefit provision changes.

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:	12/31/2015
Measurement Date of Total Pension Liability (TPL):	12/31/2015

At 12/31/2015, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	388
Inactive employees entitled to but not yet receiving benefits:	44
Active employees:	<u>335</u>
	767

Total Pension Liability as of 12/31/2014 measurement date:	\$ 129,613,025
Total Pension Liability as of 12/31/2015 measurement date:	\$ 138,929,731
Service Cost for the year ending on the 12/31/2015 measurement date:	\$ 1,843,040

Change in the Total Pension Liability due to:

- Benefit changes ¹ :	\$ (11,965)
- Differences between expected and actual experience ² :	\$ (626,575)
- Changes in assumptions ² :	\$ 6,823,847

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

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.

Average expected remaining service lives of all employees (active and inactive):	4
Covered employee payroll: (Needed for Required Supplementary Information)	\$ 17,249,182

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2015:	\$ 14,138,619	-	\$ (12,099,133)

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

Benefit Provision History

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

01 - Gnrl NonUn.

7/1/2015	Participant Contribution Rate 3%
4/1/2010	Non Standard Compensation Definition
7/1/2000	Temporary Benefit F55 (With 20 Years of Service) (07/01/2000 - 09/03/2000)
1/1/1996	Benefit B-4 (80% max)
1/1/1996	Member Contribution Rate 2.00%
7/1/1994	Member Contribution Rate 1.50%
6/1/1993	Benefit B-3 (80% max)
6/1/1993	Temporary Benefit RS 50 (50% Post-Ret. Spouse Benefits) (06/01/1993 - 08/03/1993)
6/1/1993	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
3/1/1987	Benefit F55 (With 25 Years of Service)
3/1/1987	Member Contribution Rate 0.00%
2/1/1986	Benefit C-2/Base B-1
5/6/1975	Exclude Temporary Employees
8/1/1973	Benefit C-1 (Old)
7/10/1973	Covered by Act 88
7/1/1962	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/1962	10 Year Vesting
7/1/1962	Benefit C (Old)
7/1/1962	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
7/1/1962	Fiscal Month - July

10 - General AFSCME

1/1/2011	Non Standard Compensation Definition
10/1/1995	Member Contribution Rate 2.50%
6/1/1995	Benefit B-4 (80% max)
6/1/1995	Member Contribution Rate 2.00%
1/1/1994	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Member Contribution Rate 1.50%
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
2/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
2/1/1986	10 Year Vesting
2/1/1986	Benefit C-2/Base B-1
2/1/1986	Benefit F55 (With 25 Years of Service)
2/1/1986	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

11 - Gnl Transit

11/1/2009	Non Standard Compensation Definition
12/1/2001	Temporary 8 Year Vesting (12/01/2001 - 02/03/2002)
11/1/2000	Member Contribution Rate 2.50%
10/1/1998	Member Contribution Rate 1.75%
9/1/1998	Benefit B-4 (80% max)
1/1/1997	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1997	Benefit B-3 (80% max)
1/1/1997	Member Contribution Rate 1.50%
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)
11/1/1986	Benefit C-2/Base B-1
4/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
4/1/1986	10 Year Vesting
4/1/1986	Benefit F55 (With 25 Years of Service)
4/1/1986	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

12 - Gnrl BCSA

6/1/2010	Non Standard Compensation Definition
5/1/2003	Member Contribution Rate 4.16%
5/1/2003	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/1996	Member Contribution Rate 2.50%
1/1/1996	Member Contribution Rate 2.00%
1/1/1996	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1996	Benefit B-4 (80% max)
1/1/1994	Member Contribution Rate 1.50%
1/1/1994	Benefit B-3 (80% max)
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
6/1/1987	Benefit F55 (With 25 Years of Service)
6/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1986	10 Year Vesting
6/1/1986	Benefit C-2/Base B-1
5/11/1986	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

13 - Gnl Housing

12/1/2013	DC Adoption Date 12-01-2013
8/1/2005	Temporary 24 Years & Out (08/01/2005 - 10/03/2005)
5/1/2000	E2 2.5% COLA for future retirees (05/01/2000)
10/1/1998	Benefit B-4 (80% max)
7/1/1994	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/1994	Benefit B-3 (80% max)
7/1/1994	Member Contribution Rate 1.50%
1/1/1988	Flexible E 2% COLA Adopted (01/01/1988)

13 - Gnl Housing

1/1/1987	Flexible E 2% COLA Adopted (01/01/1987)
12/1/1986	Benefit F55 (With 25 Years of Service)
5/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
5/1/1986	10 Year Vesting
5/1/1986	Benefit C-2/Base B-1
5/1/1986	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

14 - SEIU Local

1/1/2012	Non Standard Compensation Definition
1/1/1997	Member Contribution Rate 2.50%
1/1/1996	Benefit B-4 (80% max)
1/1/1996	Member Contribution Rate 2.00%
1/1/1994	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/1994	Benefit B-3 (80% max)
1/1/1994	Member Contribution Rate 1.50%
1/1/1989	Flexible E 2% COLA Adopted (01/01/1989)
9/1/1987	Benefit F55 (With 25 Years of Service)
11/1/1986	Benefit C-2/Base B-1
10/17/1986	Benefit FAC-5 (5 Year Final Average Compensation)
10/17/1986	10 Year Vesting
10/17/1986	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

15 - City Mngr.

7/1/1996	Benefit RS 50 (50% Post-Ret. Spouse Benefits)
7/1/1996	Benefit B-4 (80% max)
7/1/1996	Benefit F50 (With 25 Years of Service)
5/1/1993	Benefit FAC-3 (3 Year Final Average Compensation)
5/1/1993	10 Year Vesting
5/1/1993	Benefit B-3 (80% max)
5/1/1993	Benefit F55 (With 15 Years of Service)
5/1/1993	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

16 - Cntrl Disp.

1/1/2004	Member Contribution Rate 7.20%
1/1/2004	E2 2.5% COLA for future retirees (01/01/2004)
1/1/2003	Member Contribution Rate 2.50%
1/1/2002	Member Contribution Rate 1.75%
1/1/2001	Benefit FAC-3 (3 Year Final Average Compensation)
1/1/2001	Benefit B-4 (80% max)

16 - Cntrl Disp.

1/1/2001	Member Contribution Rate 1.00%
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	10 Year Vesting
1/1/1994	Benefit C-2/Base B-1
1/1/1994	Benefit F55 (With 25 Years of Service)
1/1/1994	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

17 - Corr.Offrcs

3/1/2001	Benefit B-3 (80% max)
3/1/2001	Member Contribution Rate 3.12%
1/1/1994	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1994	10 Year Vesting
1/1/1994	Benefit C-2/Base B-1
1/1/1994	Benefit F55 (With 25 Years of Service)
1/1/1994	Member Contribution Rate 0.00%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

18 - General AFSCME after 12/1/10

1/1/2011	Non Standard Compensation Definition
12/1/2010	Day of work defined as 80 Hours a Month for All employees.
12/1/2010	Benefit FAC-3 (3 Year Final Average Compensation)
12/1/2010	10 Year Vesting
12/1/2010	Benefit C-1 (New)
12/1/2010	Member Contribution Rate 2.50%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

19 - Gen. SEIU hired after 7/1/2011

1/1/2012	Non Standard Compensation Definition
7/1/2011	Day of work defined as 80 Hours a Month for All employees.
7/1/2011	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/2011	10 Year Vesting
7/1/2011	Benefit C-1 (New)
7/1/2011	Member Contribution Rate 2.50%
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

20 - Gen. BCSA hired after 1/1/2012

1/1/2012	Member Contribution Rate 2.50%
7/1/2011	Benefit FAC-3 (3 Year Final Average Compensation)
7/1/2011	10 Year Vesting

20 - Gen. BCSA hired after 1/1/2012

7/1/2011	Benefit C-1 (New)
7/10/1973	Covered by Act 88
7/1/1962	Fiscal Month - July

HA - GNL Trans hired after 3/1/10

10/1/2015	Hybrid Elapsed Time
3/1/2010	60
3/1/2010	Benefit FAC-3 (3 Year Final Average Compensation)
3/1/2010	Loans
3/1/2010	Pickup
3/1/2010	Rollovers
3/1/2010	6 Year Vesting
3/1/2010	1.25% Multiplier
7/10/1983	Covered by ACT 88
7/1/1962	Fiscal Month - July

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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

Increase in Final Average Compensation

Division	FAC Increase Assumption
01 - Gnrl NonUn.	2.00%
10 - General AFSCME	2.00%
11 - Gnl Transit	4.00%
12 - Gnrl BCSA	2.00%
13 - Gnl Housing	4.00%
14 - SEIU Local	2.00%
15 - City Mngr.	4.00%
17 - Corr.Offrcs	4.00%
18 - General AFSCME after 12	2.00%
19 - Gen. SEIU hired after 7	4.00%
20 - Gen. BCSA hired after 1	4.00%
HA - GNL Trans hired after 3	4.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	70%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

Closed Division	Amortization Option
13 - Gnl Housing	Option B
16 - Cntrl Disp.	Option A