



Municipal Employees' Retirement System of Michigan

Annual Actuarial Valuation Report
December 31, 2022 - Lapeer Co (4403)





Spring 2023

Lapeer Co

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

This report presents the results of the Annual Actuarial Valuation, prepared for Lapeer Co (4403) as of December 31, 2022. 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, the Michigan Constitution, and governing statutes. Lapeer Co 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, 2022,
- Establish contribution requirements for the fiscal year beginning January 1, 2024,
- 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, 2022. 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, the MERS Retirement Board sets certain assumptions for funding and GASB purposes. These assumptions are reviewed regularly through a comprehensive study, most recently in the Fall of 2021. The MERS Retirement Board adopted a Dedicated Gains Policy at the February 17, 2022 Board meeting. The Dedicated Gains Policy automatically reduces the assumed rate of investment return in conjunction with recognizing excess investment gains to mitigate the impact on employer contributions the first year. The policy was effective with the December 31, 2021 annual actuarial valuation.

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:

<https://www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2022AnnualActuarialValuation-Appendix.pdf>

The actuarial assumptions used for this valuation, including the assumed rate of investment return, are reasonable for purposes of the measurement.

This report reflects the impact of COVID-19 experience through December 31, 2022. At this time, no future assumptions have been adjusted as a result of COVID-19. Actual future 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 Lapeer Co 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.

Rebecca L. Stouffer, Mark Buis, Kurt Dosson, and Shana M. Neeson 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.



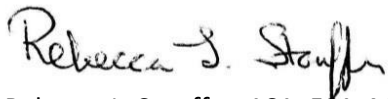
The Retirement Board of the Municipal Employees' Retirement System of Michigan confirms that the System provides for payment of the required employer contribution as described in Section 20m of Act No. 314 of 1965 (MCL 38.1140m).

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).

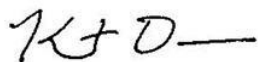
Sincerely,
Gabriel, Roeder, Smith & Company



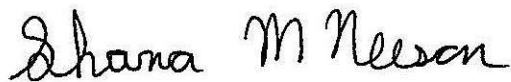
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Executive Summary

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 the funded 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.

	12/31/2022	12/31/2021
Funded Ratio*	84%	86%

* 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.

Effective with the December 31, 2021 valuation, the MERS Retirement Board adopted a Dedicated Gains Policy which allows for recognition of asset gains in excess of a set threshold in combination with lowering the assumed rate of investment return. Effective with the 2020 and 2019 valuations respectively, the MERS Retirement Board adopted updated demographic and economic assumptions. The combined impact of the prior 2020 and 2019 demographic and economic assumption changes may be phased in. This valuation reflects the last year of phase-in. The combined impact of the past economic and demographic changes will be fully reflected in the 2023 annual actuarial valuation.

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.

	Percentage of Payroll				Monthly \$ Based on Projected Payroll			
	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in
	Valuation Date: 12/31/2022	12/31/2022	12/31/2021	12/31/2021	12/31/2022	12/31/2022	12/31/2021	12/31/2021
Fiscal Year Beginning:	January 1, 2024	January 1, 2024	January 1, 2023	January 1, 2023	January 1, 2024	January 1, 2024	January 1, 2023	January 1, 2023
Division								
02 - Sheriff Union	22.23%	23.67%	18.98%	21.89%	\$ 84,613	\$ 90,081	\$ 71,206	\$ 82,142
04 - S.T.A.R.S.	9.55%	9.95%	9.02%	10.13%	72,827	75,898	50,065	56,207
06 - CMH Union	9.87%	10.19%	8.83%	9.60%	44,348	45,789	33,204	36,086
10 - Health Union	14.64%	15.76%	11.35%	13.57%	20,486	22,058	16,117	19,261
11 - Gnrl Non Union	17.28%	18.25%	13.55%	15.51%	36,674	38,728	28,413	32,521
12 - General Union	15.01%	16.17%	11.37%	13.68%	33,354	35,934	25,357	30,517
13 - Elected & Appt. Dept Heads	9.97%	10.85%	8.21%	9.75%	11,766	12,803	11,067	13,141
20 - Dispatch Union	14.28%	16.03%	11.46%	14.66%	9,406	10,559	8,247	10,553
40 - MCF Non Union	27.34%	28.30%	25.03%	27.23%	149,048	154,267	118,623	129,061
60 - CMH Non Union	9.55%	10.01%	9.22%	10.22%	12,359	12,951	10,878	12,062
Total Municipality - Estimated Monthly Contribution					\$ 474,881	\$ 499,068	\$ 373,177	\$ 421,551
Total Municipality - Estimated Annual Contribution					\$ 5,698,572	\$ 5,988,816	\$ 4,478,124	\$ 5,058,612

Employee contribution rates:

Valuation Date:	Employee Contribution Rate	
	12/31/2022	12/31/2021
Division		
02 - Sheriff Union	2.49%	2.49%
04 - S.T.A.R.S.	1.27%	1.27%
06 - CMH Union	0.00%	0.00%
10 - Health Union	0.00%	0.00%
11 - Gnrl Non Union	0.00%	0.00%
12 - General Union	0.00%	0.00%
13 - Elected & Appt. Dept Heads	2.53%	2.53%
20 - Dispatch Union	0.00%	0.00%
40 - MCF Non Union	0.00%	0.00%
60 - CMH Non Union	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 “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 one or more Surplus divisions would not immediately lower future contributions, however the assets from the Surplus division(s) 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. With the implemented Dedicated Gains policy, market gains and losses will continue to be smoothed over five years; however, since excess returns are used to lower the investment assumption, there will be fewer gains to smooth in down markets. Having additional funds in Surplus divisions will assist plans with navigating any market volatility.

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 2024 for the entire employer would be \$580,619, instead of \$499,068.

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), and
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions.

These impacts are reflected in various tables in the report. For more information, please contact your Regional Manager.

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 **7.00%** 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 and Method Change in 2022

Effective February 17, 2022, the MERS Retirement Board adopted a dedicated gains policy that automatically lowers the assumed rate of investment return by using excess asset gains to mitigate large increases in



required contributions to the Plan. Full details of this dedicated gains policy are available in the Actuarial Policy found on the MERS [website](#). Some goals of the dedicated gains policy are to:

- Provide a systematic approach to lower the assumed rate of investment return between experience studies, and
- Use excess gains to cover both the increase in normal cost and any increase in UAL payment the first contribution year after application (i.e., minimize the first-year impact (i.e., increase) in employer contributions).

The dedicated gains policy was implemented with the December 31, 2021 annual actuarial valuation and was reflected in the computed employer contribution amounts beginning in fiscal year 2023.

Investment performance measured for the one-year period ending December 31, 2022 did not result in excess gains for use in lowering the assumed rate of investment return. As a result, this assumption remains at 7.00%.

Furthermore, there were no other assumption or method changes in 2022.

Protecting MI Pension Grant Program

On July 1, 2022, Michigan lawmakers passed the state budget for the 2022-23 fiscal year. As a part of the budget, \$750 million was earmarked for underfunded municipal pension plans in counties, cities, townships, villages and road commissions across the state. Known as the **Protecting MI Pension Grant Program**, the legislation is designed to support municipal plans that are under 60% funded.

As of the valuation date the amount of funds and list of grant recipients is not yet known. Any funds received by municipalities will be considered in a future valuation.

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. After initial application of asset smoothing, remaining excess market gains are used to buy down the assumed rate of investment return and increase the level of valuation assets, to the extent allowed by the dedicated gains policy. 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 2022 was 3.51%, while the actual market rate of return was (10.61%)**. 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, 2022, the actuarial value of assets is 116% of market value due to asset smoothing. This means that there are deferred investment losses, which will put upward pressure on contributions in the short term.

If the December 31, 2022 valuation results were based on market value instead of actuarial value:

- The funded percent of your entire municipality would be 73% (instead of 84%); and
- Your total employer contribution requirement for the fiscal year starting January 1, 2024 would be \$7,713,828 (instead of \$5,988,816).



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. Lower investment returns would generally result in higher required employer contributions, and vice versa. The three economic scenarios below provide a quantitative risk assessment for the impact of investment returns on the plan's projected financial condition for funding purposes.

The relative impact of the economic 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, 2022 valuation and are for the municipality in total, not by division. These results do not reflect a phase-in of the impact of the actuarial assumptions updated in the 2020 and 2019 valuations. There is no phase-in of dedicated gains.

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.

12/31/2022 Valuation Results	Lower Future Annual Returns	Lower Future Annual Returns	Valuation Assumptions
Investment Return Assumption	5.00%	6.00%	7.00%
Accrued Liability	\$ 213,352,454	\$ 187,821,398	\$ 166,802,653
Valuation Assets ¹	\$ 140,023,137	\$ 140,023,137	\$ 140,023,137
Unfunded Accrued Liability	\$ 73,329,317	\$ 47,798,261	\$ 26,779,516
Funded Ratio	66%	75%	84%
Monthly Normal Cost	\$ 524,200	\$ 400,530	\$ 307,728
Monthly Amortization Payment	\$ 464,885	\$ 323,537	\$ 191,340
Total Employer Contribution²	\$ 989,085	\$ 724,067	\$ 499,068

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.



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 assumption scenarios. All three projections account for the past investment experience that will continue to affect the actuarial rate of return in the short term.

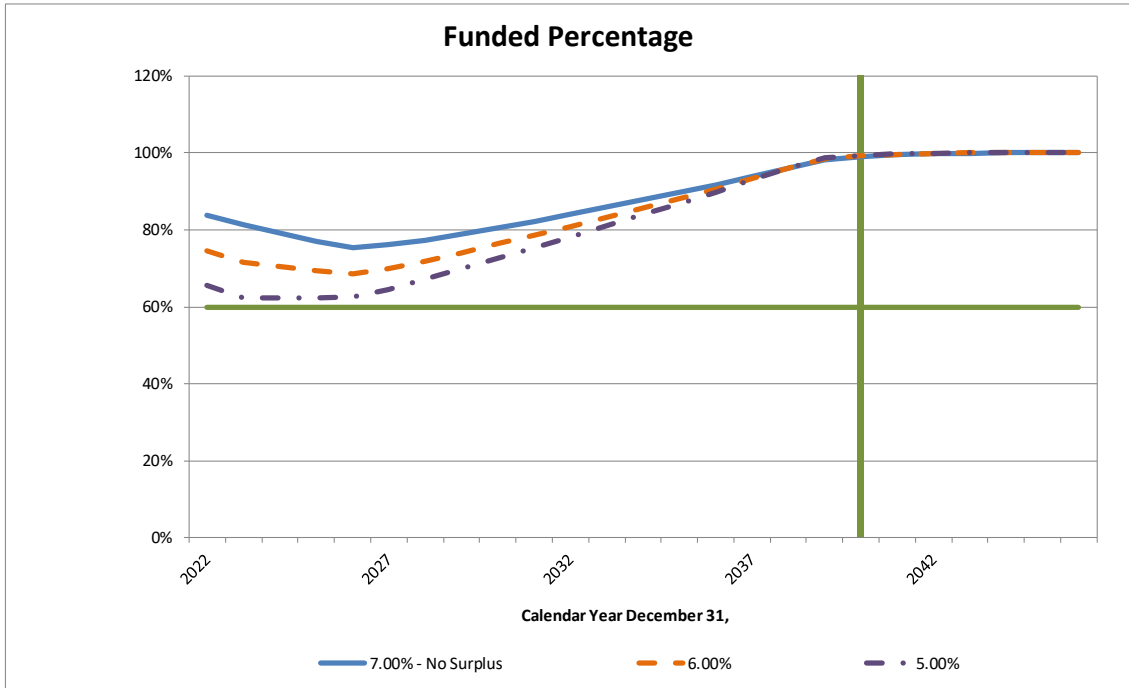
The 7.00% scenario provides an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.00% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively and make contributions in addition to the minimum requirements. The 6.00% and 5.00% projection scenarios provide an indication of the potential required employer contribution if these assumptions were met over the long term.

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets ²	Funded Percentage	Estimated Annual Employer Contribution ³
7.00%¹ - NO PHASE-IN					
2022	2024	\$ 166,802,653	\$ 140,023,137	84%	\$ 5,988,816
2023	2025	\$ 172,900,000	\$ 140,500,000	81%	\$ 6,670,000
2024	2026	\$ 179,400,000	\$ 141,900,000	79%	\$ 7,370,000
2025	2027	\$ 185,800,000	\$ 143,300,000	77%	\$ 8,090,000
2026	2028	\$ 192,200,000	\$ 144,900,000	75%	\$ 8,840,000
2027	2029	\$ 198,700,000	\$ 151,600,000	76%	\$ 9,180,000
6.00%¹ - NO PHASE-IN					
2022	2024	\$ 187,821,398	\$ 140,023,137	75%	\$ 8,688,804
2023	2025	\$ 194,600,000	\$ 139,200,000	72%	\$ 9,530,000
2024	2026	\$ 201,900,000	\$ 142,100,000	70%	\$ 10,300,000
2025	2027	\$ 209,000,000	\$ 145,200,000	69%	\$ 11,000,000
2026	2028	\$ 216,300,000	\$ 148,500,000	69%	\$ 11,800,000
2027	2029	\$ 223,600,000	\$ 156,200,000	70%	\$ 12,300,000
5.00%¹ - NO PHASE-IN					
2022	2024	\$ 213,352,454	\$ 140,023,137	66%	\$ 11,869,020
2023	2025	\$ 221,100,000	\$ 137,800,000	62%	\$ 12,900,000
2024	2026	\$ 229,200,000	\$ 142,900,000	62%	\$ 13,700,000
2025	2027	\$ 237,300,000	\$ 148,200,000	62%	\$ 14,500,000
2026	2028	\$ 245,500,000	\$ 153,500,000	63%	\$ 15,400,000
2027	2029	\$ 253,800,000	\$ 163,700,000	65%	\$ 15,900,000

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.

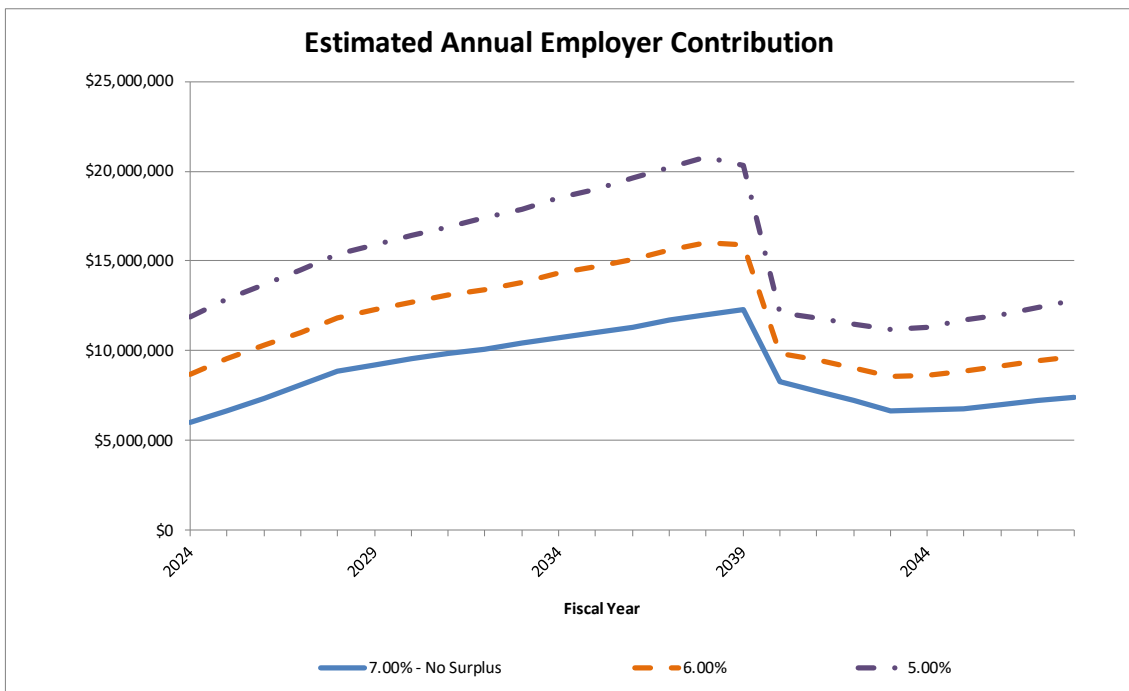
³ All projected contributions are shown with no phase-in.



Notes:

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

The green indicator lines have been added at 60% funded and 18 years following the valuation date for PA 202 purposes.



Notes:

All projected contributions are shown with no phase-in.

Table 1: Employer Contribution Details for the Fiscal Year Beginning January 1, 2024

Division	Total Normal Cost	Employee Contribution Rate	Employer Contributions ¹			Computed Employer Contribution With Phase-In	Blended ER Rate No Phase-In ⁵	Blended ER Rate With Phase-In ⁵	Employee Contribution Conversion Factor ²
			Employer Normal Cost ⁶	Payment of the Unfunded Accrued Liability ⁴	Computed Employer Contribution No Phase-In				
Percentage of Payroll									
02 - Sheriff Union	14.57%	2.49%	12.08%	11.59%	23.67%	22.23%			0.89%
04 - S.T.A.R.S.	9.25%	1.27%	7.98%	1.97%	9.95%	9.55%			0.84%
06 - CMH Union	9.58%	0.00%	9.58%	0.61%	10.19%	9.87%			0.83%
10 - Health Union	10.41%	0.00%	10.41%	5.35%	15.76%	14.64%			0.83%
11 - Gnrl Non Union	10.70%	0.00%	10.70%	7.55%	18.25%	17.28%			0.82%
12 - General Union	10.08%	0.00%	10.08%	6.09%	16.17%	15.01%			0.82%
13 - Elected & Appt. Dept Heads	12.51%	2.53%	9.98%	0.87%	10.85%	9.97%			0.77%
20 - Dispatch Union	13.28%	0.00%	13.28%	2.75%	16.03%	14.28%			0.91%
40 - MCF Non Union	11.86%	0.00%	11.86%	16.44%	28.30%	27.34%			0.82%
60 - CMH Non Union	10.01%	0.00%	10.01%	0.00%	10.01%	9.55%			0.78%
Estimated Monthly Contribution³									
02 - Sheriff Union			\$ 45,975	\$ 44,106	\$ 90,081	\$ 84,613			
04 - S.T.A.R.S.			60,885	15,013	75,898	72,827			
06 - CMH Union			43,055	2,734	45,789	44,348			
10 - Health Union			14,573	7,485	22,058	20,486			
11 - Gnrl Non Union			22,712	16,016	38,728	36,674			
12 - General Union			22,402	13,532	35,934	33,354			
13 - Elected & Appt. Dept Heads			11,781	1,022	12,803	11,766			
20 - Dispatch Union			8,748	1,811	10,559	9,406			
40 - MCF Non Union			64,646	89,621	154,267	149,048			
60 - CMH Non Union			12,951	0	12,951	12,359			
Total Municipality			\$ 307,728	\$ 191,340	\$ 499,068	\$ 474,881			
Estimated Annual Contribution³			\$ 3,692,736	\$ 2,296,080	\$ 5,988,816	\$ 5,698,572			

- 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 not to 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).
- ⁶ For divisions with a negative employer normal cost, employee contributions cover the normal cost and a portion of the payment of any unfunded accrued liability.

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



Table 2: Benefit Provisions

02 - Sheriff Union: Open Division

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	50/25	50/25
Early Retirement (Reduced):	55/15	55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	2.49%	2.49%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

04 - S.T.A.R.S.: Open Division

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.00% Multiplier (no max)	2.00% Multiplier (no 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:	1.27%	1.27%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

06 - CMH Union: Open Division

	2022 Valuation	2021 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):	-	-
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 10/30/1970)	Yes (Adopted 10/30/1970)



10 - Health Union: Open Division

	2022 Valuation	2021 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):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

11 - Gnrl Non Union: Open Division

	2022 Valuation	2021 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):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

12 - General Union: Open Division

	2022 Valuation	2021 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):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)



13 - Elected & Appt. Dept Heads: Open Division

	2022 Valuation	2021 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):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	2.53%	2.53%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

20 - Dispatch Union: Open Division

	2022 Valuation	2021 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:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

40 - MCF Non Union: Open Division

	2022 Valuation	2021 Valuation
Benefit Multiplier:	2.50% Multiplier (80% max)	2.50% Multiplier (80% max)
Normal Retirement Age:	60	60
Vesting:	10 years	10 years
Early Retirement (Unreduced):	55/25	55/25
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)

60 - CMH Non Union: Open Division

	2022 Valuation	2021 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):	-	-
Early Retirement (Reduced):	50/25 55/15	50/25 55/15
Final Average Compensation:	5 years	5 years
Employee Contributions:	0.00%	0.00%
Act 88:	Yes (Adopted 10/30/1970)	Yes (Adopted 10/30/1970)



Table 3: Participant Summary

Division	2022 Valuation		2021 Valuation		2022 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
02 - Sheriff Union							
Active Employees	73	\$ 4,304,882	73	\$ 4,244,427	41.8	13.1	13.7
Vested Former Employees	14	139,880	14	103,859	43.5	7.6	14.1
Retirees and Beneficiaries	70	1,611,773	66	1,561,251	68.2		
Pending Refunds	23		25				
04 - S.T.A.R.S.							
Active Employees	210	\$ 8,630,065	165	\$ 6,276,543	39.3	5.5	5.6
Vested Former Employees	59	398,533	56	394,052	45.8	10.9	12.3
Retirees and Beneficiaries	95	797,403	89	732,531	69.3		
Pending Refunds	847		850				
06 - CMH Union							
Active Employees	122	\$ 5,083,574	105	\$ 4,251,846	38.0	4.9	4.9
Vested Former Employees	16	175,042	15	165,818	48.4	11.1	12.6
Retirees and Beneficiaries	37	591,665	37	591,633	70.2		
Pending Refunds	6		7				
10 - Health Union							
Active Employees	37	\$ 1,583,447	38	\$ 1,605,736	50.0	12.8	13.5
Vested Former Employees	8	69,535	8	69,535	54.7	11.1	17.2
Retirees and Beneficiaries	54	629,351	52	601,745	71.2		
Pending Refunds	1		1				
11 - GnrI Non Union							
Active Employees	45	\$ 2,400,913	46	\$ 2,372,360	48.7	10.8	11.6
Vested Former Employees	13	223,970	13	220,385	52.6	13.6	14.9
Retirees and Beneficiaries	51	896,935	48	835,125	71.9		
Pending Refunds	1		1				
12 - General Union							
Active Employees	61	\$ 2,513,833	62	\$ 2,522,640	47.7	11.1	11.2
Vested Former Employees	15	184,585	14	168,847	50.4	13.7	15.8
Retirees and Beneficiaries	51	868,558	47	752,463	72.0		
Pending Refunds	0		0				
13 - Elected & Appt. Dept Heads							
Active Employees	18	\$ 1,335,282	26	\$ 1,524,536	56.9	17.5	19.4
Vested Former Employees	7	128,313	6	95,866	55.4	12.6	20.5
Retirees and Beneficiaries	31	764,041	27	714,816	72.8		
Pending Refunds	6		5				



Table 3 (continued)

Division	2022 Valuation		2021 Valuation		2022 Valuation		
	Number	Annual Payroll ¹	Number	Annual Payroll ¹	Average Age	Average Benefit Service ²	Average Eligibility Service ²
20 - Dispatch Union							
Active Employees	14	\$ 745,121	16	\$ 814,287	40.2	10.3	10.7
Vested Former Employees	2	17,976	4	56,315	41.6	8.3	16.8
Retirees and Beneficiaries	11	231,203	7	147,190	63.1		
Pending Refunds	0		0				
40 - MCF Non Union							
Active Employees	89	\$ 6,165,438	80	\$ 5,360,187	43.7	9.5	9.6
Vested Former Employees	29	547,512	29	537,009	45.7	12.5	14.2
Retirees and Beneficiaries	80	1,710,727	77	1,562,202	69.8		
Pending Refunds	17		16				
60 - CMH Non Union							
Active Employees	20	\$ 1,463,499	18	\$ 1,334,965	44.2	9.7	9.7
Vested Former Employees	2	10,049	3	33,240	54.7	8.7	14.2
Retirees and Beneficiaries	12	314,274	11	302,845	70.0		
Pending Refunds	0		0				
Total Municipality							
Active Employees	689	\$ 34,226,054	629	\$ 30,307,527	42.5	8.5	8.7
Vested Former Employees	165	1,895,395	162	1,844,926	47.7	11.4	14.0
Retirees and Beneficiaries	492	8,415,930	461	7,801,801	70.1		
Pending Refunds	901		905				
Total Participants	2,247		2,157				

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	2022 Valuation		2021 Valuation	
	Employer and Retiree ¹	Employee ²	Employer and Retiree ¹	Employee ²
02 - Sheriff Union	\$ 21,281,455	\$ 1,609,197	\$ 24,645,106	\$ 1,509,292
04 - S.T.A.R.S.	13,860,562	895,687	15,742,082	836,098
06 - CMH Union	10,158,951	15,059	11,484,775	15,919
10 - Health Union	8,848,673	113	10,297,852	108
11 - Gnrl Non Union	11,962,412	810	13,730,483	2,036
12 - General Union	12,186,009	912	14,211,877	2,211
13 - Elected & Appt. Dept Heads	10,844,967	376,964	12,736,213	349,262
20 - Dispatch Union	3,912,365	0	4,425,087	0
40 - MCF Non Union	19,590,516	70,715	22,039,490	66,918
60 - CMH Non Union	5,333,104	4,600	6,117,571	3,130
Municipality Total³	\$ 117,979,014	\$ 2,974,057	\$ 135,430,537	\$ 2,784,972
Combined Assets³	\$120,953,072		\$138,215,509	

¹ Reserve for Employer Contributions and Benefit Payments.

² Reserve for Employee Contributions.

³ Totals may not add due to rounding.

The December 31, 2022 valuation assets (actuarial value of assets) are equal to 1.157665 times the reported market value of assets (compared to 0.998523 as of December 31, 2021). Refer to the Appendix for a description of the valuation asset derivation and a detailed calculation of valuation assets.

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						
2012	\$ 2,469,808	\$ 12,604	\$ 118,808	\$ 3,720,946	\$ (3,576,831)	\$ (2,462)	\$ 11,703	\$ 81,065,887
2013	2,427,970	104,953	201,995	4,942,034	(3,871,478)	(12,924)	0	84,858,437
2014	2,590,936	1,456,298	213,190	5,008,867	(4,315,512)	(3,232)	2,842	89,811,826
2015	2,866,216	0	224,327	4,518,511	(4,713,623)	(1,488)	(3,220)	92,702,549
2016	3,002,820	1,914,751	222,970	5,202,130	(5,116,753)	(32,929)	(1)	97,895,537
2017	3,374,657	2,376,293	233,100	6,149,445	(5,494,078)	(5,719)	66,453	104,595,688
2018	3,466,895	900,700	236,837	3,910,867	(5,820,903)	(6,924)	1	107,283,161
2019	3,542,931	2,369,740	248,847	5,292,532	(6,205,919)	(37,747)	0	112,493,545
2020	3,921,582	1,293,126	258,813	9,200,871	(6,648,265)	(50,044)	0	120,469,628
2021	4,275,172	57,113	241,129	20,386,532	(7,378,040)	(40,170)	1	138,011,365
2022	5,121,183	(114)	238,954	4,722,048	(8,036,236)	(34,064)	1	140,023,137

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.

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, 2022**

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
02 - Sheriff Union	\$ 14,517,320	\$ 788,541	\$ 17,416,447	\$ 45,349	\$ 32,767,657	\$ 26,499,707	80.9%	\$ 6,267,950
04 - S.T.A.R.S.	8,063,457	2,385,442	8,405,319	346,277	19,200,495	17,082,793	89.0%	2,117,702
06 - CMH Union	5,043,791	951,622	6,122,340	5,606	12,123,359	11,778,096	97.2%	345,263
10 - Health Union	4,382,065	618,197	6,285,989	113	11,286,364	10,243,929	90.8%	1,042,435
11 - Gnrl Non Union	4,940,613	1,763,786	9,391,466	810	16,096,675	13,849,403	86.0%	2,247,272
12 - General Union	6,068,705	1,227,665	8,694,654	0	15,991,024	14,108,372	88.2%	1,882,652
13 - Elected & Appt. Dept Heads	4,431,956	874,180	7,795,900	18,311	13,120,347	12,991,237	99.0%	129,110
20 - Dispatch Union	1,963,100	62,880	2,754,596	0	4,780,576	4,529,208	94.7%	251,368
40 - MCF Non Union	13,699,915	3,175,727	18,603,022	8,912	35,487,576	22,761,119	64.1%	12,726,457
60 - CMH Non Union	2,733,811	82,199	3,132,570	0	5,948,580	6,179,273	103.9%	(230,693)
Total	\$ 65,844,733	\$ 11,930,239	\$ 88,602,303	\$ 425,378	\$ 166,802,653	\$ 140,023,137	83.9%	\$ 26,779,516

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

The December 31, 2022 valuation assets (actuarial value of assets) are equal to 1.157665 times the reported market value of assets. Refer to the Appendix for a description of the valuation asset derivation and a detailed calculation of valuation assets.

Table 7: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2008	\$ 72,924,490	\$ 64,884,220	89%	\$ 8,040,270
2009	75,451,001	69,487,923	92%	5,963,078
2010	79,860,857	73,526,774	92%	6,334,083
2011	85,385,423	78,311,311	92%	7,074,112
2012	89,282,225	81,065,887	91%	8,216,338
2013	94,903,895	84,858,437	89%	10,045,458
2014	101,824,866	89,811,826	88%	12,013,040
2015	112,789,127	92,702,549	82%	20,086,578
2016	117,376,217	97,895,537	83%	19,480,680
2017	121,537,828	104,595,688	86%	16,942,140
2018	126,978,299	107,283,161	84%	19,695,138
2019	136,138,342	112,493,545	83%	23,644,797
2020	149,653,324	120,469,628	80%	29,183,696
2021	160,090,668	138,011,365	86%	22,079,303
2022	166,802,653	140,023,137	84%	26,779,516

Notes: Actuarial assumptions were revised for the 2008, 2009, 2010, 2011, 2012, 2015, 2019, 2020 and 2021 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 02 - Sheriff Union

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 20,140,990	\$ 17,176,086	85%	\$ 2,964,904
2013	21,155,855	17,829,275	84%	3,326,580
2014	22,552,782	18,334,793	81%	4,217,989
2015	24,783,267	18,659,484	75%	6,123,783
2016	25,234,701	19,305,011	77%	5,929,690
2017	25,289,813	20,492,842	81%	4,796,971
2018	26,209,867	21,010,005	80%	5,199,862
2019	27,899,003	21,553,286	77%	6,345,717
2020	29,689,279	22,841,152	77%	6,848,127
2021	31,750,644	26,115,768	82%	5,634,876
2022	32,767,657	26,499,707	81%	6,267,950

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

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		
2012	73	\$ 3,622,005	12.73%	2.49%
2013	73	3,623,507	13.43%	2.49%
2014	73	3,771,938	14.75%	2.49%
2015	75	3,900,580	17.95%	2.49%
2016	74	3,958,957	17.52%	2.49%
2017	76	4,130,920	15.52%	2.49%
2018	75	4,200,275	16.48%	2.49%
2019	76	4,336,989	18.86%	2.49%
2020	74	4,336,791	22.69%	2.49%
2021	73	4,244,427	21.89%	2.49%
2022	73	4,304,882	23.67%	2.49%

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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 04 - S.T.A.R.S.

Table 8-04: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 9,947,561	\$ 8,889,986	89%	\$ 1,057,575
2013	11,055,158	9,554,589	86%	1,500,569
2014	11,568,898	10,114,388	87%	1,454,510
2015	12,981,167	10,795,876	83%	2,185,291
2016	13,220,635	11,377,489	86%	1,843,146
2017	14,127,049	12,189,728	86%	1,937,321
2018	14,911,158	12,696,683	85%	2,214,475
2019	15,871,804	13,318,331	84%	2,553,473
2020	17,843,683	14,592,189	82%	3,251,494
2021	18,357,104	16,553,694	90%	1,803,410
2022	19,200,495	17,082,793	89%	2,117,702

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-04: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2012	306	\$ 7,290,485	7.78%	0.00%
2013	301	7,164,177	7.89%	1.27%
2014	288	7,237,326	7.79%	1.27%
2015	288	7,802,578	8.32%	1.27%
2016	264	7,176,151	8.12%	1.27%
2017	277	7,843,521	8.13%	1.27%
2018	269	7,883,982	8.44%	1.27%
2019	277	8,816,095	8.73%	1.27%
2020	242	8,454,904	10.02%	1.27%
2021	165	6,276,543	10.13%	1.27%
2022	210	8,630,065	9.95%	1.27%

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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 06 - CMH Union

Table 8-06: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 6,186,499	\$ 6,006,035	97%	\$ 180,464
2013	6,545,267	6,325,525	97%	219,742
2014	7,293,162	6,889,317	95%	403,845
2015	8,080,012	7,098,971	88%	981,041
2016	8,541,701	7,738,353	91%	803,348
2017	8,659,542	8,428,060	97%	231,482
2018	8,932,264	8,488,854	95%	443,410
2019	9,418,102	9,405,609	100%	12,493
2020	10,363,830	10,014,821	97%	349,009
2021	11,432,691	11,483,707	100%	(51,016)
2022	12,123,359	11,778,096	97%	345,263

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-06: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2012	63	\$ 2,399,198	8.71%	0.00%
2013	60	2,362,295	8.72%	0.00%
2014	66	2,650,699	8.95%	0.00%
2015	64	2,689,589	10.37%	0.00%
2016	62	2,588,429	10.01%	0.00%
2017	63	2,667,609	8.55%	0.00%
2018	65	2,629,706	9.15%	0.00%
2019	78	3,092,277	7.93%	0.00%
2020	79	3,417,031	9.97%	0.00%
2021	105	4,251,846	9.60%	0.00%
2022	122	5,083,574	10.19%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 - Health Union

Table 8-10: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 6,907,582	\$ 6,605,789	96%	\$ 301,793
2013	7,150,032	6,724,524	94%	425,508
2014	7,485,077	7,306,241	98%	178,836
2015	8,175,205	7,406,424	91%	768,781
2016	8,400,053	7,704,587	92%	695,466
2017	8,470,153	8,246,291	97%	223,862
2018	8,660,353	8,386,473	97%	273,880
2019	9,403,706	8,624,730	92%	778,976
2020	10,212,316	9,115,736	89%	1,096,580
2021	10,982,775	10,282,750	94%	700,025
2022	11,286,364	10,243,929	91%	1,042,435

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

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		
2012	35	\$ 1,236,547	9.73%	0.00%
2013	35	1,204,007	10.44%	0.00%
2014	36	1,294,086	9.05%	0.00%
2015	36	1,318,531	12.14%	0.00%
2016	37	1,377,505	11.57%	0.00%
2017	37	1,417,705	9.24%	0.00%
2018	39	1,485,355	9.64%	0.00%
2019	37	1,428,943	12.57%	0.00%
2020	40	1,621,113	14.57%	0.00%
2021	38	1,605,736	13.57%	0.00%
2022	37	1,583,447	15.76%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 11 - Grnl Non Union

Table 8-11: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 8,689,048	\$ 8,919,726	103%	\$ (230,678)
2013	8,995,568	9,176,982	102%	(181,414)
2014	9,690,233	9,460,139	98%	230,094
2015	10,724,425	9,641,494	90%	1,082,931
2016	11,495,764	10,486,873	91%	1,008,891
2017	11,687,540	10,885,312	93%	802,228
2018	12,447,999	11,175,024	90%	1,272,975
2019	13,611,991	11,667,110	86%	1,944,881
2020	14,742,854	12,369,325	84%	2,373,529
2021	15,409,568	13,712,236	89%	1,697,332
2022	16,096,675	13,849,403	86%	2,247,272

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-11: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2012	52	\$ 2,334,269	7.22%	0.00%
2013	45	2,085,028	7.19%	0.00%
2014	47	2,142,519	8.86%	0.00%
2015	49	2,287,567	11.15%	0.00%
2016	48	2,292,774	10.90%	0.00%
2017	46	2,270,725	10.52%	0.00%
2018	46	2,312,265	12.07%	0.00%
2019	49	2,472,344	14.23%	0.00%
2020	42	2,226,645	17.12%	0.00%
2021	46	2,372,360	15.51%	0.00%
2022	45	2,400,913	18.25%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 - General Union

Table 8-12: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 9,477,282	\$ 9,157,210	97%	\$ 320,072
2013	10,042,023	9,518,699	95%	523,324
2014	10,754,376	10,415,100	97%	339,276
2015	12,000,053	10,708,134	89%	1,291,919
2016	11,990,124	10,940,029	91%	1,050,095
2017	12,484,175	11,631,736	93%	852,439
2018	12,955,448	11,709,997	90%	1,245,451
2019	13,476,877	11,714,202	87%	1,762,675
2020	14,828,255	12,578,268	85%	2,249,987
2021	15,455,337	14,193,095	92%	1,262,242
2022	15,991,024	14,108,372	88%	1,882,652

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

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		
2012	66	\$ 2,370,512	8.64%	0.00%
2013	67	2,421,245	9.15%	0.00%
2014	68	2,518,253	8.60%	0.00%
2015	70	2,626,856	11.11%	0.00%
2016	65	2,425,005	10.68%	0.00%
2017	66	2,572,555	10.12%	0.00%
2018	65	2,619,949	11.30%	0.00%
2019	63	2,506,474	13.26%	0.00%
2020	62	2,540,727	16.08%	0.00%
2021	62	2,522,640	13.68%	0.00%
2022	61	2,513,833	16.17%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 - Elected & Appt. Dept Heads

Table 8-13: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 7,416,706	\$ 7,533,800	102%	\$ (117,094)
2013	7,688,872	7,768,762	101%	(79,890)
2014	7,945,278	7,966,793	100%	(21,515)
2015	8,598,243	8,131,550	95%	466,693
2016	9,163,879	8,812,991	96%	350,888
2017	9,952,403	9,737,092	98%	215,311
2018	10,359,158	9,976,673	96%	382,485
2019	10,897,977	10,243,576	94%	654,401
2020	11,693,950	11,183,335	96%	510,615
2021	12,889,405	13,066,148	101%	(176,743)
2022	13,120,347	12,991,237	99%	129,110

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

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		
2012	23	\$ 1,033,001	6.40%	2.53%
2013	23	1,059,325	7.20%	2.53%
2014	23	1,089,442	7.81%	2.53%
2015	24	1,161,536	10.63%	2.53%
2016	22	1,056,163	10.13%	2.53%
2017	25	1,270,726	9.58%	2.53%
2018	24	1,290,681	9.97%	2.53%
2019	24	1,334,188	11.72%	2.53%
2020	24	1,318,676	11.74%	2.53%
2021	26	1,524,536	9.75%	2.53%
2022	18	1,335,282	10.85%	2.53%

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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 - Dispatch Union

Table 8-20: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 2,010,409	\$ 1,706,187	85%	\$ 304,222
2013	2,201,118	1,863,562	85%	337,556
2014	2,434,881	2,170,995	89%	263,886
2015	2,753,847	2,311,935	84%	441,912
2016	2,877,322	2,640,725	92%	236,597
2017	3,118,242	2,967,693	95%	150,549
2018	3,313,577	3,225,505	97%	88,072
2019	3,787,008	3,597,701	95%	189,307
2020	4,260,412	3,834,806	90%	425,606
2021	4,591,995	4,418,551	96%	173,444
2022	4,780,576	4,529,208	95%	251,368

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

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		
2012	16	\$ 708,848	11.55%	0.00%
2013	16	714,011	11.84%	0.00%
2014	13	619,208	11.45%	0.00%
2015	16	745,795	12.63%	0.00%
2016	15	684,837	10.97%	0.00%
2017	16	724,132	10.02%	0.00%
2018	15	733,705	9.60%	0.00%
2019	16	812,163	10.64%	0.00%
2020	16	835,531	16.06%	0.00%
2021	16	814,287	14.66%	0.00%
2022	14	745,121	16.03%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 40 - MCF Non Union

Table 8-40: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 15,454,455	\$ 12,140,833	79%	\$ 3,313,622
2013	16,800,339	12,973,786	77%	3,826,553
2014	18,601,707	13,764,128	74%	4,837,579
2015	20,642,980	14,356,008	70%	6,286,972
2016	22,132,421	15,069,028	68%	7,063,393
2017	23,198,953	15,849,440	68%	7,349,513
2018	24,443,631	16,380,853	67%	8,062,778
2019	26,653,291	17,234,464	65%	9,418,827
2020	30,404,523	18,531,663	61%	11,872,860
2021	33,259,515	22,073,756	66%	11,185,759
2022	35,487,576	22,761,119	64%	12,726,457

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-40: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2012	93	\$ 4,361,594	13.98%	0.00%
2013	97	4,558,300	14.46%	0.00%
2014	95	4,580,417	15.79%	0.00%
2015	91	4,648,259	18.01%	0.00%
2016	93	5,135,406	18.23%	0.00%
2017	94	5,416,645	18.33%	0.00%
2018	102	5,869,347	18.75%	0.00%
2019	103	5,930,524	21.27%	0.00%
2020	94	6,086,123	25.36%	0.00%
2021	80	5,360,187	27.23%	0.00%
2022	89	6,165,438	28.30%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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 60 - CMH Non Union

Table 8-60: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2012	\$ 3,051,693	\$ 2,930,235	96%	\$ 121,458
2013	3,269,663	3,122,733	96%	146,930
2014	3,498,472	3,389,932	97%	108,540
2015	4,049,928	3,592,673	89%	457,255
2016	4,319,617	3,820,451	88%	499,166
2017	4,549,958	4,167,494	92%	382,464
2018	4,744,844	4,233,094	89%	511,750
2019	5,118,583	5,134,536	100%	(15,953)
2020	5,614,222	5,408,333	96%	205,889
2021	5,961,634	6,111,660	103%	(150,026)
2022	5,948,580	6,179,273	104%	(230,693)

Notes: Actuarial assumptions were revised for the 2012, 2015, 2019, 2020 and 2021 actuarial valuations.

The percent funded does not reflect valuation assets from Surplus divisions, if any.

Table 9-60: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution ¹	Employee Contribution Rate ²
	Number	Annual Payroll		
2012	9	\$ 546,357	8.85%	0.00%
2013	11	638,867	9.12%	0.00%
2014	12	721,577	8.62%	0.00%
2015	14	853,145	11.08%	0.00%
2016	14	885,501	11.19%	0.00%
2017	11	650,991	11.26%	0.00%
2018	12	741,002	12.31%	0.00%
2019	14	931,133	7.76%	0.00%
2020	12	875,099	11.06%	0.00%
2021	18	1,334,965	10.22%	0.00%
2022	20	1,463,499	10.01%	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 reflect the employer contribution requirement without phase-in. If applicable, the current phase-in contribution is shown in Table 1.

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.

Table 10: Division-Based Layered Amortization Schedule

Division 02 - Sheriff Union

Table 10-02: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 6,123,783	23	\$ 6,264,235	16	\$ 530,616
(Gain)/Loss	12/31/2016	(384,286)	22	(407,289)	16	(34,500)
(Gain)/Loss	12/31/2017	(1,157,452)	21	(1,218,599)	16	(103,224)
(Gain)/Loss	12/31/2018	452,807	20	474,589	16	40,200
(Gain)/Loss	12/31/2019	223,066	19	232,421	16	19,692
Assumption	12/31/2019	867,049	19	882,864	16	74,784
Experience	12/31/2020	431,438	18	452,431	16	38,328
Experience	12/31/2021	(1,225,290)	17	(1,292,835)	16	(109,512)
Experience	12/31/2022	804,246	16	860,543	16	72,888
Total				\$ 6,248,360		\$ 529,272

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 04 - S.T.A.R.S.

Table 10-04: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 2,185,291	23	\$ 2,231,518	16	\$ 189,024
(Gain)/Loss	12/31/2016	(406,460)	22	(430,800)	16	(36,492)
(Gain)/Loss	12/31/2017	106,620	21	112,249	16	9,504
(Gain)/Loss	12/31/2018	256,667	20	268,992	16	22,788
(Gain)/Loss	12/31/2019	(113,795)	19	(118,560)	16	(10,044)
Assumption	12/31/2019	423,622	19	433,429	16	36,720
Experience	12/31/2020	679,099	18	712,150	16	60,324
Experience	12/31/2021	(1,491,800)	17	(1,574,038)	16	(133,332)
Experience	12/31/2022	459,734	16	491,915	16	41,664
Total				\$ 2,126,855		\$ 180,156

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

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

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

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 06 - CMH Union

Table 10-06: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Experience	12/31/2022	\$ 345,263	15	\$ 369,431	15	\$ 32,808
Total				\$ 369,431		\$ 32,808

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 - Health Union

Table 10-10: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 768,781	23	\$ 811,572	16	\$ 68,748
(Gain)/Loss	12/31/2016	(122,547)	22	(129,876)	16	(11,004)
(Gain)/Loss	12/31/2017	(469,186)	21	(493,954)	16	(41,844)
(Gain)/Loss	12/31/2018	81,748	20	85,686	16	7,260
(Gain)/Loss	12/31/2019	224,344	19	233,753	16	19,800
Assumption	12/31/2019	274,379	19	283,967	16	24,060
Experience	12/31/2020	281,497	18	295,204	16	25,008
Experience	12/31/2021	(415,509)	17	(438,409)	16	(37,140)
Experience	12/31/2022	385,373	16	412,349	16	34,932
Total				\$ 1,060,292		\$ 89,820

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

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

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

The unfunded accrued liability (UAL) as of December 31, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 11 - Gnrl Non Union

Table 10-11: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 1,082,931	23	\$ 1,138,098	16	\$ 96,408
(Gain)/Loss	12/31/2016	(138,278)	22	(146,564)	16	(12,420)
(Gain)/Loss	12/31/2017	(205,812)	21	(216,661)	16	(18,348)
(Gain)/Loss	12/31/2018	479,953	20	503,029	16	42,612
(Gain)/Loss	12/31/2019	226,472	19	235,984	16	19,992
Assumption	12/31/2019	405,488	19	416,694	16	35,292
Experience	12/31/2020	384,537	18	403,252	16	34,164
Experience	12/31/2021	(699,205)	17	(737,748)	16	(62,496)
Experience	12/31/2022	628,703	16	672,712	16	56,988
Total				\$ 2,268,796		\$ 192,192

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 - General Union

Table 10-12: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 1,291,919	23	\$ 1,361,066	16	\$ 115,296
(Gain)/Loss	12/31/2016	(321,890)	22	(341,146)	16	(28,896)
(Gain)/Loss	12/31/2017	(184,466)	21	(194,210)	16	(16,452)
(Gain)/Loss	12/31/2018	400,384	20	419,623	16	35,544
(Gain)/Loss	12/31/2019	96,482	19	100,516	16	8,520
Assumption	12/31/2019	386,257	19	397,286	16	33,648
Experience	12/31/2020	454,078	18	476,194	16	40,332
Experience	12/31/2021	(1,016,721)	17	(1,072,767)	16	(90,864)
Experience	12/31/2022	719,939	16	770,335	16	65,256
Total				\$ 1,916,897		\$ 162,384

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 - Elected & Appt. Dept Heads

Table 10-13: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Experience	12/31/2022	\$ 129,110	15	\$ 138,148	15	\$ 12,264
Total				\$ 138,148		\$ 12,264

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 - Dispatch Union

Table 10-20: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 441,912	23	\$ 451,852	16	\$ 38,280
(Gain)/Loss	12/31/2016	(218,840)	22	(231,938)	16	(19,644)
(Gain)/Loss	12/31/2017	(73,035)	21	(76,899)	16	(6,516)
(Gain)/Loss	12/31/2018	(58,306)	20	(61,097)	16	(5,172)
(Gain)/Loss	12/31/2019	(18,773)	19	(19,560)	16	(1,656)
Assumption	12/31/2019	123,801	19	128,749	16	10,908
Experience	12/31/2020	228,729	18	239,859	16	20,316
Experience	12/31/2021	(269,095)	17	(283,927)	16	(24,048)
Experience	12/31/2022	102,266	16	109,425	16	9,264
Total				\$ 256,464		\$ 21,732

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 40 - MCF Non Union

Table 10-40: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Initial	12/31/2015	\$ 6,286,972	23	\$ 6,405,710	16	\$ 542,604
(Gain)/Loss	12/31/2016	606,588	22	642,901	16	54,456
(Gain)/Loss	12/31/2017	183,595	21	193,280	16	16,368
(Gain)/Loss	12/31/2018	651,170	20	682,471	16	57,804
(Gain)/Loss	12/31/2019	448,004	19	466,799	16	39,540
Assumption	12/31/2019	825,705	19	828,091	16	70,140
Experience	12/31/2020	2,374,618	18	2,490,224	16	210,936
Experience	12/31/2021	(838,309)	17	(884,519)	16	(74,928)
Experience	12/31/2022	1,749,066	16	1,871,501	16	158,532
Total				\$ 12,696,458		\$ 1,075,452

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 60 - CMH Non Union

Table 10-60: Layered Amortization Schedule

Type of UAL	Date Established	Original Balance ¹	Original Amortization Period ²	Amounts for Fiscal Year Beginning 1/1/2024		
				Outstanding UAL Balance ³	Remaining Amortization Period ²	Annual Amortization Payment
Experience	12/31/2021	\$ (169,422)	15	\$ (177,310)	14	\$ (16,584)
Experience	12/31/2022	(64,983)	15	(69,532)	15	(6,180)
Total				\$ (246,842)		\$ (22,764)

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, 2022 (see Table 6) is projected to the beginning of the fiscal year for which the contributions are being calculated. This allows the 2022 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 Statement No. 68 Information

The following information has been prepared to provide some of the information necessary to complete GASB Statement No. 68 disclosures. GASB Statement No. 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:		12/31/2022
Measurement Date of the Total Pension Liability (TPL):		12/31/2022
At 12/31/2022, the following employees were covered by the benefit terms:		
Inactive employees or beneficiaries currently receiving benefits:		492
Inactive employees entitled to but not yet receiving benefits (including refunds):		1,066
Active employees:		<u>689</u>
		2,247
Total Pension Liability as of 12/31/2021 measurement date:	\$	155,601,583
Total Pension Liability as of 12/31/2022 measurement date:	\$	162,135,117
Service Cost for the year ending on the 12/31/2022 measurement date:	\$	3,499,202
Change in the Total Pension Liability due to:		
- Benefit changes ¹ :	\$	0
- Differences between expected and actual experience ² :	\$	(10,782)
- Changes in assumptions ² :	\$	0
Average expected remaining service lives of all employees (active and inactive):		3

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):	\$	34,226,054
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Note: Covered employee payroll may differ from the GASB Statement No. 68 definition.

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

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
Change in Net Pension Liability as of 12/31/2022:	\$ 20,050,619	\$ 0	\$ (16,696,477)

Note: The current discount rate shown for GASB Statement No. 68 purposes is higher than the MERS assumed rate of return. This is because for GASB Statement No. 68 purposes, the discount rate must be gross of administrative expenses, whereas for funding purposes it is net of administrative expenses.

GASB Statement No. 68 Information

This page is for those municipalities who need to “roll forward” their total pension liability due to the timing of completion of the actuarial valuation in relation to their fiscal year-end.

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

Actuarial Valuation Date:	12/31/2022
Measurement Date of the Total Pension Liability (TPL):	12/31/2023

At 12/31/2022, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	492
Inactive employees entitled to but not yet receiving benefits (including refunds):	1,066
Active employees:	689
	2,247

Total Pension Liability as of 12/31/2022 measurement date:	\$ 161,321,244
Total Pension Liability as of 12/31/2023 measurement date:	\$ 168,065,145
Service Cost for the year ending on the 12/31/2023 measurement date:	\$ 3,617,725
Change in the Total Pension Liability due to:	
- Benefit changes ¹ :	\$ 0
- Differences between expected and actual experience ² :	\$ 872,879
- Changes in assumptions ² :	\$ 0

Average expected remaining service lives of all employees (active and inactive):	3
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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):	\$ 34,226,054
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Note: Covered employee payroll may differ from the GASB Statement No. 68 definition.

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

	1% Decrease <u>(6.25%)</u>	Current Discount Rate <u>(7.25%)</u>	1% Increase <u>(8.25%)</u>
Change in Net Pension Liability as of 12/31/2023:	\$ 20,749,242	\$ 0	\$ (17,273,742)

Note: The current discount rate shown for GASB Statement No. 68 purposes is higher than the MERS assumed rate of return. This is because for GASB Statement No. 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.

02 - Sheriff Union

1/1/2021	Public Safety Employees - Yes
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1999	Benefit B-4 (80% max)
1/1/1999	Member Contribution Rate 2.49%
1/1/1994	Benefit B-3 (80% max)
1/1/1991	Benefit B-2 (No Max)
1/1/1991	Benefit F50 (With 25 Years of Service)
1/1/1988	Benefit C-2/Base B-1 (No Max)
6/1/1985	Member Contribution Rate 0.00%
1/1/1981	Benefit F55 (With 25 Years of Service)
1/1/1981	Member Contribution Rate 5.00%
4/6/1978	Exclude Temporary Employees
1/1/1973	Benefit C-1 (Old) (No Max)
10/30/1970	Covered by Act 88
6/1/1966	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1966	10 Year Vesting
6/1/1966	Benefit C (Old) (No Max)
6/1/1966	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

04 - S.T.A.R.S.

1/1/2021	Probationary Period 3 Months
1/1/2021	Sick Eligibility - No Max
1/1/2021	Part Time Employees - Included
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Gross Wages
10/1/2018	Service Credit Purchase Estimates - No
10/1/2017	Probationary Period 3 Months
12/1/2016	Service Credit Purchase Estimates - Yes
2/1/2013	Benefit F55 (With 25 Years of Service)
2/1/2013	Member Contribution Rate 1.27%
5/1/2007	Member Contribution Rate 0.00%
10/1/2005	Benefit B-2 (No Max)
10/1/2005	Member Contribution Rate 2.33%
1/1/1987	Member Contribution Rate 0.00%
1/1/1973	Benefit C-1 (Old) (No Max)



04 - S.T.A.R.S.

10/30/1970	Covered by Act 88
6/1/1966	Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1966	10 Year Vesting
6/1/1966	Benefit C (Old) (No Max)
6/1/1966	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
6/1/1966	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

06 - CMH Union

1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
4/1/2003	Benefit B-3 (80% max)
5/1/2001	Member Contribution Rate 0.00%
1/1/2001	Member Contribution Rate 4.14%
1/1/2000	Member Contribution Rate 4.41%
1/1/1999	Member Contribution Rate 0.23%
11/1/1998	Benefit FAC-5 (5 Year Final Average Compensation)
11/1/1998	10 Year Vesting
11/1/1998	Benefit B-2 (No Max)
11/1/1998	Member Contribution Rate 0.00%
4/6/1978	Exclude Temporary Employees
10/30/1970	Covered by Act 88
	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

10 - Health Union

1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2000	Benefit B-3 (80% max)
3/1/1991	Benefit B-2 (No Max)
1/1/1986	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1986	10 Year Vesting
1/1/1986	Member Contribution Rate 0.00%
10/30/1970	Covered by Act 88
	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

11 - Gnrl Non Union

1/1/2021	Public Safety Employees - Yes
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No



11 - Gnrl Non Union

12/1/2016 Service Credit Purchase Estimates - Yes
12/31/2000 Benefit B-3 (80% max)
12/1/1990 Benefit B-2 (No Max)
1/1/1986 Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1986 10 Year Vesting
1/1/1986 Member Contribution Rate 0.00%
4/6/1978 Exclude Temporary Employees
10/30/1970 Covered by Act 88
Fiscal Month - January
Defined Benefit Normal Retirement Age - 60
Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

12 - General Union

1/1/2021 Public Safety Employees - Yes
1/1/2021 Service Credit Qualification - 80 hours
1/1/2021 Custom Wages
10/1/2018 Service Credit Purchase Estimates - No
12/1/2016 Service Credit Purchase Estimates - Yes
1/1/2000 Benefit B-3 (80% max)
1/1/1991 Benefit B-2 (No Max)
1/1/1986 Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1986 10 Year Vesting
1/1/1986 Member Contribution Rate 0.00%
4/6/1978 Exclude Temporary Employees
10/30/1970 Covered by Act 88
Fiscal Month - January
Defined Benefit Normal Retirement Age - 60
Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

13 - Elected & Appt. Dept Heads

1/1/2021 Voter-Elected Officials - Included
1/1/2021 Appointed Officials - Included
1/1/2021 Public Safety Employees - Yes
1/1/2021 Service Credit Qualification - 80 hours
1/1/2021 Custom Wages
10/1/2018 Service Credit Purchase Estimates - No
12/1/2016 Service Credit Purchase Estimates - Yes
1/1/2005 Benefit B-4 (80% max)
1/1/2005 Member Contribution Rate 2.53%
1/1/2001 Benefit B-3 (80% max)
12/1/1990 Benefit B-2 (No Max)
6/1/1985 Benefit FAC-5 (5 Year Final Average Compensation)
6/1/1985 10 Year Vesting
6/1/1985 Member Contribution Rate 0.00%
4/6/1978 Exclude Temporary Employees
10/30/1970 Covered by Act 88
Fiscal Month - January
Defined Benefit Normal Retirement Age - 60
Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years



20 - Dispatch Union

1/1/2021	Public Safety Employees - Yes
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
12/31/2000	Benefit FAC-5 (5 Year Final Average Compensation)
12/31/2000	10 Year Vesting
12/31/2000	Benefit B-3 (80% max)
12/31/2000	Benefit F50 (With 25 Years of Service)
12/31/2000	Member Contribution Rate 0.00%
4/6/1978	Exclude Temporary Employees
10/30/1970	Covered by Act 88
	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

40 - MCF Non Union

1/1/2021	Sick Eligibility - No Max
1/1/2021	Part Time Employees - Included
1/1/2021	Workers Compensation - Service Granted
1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Gross Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
1/1/2008	Benefit B-4 (80% max)
1/1/1999	Benefit B-3 (80% max)
1/1/1999	Benefit F55 (With 25 Years of Service)
1/1/1991	Benefit FAC-5 (5 Year Final Average Compensation)
1/1/1991	10 Year Vesting
1/1/1991	Benefit B-2 (No Max)
1/1/1991	Benefit F55 (With 30 Years of Service)
1/1/1991	Member Contribution Rate 0.00%
10/30/1970	Covered by Act 88
6/1/1966	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years

60 - CMH Non Union

1/1/2021	Service Credit Qualification - 80 hours
1/1/2021	Custom Wages
10/1/2018	Service Credit Purchase Estimates - No
12/1/2016	Service Credit Purchase Estimates - Yes
5/1/2001	Benefit B-3 (80% max)
11/1/1998	Benefit FAC-5 (5 Year Final Average Compensation)
11/1/1998	10 Year Vesting
11/1/1998	Benefit B-2 (No Max)
11/1/1998	Member Contribution Rate 0.00%
4/6/1978	Exclude Temporary Employees
10/30/1970	Covered by Act 88



60 - CMH Non Union

Fiscal Month - January

Defined Benefit Normal Retirement Age - 60

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

Plan Provisions, Actuarial Assumptions, and Actuarial Funding Method

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

Increase in Final Average Compensation

Division	FAC Increase Assumption
All Divisions	2.00%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Not Linked Divisions: The default funding policy for closed not linked divisions, including open divisions with zero active members, is to follow a non-accelerated amortization, where each closed period decreases by one year each year until the period is exhausted. In select instances, closed not linked division(s) may follow an accelerated amortization policy.

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>12/31/2022</u>	<u>12/31/2021</u>	<u>12/31/2020</u>	<u>12/31/2019</u>	<u>12/31/2018</u>
1. Ratio of the market value of assets to total payroll	3.5	4.6	3.9	3.5	3.3
2. Ratio of actuarial accrued liability to payroll	4.9	5.3	4.7	4.3	4.3
3. Ratio of actives to retirees and beneficiaries	1.4	1.4	1.6	1.8	1.8
4. Ratio of market value of assets to benefit payments	15.0	18.6	18.5	17.8	16.8
5. Ratio of net cash flow to market value of assets (boy)	-2.0%	-2.3%	-1.1%	-0.1%	-1.2%

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 actives 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 Public Act 202 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, 2022	
11	Indicate number of active members	689
12	Indicate number of inactive members (excluding pending refunds)	165
13	Indicate number of retirees and beneficiaries	492
14	Investment Performance for Calendar Year Ending December 31, 2022¹	
15	Enter actual rate of return - prior 1-year period	(10.37)%
16	Enter actual rate of return - prior 5-year period	4.95%
17	Enter actual rate of return - prior 10-year period	6.79%
18	Actuarial Assumptions	
19	Actuarial assumed rate of investment return ²	7.00%
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	16
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	\$130,657,257
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions ⁵	\$169,708,420
27	Actuarially Determined Contribution (ADC) using uniform assumptions, Fiscal Year Ending December 31, 2023	\$7,004,076

1. The Municipal Employees’ Retirement System’s investment performance has been provided to GRS from MERS Investment Staff and is included here for reporting purposes. The 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), “no.”
5. Line 25 actuarial accrued liability is determined under PA 202 uniform assumptions which differ from the valuation assumptions. In particular, the assumed rate of return for PA 202 purposes is 6.85%.