



# Monroe County Employees Retirement System

December 31, 2020 | Actuarial Valuation Report

Nyhart Actuary & Employee Benefits

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**Actuarial Certification**

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At the request of the plan sponsor, this report summarizes Monroe County Employees Retirement System as of December 31, 2020. The purpose of this report is to communicate the following results of the valuation:

- Determine Funded Status; and
- Determine Recommended Contribution for the fiscal year January 1, 2022 through December 31, 2022;

This report has been prepared in accordance with the applicable Federal and State laws. Consequently, it may not be appropriate for other purposes. Please contact Nyhart prior to disclosing this report to any other party or relying on its content for any purpose other than that explained above. Failure to do so may result in misrepresentation or misinterpretation of this report.

The results in this report were prepared using information provided to us by other parties. The census information has been provided to us by the employer. Asset information has been provided to us by the trustee. We have reviewed the provided data for reasonableness when compared to prior information provided, but have not audited the data. Where relevant data may be missing, we have made assumptions we believe to be reasonable. We are not aware of any significant issues with and have relied on the data provided. Any errors in the data provided may result in a different result than those provided in this report. A summary of the data used in the valuation is included in this report.

The actuarial assumptions and methods were chosen by the Board. In our opinion, all actuarial assumptions and methods are individually reasonable and in combination represent our best estimate of anticipated experience of the plan. Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following:

- plan experience differing from that anticipated by the economic or demographic assumptions;
- changes in economic or demographic assumptions;
- increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period); and
- changes in plan provisions or applicable law.

We did not perform an analysis of the potential range of future measurements due to the limited scope of our engagement. This report has been prepared in accordance with generally accepted actuarial principles and practice.

This actuarial valuation and/or cost determination was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable.

**Actuarial Certification**

Neither Nyhart nor any of its employees have any relationship with the plan or its sponsor which could impair or appear to impair the objectivity of this report. To the extent that this report or any attachment concerns tax matters, it is not intended to be used and cannot be used by a taxpayer for the purpose of avoiding penalties that may be imposed by law.

The undersigned are compliant with the continuing education requirements of the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States and are available for any questions.

Nyhart



Nick Meggos, EA, FCA  
Enrolled Actuary No. 20-7406

September 8, 2021  
Date



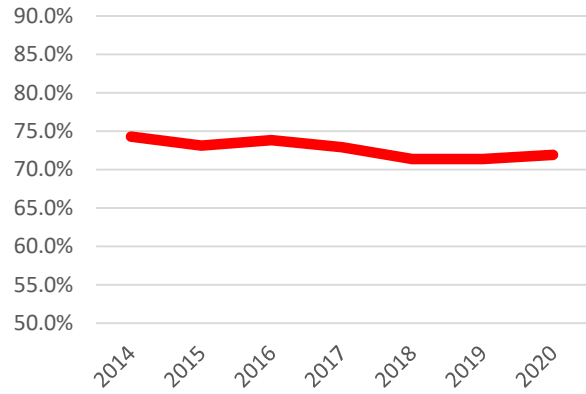
Danielle Winegardner, FSA, EA, MAAA  
Enrolled Actuary No. 20-8260

**Summary Results**

The actuarial valuation’s primary purpose is to produce a scorecard measure displaying the funding progress of the plan toward the ultimate goal of paying benefits at retirement. The accrued liability is based on an entry age level percentage of pay.

	December 31, 2019	December 31, 2020
<b>Funded Status Measures</b>		
Accrued Liability	\$301,296,084	\$308,948,036
Actuarial Value of Assets	\$215,267,546	\$222,085,224
Unfunded Accrued Liability	\$86,028,538	\$86,862,812
Funded Percentage (AVA)	71.4%	71.9%
Funded percentage (MVA)	71.0%	76.2%
Interest Rate	7.00%	7.00%
<b>Cost Measures</b>		
Recommended Total Contribution (FY 2021/FY 2022)	\$11,226,227	\$10,922,818
Recommended Contribution (as a percentage of expected payroll)	30.3%	29.9%
<b>Asset Performance</b>		
Market Value of Assets	\$213,841,821	\$235,440,860
Actuarial Value of Assets	\$215,267,546	\$222,085,224
Actuarial Value/Market Value	100.7%	94.3%
<b>Member Information</b>		
Active Members	715	714
Terminated Vested Members	195	212
Retirees, Beneficiaries, and Disabled Members	816	820
Total	1,726	1,746
Covered Payroll	\$36,622,993	\$37,227,720
Expected Payroll (FY 2021/FY 2022)	\$37,073,709	\$36,568,226

**History of Funded Ratio**



### **Changes Since Prior Valuation and Key Notes**

There have been no changes to the plan provisions since the last valuation for existing plan participants.

There have been no assumption changes other than the projection scale for mortality improvements was updated from Scale MP-2019 to Scale MP-2020 causing a slight decreased in Accrued Liability.

**Executive Summary**

**Historical Valuation Summary**

	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020
<b>Funding</b>					
Actuarial Accrued Liability	\$274,544,403	\$284,313,525	\$293,602,703	\$301,296,084	\$308,948,036
Actuarial Value of Assets	\$202,718,040	\$207,191,203	\$209,672,672	\$215,267,546	\$222,085,224
Unfunded Actuarial Accrued Liability	\$71,826,363	\$77,122,322	\$83,930,031	\$86,028,538	\$86,862,812
Funded Percentage	73.8%	72.9%	71.4%	71.4%	71.9%
Total Normal Cost	\$4,152,772	\$4,008,790	\$4,074,075	\$4,362,926	\$3,844,641
Expense Load Assumption (% of Pay)	0.50%	0.50%	0.50%	0.50%	0.50%
Actual Contributions	\$8,895,675	\$9,351,433	\$9,132,452	\$9,853,368	\$10,409,663
Recommended Contribution	\$8,904,406	\$9,589,792	\$9,333,339	\$9,222,914	\$10,565,680
Interest Rate	7.00%	7.00%	7.00%	7.00%	7.00%
<b>Rate of Return</b>					
Actuarial Value of Assets	5.0%	5.6%	5.1%	6.3%	6.8%
Market Value of Assets	6.9%	13.3%	(5.5)%	18.0%	13.9%
<b>Demographic Information</b>					
Active Participants	713	725	707	715	714
Terminated Vested Participants	151	143	140	195	212
Retired Participants and Beneficiaries	752	768	798	816	820
Total Participants	1,616	1,636	1,645	1,726	1,746
Covered Payroll	\$34,786,368	\$35,292,710	\$35,344,621	\$36,622,993	\$37,227,720
Average Covered Pay	\$48,789	\$48,680	\$48,494	\$51,221	\$52,140

**Identification of Risks**

The results presented in this report are shown as single point values. However, these values are derived using assumptions about future markets and demographic behavior. If actual experience deviates from our assumptions, the actual results for the plan will consequently deviate from those presented in this report. Therefore, it is critical to understand the risks facing this pension plan. The following table shows the risks we believe are most relevant to the Monroe County Employees Retirement System. The risks are generally ordered with those we believe to have the most significance at the top. Also shown are possible methods by which a more detailed assessment of the risk can be performed.

<b>Type of Risk</b>	<b>Method to Assess Risk</b>
Investment Return	Scenario Testing; Asset Liability Study
Demographic Risk	Scenario Testing; Stress Testing; Experience Study
Participant Longevity	Stress Testing; Experience Study
Salary Growth	Scenario Testing; Experience Study; Review Future Budgets
Interest Rates	Scenario Testing; Stochastic Modeling

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## **Plan Maturity Measures - December 31, 2020**

Each pension plan has a distinct life-cycle. New plans promise future benefits to active employees and then accumulate assets to pre-fund those benefits. As the plan matures, benefits are paid and the pre-funded assets begin to decumulate until ultimately, the plan pays out all benefits. A plan's maturity has a dramatic influence on how risks should be viewed. The following maturity measures illustrate where the Monroe County Employees Retirement System falls in its life-cycle.

### **Duration of Liabilities: 10.7%**

Duration is the most common measure of plan maturity. It is defined as the sensitivity of the liabilities to a change in the interest rate assumption. The metric also approximates the weighted average length of time, in years, until benefits are expected to be paid. A plan with high duration is, by definition, more sensitive to changes in interest rates. A plan with low duration is more susceptible to risk if asset performance deviates from expectations as there would be less time to make up for market losses in adverse market environments while more favorable environments could result in trapped surplus from gains. Conversely, high duration plans can often take on more risk when investing, and low duration plans are less sensitive to interest rate fluctuations.

### **Demographic Distribution - Ratio of Actively Accruing Participants to All Participants: 40.9%**

A plan with a high ratio is more sensitive to fluctuations in salary (if a salary-based plan) and statutory changes. A plan with a low ratio is at higher risk from demographic experience. Such a plan should pay close attention to valuation assumptions as there will be less opportunity to realize future offsetting gains or losses when current experience deviates from assumptions. Plans with a low ratio also have limited opportunities to make alterations to plan design to affect future funded status.

### **Asset Leverage - Ratio of Payroll for Plan Participants to Market Value of Assets: 15.8%**

Younger plans typically have a large payroll base from which to draw in order to fund the plan while mature plans often have a large pool of assets dedicated to providing benefits to a population primarily consisting of members no longer on payroll. Plans with low asset leverage will find it more difficult to address underfunding, as the contributions needed to make up the deficit will represent a higher percentage of payroll than for a plan with high asset leverage.

### **Benefit Payment Percentage - Ratio of Annual Benefit Payments to Market Value of Assets: 7.9%**

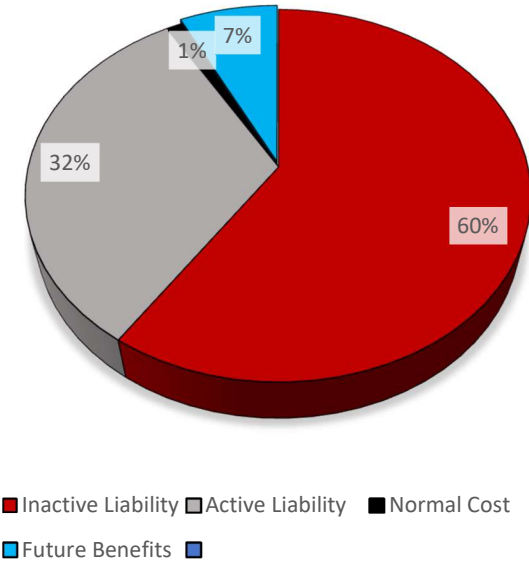
As a plan enters its decumulation phase, a larger percentage of the pre-funded assets are paid out each year to retirees. A high percentage is not cause for alarm as long as the plan is nearly fully funded. However, such a plan is more sensitive to negative asset performance, especially if cash contributions are not an option to make up for losses.

**Present Value of Future Benefits**

The Present Value of Future Benefits represents the discounted value of all future benefits expected to be payable to current members, considering future service and compensation not yet earned.

	<b>December 31, 2020</b>
<b>Present Value of Future Benefits</b>	
Active members	
Retirement	\$120,538,785
Disability	5,850,183
Death	1,552,748
Termination	8,931,381
Total active	\$136,873,097
Inactive members	
Retired and Disabled members	\$177,994,225
Beneficiaries	8,963,968
Terminated vested members	13,508,063
Total inactive	\$200,466,256
 Total	 \$337,339,353
 <b>Present Value of Future Payrolls</b>	 \$291,765,033
<b>Present Value of Future Employee Contributions</b>	<b>\$7,217,791</b>

**Breakdown of Present Value of Future Benefits**



**Assets and Liabilities**

**Accrued Liability**

The Accrued Liability measures the present value of benefits earned as of the valuation date, using a specified set of actuarial assumptions. It is not a long-term snapshot of the liabilities.

**December 31, 2020**

<b>Accrued Liabilities</b>	
Active members	
Retirement	\$99,567,094
Disability	3,937,828
Death	1,166,858
Termination	3,810,000
Total Active	\$108,481,780
Inactive members	
Retired and Disabled members	\$177,994,225
Beneficiaries	8,963,968
Terminated vested members	13,508,063
Total Inactive	\$200,466,256
Total	\$308,948,036
Total Normal Cost	\$3,844,641

**Assets and Liabilities**

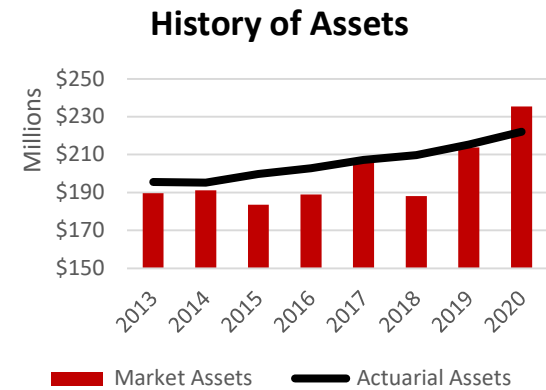
**Asset Information**

The amount of assets backing the pension promise is the most significant driver of volatility and future costs within a pension plan. The investment performance of the assets directly offsets the ultimate cost.

**Market Value  
December 31, 2020**

**Asset Value Reconciliation**

Value of assets, beginning of year	\$213,841,821
Contributions	
Employer	\$10,409,663
Employee	\$887,537
Total	\$11,297,200
Investment income, net expenses	\$29,159,039
Benefit payments and refunds	(18,656,412)
Administrative expenses	(200,788)
Value of assets, end of year	\$235,440,860
Return on Market Value <sup>1</sup>	13.9%
<b>Actuarial Value of Plan Assets</b>	<b>\$222,085,224</b>



<sup>1</sup>Return based on mid-year cash flows

**Assets and Liabilities**

**Asset Information (continued)**

Plan Assets are used to develop funded percentages and contribution requirements.

	<b>December 31, 2020</b>
1. Market value of assets, beginning of year	\$213,841,821
2. Contributions	\$11,297,200
3. Admin Expenses	(200,788)
4. Benefit Payments and Refunds	(18,656,412)
5. Expected Total Investment Income	14,804,128
6. Actual Market Value of Assets, end of year	235,440,860
7. Investment Income, net expenses	29,159,039
8. Amount of Phased-In Recognition (7 – 5)	14,354,911
9. Investment Gain/Loss changes recognized (1/7 over seven years)	
a. From current year (\$14,354,911 * (6/7))	12,304,209
b. From 1 year prior (\$18,714,268 * (5/7))	13,367,334
c. From 2 years prior (\$(25,310,196) * (4/7))	(14,462,969)
d. From 3 years prior (\$10,753,594 * (3/7))	4,608,683
e. From 4 years prior (\$(1,329,851) * (2/7))	(379,957)
f. From 5 years prior (\$(14,571,648) * (1/7))	(2,081,664)
g. Total	13,355,636
10. Preliminary Actuarial value of assets, end of year (6 – 9(g))	\$222,085,224
11. 80% of Market value of assets	\$188,352,688
12. 120% of Market value of assets	\$282,529,032
13. Final Actuarial value of assets	\$222,085,224
14. Return on Actuarial Value	6.8%

**Assets and Liabilities**

**Reconciliation of Gain/Loss**

**December 31, 2020**

**Liability (gain)/loss**

Actuarial liability (12/31/2019)	\$301,296,084
Normal cost	4,362,926
Benefit payments	(18,656,412)
Expected Interest	20,754,200
Assumption changes	(1,107,522)
Plan provision changes	0
Expected actuarial liability (12/31/2020)	\$306,649,276
Actual actuarial liability (12/31/2020)	<u>\$308,948,036</u>
Liability (gain)/loss	\$2,298,760

**Asset (gain)/loss**

Actuarial value of assets (12/31/2019)	\$215,267,546
Contributions	11,297,200
Benefit payments and expenses	(18,857,200)
Expected Investment return	14,808,603
Change in actuarial value of assets method	0
Expected actuarial value of assets (12/31/2020)	\$222,516,149
Actual actuarial value of assets (12/31/2020)	<u>\$222,085,224</u>
Asset (gain)/loss	\$430,925

**Total (gain)/loss**

\$2,729,685

**Contribution Requirements**

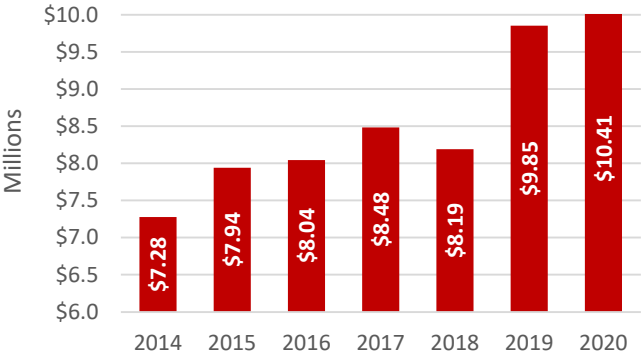
**Development of Recommended Contribution**

The minimum recommended contribution is the annual amount necessary to fund the plan according to funding policies and/or applicable laws. The recommended contribution is composed of the normal cost, administrative expenses, plus an amortization charge.

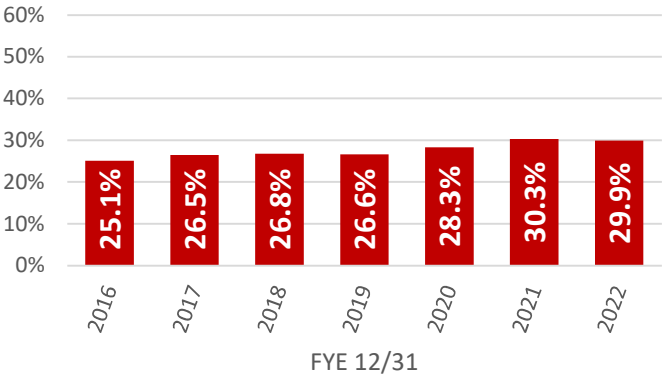
**December 31, 2020**

<b>Funded Position</b>	
1. Entry age accrued liability	\$308,948,036
2. Actuarial value of assets	222,085,224
3. Unfunded actuarial accrued liability (UAAL)	\$86,862,812
<b>Employer Contributions<sup>1</sup></b>	
1. Normal Cost	
(a) Total normal cost	\$3,844,641
(b) Expected participant contributions	919,910
(c) Net normal cost	\$2,924,731
2. Administrative expenses	186,139
3. Amortization of UAAL	6,757,809
4. Interest	1,054,139
5. Total recommended contribution for 2022	\$10,922,818
6. Expected covered payroll	\$36,568,226
As a percentage of covered payroll	29.87%

**History of Contributions**



**History of Recommended Contributions (% of Payroll)**



<sup>1</sup>Contribution by division is shown on page 37



**Michigan PA 202 Reporting Requirements**

Reporting of Assets and Liabilities under Plan Assumptions follows what is reported in the audited financial statements, and will therefore follow the Proportionate Share required under GASB 67/68.

<b>Funding Assumptions</b>	<b>Plan Assumptions</b>	<b>PA 202 Uniform Assumptions</b>
Interest Rate	7.00%	7.00%
Mortality	Pub-2010 with Scale MP 2020 projected generationally	Pub-2010 with Scale MP 2020 projected generationally
Salary Scale	Ranges from 2.75% to 5.00%	Minimum of 3.00%
Amortization of UAAL	Layered amortization with 20-year periods for all future layers	19-year closed

<b>Employer</b>	<b>2020 Employer Contributions</b>	<b>Proportionate Share</b>
General County	\$4,009,446	38.51658%
County Agency	\$592,601	5.69280%
Sheriff's Office	\$3,047,594	29.27658%
County Library	\$667,145	6.40890%
Road Commission	\$993,145	9.54061%
Mental Health	\$853,645	8.20051%
Central Dispatch	<u>\$246,088</u>	<u>2.36403%</u>
Total	\$10,409,663	100.0000%

**Michigan PA 202 Reporting Requirements (continued)**

The following table shows the values that will be reported on the Local Government Retirement System Annual Report (Form 5572).

	General, Sheriff, & Central	County Agency	County Library	Road Commission	Mental Health	Total
<b>Plan Assumptions: GASB 67/68 Reporting</b>						
Proportionate Share	70.1572%	5.6928%	6.4089%	9.5406%	8.2005%	100.0000%
Assets	\$165,178,669	\$13,403,177	\$15,089,169	\$22,462,494	\$19,307,351	\$235,440,860
Liabilities	<u>215,140,762</u>	<u>17,457,277</u>	<u>19,653,236</u>	<u>29,256,793</u>	<u>25,147,304</u>	<u>306,655,372</u>
Unfunded	\$49,962,093	\$4,054,100	\$4,564,067	\$6,794,299	\$5,839,953	\$71,214,512
Funded Ratio	76.78%	76.78%	76.78%	76.78%	76.78%	76.78%
Annual Required Contribution	\$7,411,166	\$649,233	\$848,423	\$803,208	\$853,650	\$10,565,680
<b>Uniform Assumptions</b>						
Assets	\$165,178,669	\$13,403,177	\$15,089,169	\$22,462,494	\$19,307,351	\$235,440,860
Liabilities	<u>215,140,762</u>	<u>17,457,277</u>	<u>19,653,236</u>	<u>29,256,793</u>	<u>25,147,304</u>	<u>306,655,372</u>
Unfunded	\$49,962,093	\$4,054,100	\$4,564,067	\$6,794,299	\$5,839,953	\$71,214,512
Funded Ratio	76.78%	76.78%	76.78%	76.78%	76.78%	76.78%
Annual Required Contribution	\$7,789,204	\$687,700	\$872,703	\$828,899	\$899,572	\$11,078,078

The Actuarially Determined Contribution payable during 2020 is calculated as of December 31, 2018 and based on data, assumptions, and plan provisions summarized in the December 31, 2018 Actuarial Valuation Report. The Actuarially Determined Contribution under Uniform Assumptions is calculated using a 19-year closed amortization period.

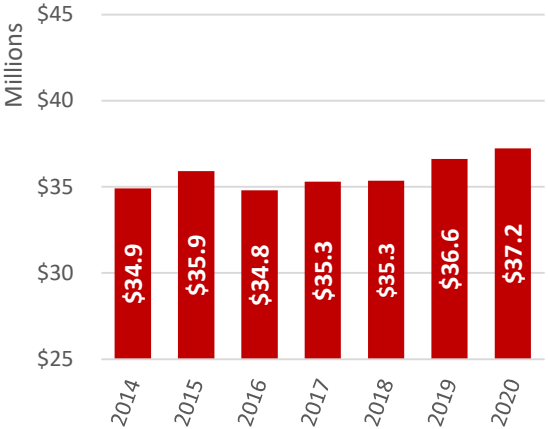
**Demographic Information**

**Demographic Information**

The foundation of a reliable actuarial report is the participant information provided by the plan sponsor. Monitoring trends in demographic information is crucial for long-term pension planning.

	December 31, 2019	December 31, 2020
<b>Participant Counts</b>		
Active Participants	715	714
Retired Participants	718	712
Disabled Participants	26	27
Beneficiaries	72	81
Terminated Vested Participants	195	212
<b>Total Participants</b>	1,726	1,746
<b>Active Participant Demographics</b>		
Average Age	44.9	44.8
Average Service	13.2	12.5
Average Compensation	\$51,221	\$52,140
Covered Payroll	\$36,622,993	\$37,227,720

**History of Covered Payroll**



**Demographic Information**

**Demographic Information (continued)**

	December 31, 2019	December 31, 2020
<b>Retiree Statistics</b>		
Count	718	712
Average Age	69.3	69.6
Average Monthly Benefit	\$1,858	\$1,902
<b>Disabled Participant Statistics</b>		
Count	26	27
Average Age	55.1	56.0
Average Monthly Benefit	\$1,533	\$1,532
<b>Beneficiary Statistics</b>		
Count	72	81
Average Age	74.6	75.5
Average Monthly Benefit	\$1,068	\$1,062
<b>Terminated Vested Participant Statistics</b>		
Count	195	212*
Average Age	45.6	46.8
Average Monthly Benefit	\$1,205	\$1,071*

Monitoring the average age of the population is important due to the relationship of actuarial cost to age. Generally speaking, an older population generates a higher actuarial cost.

Changes in the ratio of active to retired participants can be a significant driver of costs in a volatile asset market.

\*Includes 152 deferred vested participants and 60 participants vested only in a return of their employee contributions.

\*The Average Monthly Benefit shown is the average deferred monthly benefit of those 152 deferred vested participants.

**Participant Reconciliation**

**Participant Reconciliation**

	<b>Active</b>	<b>Terminated Vested</b>	<b>Retired</b>	<b>Disabled</b>	<b>Beneficiaries</b>	<b>Totals</b>
<b>Prior Year</b>	715	195	718	26	72	1,726
<b>Active</b>						
To Terminated Vested	(34)	34				0
To Disabled	(1)			1		0
To Retired	(17)		17			0
To Lump Sum Cash-Out	(16)					(16)
To Death	(3)					(3)
<b>Terminated Vested</b>						
To Active	2	(2)				0
To Retired		(6)	6			0
To Lump Sum Cash Out		(16)				(16)
<b>Disabled</b>						
To Retired (Status Corrections)						
To Death				(1)		(1)
<b>Retired</b>						
To Terminated Vested		2	(2)			0
To Disabled			(1)	1		0
To Death			(27)			(27)
<b>Survivor</b>						
To Death					(1)	(1)
<b>Additions</b>	68	5	1		10	84
<b>Removed</b>						
<b>Current Year</b>	714	212	712	27	81	1,746

**Participant Reconciliation**

**Active Participant Schedule**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

Age Group	Years of Service										Total	Average Pay <sup>1</sup>
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up		
Under 25	23	37	2	0	0	0	0	0	0	0	62	\$39,056
25 to 29	13	45	15	0	0	0	0	0	0	0	73	\$44,981
30 to 34	4	23	9	6	0	0	0	0	0	0	42	\$47,233
35 to 39	3	14	13	17	12	2	0	0	0	0	61	\$52,261
40 to 44	2	8	14	12	32	14	1	0	0	0	83	\$57,036
45 to 49	4	14	18	12	20	29	15	0	0	0	112	\$58,073
50 to 54	3	19	13	9	15	16	21	12	2	0	110	\$56,467
55 to 59	3	11	9	8	18	18	16	7	3	0	93	\$50,164
60 to 64	1	11	10	10	7	9	6	5	4	1	64	\$53,409
65 to 69	0	4	0	3	1	2	1	1	0	1	13	\$56,643
70 & up	0	0	1	0	0	0	0	0	0	0	1	\$81,543
Total	56	186	104	77	105	90	60	25	9	2	714	\$52,140

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown



**Plan Effective Date**

The plan was effective July 1, 1965.

**Plan Status**

The plan provides ongoing benefit accruals and participation is open to new entrants in all divisions except Mental Health. Mental Health employees hired after 6/1/2012 are not eligible for participation.

**Accrual of Benefits**

A participant shall accumulate a benefit payable at normal retirement date based upon compensation and credited service earned as of the date of determination.

**Benefits**

**Normal Retirement**

Eligibility	See the Plan Provision by Division table for details.
Benefit	Benefit Multiplier (outlined in the Plan Provision by Division table) multiplied by Final Average Compensation multiplied by Credited Service Maximum Benefit: 75% of final average earnings

**Deferred Retirement**

Eligibility	8 or more years of service
Benefit	Computed as a normal retirement but based upon service and final average earnings at termination date.

**Non-Duty Death-In-Service**

Eligibility	15 years of service or age 60 with 10 years of service
Benefit	Computed as a normal retirement but actuarially reduced in accordance with a 100% joint and survivor election.

**Duty Death-In-Service**

Eligibility	No age or service requirements
Benefit	Computed as a normal retirement but computed as if the member had at least 15 years of service.

**Plan Provisions**

**Non-Duty Disability**

Eligibility	10 or more years of service
Benefit	Computed as a normal retirement.

**Duty Disability**

Eligibility	No age or service requirements
Benefit	Computed as a normal retirement benefit but computed as if the member had at least 10 years of service.

**Compensation**

Salary or wages paid a member for personal services rendered the County while a member of the retirement system.  
Salary and wages shall include longevity pay, overtime pay, shift differentials, pay for periods of absence from work by reason of employer approved vacation, holiday, and sickness

**Final Average Compensation**

Highest 3 consecutive years out of last 10

**Credited Service**

Exact fractional service

**Employee Contributions**

See the table below for details

**Payment Forms**

Normal Form	Single Life Annuity
Optional Forms	Life Annuity with 5 and 10 years certain, 50% and 100% Joint and Survivor Annuity

The participant may also elect a combination of a Return of Employee Contributions with a residual annuity in any of the forms listed.

**Optional Form Factors and Actuarial Equivalence**

100% Joint and Survivor Annuity	The retired member is paid 80% of the single life annuity pension amount if the retired member and named survivor beneficiary are the same age on the retired member's retirement date. The percent shall be increased by 0.5% for each year the named survivor beneficiary's age is more than the retired member's age, to a maximum of 90%. The percent shall be decreased by 0.5% for each year the named survivor beneficiary's age is less than the retired member's age, to a minimum of 50%.
50% Joint and Survivor Annuity	The retired member is paid 90% of the single life annuity pension amount if the retired member and named survivor beneficiary are the same age on the retired member's retirement date. The percent shall be increased by 0.5% for each year the named survivor beneficiary's age is more than the retired member's age, to a maximum of 95%. The percent shall be decreased by 0.5% for each year the named survivor beneficiary's age is less than the retired member's age, to a minimum of 60%.
Life Annuity with Years Certain	Actuarial Equivalence will be computed using 7% interest and the GAM 71 Mortality table
Annuity Withdrawal Factor	The reduction in the single life annuity amount resulting from a participant electing to receive a return of employee contributions is computed using the interest rate and mortality table with a 50% unisex blend used in the most recent annual actuarial valuation for the year in which the participant's contributions are withdrawn. For contributions earned prior to the date negotiated by each union, the return of employee contributions is computed using 1971 GAM Mortality and the PBGC rate.

**Plan Provisions Not Included**

We are not aware of any plan provisions not included in the valuation

**Adjustments Made for Subsequent Events**

We are not aware of any event following the measurement date and prior to the date of this report that would materially impact the results of this report

**Plan Provisions**

**Plan Provisions by Division**

Valuation Group	Union Name	TIER 1					TIER 2				
		Numeric Code	Benefit Multiplier	FAC	EE Contribution	Normal Retirement Eligibility	Effective Date	Benefit Multiplier	FAC	EE Contribution	Normal Retirement Eligibility
General	Non-Union Other	99	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	TPOAM Nurses	3	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	TPOAM General	4	2.50%	3 yr.	3.00%	55/30 or 60/8	10/26/2010	1.50%	3 yr.	3.00%	60/8
General	UAW/Friend of the Court	6	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	POAM/District Court	7	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	TPOAM District Court	26	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	POAM Youth Center	8	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	TPOAM Youth Center Supervisors	28	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	POAM/Youth Center	29	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	TPOAM Family Court	11	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	POAM/Assistant Prosecutor's	14	2.50%	3 yr.	3.00%	55/30 or 60/8	4/3/2012	1.50%	3 yr.	3.00%	60/8
General	Non-Union Management	20	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	Elected Officials – Non-Union	22	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
General	County (Non-Union) Part-time	25	2.50%	3 yr.	3.00%	55/30 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8
County Agency	AFLCIO/County Agency	2	2.50%	3 yr.	3.00%	55/30 or 60/8	12/1/2014	1.50%	3 yr.	3.00%	60/8
County Agency	Non-Union/County Agency	15	2.50%	3 yr.	0.00%	55/30 or 60/8					



**Plan Provisions**

**Plan Provisions by Division**

Valuation Group	Union Name	Numeric Code	Benefit Multiplier	TIER 1			TIER 2				
				FAC	EE Contribution	Normal Retirement Eligibility	Effective Date	Benefit Multiplier	FAC	EE Contribution	Normal Retirement Eligibility
Sheriff	POAM/Sheriff Deputies	1	2.50%	3 yr.	3.00%	50/25 or 60/8	7/1/2013	1.50%	3 yr.	3.00%	50/25 or 60/8
Sheriff	POAM/Correctional Officers	10	2.50%	3 yr.	3.00%	50/25 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	50/25 or 60/8
Sheriff	COAM/Corrections Supv	17	2.50%	3 yr.	3.00%	50/25 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	50/25 or 60/8
Sheriff	COAM/Command Officers	9	2.75%	3 yr.	4.53%	50/25 or 60/8	4/25/2013	Retirement Benefits provided in previous position (Deputies Unit)			
Sheriff	Non-Union Command	30	2.75%	3 yr.	4.53%	50/25 or 60/8	4/25/2013				
Library	Library (Non-Union)	73	2.00%	3 yr.	0.00%	55/30 or 60/8					
Library	Library (Non-Union) Part-Time	74	2.00%	3 yr.	0.00%	55/30 or 60/8					
Road Commission	Local 543 Utility Workers Union of America	44	2.25%	3 yr.	3.25%	55/30 or 60/8	12/1/2014	2.00%	3 yr.	3.25%	55/30 or 60/8
Road Commission	AFSCME Local 839	45	2.25%	3 yr.	3.25%	55/30 or 60/8	12/1/2014	2.00%	3 yr.	3.25%	55/30 or 60/8
Road Commission	Road Commission - Management	46	2.25%	3 yr.	3.25%	55/30 or 60/8					
Mental Health	AFSCME Mental Health	5	2.25%	3 yr.	0.00%	55/30 or 60/8	6/1/2012	None			
Mental Health	Non-Union Mental Health	23	2.25%	3 yr.	0.00%	55/30 or 60/8	6/1/2012	None			
Mental Health	Mental Health Management	24	2.25%	3 yr.	0.00%	55/30 or 60/8	6/1/2012	None			
Dispatchers	COAM/Communication Supervisors	16	2.50%	3 yr.	3% to \$7,800 plus 5% over	50/25 or 60/8	1/1/2011	1.50%	3 yr.	3% to \$7,800 plus 5% over	60/8
Dispatchers	POAM/Communication Spec	50	2.50%	3 yr.	3.00%	50/25 or 60/8	1/1/2011	1.50%	3 yr.	3.00%	60/8



**Plan Provisions**

**13th Check Provisions by Division**

	General County	County Agency	Sheriff's Office	County Library	Road Commission*	Mental Health	Central Dispatch
Source of 13th Check Payments	Employer	Employer	Employer	Employer	Employer	N/A	Employer
13th Check Excess Reserve Fund	Closed	Closed	Closed	N/A	Closed	N/A	Closed
Supplemental Pension Benefit Contribution for 2020	\$33,333	\$5,556	\$9,876	\$0	\$50,000	N/A	\$1,235

\*The Road Commission Excess Earnings Reserve Fund is no longer in existence and the Road Commission is now using general funds to fund the distribution of these benefits. Under Policy No. 2016-04, \$50,000 is to be taken each year from the general funds to fund the Post-Retirement Supplemental Benefits Distribution Program and evenly distributed to all Monroe County Road Commission retirees, regardless of the year they retired, their age, or how long they have been retired.

**Actuarial Assumptions**

Except where otherwise indicated, the following assumptions were selected by the plan sponsor with the concurrence of the actuary.

**Actuarial Assumptions, Methods and Additional Information for Funding**

<b>Valuation Date</b>	December 31, 2020
<b>Participant and Asset Information Collected as of</b>	December 31, 2020
<b>Cost Method</b>	Entry Age Normal Cost Method
<b>Amortization Method</b>	Level percent of payroll, closed Effective for the 12/31/2012 valuation, the Mental Health division is closed to new hires. In this case, a level dollar amortization is being used.
<b>Remaining amortization period</b>	20 At the February 19, 2020 Board meeting, the Board adopted a 20-year layered amortization with 2% annual payment increases (except for the Mental Health division for which the payments are level). Future unanticipated unfunded actuarial accrued liability will be amortized over a 20-year period from the point incurred, resulting in a schedule of UAAL payments.
<b>Asset Valuation Method</b>	7-year adjusted market value
<b>Interest Rates</b>	
Investment Rate of Return	7.00%
Amortization payments increase assumption	2.00%
Inflation Assumption	2.25%
<b>Expense Loading</b>	0.5% of Payroll

**Actuarial Assumptions**

**Marital Status and Ages**

100% of males and 100% of females are assumed to be married. Male spouses are assumed to be 3 years older than female spouses.

**Annual Pay Increases**

Salary increases based on an inflation component of 2.25% and merit and longevity rates based on age. Representative values of the total annual rates of pay increases:

Years of Service	Merit and Longevity				Total		
	Base (Economic)	General, Library, County Agency, Sheriff's Office, Central Dispatch	Road Commission	Mental Health	General, Library, County Agency, Sheriff's Office, Central Dispatch	Road Commission	Mental Health
1	2.25%	2.50%	2.50%	2.75%	4.75%	4.75%	5.00%
2	2.25%	2.50%	2.50%	2.75%	4.75%	4.75%	5.00%
3	2.25%	2.50%	2.50%	2.75%	4.75%	4.75%	5.00%
4	2.25%	2.50%	2.50%	2.75%	4.75%	4.75%	5.00%
5	2.25%	2.50%	2.00%	2.75%	4.75%	4.25%	5.00%
6	2.25%	2.50%	2.00%	2.75%	4.75%	4.25%	5.00%
7	2.25%	2.50%	2.00%	2.25%	4.75%	4.25%	4.50%
8	2.25%	2.50%	2.00%	2.25%	4.75%	4.25%	4.50%
9+	2.25%	0.50%	0.50%	1.25%	2.75%	2.75%	3.50%

**Mortality Rates**

Healthy

For General County, County Agency, County Library, Road Commission, Mental Health, and Central Dispatch: The Fully Generational Pub-2010 General Employees Mortality Table, using Projection Scale MP-2019.  
For Sheriff's Office: The Fully Generational Pub-2010 Public Safety Mortality Table, using Projection Scale MP-2020.

Disabled

For General County, County Agency, County Library, Road Commission, Mental Health, and Central Dispatch: The Fully Generational Pub-2010 Non-Public Safety Disabled Retiree Mortality Table, using Projection Scale MP-2019.  
For Sheriff's Office: The Fully Generational Pub-2010 Public Safety Disabled Retiree Mortality Table, using Projection Scale MP-2020.

It is assumed that all deaths are non-duty related deaths.

As the plan is not large enough to have credible experience, mortality assumptions are set to reflect general population trends

**Actuarial Assumptions**

**Retirement Rates**

Retirement rates vary by age, service, and division. The assumed retirement rates are based on a study of actual experience for the plan during 2015-2018. See the experience study report dated February 2020.

Retirement Ages	General County, County Agency, Mental Health, and County Library	Road Commission	Sheriff's Office, County Dispatch Years of Service: 20-24	Sheriff's Office, County Dispatch Years of Service: 25	Sheriff's Office, County Dispatch Years of Service: 26-29	Sheriff's Office, County Dispatch Years of Service: 30+
50			20.00%	60.00%	50.00%	100.00%
51			20.00%	60.00%	50.00%	100.00%
52			20.00%	60.00%	50.00%	100.00%
53			20.00%	60.00%	50.00%	100.00%
54			20.00%	60.00%	50.00%	100.00%
55	37.50%	50.00%	20.00%	60.00%	50.00%	100.00%
56	12.50%	50.00%	20.00%	60.00%	50.00%	100.00%
57	12.50%	50.00%	20.00%	60.00%	50.00%	100.00%
58	12.50%	50.00%	20.00%	60.00%	50.00%	100.00%
59	12.50%	50.00%	20.00%	60.00%	50.00%	100.00%
60	20.00%	50.00%	20.00%	60.00%	50.00%	100.00%
61	20.00%	50.00%	20.00%	60.00%	50.00%	100.00%
62	20.00%	50.00%	20.00%	60.00%	50.00%	100.00%
63	25.00%	50.00%	20.00%	60.00%	50.00%	100.00%
64	25.00%	50.00%	20.00%	60.00%	50.00%	100.00%
65	25.00%	100.00%	100.00%	100.00%	100.00%	100.00%
66	30.00%					
67	30.00%					
68	30.00%					
69	30.00%					
70	100.00%					

**Actuarial Assumptions**

**Disability Rates**

Disability rates vary by age and gender. The assumed disability rates are based on a study of actual experience for the plan during 2015-2018. See the experience study report dated February 2020. Sample rates are shown below.

For the Sheriffs Office and Road Commission, 50% of disability incidence is assumed to be duty-related. For all other divisions, 85% of disability incidence is assumed to be non-duty related.

Age	Male	Female
20	0.0702%	0.0612%
25	0.0702%	0.0612%
30	0.0702%	0.0612%
35	0.0702%	0.0612%
40	0.1809%	0.3936%
45	0.2385%	0.2430%
50	0.4428%	0.3582%
55	0.8037%	0.4596%
60	1.2726%	0.6102%

**Withdrawal Rates**

Withdrawal rates vary by both age and service. Service related rates for the first five years of employment. Once participants earn five years of service, age-related rates apply. The assumed termination rates are based on a study of actual experience for the plan during 2015-2018. See the experience study report dated February 2020. Sample rates of termination are shown below for each division.

Member Ages	Service	General County, County Agency, Mental Health and County Library		
		Sheriff's Office Central Dispatch	Road Commission	
ALL	0	15.00%	22.50%	15.00%
	1	13.00%	13.50%	12.00%
	2	12.00%	10.50%	10.50%
	3	10.00%	10.50%	9.00%
	4	8.00%	10.50%	9.00%
25	5+	6.12%	3.00%	6.00%
30		6.12%	3.00%	3.00%
35		5.44%	2.00%	3.00%
40		5.10%	2.00%	3.00%
45		3.40%	1.75%	2.00%
50		3.40%	1.00%	2.00%
55		0.85%	0.50%	1.00%
60		0.85%	0.00%	1.00%

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**Other Measurements**

The actuarial report also shows the necessary items required for plan reporting by division.

- ✓ Actuarial Liabilities and Normal Cost by Division
- ✓ Asset Allocation by Division
- ✓ Unfunded Actuarial Accrued Liability by Division
- ✓ Reconciliation of Gain/Loss by Division
- ✓ Schedule of Amortization Bases by Division
- ✓ Development of Recommended Contribution by Division
- ✓ Demographic Information by Division
- ✓ Active Participant Schedules by Division

**Other Measurements**

**Actuarial Liabilities and Normal Cost by Division**

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
<b>Present Value of Future Benefits</b>	<b>\$128,440,045</b>	<b>\$15,669,845</b>	<b>\$90,773,012</b>	<b>\$24,527,354</b>	<b>\$35,554,367</b>	<b>\$35,670,552</b>	<b>\$6,704,178</b>	<b>\$337,339,353</b>
<b>Actuarial Accrued Liability</b>								
Active Members	\$39,350,662	\$4,959,671	\$28,850,666	\$9,483,245	\$15,696,323	\$7,694,282	\$2,446,931	\$108,481,780
Terminated Vested	4,478,009	247,770	1,918,618	450,134	1,163,841	5,206,676	43,015	13,508,063
Retired and Disabled	72,100,203	8,789,666	49,789,836	11,324,156	13,170,100	19,954,518	2,865,746	177,994,225
Beneficiaries	<u>2,873,692</u>	<u>579,778</u>	<u>2,483,237</u>	<u>109,846</u>	<u>2,077,955</u>	<u>545,826</u>	<u>293,634</u>	<u>8,963,968</u>
<b>Total Actuarial Accrued Liability</b>	<b>\$118,802,566</b>	<b>\$14,576,885</b>	<b>\$83,042,357</b>	<b>\$21,367,381</b>	<b>\$32,108,219</b>	<b>\$33,401,302</b>	<b>\$5,649,326</b>	<b>\$308,948,036</b>
<b>Total Normal Cost</b>	<b>\$1,316,858</b>	<b>\$144,315</b>	<b>\$1,003,907</b>	<b>\$426,465</b>	<b>\$544,013</b>	<b>\$289,310</b>	<b>\$119,773</b>	<b>\$3,844,641</b>

**Other Measurements**

**Asset Allocation by Division**

The table below shows how the assets changed by division since the last valuation. Employer contributions, employee contributions, and benefit payments are tracked by division. The expenses and investment income are allocated by the Actuarial Value of Assets at the beginning of the year and the Average Valuation Assets, respectively.

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
<b>1 Actuarial Value of Assets, 12/31/2019 (BOY)</b>	<b>\$80,313,973</b>	<b>\$7,479,001</b>	<b>\$52,946,870</b>	<b>\$16,955,473</b>	<b>\$26,664,105</b>	<b>\$27,219,688</b>	<b>\$3,688,436</b>	<b>\$215,267,546</b>
2 Employer Contributions	4,009,445	592,601	3,047,594	667,145	993,145	853,645	246,088	10,409,663
3 Employee Contributions	383,314	45,447	277,668	0	145,135	0	35,973	887,537
4 Benefit Payments	7,233,002	811,534	4,555,544	1,187,862	1,666,800	1,921,008	361,660	17,737,410
5 Refund of Contributions	125,508	61,940	274,915	0	390,809	599	65,231	919,002
6 Administrative Expenses <sup>1</sup>	74,912	6,976	49,387	15,815	24,870	25,388	3,440	200,788
7 Average Valuation Assets <sup>2</sup>	80,798,363	7,357,800	53,693,375	16,687,207	26,192,006	26,673,013	3,737,345	215,139,109
8 Investment Income Allocation <sup>3</sup>	5,399,729	491,719	3,588,311	1,115,201	1,750,403	1,782,549	249,766	14,377,678
<b>Actuarial Value of Assets, 12/31/2020 (EOY) (1)+(2)+(3)-(4)-(5)-(6)+(8)</b>	<b>\$82,673,039</b>	<b>\$7,728,318</b>	<b>\$54,980,597</b>	<b>\$17,534,142</b>	<b>\$27,470,309</b>	<b>\$27,908,887</b>	<b>\$3,789,932</b>	<b>\$222,085,224</b>

<sup>1</sup>Administrative expenses allocation based on BOY Asset Value

<sup>2</sup>For General County, Sheriff's Office, and Central Dispatch:  $\{(1)+(2)+0.5 \times [(3)-(4)-(5)-(6)]\}$

<sup>2</sup>For County Agency, County Library, Road Commission, and Mental Health:  $\{(1)+0.5 \times [(2)+(3)-(4)-(5)-(6)]\}$

<sup>3</sup>Investment income allocation based on average valuation assets

**Other Measurements**

**Unfunded Actuarial Accrued Liability by Division**

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
Actuarial Accrued Liability	\$118,802,566	\$14,576,885	\$83,042,357	\$21,367,381	\$32,108,219	\$33,401,302	\$5,649,326	\$308,948,036
Actuarial Value of Assets	82,673,039	7,728,318	54,980,597	17,534,142	27,470,309	27,908,887	3,789,932	222,085,224
<b>Unfunded Actuarial Accrued Liabilities</b>	<b>\$36,129,527</b>	<b>\$6,848,567</b>	<b>\$28,061,760</b>	<b>\$3,833,239</b>	<b>\$4,637,910</b>	<b>\$5,492,415</b>	<b>\$1,859,394</b>	<b>\$86,862,812</b>
<b>Funded Ratio</b>	<b>69.6%</b>	<b>53.0%</b>	<b>66.2%</b>	<b>82.1%</b>	<b>85.6%</b>	<b>83.6%</b>	<b>67.1%</b>	<b>71.9%</b>

**Other Measurements**

**Reconciliation of Gain/Loss by Division**

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
<b>Liability (gain)/loss</b>								
Actuarial liability, 12/31/2019	\$115,521,624	\$13,525,128	\$80,340,078	\$21,113,618	\$31,993,402	\$33,036,247	\$5,765,987	\$301,296,084
Normal cost	1,463,974	168,354	1,098,760	612,548	571,508	326,164	121,618	4,362,926
Benefit payments	(7,358,512)	(873,474)	(4,830,459)	(1,187,862)	(2,057,608)	(1,921,606)	(426,891)	(18,656,412)
Expected Interest	7,935,800	928,489	5,534,512	1,479,960	2,208,745	2,269,250	397,444	20,754,200
Assumption Changes	(423,003)	(42,318)	(360,322)	(75,978)	(97,636)	(99,130)	(9,135)	(1,107,522)
Plan Provision Changes	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
Expected actuarial liability, 12/31/2020	\$117,139,883	\$13,706,179	\$81,782,569	\$21,942,286	\$32,618,411	\$33,610,925	\$5,849,023	\$306,649,276
Actual actuarial liability, 12/31/2020	<u>\$118,802,566</u>	<u>\$14,576,885</u>	<u>\$83,042,357</u>	<u>\$21,367,381</u>	<u>\$32,108,219</u>	<u>\$33,401,302</u>	<u>\$5,649,326</u>	<u>\$308,948,036</u>
<b>Liability (gain)/loss</b>	<b>\$1,662,683</b>	<b>\$870,706</b>	<b>\$1,259,788</b>	<b>\$(574,905)</b>	<b>\$(510,192)</b>	<b>\$(209,623)</b>	<b>\$(199,697)</b>	<b>2,298,760</b>
<b>Asset (gain)/loss</b>								
Actuarial value of assets, 12/31/2019	\$80,313,973	\$7,479,001	\$52,946,870	\$16,955,473	\$26,664,105	\$27,219,688	\$3,688,436	\$215,267,546
Contributions	4,392,759	638,048	3,325,262	667,145	1,138,280	853,645	282,061	11,297,200
Benefit payments and expenses	(7,433,423)	(880,450)	(4,879,845)	(1,203,677)	(2,082,479)	(1,946,995)	(430,331)	(18,857,200)
Expected Investment return	<u>5,517,355</u>	<u>515,189</u>	<u>3,652,791</u>	<u>1,168,422</u>	<u>1,833,999</u>	<u>1,867,758</u>	<u>253,089</u>	<u>14,808,603</u>
Expected actuarial value of assets	\$82,790,664	\$7,751,788	\$55,045,078	\$17,587,363	\$27,553,905	\$27,994,096	\$3,793,255	\$222,516,149
Actual actuarial value of assets	<u>\$82,673,039</u>	<u>\$7,728,318</u>	<u>\$54,980,597</u>	<u>\$17,534,142</u>	<u>\$27,470,309</u>	<u>\$27,908,887</u>	<u>\$3,789,932</u>	<u>\$222,085,224</u>
<b>Asset (gain)/loss</b>	<b>\$117,625</b>	<b>\$23,470</b>	<b>\$64,481</b>	<b>\$53,221</b>	<b>\$83,596</b>	<b>\$85,209</b>	<b>\$3,323</b>	<b>\$430,925</b>
<b>Total (gain)/loss</b>	<b>\$1,780,308</b>	<b>\$894,176</b>	<b>\$1,324,269</b>	<b>\$(521,684)</b>	<b>\$(426,596)</b>	<b>\$(124,414)</b>	<b>\$(196,374)</b>	<b>\$2,729,685</b>

**Other Measurements**

**Schedule of Amortization Bases by Division**

		General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch
<b>Remaining Balances:</b>								
<b><u>Date Established</u></b>	<b><u>Remaining Period</u></b>							
12/31/2014	19	\$31,536,933	\$5,029,601	\$19,222,888	\$1,926,169	\$4,604,858	\$929,848	\$1,467,933
12/31/2015	20	\$2,046,425	\$318,155	\$2,157,167	\$862,280	\$92,719	\$895,705	\$399,156
12/31/2016	21	\$(456,876)	\$(85,352)	\$(817,762)	\$253,951	\$(1,245,372)	\$28,104	\$(254,821)
12/31/2017	22	\$1,697,291	\$359,464	\$2,081,492	\$404,504	\$46,131	\$1,338,373	\$213,280
12/31/2018	23	\$1,373,098	\$575,704	\$2,558,295	\$108,228	\$987,557	\$1,820,873	\$(168,712)
12/31/2019	19	\$(1,358,093)	\$(211,760)	\$1,920,064	\$563,091	\$786,788	\$684,911	\$397,308
12/31/2020	20	\$1,290,749	\$862,754	\$939,616	\$(284,984)	\$(634,771)	\$(205,399)	\$(194,749)
<b>Amortization Payments:</b>								
<b><u>Date Established</u></b>								
12/31/2014		\$2,467,748	\$393,563	\$1,504,180	\$150,722	\$360,328	\$84,080	\$114,865
12/31/2015		\$155,238	\$24,135	\$163,639	\$65,411	\$7,033	\$79,017	\$30,279
12/31/2016		\$(33,677)	\$(6,291)	\$(60,278)	\$18,719	\$(91,798)	\$2,424	\$(18,783)
12/31/2017		\$121,822	\$25,800	\$149,398	\$29,033	\$3,311	\$113,081	\$15,308
12/31/2018		\$96,145	\$40,311	\$179,134	\$7,578	\$69,150	\$150,969	\$(11,813)
12/31/2019		\$(106,270)	\$(16,570)	\$150,244	\$44,062	\$61,566	\$61,932	\$31,089
12/31/2020		\$97,914	\$65,447	\$71,278	\$(21,618)	\$(48,153)	\$(18,120)	(14,773)
<b>Total Payments</b>		\$2,798,920	\$526,395	\$2,157,595	\$293,907	\$361,437	\$473,383	\$146,172

**Other Measurements**

**Development of Recommended Contribution by Division**

Contributions are expected to be made throughout 2021 as a percentage of payroll. The interest adjustment includes 1 and ½ years of interest from January 1, 2020 to Mid-2021. However, if divisions contribute early on January 1, 2021, their contribution requirement would be reduced by ½ year of interest. The adjusted contribution rates and value are shown at the bottom of the chart below.

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
<b>Expected 2022 Payroll</b>	\$13,206,779	\$1,654,234	\$9,236,037	\$4,285,540	\$4,638,492	\$2,397,946	\$1,149,198	\$36,568,226
<b>Normal Cost</b>								
(a) Total normal cost	\$1,316,858	\$144,315	\$1,003,907	\$426,465	\$544,013	\$289,310	\$119,773	\$3,844,641
(b) Expected member	<u>(421,904)</u>	<u>(44,475)</u>	<u>(263,648)</u>	<u>(0)</u>	<u>(150,273)</u>	<u>(0)</u>	<u>(39,610)</u>	<u>(919,910)</u>
(c) Net normal cost	\$894,954	\$99,840	\$740,259	\$426,465	\$393,740	\$289,310	\$80,163	\$2,924,731
Administrative Expenses	70,739	8,213	43,978	22,097	23,119	12,556	5,437	186,139
Amortization of UAAL	2,798,920	526,395	2,157,595	293,907	361,437	473,383	146,172	6,757,809
Interest	<u>402,123</u>	<u>67,770</u>	<u>314,237</u>	<u>79,308</u>	<u>83,135</u>	<u>82,809</u>	<u>24,757</u>	<u>1,054,139</u>
<b>Total Employer Recommended Contribution FY 2022</b>	<b>\$4,166,736</b>	<b>\$702,218</b>	<b>\$3,256,069</b>	<b>\$821,777</b>	<b>\$861,431</b>	<b>\$858,058</b>	<b>\$256,529</b>	<b>\$10,922,818</b>
<b>As a percentage of Payroll</b>	<b>31.55%</b>	<b>42.45%</b>	<b>35.25%</b>	<b>19.18%</b>	<b>18.57%</b>	<b>35.78%</b>	<b>22.32%</b>	<b>29.87%</b>
FY 2022								
Total Contribution Rate	34.53%	45.16%	38.25%	19.18%	21.82%	35.78%	25.96%	32.34%
Employee Contribution Rate	2.98%	2.71%	3.00%	0.00%	3.25%	0.00%	3.64%	2.47%
<b>Employer Contribution Rate</b>	<b>31.55%</b>	<b>42.45%</b>	<b>35.25%</b>	<b>19.18%</b>	<b>18.57%</b>	<b>35.78%</b>	<b>22.32%</b>	<b>29.87%</b>
<i>Employer Normal Cost</i>	8.09%	7.23%	9.39%	11.59%	9.95%	13.93%	8.24%	9.42%
<i>Amortization of UAAL</i>	23.46%	35.22%	25.86%	7.59%	8.62%	21.85%	14.08%	20.45%
Total Employer Recommended Contribution if Made January 1, 2022	\$4,028,136	\$678,860	\$3,147,761	\$794,442	\$832,777	\$829,516	\$247,996	\$10,559,487
As a percentage of Payroll	30.50%	41.04%	34.08%	18.54%	17.95%	34.59%	21.58%	28.88%
Value of Contributing Early	\$138,600	\$23,358	\$108,308	\$27,335	\$28,654	\$28,542	\$8,533	\$363,331

**Other Measurements**

**Demographic Information by Division**

	General County	County Agency	Sheriff's Office	County Library	Road Commission	Mental Health	Central Dispatch	Total
<b>Active Participants</b>								
Number accruing benefits	302	30	149	99	79	35	20	714
Average age	46.5	43.5	37.9	47.2	47.8	49.8	39.3	44.8
Average years of employment	12.6	14.6	11.4	10.6	15.1	16.5	8.7	12.5
Average pay	\$46,846	\$54,756	\$59,031	\$44,641	\$58,529	\$71,748	\$54,372	\$52,140
<b>Terminated Vested</b>								
Number of Terminated Vested*	73	7	40	17	15	55	5	212
Average age	46.9	36.4	37.6	55.2	48.3	52.2	40.1	46.8
Total deferred annual benefits*	\$672,137	\$60,571	\$309,504	\$67,676	\$148,212	\$677,564	\$17,765	\$1,953,429
Average deferred monthly benefit	\$1,120	\$1,262	\$1,719	\$332	\$1,372	\$1,027	\$740	\$1,071
<b>Participants Receiving Benefits</b>								
Number Receiving Benefits	371	32	151	61	79	113	13	820
Average age	71.1	69.4	65.6	71.8	73.0	68.4	65.4	69.8
Total annual benefits	\$7,352,561	\$857,883	\$4,640,136	\$1,144,629	\$1,564,170	\$1,922,663	\$299,390	\$17,781,432
Average monthly benefit	\$1,652	\$2,234	\$2,561	\$1,564	\$1,650	\$1,418	\$1,919	\$1,807

\*Includes both deferred vested participants and participants vested only in a return of their employee contributions

\*The total deferred annual benefits and average deferred monthly benefits shown above reflect only the benefits of the deferred vested participants

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**General County**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	8	12	0	0	0	0	0	0	0	0	20
25 to 29	6	14	7	0	0	0	0	0	0	0	27
30 to 34	1	8	4	2	0	0	0	0	0	0	15
35 to 39	2	9	5	5	3	2	0	0	0	0	26
40 to 44	1	3	10	4	10	6	1	0	0	0	35
45 to 49	3	8	9	8	8	7	2	0	0	0	45
50 to 54	1	10	8	0	4	5	11	5	2	0	46
55 to 59	2	4	3	7	9	6	9	5	1	0	46
60 to 64	0	5	6	5	1	6	4	1	2	1	31
65 to 69	0	3	0	2	1	2	0	1	0	1	10
70 & up	0	0	1	0	0	0	0	0	0	0	1
Total	24	76	53	33	36	34	27	12	5	2	302

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**County Agency**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	2	2	1	0	0	0	0	0	0	0	5
25 to 29	0	1	2	0	0	0	0	0	0	0	3
30 to 34	0	1	0	2	0	0	0	0	0	0	3
35 to 39	0	0	0	1	0	0	0	0	0	0	1
40 to 44	0	0	0	0	1	0	0	0	0	0	1
45 to 49	0	1	2	0	1	1	1	0	0	0	6
50 to 54	0	0	0	0	0	0	0	1	0	0	1
55 to 59	0	0	0	0	1	2	3	1	0	0	7
60 to 64	1	0	0	0	0	1	0	1	0	0	3
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	3	5	5	3	3	4	4	3	0	0	30

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown



**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**Sheriff's Office**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	9	17	0	0	0	0	0	0	0	0	26
25 to 29	6	16	4	0	0	0	0	0	0	0	26
30 to 34	1	3	2	1	0	0	0	0	0	0	7
35 to 39	0	2	3	2	5	0	0	0	0	0	12
40 to 44	0	4	2	3	15	5	0	0	0	0	29
45 to 49	0	0	3	1	2	13	11	0	0	0	30
50 to 54	1	0	0	1	2	5	2	1	0	0	12
55 to 59	0	0	0	0	2	2	0	0	0	0	4
60 to 64	0	3	0	0	0	0	0	0	0	0	3
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	17	45	14	8	26	25	13	1	0	0	149

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**County Library**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1	2	1	0	0	0	0	0	0	0	4
25 to 29	1	8	1	0	0	0	0	0	0	0	10
30 to 34	0	5	2	1	0	0	0	0	0	0	8
35 to 39	0	2	4	4	3	0	0	0	0	0	13
40 to 44	0	0	1	0	2	0	0	0	0	0	3
45 to 49	0	2	2	1	2	0	0	0	0	0	7
50 to 54	0	8	4	3	3	2	2	0	0	0	22
55 to 59	0	5	5	0	2	0	1	1	2	0	16
60 to 64	0	1	4	4	2	0	1	0	2	0	14
65 to 69	0	1	0	0	0	0	1	0	0	0	2
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	2	34	24	13	14	2	5	1	4	0	99

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**Road Commission**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1	3	0	0	0	0	0	0	0	0	4
25 to 29	0	6	1	0	0	0	0	0	0	0	7
30 to 34	1	5	0	0	0	0	0	0	0	0	6
35 to 39	0	0	0	0	0	0	0	0	0	0	0
40 to 44	0	1	0	0	3	1	0	0	0	0	5
45 to 49	1	3	1	1	4	4	1	0	0	0	15
50 to 54	1	0	0	1	2	2	6	4	0	0	16
55 to 59	1	2	0	0	4	7	3	0	0	0	17
60 to 64	0	2	0	0	3	2	1	1	0	0	9
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	5	22	2	2	16	16	11	5	0	0	79

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**Mental Health**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	5	0	0	0	0	0	0	5
40 to 44	0	0	1	3	1	2	0	0	0	0	7
45 to 49	0	0	1	0	2	2	0	0	0	0	5
50 to 54	0	0	0	4	3	2	0	1	0	0	10
55 to 59	0	0	1	1	0	1	0	0	0	0	3
60 to 64	0	0	0	1	1	0	0	2	0	0	4
65 to 69	0	0	0	1	0	0	0	0	0	0	1
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	3	15	7	7	0	3	0	0	35

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown

**Active Participant Schedules by Division**

Active participant information grouped based on age and service.  
 Based on reported pay from January 1, 2020 to December 31, 2020.

**Central Dispatch**

Age Group	Years of Service										Total
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	2	1	0	0	0	0	0	0	0	0	3
25 to 29	0	0	0	0	0	0	0	0	0	0	0
30 to 34	1	1	1	0	0	0	0	0	0	0	3
35 to 39	1	1	1	0	1	0	0	0	0	0	4
40 to 44	1	0	0	2	0	0	0	0	0	0	3
45 to 49	0	0	0	1	1	2	0	0	0	0	4
50 to 54	0	1	1	0	1	0	0	0	0	0	3
55 to 59	0	0	0	0	0	0	0	0	0	0	0
60 to 64	0	0	0	0	0	0	0	0	0	0	0
65 to 69	0	0	0	0	0	0	0	0	0	0	0
70 & up	0	0	0	0	0	0	0	0	0	0	0
Total	5	4	3	3	3	2	0	0	0	0	20

<sup>1</sup>Part-time employees that did not earn a year of service in 2020 are excluded from the average pay shown