



2019
Annual
Retirement
Conference

Defined Benefit Mechanics – Part 1: Plan Funding

Presented by:

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&
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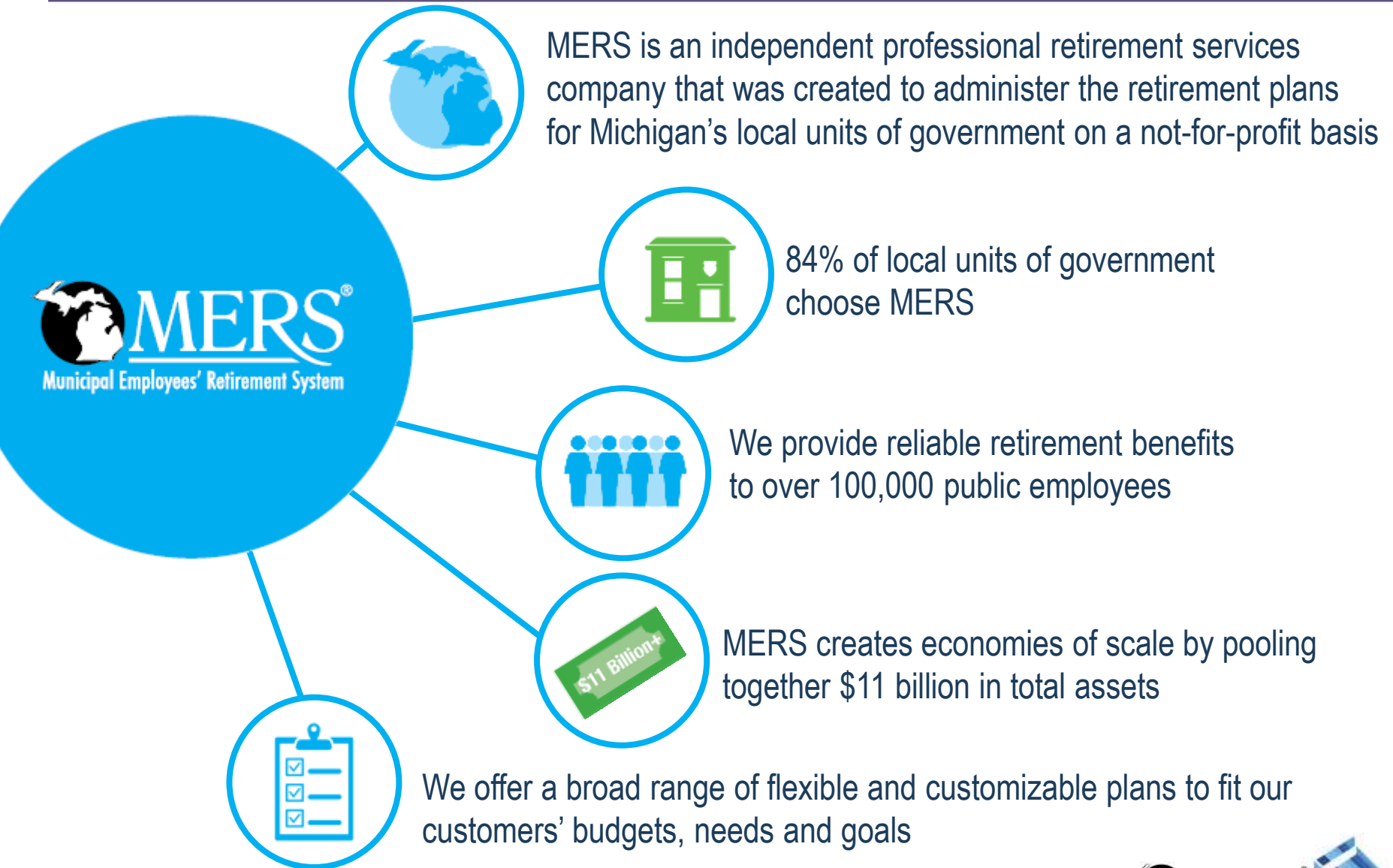
Agenda

- Overview of MERS
- How Defined Benefit Plans Work
- Fundamentals of Pension Funding
- Determining Annual Contributions
- How Unfunded Accrued Liability Develops
- Best Practices



Who is MERS?

MERS of Michigan



An Independent Elected Board

- MERS is governed by an elected board that operates without compensation
- Our board is committed to accountability and transparency; holding the line on costs; and watching out for the best interest of our members
- MERS provides customers with peace of mind because the ***MERS Retirement Board takes on the sole fiduciary responsibility of their plan***

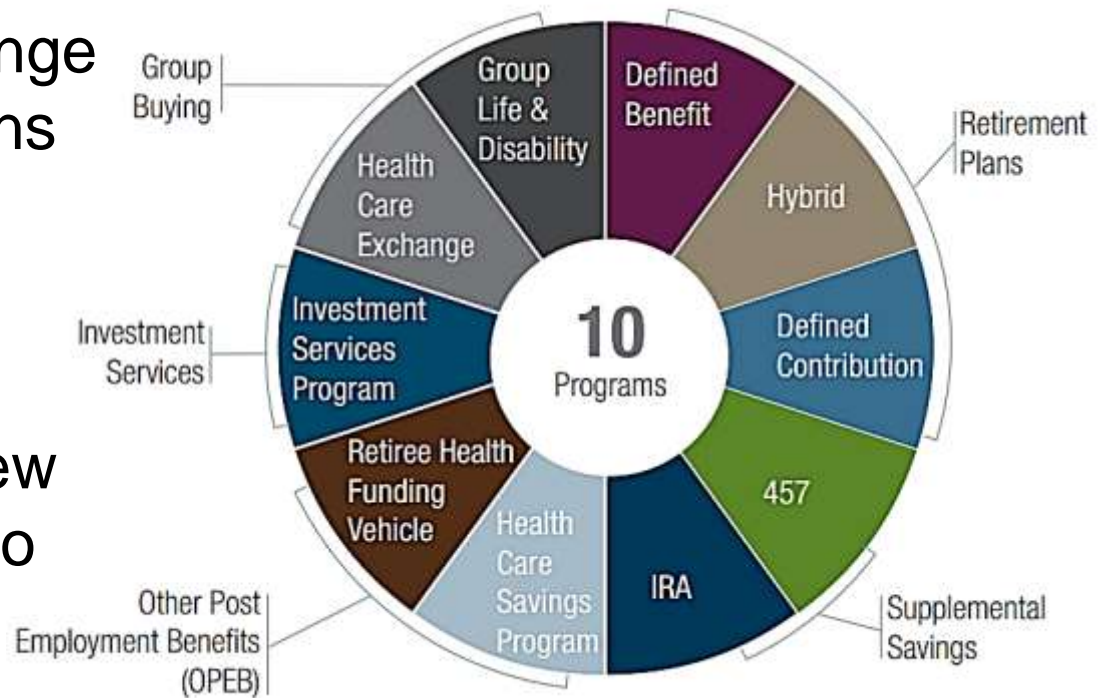


MERS Retirement Board

is responsible for administration of the system with fiduciary responsibility for the investment of assets and oversight.

One Size Does Not Fit All

- Each municipality has unique needs
- We offer a broad range of customizable plans and services
- We listen to our members and continuously add new products and tools to meet their needs



Public Sector Retirement Options

Defined Benefit

- Lifetime benefit that does not fluctuate with investment gains or losses
- Contributions fluctuate
- Funded by the employer, employee and investment earnings

Hybrid

- Combines the best of both plans
- Benefit and contributions vary
- Funded by the employer, employee and investment earnings

Defined Contribution

- Benefit based on account balance
- Fixed contributions
- Funded by the employer, employee and investment earnings

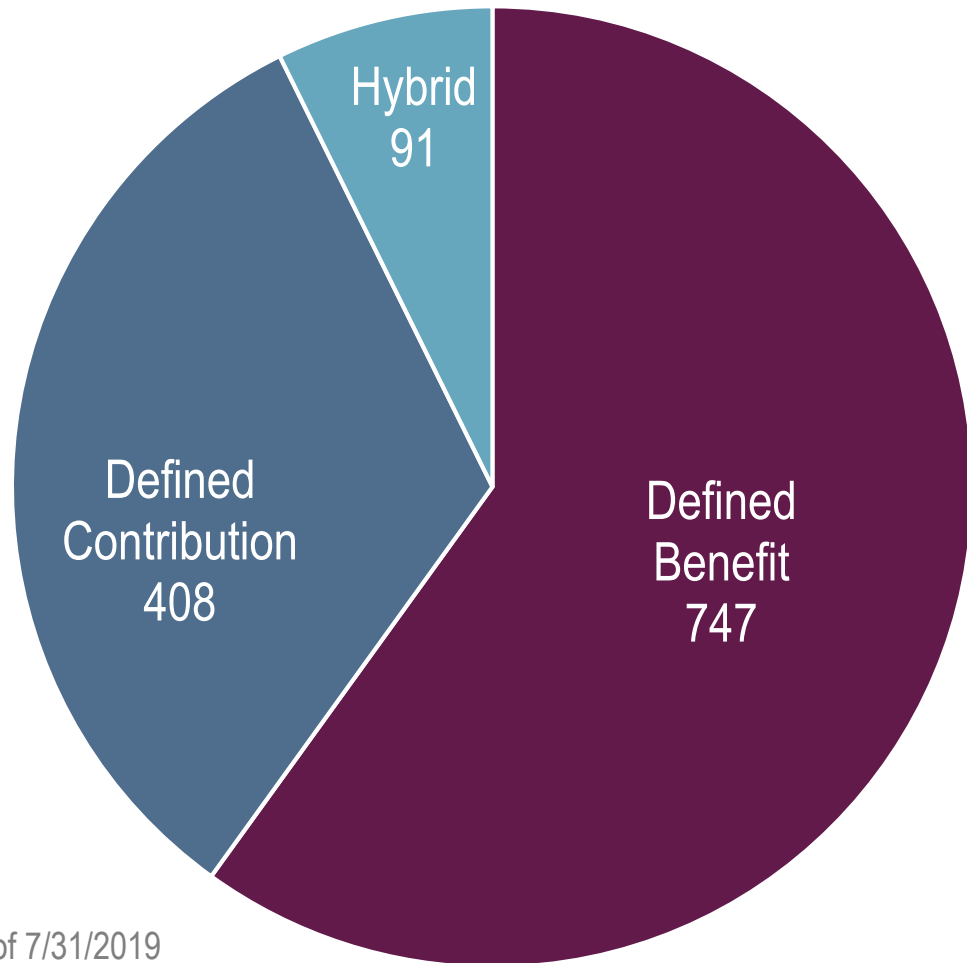
457 Program

- Supplemental savings account that can be added to any retirement plan
- Voluntary and flexible employee contributions
- Pre-tax and Roth options

MERS Retirement Plan Customers

MERS partners with
946 municipalities*

*Some municipalities have
multiple plans*



*As of 7/31/2019

Plan Administration

MERS provides full service administration of our retirement plans

Plan
Governance

On-Staff
Auditor

Legal Counsel

Legislative
Advocacy

Financial
Reporting

Administration
of Benefits

Actuarial
Services

GASB 68
Assistance

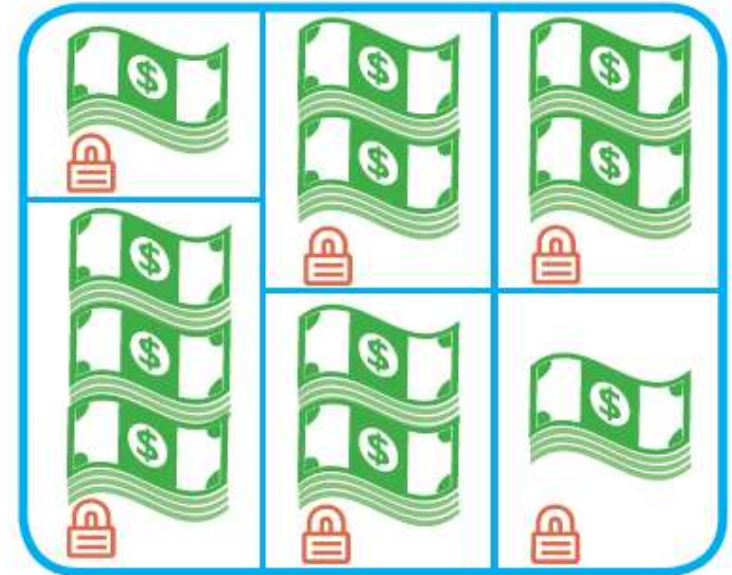
Portfolio
Management

Participant
Education and
Resources

Pooling Powers Financial Security

- Each municipality's retirement plan is maintained in a separate trust
- MERS pools assets for investment purposes, which provides huge benefits to members, including lower administrative costs

Pooled assets for
buying power



Separate accounts to maintain each
municipality's security



How Defined Benefit Plans Work

Lifetime Benefit for Career Employees

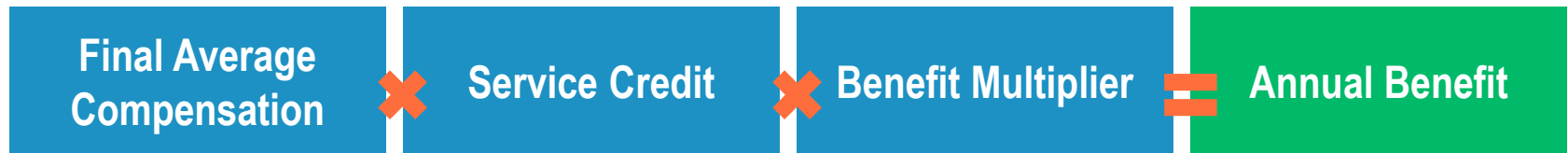
*Lifetime
Retirement
Benefit*



"Pension"



Defined Benefit Formula



The benefit formula is comprised of three components:

- Final Average Compensation
- Service Credit
- Benefit Multiplier

Final Average Compensation



- Average of the highest consecutive wages
- Majority of divisions use a 3 or 5-year period
 - 3-year period (47%)
 - 5-year period (52%)
- The average compensation is \$53,488

Service Credit

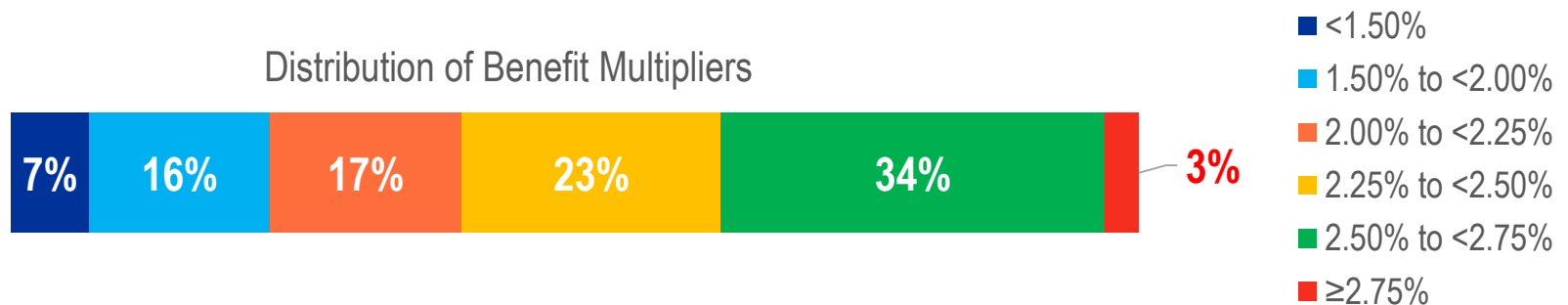


- Earned for each month of work that meets the employer's requirements
- To reach an 80% income replacement rate, a participant would need to work approximately 32 years (with a 2.5% multiplier)

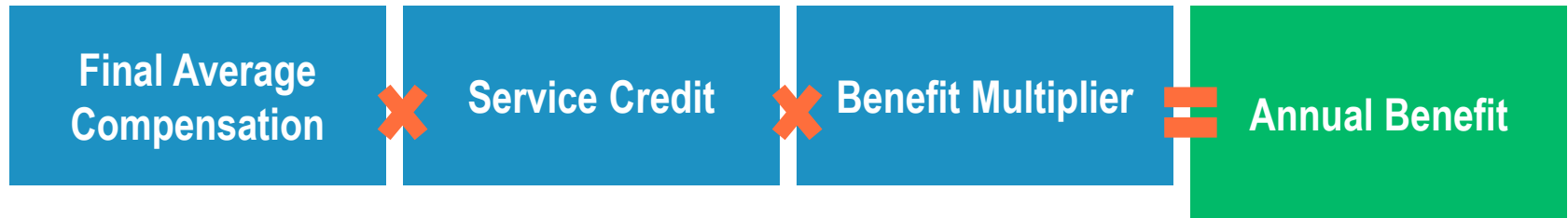
Benefit Multiplier



- Benefit multiplier is a specific percentage adopted by the employer
- About a third of divisions have a 2.5% multiplier
 - No new divisions are adopting this provision
 - Higher multiplier divisions may have opted out of Social Security



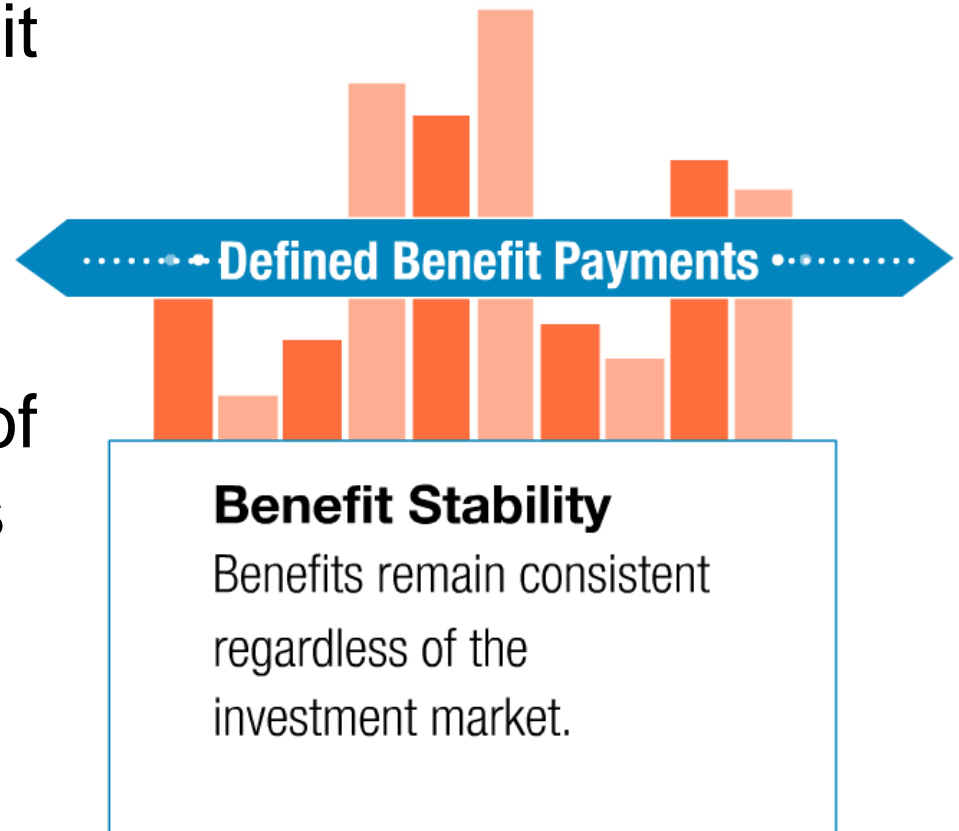
Annual Benefit



- To be eligible to receive a benefit an employee must meet both age and service requirements (also called vesting)
 - Majority have an eligibility age of 60
 - 2/3 of divisions have a vesting period of 10 years
- Current benefits being paid out
 - 41,350 retirees and beneficiaries
 - Average annual benefit is \$21,982
 - Average age at retirement was 59
 - 1 in 5 open plans offers a cost of living adjustment

Lifetime Benefit Stability

- The calculated benefit will not change with investment market fluctuations
- Retirement benefits of municipal employees are constitutionally protected





The Fundamentals of Pension Funding

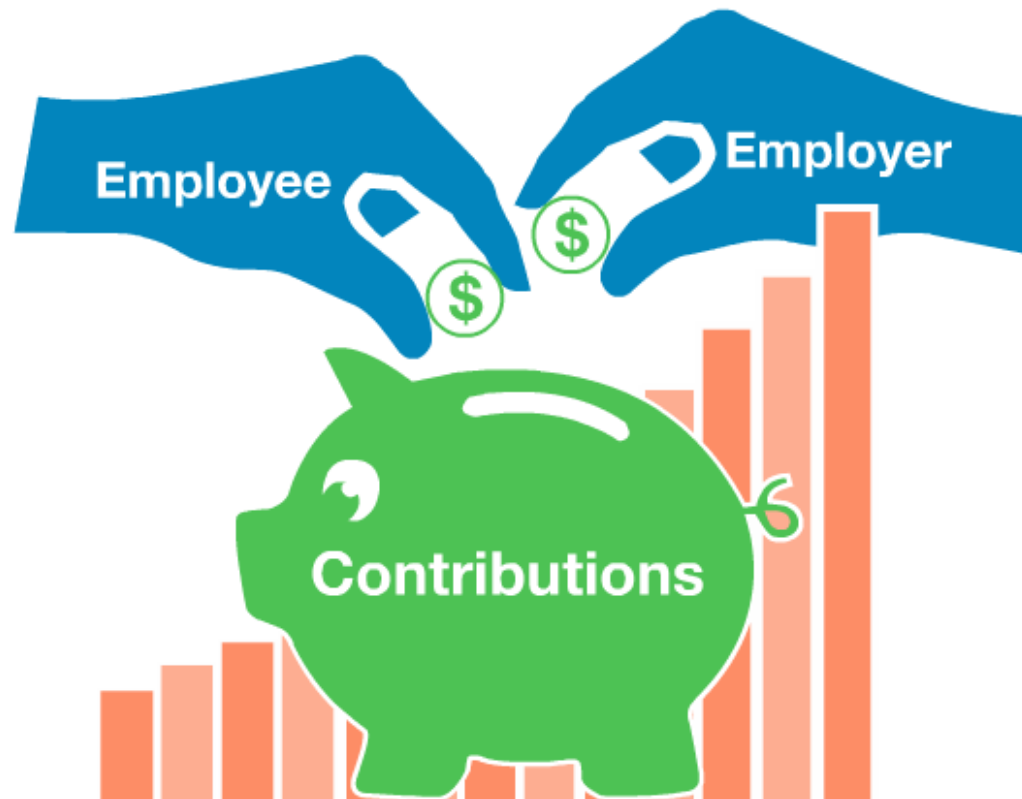
Prefunding the Benefit

- Defined benefit plans are pre-funded during the employee's career
- Contributions are typically made by both the employee and employer



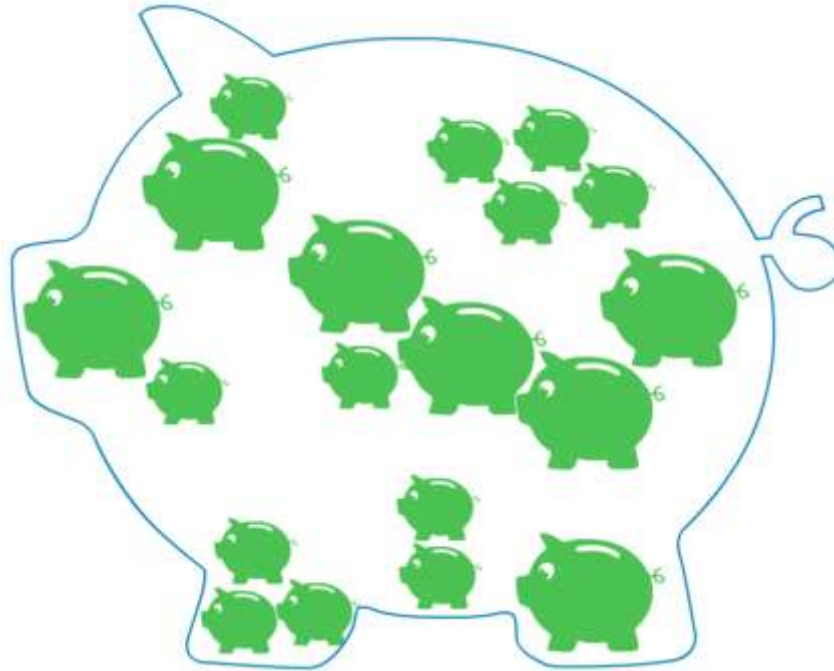
Contributions are Invested Long-Term

MERS strategically invests the contributions with a prudent long-term approach to provide downside protection with upside participation



Pooling Assets

- MERS pools assets for investment purposes, providing our members the benefit of investing with a \$11 billion pool of assets
- Each municipality's assets are maintained in separate accounts



Investment Earnings

MERS' investment earnings actually fund **more than half** of the benefits



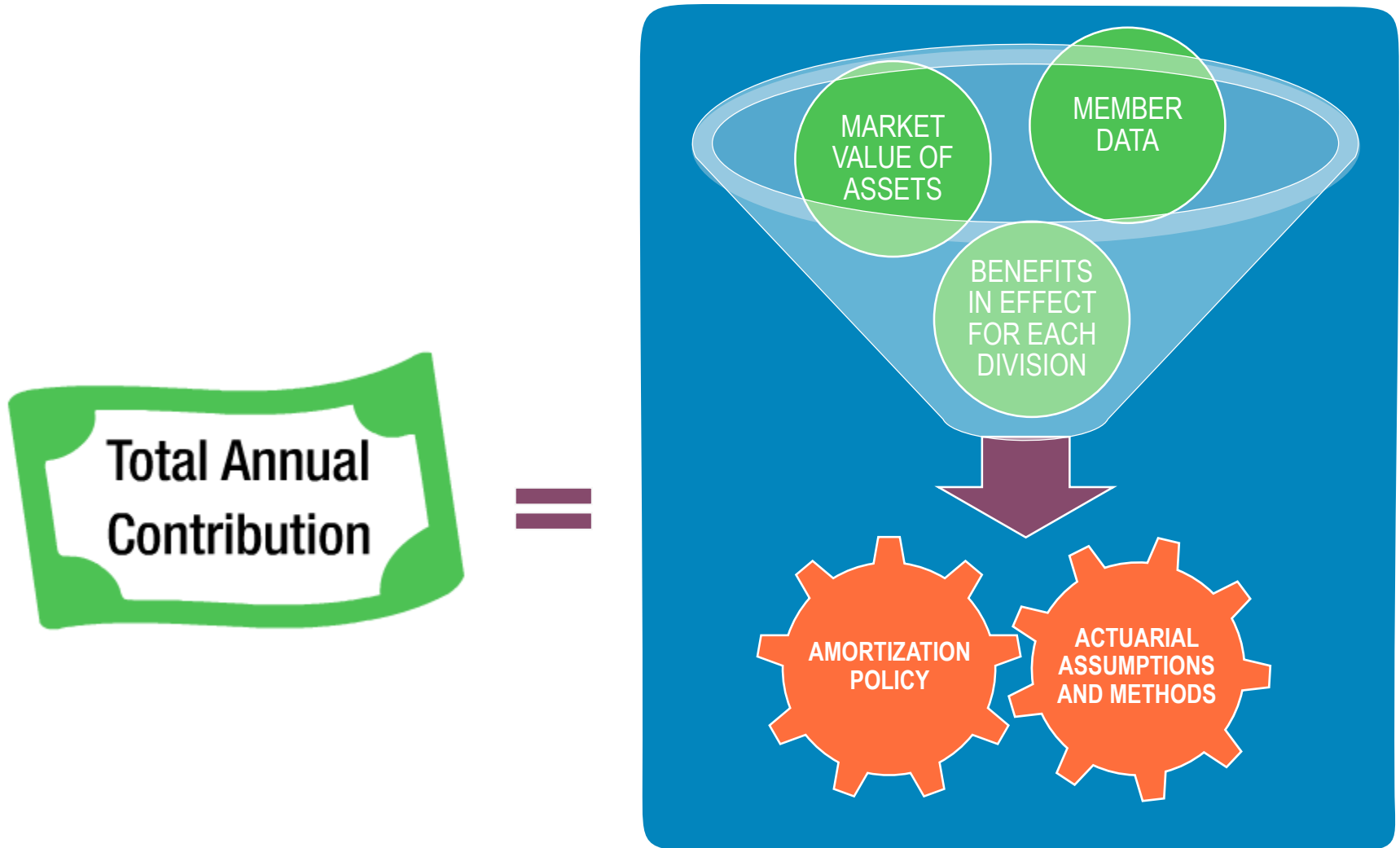


Determining Annual Contributions

Determining Annual Contributions

- The cost of the plan is determined annually and provided in the Annual Actuarial Valuation (AAV)
- Defined benefit plan costs vary by municipality and depend on the benefit plan design and other plan-specific details
- The ultimate cost will not be known until the last retiree/beneficiary stops drawing

Calculating the Total Annual Contribution



Employer Contribution

The employer contribution is made of up two parts:

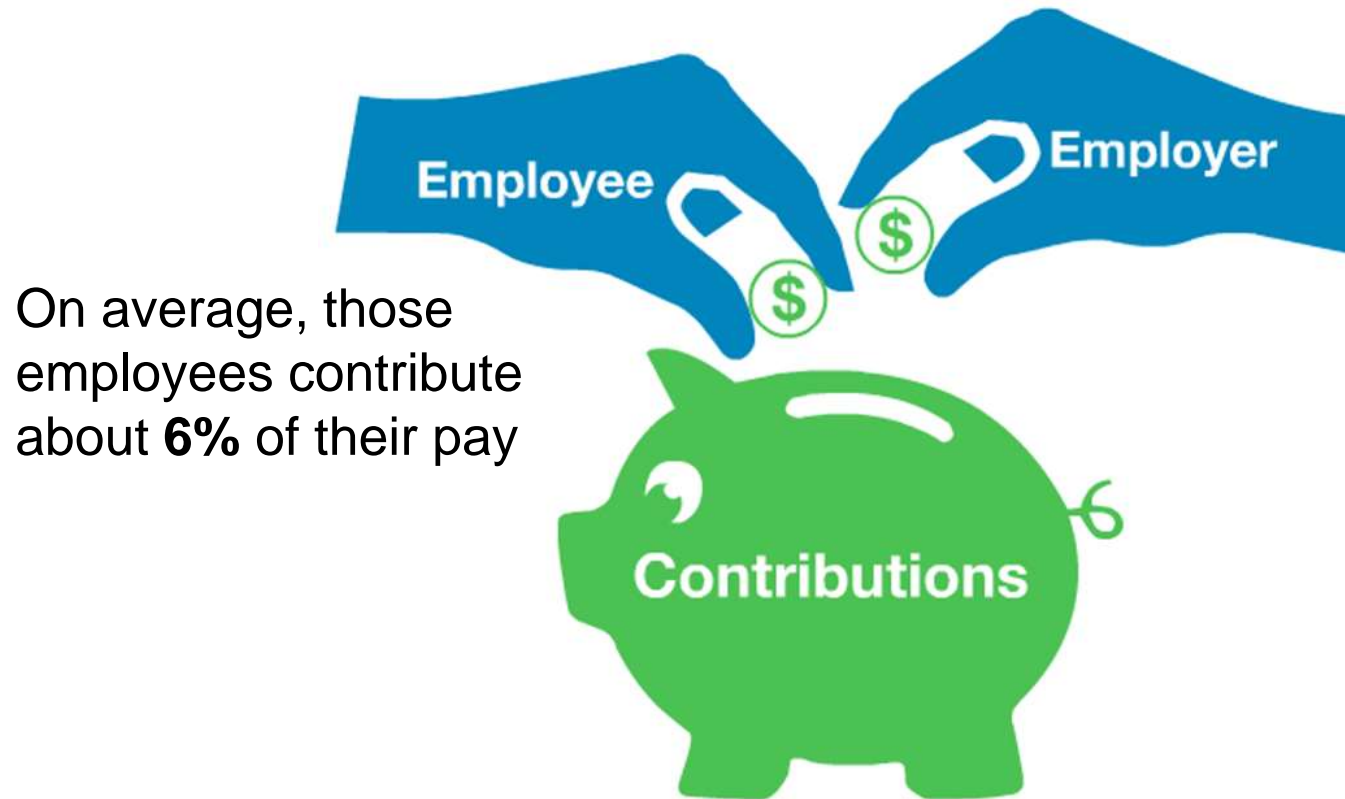
- **Employer Normal Cost** – Present value of benefits allocated to the current plan year less any employee contribution
- **Amortization Payment of Unfunded Accrued Liability** – Payment to reduce any shortfall between liability for past service and assets



Average Contribution Amounts

Approximately **64%** of open plans require employee contributions to their defined benefit plan

Employer contributions to these plans average about **13%** of payroll



On average, those employees contribute about **6%** of their pay



Highlights of Your Annual Actuarial Valuation (AAV)

About the Report

- This report is prepared by MERS actuary, in conformity with:
 - Generally recognized actuarial principles and practices
 - The Actuarial Standards of Practice issued by the Actuarial Standards Board
 - Compliance with Act No. 220 of the Public Acts of 1996
 - MERS Plan Document
- The report is delivered by June 30 of each year

Other Plan Information

- Quarterly Statement of Fiduciary Net Position
- Investment Policy Statement
- Investment Performance and Cost
- Plan Handbooks
- Comprehensive Annual Financial Report (CAFR)

Purpose of the Report

- Measures funding progress
- Establishes contribution requirements for the following fiscal year
- Provides actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements



Executive Summary *Funded Ratio*

Funded Ratio

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

	12/31/2018	12/31/2017
Funded Ratio*	74%	75%

* Reflects assets from Surplus divisions, if any.

Executive Summary *Required Employer Contributions*

Required Employer Contributions:

Your required employer contributions are shown in the following table. Employee contributions, if any, are in addition to the employer contributions. Changes to the actuarial assumptions and methods based on the 2015 Experience Study are phased-in over a 5-year period. This valuation reflects the fourth 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 you requested and have been billed using No Phase-in rates, your 2019 rates will continue to use the No Phase-in method. If you have been billed using the Phased-in rates and wish to change to rates based on No Phase-in, please contact MERS.

	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:	12/31/2018	12/31/2018	12/31/2017	12/31/2017	12/31/2018	12/31/2018	12/31/2017	12/31/2017
Fiscal Year Beginning:	January 1, 2020	January 1, 2020	January 1, 2019	January 1, 2019	January 1, 2020	January 1, 2020	January 1, 2019	January 1, 2019
Division								
01 - General	-	-	-	-	\$ 58,885	\$ 60,700	\$ 51,859	\$ 55,489
02 - Sheriff	-	-	-	-	39,087	39,970	30,595	32,361
11 - Admin-Super	-	-	-	-	13,689	14,008	9,310	9,948
20 - Command Officers	184.25%	188.32%	81.82%	85.76%	8,065	8,243	7,399	7,755
Municipality Total					\$ 119,726	\$ 122,921	\$ 99,163	\$ 105,553

Employee contribution rates:

Valuation Date:	Employee Contribution Rate	
	12/31/2018	12/31/2017
Division		
01 - General	5.50%	5.50%
02 - Sheriff	5.50%	5.50%
11 - Admin-Super	0.00%	0.00%
20 - Command Officers	7.50%	7.50%

Highlights

- Contributions shown for both Phase-in and No Phase-in for 2019 & 2020 fiscal years
- Shows employee contribution rates
- Includes optional additional funding considerations and information
- Key factors that impact changes in contributions

Executive Summary *What If Scenarios*

- Annual Actuarial Valuations include “what if” projection scenarios, including the recently adopted 7.35% rate of return and 3.0% wage inflation assumptions
- MERS highly encourages you to review these scenarios and make additional contributions, if possible

Valuation Year Ending 12/31	Fiscal Year Beginning 1/1	Actuarial Accrued Liability	Valuation Assets ²	Funded Percentage	Computed Annual Employer Contribution
7.75%¹/3.75%					
NO 5-YEAR PHASE-IN					
2018	2020	\$ 15,478,372	\$ 10,380,846	67%	\$ 775,680
2019	2021	\$ 15,900,000	\$ 10,500,000	66%	\$ 804,000
2020	2022	\$ 16,300,000	\$ 10,900,000	67%	\$ 837,000
2021	2023	\$ 16,600,000	\$ 11,200,000	67%	\$ 877,000
2022	2024	\$ 17,000,000	\$ 11,500,000	68%	\$ 718,000
2023	2025	\$ 17,300,000	\$ 12,000,000	69%	\$ 745,000
7.35%¹/3.00%					
NO 5-YEAR PHASE-IN					
2018	2020	\$ 15,978,582	\$ 10,380,846	65%	\$ 828,000
2019	2021	\$ 16,400,000	\$ 10,400,000	63%	\$ 854,000
2020	2022	\$ 16,700,000	\$ 10,800,000	65%	\$ 883,000
2021	2023	\$ 17,100,000	\$ 11,200,000	65%	\$ 919,000
2022	2024	\$ 17,400,000	\$ 11,500,000	66%	\$ 762,000
2023	2025	\$ 17,600,000	\$ 12,000,000	68%	\$ 786,000
5.75%¹/3.75%					
NO 5-YEAR PHASE-IN					
2018	2020	\$ 19,081,517	\$ 10,380,846	54%	\$ 1,124,028
2019	2021	\$ 19,500,000	\$ 10,300,000	53%	\$ 1,170,000
2020	2022	\$ 20,000,000	\$ 10,800,000	54%	\$ 1,210,000
2021	2023	\$ 20,300,000	\$ 11,400,000	56%	\$ 1,260,000
2022	2024	\$ 20,700,000	\$ 11,800,000	57%	\$ 1,120,000
2023	2025	\$ 21,000,000	\$ 12,500,000	60%	\$ 1,150,000

12/31/2018 Valuation Results	Assumed Future Annual Smoothed Rate of Investment Return		
	Lower Future Annual Returns	Adopted 2019 Assumption	Valuation Assumptions
Investment Return Assumption	5.75%	7.35%	7.75%
Wage Increase Assumption	3.75%	3.00%	3.75%
Accrued Liability	\$ 19,081,517	\$ 15,978,582	\$ 15,478,372
Valuation Assets ¹	\$ 10,380,846	\$ 10,380,846	\$ 10,380,846
Unfunded Accrued Liability	\$ 8,700,671	\$ 5,597,736	\$ 5,097,526
Funded Ratio	54%	65%	67%
Monthly Normal Cost	\$ 28,386	\$ 17,741	\$ 17,857
Monthly Amortization Payment	\$ 65,280	\$ 51,309	\$ 46,783
Total Employer Contribution ²	\$ 93,669	\$ 69,050	\$ 64,640

Flow 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						
2008	\$ 426,292		\$ 175,614	\$ 795,011	\$ (734,866)	\$ (25,971)	\$ 0	\$ 18,088,338
2009	415,922		178,040	866,315	(835,589)	(3,669)	0	18,709,357
2010	479,348		160,197	1,028,369	(942,657)	(20,969)	0	19,413,645
2011	522,378	\$ 0	178,443	999,074	(1,091,843)	(2,059)	0	20,019,638
2012	446,350	0	159,904	882,738	(1,177,817)	(73,514)	0	20,257,299
2013	530,805	0	151,910	1,191,721	(1,254,417)	(45,162)	0	20,832,156
2014	536,464	0	133,658	1,181,290	(1,327,944)	(55)	0	21,355,569
2015	612,364	0	120,866	1,035,710	(1,439,455)	0	0	21,685,054
2016	666,043	0	115,921	1,099,608	(1,516,313)	(3,786)	0	22,046,527
2017	822,418	0	113,029	1,324,304	(1,559,983)	(2,702)	0	22,743,593
2018	962,177	0	103,634	826,856	(1,716,616)	0	0	22,919,644

Funding Level Detail


**Table 6: Actuarial Accrued Liabilities and Valuation Assets
as of December 31, 2018**

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
01 - General	\$ 3,477,246	\$ 635,904	\$ 11,144,240	\$ 39,928	\$ 15,297,318	\$ 11,557,349	75.6%	\$ 3,739,969
02 - Sheriff	4,157,113	223,565	5,707,309	21,694	10,109,681	7,703,866	76.2%	2,405,815
11 - Admin-Super	1,262,825	0	1,926,920	0	3,189,745	2,329,962	73.0%	859,783
20 - Command Officers	396,510	0	2,188,496	0	2,585,006	1,328,467	51.4%	1,256,539
Total	\$ 9,293,694	\$ 859,469	\$ 20,966,965	\$ 61,622	\$ 31,181,750	\$ 22,919,644	73.5%	\$ 8,262,106

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

Plan Costs

- Plan costs vary by municipality and depend on the benefit plan design selected by the municipality
- MERS administrative and investment costs are found on your quarterly statements

 1134 Municipal Way
Lansing, MI 48917
(800) 767-6377

Customer Number: 650201

**Statement of Fiduciary Net Position
For the Quarter Ended 12/31/2018**

Bargaining Unit	Balance as of 9/30/2018	Invoiced & Other Contributions	Transfers	EE Refunds	Interest on EE Balance	Balance as of 12/31/2018
65020101	\$742,651.39	\$9,380.57	(\$465.00)	\$0.00	\$18,729.34	\$770,296.30
65020102	\$793,179.92	\$10,181.48	(\$1,517.59)	\$0.00	\$19,917.66	\$821,761.47
65020111	\$90,093.71	\$0.00	\$0.00	\$0.00	\$2,369.46	\$92,463.17
65020120	\$71,486.32	\$838.25	(\$771.04)	\$0.00	\$1,785.60	\$73,339.13
Total	\$1,697,411.34	\$20,400.30	(\$2,753.63)	\$0.00	\$42,802.06	\$1,757,860.07

Bargaining Unit	Balance as of 9/30/2018	Invoiced & Other Contributions	Transfers & Fees	Benefits Paid	Net Investment Income	Admin Expenses	Balance as of 12/31/2018
65020101	\$10,558,676.98	\$121,434.00	\$465.00	(\$262,963.31)	(\$630,958.20)	(\$5,589.31)	\$9,781,065.16
65020102	\$6,672,521.13	\$77,412.00	\$1,517.59	(\$110,135.32)	(\$426,070.93)	(\$3,707.96)	\$6,211,535.51
65020111	\$2,175,062.54	\$24,294.00	\$0.00	(\$38,105.19)	(\$125,436.16)	(\$1,123.54)	\$2,034,691.65
65020120	\$1,245,164.08	\$8,965.89	\$771.04	(\$42,046.65)	(\$72,712.72)	(\$647.53)	\$1,139,494.11
Total	\$20,651,424.73	\$232,105.89	\$2,753.63	(\$453,251.47)	(\$1,255,178.01)	(\$11,068.34)	\$19,166,786.43

	Balance as of 9/30/2018	Invoiced & Other Contributions	Transfers	Benefits Paid	Net Investment Income	Admin Expenses	Balance as of 12/31/2018
Total	\$22,348,836.07	\$252,506.19	\$0.00	(\$453,251.47)	(\$1,212,375.95)	(\$11,068.34)	\$20,924,646.50

Outstanding Accounts Receivable at 12/31/2018: \$0.00

Cost Control Measures

- Strong cost control measures have helped MERS hold the line on administrative costs
 - In 2018, our administrative costs were equal to our expenses back in 2009
 - Since 2009, MERS has gained 272 municipal customers; an increase of more than 42%

Administrative Costs

- Plan governance
- On-staff auditor
- Legal counsel
- State and Federal legislative advocacy
- Financial reporting
- Administration of benefits
- Actuarial services
- Participant education and resources

Other Resources



The screenshot shows the MERS (Municipal Employees' Retirement System) website. At the top, there is a logo for MERS and navigation links for Home, Forms, Contact Us, and Login. Below this is a green navigation bar with tabs for EMPLOYEE, RETIREE, EMPLOYER (highlighted with a red arrow), MEDIA, and MERS. A search bar is also present. The main content area is titled 'Annual Actuarial Valuations' and includes a sidebar with 'Employer Navigation' links such as Work Scenarios, Experience Study, and Annual Actuarial Valuations (AAV). The main text explains that the AAV is a tool to help budget for retirement benefits and provides a link to a consolidated report of all MERS plans. It also includes sections for 'When To Expect Your Report' and 'Understanding Your Annual Actuarial Valuation'.

MERS
Municipal Employees' Retirement System

Home Forms Contact Us Login

EMPLOYEE RETIREE **EMPLOYER** MEDIA MERS

Home » Employer » Work Scenarios » Annual Actuarial Valuations (AAV)

Employer Navigation

- Work Scenarios »
 - Experience Study »
 - Annual Actuarial Valuations (AAV) »
 - Changing to the MERS Defined Contribution Plan »
 - Unfunded Liability »
 - Other Post-Employment Benefits (OPEB) »
 - GASB 68/75 »
 - Wage and Contribution Reporting »
- Resources »
- Programs »
- Quick Links »

Annual Actuarial Valuations

The annual actuarial valuation (AAV) is an important tool to help you budget for your municipality's retirement benefits, with information specific to your municipality's retirement plan. While MERS pools assets for investment purposes, individual accounts are maintained for each municipality. Each entity is responsible for the employer contributions needed to provide benefits for its employees and former employees. To see a consolidated report of all MERS plans, please [click here](#).

The annual actuarial valuation is a report provided to you as a snapshot of your MERS Defined Benefit Plan as of December 31 each year. The report provides insight to your plan's liabilities, funding levels, contributions for both the employer and employee, and important GASB Information. The information in the report will provide your contribution rates for your following fiscal year.

Quick Links:

- [Experience Study](#)
- [Managing LAL](#)

When To Expect Your Report

You can expect your report to arrive by June 30 for the previous calendar year. For instance, you can expect the 2018 report to arrive by June 30, 2019. This report will contain contribution rate information for the 2020 fiscal year.

Understanding Your Annual Actuarial Valuation

This guide outlines each section of your report, as well as answers to some frequently asked questions. For more information, please contact your MERS Regional Manager. Click the section title for more information about that part of the report.



Best Practices

Experience Study

- As part of our **fiduciary responsibility**, we check assumptions *at least* every five years
- Compares actual experience of the plan with the current assumptions to determine if changes are necessary
- In today's ever-changing world, there is a need to review **economic assumptions** more frequently so that plans can make incremental changes
- The review of our **demographic assumptions** will begin in 2019



Sound Funding Policies



- Encourage extra contributions through market volatility scenarios



- Establish a minimum funding threshold that prevents plans from running out of assets



- Implement a fixed amortization policy that gives plans a specific date by which all known obligations will be fully funded

Benefit Enhancement Modeling



- For any benefit enhancements, municipal plans must be fully funded



- Actuarial reports illustrate financial impacts of benefit changes by providing cost projections of at least 5 years

Pension Spiking Mitigation



- Avoid “pension spiking” by limiting lump sum payouts into final compensation



- Actuarial loads are applied to groups that have demonstrated a history of Final Average Compensation increases

Ready to Learn More about Unfunded Liability?

- MERS works in partnership with our members to ensure that each municipality is making reasonable progress to achieve full funding
- We offer many options to help reduce UAL, with a variety of programs and provisions to fit each employer's unique needs
- Attend *Defined Benefit Mechanics - Part 2: Managing Unfunded Accrued Liability*

Q&A

Contacting MERS of Michigan

MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM

1134 Municipal Way
Lansing, MI 48917

800.767.MERS (6377)

www.mersofmich.com



This presentation contains a summary description of MERS benefits, policies or procedures. MERS has made every effort to ensure that the information provided is accurate and up to date. Where the publication conflicts with the relevant Plan Document, the Plan Document controls.