

Protecting Local Government Retirement and Benefits Act

Corrective Action Plan:

Defined Benefit Pension Retirement Systems

Issued under authority of Public Act 202 of 2017.

1. MUNICIPALITY INFORMATION

Local Unit Name: City of Ionia Six-Digit Muni Code: 342020
Defined Benefit Pension System Name: Ionia, City of (3403)
Contact Name (Administrative Officer): Jason Eppler
Title if not Administrative Officer: City Manager
Email: jeppler@ci.ionia.mi.us Telephone: (616) 527-4170

2. GENERAL INFORMATION

Corrective Action Plan: An underfunded local unit of government shall develop and submit for approval a corrective action plan for the local unit of government. The local unit of government shall determine the components of the corrective action plan. This Corrective Action Plan shall be submitted by any local unit of government with at least one defined benefit pension retirement system that has been determined to have an underfunded status. Underfunded status for a defined benefit pension system is defined as being less than 60% funded according to the most recent audited financial statements, and, if the local unit of government is a city, village, township, or county, the annually required contribution (ARC) for all of the defined benefit pension retirement systems of the local unit of government is greater than 10% of the local unit of government's annual governmental fund revenues, based on the most recent fiscal year.

Due Date: The local unit of government has **180 days from the date of notification** to submit a corrective action plan to the Municipal Stability Board (the Board). The Board may extend the 180-day deadline by up to an additional 45 days if the local unit of government submits a reasonable draft of a corrective action plan and requests an extension.

Filing: Per Sec. 10(1) of PA 202 of 2017 (the Act), this Corrective Action Plan must be approved by the local government's administrative officer and its governing body. **You must provide proof of your governing body approving this Corrective Action Plan and attach the documentation as a separate PDF document.** Per Sec. 10(4) of the Act, failure to provide documentation that demonstrates approval from your governing body will result in a determination of noncompliance by the Board.

The submitted plan must demonstrate through distinct supporting documentation how and when the local unit will reach the 60% funded ratio. Or, if the local unit is a city, village, township, or county, the submitted plan may demonstrate how and when the ARC for all of the defined benefit pension systems will be less than 10% of annual governmental fund revenues, as defined by the Act. Supporting documentation for the funding ratio and/or ARC must include an actuarial projection, an actuarial valuation, or an internally developed analysis. The local unit must project governmental fund revenues using a reasonable forecast based on historical trends and projected rates of inflation.

The completed plan must be submitted via email to Treasury at LocalRetirementReporting@michigan.gov for review by the Board. **If you have multiple underfunded retirement systems, you are required to complete separate plans and send a separate email for each underfunded system.** Please attach each plan as a separate PDF document in addition to all applicable supporting documentation.

The subject line of the email(s) should be in the following format: **Corrective Action Plan-2017, Local Unit Name, Retirement System Name** (e.g. Corrective Action Plan-2017, City of Lansing, Employees' Retirement System)

Pension Plan). Treasury will send an automatic reply acknowledging receipt of the email. Your individual email settings must allow for receipt of Treasury's automatic reply. This will be the only notification confirming receipt of the application(s).

Municipal Stability Board: The Municipal Stability Board (the Board) shall review and vote on the approval of a corrective action plan submitted by a local unit of government. If a corrective action plan is approved, the Board will monitor the corrective action plan for the following two years, and the Board will report on the local unit of government's compliance with the Act not less than every two years.

Review Process: Following receipt of the email by Treasury, the Board will accept the corrective action plan submission at the next scheduled meeting of the Board. The Board shall then approve or reject the corrective action plan within 45 days from the date of the meeting.

Considerations for Approval: A successful corrective action plan will demonstrate the actions for correcting underfunded status as set forth in Sec. 10(7) of the Act (listed below), as well as any additional solutions to address the underfunded status. Please also include steps already taken to address your underfunded status as well as the date prospective actions will be taken. A local unit of government may also include in its corrective action plan, a review of the local unit of government's budget and finances to determine any alternative methods available to address its underfunded status. A corrective action plan under this section may include the development and implementation of corrective options for the local unit of government to address its underfunded status. The corrective options as described in Sec. 10(7) may include, but are not limited to, any of the following:

- (i) Closing the current defined benefit plan.
- (ii) Implementing a multiplier limit.
- (iii) Reducing or eliminating new accrued benefits.
- (iv) Implementing final average compensation standards.

Implementation: The local unit of government has up to 180 days after the approval of a corrective action plan to begin to implement the corrective action plan to address its underfunded status. The Board shall monitor each underfunded local unit of government's compliance with this act and any corrective action plan. The Board shall adopt a schedule, not less than every 2 years, to certify that the underfunded local unit of government is in substantial compliance with the Act. If the Board determines that an underfunded local unit of government is not in substantial compliance under this subsection, the Board shall within 15 days provide notification and report to the local unit of government detailing the reasons for the determination of noncompliance with the corrective action plan. The local unit of government has 60 days from the date of the notification to address the determination of noncompliance.

3. DESCRIPTIONS OF PRIOR ACTIONS

Prior actions are separated into three categories below: System Design Changes, Additional Funding, and Other Considerations. Please provide a brief description of the prior actions implemented by the local government to address the retirement system's underfunded status within the appropriate category section. Within each category are sample statements that you may choose to use to indicate the changes to your system that will positively affect your funded status. For retirement systems that have multiple divisions, departments, or plans within the same retirement system, please indicate how these changes impact the retirement **system** as a whole.

- **Please Note:** If applicable, prior actions listed within your waiver application(s) may also be included in your corrective action plan.

Please indicate where in the attached supporting documentation these changes are described and the impact of those changes (i.e. what has the local unit of government done to improve its underfunded status, and where can we find the proof of these changes in the supporting documentation?).

Note: Please provide the name of the system impacted, the date you made the change, the relevant page number(s) within the supporting documentation, and the resulting change to the system's funded ratio.

Category of Prior Actions:

System Design Changes - System design changes may include the following: Lower tier of benefits for new hires, final average compensation limitations, freeze future benefit accruals for active employees in the defined benefit system, defined contribution system for new hires, hybrid system for new hires, bridged multiplier for active employees, etc.

Sample Statement: *The system's multiplier for current employees was lowered from 2.5X to 2X for the **General Employees' Retirement System on January 1, 2017**. On page 8 of the attached actuarial supplemental valuation, it shows our funded ratio will be **60%** by fiscal year **2020**.*

Public Safety Division - Closed defined benefit plan on 7/1/13 and had all new hires enroll in a hybrid pension plan.
Teamsters Division - Closed defined benefit plan on 7/1/12 and had all new hires enroll in a hybrid pension plan.
General Clerical Division - Closed defined benefit plan on 7/1/11 and had all new hires enroll in a hybrid pension plan.

Additional Funding – Additional funding may include the following: Voluntary contributions above the actuarially determined contribution, bonding, millage increases, restricted funds, etc.

Sample Statement: *The local unit provided a lump sum payment of **\$1 million** to the **General Employees' Retirement System on January 1, 2017**. This lump sum payment was in addition to the actuarially determined contribution (ADC) of the system. The additional contribution will increase the retirement system's funded ratio to **61% by 2025**. Please see page 10 of the attached enacted budget, which highlights this contribution of **\$1 million**.*

The City of Ionia have made extra contributions above the actuarially determined contribution for the last 5 calendar years. The total amount of the additional contributions total \$805,000.

See attachment 3a for details of the extra payments.

Other Considerations – Other considerations may include the following: outdated Form 5572 information, actuarial assumption changes, amortization policy changes, etc.

Sample Statement: *The information provided on the Form 5572 from the audit used actuarial data from **2015**. Attached is an updated actuarial valuation for **2017** that shows our funded ratio has improved to **62%** as indicated on page 13.*

4. DESCRIPTION OF PROSPECTIVE ACTIONS

The corrective action plan allows you to submit a plan of prospective actions which are separated into three categories below: System Design Changes, Additional Funding, and Other Considerations. Please provide a brief description of the additional actions the local government is planning to implement to address the retirement system's underfunded status within the appropriate category section. Within each category are sample statements that you may choose to use to indicate the changes to your system that will positively affect your funded status. For retirement systems that have multiple divisions, departments, or plans within the same retirement system, please indicate how these changes impact the retirement system as a whole.

Please indicate where in the attached supporting documentation these changes are described and the impact of those changes (i.e. what will the local unit of government do to improve its underfunded status, and where can we find the proof of these changes in the supporting documentation?).

Category of Prospective Actions:

System Design Changes - System design changes may include the following: Lower tier of benefits for new hires, final average compensation limitations, freeze future benefit accruals for active employees in the defined benefit system, defined contribution system for new hires, hybrid system for new hires, bridged multiplier for active employees, etc.

Sample Statement: Beginning with **summer 2018** contract negotiations, the local unit will seek to lower the system's multiplier for current employees from 2.5X to 2X for the **General Employees' Retirement System**. On page 8 of the attached actuarial supplemental valuation, it shows our funded ratio would be **60% funded by fiscal year 2020** if these changes were adopted and implemented by **fiscal year 2019**.

The City will close Division 12 (General Department Heads) by 1/31/19 for any new hires and all new hires will be placed in a Hybrid Pension Plan. Hybrid plan details - 1.50% Multiplier, F55(25), and 4% Employer DC Contribution Rate.
See analysis by MERS for plan closing and additional payments. Attachment 2a

Additional Funding – Additional funding may include the following: voluntary contributions above the actuarially determined contribution, bonding, millage increases, restricted funds, etc.

Sample Statement: Beginning in **fiscal year 2019**, the local unit will provide a lump sum payment of **\$1 million** to the **General Employees' Retirement System**. This lump sum payment will be in addition to the actuarially determined contribution (ADC) of the system. The additional contribution will increase the retirement system's funded ratio to **61% by 2025**. Please see page 10 of the attached enacted budget, which highlights this contribution of **\$1 million**. Please see page 12 of the attached supplemental actuarial valuation showing the projected change to the system's funded ratio with this additional contribution.

The City is committing to funding the pension by an extra \$250,000 per year for calendar years 2019-2022.
See analysis by MERS for plan closing and additional payments. Attachment 2a

Other Considerations – Other considerations may include the following: outdated Form 5572 information, actuarial assumption changes, amortization policy changes, etc.

Sample Statement: Beginning in **fiscal year 2019**, the local unit will begin amortizing the unfunded portion of the pension liability using a **level-dollar amortization method over a closed period of 10 years**. This will allow the retirement system to reach a funded status of **62% by 2022** as shown in the attached actuarial analysis on page 13.

5. CONFIRMATION OF FUNDING

Please check the applicable answer:

Do the corrective actions listed in this plan allow for (insert local unit name) City of Ionia to make, at a minimum, the annual required contribution payment for the defined benefit pension system according to your long-term budget forecast?

Yes

No

If No, Explain

6. DOCUMENTATION ATTACHED TO THIS CORRECTIVE ACTION PLAN

Documentation should be attached as a .pdf to this Corrective Action Plan. The documentation should detail the corrective action plan that would be implemented to adequately address the local unit of government's underfunded status. Please check all documents that are included as part of this plan and attach in successive order as provided below:

Naming convention: when attaching documents please use the naming convention shown below. If there is more than one document in a specific category that needs to be submitted, include a, b, or c for each document. For example, if you are submitting two supplemental valuations, you would name the first document "Attachment 2a" and the second document "Attachment 2b".

Naming Convention

Type of Document

Attachment – 1

This Corrective Action Plan Form (Required)

Attachment – 1a

Documentation from the governing body approving this Corrective Action Plan (Required)

Attachment – 2a

An actuarial projection, an actuarial valuation, or an internally developed analysis, which illustrates how and when the local unit will reach the 60% funded ratio. Or, if the local unit is a city, village, township, or county, ARC will be less than 10% of governmental fund revenues, as defined by the Act. (Required)

Attachment – 3a

Documentation of additional payments in past years that is not reflected in your audited financial statements (e.g. enacted budget, system provided information).

Attachment – 4a

Documentation of commitment to additional payments in future years (e.g. resolution, ordinance)

Attachment – 5a

A separate corrective action plan that the local unit has approved to address its underfunded status, which includes documentation of prior actions, prospective actions, and the positive impact on the system's funded ratio

Attachment –6a

Other documentation not categorized above

7. CORRECTIVE ACTION PLAN CRITERIA

Please confirm that each of the four corrective action plan criteria listed below have been satisfied when submitting this document. Specific detail on corrective action plan criteria can be found in the [Corrective Action Plan Development: Best Practices and Strategies](#) document.

Corrective Action Plan Criteria	Description
<input checked="" type="checkbox"/> Underfunded Status	Is there a description and adequate supporting documentation of how and when the retirement system will reach the 60% funded ratio? Or, if your local unit is a city, village, township, or county, how and when the ARC of all pension systems will be less than 10 percent of governmental fund revenues?
<input checked="" type="checkbox"/> Reasonable Timeframe	Do the corrective actions address the underfunded status in a reasonable timeframe (see CAP criteria issued by the Board)?
<input checked="" type="checkbox"/> Legal and Feasible	Does the corrective action plan follow all applicable laws? Are all required administrative certifications and governing body approvals included? Are the actions listed feasible?
<input checked="" type="checkbox"/> Affordability	Do the corrective action(s) listed allow the local unit to make the annual required contribution payment for the pension system now and into the future without additional changes to this corrective action plan?

8. LOCAL UNIT OF GOVERNMENT'S ADMINISTRATIVE OFFICER APPROVAL OF CORRECTIVE ACTION PLAN

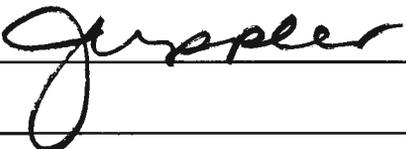
I, Jason Eppler, as the government's administrative officer (*enter title*) City Manager (Ex: City/Township Manager, Executive director, and Chief Executive Officer, etc.) approve this Corrective Action Plan and will implement the prospective actions contained in this Corrective Action Plan.

I confirm to the best of my knowledge that because of the changes listed above, one of the following statements will occur:

The Ionia, City of (3403) (**Insert Retirement Pension System Name**) will achieve a funded status of at least 60% by Fiscal Year 2024 as demonstrated by required supporting documentation listed in section 6.

OR, if the local unit is a city, village, township, or county:

The ARC for all of the defined benefit pension retirement systems of _____ (**Insert local unit name**) will be less than 10% of the local unit of government's annual governmental fund revenues by Fiscal Year _____ as demonstrated by required supporting documentation listed in section 6.

Signature  Date 9.5.18



CITY OF IONIA
CITY COUNCIL
RESOLUTION

At a Regular Meeting of the City Council held on Tuesday, September 4, 2018, the following Resolution was offered by Councilmember Kelley, seconded by Councilmember Paton and unanimously approved:

RESOLVED to approve the "Protecting Local Government Retirement and Benefits Act – Corrective Action Plan (CAP) for Defined Benefit Pension Retirement Systems" which includes contributing an additional \$250,000 per calendar year (2019-2022 inclusive) to the Michigan Municipal Employees Retirement System and authorize the City Manager to sign the CAP on behalf of the City.

FOR: Councilmembers Gustafson, Kelly, Milewski, Millard, Paton, Waterman and Mayor Balice
ABSENT: Councilmembers Patrick and Winters
AGAINST: None
ABSTAINING: None

I hereby certify that the above and foregoing is a true, accurate and correct copy of a Resolution duly resolved by the City Council of the City of Ionia at a Regular Meeting held on Tuesday, September 4, 2018 in the Council Chamber of City Hall.



BY: Ally H. Cook
Ally H. Cook, City Clerk
September 5, 2018

August 22, 2018

Ionia, City of (3403) – All Divisions

Request Summary

Our understanding of the purpose for the employer's request is to estimate the projected funding level and employer contributions under the two scenarios proposed by the employer. The scenarios in this document are as follows:

- Baseline – Current Benefits, Participants, and Assets including the Surplus Division as of December 31, 2017.
- Option 2 Revised – Beginning 7/1/2018, the employer was projected to contribute an additional monthly amount totaling \$250,000 annually to the Surplus Division for five years. These results were revised from the July 26, 2018 report to reflect Division 12 closing to a Hybrid Division with the following provisions: 1.50% Multiplier, F55(25), Average Entry Age of 40 years, and 4% Employer DC Contribution Rate.

Important Comments

- Actuarial calculations are mathematical estimates of future events that may or may not materialize. Actuarial calculations can and do vary from one valuation year to the next, and the actual impact of the proposed plan change(s) will change over time as the assumptions about future events are replaced by actual experience.
- The impacts of disparate scenarios should not be summed together to determine their combined impact due to interdependencies.
- The results are based on the same financial, plan provisions (other than the proposed changes), and demographic data underlying the December 31, 2017 Annual Actuarial Valuation. Employer contributions through the start of the applicable fiscal year were not adjusted or recalculated as a result of the proposed change(s).
- The results are based on the same actuarial assumptions and methods as in the December 31, 2017 Annual Actuarial Valuation.
- For a detailed description of the actuarial assumptions and funding methods used in the annual valuation please refer to its [Appendix](#) on the MERS website. In addition, the MERS Retirement Board adopted the [Actuarial Policy](#) effective May 1, 2018.

Ballpark Estimate Disclosure Statement

This document is not an actuarial report nor are the contribution amounts or rates certified by an actuary. The contribution amounts and rates in this document are estimates (not actual contribution amounts or rates) and are for illustrative purposes only. Neither the employer, nor any other party receiving or reviewing this document may rely on these calculations as indicative of future contribution amounts or rates. By requesting and accepting this document, the employer agrees that MERS shall have no liability arising out of the provision of these amounts and rates, and agrees to indemnify MERS for any liability arising from same due to the provision of this letter or any information therein to any other party or individual. Pursuant to MCL 38.1140h and Section 46 of the MERS Plan Document, there must be a supplemental actuarial analysis conducted before any proposed benefit change is implemented for any currently active or prior employees.

IONIA, CITY OF (3403) - ESTIMATED PROJECTED EMPLOYER CONTRIBUTIONS AND FUNDED RATIOS

Valuation Year Ending 12/31	Fiscal Year Beginning In Year	Baseline - Current Benefits				Option 2 Revised - 5 Years of Additional Contributions totaling \$250,000 Annually beginning 7/1/2018, revised to reflect Division 12 closing to Hybrid with 1.50% Multiplier, F55(25), Entrant Age 40, and 4% Employer DC Contribution Rate						
		Actuarial Accrued Liability	Valuation Assets	Funded Ratio	Total Annual Employer Contribution	Actuarial Accrued Liability	Valuation Assets (Including Surplus)	Funded Ratio	Required Annual Employer DB Contribution	Annual Employer DC Contribution	Additional Annual Employer Contribution	Total Annual Employer Contribution
2017	2019	22,891,575	11,328,759	49%	\$1,139,496	22,891,575	11,328,759	49%	\$1,124,196	\$8,524	\$250,000	\$1,382,720
2018	2020	23,723,171	11,836,168	50%	\$1,226,232	23,718,874	11,968,683	50%	\$1,204,308	\$11,836	\$250,000	\$1,466,144
2019	2021	24,500,480	12,251,176	50%	\$1,308,132	24,483,331	12,635,341	52%	\$1,281,228	\$14,679	\$250,000	\$1,545,907
2020	2022	25,243,943	13,053,124	52%	\$1,340,952	25,206,270	13,709,585	54%	\$1,309,608	\$17,167	\$250,000	\$1,576,775
2021	2023	25,970,522	13,899,418	54%	\$1,376,832	25,905,085	14,846,982	57%	\$1,341,660	\$19,350	\$0	\$1,361,010
2022	2024	26,694,870	14,681,041	55%	\$1,424,232	26,594,589	15,931,298	60%	\$1,385,628	\$21,286	\$0	\$1,406,914
2023	2025	27,425,713	15,498,337	57%	\$1,472,664	27,283,559	16,940,694	62%	\$1,430,904	\$23,050	\$0	\$1,453,954
2024	2026	28,163,031	16,361,075	58%	\$1,522,452	27,971,965	17,876,898	64%	\$1,477,644	\$24,706	\$0	\$1,502,350
2025	2027	28,904,505	17,276,834	60%	\$1,574,556	28,657,328	18,868,394	66%	\$1,526,400	\$26,613	\$0	\$1,553,013
2026	2028	29,634,714	18,235,363	62%	\$1,629,144	29,323,920	19,905,308	68%	\$1,576,632	\$29,070	\$0	\$1,605,702
2027	2029	30,350,008	19,239,031	63%	\$1,685,772	29,967,664	20,990,114	70%	\$1,628,520	\$31,667	\$0	\$1,660,187
2028	2030	31,059,366	20,303,015	65%	\$1,743,804	30,595,834	22,137,521	72%	\$1,681,632	\$34,249	\$0	\$1,715,881
2029	2031	31,761,175	21,431,902	67%	\$1,804,836	31,205,113	23,351,574	75%	\$1,737,552	\$37,036	\$0	\$1,774,588
2030	2032	32,457,281	22,634,777	70%	\$1,868,760	31,796,906	24,641,199	77%	\$1,796,340	\$39,832	\$0	\$1,836,172
2031	2033	33,131,555	23,904,007	72%	\$1,934,244	32,353,787	25,998,689	80%	\$1,857,168	\$42,476	\$0	\$1,899,644
2032	2034	33,765,767	25,230,391	75%	\$2,003,472	32,856,136	27,414,853	83%	\$1,921,812	\$45,012	\$0	\$1,966,824
2033	2035	34,388,968	26,651,495	78%	\$2,075,232	33,332,220	28,927,608	87%	\$1,987,452	\$47,464	\$0	\$2,034,916
2034	2036	35,002,565	28,179,120	81%	\$2,150,076	33,782,494	30,549,188	90%	\$1,726,642	\$49,849	\$0	\$1,776,491
2035	2037	35,602,424	29,820,898	84%	\$2,227,632	34,201,744	32,286,644	94%	\$476,040	\$52,185	\$0	\$528,225
2036	2038	36,213,319	31,613,085	87%	\$2,308,668	34,613,536	34,004,535	98%	\$490,776	\$54,511	\$0	\$545,287
2037	2039	36,845,919	33,579,378	91%	\$1,651,405	35,027,228	35,027,228	100%	\$506,844	\$56,850	\$0	\$563,694
2038	2040	37,518,514	35,752,345	95%	\$630,156	35,459,630	35,459,722	100%	\$523,932	\$59,214	\$0	\$583,146
2039	2041	38,238,285	37,769,330	99%	\$653,160	35,916,261	35,916,403	100%	\$542,592	\$61,615	\$0	\$604,207
2040	2042	39,013,026	39,048,241	100%	\$676,908	36,403,096	36,402,462	100%	\$562,056	\$64,070	\$0	\$626,126
2041	2043	39,874,170	39,910,748	100%	\$702,168	36,949,596	36,947,324	100%	\$582,756	\$66,587	\$0	\$649,343

Notes: The phase-in was included for the purpose of displaying a truer estimate.

The amortization schedule in the proposed scenario is the same as the baseline. A description of the amortization policy can be found on page 24 of the annual valuation appendix:

<http://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2017AnnualActuarialValuation-Appendix.pdf>

The assumed annual market return and discount rate is 7.75%.

In both baseline and proposed scenarios, a surplus division with market value of \$152,576 as of 12/31/2017 is reflected.

In the proposed scenario, there are 5 annual additional contributions of \$250,000 reflected in total, the first of which was assumed to have been contributed for the fiscal year beginning 7/1/2018.

Ballpark Estimate Disclosure Statement

This document is not an actuarial report nor are the contribution amounts or rates certified by an actuary. The contribution amounts and rates in this document are estimates (not actual contribution amounts or rates) and are for illustrative purposes only. Neither the employer, nor any other party receiving or reviewing this document may rely on these calculations as indicative of future contribution amounts or rates. By requesting and accepting this document, the employer agrees that MERS shall have no liability arising out of the provision of these amounts and rates, and agrees to indemnify MERS for any liability arising from same due to the provision of this letter or any information therein to any other party or individual. Pursuant to MCL 38.1140h and Section 46 of the MERS Plan Document, there must be a supplemental actuarial analysis conducted before any proposed benefit change is implemented for any currently active or prior employees.

IONIA, CITY OF (3403) - ESTIMATED PROJECTED EMPLOYER CONTRIBUTIONS AND FUNDED RATIOS



Baseline - Current Benefits

Option 2 Revised - 5 Years of Additional Contributions totaling \$250,000 Annually beginning 7/1/2018, revised to reflect Division 12 closing to Hybrid with 1.50% Multiplier, F55(25), Entrant Age 40, and 4% Employer DC Contribution Rate

Ballpark Estimate Disclosure Statement

This document is not an actuarial report nor are the contribution amounts or rates certified by an actuary. The contribution amounts and rates in this document are estimates (not actual contribution amounts or rates) and are for illustrative purposes only. Neither the employer, nor any other party receiving or reviewing this document may rely on these calculations as indicative of future contribution amounts or rates. By requesting and accepting this document, the employer agrees that MERS shall have no liability arising out of the provision of these amounts and rates, and agrees to indemnify MERS for any liability arising from same due to the provision of this letter or any information therein to any other party or individual. Pursuant to MCL 38.1140h and Section 46 of the MERS Plan Document, there must be a supplemental actuarial analysis conducted before any proposed benefit change is implemented for any currently active or prior employees.

MERS
1134 Municipal Way
Lansing, MI 48917

Customer Number: 340301	Payment Number: WEBPMT0000031780
Customer Name: City of Ionia	Created Date: 12/11/2014
	Status: Processed
	Process Date: 12/11/2014
	Amount: \$125,000.00

Transaction Details

Capture Amount: \$125,000.00 Status: Approved
Type: ECheck Origination ID: 744531396
Card / Account Number: XXX3390 Authorization Code: A8ZZ8W
Billing Address: City of Ionia
PO BOX 496
114 N KIDD STREET
IONIA, MI 48846
USA

Paid Invoice List

Core Invoice #	Invoice #	Reporting Period	Division Number	Division Name	Amount Applied
00040414-1	00040414-01	201411	12	Gnrl Dept Heads	\$125,000.00
					Total: \$125,000.00

[Download PDF](#)

MERS

1134 Municipal Way
Lansing, MI 48917

Customer Number: 340301
Customer Name: City of Ionia

Payment Number: WEBPMT0000039083
Created Date: 9/30/2015
Status: Processed
Process Date: 9/30/2015
Amount: \$140,000.00

Transaction Details

Capture Amount: \$140,000.00
Type: ECheck
Card / Account Number: XXX3390
Billing Address: Robin Marhofer
114 N Kidd St
114 N KIDD STREET
Ionia, MI 48846
United States

Status: Approved
Origination ID: 947720094
Authorization Code: ABCAD6

Paid Invoice List

CORE INVOICE #	INVOICE #	REPORTING PERIOD	DIVISION NUMBER	DIVISION NAME	AMOUNT APPLIED
00049322-1	00049322-01	201509	12	Gnrl Dept Heads	\$140,000.00
					Total: \$140,000.00

[Download PDF](#)

MERS

1134 Municipal Way
Lansing, MI 48917

Customer Number: 340301
Customer Name: City of Ionia

Payment Number: WEBPMT0000048056
Created Date: 9/26/2016
Status: Processed
Process Date: 9/26/2016
Amount: \$140,000.00

Transaction Details

Capture Amount: \$140,000.00
Type: ECheck
Card / Account Number: XXX3390
Billing Address: Chris Hyzer
114 N Kidd St
114 N KIDD STREET
Ionia, MI 48846
United States

Status: Approved
Origination ID: 1272554303
Authorization Code: AF6KPH

Paid Invoice List

CORE INVOICE #	INVOICE #	REPORTING PERIOD	DIVISION NUMBER	DIVISION NAME	AMOUNT APPLIED
00061928-1	00061928-01	201609	12	Gnrl Dept Heads	\$140,000.00
					Total: \$140,000.00

Download PDF

MERS

1134 Municipal Way
Lansing, MI 48917

Customer Number: 340301
Customer Name: City of Ionia

Payment Number: WEBPMT0000063154
Created Date: 11/20/2017
Status: Processed
Process Date: 11/20/2017
Amount: \$150,000.00

Transaction Details

Capture Amount: \$150,000.00
Type: ECheck
Card / Account Number: XXX3390
Billing Address: Chris Hyzer
114 N Kidd St
114 N KIDD STREET
Ionia, MI 48846
United States

Status: Approved
Origination ID: 1753767675
Authorization Code: AP7Y0T

Paid Invoice List

CORE INVOICE #	INVOICE #	REPORTING PERIOD	DIVISION NUMBER	DIVISION NAME	AMOUNT APPLIED
00075970-1	00075970-01	201711	S1	Surplus Unassoc.	\$150,000.00
					Total: \$150,000.00

[Download PDF](#)

MERS

1134 Municipal Way
Lansing, MI 48917

Customer Number: 340301
Customer Name: City of Ionia

Payment Number: WEBPMT0000073719
Created Date: 8/1/2018
Status: Processed
Process Date: 8/1/2018
Amount: \$250,000.00

Transaction Details

Capture Amount: \$250,000.00
Type: ECheck
Card / Account Number: XXX3390
Billing Address: Chris Hyzer
114 N Kidd St
114 N KIDD STREET
Ionia, MI 48846
United States

Status: Approved
Origination ID: 2053228696
Authorization Code: ASI7T8

Paid Invoice List

CORE INVOICE #	INVOICE #	REPORTING PERIOD	DIVISION NUMBER	DIVISION NAME	AMOUNT APPLIED
00085094-1	00085094-01	201808	S1	Surplus Unassoc.	\$250,000.00
					Total: \$250,000.00



CITY OF IONIA
CITY COUNCIL
RESOLUTION

At a Regular Meeting of the City Council held on Tuesday, September 4, 2018, the following Resolution was offered by Councilmember Kelley, seconded by Councilmember Paton and unanimously approved:

RESOLVED to approve the "Protecting Local Government Retirement and Benefits Act – Corrective Action Plan (CAP) for Defined Benefit Pension Retirement Systems" which includes contributing an additional \$250,000 per calendar year (2019-2022 inclusive) to the Michigan Municipal Employees Retirement System and authorize the City Manager to sign the CAP on behalf of the City.

FOR: Councilmembers Gustafson, Kelly, Milewski, Millard, Paton, Waterman and Mayor Balice
ABSENT: Councilmembers Patrick and Winters
AGAINST: None
ABSTAINING: None

I hereby certify that the above and foregoing is a true, accurate and correct copy of a Resolution duly resolved by the City Council of the City of Ionia at a Regular Meeting held on Tuesday, September 4, 2018 in the Council Chamber of City Hall.



BY: Ally H. Cook
Ally H. Cook, City Clerk
September 5, 2018



MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN
ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2017
IONIA, CITY OF (3403)



Spring, 2018

Ionia, City of

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2017. The report includes the determination of liabilities and contribution rates resulting from the participation of Ionia, City of (3403) 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. Ionia, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

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

- Measure funding progress
- Establish contribution requirements for the fiscal year beginning July 1, 2019
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements

This valuation report should not be relied upon for any other purpose. Reliance on information contained in this report by anyone for anything other than the intended purpose could be misleading.

The valuation uses financial data, plan provision data, and participant data as of December 31, 2017 furnished by MERS. In accordance with Actuarial Standards of Practice No. 23, the data was checked for internal and year to year consistency as well as general reasonableness, but was not otherwise audited. CBIZ Retirement Plan Services does not assume responsibility for the accuracy or completeness of the data used in this valuation.

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The most recent study was completed in 2015. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:

www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2017AnnualActuarialValuation-Appendix.pdf.



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

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

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

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

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

Sincerely,

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

TABLE OF CONTENTS

	Page
Executive Summary	5
Employer Contribution Details Table 1	15
Benefit Provisions Table 2	17
Participant Summary Table 3	20
Reported Assets (Market Value) Table 4	22
Flow of Valuation Assets Table 5	23
Actuarial Accrued Liabilities and Valuation Assets Table 6	24
Actuarial Accrued Liabilities - Comparative Schedule Table 7	27
Division-Based Comparative Schedules Tables 8 and 9	28
Division-Based Layered Amortization Schedule Table 10	38
GASB 68 Information	47
Benefit Provision History	48
Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method	52

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	50%	48%

* Reflects assets from Surplus divisions, if any.

Michigan Law requires that pension plans be pre-funded, meaning money is set aside now to pay for future benefits. Pension plans are usually funded by employer and employee contributions, and investment income.

How quickly a plan attains the 100% funding goal depends on many factors such as:

- The current funded ratio
- The future experience of the plan
- The amortization period

It is more important to look at the trend in the funded ratio over a period of time than at a particular point in time.

Your Required Employer Contributions:

Your computed employer contributions are shown in the following table. Employee contributions, if any, are in addition to the computed employer contributions. Changes to the assumptions and methods based on the 2015 Experience Study were first reflected in the December 31, 2015 valuations. The impact of these changes is being phased-in over a 5 year period. The phase-in allows the employer to spread the impact of the new assumptions over 5 fiscal years. This valuation reflects the third year of the phase-in.

Your minimum required contribution is the amount in the "Phase-in" columns. By default, MERS will invoice you the phased-in contribution amount, but strongly encourages you to contribute more than the minimum required contribution. If for 2018 your municipality is making employer contributions based on rates without the phase-in applied, contact MERS to ensure the No Phase-in rate is used again for 2019 and not the defaulted phase-in rates.

	Percentage of Payroll				Monthly \$ Based on Projected Payroll			
	Phase-In	No Phase-In	Phase-In	No Phase-In	Phase-In	No Phase-In	Phase-In	No Phase-In
	Valuation Date: 12/31/2017	12/31/2017	12/31/2016	12/31/2016	12/31/2017	12/31/2017	12/31/2016	12/31/2016
Fiscal Year Beginning:	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018
Division								
01 - Gnrl Clerical	-	-	-	-	\$ 6,509	\$ 6,841	\$ 6,090	\$ 6,588
02 - Pub Safety POAM hire a	-	-	-	-	352	358	341	350
10 - Tmstrs Pblc Wrk	-	-	-	-	21,216	22,118	20,425	21,778
12 - Gnrl Dept Heads	44.58%	46.43%	43.37%	46.28%	25,667	26,735	23,881	25,483
13 - City Clerk	-	-	-	-	277	287	258	273
20 - Public Sfty POAM	-	-	-	-	35,345	36,661	33,371	35,345
HA - General Clerical after	7.81%	7.91%	7.61%	7.79%	1,437	1,455	1,145	1,172
HB - Tmsters Pblc Wrks afte	6.66%	6.66%	6.75%	6.75%	996	996	814	814
HC - Public Sfty POAM after	8.14%	8.16%	7.63%	7.66%	3,158	3,164	2,506	2,515
Municipality Total					\$ 94,957	\$ 98,615	\$ 88,831	\$ 94,318

Employee contribution rates reflected in the valuations are shown below:

Valuation Date:	Employee Contribution Rate	
	12/31/2017	12/31/2016
Division		
01 - Gnrl Clerical	0.00%	0.00%
02 - Pub Safety POAM hire a	5.00%	5.00%
10 - Tmstrs Pblc Wrk	0.00%	0.00%
12 - Gnrl Dept Heads	0.00%	0.00%
13 - City Clerk	0.00%	0.00%
20 - Public Sfty POAM	0.00%	0.00%
HA - General Clerical after	0.00%	0.00%

Valuation Date:	Employee Contribution Rate	
	12/31/2017	12/31/2016
Division		
HB - Tmsters Pblc Wrks afte	0.00%	0.00%
HC - Public Sfty POAM 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. Employers making contributions in excess of the minimum requirements may elect to apply the excess contribution immediately to a particular division, or segregate the excess into one or more of what MERS calls "Surplus" divisions. An election in the first case would immediately reduce any unfunded accrued liability and lower the amortization payments throughout the remaining amortization period. An election to set up Surplus divisions would not immediately lower future contributions, however the assets from the Surplus divisions could be transferred to an unfunded division in the future to reduce the unfunded liability in future years, or to be used to pay all or a portion of the minimum required contribution in a future year. For purposes of this report, the assets in any Surplus division have been included in the municipality's total assets, unfunded accrued liability and funded status, however, these assets are not used in calculating the minimum required contribution.

MERS strongly encourages employers to contribute more than the minimum contribution shown above.

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2019 for the entire employer would be \$149,809, instead of \$98,615.

If you are interested in making additional contributions, please contact MERS and they can assist you with evaluating your options.

How and Why Do These Numbers Change?

In a defined benefit plan, contributions vary from one annual actuarial valuation to the next as a result of the following:

- Changes in benefit provisions (see Table 2)
- Changes in actuarial assumptions and methods (see the [Appendix](#))
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions. For example:
 - o Lower actual investment returns would result in higher required employer contributions, and vice-versa.
 - o Smaller than assumed pay increases would lower required employer contributions.

- o Reductions in the number of active employees would lower required contribution dollars, but would usually increase the contribution rate expressed as a percentage of (the now lower) payroll.
- o Retirements at earlier ages than assumed would usually increase required employer contributions.
- o More non-vested terminations of employment than assumed would decrease required contributions.
- o More disabilities or survivor (death) benefits than assumed would increase required contributions.
- o Longer lifetimes after retirement than assumed would increase required employer contributions.

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

Comments on Investment Return Assumption and Asset Smoothing

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

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

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

As of December 31, 2017 the actuarial value of assets is 101% of market value due to asset smoothing. This means that meeting the actuarial assumption in the next few years will require

average annual market returns that exceed the 7.75% investment return assumption, or contribution requirements will continue to increase.

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

- The funded percent of your entire municipality would be 49% (instead of 50%); and
- Your total employer contribution requirement for the fiscal year starting July 1, 2019 would be \$1,193,268 (instead of \$1,183,380).

Risk Characteristics of Defined Benefit Plans

It is important to understand that Defined Benefit retirement plans, the plan sponsor, and the plan participants are exposed to certain risks. While risks cannot be eliminated entirely, they can be managed through various strategies. Below are a few examples of risk (this is not an all-inclusive list):

- Economic - investment return, wage inflation, etc.
- Demographic - longevity, disability, retirement, etc.
- Plan Sponsor and Employees - contribution volatility, attract/retain employees, etc.

The MERS Retirement Board adopts certain assumptions and methods to manage the economic and demographic risks, and the contribution volatility risks. For example, the investment risk is the largest economic risk and is managed by having a balanced portfolio and a clearly defined investment strategy. Demographic risks are managed by preparing special studies called experience studies on a regular basis to determine if the assumptions used are reasonable compared to the experience. An Experience Study is completed every five years to review the assumptions and methods. The next Experience Study will be completed in 2020.

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

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

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

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

The calculations in this report are based on assumptions about long-term economic and demographic behavior. These assumptions will never materialize in a given year, except by coincidence. Therefore

the results will vary from one year to the next. The volatility of the results depends upon the characteristics of the plan. For example:

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

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

Many assumptions are important in determining the required employer contributions. In the table below, we show the impact of varying the Investment Return Assumption. Lower investment returns would result in higher required employer contributions, and vice-versa.

The relative impact of each investment return scenario below will vary from year to year, as the participant demographics change. The impact of each scenario should be analyzed for a given year, not from year to year. The results in the table are based on the December 31, 2017 valuation, and are for the municipality in total, not by division. These results do not reflect a 5-year phase in of the impact of the new actuarial assumptions.

	Assumed Future Annual Smoothed Investment Return Assumption			
	Lower Future Annual Returns		Valuation Assumption	Higher Returns
	5.75%	6.75%	7.75%	8.75%
12/31/2017 Valuation Results				
Accrued Liability	\$ 28,895,691	\$ 25,621,885	\$ 22,891,575	\$ 20,597,217
Valuation Assets ¹	\$ 11,328,759	\$ 11,328,759	\$ 11,328,759	\$ 11,328,759
Unfunded Accrued Liability	\$ 17,566,932	\$ 14,293,126	\$ 11,562,816	\$ 9,268,458
Funded Ratio	39%	44%	50%	55%
Monthly Normal Cost	\$ 47,589	\$ 36,958	\$ 28,853	\$ 22,655
Monthly Amortization Payment	\$ 87,610	\$ 78,126	\$ 69,762	\$ 60,186
Total Employer Contribution²	\$ 135,199	\$ 115,084	\$ 98,615	\$ 82,841

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.

Your municipality includes one or more Surplus divisions. The assets in a Surplus division may be used to reduce future employer contributions or to accelerate the date by which the municipality becomes 100% funded. The timing and use of these Surplus assets is discretionary.

The Funded Percentage graph shows projections of funded status under the 7.75% investment return assumption, both including the Surplus assets (contributed as of the valuation date), and without the Surplus assets. The graph including the Surplus assets assumes these Surplus assets grow with interest and are not used to lower future employer contributions. We modeled the projections including the Surplus assets in this fashion because the use of these assets is discretionary by the employer and we do not know when and how the employer will use them. Once the employer uses these Surplus assets, any future employer contributions are expected to be lower than those shown in the projections.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets ²	Funded Percentage	Computed Annual Employer Contribution
7.75%¹					
WITH 5-YEAR PHASE-IN					
2017	2019	\$ 22,891,575	\$ 11,174,456	49%	\$ 1,139,484
2018	2020	23,700,000	11,700,000	49%	1,230,000
2019	2021	24,500,000	12,100,000	49%	1,310,000
2020	2022	25,200,000	12,900,000	51%	1,340,000
2021	2023	26,000,000	13,700,000	53%	1,380,000
2022	2024	26,700,000	14,500,000	54%	1,420,000
NO 5-YEAR PHASE-IN					
2017	2019	\$ 22,891,575	\$ 11,174,456	49%	\$ 1,183,380
2018	2020	23,700,000	11,700,000	49%	1,240,000
2019	2021	24,500,000	12,100,000	49%	1,300,000
2020	2022	25,200,000	12,900,000	51%	1,340,000
2021	2023	26,000,000	13,800,000	53%	1,370,000
2022	2024	26,700,000	14,500,000	54%	1,420,000
6.75%¹					
NO 5-YEAR PHASE-IN					
2017	2019	\$ 25,621,885	\$ 11,174,456	44%	\$ 1,381,008
2018	2020	26,500,000	11,600,000	44%	1,480,000
2019	2021	27,300,000	12,000,000	44%	1,540,000
2020	2022	28,100,000	12,900,000	46%	1,580,000
2021	2023	28,900,000	13,800,000	48%	1,620,000
2022	2024	29,700,000	14,700,000	50%	1,680,000
5.75%¹					
NO 5-YEAR PHASE-IN					
2017	2019	\$ 28,895,691	\$ 11,174,456	39%	\$ 1,622,388
2018	2020	29,800,000	11,500,000	38%	1,740,000
2019	2021	30,700,000	11,900,000	39%	1,800,000
2020	2022	31,600,000	12,900,000	41%	1,850,000
2021	2023	32,400,000	14,000,000	43%	1,910,000
2022	2024	33,300,000	15,000,000	45%	1,970,000

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.

Assumes assets from Surplus divisions will not be used to lower employer contributions during the projection period.

Notes:

All projected contributions are shown with no phase-in.

Projected employer contributions do not reflect the use of any assets from the Surplus divisions.

**Employer Contribution Details For the Fiscal Year
Beginning July 1, 2019**

Table 1

Division	Total Normal Cost	Employee Contribut. Rate	Employer Contributions ¹			Computed Employer Contribut. With Phase-In	Blended ER Rate No Phase-In ⁵	Blended ER Rate With Phase-In ⁵	Employee Contribut. Conversion Factor ²
			Employer Normal Cost	Payment of the Unfunded Accrued Liability ⁴	Computed Employer Contribut. No Phase-In				
Percentage of Payroll									
01 - Gnrl Clerical	10.99%	0.00%	-	-	-	-	23.65%	22.65%	
02 - Pub Safety POAM hi	10.92%	5.00%	-	-	-	-	40.50%	39.16%	
10 - Tmstrs Pblc Wrk	9.84%	0.00%	-	-	-	-	29.43%	28.28%	
12 - Gnrl Dept Heads	14.76%	0.00%	14.76%	31.67%	46.43%	44.58%			0.82%
13 - City Clerk	0.00%	0.00%	-	-	-	-			
20 - Public Sfty POAM	11.75%	0.00%	-	-	-	-	40.50%	39.16%	
HA - General Clerical a	7.51%	0.00%	7.51%	0.40%	7.91%	7.81%	23.65%	22.65%	0.87%
HB - Tmsters Pblc Wrks	6.49%	0.00%	6.49%	0.17%	6.66%	6.66%	29.43%	28.28%	0.90%
HC - Public Sfty POAM a	8.10%	0.00%	8.10%	0.06%	8.16%	8.14%	40.50%	39.16%	0.95%
Estimated Monthly Contribution³									
01 - Gnrl Clerical			\$ 1,832	\$ 5,009	\$ 6,841	\$ 6,509			
02 - Pub Safety POAM hi			338	20	358	352			
10 - Tmstrs Pblc Wrk			6,256	15,862	22,118	21,216			
12 - Gnrl Dept Heads			8,500	18,235	26,735	25,667			
13 - City Clerk			0	287	287	277			
20 - Public Sfty POAM			6,435	30,226	36,661	35,345			
HA - General Clerical a			1,382	73	1,455	1,437			
HB - Tmsters Pblc Wrks			971	25	996	996			
HC - Public Sfty POAM a			3,139	25	3,164	3,158			
Total Municipality			\$ 28,853	\$ 69,762	\$ 98,615	\$ 94,957			
Estimated Annual Contribution³			\$ 346,236	\$ 837,144	\$ 1,183,380	\$ 1,139,484			

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 (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 July 1, 2019 fiscal year, the negative unfunded accrued liability is treated as overfunding credit and is used to reduce the contribution. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.
- 5 For linked divisions, the employer will be invoiced the Computed Employer Contribution with Phase-in rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-MERS (6377).

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

Benefit Provisions

Table 2

01 - Gnrl Clerical: Closed to new hires, linked to Division HA

	2017 Valuation	2016 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:	5 years	5 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)

02 - Pub Safety POAM hire af 7/1/10: Closed to new hires, linked to Division HC

	2017 Valuation	2016 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):	50/25	50/25
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	5%	5%
Act 88:	Yes (Adopted 7/1/2010)	Yes (Adopted 7/1/2010)

10 - Tmstrs Pblc Wrk: Closed to new hires, linked to Division HB

	2017 Valuation	2016 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:	5 years	5 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)

Table 2 (continued)

12 - Gnrl Dept Heads: Open Division		
	2017 Valuation	2016 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):	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)
13 - City Clerk: Closed to new hires		
	2017 Valuation	2016 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:	0%	0%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)
20 - Public Sfty POAM: Closed to new hires, linked to Division HC		
	2017 Valuation	2016 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):	25 and Out	25 and Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)
HA - General Clerical after 7/1/11: Open Division, linked to Division 01		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% 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 5/25/1994)	Yes (Adopted 5/25/1994)

Table 2 (continued)

HB - Trmsters Pblc Wrks after 7/1/12: Open Division, linked to Division 10		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	0%	0%
Act 88:	No	No
HC - Public Sfty POAM after 7/1/2010: Open Division, linked to Division 02, 20		
	2017 Valuation	2016 Valuation
Benefit Multiplier:	Hybrid Plan - 1.50% Multiplier	Hybrid Plan - 1.50% Multiplier
Normal Retirement Age:	60	60
Vesting:	6 years	6 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	0%	0%
Act 88:	Yes (Adopted 7/1/2010)	Yes (Adopted 7/1/2010)

Participant Summary

Table 3

Division	2017 Valuation		2016 Valuation		2017 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
01 - Gnrl Clerical							
Active Employees	5	\$ 280,679	5	\$ 270,009	59.8	13.8	13.8
Vested Former Employees	2	20,723	2	20,723	57.8	13.5	13.5
Retirees and Beneficiaries	8	104,447	8	104,447	65.6		
02 - Pub Safety POAM hire							
Active Employees	1	\$ 65,094	1	\$ 63,597	28.6	5.5	5.5
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
10 - Tmstrs Pblc Wrk							
Active Employees	13	\$ 774,744	13	\$ 766,658	44.1	18.6	18.6
Vested Former Employees	3	39,350	3	39,350	50.1	14.8	14.8
Retirees and Beneficiaries	13	287,025	13	291,830	70.7		
12 - Gnrl Dept Heads							
Active Employees	7	\$ 630,151	7	\$ 602,579	47.0	21.3	24.1
Vested Former Employees	2	26,234	2	26,234	58.0	10.5	17.9
Retirees and Beneficiaries	11	308,272	11	308,272	65.8		
13 - City Clerk							
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	2,316	1	2,316	66.8		
20 - Public Sfty POAM							
Active Employees	9	\$ 672,343	9	\$ 638,154	43.2	17.2	17.8
Vested Former Employees	3	29,191	3	29,191	45.2	7.5	17.8
Retirees and Beneficiaries	15	463,185	16	490,704	60.2		
HA - General Clerical aft							
Active Employees	2	\$ 103,136	2	\$ 99,248	48.5	4.2	4.2
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HB - Tmsters Pblc Wrks af							
Active Employees	2	\$ 84,671	2	\$ 65,459	32.8	1.3	1.3
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
HC - Public Sfty POAM aft							
Active Employees	5	\$ 348,373	6	\$ 313,533	38.8	2.9	5.7
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		

Table 3 (continued)

Division	2017 Valuation		2016 Valuation		2017 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
Total Municipality							
Active Employees	44	\$ 2,959,191	45	\$ 2,819,237	44.9	14.7	15.6
Vested Former Employees	10	115,498	10	115,498	51.8	11.5	16.1
Retirees and Beneficiaries	48	1,165,245	49	1,197,569	65.4		
Total Participants	102		104				

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	2017 Valuation		2016 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - Gnrl Clerical	\$ 1,226,110	\$ 8,058	\$ 1,123,633	\$ 7,919
02 - Pub Safety POAM hire af 7/1/10	31,090	25,912	19,790	22,265
10 - Tmstrs Pblc Wrk	3,184,259	21,554	2,894,282	21,181
12 - Gnrl Dept Heads	3,289,443	245,406	2,920,676	229,425
13 - City Clerk	14,358	0	12,101	0
20 - Public Sfty POAM	2,749,973	121,994	2,520,344	81,156
HA - General Clerical after 7/1/11	33,344	0	22,316	0
HB - Tmstrs Pblc Wrks after 7/1/12	7,095	0	1,109	0
HC - Public Sfty POAM after 7/1/2010	90,770	0	53,156	0
S1 - Surplus Unassoc.	152,576	0		
Municipality Total	\$ 10,779,018	\$ 422,924	\$ 9,567,407	\$ 361,946
Combined Assets	\$11,201,942		\$9,929,353	

¹ Reserve for Employer Contributions and Benefit Payments

² Reserve for Employee Contributions

The December 31, 2017 valuation assets (actuarial value of assets) are equal to 1.011321 times the reported market value of assets (compared to 1.077095 as of December 31, 2016). The derivation of valuation assets is described, and detailed calculations of valuation assets are shown, in the [Appendix](#).

Assets in the Surplus division(s) are employer assets that have been reserved to be used by the employer at some point in the future to stabilize increases in contributions. These assets are not used in calculating the employer contribution for the fiscal year beginning July 1, 2019.

Flow of Valuation Assets

Table 5

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2007	\$ 537,626		\$ 0	\$ 475,344	\$ (494,726)	\$ 0	\$ 0	\$ 6,404,604
2008	515,071		5,537	312,837	(521,838)	0	0	6,716,211
2009	563,726		0	358,304	(546,768)	0	0	7,091,473
2010	668,718		0	498,725	(648,826)	0	228,873	7,838,963
2011	593,387	\$ 0	0	447,935	(704,207)	0	168,374	8,344,452
2012	622,569	0	1,362	388,530	(839,615)	0	60,957	8,578,255
2013	690,163	0	3,583	512,171	(860,956)	0	9,682	8,932,898
2014	754,134	125,000	5,521	530,243	(947,222)	0	109,203	9,509,777
2015	847,700	140,000	6,019	517,793	(973,255)	0	112,209	10,160,243
2016	889,849	140,000	3,180	554,013	(1,090,546)	0	38,117	10,694,856
2017	944,509	150,000	3,255	656,886	(1,172,100)	0	51,353	11,328,759

Notes:

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

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

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

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

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

Table 6

Division	Actuarial Accrued Liability	Valuation Assets¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
01 - Gnrl Clerical				
Active Employees	\$ 801,954	\$ 614	0.1%	\$ 801,340
Vested Former Employees	192,345	155,143	80.7%	37,202
Retirees And Beneficiaries	1,092,383	1,092,383	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 2,086,682	\$ 1,248,140	59.8%	\$ 838,542
02 - Pub Safety POAM hire af 7/1/10				
Active Employees	\$ 53,075	\$ 49,475	93.2%	\$ 3,600
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	8,172	8,172	100.0%	0
Total	\$ 61,247	\$ 57,647	94.1%	\$ 3,600
10 - Tmstrs Pblc Wrk				
Active Employees	\$ 2,820,065	\$ 152,783	5.4%	\$ 2,667,282
Vested Former Employees	213,246	213,246	100.0%	0
Retirees And Beneficiaries	2,876,077	2,876,077	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 5,909,388	\$ 3,242,106	54.9%	\$ 2,667,282
12 - Gnrl Dept Heads				
Active Employees	\$ 3,059,706	\$ 229,450	7.5%	\$ 2,830,256
Vested Former Employees	265,788	15,956	6.0%	249,832
Retirees And Beneficiaries	3,335,179	3,329,461	99.8%	5,718
Pending Refunds	0	0	0.0%	0
Total	\$ 6,660,673	\$ 3,574,867	53.7%	\$ 3,085,806
13 - City Clerk				
Active Employees	\$ 0	\$ 0	0.0%	\$ 0
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	24,972	14,521	58.1%	10,451
Pending Refunds	0	0	0.0%	0
Total	\$ 24,972	\$ 14,521	58.1%	\$ 10,451
20 - Public Sfty POAM				
Active Employees	\$ 2,660,779	\$ 121,994	4.6%	\$ 2,538,785
Vested Former Employees	105,381	0	0.0%	105,381
Retirees And Beneficiaries	5,232,104	2,782,487	53.2%	2,449,617
Pending Refunds	0	0	0.0%	0
Total	\$ 7,998,264	\$ 2,904,481	36.3%	\$ 5,093,783

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
HA - General Clerical after 7/1/11				
Active Employees	\$ 45,518	\$ 33,721	74.1%	\$ 11,797
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 45,518	\$ 33,721	74.1%	\$ 11,797
HB - Tmsters Pblc Wrks after 7/1/12				
Active Employees	\$ 10,344	\$ 7,175	69.4%	\$ 3,169
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 10,344	\$ 7,175	69.4%	\$ 3,169
HC - Public Sfty POAM after 7/1/2010				
Active Employees	\$ 94,487	\$ 91,798	97.2%	\$ 2,689
Vested Former Employees	0	0	0.0%	0
Retirees And Beneficiaries	0	0	0.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 94,487	\$ 91,798	97.2%	\$ 2,689
S1 - Surplus Unassoc.				
Total	\$ 0	\$ 154,303		\$ (154,303)
Total Municipality				
Active Employees	\$ 9,545,928	\$ 687,010	7.2%	\$ 8,858,918
Vested Former Employees	776,760	384,345	49.5%	392,415
Retirees and Beneficiaries	12,560,715	10,094,929	80.4%	2,465,786
Pending Refunds	8,172	8,172	100.0%	0
Surplus Assets	0	154,303		(154,303)
Total	\$ 22,891,575	\$ 11,328,759	49.5%	\$ 11,562,816
The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already included in the table above.				
Linked Divisions HA, 01				
Active Employees	\$ 847,472	\$ 34,335	4.1%	\$ 813,137
Vested Former Employees	192,345	155,143	80.7%	37,202
Retirees and Beneficiaries	1,092,383	1,092,383	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 2,132,200	\$ 1,281,861	60.1%	\$ 850,339
Linked Divisions HC, 02, 20				
Active Employees	\$ 2,808,341	\$ 263,267	9.4%	\$ 2,545,074
Vested Former Employees	105,381	0	0.0%	105,381
Retirees and Beneficiaries	5,232,104	2,782,487	53.2%	2,449,617
Pending Refunds	8,172	8,172	100.0%	0
Total	\$ 8,153,998	\$ 3,053,926	37.5%	\$ 5,100,072

Table 6 (continued)

Division	Actuarial Accrued Liability	Valuation Assets¹	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
Linked Divisions HB, 10				
Active Employees	\$ 2,830,409	\$ 159,958	5.7%	\$ 2,670,451
Vested Former Employees	213,246	213,246	100.0%	0
Retirees and Beneficiaries	2,876,077	2,876,077	100.0%	0
Pending Refunds	0	0	0.0%	0
Total	\$ 5,919,732	\$ 3,249,281	54.9%	\$ 2,670,451

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	\$ 10,135,174	\$ 4,585,285	45%	\$ 5,549,889
2004	10,566,124	5,042,734	48%	5,523,390
2005	11,011,751	5,342,789	49%	5,668,962
2006	11,587,499	5,886,360	51%	5,701,139
2007	12,401,281	6,404,604	52%	5,996,677
2008	13,137,860	6,716,211	51%	6,421,649
2009	13,584,052	7,091,473	52%	6,492,579
2010	14,833,089	7,838,963	53%	6,994,126
2011	15,941,513	8,344,452	52%	7,597,061
2012	16,923,013	8,578,255	51%	8,344,758
2013	18,094,494	8,932,898	49%	9,161,596
2014	18,953,886	9,509,777	50%	9,444,109
2015	21,023,515	10,160,243	48%	10,863,272
2016	22,214,510	10,694,856	48%	11,519,654
2017	22,891,575	11,328,759	50%	11,562,816

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

Division 01 - Gnrl Clerical

Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 1,206,071	\$ 958,226	79%	\$ 247,845
2008	1,293,811	1,018,423	79%	275,388
2009	1,420,674	1,099,245	77%	321,429
2010	1,464,850	1,156,938	79%	307,912
2011	1,546,309	1,177,975	76%	368,334
2012	1,629,733	1,186,439	73%	443,294
2013	1,685,425	1,189,115	71%	496,310
2014	1,737,121	1,203,189	69%	533,932
2015	1,906,288	1,208,233	63%	698,055
2016	1,990,732	1,218,789	61%	771,943
2017	2,086,682	1,248,140	60%	838,542

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		
2007	9	\$ 332,156	14.07%	0.00%
2008	8	292,197	14.87%	0.00%
2009	9	354,133	14.78%	0.00%
2010	6	249,353	16.94%	0.00%
2011	6	260,632	\$ 3,785	0.00%
2012	6	272,603	\$ 4,317	0.00%
2013	5	253,510	\$ 4,434	0.00%
2014	5	251,261	\$ 4,730	0.00%
2015	5	260,424	\$ 6,166	0.00%
2016	5	270,009	\$ 6,588	0.00%
2017	5	280,679	\$ 6,841	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 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 48 for past benefit provision changes.

Division 02 - Pub Safety POAM hire af 7/1/10

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	4,289	3,459	81%	830
2013	12,852	11,882	93%	970
2014	32,694	21,930	67%	10,764
2015	42,814	34,369	80%	8,445
2016	50,312	45,297	90%	5,015
2017	61,247	57,647	94%	3,600

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

Table 9-02: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2010	0	\$ 0	0.00%	0.00%
2011	0	0	0.00%	0.00%
2012	1	54,471	5.27%	5.00%
2013	2	68,811	\$ 256	5.00%
2014	2	113,451	\$ 545	5.00%
2015	1	67,846	\$ 390	5.00%
2016	1	63,597	\$ 350	5.00%
2017	1	65,094	\$ 358	5.00%

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 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 48 for past benefit provision changes.

Division 10 - Tmstrs Pblc Wrk

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 3,067,702	\$ 2,139,685	70%	\$ 928,017
2008	3,281,459	2,223,565	68%	1,057,894
2009	3,507,779	2,304,902	66%	1,202,877
2010	3,623,035	2,368,905	65%	1,254,130
2011	3,786,659	2,463,082	65%	1,323,577
2012	4,001,054	2,557,635	64%	1,443,419
2013	4,392,169	2,698,609	61%	1,693,560
2014	4,643,449	2,852,280	61%	1,791,169
2015	5,229,851	3,018,784	58%	2,211,067
2016	5,774,325	3,140,231	54%	2,634,094
2017	5,909,388	3,242,106	55%	2,667,282

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		
2007	18	\$ 756,107	13.97%	0.00%
2008	18	815,909	15.84%	0.00%
2009	17	778,316	17.60%	0.00%
2010	16	747,830	18.38%	0.00%
2011	16	771,966	18.80%	0.00%
2012	16	806,448	\$ 13,364	0.00%
2013	16	882,444	\$ 15,551	0.00%
2014	16	884,784	\$ 16,252	0.00%
2015	16	911,781	\$ 19,697	0.00%
2016	13	766,658	\$ 21,778	0.00%
2017	13	774,744	\$ 22,118	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 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 48 for past benefit provision changes.

Division 12 - Gnrl Dept Heads

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 3,358,144	\$ 1,241,449	37%	\$ 2,116,695
2008	3,550,754	1,328,004	37%	2,222,750
2009	3,734,873	1,454,891	39%	2,279,982
2010	3,997,047	1,792,025	45%	2,205,022
2011	4,379,906	2,048,855	47%	2,331,051
2012	5,032,549	2,239,291	45%	2,793,258
2013	5,404,722	2,388,868	44%	3,015,854
2014	5,715,337	2,755,949	48%	2,959,388
2015	6,231,387	3,067,905	49%	3,163,482
2016	6,487,674	3,392,958	52%	3,094,716
2017	6,660,673	3,574,867	54%	3,085,806

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		
2007	8	\$ 509,920	32.43%	0.00%
2008	8	536,672	33.81%	0.00%
2009	8	562,449	33.32%	0.00%
2010	7	514,190	35.00%	0.00%
2011	7	526,630	36.55%	0.00%
2012	7	541,610	43.71%	0.00%
2013	7	574,021	44.20%	0.00%
2014	7	576,421	43.12%	0.00%
2015	7	598,549	46.38%	0.00%
2016	7	602,579	46.28%	0.00%
2017	7	630,151	46.43%	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 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 48 for past benefit provision changes.

Division 13 - City Clerk

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 468	\$ 424	91%	\$ 44
2008	471	224	48%	247
2009	473	237	50%	236
2010	475	549	116%	(74)
2011	25,970	(1,076)	-4%	27,046
2012	25,671	(3,882)	-15%	29,553
2013	25,385	(4,781)	-19%	30,166
2014	25,054	(1,293)	-5%	26,347
2015	25,718	6,961	27%	18,757
2016	25,355	13,034	51%	12,321
2017	24,972	14,521	58%	10,451

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		
2007	0	\$ 0	\$ 0	0.00%
2008	0	0	\$ 2	0.00%
2009	0	0	\$ 2	0.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 304	0.00%
2012	0	0	\$ 669	0.00%
2013	0	0	\$ 954	0.00%
2014	0	0	\$ 245	0.00%
2015	0	0	\$ 266	0.00%
2016	0	0	\$ 273	0.00%
2017	0	0	\$ 287	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 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 48 for past benefit provision changes.

Division 20 - Public Sfty POAM

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	\$ 4,611,033	\$ 2,001,423	43%	\$ 2,609,610
2008	4,857,304	2,095,509	43%	2,761,795
2009	4,920,253	2,232,198	45%	2,688,055
2010	5,747,682	2,520,546	44%	3,227,136
2011	6,202,669	2,655,616	43%	3,547,053
2012	6,229,717	2,595,313	42%	3,634,404
2013	6,574,580	2,646,942	40%	3,927,638
2014	6,787,921	2,664,018	39%	4,123,903
2015	7,537,416	2,781,422	37%	4,755,994
2016	7,795,386	2,802,063	36%	4,993,323
2017	7,998,264	2,904,481	36%	5,093,783

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		
2007	17	\$ 925,319	23.74%	0.00%
2008	17	944,664	26.36%	0.00%
2009	15	865,563	27.29%	0.00%
2010	14	834,927	\$ 23,328	0.00%
2011	12	718,267	\$ 24,001	0.00%
2012	13	808,333	\$ 25,667	0.00%
2013	12	780,889	\$ 27,583	0.00%
2014	10	676,410	\$ 28,347	0.00%
2015	10	687,793	\$ 34,016	0.00%
2016	9	638,154	\$ 35,345	0.00%
2017	9	672,343	\$ 36,661	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 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 48 for past benefit provision changes.

Division HA - General Clerical after 7/1/11

Table 8-HA: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	(327)	773	0%	(1,100)
2014	7,131	6,997	98%	134
2015	18,168	14,686	81%	3,482
2016	30,808	24,036	78%	6,772
2017	45,518	33,721	74%	11,797

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		
2011	0	\$ 0	0.00%	0.00%
2013	2	110,556	7.78%	0.00%
2014	2	90,730	7.38%	0.00%
2015	2	95,300	7.67%	0.00%
2016	2	99,248	7.79%	0.00%
2017	2	103,136	7.91%	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 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 48 for past benefit provision changes.

Division HB - Tmsters Pblc Wrks after 7/1/12

Table 8-HB: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2016	2,639	1,194	45%	1,445
2017	10,344	7,175	69%	3,169

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

Table 9-HB: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2016	2	65,459	6.75%	0.00%
2017	2	84,671	6.66%	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 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 48 for past benefit provision changes.

Division HC - Public Sfty POAM after 7/1/2010

Table 8-HC: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2013	\$ (312)	\$ 1,490	0%	\$ (1,802)
2014	5,179	6,707	130%	(1,528)
2015	31,873	27,883	88%	3,990
2016	57,279	57,254	100%	25
2017	94,487	91,798	97%	2,689

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

Table 9-HC: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2013	1	\$ 65,448	10.08%	0.00%
2014	2	101,512	8.87%	0.00%
2015	5	233,444	7.54%	0.00%
2016	6	313,533	7.66%	0.00%
2017	5	348,373	8.16%	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 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 48 for past benefit provision changes.

Division S1 - Surplus Unassoc.

Table 8-S1: Comparative Schedule

Valuation Date December 31	Valuation Assets
2017	\$ 154,303

Division 01 - Gnrl Clerical

Table 10-01: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 698,055	23	\$ 748,117	21	\$ 52,584
(Gain)/Loss	12/31/2016	49,138	22	55,332	21	3,888
(Gain)/Loss	12/31/2017	46,277	21	51,760	21	3,636
Total				\$ 855,209		\$ 60,108

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.

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

Division 02 - Pub Safety POAM hire af 7/1/10

Table 10-02: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 8,445	23	\$ 7,721	21	\$ 540
(Gain)/Loss	12/31/2016	(3,596)	22	(4,047)	21	(288)
(Gain)/Loss	12/31/2017	(163)	21	(182)	21	(12)
Total				\$ 3,492		\$ 240

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.

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

Division 10 - Tmstrs Pblc Wrk

Table 10-10: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 2,211,067	23	\$ 2,345,245	21	\$ 164,832
(Gain)/Loss	12/31/2016	352,926	22	397,385	21	27,924
(Gain)/Loss	12/31/2017	(30,629)	21	(34,258)	21	(2,412)
Total				\$ 2,708,372		\$ 190,344

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.

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

Division 12 - Gnrl Dept Heads

Table 10-12: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 3,163,482	23	\$ 3,292,708	21	\$ 231,420
(Gain)/Loss	12/31/2016	(116,903)	22	(131,629)	21	(9,252)
(Gain)/Loss	12/31/2017	(42,618)	21	(47,667)	21	(3,348)
Total				\$ 3,113,412		\$ 218,820

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.

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

Division 13 - City Clerk

Table 10-13: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 18,757	4	\$ 6,507	2	\$ 3,444
(Gain)/Loss	12/31/2016	(342)	10	(362)	9	(48)
(Gain)/Loss	12/31/2017	356	10	398	10	48
Total				\$ 6,543		\$ 3,444

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.

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

Division 20 - Public Sfty POAM

Table 10-20: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 4,755,994	23	\$ 4,995,657	21	\$ 351,108
(Gain)/Loss	12/31/2016	127,632	22	143,712	21	10,104
(Gain)/Loss	12/31/2017	19,008	21	21,260	21	1,500
Total				\$ 5,160,629		\$ 362,712

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.

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

Division HA - General Clerical after 7/1/11

Table 10-HA: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 3,482	23	\$ 3,976	21	\$ 276
(Gain)/Loss	12/31/2016	3,091	22	3,476	21	240
(Gain)/Loss	12/31/2017	4,552	21	5,091	21	360
Total				\$ 12,543		\$ 876

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.

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

Division HB - Tmsters Pblc Wrks after 7/1/12

Table 10-HB: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
(Gain)/Loss	12/31/2016	\$ 3,988	15	\$ 4,394	14	\$ 408
(Gain)/Loss	12/31/2017	(1,125)	15	(1,258)	15	(108)
Total				\$ 3,136		\$ 300

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.

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

Division HC - Public Sfty POAM after 7/1/2010

Table 10-HC: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 7/1/2019		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
(Gain)/Loss	12/31/2017	\$ 3,044	15	\$ 3,405	15	\$ 300
Total				\$ 3,405		\$ 300

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.

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

GASB 68 Information

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

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: 48
 Inactive employees entitled to but not yet receiving benefits: 10
 Active employees: 44
 102

Covered employee payroll: (Needed for Required Supplementary Information) \$ 2,959,191
 Average expected remaining service lives of all employees (active and inactive): 4

Total Pension Liability as of 12/31/2016 measurement date: \$ 21,618,663
 Total Pension Liability as of 12/31/2017 measurement date: \$ 22,280,713
 Service Cost for the year ending on the 12/31/2017 measurement date: \$ 301,110

Change in the Total Pension Liability due to:

- Benefit changes¹: \$ 0
 - Differences between expected and actual experience²: \$ (161,614)
 - Changes in assumptions²: \$ 0

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.

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2017:	\$ 2,612,274	-	\$ (2,199,189)

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 Clerical

12/1/2016	Service Credit Purchase Estimates - Yes
7/1/2000	Benefit B-4 (80% max)
7/3/1997	Benefit C-1 (New)
6/7/1997	Benefit B-2
1/7/1997	Temporary Benefit B-4 (80% max) (01/07/1997 - 06/07/1997)
10/21/1995	Day of work defined as 8 Hours a Day for All employees.
10/21/1995	Exclude Temporary Employees
3/31/1995	Member Contribution Rate 0.00%
5/25/1994	Covered by Act 88
4/1/1993	Member Contribution Rate 2.00%
4/1/1992	Benefit F55 (With 25 Years of Service)
3/31/1992	Member Contribution Rate 0.00%
10/1/1991	Temporary Benefit B-2 (10/01/1991 - 04/03/1992)
4/1/1990	Member Contribution Rate 5.00%
8/1/1988	Member Contribution Rate 6.00%
6/1/1988	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1988	10 Year Vesting
6/1/1988	Benefit C-1 (New)
6/1/1988	Member Contribution Rate 7.00%
6/1/1988	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

02 - Pub Safety POAM hire af 7/1/10

12/1/2016	Service Credit Purchase Estimates - Yes
7/1/2010	Covered by Act 88
7/1/2010	Day of work defined as 8 Hours a Day for Group employees.
7/1/2010	Benefit FAC-5 (5 Year Final Average Compensation)
7/1/2010	Exclude Temporary Employees requiring less than 12 months
7/1/2010	10 Year Vesting
7/1/2010	Benefit B-3 (80% max)
7/1/2010	Benefit F50 (With 25 Years of Service)
7/1/2010	Member Contribution Rate 5.00%
6/1/1988	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

10 - Tmstrs Pblc Wrk

12/1/2016	Service Credit Purchase Estimates - Yes
5/1/2003	Temporary 25 Years & Out (05/01/2003 - 08/03/2003)

10 - Tmstrs Pblc Wrk

4/1/2000	Benefit B-4 (80% max)
7/2/1997	Benefit B-2
1/7/1997	Temporary Benefit B-4 (80% max) (01/07/1997 - 07/02/1997)
10/21/1995	Day of work defined as 8 Hours a Day for All employees.
10/21/1995	Exclude Temporary Employees
5/25/1994	Covered by Act 88
4/1/1994	Member Contribution Rate 0.00%
4/1/1993	Member Contribution Rate 1.00%
4/3/1992	Benefit C-1 (New)
4/1/1992	Benefit F55 (With 25 Years of Service)
10/1/1991	Temporary Benefit B-2 (10/01/1991 - 04/03/1992)
4/1/1991	Member Contribution Rate 3.00%
6/1/1988	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1988	10 Year Vesting
6/1/1988	Member Contribution Rate 5.00%
6/1/1988	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

12 - Gnrl Dept Heads

12/1/2016	Service Credit Purchase Estimates - Yes
6/1/2000	25 Years & Out
6/1/2000	Benefit B-4 (80% max)
1/7/1997	Temporary Benefit B-4 (80% max) (01/07/1997 - 07/03/1997)
10/21/1995	Day of work defined as 8 Hours a Day for All employees.
10/21/1995	Exclude Temporary Employees
5/25/1994	Covered by Act 88
4/1/1990	Benefit FAC-5 (5 Year Final Average Compensation)
4/1/1990	10 Year Vesting
4/1/1990	Benefit C-1 (New)
4/1/1990	Benefit F55 (With 25 Years of Service)
4/1/1990	Member Contribution Rate 0.00%
6/1/1988	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

13 - City Clerk

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1996	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1996	10 Year Vesting
1/1/1996	Benefit C-1 (New)
1/1/1996	Member Contribution Rate 0.00%
10/21/1995	Day of work defined as 8 Hours a Day for All employees.
10/21/1995	Exclude Temporary Employees
5/25/1994	Covered by Act 88

13 - City Clerk

6/1/1988 Fiscal Month - July
 Defined Benefit Normal Retirement Age - 60
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

20 - Public Sfty POAM

12/1/2016 Service Credit Purchase Estimates - Yes
 4/1/1998 25 Years & Out
 4/1/1998 Benefit B-4 (80% max)
 10/21/1995 Day of work defined as 8 Hours a Day for All employees.
 10/21/1995 Exclude Temporary Employees
 10/4/1995 Temporary Benefit B-2 (10/04/1995 - 04/03/1996)
 5/25/1994 Covered by Act 88
 4/1/1990 Member Contribution Rate 0.00%
 4/1/1989 Benefit FAC-5 (5 Year Final Average Compensation)
 4/1/1989 10 Year Vesting
 4/1/1989 Benefit C-1 (New)
 4/1/1989 Benefit F55 (With 25 Years of Service)
 4/1/1989 Member Contribution Rate 5.00%
 6/1/1988 Fiscal Month - July
 Defined Benefit Normal Retirement Age - 60
 Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

HA - General Clerical after 7/1/11

7/1/2011 Benefit FAC-3 (3 Year Final Average Compensation)
 7/1/2011 6 Year Vesting
 7/1/2011 1.5% Multiplier
 5/25/1994 Covered by ACT 88
 6/1/1988 Fiscal Month - July
 Defined Benefit Normal Retirement Age - 60
 No Early Reduced Conditions

HB - Tmsters Pblc Wrks after 7/1/12

7/1/2012 Benefit FAC-3 (3 Year Final Average Compensation)
 7/1/2012 6 Year Vesting
 7/1/2012 1.5% Multiplier
 7/1/2012 Benefit F55 (With 25 Years of Service)
 6/1/1988 Fiscal Month - July
 Defined Benefit Normal Retirement Age - 60
 No Early Reduced Conditions

HC - Public Sfty POAM after 7/1/2010

7/1/2013 Day of work defined as 8 Hours a Day for All employees.
 7/1/2013 Benefit FAC-3 (3 Year Final Average Compensation)
 7/1/2013 6 Year Vesting

HC - Public Sfty POAM after 7/1/2010

7/1/2013	1.5% Multiplier
7/1/2013	Benefit F55 (With 25 Years of Service)
7/1/2010	Covered by ACT 88
6/1/1988	Fiscal Month - July
	Defined Benefit Normal Retirement Age - 60
	No Early Reduced Conditions

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	3.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

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