RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TREASURY
LANSING

NICK A. KHOURI
STATE TREASURER

December 27, 2018

Notice of Approval
Fiscal Year: 2017
Municipality Code: 357514

Sent Via Email
Tawas Police Authority (TPA)
clerk@tawascity.org

Re: Corrective Action Plan

Dear Administrative Officer or Designee:

Thank you for submitting your retirement corrective action plan pursuant to Public Act 202 of 2017 (the Act). **Based upon review, your corrective action plan for Tawas Police Authority (3504) has been approved by the Municipal Stability Board (the Board).**

Next Steps (Pursuant to the Act):

- You must begin to implement your corrective action plan within 180 days of the date of this letter.

- Your approved corrective action plan must be posted publicly on your website or in a public place. While this approved corrective action plan is in effect for your local unit, you are not required to submit an additional corrective action plan for this system.

- You are required to continue to file the Form 5572 Retirement System Annual Report annually, which is due six months after the end of your fiscal year.

- The Board shall monitor your compliance with the Act and your corrective action plan. The Board shall detail any reasons for a determination of noncompliance. Additional guidance will be forthcoming regarding the monitoring process.

Thank you for your commitment to fiscal stability and continued compliance with the Act. If you have any questions, please email our office at LocalRetirementReporting@michigan.gov or visit Michigan.gov/LocalRetirementReporting.

Sincerely,

Michigan Department of Treasury
Local Retirement Reporting Team

Michigan Department of Treasury
5598 (08-18)

Protecting Local Government Retirement and Benefits Act
Corrective Action Plan:
Defined Benefit Pension Retirement Systems

Issued under authority of Public Act 202 of 2017.

1. MUNICIPALITY INFORMATION

Local Unit Name: Tawas Police Authority (TPA) Six-Digit Muni Code: 357514

Defined Benefit Pension System Name: Tawas Police Authority (3504)

Contact Name (Administrative Officer): Michelle Westcott

Title if not Administrative Officer: Treasurer/Clerk of Tawas Police Authority

Email: clerk@tawascity.org Telephone: (989) 362-8688

2. GENERAL INFORMATION

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

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

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

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

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

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

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

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

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

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

(i) Closing the current defined benefit plan.

(ii) Implementing a multiplier limit.

(iii) Reducing or eliminating new accrued benefits.

(iv) Implementing final average compensation standards.

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

3. DESCRIPTIONS OF PRIOR ACTIONS

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

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

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

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

Category of Prior Actions:

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

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

The TPA's Defined Benefit Plan (DBP) was frozen/closed on September 1, 2016. Only one active employee has a previously contributed employee balance in the plan. All other active employees have converted their balances to a new Defined Contribution Plan (DCP). The DBP is no longer offered to current or future employees.

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

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

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

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

4. DESCRIPTION OF PROSPECTIVE ACTIONS

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

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

Category of Prospective Actions:

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

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

The TPA's DBP will not be re-opened, nor a new DBP established, for current or future employees.

The TPA will continue to contribute to the DBP per the annual MERS actuarial contribution requirements. Current projections forecast >60% funding within eight years as identified on page 13 of Attachment 2a.

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

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

The TPA Board will review MERS actuarial results on an annual basis to verify the planned >60% projections are being met, and will continue to make the monthly contributions as determined by MERS to meet that funding level.

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

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

5. CONFIRMATION OF FUNDING

Please check the applicable answer:

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

☒ **Yes**
☐ **No**
If No, Explain

6. DOCUMENTATION ATTACHED TO THIS CORRECTIVE ACTION PLAN

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

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

Naming Convention	Type of Document
☒ Attachment – 1	**This Corrective Action Plan Form (Required)**
☒ Attachment – 1a	**Documentation from the governing body approving this Corrective Action Plan (Required)**
☒ Attachment – 2a	**An actuarial projection, an actuarial valuation, or an internally developed analysis, which illustrates how and when the local unit will reach the 60% funded ratio. Or, if the local unit is a city, village, township, or county, ARC will be less than 10% of governmental fund revenues, as defined by the Act. (Required)**
☐ Attachment – 3a	Documentation of additional payments in past years that is not reflected in your audited financial statements (e.g. enacted budget, system provided information).
☐ Attachment – 4a	Documentation of commitment to additional payments in future years (e.g. resolution, ordinance)
☐ Attachment – 5a	A separate corrective action plan that the local unit has approved to address its underfunded status, which includes documentation of prior actions, prospective actions, and the positive impact on the system's funded ratio
☐ Attachment –6a	Other documentation not categorized above

7. CORRECTIVE ACTION PLAN CRITERIA

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

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

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

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

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

☒ The Tawas Police Authority (3504) **(Insert Retirement Pension System Name)** will achieve a funded status of at least 60% by Fiscal Year 2026 as demonstrated by required supporting documentation listed in section 6.

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

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

Signature ____________ Date 10/17/2018

Minutes of the Regular Meeting of the Tawas Police Authority
October 01, 2018

Chairman Barringer called the meeting to order at 8:32 am in the Council Chamber of Tawas City Hall.

Members Present:	Brent Barringer, Ken Cook, Annge Horning, and Duane Look
Members Absent:	None
Staff Present:	Police Chief Mark Ferguson, Tawas City Administrative Assistant Sarah Long

Cook moved, Horning seconded, CARRIED, to approve the October 01, 2018 agenda as presented.

Look moved, Horning seconded, CARRIED, to approve the minutes of the September 10, 2018 regular meeting a presented.

Chief Ferguson reported that the recent denial ruling in Officer Gipson's Workers' Comp claim has been appealed. Members Horning and Barringer and Chief Ferguson will schedule a meeting or conference call with the Tawas Police Authority's Attorney to discuss this matter.

The TPA has a short-term disability insurance policy that is pooled with the City of East Tawas's policy for all fulltime employees and the TPA reimburses East Tawas on a quarterly basis for its share of the premiums. Chairman Barringer shared that the City's relationship with the TPA is a bit unclear with the employees being included in a benefit policy that is provided by East Tawas. Horning agreed and shared that there is a lot of work for the TPA that is done through Tawas City City Hall that makes the relationship unclear and asked the Board to look at the bigger picture as we make changes for the TPA. Chief Ferguson presented quotes from Nationwide and Dearborn National so the TPA could have a separate short-term disability policy from East Tawas. The Board asked some questions and would like Chief Ferguson to obtain a few other quotes before a decision is made. Theresa from Tawas Bay Agency advised that there are very few companies that write short-term disability policies for police departments with so few employees. Horning moved, Look seconded, CARRIED, to authorize Chairman Barringer to send a letter to the union to notify them that the Board would like to negotiate to amend the Union Agreement to make changes to the short-term disability coverage.

Kurtis Morin resigned on September 10, 2018. He has gone back to his previous position at the Mackinac Island Police Department. The open position has been posted and Chief Ferguson has received two applications from individuals who are currently in the academy and anticipate graduating in December.

Chairman Barringer requested Chief Ferguson create a business plan for the TPA. Discussion was held regarding if a plan was necessary, what type of information to include in the plan, and whether or not the individual City Councils would approve it. After a lengthy discussion, no action was taken.

Chris Hayes injured his hand off duty resulting in a cast. He has not been able to work full duty but has been working in the office on his case files and utilizing some sick leave when necessary.

No public comments were received.

Discussion was held regarding the unfunded pension liability. The Tawas City Council agreed to transfer up to $75,000.00 over the next three years so the TPA Board can make decisions regarding funding the pension without having to keep going back and forth between the Councils. The East Tawas Council agreed to increase the monthly payments to MERS to $5,000 a month to help pay the unfunded liability and are going to continue to build their designated fund to give them an opportunity to partner in a future lump sum contribution. Chairman Barringer put together a Corrective Action Plan which shows the unfunded pension liability to be 60% funded by 2026 while following the minimum contribution requirement from the annual MERS actuarial. Discussion was held regarding the cities each paying an additional $1,000.00 per month starting with the next payment due and continuing through June 30, 2020. This option would make budgeting easier for both cities. Barringer moved, Horning seconded, CARRIED, to commence each city adding an additional $1,000.00 to the MERS required employer monthly contribution starting with the next payment due and continuing through June 30, 2020, contingent on the approval from the East Tawas City Council at their meeting tonight. Yes: Cook, Horning, Look, and Barringer.

Members reviewed and discussed changes to the Corrective Action Plan that was drafted by Chairman Barringer. Cook moved, Look seconded, CARRIED, to authorize Chairman Barringer to sign and file the Corrective Action Plan with the Department of Treasury after he incorporates the changes discussed and both City Managers agree on the changes. Yes: Horning, Look, Barringer, and Cook.

Look moved, Horning seconded, CARRIED, to approve checks issued from September 08, 2018 to September 27, 2018 in the amount of $33,226.77 as presented. Yes: Look, Barringer, Cook, and Horning.

Look moved, Horning seconded, CARRIED, to receive the Financial Reports for the period ending August 31, 2018.

No board member comments were received.

Look moved, Cook seconded, CARRIED, to adjourn the meeting at 11:02 am.

Sarah Long
Tawas City Administrative Assistant

Municipal Employees' Retirement System

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM OF MICHIGAN

ANNUAL ACTUARIAL VALUATION REPORT DECEMBER 31, 2017

TAWAS POLICE AUTH (3504)

Spring, 2018

Tawas Police Auth

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

This report presents the results of the Annual Actuarial Valuation, prepared as of December 31, 2017. The report includes the determination of liabilities and contribution rates resulting from the participation of Tawas Police Auth (3504) in the Municipal Employees' Retirement System of Michigan ("MERS"). MERS is an independent, professional retirement services company that was created to administer retirement plans for Michigan municipalities on a not-for-profit basis. This report contains the minimum actuarially determined contribution requirement, in alignment with the MERS Plan Documents, funding policy and Michigan Constitution. Tawas Police Auth is responsible for the employer contributions needed to provide MERS benefits for its employees and former employees under the Michigan Constitution and the MERS Plan Document.

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

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

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

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

The actuarial assumptions and methods are adopted by the MERS Retirement Board, and are reviewed every five years in an Experience Study. The most recent study was completed in 2015. Please refer to the division-specific assumptions described in table(s) in this report, and to the Appendix on the MERS website at:
www.mersofmich.com/Portals/0/Assets/Resources/AAV-Appendix/MERS-2017AnnualActuarialValuation-Appendix.pdf.

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

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

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

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

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

Sincerely,

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

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Executive Summary

Funded Ratio and Required Employer Contributions

The MERS Defined Benefit Plan is an agent multiple-employer plan, meaning that assets are pooled for investment purposes but separate accounts are maintained for each individual employer. Each municipality is responsible for their own plan liabilities; MERS does not borrow from one municipality's account to pay for another.

The funded ratio of a plan is the percentage of the dollar value of the accrued benefits that is covered by the actuarial value of assets.

Your Funded Ratio:

	12/31/2017 *	12/31/2016
Funded Ratio	53%	57%

* Reflects assets from Surplus divisions, if any.

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

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

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

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

Your Required Employer Contributions:

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

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

	Percentage of Payroll				Monthly $ Based on Projected Payroll			
	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in	Phase-in	No Phase-in
Valuation Date:	12/31/2017	12/31/2017	12/31/2016	12/31/2016	12/31/2017	12/31/2017	12/31/2016	12/31/2016
Fiscal Year Beginning:	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018	July 1, 2019	July 1, 2019	July 1, 2018	July 1, 2018
Division								
02 - Police	-	-	-	-	$ 3,625	$ 3,625	$ 3,149	$ 3,149
Municipality Total					**$ 3,625**	**$ 3,625**	**$ 3,149**	**$ 3,149**

Employee contribution rates reflected in the valuations are shown below:

	Employee Contribution Rate	
Valuation Date:	12/31/2017	12/31/2016
Division		
02 - Police	0.00%	0.00%

The employer may contribute more than the minimum required contributions, as these additional contributions will earn investment income and may result in lower future contribution requirements. Employers making contributions in excess of the minimum requirements may elect to apply the excess contribution immediately to a particular division, or segregate the excess into one or more of what MERS calls ”Surplus” divisions. An election in the first case would immediately reduce any unfunded accrued liability and lower the amortization payments throughout the remaining amortization period. An election to set up Surplus divisions would not immediately lower future contributions, however the assets from the Surplus divisions could be transferred to an unfunded division in the future to reduce the unfunded liability in future years, or to be used to pay all or a portion of the minimum required contribution in a future year. For purposes of this report, the assets in any Surplus division have been included in the municipality's total assets, unfunded accrued liability and funded status, however, these assets are not used in calculating the minimum required contribution.

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

Assuming that experience of the plan meets actuarial assumptions:

- To accelerate to a 100% funding ratio in 10 years, estimated monthly employer contributions for the fiscal year beginning in 2019 for the entire employer would be $5,681, instead of $3,625.

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

How and Why Do These Numbers Change?

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

- Changes in benefit provisions (see Table 2)
- Changes in actuarial assumptions and methods (see the Appendix)
- Experience of the plan (investment experience and demographic experience); this is the difference between actual experience of the plan and the actuarial assumptions. For example:
    - Lower actual investment returns would result in higher required employer contributions, and vice-versa.
    - Smaller than assumed pay increases would lower required employer contributions.
    - Reductions in the number of active employees would lower required contribution dollars, but would usually increase the contribution rate expressed as a percentage of (the now lower) payroll.
    - Retirements at earlier ages than assumed would usually increase required employer contributions.
    - More non-vested terminations of employment than assumed would decrease required contributions.
    - More disabilities or survivor (death) benefits than assumed would increase required contributions.
    - Longer lifetimes after retirement than assumed would increase required employer contributions.

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

Comments on Investment Return Assumption and Asset Smoothing

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

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

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

As of December 31, 2017 the actuarial value of assets is 101% of market value due to asset smoothing. This means that meeting the actuarial assumption in the next few years will require average annual market returns that exceed the 7.75% investment return assumption, or contribution requirements will continue to increase.

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

- The funded percent of your entire municipality would be 52% (instead of 53%); and
- Your total employer contribution requirement for the fiscal year starting July 1, 2019 would be $44,100 (instead of $43,500).

Risk Characteristics of Defined Benefit Plans

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

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

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

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

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

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

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

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

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

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

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

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

	Assumed Future Annual Smoothed Investment Return Assumption			
	Lower Future Annual Returns		**Valuation Assumption**	**Higher Returns**
12/31/2017 Valuation Results	**5.75%**	**6.75%**	**7.75%**	**8.75%**
Accrued Liability	$ 1,467,771	$ 1,298,498	$ 1,164,548	$ 1,058,625
Valuation Assets[1]	$ 612,822	$ 612,822	$ 612,822	$ 612,822
Unfunded Accrued Liability	$ 854,949	$ 685,676	$ 551,726	$ 445,803
Funded Ratio	42%	47%	53%	58%
Monthly Normal Cost	$ 4	$ 3	$ 3	$ 2
Monthly Amortization Payment	$ 4,763	$ 4,133	$ 3,622	$ 3,116
Total Employer Contribution[2]	$ 4,767	$ 4,136	$ 3,625	$ 3,118

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

2 If assets exceed accrued liabilities for a division, the division's amortization payment is negative and is used to reduce the division's employer contribution requirement. If the overfunding credit is larger than the normal cost, the division's full credit is included in the municipality's amortization payment above but the division's total contribution requirement is zero. This can cause the displayed normal cost and amortization payment to not add up to the displayed total employer contribution.

Projection Scenarios

The next two pages show projections of the plan's funded ratio and computed employer contributions under the actuarial assumptions used in the valuation and alternate assumed long-term investment return assumption scenarios. All four projections take into account the past investment losses that will continue to affect the actuarial rate of return in the short term. Under the 7.75% scenarios in the table on the next page, two sets of projections are shown:

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

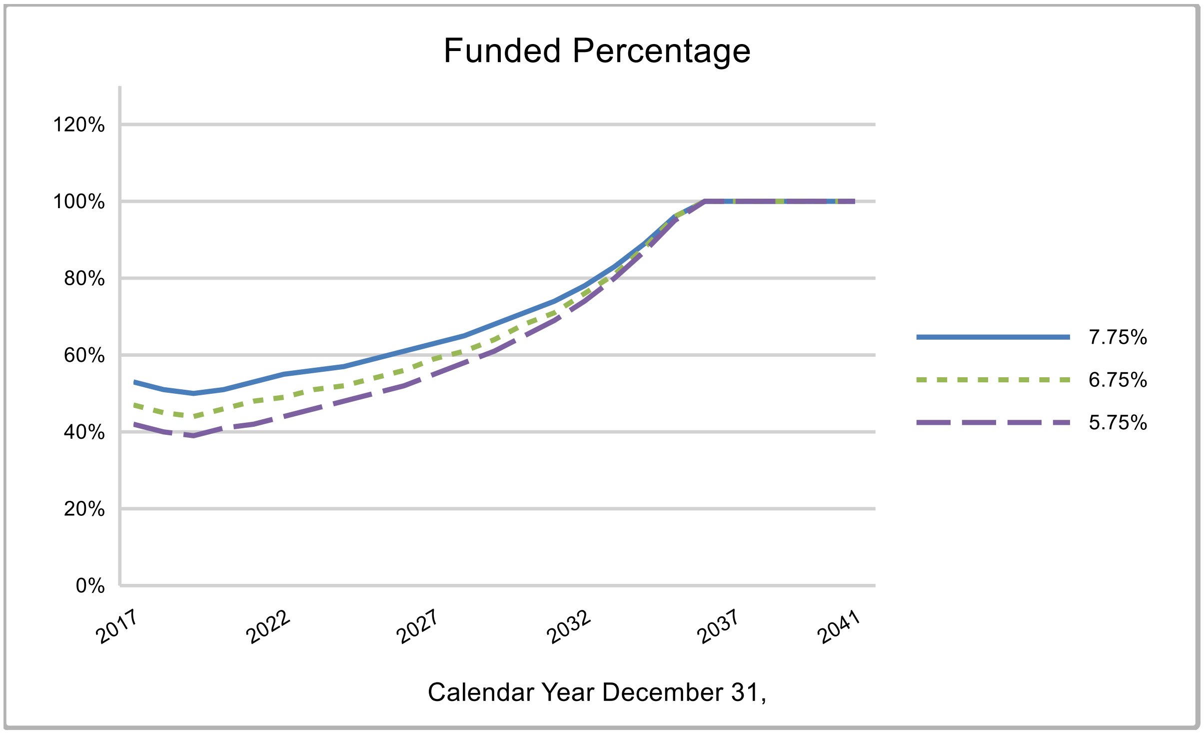
The 7.75% scenarios provide an estimate of computed employer contributions based on current actuarial assumptions, and a projected 7.75% market return. The other two scenarios may be useful if the municipality chooses to budget more conservatively, and make contributions in addition to the minimum requirements.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

The projections are shown both in tabular and graphical form in total for the employer. The tables show projections for six years. The graphs show projections for twenty five years.

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets[2]	Funded Percentage	Computed Annual Employer Contribution
7.75%[1]					
WITH 5-YEAR PHASE-IN					
2017	2019	$ 1,164,548	$ 612,822	53%	$ 43,500
2018	2020	1,170,000	591,000	51%	49,400
2019	2021	1,180,000	590,000	50%	52,400
2020	2022	1,200,000	614,000	51%	53,700
2021	2023	1,210,000	643,000	53%	55,100
2022	2024	1,230,000	671,000	55%	57,100
NO 5-YEAR PHASE-IN					
2017	2019	$ 1,164,548	$ 612,822	53%	$ 43,500
2018	2020	1,170,000	591,000	51%	49,400
2019	2021	1,180,000	591,000	50%	52,400
2020	2022	1,200,000	615,000	51%	53,600
2021	2023	1,210,000	644,000	53%	55,000
2022	2024	1,230,000	672,000	55%	57,000
6.75%[1]					
NO 5-YEAR PHASE-IN					
2017	2019	$ 1,298,498	$ 612,822	47%	$ 49,632
2018	2020	1,300,000	585,000	45%	57,000
2019	2021	1,310,000	582,000	44%	60,200
2020	2022	1,330,000	607,000	46%	61,700
2021	2023	1,340,000	637,000	48%	63,500
2022	2024	1,350,000	667,000	49%	65,800
5.75%[1]					
NO 5-YEAR PHASE-IN					
2017	2019	$ 1,467,771	$ 612,822	42%	$ 57,204
2018	2020	1,470,000	580,000	40%	65,600
2019	2021	1,480,000	574,000	39%	69,000
2020	2022	1,490,000	601,000	41%	71,000
2021	2023	1,490,000	634,000	42%	73,100
2022	2024	1,500,000	666,000	44%	75,800

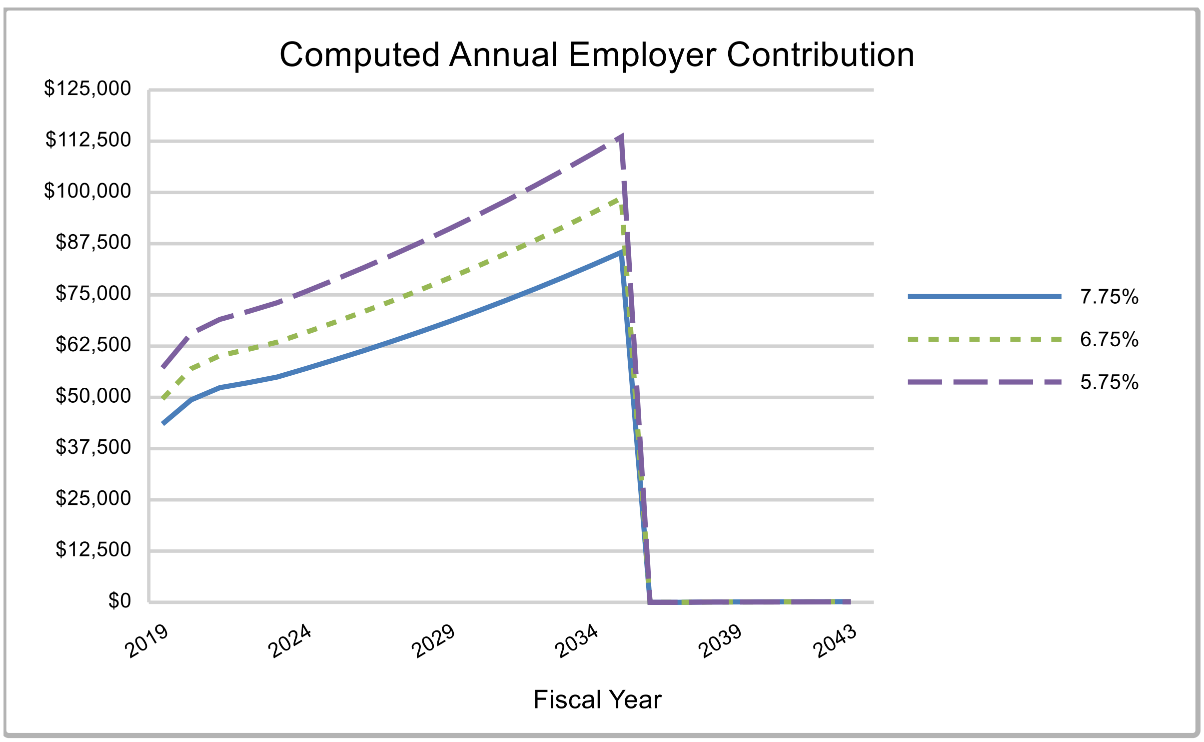
[1] Represents both the interest rate for discounting liabilities and the future investment return assumption on the Market Value of assets.

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



Notes:

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



Notes:

All projected contributions are shown with no phase-in.

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

Table 1

Division	Total Normal Cost	Employee Contribut. Rate	Employer Contributions[1]: Employer Normal Cost	Employer Contributions[1]: Payment of the Unfunded Accrued Liability[4]	Employer Contributions[1]: Computed Employer Contribut. No Phase-In	Computed Employer Contribut. With Phase-In	Blended ER Rate No Phase-In[5]	Blended ER Rate With Phase-In[5]	Employee Contribut. Conversion Factor[2]
Percentage of Payroll									
02 - Police	0.05%	0.00%	-	-	-	-			
Estimated Monthly Contribution[3]									
02 - Police			$ 3	$ 3,622	$ 3,625	$ 3,625			
Total Municipality			**$ 3**	**$ 3,622**	**$ 3,625**	**$ 3,625**			
Estimated Annual Contribution[3]			**$ 36**	**$ 43,464**	**$ 43,500**	**$ 43,500**			

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

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

3 For divisions that are open to new hires, estimated contributions are based on projected fiscal year payroll. Actual contributions will be based on actual reported monthly pays, and will be different from the above amounts. For divisions that will have no new hires (i.e. closed divisions), invoices will be based on the above dollar amounts which are based on projected fiscal year payroll. See description of Open Divisions and Closed Divisions in the Appendix.

4 If projected assets exceed projected liabilities as of the beginning of the July 1, 2019 fiscal year, the negative unfunded accrued liability is treated as overfunding credit and is used to reduce the contribution. This amortization is used to reduce the employer contribution rate. Note that if the overfunding credit is larger than the normal cost, the full credit is shown above but the total contribution requirement is zero. This will cause the displayed normal cost and unfunded accrued liability contributions to not add across.

5 For linked divisions, the employer will be invoiced the Computed Employer Contribution with Phase-in rate shown above for each linked division (a contribution rate for the open division; a contribution dollar for the closed-but-linked division), unless the employer elects to contribute the Blended Employer Contribution rate shown above, by contacting MERS at 800-767-MERS (6377).

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

Benefit Provisions

Table 2

02 - Police: Closed to new hires

	2017 Valuation	2016 Valuation
Benefit Multiplier:	Frozen Benefit as of 9/1/2016	Frozen Benefit as of 9/1/2016
Normal Retirement Age:	60	60
Vesting:	8 years	8 years
Early Retirement (Unreduced):	50/25 55/15	50/25 55/15
Early Retirement (Reduced):	-	-
Final Average Compensation:	3 years	3 years
Employee Contributions:	0%	0%
DC Plan for New Hires:	9/1/2016	9/1/2016
Act 88:	No	No

Participant Summary

Table 3

Division	2017 Valuation		2016 Valuation		2017 Valuation		
	Number	Annual Payroll[1]	Number	Annual Payroll[1]	Average Age	Average Benefit Service[2]	Average Eligibility Service[2]
02 - Police							
Active Employees	1	$ 57,717	3	$ 144,421	42.9	16.1	16.1
Vested Former Employees	3	41,686	3	41,686	44.7	12.0	14.9
Retirees and Beneficiaries	4	73,734	4	73,734	65.1		
Total Municipality							
Active Employees	**1**	**$ 57,717**	**3**	**$ 144,421**	**42.9**	**16.1**	**16.1**
Vested Former Employees	**3**	**41,686**	**3**	**41,686**	**44.7**	**12.0**	**14.9**
Retirees and Beneficiaries	**4**	**73,734**	**4**	**73,734**	**65.1**		
Total Participants	**8**		**10**				

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

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

Reported Assets (Market Value)

Table 4

Division	2017 Valuation		2016 Valuation	
	Employer and Retiree[1]	Employee[2]	Employer and Retiree[1]	Employee[2]
02 - Police	$ 337,185	$ 268,777	$ 305,114	$ 324,524
Municipality Total	**$ 337,185**	**$ 268,777**	**$ 305,114**	**$ 324,524**
Combined Assets	**$605,962**		**$629,638**	

1 Reserve for Employer Contributions and Benefit Payments

2 Reserve for Employee Contributions

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

Flow of Valuation Assets

Table 5

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2007	$ 30,394		$ 29,831	$ 31,940	$ (18,473)	$ (5,713)	$ 0	$ 471,045
2008	30,739		25,075	26,285	(18,473)	(322)	0	534,349
2009	26,856		20,569	32,660	(37,481)	0	0	576,953
2010	21,652		16,663	31,972	(46,986)	0	0	600,254
2011	23,891	$ 0	22,491	27,040	(71,980)	0	0	601,696
2012	26,121	0	29,978	24,881	(76,979)	0	0	605,697
2013	26,286	0	36,748	34,864	(75,627)	(21,406)	0	606,562
2014	27,030	0	44,286	35,761	(73,734)	0	0	639,905
2015	24,388	0	43,438	33,108	(73,734)	0	0	667,105
2016	25,127	0	25,506	34,176	(73,734)	0	0	678,180
2017	37,404	0	0	31,430	(73,734)	0	(60,458)	612,822

Notes:

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

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

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

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

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

Table 6

Division	Actuarial Accrued Liability	Valuation Assets[1]	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
02 - Police				
Active Employees	$ 100,126	$ 92,530	92.4%	$ 7,596
Vested Former Employees	237,043	168,366	71.0%	68,677
Retirees And Beneficiaries	819,498	344,045	42.0%	475,453
Pending Refunds	7,881	7,881	100.0%	0
Total	**$ 1,164,548**	**$ 612,822**	**52.6%**	**$ 551,726**
Total Municipality				
Active Employees	**$ 100,126**	**$ 92,530**	**92.4%**	**$ 7,596**
Vested Former Employees	**237,043**	**168,366**	**71.0%**	**68,677**
Retirees and Beneficiaries	**819,498**	**344,045**	**42.0%**	**475,453**
Pending Refunds	**7,881**	**7,881**	**100.0%**	**0**
Total	**$ 1,164,548**	**$ 612,822**	**52.6%**	**$ 551,726**

[1] Includes both employer and employee assets.

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

Actuarial Accrued Liabilities - Comparative Schedule

Table 7

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2003	$ 591,386	$ 228,043	39%	$ 363,343
2004	640,857	285,462	45%	355,395
2005	725,319	341,473	47%	383,846
2006	777,763	403,066	52%	374,697
2007	868,435	471,045	54%	397,390
2008	919,286	534,349	58%	384,937
2009	1,017,070	576,953	57%	440,117
2010	1,072,482	600,254	56%	472,228
2011	1,165,653	601,696	52%	563,957
2012	1,202,123	605,697	50%	596,426
2013	1,179,376	606,562	51%	572,814
2014	1,184,322	639,905	54%	544,417
2015	1,242,138	667,105	54%	575,033
2016	1,188,727	678,180	57%	510,547
2017	1,164,548	612,822	53%	551,726

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

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

Division 02 - Police

Table 8-02: Actuarial Accrued Liabilities - Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2007	$ 868,435	$ 471,045	54%	$ 397,390
2008	919,286	534,349	58%	384,937
2009	1,017,070	576,953	57%	440,117
2010	1,072,482	600,254	56%	472,228
2011	1,165,653	601,696	52%	563,957
2012	1,202,123	605,697	50%	596,426
2013	1,179,376	606,562	51%	572,814
2014	1,184,322	639,905	54%	544,417
2015	1,242,138	667,105	54%	575,033
2016	1,188,727	678,180	57%	510,547
2017	1,164,548	612,822	53%	551,726

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

Table 9-02: Computed Employer Contributions - Comparative Schedule

Valuation Date December 31	Active Employees		Computed Employer Contribution[1]	Employee Contribution Rate[2]
	Number	Annual Payroll		
2007	6	$ 252,123	12.00%	9.02%
2008	6	256,161	12.00%	9.44%
2009	5	214,801	12.00%	13.22%
2010	5	218,458	12.00%	14.29%
2011	5	199,480	12.00%	18.93%
2012	5	217,673	12.00%	20.28%
2013	5	215,836	12.00%	22.10%
2014	4	180,692	12.00%	25.27%
2015	4	173,843	12.00%	28.75%
2016	3	144,421	$ 3,149	0.00%
2017	1	57,717	$ 3,625	0.00%

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

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

Note: The contributions shown in Table 9 for the 12/31/2015 through 12/31/2019 valuations do **not** reflect the phase-in of the increased contribution requirements associated with the new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above. The contribution requirements including the 5-year phase-in are shown on page 6.

See the Benefit Provision History on page 24 for past benefit provision changes.

Division 02 - Police

Table 10-02: Layered Amortization Schedule

Type of UAL	Date Established		Original Balance[1]	Original Amortization Period[2]	Amounts for Fiscal Year Beginning 7/1/2019 Outstanding UAL Balance[3]		Remaining Amortization Period[2]	Annual Amortization Payment	
Initial	12/31/2015	$	575,033	23	$	590,997	18	$	46,104
(Gain)/Loss	12/31/2016		16,569	20		18,573	18		1,452
Plan Amendments	12/31/2016		(79,472)	20		(89,073)	18		(6,948)
(Gain)/Loss	12/31/2017		32,725	18		36,602	18		2,856
Total					**$**	**557,099**		**$**	**43,464**

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

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

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

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

GASB 68 Information

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

Actuarial Valuation Date:		12/31/2017
Measurement Date of Total Pension Liability (TPL):		12/31/2017

At 12/31/2017, the following employees were covered by the benefit terms:

Inactive employees or beneficiaries currently receiving benefits:	4
Inactive employees entitled to but not yet receiving benefits:	3
Active employees:	1
	8

Covered employee payroll: (Needed for Required Supplementary Information)	$	57,717
Average expected remaining service lives of all employees (active and inactive):		1
Total Pension Liability as of 12/31/2016 measurement date:	$	1,157,930
Total Pension Liability as of 12/31/2017 measurement date:	$	1,134,735
Service Cost for the year ending on the 12/31/2017 measurement date:	$	40

Change in the Total Pension Liability due to:

- Benefit changes[1]:	$	0
- Differences between expected and actual experience[2]:	$	23,689
- Changes in assumptions[2]:	$	0

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

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

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

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
Change in Net Pension Liability as of 12/31/2017:	$ 127,884	-	$ (98,078)

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

Benefit Provision History

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

02 - Police

7/1/2017	Participant Contribution Rate 26.53%
1/1/2017	Accelerated to 15-year Amortization
12/1/2016	Service Credit Purchase Estimates - Yes
9/1/2016	DC Adoption Date 09-01-2016
7/1/2015	Member Contribution Rate 22.10%
7/1/2014	Member Contribution Rate 20.28%
7/1/2013	Member Contribution Rate 18.93%
7/1/2012	Member Contribution Rate 14.29%
7/1/2011	Member Contribution Rate 13.22%
7/1/2010	Member Contribution Rate 9.44%
7/1/2009	Member Contribution Rate 9.02%
7/1/2008	Member Contribution Rate 9.33%
7/1/2007	Member Contribution Rate 10.31%
7/1/2006	Member Contribution Rate 11.93%
7/2/2005	Member Contribution Rate 9.25%
7/1/2005	Member Contribution Rate 11.52%
7/1/2004	Member Contribution Rate 9.83%
7/1/2003	Member Contribution Rate 13.84%
7/1/2002	Member Contribution Rate 10.90%
7/1/2001	Member Contribution Rate 12.42%
2/1/1999	Member Contribution Rate 10.67%
2/1/1999	Day of work defined as 8 Hours a Day for All employees.
2/1/1999	Benefit FAC-3 (3 Year Final Average Compensation)
2/1/1999	8 Year Vesting
2/1/1999	Benefit B-4 (80% max)
2/1/1999	Benefit F50 (With 25 Years of Service)
2/1/1999	Benefit F55 (With 15 Years of Service)
	Fiscal Month - July
	Benefit FAC-5 (5 Year Final Average Compensation)
	10 Year Vesting
	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	3.00%

Withdrawal Rate Scaling Factor

Division	Withdrawal Rate Scaling Factor
All Divisions	100%

Miscellaneous and Technical Assumptions

Loads – None.

Amortization Policy for Closed Divisions

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

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

Retirement Rates

The retirement rates for unreduced benefits are equal to .20 at all ages, except at age 70 the retirement rate is equal to 1.0.