

Protecting Local Government Retirement and Benefits Act Corrective Action Plan Monitoring: Application for Certification of Compliance

Issued under the authority of Public Act 202 of 2017

LOCAL GOVERNMENT INFORMATION

Local Government Name: City of Ionia Six-Digit Muni Code: 34-2020
Defined Benefit Retirement System Name: Ionia, City of (3403)
System Type: Pension Retirement Health Care (OPEB)
Contact Name (Administrative Officer): Jason Eppler
Title (if not Administrative Officer): City Manager Telephone: (616) 527-4170
Email (Communication will be sent here): jeppler@ci.ionia.mi.us
Fiscal Year System was Determined to be Underfunded: 2017

I. GENERAL INFORMATION

Corrective Action Plan Monitoring: The Municipal Stability Board (the Board) shall monitor each underfunded local government's compliance with Public Act 202 of 2017 (the Act) and any approved corrective action plan (CAP). The Board shall adopt a schedule, not less than every 2 years, to certify that the underfunded local government is in substantial compliance with the Act.

Due Date: The local government has **90 days from the date the CAP Monitoring Form is sent** to return the form to the Board.

Filing: The submitted monitoring form must demonstrate through distinct supporting documentation that the local government is addressing its underfunded status in accordance with its CAP and the Act. Consistent with the Board's best practices document, supporting documentation utilized should include a projection within their annual valuation that includes, but is not limited to, actuarially determined contributions (ADC), retirement benefit payments, assets, liabilities, and discount rates.

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

The subject line of each email should be in the following format: **Corrective Action Plan Monitoring, Local Government Name, Retirement System Name, System Type** (e.g. Corrective Action Plan Monitoring, City of Lansing, Employee Retirement System, Pension). 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 form.

Municipal Stability Board: The Board shall certify and vote whether each local government is compliant with their CAP and the Act. If a CAP is certified as compliant, the Board will continue to monitor the CAP and review the local government's compliance with the Act not less than every two years.

Review Process: After receiving your submitted CAP monitoring form, Treasury will provide it to the Board to review and certify the local government for compliance with the Act.

CAP Monitoring Approval Criteria: A CAP may be certified as compliant by meeting the Board approved [CAP monitoring criteria](#). In general, certification of compliance by the Board will occur if a local government is able to demonstrate through distinct supporting documentation that the CAP addresses:

- 1) **Underfunded Status:** The local government continues to address underfunded status in a reasonable timeframe (60% funded for pension systems or 40% funded for OPEB systems OR; if the local government is a city, village, township, or county, the ADC as a percentage of governmental fund revenues is less than 10% for pensions or 12% for OPEB);
- 2) **Substantial Changes:** The actions documented in the CAP remain substantially the same, OR alternative actions have been implemented to address underfunded status;
- 3) **Sustainability:** The local government and the Board certify that the projected payments remain sustainable and affordable both now and into the future.

Certification of Compliance: Following a review of the monitoring process for each CAP, the Board will certify a local government as one of the following:

- **Compliant:** A local government certified as compliant has met all published criteria from the Board.
- **Complaint with Conditions:** A local government certified as compliant with conditions has met the published criteria, but the Board has determined that the local government's plan(s) may not be sustainable or the Board is unable to reasonably confirm future sustainability. With this certification, the local government will have until the next monitoring period to address the stated concerns regarding the plan(s).
- **Noncompliant:** A local government certified as noncompliant failed to meet one or more of the Board's published criteria for monitoring certification of compliance or failed to file the monitoring form. If voted noncompliant, the Board shall notify the local government within 15 days, detailing the reasons for the determination for noncompliance. The local government has 60 days to address the determination of noncompliance.

2. UNDERFUNDED STATUS CERTIFICATION

Previously, local governments demonstrated that they would be addressing their underfunded status within a reasonable timeframe in accordance with the Board's [Corrective Action Plan Development: Best Practices and Strategies](#) guide. The purpose of this section is for the local government to certify that their plan is still addressing its underfunded status within this approved timeframe.

Please check the applicable answer:

- I. Referencing supporting documentation, is the local government addressing its underfunded status in the same timeframe or less than the CAP?

Yes, we are addressing underfunded status by fiscal year 2024 as originally approved.

No, underfunded status will be now be addressed by fiscal year _____, which is within the Board's required timeframe.

Required timeframe: As general guidance, a local government with a severely underfunded pension system (45% funded or less) should reach a funded ratio of 60% within 20 years of the original determination of underfunded status. A local government with a severely underfunded retirement health care system (25% funded or less) should reach a funded ratio of 40% within 30 years of the original determination of underfunded status.

If no, provide additional explanation:

3. SUBSTANTIAL CHANGES CERTIFICATION

The Board recognizes that as a local government implements the prospective actions in their CAP, specific solutions may need to be adjusted to continue to address its underfunded status. This section asks the local government to certify that the corrective actions documented in the plan to address underfunded status remain substantially the same.

Please check the applicable answer:

Does the CAP remain substantially the same as the originally approved submission?

- Yes**
- No** (If no, please complete a revised [Form 5597](#) for OPEB or [Form 5598](#) for pension and attach to this form)

Please check all that apply:

Actions Implemented from CAP – What actions included in the CAP has the local government implemented?

Sample Statement: *In June 2019, our local government began making additional payments of \$100,000 per year above its ADC to the **General Employees' Retirement System**, as stated in our CAP. Page 8 of our actuarial valuation (attachment 2a) shows our pension will be **62%** funded by **fiscal year 2028**.*

See attachment - 2a

Actions Not Implemented from CAP – What corrective actions has the local government failed to implement since the plan was approved?

Sample Statement: *In the June 2019 contract negotiations, our local government sought to lower the system's multiplier for current employees from 2.5X to 2X for the **General Employees' Retirement System**. We were able to negotiate to a 2.25X multiplier. On page 8 of our actuarial valuation (attachment 2a), it shows we will be **62%** funded by **fiscal year 2028** instead of 2024, as outlined in our CAP. The revised fiscal year remains within the Board's required timeline.*

Additional Actions Approved – What additional actions has the local government implemented or planned to implement to supplement the CAP since the plan was originally approved? (**Provide proof of governing body approval for all additional actions**)

Sample Statement: *Since our local government was unable to lower the multiplier to 2X as outlined in our CAP, we implemented additional actions to address our underfunded status within the Board's required timeframe. Beginning in **fiscal year 2020**, we 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 **fiscal year 2028** as shown on page 8 of the actuarial analysis (attachment 2a).*

4. SUSTAINABILITY CERTIFICATION

The local government must certify the plan is still affordable through detailed supporting documentation. This includes documentation that the local government's retirement costs are not increasing at a rate greater than what can be afforded through reasonable revenue growth. Retirement costs also must not have substantially increased above the original projection in the CAP.

The Board recommends that supporting documentation include a projection of all annual retirement payments (Pension ADC(s) + OPEB Benefit Payment(s) + all additional contributions) as a percentage of projected governmental fund revenues over the next five years. A local government should project governmental fund revenues using a reasonable forecast based on historical trends and projected rates of inflation. This analysis may include projected enterprise funds specifically allocated to pay retirement costs.

What is the highest combined annual retirement payment as a percentage of your projected governmental revenues over the next five fiscal years? (Examples)

Fiscal year: 2025

1. Total pension ADC(s): \$ 1,570,000
2. Total OPEB benefit payment(s): -0-
3. Total additional contributions for pension: -0-
4. Total additional contributions for OPEB: -0-
5. Total governmental fund revenues: \$ 8,538,560
6. Enterprise funds used to pay retirement costs (if applicable): \$ 3,741,333

Total percentage [(Payments #1-4)/(Revenues #5-6)]: 12.8%

Do the projected annual payments increase by an amount greater than an average of 5% per year over the next five fiscal years?

- Yes** (Explain and list actions implemented or planned to implement to address increased payments)
 No

The City's total percentage will range from 11.5%-12.8% in fiscal years 2021-2025. (See attachment - 2b)

MERS has instituted various assumptions changes that has increased the ADC greater than 5% but the City total percentage of pension payments will stay consistent at approximately 12% The City used a 1/2% revenue growth over the next 5 years in our projections.

Utilizing a projection of all annual retirement payments, do the approved corrective actions listed in this plan allow for the local government to continue to make, at a minimum, the ADC payment for the defined benefit pension system(s) and/or any applicable statutorily required payments for retirement health benefit system(s), according to your long-term budget forecast? Note: For retirement health benefit systems, local governments are required to make all retiree premium payments, as well as any applicable normal cost payments for employees first hired after June 30, 2018 in accordance with Section 4(1) of Public Act 202 of 2017.

- Yes**
 No (Explain and list actions implemented or planned to implement to address increased payments)

5. REQUIRED DOCUMENTATION

Documentation should be attached as a PDF with this monitoring form. The documentation should detail and confirm the claims made in this document regarding the CAP that is being implemented to adequately address the local government's underfunded status. Please check all documents that are included as part of this form and attach in successive order as provided below. When attaching documents, please use the naming convention below:

Naming Convention

Type of Document

Attachment – 1

(Required) This CAP monitoring form;

Attachment – 2a

(Required) An actuarial projection, an actuarial valuation, or an internally developed analysis (in accordance with GASB and/or actuarial standards of practice), which illustrates how and when the local government will reach the Act's required funded ratio. Or, if the local government is a city, village, township, or county, how and when the ADC as a percentage of governmental revenues will be less than the Act's requirements. The Board recommends that supporting documentation show a projection for the duration of the CAP that includes, but is not limited to, assets, liabilities, funded ratios, normal cost payments (if applicable), actuarial assumptions, and retiree benefit payments, using reasonable calculations;

Attachment – 2b

(Required) An actuarial projection, an actuarial valuation, or an internally developed analysis (in accordance with GASB and/or actuarial standards of practice), which projects all annual retirement payments (Pension ADC(s) + OPEB Benefit Payments(s) + all additional contributions) as a percentage of projected governmental fund revenues over the next five fiscal years. A local government should project governmental fund revenues using a reasonable forecast based on historical trends and projected rates of inflation. This analysis may include projected enterprise funds specifically allocated to pay retirement costs;

Attachment – 3

(Required if applicable) Documentation from the governing body approving additional corrective actions including documentation of commitment to additional payments or actions not previously included in the CAP (e.g. resolution, ordinance);

Attachment – 4

(Required if applicable) In the event that the previous plan is no longer substantially in effect, a separate CAP to address its underfunded status which includes documentation of prior actions, prospective actions, governing body approval, and the positive impact on the system's funded ratio;

Attachment – 5

Other documentation not categorized above.

6. CORRECTIVE ACTION PLAN CRITERIA

Please confirm that each of the CAP monitoring criteria listed below have been satisfied when submitting this document. Specific detail on CAP criteria can be found in the [Corrective Action Plan Monitoring: Policy and Procedures](#) document.

CAP Monitoring Criteria

Description

- | | |
|--|---|
| <input checked="" type="checkbox"/> Underfunded Status | The local government certifies that there is adequate supporting documentation showing that the CAP will continue to address the local government's underfunded status in a reasonable timeframe; |
| <input type="checkbox"/> Substantial Changes | The local government certifies that the corrective actions documented in the CAP remain substantially the same OR; the local government has implemented or planned to implement additional actions to continue to address their underfunded status; |
| <input type="checkbox"/> Sustainability | The CAP continues to allow the local government to make all required annual retirement payments, without increasing to a level that is unsustainable. |

7. LOCAL GOVERNMENT'S ADMINISTRATIVE OFFICER APPROVAL OF CORRECTIVE ACTION PLAN MONITORING FORM

I, Jason Eppler, as the government's administrative officer (Ex. City/Township Manager, Executive Director, Chief Executive Officer, etc.) (**insert title**) City Manager approve this *Corrective Action Plan Monitoring: Application for Certification of Compliance* and will continue to implement the actions of the CAP.

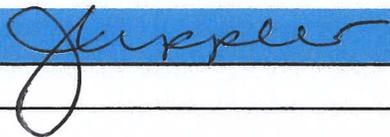
I confirm to the best of my knowledge that because of the actions referenced within this form, one of the following statements will occur:

- The lonia, City of (3403) (**insert retirement system name**) will achieve a funded status (60% for pension or 40% for OPEB) by fiscal year 2024 as demonstrated by required supporting documentation listed in Section 5.

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

- The ADC for all defined benefit pension or retirement health benefit (OPEB) systems as a percentage of governmental fund revenues will be less than the Act's underfunded status threshold (10% for pension or 12% for OPEB) by fiscal year _____ as demonstrated by required supporting documentation listed in Section 5.

Signature:

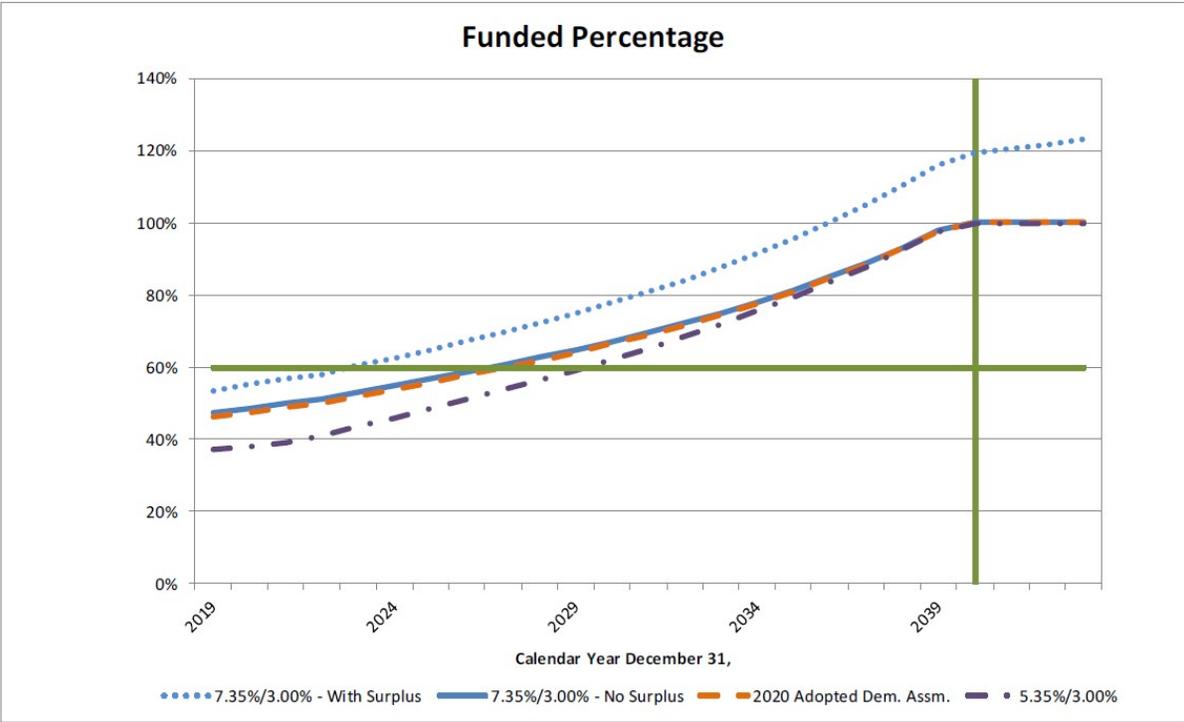


Date:

8/5/2020

Actions of the CAP that have been implemented:

- 1/31/19 Division 12 was closed to all new hires and a new Hybrid division created starting 2/1/19.
- Additional \$250,000 per year for calendar years 2019-2022
 - The city has contributed \$250,000 in calendar year 2018 and \$1,125,000 in calendar year 2019
 - The city is still on track to contribute the \$250,000 per year for the four calendar years that we stated plus the additional \$1,000,000 that we contributed in calendar year 2019.



*Graph was taken from page 7 of the 2019 MERS Annual Actuarial Valuation Report 2019 for the Ionia, City of (3403)

	Estimate 6/30/2020	Estimate 6/30/2021	Estimate 6/30/2022	Estimate 6/30/2023	Estimate 6/30/2024	Estimate 6/30/2025
Governmental Revenues	8,328,261	8,369,902	8,411,752	8,453,811	8,496,080	8,538,560
Enterprise Fund Revenue	3,649,186	3,667,432	3,685,769	3,704,198	3,722,719	3,741,333
Additional Contributions	1,250,000	250,000	250,000			
ADC	1,128,583	1,233,996	1,290,000	1,400,000	1,480,000	1,570,000
% Increase of ADC over Previous Year	103%	109%	105%	109%	106%	106%
Total Percentage	20%	12.3%	12.7%	11.5%	12.1%	12.8%

*Revenue estimates show a 1/2% increase over the previous year. The 6/30/2020 estimate for Governmental revenues was estimated by using the audited numbers from 6/30/2019.

*Enterprise revenue was calculated by using total operating revenue minus any debt service and depreciation expense.

Date: July 23, 2020
To: MERS Regional Staff
From: MERS Actuarial Staff
Re: Ionia, City of (3403) - All Divisions

The purpose of this estimate is to illustrate the potential financial implications of different contribution scenarios under consideration on projected plan funding and contributions. **The results are based on an investment return assumption of 7.35% and a wage inflation assumption of 3.00%, as well as the 2020 demographic assumptions adopted by the Board.** The scenarios are as follows.

- Scenario 1: Assume phase-in rate based on current demographic assumptions will be paid for FY2021, and phase-in rates based on 2020 demographic assumptions will be paid starting FY2022.

Projections of Funded Ratios and Employer Contributions

Ionia, City of (3403) - All Divisions					
Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets ²	Funded Percentage	Computed Annual Employer Contribution
7.35%¹/3.00% - Adopted 2020 Demographic Assumptions					
WITH PHASE-IN					
2019	2021	\$ 25,700,000	\$ 11,800,000	46%	\$ 1,290,000
2020	2022	26,500,000	12,600,000	47%	1,400,000
2021	2023	27,400,000	13,200,000	48%	1,480,000
2022	2024	28,100,000	13,900,000	49%	1,570,000
2023	2025	28,900,000	14,800,000	51%	1,620,000
2024	2026	29,600,000	15,700,000	53%	1,660,000

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.

Comment on the results: as inferred by the table, contributing based on phase-in may result in higher overall employer contributions by around 1.5% annually after the phase-in period (and through the remaining amortization schedule).

Important Comments

- This document is an opinion of MERS (neither in favor nor in opposition of any of the scenarios presented) and does not constitute a certified request from, nor was produced by, the System's Consulting Actuary. The contribution amounts and rates in this document are estimates (not actual contribution amounts or rates) and are for illustrative supplemental information purposes. Any unintended users not otherwise identified in this document receiving or reviewing this document may not rely on these calculations period. 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.
- The above projection results are mathematical estimates of future events based on assumptions that may or may not materialize. These calculations can and do vary from one valuation year to the next, and the actual impact of any proposed plan change will change over time as the assumptions about future events are replaced by actual experience. In particular, the recent outbreak of COVID-19 is a significant event subsequent to the valuation date not reflected in this report, and likely has had and will continue to have some impact on retirement plans.
- The results are based on the same plan provisions, financial and demographic data, and actuarial assumptions and methods underlying the December 31, 2018 Annual Actuarial Valuation except where otherwise noted. Employer contributions through the start of the applicable fiscal year were not adjusted or recalculated as a result of the proposed change(s).
- 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, please refer to the [Actuarial Policy](#) adopted by the MERS Retirement Board.



Municipal Employees' Retirement System of Michigan

Annual Actuarial Valuation Report
December 31, 2019 - Ionia, City of (3403)





Spring, 2020

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 for Ionia, City of (3403) as of December 31, 2019. The report includes the determination of liabilities and contribution rates resulting from the participation in the Municipal Employees' Retirement System of Michigan ("MERS"). This report contains the minimum actuarially determined contribution requirement, in alignment with the MERS Plan Document, Actuarial Policy, and the Michigan Constitution and governing statutes. Ionia, City of is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees.

The purposes of this valuation are to:

- Measure funding progress as of December 31, 2019,
- Establish contribution requirements for the fiscal year beginning July 1, 2021,
- Provide information regarding the identification and assessment of risk,
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements, and
- Provide information to assist the local unit of government with state reporting requirements.

This valuation assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

The findings in this report are based on data and other information through December 31, 2019. The valuation was based upon information furnished by MERS concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal reasonability and year-to-year consistency, but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by MERS.

The Municipal Employees' Retirement Act, PA 427 of 1984 and the MERS' Plan Document Article VI sec. 71 (1)(d), provides the MERS Board with the authority to set actuarial assumptions and methods after consultation with the actuary. As the fiduciary of the plan, MERS Retirement Board sets certain assumptions for funding and GASB purposes. These assumptions are checked regularly through a comprehensive study, called an Experience Study. A study was completed in 2015, as prepared by the prior actuary, and is the basis of the demographic assumptions and methods currently in place. At the February 28, 2019 board meeting, the MERS Retirement Board adopted new economic assumptions effective with the December 31, 2019 annual actuarial valuation, which will impact contributions beginning in 2021. **At the February 27, 2020 board meeting, the MERS Retirement Board adopted demographic assumptions effective with the December 31, 2020 annual actuarial valuation, which will impact contributions beginning in 2022.** An illustration of the potential impact is found in this report.

The Michigan Department of Treasury provides required assumptions to be used for purposes of Public Act 202 reporting. These assumptions are for reporting purposes only and do not impact required contributions. Please refer to the State Reporting page found at the end of this report for information for this filing.

For a full list of all the assumptions used, please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:

<http://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2019AnnualActuarialValuation-Appendix.pdf>

The actuarial assumptions used for this valuation are reasonable for purposes of the measurement.

This report does not reflect the recent and still developing impact of COVID-19, which is likely to influence demographic and economic experience, at least in the short-term. We will continue to monitor these developments and their impact on the MERS Defined Benefit and Hybrid plans. Actual experience will be reflected in each subsequent annual valuation, as experience emerges.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of Ionia, City of as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board, and with applicable statutes.

David T. Kausch, Rebecca L. Stouffer, and Mark Buis are members of the American Academy of Actuaries. These actuaries meet the Academy's Qualification Standards to render the actuarial opinions contained herein. The signing actuaries are independent of the plan sponsor. GRS maintains independent consulting agreements with certain local units of government for services unrelated to the actuarial consulting services provided in this report.

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.

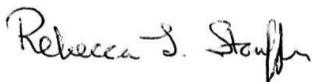
This report was prepared at the request of the MERS Retirement Board and may be provided only in its entirety by the municipality to other interested parties (MERS customarily provides the full report on request to associated third parties such as the auditor for the municipality). GRS is not responsible for the consequences of any unauthorized use. This report should not be relied on for any purpose other than the purposes described herein. Determinations of financial results, associated with the benefits described in this report, for purposes other than those identified above may be significantly different.

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,



David T. Kausch, FSA, FCA, EA, MAAA



Rebecca L. Stouffer, ASA, FCA, MAAA



Mark Buis, FSA, FCA, EA, MAAA



Table of Contents

Executive Summary	1
Table 1: Employer Contribution Details For the Fiscal Year Beginning July 1, 2021	8
Table 2: Benefit Provisions	10
Table 3: Participant Summary	13
Table 4: Reported Assets (Market Value)	15
Table 5: Flow of Valuation Assets	16
Table 6: Actuarial Accrued Liabilities and Valuation Assets as of December 31, 2019.....	17
Table 7: Actuarial Accrued Liabilities - Comparative Schedule	19
Tables 8 and 9: Division-Based Comparative Schedules	20
Table 10: Division-Based Layered Amortization Schedule	30
GASB 68 Information.....	39
Benefit Provision History.....	40
Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method	43
Risk Commentary	44
State Reporting	46



Executive Summary

Funded Ratio

The funded ratio of a plan is the percentage of the dollar value of the actuarial accrued liability that is covered by the actuarial value of assets. While funding ratio may be a useful plan measurement, understanding a plan's funding trend may be more important than a particular point in time. Refer to Table 7 to find a history of this information.

	12/31/2019	12/31/2018
Funded Ratio*	54%	50%

* Reflects assets from Surplus divisions, if any.

Throughout this report are references to valuation results generated prior to the 2018 valuation date. Results prior to 2018 were received directly from the prior actuary or extracted from the previous valuation system by MERS's technology service provider.

Required Employer Contributions:

Your required employer contributions are shown in the following table. Employee contributions, if any, are in addition to the employer contributions. Changes to the actuarial assumptions and methods based on the 2015 Experience Study are fully phased-in with this valuation.

Effective this valuation, the MERS Retirement Board has adopted a reduction in the investment rate of return assumption from 7.75% to 7.35% and a reduction in the rate of wage inflation from 3.75% to 3.00%. Changes to these assumptions are effective for contributions beginning in 2021 and may be phased-in. This valuation reflects the first year of phase-in.

By default, MERS will invoice you based on the amount in the “No Phase-in” columns. This amount will be considered the minimum required contribution unless you request to be billed the “Phase-in” rates. If you wish to be billed using the phased-in rates, please contact MERS, at which point the alternate minimum required contribution will be the amount in the “Phase-in” columns. Please note that this approach is different than in years past.

	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
	12/31/2019	12/31/2019	12/31/2018	12/31/2018	12/31/2019	12/31/2019	12/31/2018	12/31/2018
Valuation Date:	July 1, 2021	July 1, 2021	July 1, 2020	July 1, 2020	July 1, 2021	July 1, 2021	July 1, 2020	July 1, 2020
Fiscal Year Beginning:								
Division								
01 - Gnrl Clerical	-	-	-	-	\$ 7,891	\$ 8,347	\$ 7,030	\$ 7,196
02 - Pub Safety POAM hire af 7/1/10	-	-	-	-	445	445	394	397
10 - Tmstrs Pblc Wrk	-	-	-	-	25,647	26,898	23,359	23,810
12 - Gnrl Dept Heads	-	-	45.21%	46.11%	24,867	26,439	26,821	27,355
13 - City Clerk	-	-	-	-	20	26	301	306
20 - Public Sfty POAM	-	-	-	-	41,397	43,599	38,239	38,897
HA - General Clerical after 7/1/11	8.07%	8.04%	7.98%	8.02%	1,762	1,756	1,725	1,734
HB - Tmstrs Pblc Wrks after 7/1/12	7.47%	7.37%	7.06%	7.06%	1,816	1,792	1,260	1,260
HC - Public Sfty POAM after 7/1/2010	7.93%	7.84%	8.52%	8.53%	3,319	3,280	3,704	3,707
Municipality Total					\$ 107,164	\$ 112,582	\$ 102,833	\$ 104,662

Employee contribution rates:

Valuation Date:	Employee Contribution Rate	
	12/31/2019	12/31/2018
Division		
01 - Gnrl Clerical	0.00%	0.00%
02 - Pub Safety POAM hire af 7/1/10	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 7/1/11	0.00%	0.00%
HB - Tmstrs Pblc Wrks after 7/1/12	0.00%	0.00%
HC - Public Sfty POAM after 7/1/2010	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 division 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 2021 for the entire employer would be \$164,410, instead of \$112,582.

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.

Comments on Investment Rate of Return Assumption

A defined benefit plan is funded by employer contributions, participant contributions, and investment earnings. Investment earnings have historically provided a significant portion 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 **7.35%** per year. This, along with all of our other actuarial assumptions, is reviewed at least 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 assumed investment return assumptions, please review the "what if" projection scenarios later in this report.

Assumption Change in 2019

At the February 28, 2019 board meeting, the MERS Retirement Board adjusted key economic assumptions. These assumptions, in particular the investment return assumption, have a significant effect on a plan's required contribution and funding level. Historically low interest rates, along with high equity market valuations, have led to reductions in projected returns for most asset classes. This has resulted in a Board adopted reduction in the investment rate of return assumption from 7.75% to 7.35%, effective with the December 31, 2019 valuation, first impacting 2021 contributions. The Board also changed the assumed rate of wage inflation from 3.75% to 3.00%, with the same effective date.

Assumption Change in 2020

A 5-year experience study analyzing historical experience from 2013 through 2018 was completed in February 2020. In addition to changes to the economic assumptions which will take effect with the Fiscal year 2021 contribution rates, the experience study recommends updated demographic assumptions, including



adjustments to the following actuarial assumptions: mortality, retirement, disability, and termination rates. A complete description of the proposed assumptions may be found in the Appendix to the valuation. Changes to the demographic assumptions resulting from the experience study have been approved by the MERS Retirement Board and are to be effective beginning with the December 31, 2020 actuarial valuation first impacting 2022 contributions. This report includes a “What If” scenario of the approved 2020 assumption changes in an effort to show employers the anticipated impact on contribution rates.

Comments on Asset Smoothing

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 2019 was 4.77%, while the actual market rate of return was 13.41%**. 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 view the [“How Smoothing Works” video](#) on the [Defined Benefit resource page](#) of the MERS website.

As of December 31, 2019, 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 7.35% investment return assumption, or contribution requirements will continue to increase.

If the December 31, 2019 valuation results were based on market value instead of actuarial value:

- The funded percent of your entire municipality would be 53% (instead of 54%); and
- Your total employer contribution requirement for the fiscal year starting July 1, 2021 would be \$1,364,244 (instead of \$1,350,984).

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.

Many assumptions are important in determining the required employer contributions. In the following table, we show the impact of varying the Investment Return assumption and the demographic assumptions. Lower investment returns would result in higher required employer contributions, and vice-versa. Alternate demographic assumptions may result in higher or lower employer contributions depending on the demographic characteristics of the plan participants.



The relative impact of the economic and demographic scenarios 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, 2019 valuation, and are for the municipality in total, not by division. These results do not reflect a phase in of the impact of the new actuarial assumptions.

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. Projections are not predictions. Future valuations will be based on actual future experience.

In addition to economic assumption changes effective with Fiscal Year 2021 contributions, the Retirement Board has also adopted a change to certain demographic and other assumptions effective for the December 31, 2020 valuation which will impact the Fiscal Year 2022 contributions. Please see the section labeled "Assumption Change in 2020" for more information. The scenario shown using these assumptions as of December 31, 2019 is illustrative only. The actual impact of this change when reflected in the 2020 Annual Actuarial Valuation report will be different.

12/31/2019 Valuation Results	Assumed Future Annual Smoothed Rate of Investment Return		
	Lower Future Annual Returns ³	2020 Adopted Demographic Assumptions	Valuation Assumptions
Investment Return Assumption	5.35%	7.35%	7.35%
Wage Increase Assumption	3.00%	3.00%	3.00%
Accrued Liability	\$ 31,683,289	\$ 25,681,039	\$ 25,070,268
Valuation Assets ¹	\$ 13,435,243	\$ 13,435,243	\$ 13,435,243
Unfunded Accrued Liability	\$ 18,248,046	\$ 12,245,796	\$ 11,635,025
Funded Ratio	42%	52%	54%
Monthly Normal Cost	\$ 45,135	\$ 25,838	\$ 26,857
Monthly Amortization Payment	\$ 110,094	\$ 90,072	\$ 85,725
Total Employer Contribution²	\$ 155,229	\$ 115,910	\$ 112,582

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

² If assets exceed accrued liabilities for a division, the division may have an overfunding credit 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.

³ Based on current demographic assumptions.

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 economic and demographic assumption scenarios. All three projections take into account the past investment losses that will continue to affect the actuarial rate of return in the short term.

The 7.35%/3.00% scenario provides an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.35% 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 2020 adopted demographic assumption and 5.35%/3.00% projection scenarios provide an indication of the potential required employer contribution if these assumptions were met over the long-term.

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.

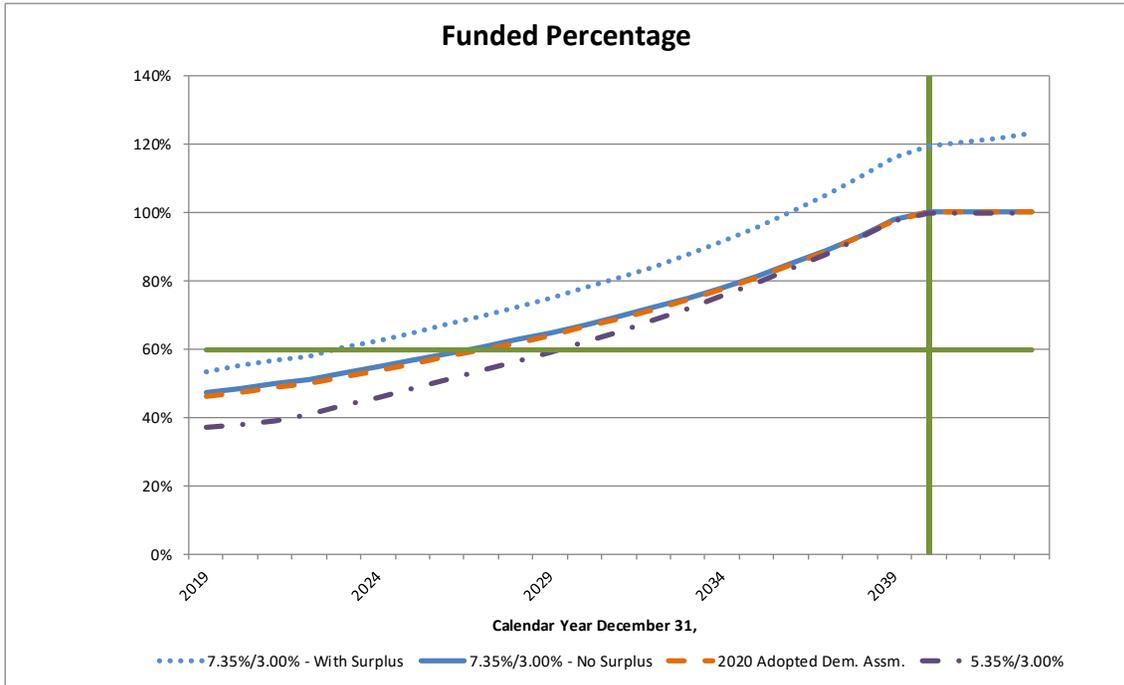
The Funded Percentage graph shows projections of funded status under the 7.35% investment return assumption, both including the Surplus assets (contributed as of the valuation date), and without the Surplus assets. The graph including the Surplus assets assumes these Surplus assets grow with interest 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
7.35%¹/3.00% - Current Demographic Assumptions					
NO 5-YEAR PHASE-IN					
2019	2021	\$ 25,070,268	\$ 11,842,335	47%	\$ 1,350,984
2020	2022	\$ 25,900,000	\$ 12,600,000	49%	\$ 1,430,000
2021	2023	\$ 26,700,000	\$ 13,300,000	50%	\$ 1,470,000
2022	2024	\$ 27,400,000	\$ 14,000,000	51%	\$ 1,530,000
2023	2025	\$ 28,100,000	\$ 14,900,000	53%	\$ 1,560,000
2024	2026	\$ 28,800,000	\$ 15,800,000	55%	\$ 1,600,000
7.35%¹/3.00% - Adopted 2020 Demographic Assumptions					
NO 5-YEAR PHASE-IN					
2019	2021	\$ 25,681,039	\$ 11,842,335	46%	\$ 1,390,920
2020	2022	\$ 26,500,000	\$ 12,600,000	47%	\$ 1,460,000
2021	2023	\$ 27,400,000	\$ 13,300,000	49%	\$ 1,510,000
2022	2024	\$ 28,100,000	\$ 14,000,000	50%	\$ 1,570,000
2023	2025	\$ 28,900,000	\$ 15,000,000	52%	\$ 1,600,000
2024	2026	\$ 29,600,000	\$ 16,000,000	54%	\$ 1,640,000
5.35%¹/3.00% - Current Demographic Assumptions					
NO 5-YEAR PHASE-IN					
2019	2021	\$ 31,683,289	\$ 11,842,335	37%	\$ 1,862,748
2020	2022	\$ 32,600,000	\$ 12,300,000	38%	\$ 1,990,000
2021	2023	\$ 33,500,000	\$ 13,100,000	39%	\$ 2,060,000
2022	2024	\$ 34,300,000	\$ 14,000,000	41%	\$ 2,130,000
2023	2025	\$ 35,100,000	\$ 15,300,000	44%	\$ 2,170,000
2024	2026	\$ 35,900,000	\$ 16,500,000	46%	\$ 2,230,000

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

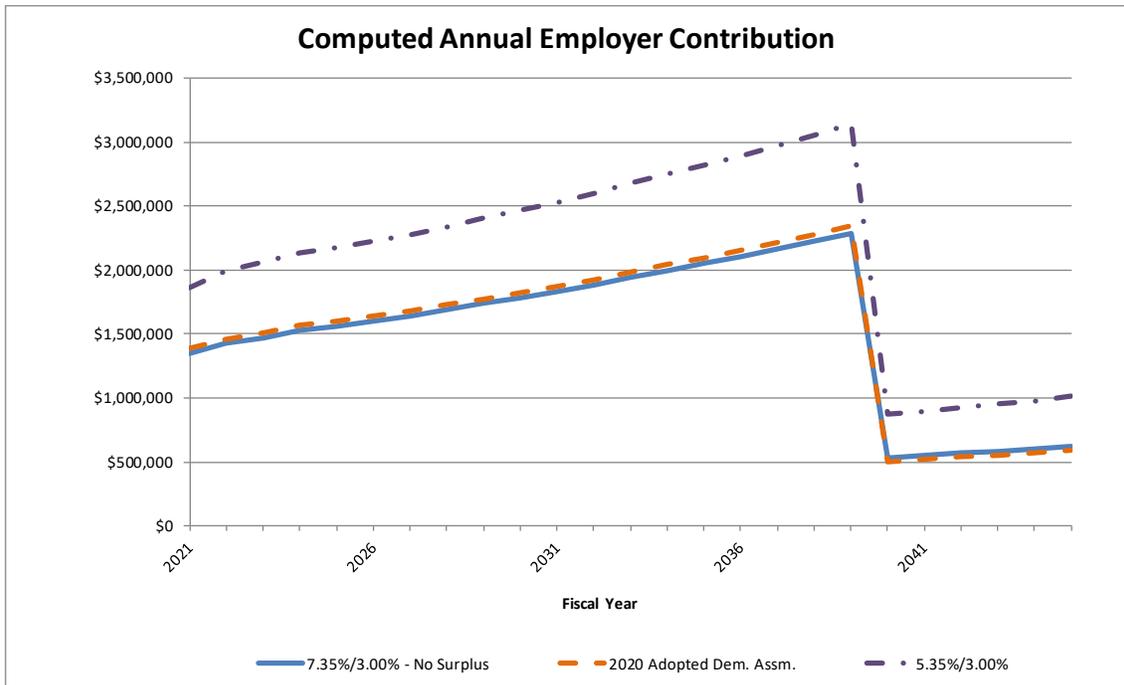
² Valuation Assets do not include assets from Surplus divisions, if any.





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.
 The green indicator lines have been added at 60% funded and 21 years following the valuation date for PA 202 purposes.



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.

Table 1: Employer Contribution Details For the Fiscal Year Beginning July 1, 2021

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	10.55%	0.00%	-	-	-	-	28.13%	26.88%	
02 - Pub Safety POAM hire af 7/1/10	10.92%	5.00%	-	-	-	-	46.48%	44.35%	
10 - Tmstrs Pblc Wrk	9.76%	0.00%	-	-	-	-	33.62%	32.18%	
12 - Gnrl Dept Heads	14.98%	0.00%	-	-	-	-			
13 - City Clerk	0.00%	0.00%	-	-	-	-			
20 - Public Sfty POAM	11.77%	0.00%	-	-	-	-	46.48%	44.35%	
HA - General Clerical after 7/1/11	7.28%	0.00%	7.28%	0.76%	8.04%	8.07%	28.13%	26.88%	
HB - Tmsters Pblc Wrks after 7/1/12	6.85%	0.00%	6.85%	0.52%	7.37%	7.47%	33.62%	32.18%	
HC - Public Sfty POAM after7/1/2010	7.84%	0.00%	7.84%	0.00%	7.84%	7.93%	46.48%	44.35%	
Estimated Monthly Contribution³									
01 - Gnrl Clerical			\$ 1,484	\$ 6,863	\$ 8,347	\$ 7,891			
02 - Pub Safety POAM hire af 7/1/10			368	77	445	445			
10 - Tmstrs Pblc Wrk			5,958	20,940	26,898	25,647			
12 - Gnrl Dept Heads			6,183	20,256	26,439	24,867			
13 - City Clerk			0	26	26	20			
20 - Public Sfty POAM			6,329	37,270	43,599	41,397			
HA - General Clerical after 7/1/11			1,590	166	1,756	1,762			
HB - Tmsters Pblc Wrks after 7/1/12			1,665	127	1,792	1,816			
HC - Public Sfty POAM after7/1/2010			3,280	0	3,280	3,319			
Total Municipality			\$ 26,857	\$ 85,725	\$ 112,582	\$ 107,164			
Estimated Annual Contribution³			\$ 322,284	\$ 1,028,700	\$ 1,350,984	\$ 1,285,968			

- 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 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 No 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.

Table 2: Benefit Provisions

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

	2019 Valuation	2018 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:	0.00%	0.00%
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

	2019 Valuation	2018 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:	5.00%	5.00%
Act 88:	Yes (Adopted 7/1/2010)	Yes (Adopted 7/1/2010)

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

	2019 Valuation	2018 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:	0.00%	0.00%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)

12 - GnrI Dept Heads: Closed to new hires, linked to Division HD

	2019 Valuation	2018 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 & Out	25 & Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)

13 - City Clerk: Closed to new hires

	2019 Valuation	2018 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	50/25
	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)

20 - Public Sfty POAM: Closed to new hires, linked to Division HC

	2019 Valuation	2018 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 & Out	25 & Out
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
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

	2019 Valuation	2018 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
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:	0.00%	0.00%
Act 88:	Yes (Adopted 5/25/1994)	Yes (Adopted 5/25/1994)



HB - Tmsters Pblc Wrks after 7/1/12: Open Division, linked to Division 10

	2019 Valuation	2018 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
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:	0.00%	0.00%
Act 88:	No	No

HC - Public Sfty POAM after 7/1/2010: Open Division, linked to Division 02, 20

	2019 Valuation	2018 Valuation
Benefit Multiplier:	1.50% Multiplier (no max)	1.50% Multiplier (no max)
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:	0.00%	0.00%
Act 88:	Yes (Adopted 7/1/2010)	Yes (Adopted 7/1/2010)

Table 3: Participant Summary

Division	2019 Valuation		2018 Valuation		2019 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
01 - Gnrl Clerical							
Active Employees	3	\$ 187,710	5	\$ 290,062	56.3	15.9	15.9
Vested Former Employees	3	22,989	2	20,723	51.8	9.8	11.7
Retirees and Beneficiaries	10	143,755	8	104,446	68.1		
Pending Refunds	0		0				
02 - Pub Safety POAM hire af 7/1/10							
Active Employees	1	\$ 72,037	1	\$ 68,121	30.6	7.5	7.5
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Pending Refunds	1		1				
10 - Tmstrs Pblc Wrk							
Active Employees	12	\$ 751,779	12	\$ 734,034	44.9	20.1	20.1
Vested Former Employees	2	22,245	2	22,245	50.0	12.7	12.7
Retirees and Beneficiaries	16	334,067	16	334,069	69.7		
Pending Refunds	0		0				
12 - Gnrl Dept Heads							
Active Employees	7	\$ 674,320	7	\$ 649,242	49.0	23.3	26.1
Vested Former Employees	1	4,054	1	4,054	58.5	6.4	22.8
Retirees and Beneficiaries	11	302,111	12	329,172	65.6		
Pending Refunds	0		0				
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	68.8		
Pending Refunds	0		0				
20 - Public Sfty POAM							
Active Employees	9	\$ 694,219	9	\$ 698,909	45.2	19.2	19.8
Vested Former Employees	3	29,191	3	29,191	47.2	7.5	19.2
Retirees and Beneficiaries	15	463,185	15	463,185	62.2		
Pending Refunds	0		0				
HA - General Clerical after 7/1/11							
Active Employees	4	\$ 212,462	2	\$ 107,312	44.6	3.5	3.5
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Pending Refunds	0		0				

Table 3 (continued)

Division	2019 Valuation		2018 Valuation		2019 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
HB - Tmsters Pblc Wrks after 7/1/12							
Active Employees	4	\$ 199,317	3	\$ 136,400	34.1	2.1	3.2
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Pending Refunds	0		0				
HC - Public Sfty POAM after 7/1/2010							
Active Employees	5	\$ 368,416	5	\$ 382,707	36.1	3.8	6.6
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	0	0	0	0	0.0		
Pending Refunds	0		0				
Total Municipality							
Active Employees	45	\$ 3,160,260	44	\$ 3,066,787	44.1	15.0	15.9
Vested Former Employees	9	78,479	8	76,213	50.6	9.3	15.7
Retirees and Beneficiaries	53	1,245,434	52	1,233,188	66.4		
Pending Refunds	1		1				
Total Participants	108		105				

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

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

Table 4: Reported Assets (Market Value)

Division	2019 Valuation		2018 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
01 - Gnrl Clerical	\$ 1,234,022	\$ 8,401	\$ 1,140,875	\$ 8,270
02 - Pub Safety POAM hire af 7/1/10	44,501	34,079	32,021	30,000
10 - Tmstrs Pblc Wrk	3,315,176	8,628	3,001,184	8,493
12 - Gnrl Dept Heads	3,549,424	239,409	3,113,573	235,662
13 - City Clerk	17,320	0	14,440	0
20 - Public Sfty POAM	2,859,169	127,193	2,555,522	125,202
HA - General Clerical after 7/1/11	60,579	0	39,679	0
HB - Tmsters Pblc Wrks after 7/1/12	28,791	0	14,070	0
HC - Public Sfty POAM after 7/1/2010	161,601	0	114,746	0
S1 - Surplus Unassoc.	1,572,188	0	384,072	0
Municipality Total³	\$ 12,842,773	\$ 417,710	\$ 10,410,182	\$ 407,627
Combined Assets³	\$13,260,483		\$10,817,809	

¹ Reserve for Employer Contributions and Benefit Payments.

² Reserve for Employee Contributions.

³ Totals may not add due to rounding.

The December 31, 2019 valuation assets (actuarial value of assets) are equal to 1.013179 times the reported market value of assets (compared to 1.095342 as of December 31, 2018). Refer to the Appendix for a description of the valuation asset derivation and a detailed calculation of valuation assets.

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, 2021.

Table 5: Flow of Valuation Assets

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
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
2018	1,018,701	250,000	3,406	431,671	(1,183,337)	0	0	11,849,200
2019	1,096,414	1,125,000	3,602	599,890	(1,238,863)	0	0	13,435,243

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 Asset balance includes assets from Surplus divisions, if any.

Years where historical information is not available, will be displayed with zero values.

**Table 6: Actuarial Accrued Liabilities and Valuation Assets
as of December 31, 2019**

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
01 - Gnrl Clerical	\$ 650,196	\$ 220,542	\$ 1,440,157	\$ 0	\$ 2,310,895	\$ 1,258,797	54.5%	\$ 1,052,098
02 - Pub Safety POAM hire af 7/1/10	82,215	0	0	8,521	90,736	79,615	87.7%	11,121
10 - Tmstrs Pblc Wrk	3,022,074	116,664	3,450,633	0	6,589,371	3,367,609	51.1%	3,221,762
12 - Gnrl Dept Heads	3,542,393	38,998	3,406,497	0	6,987,888	3,838,767	54.9%	3,149,121
13 - City Clerk	0	0	24,834	0	24,834	17,549	70.7%	7,285
20 - Public Sfty POAM	3,366,249	131,499	5,282,544	0	8,780,292	3,025,720	34.5%	5,754,572
HA - General Clerical after 7/1/11	86,241	0	0	0	86,241	61,377	71.2%	24,864
HB - Tmsters Pblc Wrks after 7/1/12	44,291	0	0	0	44,291	29,171	65.9%	15,120
HC - Public Sfty POAM after7/1/2010	155,720	0	0	0	155,720	163,730	105.1%	(8,010)
S1 - Surplus Unassoc.	0	0	0	0	0	1,592,908		(1,592,908)
Total	\$ 10,949,379	\$ 507,703	\$ 13,604,665	\$ 8,521	\$ 25,070,268	\$ 13,435,243	53.6%	\$ 11,635,025

The following results show the combined accrued liabilities and assets for each set of linked divisions. These results are already shown in the table on the prior page(s).

Table 6 (continued)

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
Linked Divisions HA, 01	\$ 736,437	\$ 220,542	\$ 1,440,157	\$ 0	\$ 2,397,136	\$ 1,320,174	55.1%	\$ 1,076,962
Linked Divisions HB, 10	3,066,365	116,664	3,450,633	0	6,633,662	3,396,780	51.2%	3,236,882
Linked Divisions HC, 02, 20	3,604,184	131,499	5,282,544	8,521	9,026,748	3,269,065	36.2%	5,757,683

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

Table 7: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
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
2018	23,652,686	11,849,200	50%	11,803,486
2019	25,070,268	13,435,243	54%	11,635,025

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012, 2015 and 2019 actuarial valuations.

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

Years where historical information is not available will be displayed with zero values.

Throughout this report are references to valuation results generated prior to the 2018 valuation date. Results prior to 2018 were received directly from the prior actuary or extracted from the previous valuation system by MERS's technology service provider.

Tables 8 and 9: Division-Based Comparative Schedules

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
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
2018	2,169,060	1,258,707	58%	910,353
2019	2,310,895	1,258,797	54%	1,052,098

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
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%
2018	5	290,062	\$ 7,196	0.00%
2019	3	187,710	\$ 8,347	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
2009	\$ 0	\$ 0	0%	\$ 0
2010	0	0	0%	0
2011	0	0	0%	0
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
2018	74,562	67,933	91%	6,629
2019	90,736	79,615	88%	11,121

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
2009	0	\$ 0	\$ 0	0.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 0	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%
2018	1	68,121	\$ 397	5.00%
2019	1	72,037	\$ 445	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
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
2018	6,190,703	3,296,625	53%	2,894,078
2019	6,589,371	3,367,609	51%	3,221,762

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
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%
2018	12	734,034	\$ 23,810	0.00%
2019	12	751,779	\$ 26,898	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
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
2018	6,726,538	3,668,558	55%	3,057,980
2019	6,987,888	3,838,767	55%	3,149,121

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
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%
2018	7	649,242	46.11%	0.00%
2019	7	674,320	\$ 26,439	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
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
2018	24,530	15,816	64%	8,714
2019	24,834	17,549	71%	7,285

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
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%
2018	0	0	\$ 306	0.00%
2019	0	0	\$ 26	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
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
2018	8,233,908	2,936,310	36%	5,297,598
2019	8,780,292	3,025,720	34%	5,754,572

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
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%
2018	9	698,909	\$ 38,897	0.00%
2019	9	694,219	\$ 43,599	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
2009	\$ 0	\$ 0	0%	\$ 0
2010	0	0	0%	0
2011	0	0	0%	0
2012	0	0	0%	0
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
2018	62,212	43,463	70%	18,749
2019	86,241	61,377	71%	24,864

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
2009	0	\$ 0	\$ 0	0.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 0	0.00%
2012	0	0	\$ 0	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%
2018	2	107,312	8.02%	0.00%
2019	4	212,462	8.04%	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
2009	\$ 0	\$ 0	0%	\$ 0
2010	0	0	0%	0
2011	0	0	0%	0
2012	0	0	0%	0
2013	0	0	0%	0
2014	0	0	0%	0
2015	0	0	0%	0
2016	2,639	1,194	45%	1,445
2017	10,344	7,175	69%	3,169
2018	23,100	15,412	67%	7,688
2019	44,291	29,171	66%	15,120

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
2009	0	\$ 0	\$ 0	0.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 0	0.00%
2012	0	0	\$ 0	0.00%
2013	0	0	\$ 0	0.00%
2014	0	0	\$ 0	0.00%
2015	0	0	\$ 0	0.00%
2016	2	65,459	6.75%	0.00%
2017	2	84,671	6.66%	0.00%
2018	3	136,400	7.06%	0.00%
2019	4	199,317	7.37%	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

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
2009	\$ 0	\$ 0	0%	\$ 0
2010	0	0	0%	0
2011	0	0	0%	0
2012	0	0	0%	0
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
2018	148,073	125,686	85%	22,387
2019	155,720	163,730	105%	(8,010)

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 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		
2009	0	\$ 0	\$ 0	0.00%
2010	0	0	\$ 0	0.00%
2011	0	0	\$ 0	0.00%
2012	0	0	\$ 0	0.00%
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%
2018	5	382,707	8.53%	0.00%
2019	5	368,416	7.84%	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.

See the Benefit Provision History, later in this report, for past benefit provision changes.

Years where historical information is not available, will be displayed with zero values.

Division S1 - Surplus Unassoc.

Table 8-S1: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2009	\$ 0	\$ 0		\$ 0
2010	0	0		0
2011	0	0		0
2012	0	0		0
2013	0	0		0
2014	0	0		0
2015	0	0		0
2016	0	0		0
2017	0	154,303		(154,303)
2018	0	420,690		(420,690)
2019	0	1,592,908		(1,592,908)

Notes: Actuarial assumptions were revised for the 2009, 2010, 2011, 2012, 2015 and 2019 actuarial valuations.

Years where historical information is not available, will be displayed with zero values.

Table 10: Division-Based Layered Amortization Schedule

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 698,055	23	\$ 753,102	19	\$ 58,080
(Gain)/Loss	12/31/2016	49,138	22	55,704	19	4,296
(Gain)/Loss	12/31/2017	46,277	21	52,101	19	4,020
(Gain)/Loss	12/31/2018	59,780	20	67,010	19	5,172
(Gain)/Loss	12/31/2019	61,393	19	68,284	19	5,268
Assumption	12/31/2019	69,543	19	71,518	19	5,520
Total				\$ 1,067,719		\$ 82,356

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 8,445	23	\$ 7,775	19	\$ 600
(Gain)/Loss	12/31/2016	(3,596)	22	(4,065)	19	(312)
(Gain)/Loss	12/31/2017	(163)	21	(186)	19	(12)
(Gain)/Loss	12/31/2018	3,142	20	3,525	19	276
(Gain)/Loss	12/31/2019	3,708	19	4,124	19	324
Assumption	12/31/2019	546	19	543	19	48
Total				\$ 11,716		\$ 924

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 2,211,067	23	\$ 2,360,885	19	\$ 182,064
(Gain)/Loss	12/31/2016	352,926	22	400,038	19	30,852
(Gain)/Loss	12/31/2017	(30,629)	21	(34,484)	19	(2,664)
(Gain)/Loss	12/31/2018	193,790	20	217,213	19	16,752
(Gain)/Loss	12/31/2019	102,413	19	113,909	19	8,784
Assumption	12/31/2019	196,769	19	200,929	19	15,492
Total				\$ 3,258,490		\$ 251,280

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 3,163,482	23	\$ 3,314,673	19	\$ 255,624
(Gain)/Loss	12/31/2016	(116,903)	22	(132,504)	19	(10,224)
(Gain)/Loss	12/31/2017	(42,618)	21	(47,983)	19	(3,696)
(Gain)/Loss	12/31/2018	(46,419)	20	(52,031)	19	(4,008)
(Gain)/Loss	12/31/2019	(166,406)	19	(185,085)	19	(14,268)
Assumption	12/31/2019	244,344	19	254,685	19	19,644
Total				\$ 3,151,755		\$ 243,072

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
(Gain)/Loss	12/31/2016	\$ (342)	10	\$ (317)	7	\$ (48)
(Gain)/Loss	12/31/2017	356	10	359	8	48
(Gain)/Loss	12/31/2018	805	10	858	9	120
(Gain)/Loss	12/31/2019	656	10	730	10	96
Assumption	12/31/2019	730	10	786	10	96
Total				\$ 2,416		\$ 312

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 4,755,994	23	\$ 5,028,980	19	\$ 387,816
(Gain)/Loss	12/31/2016	127,632	22	144,670	19	11,160
(Gain)/Loss	12/31/2017	19,008	21	21,397	19	1,656
(Gain)/Loss	12/31/2018	155,248	20	174,016	19	13,416
(Gain)/Loss	12/31/2019	89,814	19	99,896	19	7,704
Assumption	12/31/2019	325,984	19	330,471	19	25,488
Total				\$ 5,799,430		\$ 447,240

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 3,482	23	\$ 4,009	19	\$ 312
(Gain)/Loss	12/31/2016	3,091	22	3,505	19	276
(Gain)/Loss	12/31/2017	4,552	21	5,122	19	396
(Gain)/Loss	12/31/2018	6,418	20	7,199	19	552
(Gain)/Loss	12/31/2019	4,307	19	4,791	19	372
Assumption	12/31/2019	1,092	19	1,071	19	84
Total				\$ 25,697		\$ 1,992

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
(Gain)/Loss	12/31/2016	\$ 3,988	15	\$ 4,197	12	\$ 456
(Gain)/Loss	12/31/2017	(1,125)	15	(1,215)	13	(120)
(Gain)/Loss	12/31/2018	4,472	15	4,929	14	468
(Gain)/Loss	12/31/2019	7,247	15	8,060	15	732
Assumption	12/31/2019	(9)	15	(101)	15	(12)
Total				\$ 15,870		\$ 1,524

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 7/1/2021		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
(Gain)/Loss	12/31/2019	\$ (10,225)	15	\$ (11,373)	15	\$ (1,032)
Total				\$ (11,373)		\$ (1,032)

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, 2019 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2019 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.

Note: The original balance and original amortization periods prior to 12/31/2018 were received from the prior actuary.

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 <http://www.mersofmich.com/>.

Actuarial Valuation Date:		12/31/2019
Measurement Date of the Total Pension Liability (TPL):		12/31/2019
At 12/31/2019, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		53
Inactive employees entitled to but not yet receiving benefits (including refunds):		10
Active employees:		<u>45</u>
		108
Total Pension Liability as of 12/31/2018 measurement date:	\$	23,029,527
Total Pension Liability as of 12/31/2019 measurement date:	\$	24,396,985
Service Cost for the year ending on the 12/31/2019 measurement date:	\$	321,322
Change in the Total Pension Liability due to:		
- Benefit changes ¹ :	\$	0
- Differences between expected and actual experience ² :	\$	(322,761)
- Changes in assumptions ² :	\$	802,100
Average expected remaining service lives of all employees (active and inactive):		4

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.

Covered employee payroll: (Needed for Required Supplementary Information)	\$	3,160,260
---	----	-----------

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

	1% Decrease <u>(6.60%)</u>	Current Discount Rate <u>(7.60%)</u>	1% Increase <u>(8.60%)</u>
Change in Net Pension Liability as of 12/31/2019:	\$ 2,878,724	\$ -	\$ (2,424,661)

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)
4/1/2000	Benefit B-4 (80% max)
7/2/1997	Benefit B-2



10 - Tmstrs Pblc Wrk

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

10/1/2019	Accelerated to 5-year Amortization
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
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
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

S1 - Surplus Unassoc.

6/1/1988	Fiscal Month - July
----------	---------------------



Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	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
13 - City Clerk	Accelerated to 5-Year Amortization

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

Risk Commentary

Determination of the accrued liability, the employer contribution, and the funded ratio requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability, the actuarially determined contribution and the funded ratio that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the plan's future financial condition include:

- **Investment Risk** – actual investment returns may differ from the expected returns;
- **Asset/Liability Mismatch** – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and contribution requirements;
- **Salary and Payroll Risk** – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and contributions differing from expected;
- **Longevity Risk** – members may live longer or shorter than expected and receive pensions for a period of time other than assumed; and
- **Other Demographic Risks** – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example, if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the cost of the plan can be expected to increase (or decrease). Likewise, if longevity is improving (or worsening), increases (or decreases) in cost can be anticipated.

PLAN MATURITY MEASURES

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>12/31/2019</u>	<u>12/31/2018</u>
1. Ratio of the market value of assets to total payroll	4.2	3.5
2. Ratio of actuarial accrued liability to payroll	7.9	7.7
3. Ratio of actives to retirees and beneficiaries	0.8	0.8
4. Ratio of market value of assets to benefit payments	10.7	9.1
5. Ratio of net cash flow to market value of assets (boy)	9.1%	0.8%

RATIO OF MARKET VALUE OF ASSETS TO TOTAL PAYROLL

The relationship between assets and payroll is a useful indicator of the potential volatility of contributions. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in plan sponsor contributions as a percentage of payroll.

RATIO OF ACTUARIAL ACCRUED LIABILITY TO PAYROLL

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of contributions for a fully funded plan. A funding policy that targets a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

RATIO OF ACTIVES TO RETIREES AND BENEFICIARIES

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

RATIO OF MARKET VALUE OF ASSETS TO BENEFIT PAYMENTS

The MERS' Actuarial Policy requires a total minimum contribution equal to the excess (if any) of three times the expected annual benefit payments over the projected market value of assets as of the participating municipality or court's Fiscal Year for which the contribution applies. The ratio of market value of assets to benefit payments as of the valuation date provides an indication of whether the division is at risk for triggering the minimum contribution rule in the near term. If the division triggers this minimum contribution rule, the required employer contributions could increase dramatically relative to previous valuations.

RATIO OF NET CASH FLOW TO MARKET VALUE OF ASSETS

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

State Reporting

The following information has been prepared to provide some of the information necessary to complete the pension reporting requirements for the State of Michigan’s Local Government Retirement System Annual Report (Form No. 5572). Additional resources are available at www.mersofmich.com and on the State [website](#).

Form 5572		
Line Reference	Description	Result
10	Membership as of December 31, 2019	
11	Indicate number of active members	45
12	Indicate number of inactive members (excluding pending refunds)	9
13	Indicate number of retirees and beneficiaries	53
14	Investment Performance for Calendar Year Ending December 31, 2019¹	
15	Enter actual rate of return - prior 1-year period	14.02%
16	Enter actual rate of return - prior 5-year period	6.39%
17	Enter actual rate of return - prior 10-year period	7.97%
18	Actuarial Assumptions	
19	Actuarial assumed rate of investment return ²	7.35%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Percent
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any ³	19
22	Is each division within the system closed to new employees? ⁴	No
23	Uniform Assumptions	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$13,357,432
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$26,733,658
27	Actuarially Determined Contribution (ADC) using uniform assumptions, Fiscal Year Ending June 30, 2020	\$1,427,076

1. The Municipal Employees’ Retirement System’s investment performance has been provided to GRS from MERS Investment Staff and included here for reporting purposes. This investment performance figures reported are net of investment expenses on a rolling calendar-year basis for the previous 1-, 5-, and 10-year periods as required under PA 530.
2. Net of administrative and investment expenses.
3. Populated with the longest amortization period remaining in the amortization schedule, across all divisions in the plan. This is when each division and the plan in total is expected to reach 100% funded if all assumptions are met.
4. If all divisions within the employer are closed, “yes.” If at least one division is open (including shadow divisions) indicate “no.”