



# Understanding Your Annual Actuarial Valuation (AAV)

*2019 Report*



# Annual Actuarial Valuation (AAV)

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- Your AAV is an important tool to help you budget for your municipality's retirement benefits
- This report is prepared by Gabriel, Roeder, Smith & Company (GRS) in conformity with:
  - Generally recognized actuarial principles and practices
  - The Actuarial Standards of Practice issued by the Actuarial Standards Board
  - Compliance with Public Act No. 220 of 2017
  - MERS Plan Document

# Purpose of the Report

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- Measure your municipality's funding progress
- Establish contribution requirements for your fiscal year beginning 2021
- Provide actuarial information in connection with applicable Governmental Accounting Standards Board (GASB) statements

# Changes to Economic Assumptions

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- The MERS Retirement Board adjusted key **economic assumptions** that are effective with this AAV

Investment rate of return assumption  
was lowered from 7.75% to 7.35%

Wage inflation assumption was lowered  
from 3.75% to 3.00%

# Changes in Demographic Assumptions

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- The MERS Retirement Board approved adjustments to key **demographic assumptions**

Mortality

Mortality Improvement

Retirement and Withdrawal Experience

- Changes will be effective with your 2020 AAV and **will impact your required contributions in FY 2022**

# Funded Ratio *Executive Summary*

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- Your funded ratio is provided right up front

	12/31/2019	12/31/2018
Funded Ratio	69%	67%

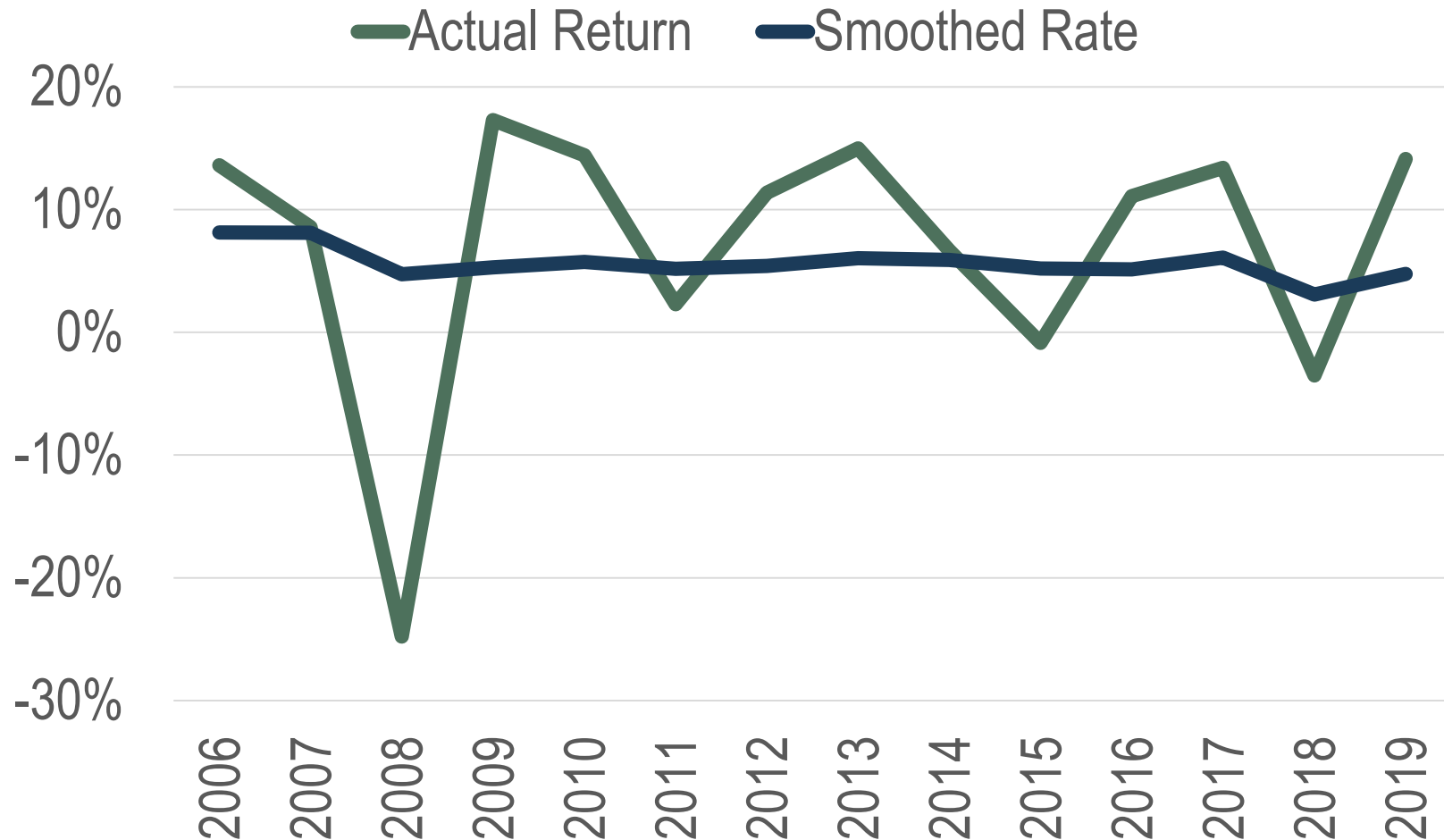
- Contributions made to surplus division(s) are included
- An explanation of surplus divisions is in the section on Required Employer Contributions

# Required Employer Contributions *Executive Summary*

	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:	12/31/2019	12/31/2019	12/31/2018	12/31/2018	12/31/2019	12/31/2019	12/31/2018	12/31/2018
Fiscal Year Beginning:	January 1, 2021	January 1, 2021	January 1, 2020	January 1, 2020	January 1, 2021	January 1, 2021	January 1, 2020	January 1, 2020
<b>Division</b>								
01 - Local 214/Crthse	14.97%	15.58%	13.51%	13.99%	\$ 2,515	\$ 2,617	\$ 1,952	\$ 2,021
02 - Sheriff/Union	-	-	-	-	20,402	21,602	17,447	17,909
11 - Gen. Non-Union	22.72%	23.58%	19.67%	20.02%	6,051	6,279	5,173	5,266
12 - Senior Elec. Off	23.99%	25.59%	21.56%	22.30%	8,615	9,188	7,599	7,861
13 - Snr. Teamsters	167.95%	169.64%	267.32%	267.43%	4,481	4,526	7,114	7,117
14 - Non Elected	41.59%	43.42%	38.05%	38.76%	11,162	11,654	10,008	10,196
20 - Sheriff/Sheriff	97.32%	103.16%	71.91%	73.33%	10,140	10,749	7,595	7,745
21 - COAM	38.30%	40.00%	35.74%	36.63%	7,289	7,613	6,367	6,525
<b>Municipality Total</b>					<b>\$ 70,655</b>	<b>\$ 74,228</b>	<b>\$ 63,255</b>	<b>\$ 64,640</b>

- By default, MERS will invoice you based on the amount in the “No Phase-in” columns
- Employee contributions, if any, are in addition to employer contributions

# Asset Smoothing *Executive Summary*





# Alternate Scenarios *Executive Summary*

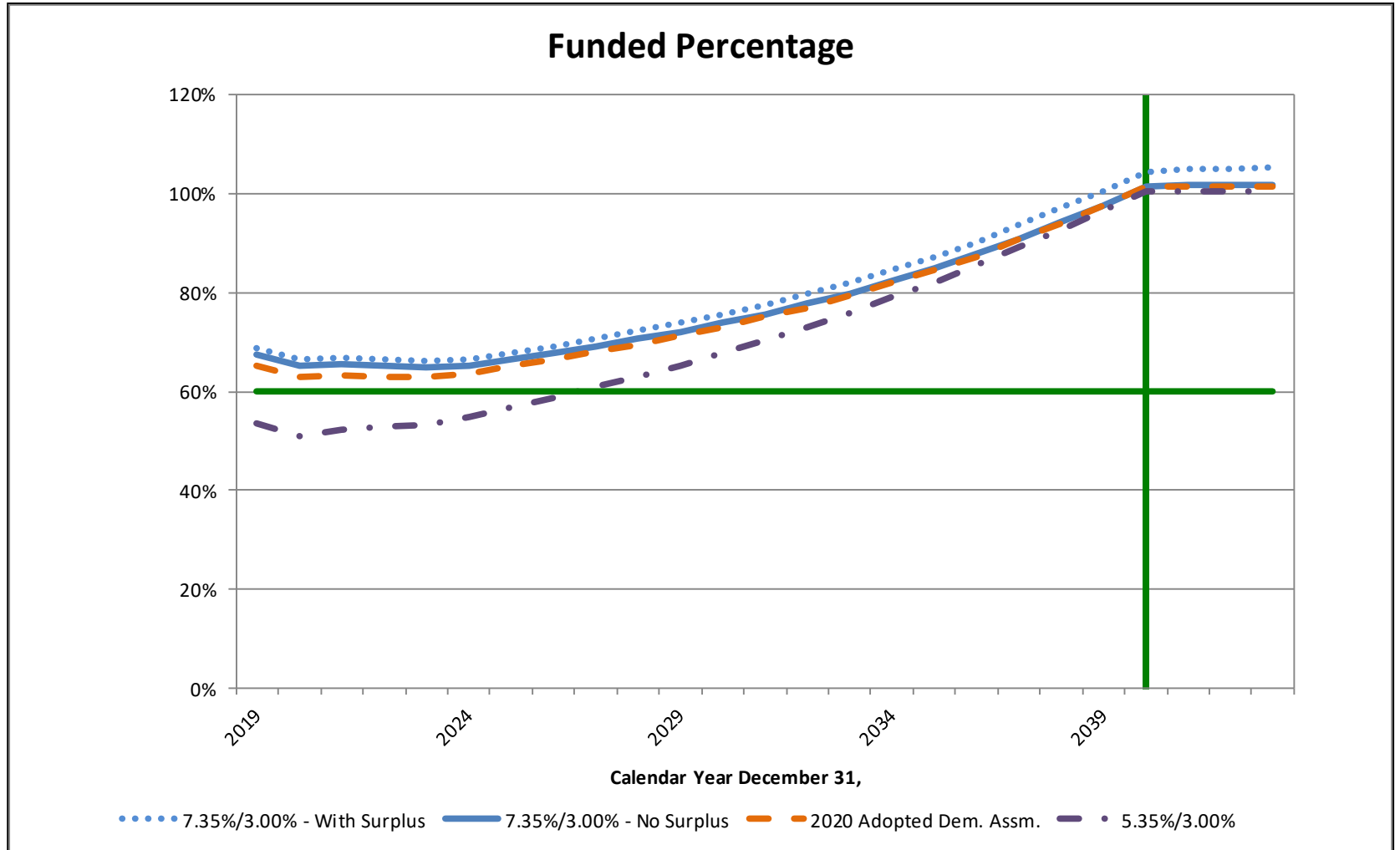
***“What if...”***

12/31/2018 Valuation Results	Assumed Future Annual Smoothed Rate of Investment Return		
	Lower Future Annual Returns <sup>3</sup>	2020 Adopted Demographic Assumption	Valuation Assumptions
<b>Investment Return Assumption</b>	<b>5.35%</b>	<b>7.35%</b>	<b>7.35%</b>
<b>Wage Increase Assumption</b>	<b>3.00%</b>	<b>3.00%</b>	<b>3.00%</b>
Accrued Liability	\$ 17,859,954	\$ 14,711,608	\$ 14,189,692
Valuation Assets <sup>1</sup>	\$ 9,756,670	\$ 9,756,670	\$ 9,756,670
Unfunded Accrued Liability	\$ 8,103,284	\$ 4,954,938	\$ 4,433,022
<b>Funded Ratio</b>	<b>55%</b>	<b>66%</b>	<b>69%</b>
Monthly Normal Cost	\$ 26,999	\$ 16,014	\$ 15,951
Monthly Amortization Payment	\$ 44,605	\$ 32,463	\$ 28,257
<b>Total Employer Contribution<sup>2</sup></b>	<b>\$ 72,018</b>	<b>\$ 49,103</b>	<b>\$ 44,855</b>

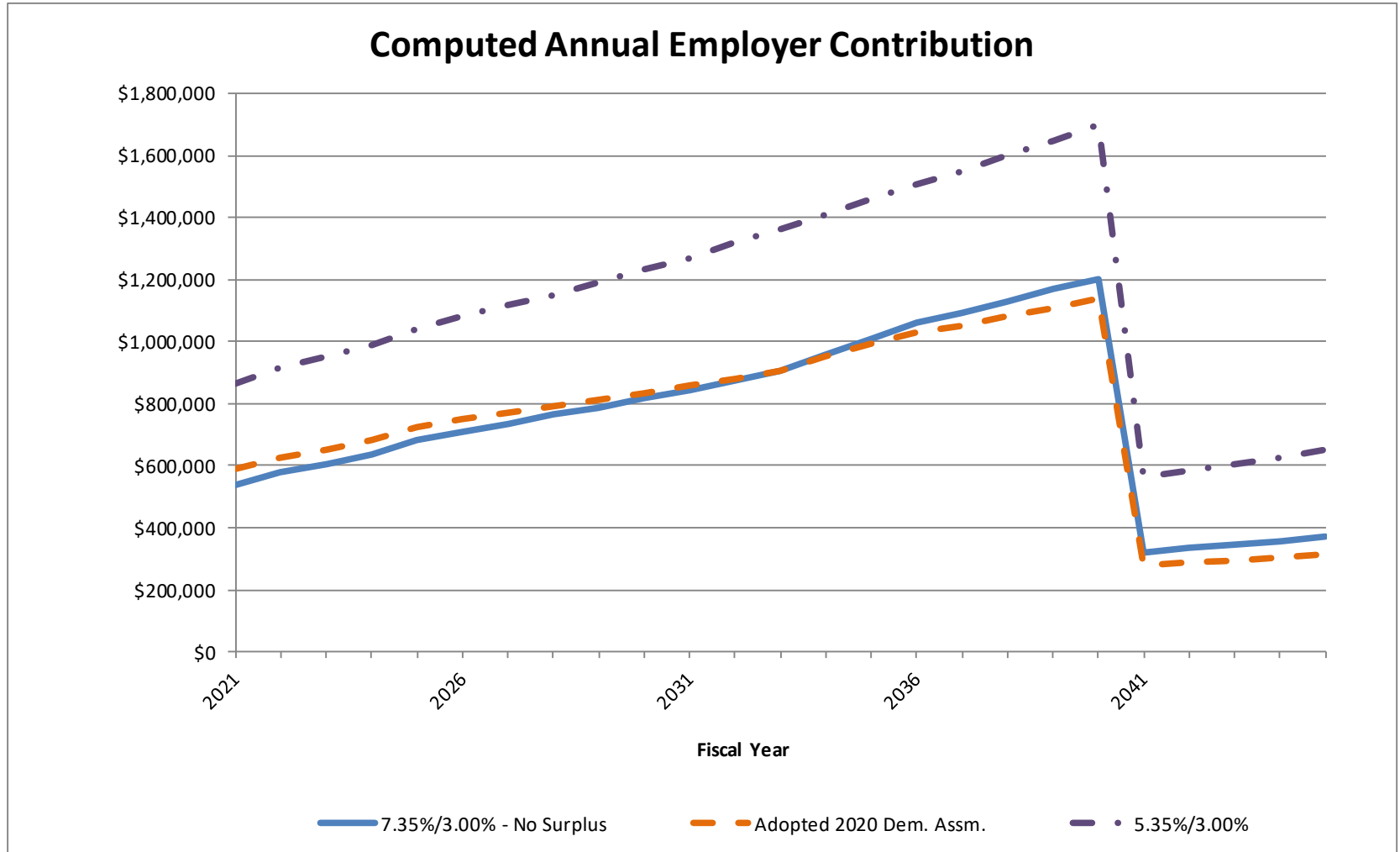
# Alternate Scenario Projections

Valuation Year Ending 12/31	Fiscal Year Beginning 7/1	Actuarial Accrued Liability	Valuation Assets <sup>2</sup>	Funded Percentage	Computed Annual Employer Contribution
7.35% <sup>1</sup> /3.00% - Current Demographic Assumptions NO 5-YEAR PHASE-IN					
2019	2021	\$ 10,306,584	\$ 5,994,137	58%	\$ 450,684
2020	2022	\$ 10,600,000	\$ 6,240,000	59%	\$ 450,000
2021	2023	\$ 10,800,000	\$ 6,490,000	60%	\$ 460,000
2022	2024	\$ 11,100,000	\$ 6,670,000	60%	\$ 476,000
2023	2025	\$ 11,300,000	\$ 6,950,000	62%	\$ 483,000
2024	2026	\$ 11,400,000	\$ 7,190,000	63%	\$ 498,000
7.35% <sup>1</sup> /3.00% - Adopted 2020 Demographic Assumptions NO 5-YEAR PHASE-IN					
2019	2021	\$ 10,618,167	\$ 5,994,137	56%	\$ 477,168
2020	2022	\$ 10,900,000	\$ 6,240,000	57%	\$ 484,000
2021	2023	\$ 11,200,000	\$ 6,500,000	58%	\$ 494,000
2022	2024	\$ 11,500,000	\$ 6,710,000	59%	\$ 512,000
2023	2025	\$ 11,700,000	\$ 7,040,000	60%	\$ 520,000
2024	2026	\$ 11,900,000	\$ 7,320,000	62%	\$ 538,000
2019	2021	\$ 12,914,728	\$ 5,994,137	46%	\$ 646,896
2020	2022	\$ 13,200,000	\$ 6,120,000	46%	\$ 655,000
2021	2023	\$ 13,500,000	\$ 6,340,000	47%	\$ 667,000
2022	2024	\$ 13,700,000	\$ 6,590,000	48%	\$ 683,000
2023	2025	\$ 13,900,000	\$ 6,960,000	50%	\$ 691,000
2024	2026	\$ 14,000,000	\$ 7,270,000	52%	\$ 708,000

# Projection Scenario Graphs *Executive Summary*



# Projection Scenario Graphs *Executive Summary*



# Table 1 – Employer Contribution Details

Division	Total Normal Cost	Employee Contribut. Rate	Employer Contributions <sup>1</sup>			Computed Employer Contribut. With Phase-In	Blended ER Rate No Phase-In <sup>5</sup>	Blended ER Rate With Phase-In <sup>5</sup>	Employee Contribut. Conversion Factor <sup>2</sup>
			Employer Normal Cost	Payment of the Unfunded Accrued Liability <sup>4</sup>	Computed Employer Contribut. No Phase-In				
<b>Percentage of Payroll</b>									
01 - Gnrl Other	12.77%	0.00%	-	-	-	-			
02 - Police	14.04%	0.00%	-	-	-	-			
10 - Supervisors	11.90%	0.00%	-	-	-	-			
<b>Estimated Monthly Contribution<sup>3</sup></b>									
01 - Gnrl Other			\$ 6,422	\$ 17,460	\$ 23,882	\$ 22,301			
02 - Police			1,995	4,783	6,778	6,391			
10 - Supervisors			570	6,327	6,897	6,813			
<b>Total Municipality</b>			\$ 8,987	\$ 28,570	\$ 37,557	\$ 35,505			
<b>Estimated Annual Contribution<sup>3</sup></b>			\$ 107,844	\$ 342,840	\$ 450,684	\$ 426,060			

- By default, MERS will invoice employers based on the “No Phase-In” rate
- Employee contributions are in addition to employer contributions

# Table 2 – Benefit Provisions

01 - Gen. Secrtrl.: Closed to new hires		
	2019 Valuation	2018 Valuation
<b>Benefit Multiplier:</b>	2.25% Multiplier (80% max)	2.25% Multiplier (80% max)
<b>Normal Retirement Age:</b>	60	60
<b>Vesting:</b>	10 years	10 years
<b>Early Retirement (Unreduced):</b>	-	-
<b>Early Retirement (Reduced):</b>	50/25 55/15	50/25 55/15
<b>Final Average Compensation:</b>	5 years	5 years
<b>COLA for Future Retirees:</b>	2.50% (Non-Compound)	2.50% (Non-Compound)
<b>Employee Contributions:</b>	0.00%	0.00%
<b>Act 88:</b>	No	No

# Table 3 – Participant Summary

Division	2019 Valuation		2018 Valuation		2019 Valuation		
	Number	Annual Payroll <sup>1</sup>	Number	Annual Payroll <sup>1</sup>	Average Age	Average Benefit Service <sup>2</sup>	Average Eligibility Service <sup>2</sup>
01 - Gen. Secrtrl.							
Active Employees	0	\$ 0	0	\$ 0	0.0	0.0	0.0
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	4	19,170	4	18,994	87.6		
Pending Refunds	0		0				
02 - Sheriff Union & Undersheriff							
Active Employees	2	\$ 115,111	2	\$ 115,808	48.8	19.9	21.8
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	16	375,154	16	366,641	61.4		
Pending Refunds	0		0				
11 - Gen Elected							
Active Employees	2	\$ 150,342	2	\$ 139,779	58.2	16.9	26.3
Vested Former Employees	0	0	0	0	0.0	0.0	0.0
Retirees and Beneficiaries	5	201,807	5	197,710	66.2		
Pending Refunds	0		0				

# Table 4 – Reported Assets (Market Value)

Division	2019 Valuation		2018 Valuation	
	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>	Employer and Retiree <sup>1</sup>	Employee <sup>2</sup>
01 - Local 214/Crthse	\$ 434,553	\$ 0	\$ 415,805	\$ 0
02 - Sheriff/Union	3,109,450	0	2,791,623	0
11 - Gen. Non-Union	725,121	125	647,196	123
12 - Senior Elec. Off	2,890,780	7,256	2,622,850	9,354
13 - Snr. Teamsters	165,346	5,713	168,909	4,732
14 - Non Elected	1,090,326	80,895	997,845	70,417
20 - Sheriff/Sheriff	1,137,100	0	1,010,926	13,445
21 - COAM	748,063	2,219	721,853	2,184
<b>Municipality Total<sup>3</sup></b>	<b>\$ 10,300,739</b>	<b>\$ 96,208</b>	<b>\$ 9,377,008</b>	<b>\$ 100,257</b>
<b>Combined Assets<sup>3</sup></b>	<b>\$10,396,947</b>		<b>\$9,477,264</b>	



# Table 5 – Flow of Valuation Assets

Year Ended 12/31	Employer Contributions		Employee Contributions	Investment Income (Valuation Assets)	Benefit Payments	Employee Contribution Refunds	Net Transfers	Valuation Asset Balance
	Required	Additional						
2009	\$ 290,408		\$ 5,378	\$ 303,169	\$ (364,948)	\$ 0	\$ 0	\$ 6,593,960
2010	320,605		10,150	365,909	(408,776)	0	0	6,881,848
2011	317,515	312,120	11,622	424,182	(461,838)	0	0	7,485,449
2012	336,321	\$ 250,000	14,406	386,031	(482,713)	0	0	7,989,494
2013	339,611	0	15,704	481,253	(505,689)	(1,007)	0	8,319,366
2014	346,825	0	19,049	478,578	(536,215)	0	0	8,627,603
2015	367,909	0	22,653	431,642	(556,551)	(10,192)	0	8,883,064
2016	425,489	0	28,084	475,981	(573,684)	0	0	9,238,934
2017	400,129	80,125	31,773	562,865	(687,172)	0	(1)	9,626,653
2018	429,946	79,387	35,087	351,986	(758,298)	(8,091)	0	9,756,670
2019	429,946	79,387	35,087	351,986	(758,298)	(8,091)	0	9,756,670

# Table 6 – AAL and Valuation Assets

Division	Actuarial Accrued Liability					Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
	Active Employees	Vested Former Employees	Retirees and Beneficiaries	Pending Refunds	Total			
01 - Gnrl Other	\$ 3,147,292	\$ 121,465	\$ 4,109,377	\$ 0	\$ 7,378,134	\$ 4,713,409	63.9%	\$ 2,664,725
02 - Police	570,628	28,439	1,182,258	0	1,781,325	1,045,044	58.7%	736,281
10 - Supervisors	132,829	0	1,014,296	0	1,147,125	235,684	20.6%	911,441
<b>Total</b>	<b>\$ 3,850,749</b>	<b>\$ 149,904</b>	<b>\$ 6,305,931</b>	<b>\$ 0</b>	<b>\$ 10,306,584</b>	<b>\$ 5,994,137</b>	<b>58.2%</b>	<b>\$ 4,312,447</b>

# Table 7 – AAL Comparative Schedule

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2005	\$ 7,541,688	\$ 5,199,036	69%	\$ 2,342,652
2006	7,945,819	5,615,452	71%	2,330,367
2007	8,237,055	6,063,000	74%	2,174,055
2008	9,149,868	6,359,953	70%	2,789,915
2009	9,122,990	6,593,960	72%	2,529,030
2010	9,975,897	6,881,848	69%	3,094,049
2011	10,372,909	7,485,449	72%	2,887,460
2012	10,624,961	7,989,494	75%	2,635,467
2013	10,972,702	8,319,366	76%	2,653,336
2014	11,409,264	8,627,603	76%	2,781,661
2015	12,342,393	8,883,064	72%	3,459,329
2016	13,050,886	9,238,934	71%	3,811,952
2017	13,621,292	9,626,653	71%	3,994,639
2018	14,189,692	9,756,670	69%	4,433,022
2019	14,189,692	9,756,670	69%	4,433,022

# Table 8 – Division-Based Comparisons

**Table 8-01: Actuarial Accrued Liabilities - Comparative Schedule**

Valuation Date December 31	Actuarial Accrued Liability	Valuation Assets	Percent Funded	Unfunded (Overfunded) Accrued Liabilities
2009	\$ 144,464	\$ 58,925	41%	\$ 85,539
2010	139,534	40,336	29%	99,198
2011	135,038	103,104	76%	31,934
2012	130,051	91,190	70%	38,861
2013	124,691	71,860	58%	52,831
2014	119,756	55,255	46%	64,501
2015	95,273	43,392	46%	51,881
2016	91,313	50,876	56%	40,437
2017	87,390	42,080	48%	45,310
2018	84,338	33,638	40%	50,700
2019	84,338	33,638	40%	50,700

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

# Table 9 – Division-Based Comparisons

**Table 9-02: Computed Employer Contributions - Comparative Schedule**

Valuation Date December 31	Active Employees		Computed Employer Contribution <sup>1</sup>	Employee Contribution Rate <sup>2</sup>
	Number	Annual Payroll		
2009	11	\$ 524,806	\$ 10,678	0.00%
2010	9	403,688	\$ 7,544	0.00%
2011	8	390,026	\$ 10,440	0.00%
2012	7	352,744	\$ 10,197	0.00%
2013	6	314,452	\$ 10,823	0.00%
2014	6	326,961	\$ 11,890	0.00%
2015	6	326,905	\$ 14,487	0.00%
2016	5	297,035	\$ 15,773	0.00%
2017	2	115,808	\$ 16,710	0.00%
2018	2	115,111	\$ 18,924	0.00%
2019	2	115,111	\$ 18,924	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 new actuarial assumptions. The full contribution without phase-in is shown in Table 9 above.

# Table 10 – Layered Amortization Schedule

**Table 10-01: Layered Amortization Schedule**

Type of UAL	Date Established	Original Balance <sup>1</sup>	Original Amortization Period <sup>2</sup>	Amounts for Fiscal Year Beginning 1/1/2021		
				Outstanding UAL Balance <sup>3</sup>	Remaining Amortization Period <sup>2</sup>	Annual Amortization Payment
(Gain)/Loss	12/31/2017	\$ 30,676	15	\$ 31,921	13	\$ 3,216
(Gain)/Loss	12/31/2018	27,081	15	28,750	14	2,748
(Gain)/Loss	12/31/2019	14,159	15	15,200	15	1,380
Assumption	12/31/2019	16,446	15	17,362	15	1,572
<b>Total</b>				<b>\$ 93,233</b>		<b>\$ 8,916</b>

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

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

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

# GASB 68 Information

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- GASB information is provided for your auditors
- There are two pages of GASB 68 information
  - The first page has a 12/31/2019 measurement date
  - The second page has a 12/31/2020 measurement date, for those employers with later fiscal years

# Benefit Provision History

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## 01 - Gen. Secrtrl.

12/1/2016	Service Credit Purchase Estimates - Yes
1/1/1993	Benefit B-3 (80% max)
1/1/1993	E2 2.5% COLA for future retirees (01/01/1993)
1/1/1988	Member Contribution Rate 0.00%
4/1/1966	Benefit FAC-5 (5 Year Final Average Compensation)
4/1/1966	10 Year Vesting
4/1/1966	Benefit C (Old)
4/1/1966	Member Contribution Rate 3.00% Under \$4,200.00 - Then 5.00%
4/1/1966	Fiscal Month - January
	Defined Benefit Normal Retirement Age - 60
	Early Reduced (.5%) at Age 50 with 25 Years or Age 55 with 15 Years



# Plan Information

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- Plan provisions, actuarial assumptions, and actuarial funding method
- Some actuarial assumptions are specific to your municipality and its divisions
- Amortization policy for closed divisions

# Risk Commentary

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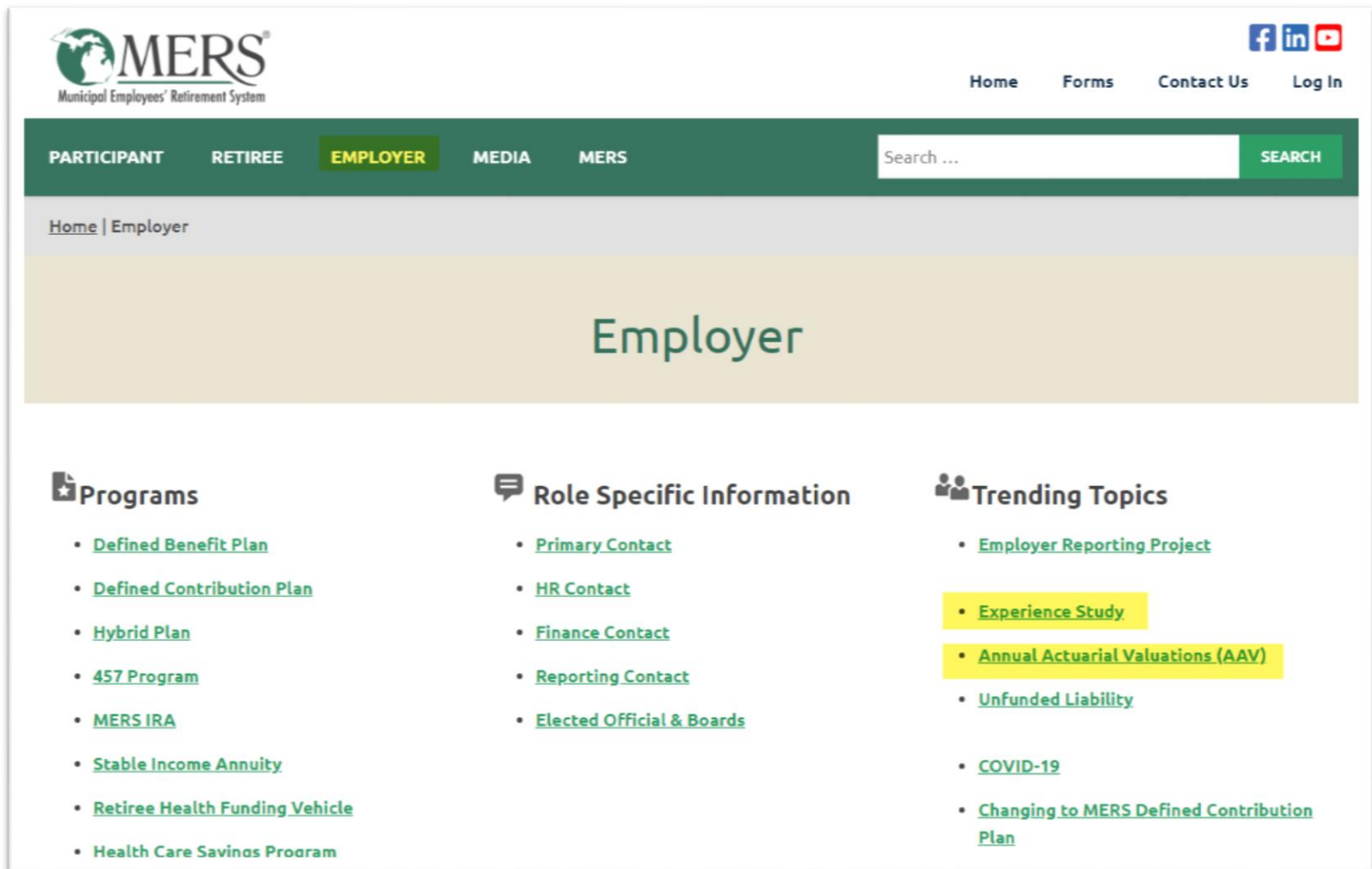
- Includes plan maturity measures calculated for each employer to assist in determining risk
- This information was first provided in the 2018 AAVs, allowing employers to begin tracking it over time
- Plans “mature” over time as active participants retire
- These measures will be different for each plan

	<u>12/31/2019</u>	<u>12/31/2018</u>
1. Ratio of the market value of assets to total payroll	5.9	5.5
2. Ratio of actuarial accrued liability to payroll	9.5	9.0
3. Ratio of actives to retirees and beneficiaries	0.6	0.7
4. Ratio of market value of assets to benefit payments	10.8	11.0
5. Ratio of net cash flow to market value of assets (boy)	-3.5%	-2.5%

# State Reporting

Form 5572		
Line Reference	Description	Result
<b>10</b>	<b>Membership as of December 31, 2019</b>	
11	Indicate number of active members	130
12	Indicate number of inactive members (excluding pending refunds)	41
13	Indicate number of retirees and beneficiaries	48
<b>14</b>	<b>Investment Performance for Calendar Year Ending December 31, 2019<sup>1</sup></b>	
15	Enter actual rate of return - prior 1-year period	14.02%
16	Enter actual rate of return - prior 5-year period	6.39%
17	Enter actual rate of return - prior 10-year period	7.97%
<b>18</b>	<b>Actuarial Assumptions</b>	
19	Actuarial assumed rate of investment return <sup>2</sup>	7.35%
20	Amortization method utilized for funding the system's unfunded actuarial accrued liability, if any	Level Percent
21	Amortization period utilized for funding the system's unfunded actuarial accrued liability, if any <sup>3</sup>	15
22	Is each division within the system closed to new employees? <sup>4</sup>	No
<b>23</b>	<b>Uniform Assumptions</b>	
24	Enter retirement pension system's actuarial value of assets using uniform assumptions	\$40,821,909
25	Enter retirement pension system's actuarial accrued liabilities using uniform assumptions	\$43,381,962
27	Actuarially Determined Contribution (ADC) using uniform assumptions, Fiscal Year Ending December 31, 2020	\$2,162,820

# Resources



The screenshot displays the MERS (Municipal Employees' Retirement System) website. At the top left is the MERS logo with the text "Municipal Employees' Retirement System". To the right are social media icons for Facebook, LinkedIn, and YouTube. Below these are navigation links: Home, Forms, Contact Us, and Log In. A dark green navigation bar contains the following menu items: PARTICIPANT, RETIREE, EMPLOYER (highlighted in yellow), MEDIA, and MERS. To the right of the menu is a search bar with the text "Search ..." and a green "SEARCH" button. Below the navigation bar, a breadcrumb trail shows "Home | Employer". The main content area has a large beige banner with the word "Employer" in a large, dark green font. Below this banner, there are three columns of content:

- Programs** (indicated by a star icon):
  - [Defined Benefit Plan](#)
  - [Defined Contribution Plan](#)
  - [Hybrid Plan](#)
  - [457 Program](#)
  - [MERS IRA](#)
  - [Stable Income Annuity](#)
  - [Retiree Health Funding Vehicle](#)
  - [Health Care Savings Program](#)
- Role Specific Information** (indicated by a speech bubble icon):
  - [Primary Contact](#)
  - [HR Contact](#)
  - [Finance Contact](#)
  - [Reporting Contact](#)
  - [Elected Official & Boards](#)
- Trending Topics** (indicated by a group of people icon):
  - [Employer Reporting Project](#)
  - [Experience Study](#) (highlighted in yellow)
  - [Annual Actuarial Valuations \(AAV\)](#) (highlighted in yellow)
  - [Unfunded Liability](#)
  - [COVID-19](#)
  - [Changing to MERS Defined Contribution Plan](#)

# Contacting Your Regional Manager



**Region 1**  
Terra Langham



**Region 2**  
Matt Taylor



**Region 3**  
Tony Radjenovich



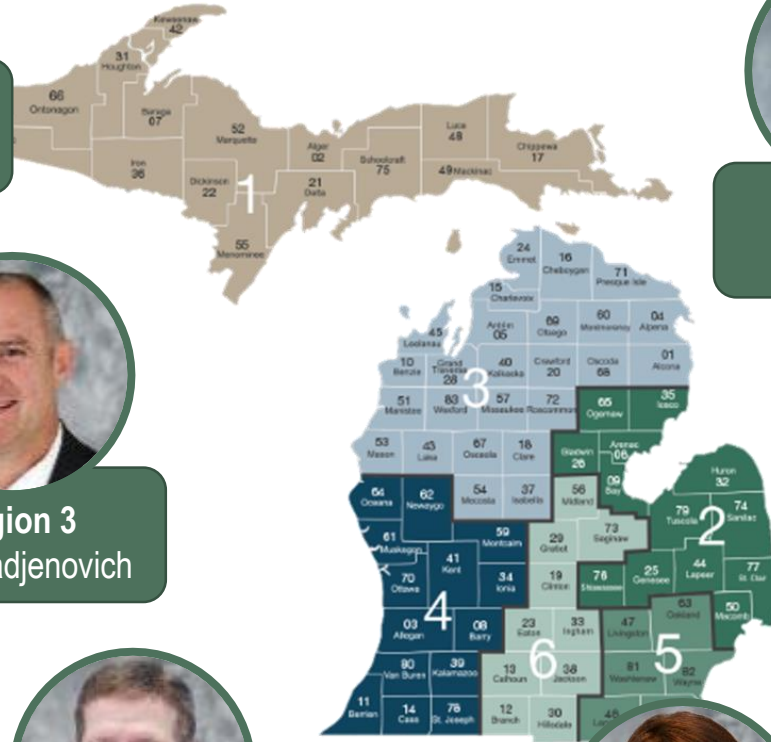
**Region 5**  
Sue Feinberg



**Region 4**  
Mike Overley



**Region 6**  
Marne Daggett



# Contacting MERS of Michigan

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## MUNICIPAL EMPLOYEES' RETIREMENT SYSTEM

1134 Municipal Way  
Lansing, MI 48917

800.767.MERS (6377)

[www.mersofmich.com](http://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.*