

Employees' Retirement System of the County of Milwaukee

Actuarial Valuation and Review as of January 1, 2020

Revised June 2020

This report has been prepared at the request of the Board of Trustees to assist in administering the System. This valuation report may not be copied or reproduced in any form without the consent of the Board of Trustees and may only be provided to other parties in its entirety, unless expressly authorized by Segal. The measurements shown in this actuarial valuation may not be applicable for other purposes.





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June 23, 2020

Board of Trustees
Employees' Retirement System of the County of Milwaukee
901 North 9th Street
Milwaukee, Wisconsin 53233

Dear Board Members:

We are pleased to submit this revised Actuarial Valuation and Review as of January 1, 2020, of the Employees' Retirement System of the County of Milwaukee. This report summarizes the actuarial data used in the valuation, analyzes the preceding year's experience, and, as required by the Retirement Code, is the basis for the Actual Funding Contribution for fiscal year 2020 and the Budget Contribution for fiscal year 2021. This report has been revised from the report presented at the May Board of Trustees meeting to reflect updated contribution and asset information provided by the System.

This report was prepared in accordance with generally accepted actuarial principles and practices at the request of the Board to assist in administering the Retirement System. The census information and financial information on which our calculations were based was prepared by the Retirement Plan Services (RPS) office. That assistance is gratefully acknowledged.

The actuarial calculations were directed under the supervision of Kim Nicholl, Matthew Strom, and Geoff Bridges. We are members of the American Academy of Actuaries and we meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. To the best of our knowledge, the information supplied in this actuarial valuation is complete and accurate. Further, in our opinion, the assumptions as approved by the Board are reasonably related to the experience of and the expectations for the System.

We look forward to reviewing this report and to answering any questions at an upcoming Board meeting.

Sincerely,

Handwritten signature of Kim M. Nicholl in black ink.

Kim M. Nicholl, FSA, FCA, MAAA, EA
Senior Vice President and Actuary

Handwritten signature of Matthew A. Strom in black ink.

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

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Geoff Bridges, FSA, MAAA, EA
Consulting Actuary

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Section 1: Actuarial Valuation Summary

Purpose and Basis

This report was prepared by Segal to present a valuation of the Plan as of January 1, 2020. The valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits. The measurements shown in this actuarial valuation may not be applicable for other purposes. In particular, the measures herein are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the Plan's benefit obligations. 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; and changes in plan provisions or applicable law.

Certain disclosure information required by GASB Statements Nos. 67 and 68 as of December 31, 2019, for the System and the County is provided in Section 4.

The contribution requirements presented in this report are based on:

- The benefit provisions of the Pension Plan, as outlined in Chapter 201.24 of the County Code and administered by the Board;
- The characteristics of covered active members, inactive members, and retired members and beneficiaries as of January 1, 2020, provided by RPS;
- The unaudited assets of the Plan as of December 31, 2019, provided by RPS;
- Economic assumptions regarding future salary increases and investment earnings;
- Other actuarial assumptions, regarding employee terminations, retirement, death, etc.; and
- The System's funding policy.

Valuation Highlights

1. Segal strongly recommends an actuarial funding method that targets 100% funding of the actuarial accrued liability. Generally, this implies payments that are ultimately at least enough to cover normal cost, interest on the unfunded actuarial accrued liability and the principal balance. The System's funding policy meets this standard.
2. Actual employer contributions made during the fiscal year ending December 31, 2019, were \$57,316,293. When combined with the employee contributions of \$13,217,363 and interest to the end of the year, the total contributions exceeded the actuarially determined contribution (referred to as the Actual Funding Contribution) for 2019 by \$3,246,621.
3. The results of this January 1, 2020, actuarial valuation are used to determine the Actual Funding Contribution for the fiscal year ending December 31, 2020, and the Budget Contribution for the fiscal year ending December 31, 2021. The Actual Funding Contribution for the year ending December 31, 2020 is \$74,588,403, an increase of \$4,588,761 from the Actual Funding Contribution for the year ending December 31, 2019. The amortization bases of the unfunded actuarial accrued liability are shown in Section 2, Exhibit F of this report.
4. The 2021 Budget Contribution, expected to be contributed in 2021, is \$75,504,000.
5. The funded ratio (the ratio of the actuarial value of assets to actuarial accrued liability) is 74.5%, compared to the prior year's funded ratio of 75.5%. This ratio is one measure of funding status, and its history is a measure of funding progress. Using the market value of assets, the funded ratio is 74.9%, compared to 70.6% as of the prior valuation date. These measurements are not necessarily appropriate for assessing the sufficiency of Plan assets to cover the estimated cost of settling the System's benefit obligation or the need for or the amount of future contributions.
6. The rate of return on the market value of assets was 15.78% for the January 1, 2019 to December 31, 2019 plan year. The return on the actuarial value of assets was 7.32% for the same period due to the recognition of prior years' investment gains and losses. This resulted in an actuarial loss when measured against the assumed rate of return of 7.75% (applicable for the year ending December 31, 2019). Given the low fixed income interest rate environment, the System's target asset allocation, and expectations of future investment returns for various classes, the Board lowered the investment return assumption to 7.50% effective for this January 1, 2020 actuarial valuation. This is the final step in phasing in a reduction from 8.00% to 7.50%. We advise the Board to continue to monitor actual and anticipated investment returns relative to the assumed long-term rate of return on investments.
7. The actuarial value of assets is 99.43% of the market value of assets. The investment experience in the past several years has only been partially recognized in the actuarial value of assets. As the deferred net gain is recognized in future years, the cost of the Plan is likely to decrease unless the net gain is offset by future experience. The recognition of the deferred market gain of \$9,979,573 will also have an impact on the future funded ratio. If the net deferred gain were recognized immediately in the actuarial value of assets, the Actual Funding Contribution would decrease by \$860,382 to \$73,728,021.
8. The unfunded actuarial accrued liability is \$591,686,637, which is an increase of \$30,349,584 since the prior valuation.

9. The actuarial loss from investment experience is \$7,210,529.
10. The net experience gain from sources other than investment experience was approximately 0.72% of the actuarial accrued liability. Additional detail regarding this loss is shown in Section 2, Exhibit C.
11. The investment return assumption was lowered from 7.75% to 7.50% effective January 1, 2020.
12. This report constitutes an actuarial valuation for the purpose of determining the actuarially determined contribution under the Plan's funding policy and measuring the progress of that funding policy. The Net Pension Liability (NPL) and Pension Expense under Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68, for inclusion in the plan and employer's financial statements as of December 31, 2019, and December 31, 2020, is shown in Section 4 of this report. The Actual Funding Contribution in this valuation is expected to be used as the actuarially determined contribution (ADC) for GASB financial reporting.
13. This actuarial report as of January 1, 2020, is based on financial and demographic data as of that date. Changes subsequent to that date are not reflected and will affect future actuarial costs of the Plan.
14. The costs and additional liability associated with Milwaukee District Council 48 v. Milwaukee County are included in this valuation.
15. This report has been revised from the version presented at the May 2020 meeting to reflect updated contribution and asset information provided by the System.

Summary of Key Valuation Results

		2020	2019
Actuarially determined contributions:	• Actual Funding Contribution for fiscal 2020 (and 2019)	\$74,588,403	\$69,999,642
	• Amount actually contributed for fiscal 2020 (and 2019)	TBD	70,533,656
	• Budget Contribution for fiscal 2021 (and 2020)	75,504,000	76,901,000
Actuarial accrued liability for plan year beginning January 1:	• Retired participants and beneficiaries	\$1,865,544,823	\$1,824,456,176
	• Inactive vested participants	86,195,635	85,861,589
	• Active participants	368,594,831	382,745,589
	• Total	2,320,335,289	2,293,063,354
	• Employer normal cost for plan year beginning January 1 (as of January 1)	17,355,963	15,800,135
Assets for plan year beginning January 1:	• Market value of assets (MVA)	\$1,738,628,225	\$1,618,310,314
	• Actuarial value of assets (AVA)	1,728,648,652	1,731,726,301
	• Actuarial value of assets as a percentage of market value of assets	99.43%	107.01%
Funded status for plan year beginning January 1:	• Unfunded actuarial accrued liability based on MVA	\$581,707,064	\$674,753,040
	• Funded percentage on MVA basis	74.93%	70.57%
	• Unfunded actuarial accrued liability based on AVA	\$591,686,637	\$561,337,053
	• Funded percentage on AVA basis	74.50%	75.52%
	• Remaining amortization period (average)	17	18
Key assumptions:	• Interest rate for determining liability as of January 1	7.50%	7.75%
	• Inflation rate	2.50%	2.50%
	• Interest rate for Budget Contribution for fiscal 2021 (and 2020)	7.50%	7.50%
Demographic data for plan year beginning January 1:	• Number of retired members and beneficiaries	8,001	8,042
	• Number of vested former members	1,293	1,313
	• Number of active members	3,561	3,425
	• Total payroll	\$200,365,711	\$191,043,797
	• Average pay	56,267	55,779

* All valuation results shown throughout this report for January 1, 2017 and prior years were calculated by the prior actuary.

Important Information about Actuarial Valuations

An actuarial valuation is a budgeting tool with respect to the financing of future projected obligations of a pension plan. It is an estimated forecast – the actual long-term cost of the Plan will be determined by the actual benefits and expenses paid and the actual investment experience of the Plan.

In order to prepare a valuation, Segal relies on a number of input items. These include:

Plan of benefits	Plan provisions define the rules that will be used to determine benefit payments, and those rules, or the interpretation of them, may change over time. Even where they appear precise, outside factors may change how they operate. It is important to keep Segal informed with respect to plan provisions and administrative procedures, and to review the plan summary included in our report to confirm that Segal has correctly interpreted the plan of benefits.
Membership data	An actuarial valuation for a plan is based on data provided to the actuary by the System. Segal does not audit such data for completeness or accuracy, other than reviewing it for obvious inconsistencies compared to prior data and other information that appears unreasonable. It is important for Segal to receive the best possible data and to be informed about any known incomplete or inaccurate data.
Assets	The valuation is based on the market value of assets as of the valuation date, as provided by the System. The System uses an “actuarial value of assets” that differs from market value to gradually reflect year-to-year changes in the market value of assets in determining the contribution requirements.
Actuarial assumptions	In preparing an actuarial valuation, Segal projects the benefits to be paid to existing plan participants for the rest of their lives and the lives of their beneficiaries. This projection requires actuarial assumptions as to the probability of death, disability, withdrawal, and retirement of each participant for each year. In addition, the benefits projected to be paid for each of those events in each future year reflect actuarial assumptions as to salary increases and cost-of-living adjustments. The projected benefits are then discounted to a present value, based on the assumed rate of return that is expected to be achieved on the plan’s assets. There is a reasonable range for each assumption used in the projection and the results may vary materially based on which assumptions are selected. It is important for any user of an actuarial valuation to understand this concept. Actuarial assumptions are periodically reviewed to ensure that future valuations reflect emerging plan experience. While future changes in actuarial assumptions may have a significant impact on the reported results, that does not mean that the previous assumptions were unreasonable.

The user of Segal's actuarial valuation (or other actuarial calculations) should keep the following in mind:

- The actuarial valuation is prepared at the request of the System and Board of Trustees. Segal is not responsible for the use or misuse of its report, particularly by any other party.
- An actuarial valuation is a measurement of the plan's assets and liabilities at a specific date. Accordingly, except where otherwise noted, Segal did not perform an analysis of the potential range of future financial measures. The actual long-term cost of the plan will be determined by the actual benefits and expenses paid and the actual investment experience of the plan.
- Actuarial results in this report are not rounded, but that does not imply precision.
- If the System is aware of any event or trend that was not considered in this valuation that may materially change the results of the valuation, Segal should be advised, so that we can evaluate it.
- Segal does not provide investment, legal, accounting, or tax advice. Segal's valuation is based on our understanding of applicable guidance in these areas and of the plan's provisions, but they may be subject to alternative interpretations. The System should look to its other advisors for expertise in these areas.

As Segal has no discretionary authority with respect to the management or assets of the Plan, it is not a fiduciary in its capacity as actuaries and consultants with respect to the Plan.

Section 2: Actuarial Valuation Results

A. Membership Data

The Actuarial Valuation and Review considers the number and demographic characteristics of covered participants, including active members, inactive members, retired members and beneficiaries. This section presents a summary of significant statistical data on these participant groups.

As shown below, the ratio of non-active members to active members has been increasing. This increases the risks associated with the plan as the liabilities and costs are larger relative to the payroll of the active members in the plan.

More detailed information for this valuation year and the preceding valuation can be found in *Section 3, Exhibits A and B*.

Member Population: 2011 – 2020

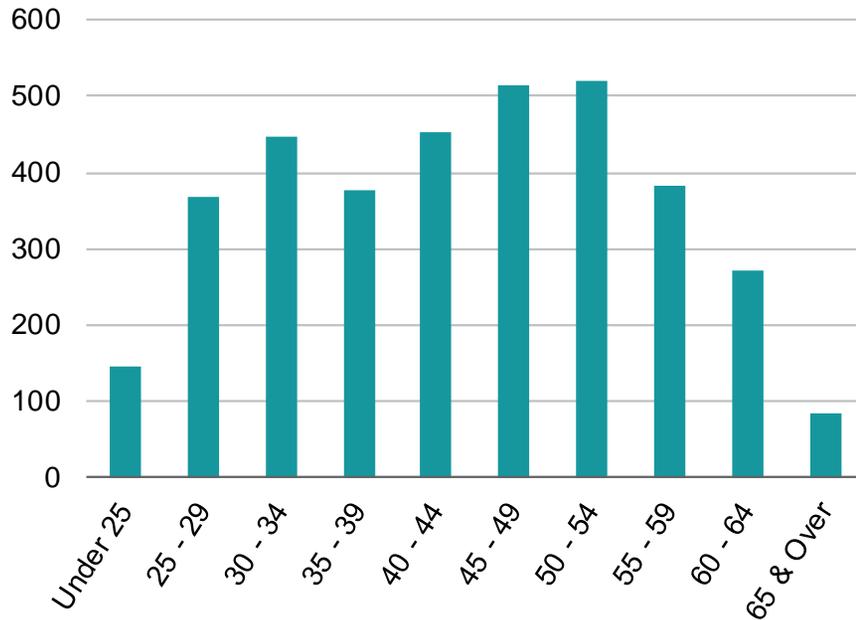
As of January 1	Active Members	Vested Terminated Members	Retired Members and Beneficiaries	Total Non-Actives	Ratio of Non-Actives to Actives
2011	4,448	1,493	7,441	8,934	2.01
2012	3,972	1,341	7,747	9,088	2.29
2013	3,934	1,196	7,867	9,063	2.30
2014	3,911	1,411	7,940	9,351	2.39
2015	3,680	1,370	7,979	9,349	2.54
2016	3,619	1,387	7,991	9,378	2.59
2017	3,488	1,394	8,063	9,457	2.71
2018	3,502	1,371	8,037	9,408	2.69
2019	3,425	1,313	8,042	9,355	2.73
2020	3,561	1,293	8,001	9,294	2.61

Active Members

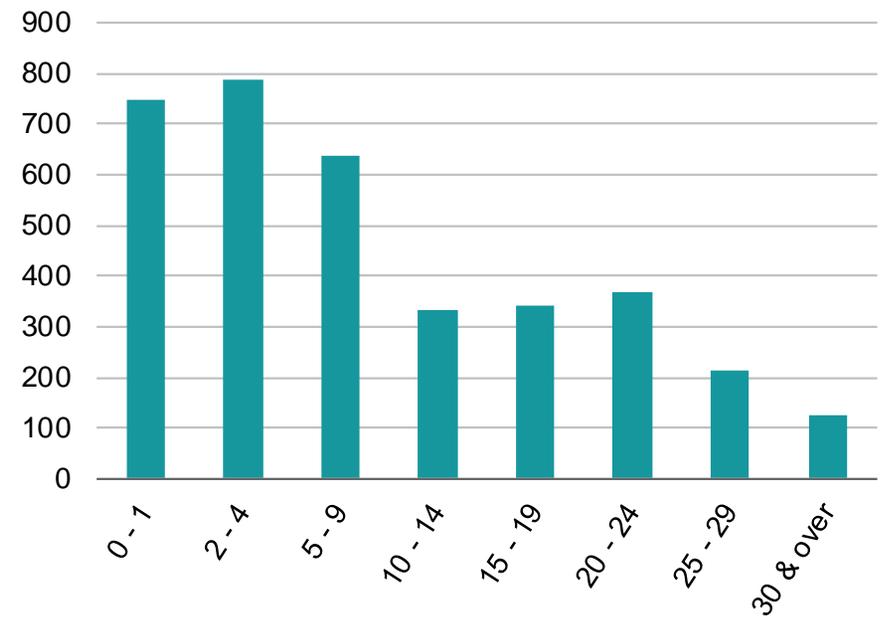
Plan costs are affected by the age, years of creditable service and payroll of active members. In this year's valuation, there were 3,561 active members with an average age of 44.3, average years of benefit service of 9.4 years and average pay of \$56,267. The 3,425 active members in the prior valuation had an average age of 44.8, average benefit service of 10.0 years and average pay of \$55,779.

Distribution of Active Members as of January 1, 2020

ACTIVES BY AGE



ACTIVES BY YEARS OF CREDITED SERVICE



Inactive Members

In this year's valuation, there were 1,293 inactive members with a vested right to a deferred or immediate benefit. Average monthly annuities for these members are \$703.

For comparison, in the previous valuation, there were 1,313 inactive members with a vested right to a deferred or immediate benefit. Average monthly annuities for these members are \$693.

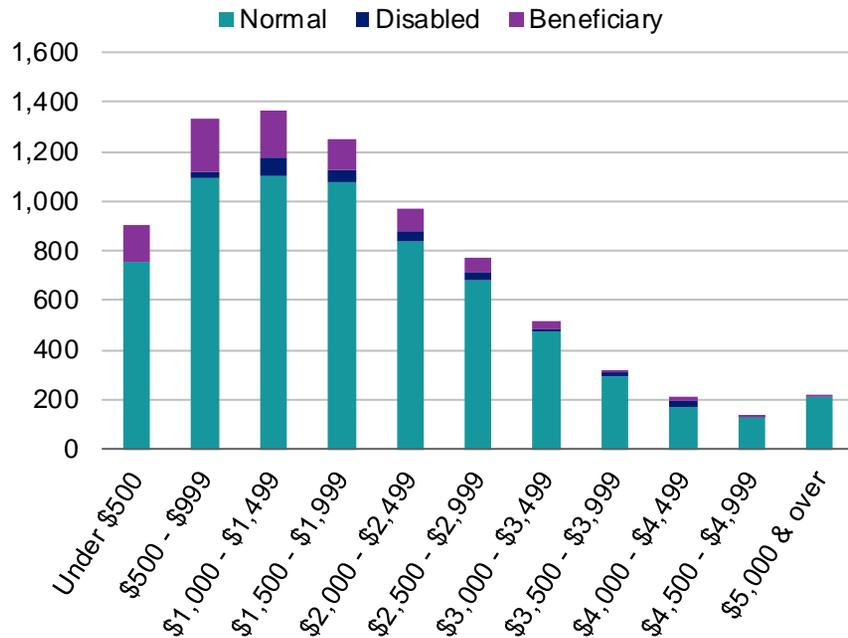
Retired Members and Beneficiaries

As of January 1, 2020, 7,088 retired members (including disability retirees) and 913 beneficiaries were receiving total monthly benefits of \$15,175,558. For comparison, in the previous valuation, there were 7,122 retired members and 920 beneficiaries receiving monthly benefits of \$15,013,807.

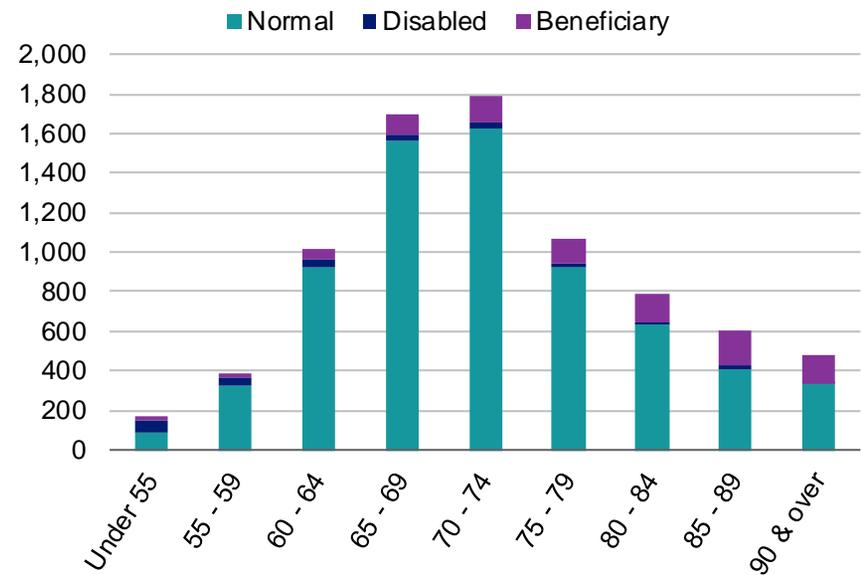
As of January 1, 2020, the average monthly benefit for retired members is \$1,949, compared to \$1,920 in the previous valuation. The average age for retired members is 71.8 in the current valuation, compared with 71.5 in the prior valuation.

Distribution of Pensioners as of January 1, 2020

PENSIONERS BY TYPE AND MONTHLY AMOUNT



PENSIONERS BY TYPE AND AGE



Historical Plan Population

The chart below demonstrates the progression of the active population over the last ten years. The chart also shows the growth among the retired population over the same time period.

Membership Data Statistics: 2011 – 2020

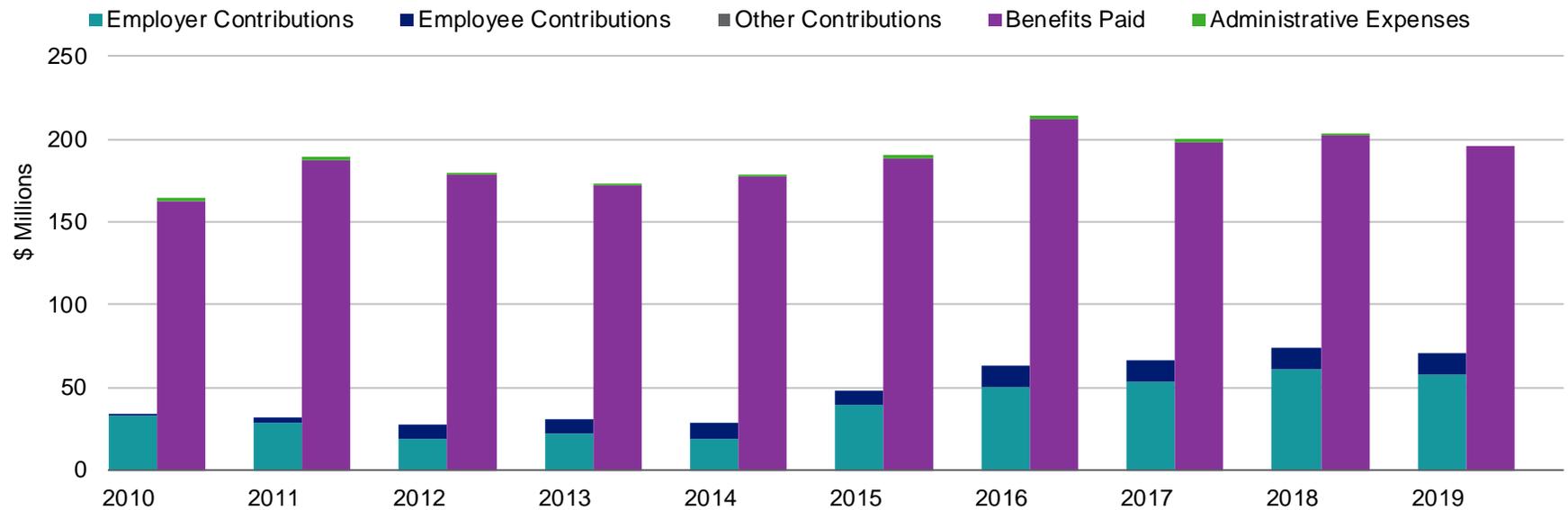
As of January 1	Active Members			Retired Members		
	Count	Average Age	Average Service	Count	Average Age	Average Monthly Amount
2011	4,448	46.4	12.5	6,644	70.7	\$1,662
2012	3,972	45.6	11.6	6,833	70.1	1,673
2013	3,934	45.8	11.7	6,999	70.5	1,733
2014	3,911	46.0	11.6	7,099	70.6	1,756
2015	3,680	46.0	11.7	7,092	70.8	1,782
2016	3,619	45.7	11.4	7,077	71.0	1,829
2017	3,488	45.2	10.3	7,147	71.1	1,868
2018	3,502	45.0	10.3	7,128	71.3	1,893
2019	3,425	44.8	10.0	7,122	71.5	1,920
2020	3,561	44.3	9.4	7,088	71.8	1,949

B. Financial Information

Retirement plan funding anticipates that, over the long term, both contributions and investment earnings (less investment fees and administrative expenses) will be needed to cover benefit payments. Retirement plan assets change as a result of the net impact of these income and expense components. The System's negative cash flow (approximately \$125 million in 2019) also affects expected investment returns.

Additional financial information, including a summary of these transactions for the valuation year, is presented in *Section 3, Exhibits C, D and E.*

**Comparison of Contributions to Benefits and Expenses Paid
For Years Ended December 31, 2010 – 2019**



It is desirable to have level and predictable plan costs from one year to the next. For this reason, the Board has adopted an asset smoothing method that gradually adjusts to market value. Under this valuation method, the full value of market fluctuation is not recognized in a single year and, as a result, the asset value and the plan costs are more stable. The amount of the adjustment to recognize market value is treated as income, which may be positive or negative. Realized and unrealized gains and losses are treated equally and, therefore, the sale of assets has no immediate effect on the actuarial value.

Determination of Actuarial Value of Assets for Year Ended December 31, 2019

1	Market value of assets, December 31, 2019			\$1,738,628,225
		Original	Percent	Unrecognized
2	Calculation of unrecognized return	Amount **	Deferred	Amount***
(a)	Year ended December 31, 2019*	\$124,974,770	90%	\$112,477,293
(b)	Year ended December 31, 2018	-170,935,242	80	-136,748,192
(c)	Year ended December 31, 2017	121,516,124	70	85,061,284
(d)	Year ended December 31, 2016	-23,448,242	60	-14,068,944
(e)	Year ended December 31, 2015	-103,841,093	50	-51,920,545
(f)	Year ended December 31, 2014	-50,790,631	40	-20,316,252
(g)	Year ended December 31, 2013	118,316,429	30	35,494,929
(h)	Year ended December 31, 2012	--	20	--
(i)	Year ended December 31, 2011	--	10	--
(j)	Year ended December 31, 2010	--	0	--
(k)	Total unrecognized return			9,979,573
3	Actuarial value of assets as of December 31, 2019: (1) - (2k)			<u>1,728,648,652</u>
4	Actuarial value as a percentage of market value: (3) ÷ (1)			99.4%

* Derivation of gain/(loss) for the year ending December 31, 2019 is shown on page 16

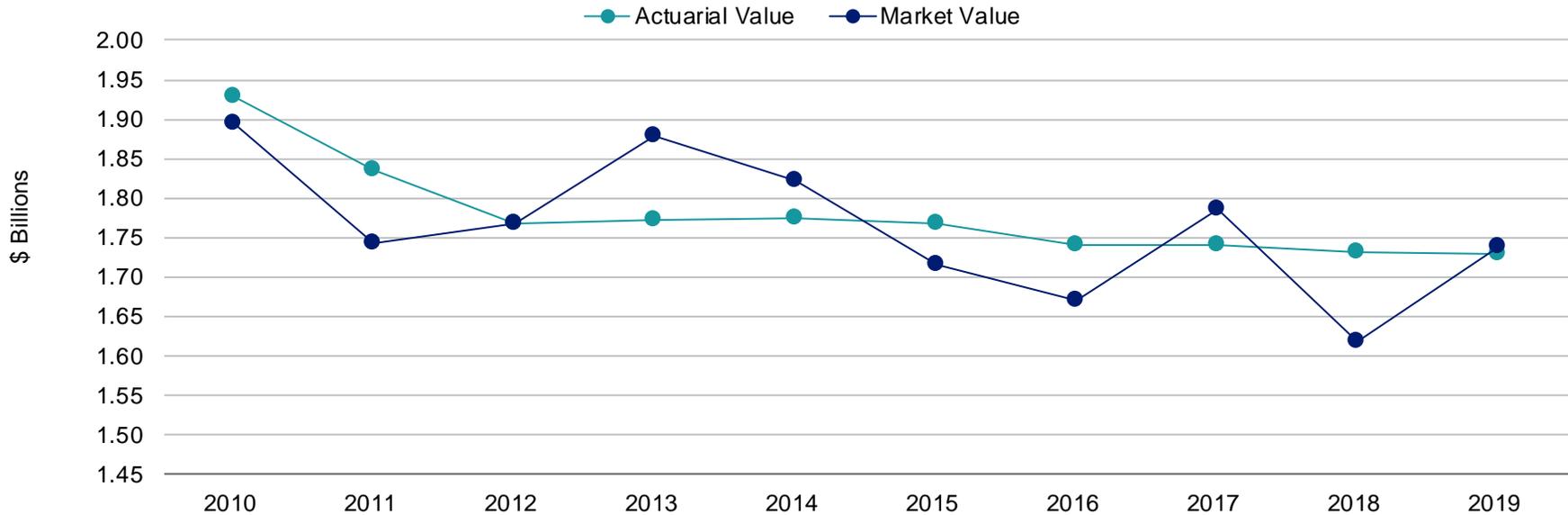
**Total return minus expected return on a market value basis

***Recognition at 10% per year over ten years

Assets were re-established at market value on January 1, 2013.

Both the actuarial value and market value of assets are representations of the Plan's financial status. As investment gains and losses are gradually taken into account, the actuarial value of assets tracks the market value of assets. The actuarial asset value is significant because the Plan's liabilities are compared to these assets to determine what portion, if any, remains unfunded. Amortization of the unfunded actuarial accrued liability is an important element in determining the contribution requirement.

Actuarial Value of Assets vs. Market Value of Assets as of December 31, 2010 – 2019



C. Actuarial Experience

To calculate the actuarially determined contribution, assumptions are made about future events that affect the amount and timing of benefits to be paid and assets to be accumulated. Each year actual experience is measured against the assumptions. If overall experience is more favorable than anticipated (an actuarial gain), the contribution requirement will decrease from the previous year. On the other hand, the contribution requirement will increase if overall actuarial experience is less favorable than expected (an actuarial loss).

Taking account of experience gains or losses in one year without making a change in assumptions reflects the belief that the single years' experience was a short-term development and that, over the long term, experience will return to the original assumptions. For contribution requirements to remain stable, assumptions should approximate experience.

If assumptions are changed, the contribution requirement is adjusted to take into account a change in experience anticipated for all future years.

The net experience gain is \$9,111,095, which includes \$7,210,529 from investment losses and \$16,321,624 in gains from all other sources. The net experience variation from individual sources other than investments was 0.7% of the actuarial accrued liability. A discussion of the major components of the actuarial experience is on the following pages.

Actuarial Experience for Year Ended December 31, 2019

1	Net gain/(loss) from investments*	(\$7,210,529)
2	Net gain/(loss) from other experience	16,321,624
3	Net experience gain/(loss): 1 + 2	\$9,111,095

* Details on next page.

Investment Experience

A major component of projected asset growth is the assumed rate of return. The assumed return should represent the expected long-term rate of return, based on the System's investment policy. The rate of return on the market value of assets was 15.78% for the year ended December 31, 2019.

For valuation purposes, the assumed rate of return on the actuarial value of assets is 7.75%. The actual rate of return on an actuarial basis for the 2019 plan year was 7.32%. Since the actual return for the year was less than the assumed return, the Plan experienced an actuarial loss during the year ended December 31, 2019 with regard to its investments.

Investment Experience

	Year Ended December 31, 2019		Year Ended December 31, 2018	
	Market Value	Actuarial Value	Market Value	Actuarial Value
Investment income	\$245,570,699	\$122,175,139	-\$38,060,799	\$121,956,182
Average value of assets	1,556,076,498	1,669,492,485	1,714,508,944	1,667,907,950
Rate of return: 1 ÷ 2	15.78%	7.32%	-2.22%	7.31%
Assumed rate of return	7.75%	7.75%	7.75%	7.75%
Expected investment income: 2 x 4	120,595,929	129,385,668	\$132,874,443	\$129,262,866
Actuarial gain/(loss): 1 – 5	<u>\$124,974,770</u>	<u>-\$7,210,529</u>	<u>-\$170,935,242</u>	<u>-\$7,306,684</u>

Because actuarial planning is long term, it is useful to see how the assumed investment rate of return has followed actual experience over time. The table below shows the rate of return on an actuarial basis compared to the market value investment return for the last 16 years, including averages over select time periods.

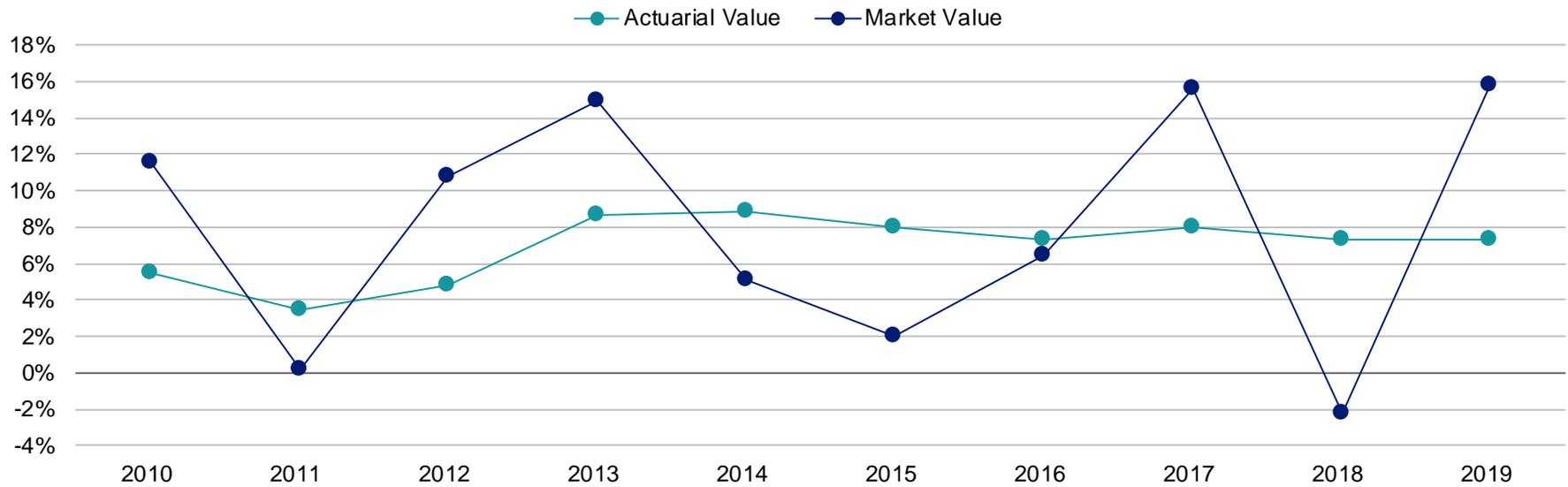
Investment Return – Actuarial Value vs. Market Value: 2004 – 2019

Year Ended Dec. 31	Actuarial Value Investment Return		Market Value Investment Return		Year Ended Dec. 31	Actuarial Value Investment Return		Market Value Investment Return	
	Amount	Percent	Amount	Percent		Amount	Percent	Amount	Percent
					2010	\$104,127,935	5.51%	\$203,770,758	11.60%
					2011	64,214,736	3.47	4,039,718	0.22
					2012	84,397,065	4.79	178,833,104	10.74
					2013	146,900,302	8.66	253,385,088	14.93
2004	\$106,051,092	7.67%	\$184,521,294	12.91%	2014	150,527,504	8.87	92,284,293	5.15
2005	142,925,632	10.45	123,206,736	8.25	2015	135,399,964	7.95	35,190,400	2.01
2006	174,981,665	12.48	202,170,056	13.41	2016	124,121,244	7.34	106,649,356	6.50
2007	193,083,715	13.05	98,642,968	6.12	2017	133,662,416	8.04	249,003,287	15.63
2008	53,668,265	3.03	-357,462,777	-22.44	2018	121,956,182	7.31	-38,060,799	-2.22
2009	74,459,006	3.87	313,462,671	20.19	2019	122,175,139	7.32	245,570,699	15.78
							Most recent five-year average return	7.59%	7.30%
							Most recent ten-year average return	6.91%	7.85%
							Most recent fifteen-year average return	7.44%	6.54%

Note: Each year's yield is weighted by the average asset value in that year.

Subsection B described the actuarial asset smoothing method that gradually recognizes fluctuations in the market value rate of return. The goal of this is to stabilize the actuarial rate of return and to produce more level pension plan costs.

Market and Actuarial Rates of Return for Years Ended December 31, 2010 - 2019



Other Experience

There are other differences between the expected and the actual experience that appear when the new valuation is compared with the projections from the previous valuation. These include:

- the extent of turnover among participants,
- retirement experience (earlier or later than projected),
- mortality (more or fewer deaths than projected),
- the number of disability retirements (more or fewer than projected), and
- salary increases (greater or smaller than projected).

The net gain from this other experience for the year ended December 31, 2019, amounted to \$16,321,624, which is 0.7% of the actuarial accrued liability.

Experience Gain/(Loss) Due to Demographics For Year Ended December 31, 2019

Net turnover	\$521,505
Retirement (fewer retirements than expected)	7,489,395
Mortality (more deaths than expected)	4,338,784
Disability retirements	-17,601
Salary increase for continuing actives	289,718
Miscellaneous	<u>3,699,823</u>
Total	\$16,321,624

D. Changes in the Actuarial Accrued Liability

The actuarial accrued liability as of January 1, 2020, is \$2,320,335,289, an increase of \$27,271,935, or 1.2%, from the actuarial accrued liability as of the prior valuation date. The liability is expected to grow each year with normal cost and interest, and to decline due to benefit payments made. Additional fluctuations can occur due to actual experience that differs from expected (as discussed in the previous subsection).

Actuarial Assumptions

- The following actuarial assumptions were changed effective January 1, 2020:
 - Interest rate assumption changed from 7.75% to 7.50%
 - This change decreased the funded percentage by 1.9%
- Details on actuarial assumptions and methods are in *Section 5, Exhibit I*.

Plan Provisions

- The following plan provision change is reflected in this valuation:
 - Rule of 75 unreduced early retirement benefits to certain District Council 48 (DC48) participants are now provided
 - This change decreased the funded percentage by 0.2%
- A summary of plan provisions is in *Section 5, Exhibit II*.

E. Development of Unfunded Actuarial Accrued Liability

Development of Unfunded Actuarial Accrued Liability For Year Ended December 31, 2019

1	Unfunded actuarial accrued liability at beginning of year	\$561,337,053
2	Normal cost at beginning of year (includes expense reimbursement payable to County)	15,800,135
3	Total contributions	-70,533,656
4	Interest	
	• For whole year on 1 + 2	\$44,728,132
	• For partial year on 3 (<i>See Exhibit J</i>)	<u>-2,712,607</u>
	Total interest	<u>42,015,525</u>
5	Expected unfunded actuarial accrued liability	\$548,619,057
6	Changes due to:	
	• Experience (gain)/loss	-9,111,095
	• Assumptions	52,178,675
	• Funding method	0
	• Plan provisions	<u>0</u>
	Total changes	<u>\$43,067,580</u>
7	Unfunded actuarial accrued liability at end of year	<u>\$591,686,637</u>

F. Amortization Schedule for Funding

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability (UAAL). Payments towards the UAAL are determined by amortizing sources of UAAL over various time periods, with amounts determined as a level percentage of payroll. The UAAL payment was reestablished on January 1, 2014 and amortized over 21 years. Future unanticipated increases in UAAL are amortized over closed 20-year periods. UAAL arising from contribution variances are amortized over closed 5-year periods. Amortization payments are assumed to increase by the payroll growth assumption of 1.75%, which reflects the payroll increase assumption of 3.5%, limited to reflect the anticipated increases in the County's tax base.

Actual Funding Contribution Amortization Schedule for 2020

Type	Date Established	Initial Period	Initial Amount	Annual Payment*	Years Remaining	Outstanding Balance
Reestablished UAAL	01/01/2015	21	\$448,982,279	\$38,482,539	16	\$420,904,427
Increase to UAAL	01/01/2016	20	49,830,707	4,303,431	16	47,068,966
Actuarial Loss	01/01/2017	20	26,129,846	2,214,311	17	25,137,993
Contribution Variance	01/01/2017	5	2,068,560	473,619	2	921,905
MyChoice Contribution	01/01/2017	20	(2,918,641)	(247,333)	17	(2,807,853)
Actuarial Gain	01/01/2018	20	(3,290,263)	(273,611)	18	(3,213,639)
Contribution Variance	01/01/2018	5	(1,917,965)	(434,624)	3	(1,235,374)
Change in Assumptions	01/01/2018	20	63,931,243	5,316,382	18	62,442,418
Actuarial Loss	01/01/2019	20	6,600,732	539,045	19	6,531,632
Contribution Variance	01/01/2019	5	(4,687,868)	(1,052,688)	4	(3,884,797)
Actuarial Gain	01/01/2020	20	(9,111,095)	(730,704)	20	(9,111,095)
Contribution Variance	01/01/2020	5	(3,246,621)	(746,465)	5	(3,246,621)
Change in Assumptions	01/01/2020	20	52,178,675	4,184,696	20	52,178,675
Total				\$52,028,598		\$591,686,637

* Level percentage, except contribution variances

Payments for the subsequent year Budget Contribution are determined by rolling forward the outstanding balance and payment amounts for existing amortization bases, and estimating the amounts of any new sources of UAAL.

Budget Contribution Amortization Schedule for 2021

Type	Date Established	Initial Period	Initial Amount	Annual Payment*	Years Remaining	Outstanding Balance
Reestablished UAAL	01/01/2015	21	\$448,982,279	\$39,155,983	15	\$411,103,531
Increase to UAAL	01/01/2016	20	49,830,707	4,378,741	15	45,972,949
Actuarial Loss	01/01/2017	20	26,129,846	2,253,062	16	24,642,958
Contribution Variance	01/01/2017	5	2,068,560	481,908	1	481,908
MyChoice Contribution	01/01/2017	20	(2,918,641)	(251,662)	16	(2,752,559)
Actuarial Gain	01/01/2018	20	(3,290,263)	(278,399)	17	(3,160,530)
Contribution Variance	01/01/2018	5	(1,917,965)	(445,960)	2	(860,806)
Change in Assumptions	01/01/2018	20	63,931,243	5,409,419	17	61,410,488
Actuarial Loss	01/01/2019	20	6,600,732	548,478	18	6,442,031
Contribution Variance	01/01/2019	5	(4,687,868)	(1,089,053)	3	(3,044,518)
Actuarial Gain	01/01/2020	20	(9,111,095)	(743,491)	19	(9,008,920)
Contribution Variance	01/01/2020	5	(3,246,621)	(746,465)	4	(2,687,668)
Change in Assumptions	01/01/2020	20	52,178,675	4,257,929	19	51,593,527
Actuarial Gain	01/01/2021	20	(1,579,211)	(126,652)	20	(1,579,211)
Contribution Variance	01/01/2021	5	(2,312,597)	(531,714)	5	(2,312,597)
Total				\$52,272,124		\$576,240,583

* Level percentage, except contribution variances

For the 2020 Budget Contribution, a base for unexpected change in the unfunded actuarial accrued liability is added and amortized over 20 years. This gain is based on the amount of the deferred investment gain that will be recognized in the actuarial value of assets in the January 1, 2021 valuation. A base for a contribution variance for 2021 is added and amortized over 5 years. This variance is based on the difference between the County's anticipated contribution and the Actual Funding Contribution for 2020.

G. Gross Contribution Requirements

The actuarially determined contribution is equal to the employer normal cost payment and a payment on the unfunded actuarial accrued liability (as shown in *Section 2, Exhibit F*). The contribution requirements shown in this report are gross contribution amounts. It is our understanding that County staff will net out the amount of employee contributions that are collected to arrive at a net County contribution.

Gross Contribution Requirements

	Year Beginning January 1		
	2021	2020	
	Budget	Actual	Budget
1 Total normal cost, adjusted to end of year	\$19,311,000	\$18,657,660	\$18,537,000
2 Net annual amortizations, adjusted to end of year	56,193,000	55,930,743	58,364,000
3 Expenses	<u>0</u>	<u>0</u>	<u>0</u>
4 Total contribution: 1 + 2 + 3, not less than zero	\$75,504,000	\$74,588,403	\$76,901,000

The Actual Funding Contribution and 2021 Budget Contribution are based on participant data as of January 1, 2020.

For the 2021 Budget Contribution, the Normal Cost for 2021 is assumed to be 3.5% higher than the 2020 Normal Cost.

The amounts shown above are gross contribution amounts. It is our understanding that the County staff will net out the amount of employee contributions that are collected to arrive at net employer contributions.

H. State Mandated Member Contributions

The following table develops the member contribution rates for 2021. Public Safety and General employees contribute 50% of the allocated cost of the 2020 actuarially determined contribution.

Member Contribution Rates

	Non-Contributors	Public Safety	General	All Members	
Valuation Results as of January 1, 2020					
1	Present value of future benefits				
	a) Active members *	\$0	\$83,760,166	\$389,308,875	\$473,069,041
	b) Participants with deferred benefits	86,195,635	0	0	86,195,635
	c) Retirees and beneficiaries	1,865,544,823	0	0	1,865,544,823
	d) Total	1,951,740,458	83,760,166	389,308,875	2,424,809,499
2	Present value of future normal cost	0	18,377,518	86,096,692	104,474,210
3	Actuarial accrued liability: 1 – 2	1,951,740,458	65,382,648	303,212,183	2,320,335,289
4	Actuarial value of assets	1,454,045,683	48,710,041	225,892,928	1,728,648,652
5	Funded percentage: 4 ÷ 3	74.5%	74.5%	74.5%	74.5%
6	Unfunded actuarial accrued liability: 3 – 4	497,694,775	16,672,607	77,319,255	591,686,637
7	Total normal cost for the plan year	0	2,697,525	14,658,438	17,355,963
Projected Member Contribution for 2021					
1	Annual contribution for 2020				
	a) Normal cost with interest	\$0	\$2,899,839	\$15,757,821	\$18,657,660
	b) Net annual amortization payments **	47,045,914	1,576,022	7,308,807	55,930,743
	c) Expenses	0	0	0	0
	d) Total contribution: a + b + c, not less than zero	47,045,914	4,475,861	23,066,628	74,588,403
2	Member contribution (50% of 1d for Contributors)	0	2,237,931	11,533,314	13,771,245
3	Expected salaries in 2020	0	22,154,881	178,210,830	200,365,711
4	Member contribution rate: 2 ÷ 3 ÷ 1.075 ^{1/2}	N/A	9.7%	6.2%	N/A

* The actives in the Public Safety group include 319 members comprised of Represented Firefighters and Sheriffs and Non-Represented Firefighters and Sheriffs.

** The net annual amortization payments for the contributors are prorated based on the contributors' actuarial accrued liability compared to total actuarial accrued liability of the retirement system.

I. Reconciliation of Budget Contribution Requirement

The chart below details the changes in the Budget Contribution requirement from the prior valuation to the current year's valuation.

Reconciliation of Budget Contribution Requirement From 2020 to 2021

		Amount
1	2020 Budget Contribution	\$76,901,000
2	Increase/(decrease) during 2019 due to:	
	a) Unanticipated liability loss/(gain)	-\$1,541,000
	b) Asset experience different than expected	-1,080,000
	c) 2019 expenses other than assumed	0
	d) 2019 contribution variance other than assumed	308,000
	e) Change due to assumption/method/plan changes	0
	f) Total	<u>-2,313,000</u>
3	2020 Actual Contribution (rounded): 1 + 2	\$74,588,000
4	Expected increase/(decrease) during 2020 due to:	
	a) Normal cost and existing amortization bases	\$1,624,000
	b) Phase-in of deferred investment (gains) losses	-136,000
	c) Increase in expenses	0
	d) Expected contribution variance for 2020	-572,000
	e) Full recognition of bases	0
	f) Change due to assumption/method/plan changes	0
	g) Total	<u>916,000</u>
5	2021 Budget Contribution: 3 + 4	\$75,504,000

J. Contribution for Prior year and Variance from the Funding Calculation Contribution

Differences between the Actual Funding Contribution and the County's actual contributions with interest are amortized over five year periods using a level dollar basis. The following exhibit shows the calculation of the contribution variance for the 2019 plan year.

Calculation of Contribution Variance

		Item			Amount
1	Total Actual Funding Contribution, end-of-year basis, for 2019 plan year (from January 1, 2019 actuarial valuation report)				\$69,999,642
2	Total employer contributions made:				
	Contribution Made	Fraction of a Year Invested	Contribution Amount	Interest to Year End**	End of Year Amount
	Bi-weekly				
	06/30/2019*	50.7%	<u>\$57,316,293</u>	<u>\$2,209,991</u>	<u>\$59,526,284</u>
	Total		\$57,316,293	\$2,209,991	\$59,526,284
3	Total member contributions made:				
	Contribution Made	Fraction of a Year Invested	Contribution Amount	Interest to Year End**	End of Year Amount
	Bi-weekly	50.0%	\$13,217,363	\$502,616	\$13,719,979
4	Variance from funding calculation amount: 2 + 3 – 1				\$3,246,621

* Assumed employer contributions are made mid-year.

** Interest to December 31, 2019 at 7.75% per annum

K. History of Employer Contributions

A history of the most recent years of contributions is shown below. Amounts contributed do not reflect interest.

History of Employer Contributions: 2008 – 2020

Fiscal Year Ended Dec. 31	Normal Cost with Interest	Net Amortization Payments	Expenses	Actuarially Determined Contribution	Amount Contributed	Percent Contributed
2008	\$21,012,737	\$32,050,873	N/A	\$53,063,610	\$34,981,095	65.92%
2009	21,395,539	8,959,996	N/A	30,355,535	60,123,920	198.07%
2010	20,736,844	6,813,146	N/A	27,549,990	32,969,145	119.67%
2011	19,480,089	7,327,948	N/A	26,808,037	31,589,401	117.84%
2012	14,488,711	10,386,482	N/A	24,875,193	27,451,148	110.36%
2013	16,105,425	12,164,620	N/A	28,270,045	30,952,781	109.49%
2014	15,235,436	14,329,489	N/A	29,564,925	29,057,000	98.28%
2015	16,999,506	39,300,143	\$1,554,175	57,853,824	48,405,459	83.67%
2016	17,381,870	44,459,669	1,225,857	63,067,396	63,769,182	101.11%
2017	16,405,955	47,838,754	1,554,742	65,799,451	65,991,000	100.29%
2018	17,105,095	52,640,182	1,677,304	71,422,581	72,194,000	101.08%
2019	17,024,645	52,974,997	0	69,999,642	70,533,656	100.76%
2020	18,657,660	55,930,743	0	74,588,403	TBD	TBD

L. Actuarial Balance Sheet

An overview of the Plan’s funding is provided by an Actuarial Balance Sheet, which compares the total liabilities (current and future) to the total assets (current and future). The liabilities are calculated by determining the amount and timing of all future payments that will be made by the Plan for current participants. These payments are discounted at the valuation interest rate to the date of the valuation, thereby determining the present value of all benefits, referred to as the “liability” of the Plan.

Second, this liability is compared to the assets. The “assets” for this purpose include the net amount of assets already accumulated by the Plan, the present value of future member contributions, the present value of future employer normal cost contributions, and the present value of future employer amortization payments for the unfunded actuarial accrued liability.

Actuarial Balance Sheet

	Valuation as of	
	January 1, 2020	January 1, 2019
Liabilities		
• Present value of benefits for retired participants	\$1,865,544,823	\$1,824,456,176
• Present value of benefits for inactive former participants	86,195,635	85,861,589
• Present value of benefits for active participants	<u>473,069,041</u>	<u>474,218,531</u>
Total liabilities	\$2,424,809,499	\$2,384,536,296
Assets		
• Total valuation value of assets	\$1,728,648,652	\$1,731,726,301
• Present value of future employer and employee contributions for:		
» Future Normal Costs	104,474,210	91,472,942
» Unfunded actuarial accrued liability	<u>591,686,637</u>	<u>561,337,053</u>
Total of current and future assets	<u>\$2,424,809,499</u>	<u>\$2,384,536,296</u>

M. Risk

The actuarial valuation results depend on a single set of assumptions; however, there is a risk that emerging results may differ significantly as actual experience proves to be different than projected from the current assumptions.

We have not been engaged to perform a detailed analysis of the potential range of the impact of risks relative to Milwaukee County's future financial condition, but have included a brief discussion of some of the risks that may affect the Plan. A more detailed assessment of the risks could provide a better understanding of the risks inherent in the Plan. This assessment may include scenario testing, sensitivity testing, stress testing, and stochastic modeling. Milwaukee County might consider including stochastic modeling in order to provide a more detailed risk assessment.

A detailed risk assessment could be important for Milwaukee County because:

- The negative cash flow position of the Plan could be exacerbated by relatively small deviations from assumed future experience.
- Retired and inactive participants account for more than half of the Plan's liabilities, limiting options for reducing plan liabilities in the event of adverse experience.
- Projected employer contribution amounts may increase to an unsustainable percentage of County budget under adverse stress testing conditions.
- The risks identified below show significant potential for variability.

The following risks could significantly affect the Plans' future condition:

Investment Risk (the risk that returns will be different than expected)

The assets total approximately \$1.74 billion. If the actual market value return for the Plan Year were 1% different from the assumed (either higher or lower), the projected unfunded actuarial liability would change by about \$17.4 million.

If the prior year's investment performance resulted in a market value of assets that is 10% different from the current value, it would result in a change of \$174 million in the asset value. A 10% increase in assets would cause the unfunded liability (market value basis) to decrease from \$582 million to \$408 million. Likewise, a 10% decrease in the asset value, would cause the unfunded liability to increase from \$582 million to \$756 million.

The market value rate of return over the last ten years has ranged from a low of -22.4% to a high of 20.2%.

Longevity Risk (the risk that mortality experience will be different than expected)

The actuarial valuation includes an expectation of future improvement in life expectancy. Emerging plan experience that does not match these expectations will result in either an increase or decrease in the actuarially determined contribution.

A 10% reduction in the assumed mortality rates results in an increase in the liabilities of roughly 3% for most plans. For Milwaukee County, a 3% liability increase would result in an increase in the unfunded accrued liability of \$70 million. The unfunded accrued liability (market value of assets basis) would increase from \$582 million to \$652 million.

Demographic Risk (the risk that participant experience will be different than assumed)

- Examples of this risk include:
- Actual retirements occurring earlier or later than assumed. The value of retirement plan benefits is sensitive to the rate of benefit accruals and any legacy early retirement subsidies that apply.
- More or less active participant turnover than assumed.
- Salary increases more or less than assumed.

Maturity Measures

The risk associated with a pension plan increases as it becomes more mature, meaning that the actives represent a smaller portion of the liabilities of the plan. When this happens, there is a greater risk that fluctuations in the experience of the non-active participants or of the assets of the plan can result in large swings in the contribution requirements.

- Currently the Plan has a non-active to active participant ratio of 2.6. For the prior year, benefits paid were \$125 million more than contributions received. As the Plan continues to mature, more cash will be needed from the investment portfolio to meet benefit payments.
- As of December 31, 2019, the retired life actuarial accrued liability represents 80% of the total actuarial accrued liability. In addition, the actuarial accrued liability for inactive vested participants represents 4% of the total. The higher the non-active actuarial accrued liability is as a percent of the total liability, the greater the risk of volatility in results.

Section 3: Supplemental Information

Exhibit A – Table of Plan Coverage

Category	As of January 1		Change From Prior Year
	2020	2019	
Active members in valuation:			
• Number	3,561	3,425	+4.0%
• Average age	44.3	44.8	-0.5
• Average years of benefit service	9.4	10.0	-0.2
• Total payroll	\$200,365,711	\$191,043,797	+4.9%
• Average pay	56,267	55,779	+0.9%
• Total active vested members	1,930	1,999	-3.5%
Inactive members:			
• Number of terminated vested	1,293	1,313	-1.5%
• Average age	51.4	51.2	+0.2
Retired members:			
• Number in pay status	6,825	6,847	-0.3%
• Average age	72.1	71.8	+0.3
• Average monthly benefit	\$1,942	\$1,914	+1.5%
Disability retirees:			
• Number in pay status	263	275	-4.4%
• Average age	65.0	64.5	+0.5
• Average monthly benefit	\$2,131	\$2,075	+2.7%
Beneficiaries:			
• Number in pay status	913	920	-0.8%
• Average age	78.9	78.8	0.1
• Average monthly benefit	\$1,490	\$1,453	+2.5%

Exhibit B – Reconciliation of Membership Data

	Active Members	Vested Terminated Members	Disability Retirees	Retired Members	Beneficiaries	Total
Number as of January 1, 2019	3,425	1,313	275	6,847	920	12,780
• New participants	589	N/A	N/A	N/A	N/A	589
• Terminations – with vested rights	(63)	63	-	-	-	-
• Terminations – without vested rights	(97)	N/A	N/A	N/A	N/A	(97)
• Retirements	(124)	(65)	N/A	189	N/A	-
• New disabilities	(2)	-	2	N/A	N/A	-
• Return to work / Rehire	30	(6)	-	-	N/A	24
• Died with beneficiary	-	-	-	(37)	52	15
• Died without beneficiary	(3)	(3)	(13)	(184)	(60)	(263)
• Lump sum cash-outs	(194)	(15)	-	-	-	(209)
• Certain period expired	N/A	N/A	-	-	-	-
• Data adjustments	-	6	(1)	10	1	16
• Number as of January 1, 2020	3,561	1,293	263	6,825	913	12,855

Exhibit C – Summary Statement of Income and Expenses on a Market Value Basis

	Year Ended December 31, 2019	Year Ended December 31, 2018
Net assets at market value at the beginning of the year	\$1,618,310,314	\$1,786,408,565
Contribution income:		
• Employer contributions	\$57,316,293	\$61,177,816
• Member contributions	13,217,363	12,651,528
• Less administrative expenses payable to the County	<u>0</u>	<u>-1,703,344</u>
<i>Net contribution income</i>	\$70,533,656	\$72,126,000
Net other income	\$0	\$0
Investment income:		
• Net appreciation in fair value	\$222,760,908	-\$55,248,062
• Interest and dividends	11,729,648	12,286,402
• Securities lending income	133,541	450,227
• Other income	16,547,600	11,008,894
• Less securities lending rebates and fees, net	-42,684	-361,136
• Less administrative expenses payable by System	-3,120,727	-3,191,345
• Less investment expenses	<u>-2,437,587</u>	<u>-3,005,779</u>
<i>Net investment income</i>	\$245,570,699	-\$38,060,799
Total income available for benefits	\$316,104,355	\$34,065,201
Less benefit payments:		
• Benefits paid to retirees and beneficiaries	-\$193,688,371	-\$200,240,292
• Refunds of contributions	<u>-2,098,073</u>	<u>-1,923,160</u>
<i>Net benefit payments</i>	-\$195,786,444	-\$202,163,452
Change in reserve for future benefits	\$120,317,911	-\$168,098,251
Net assets at market value at the end of the year	\$1,738,628,225	\$1,618,310,314

Exhibit D – Summary Statement of Plan Assets

	December 31, 2019	December 31, 2018
Cash equivalents	\$47,513,201	\$48,264,389
Total accounts receivable	4,933,770	5,054,888
Other assets	29,255,052	34,528,083
Investments:		
• Fixed Income	\$359,494,857	\$310,334,969
• Domestic and international equities	638,172,805	603,629,144
• Private equity	205,051,663	183,484,911
• Diversifying strategies	312,565,521	291,874,856
• Real estate and REITs	<u>179,775,468</u>	<u>183,424,903</u>
Total investments at market value	\$1,695,060,314	\$1,572,748,783
Total assets	\$1,776,762,337	\$1,660,596,143
Total liabilities	-38,134,112	-42,285,829
Net assets at market value	\$1,738,628,225	\$1,618,310,314
Net assets at actuarial value	\$1,728,648,652	\$1,731,726,301

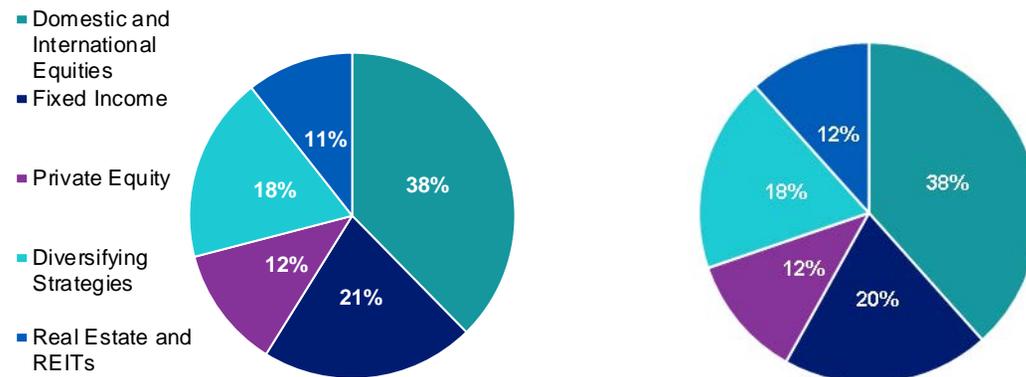


Exhibit E – Development of the Fund through December 31, 2019

Year Ended Dec. 31	Employer Contributions	Member Contributions	Net Other Income*	Net Investment Return**	Admin. Expenses	Benefit Payments***	Market Value of Assets at Year-End	Actuarial Value of Assets at Year-End	Actuarial Value as a Percent of Market Value
2007							\$1,665,511,165	\$1,627,287,632	97.70%
2008	\$34,840,886	\$140,209	\$397,797,000	-\$357,462,777	-\$1,031,291	-\$144,184,222	1,595,610,970	1,968,518,479	123.37%
2009	59,992,154	131,766	0	313,462,671	-1,312,156	-145,345,520	1,822,539,885	1,956,443,729	107.35%
2010	32,893,562	75,584	0	203,770,758	-1,310,356	-162,802,590	1,895,166,843	1,929,427,864	101.81%
2011	28,275,594	3,313,807	0	4,039,718	-1,158,921	-187,530,154	1,742,106,887	1,836,542,926	105.42%
2012	18,410,496	9,040,652	0	178,833,104	-1,187,236	-178,769,275	1,768,434,628	1,768,434,628	100.00%
2013	21,998,256	8,954,525	0	253,385,088	-1,289,344	-172,248,723	1,879,234,430	1,772,749,644	94.33%
2014	19,005,395	10,051,605	0	92,984,293	-1,329,904	-177,366,124	1,822,579,695	1,773,638,120	97.31%
2015	39,080,593	9,324,866	0	35,190,400	-1,204,226	-188,819,565	1,716,151,763	1,767,419,752	102.99%
2016	50,625,672	12,143,510	0	106,649,356	-1,225,857	-212,662,113	1,671,682,331	1,740,422,208	104.11%
2017	53,660,695	12,330,305	0	249,003,287	-1,677,304	-198,590,749	1,786,408,565	1,739,807,571	97.39%
2018	61,177,816	12,651,528	0	-38,060,799	-1,703,344	-202,163,452	1,618,310,314	1,731,726,301	107.01%
2019	57,316,293	13,217,363	0	245,570,699	0	195,786,444	1,738,628,225	1,728,648,652	99.43%

* Proceeds from Pension Obligation Bonds

** On a market basis, net of investment fees

*** Includes withdrawal of membership accounts

Exhibit F – Definition of Pension Terms

The following list defines certain technical terms for the convenience of the reader:

Actuarial Accrued Liability for Actives:	The equivalent of the accumulated normal costs allocated to the years before the valuation date.
Actuarial Accrued Liability for Pensioners:	The single-sum value of lifetime benefits to existing pensioners. This sum takes into account life expectancies appropriate to the ages of the pensioners and the interest that the sum is expected to earn before it is entirely paid out in benefits.
Actuarial Cost Method:	A procedure allocating the Actuarial Present Value of Future Benefits to various time periods; a method used to determine the Normal Cost and the Actuarial Accrued Liability that are used to determine the actuarially determined contribution.
Actuarial Gain or Loss:	A measure of the difference between actual experience and expected based upon a set of Actuarial Assumptions, during the period between two Actuarial Valuation dates. Through the actuarial assumptions, rates of decrements, rates of salary increases, and rates of fund earnings have been forecasted. To the extent that actual experience differs from that assumed, Actuarial Accrued Liabilities emerge that may be the same as forecasted, or may be larger or smaller than projected. Actuarial gains are due to favorable experience, e.g., assets earn more than projected, salary increases are less than assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, actuarial losses are the result of unfavorable experience, i.e., actual results yield actuarial liabilities that are larger than projected. Actuarial gains will shorten the time required for funding the actuarial balance sheet deficiency while actuarial losses will lengthen the funding period.
Actuarially Equivalent:	Of equal actuarial present value, determined as of a given date and based on a given set of Actuarial Assumptions.
Actuarial Present Value (APV):	The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of Actuarial Assumptions. Each such amount or series of amounts is: Adjusted for the probable financial effect of certain intervening events (such as changes in compensation levels, marital status, etc.) Multiplied by the probability of the occurrence of an event (such as survival, death, disability, withdrawal, etc.) on which the payment is conditioned, and Discounted according to an assumed rate (or rates) of return to reflect the time value of money.

Actuarial Present Value of Future Plan Benefits:	The Actuarial Present Value of benefit amounts expected to be paid at various future times under a particular set of Actuarial Assumptions, taking into account such items as the effect of advancement in age, anticipated future compensation, and future service credits. The Actuarial Present Value of Future Plan Benefits includes the liabilities for active members, retired members, beneficiaries receiving benefits, and inactive members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.
Actuarial Valuation:	The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB, such as the Actuarially Determined Contribution (ADC) and the Net Pension Liability (NPL).
Actuarial Value of Assets (AVA):	The value of the Fund's assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets, but commonly plans use a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the ADC.
Actuarially Determined:	Values that have been determined utilizing the principles of actuarial science. An actuarially determined value is derived by application of the appropriate actuarial assumptions to specified values determined by provisions of the law.
Actuarially Determined Contribution (ADC):	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under the Plan's funding policy. The ADC consists of the Employer Normal Cost and the Amortization Payment.
Amortization Method:	A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the assumed rate at which total covered payroll of all active members will increase.
Amortization Payment:	The portion of the pension plan contribution, or ADC, that is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Assumptions or Actuarial Assumptions:	The estimates upon which the cost of the Fund is calculated, including: <u>Investment return</u> - the rate of investment yield that the Fund will earn over the long-term future; <u>Mortality rates</u> - the death rates of employees and pensioners; life expectancy is based on these rates; <u>Retirement rates</u> - the rate or probability of retirement at a given age; <u>Withdrawal rates</u> - the rates at which employees of various ages are expected to leave employment for reasons other than death, disability, or retirement; <u>Salary increase rates</u> - the rates of salary increase due to inflation and productivity growth.

Closed Amortization Period:	A specific number of years that is counted down by one each year, and therefore declines to zero with the passage of time. For example, if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc. See Open Amortization Period.
Decrements:	Those causes/events due to which a member's status (active-inactive-retiree-beneficiary) changes, that is: death, retirement, disability, or withdrawal.
Defined Benefit Plan:	A retirement plan in which benefits are defined by a formula applied to the member's compensation and/or years of service.
Defined Contribution Plan:	A retirement plan, such as a 401(k) plan, a 403(b) plan, or a 457 plan, in which the contributions to the plan are assigned to an account for each member, the plan's earnings are allocated to each account, and each member's benefits are a direct function of the account balance.
Employer Normal Cost:	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Experience Study:	A periodic review and analysis of the actual experience of the Fund that may lead to a revision of one or more Actuarial Assumptions. Actual rates of decrement and salary increases are compared to the actuarially assumed values and modified as deemed appropriate by the Actuary.
Funded Ratio:	The ratio of the Actuarial Value of Assets (AVA) to the Actuarial Accrued Liability (AAL). Plans sometimes calculate a market funded ratio, using the market value of assets (MVA), rather than the AVA.

Section 4: GASB 67 and 68 Information

Exhibit 1 – Net Pension Liability

The components of the net pension liability at were as follows:

	January 1, 2020	January 1, 2019
Total pension liability	\$2,320,335,289	\$2,293,063,354
Plan fiduciary net position	<u>(1,738,628,225)</u>	<u>(1,618,310,314)</u>
Net pension liability	\$581,707,064	\$674,753,040
Plan fiduciary net position as a percentage of the total pension liability	74.9%	70.6%

The net pension liability was measured as of December 31, 2019, and is determined based on the total pension liability from the January 1, 2020, actuarial valuation.

Plan provisions. The plan provisions used in the measurement of the net pension liability are the same as those used in the actuarial valuation as of January 1, 2020.

Actuarial assumptions. The total pension liability was determined by an actuarial valuation as of January 1, 2020, using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	2.50%
Salary increases	3.50% to 6.21%, varying by age, including inflation and productivity
Investment rate of return	7.50%, net of pension plan investment expenses
Cost-of-living adjustments	2.00%

Mortality

Pre-retirement:	Males – RP-2006 Employee male, projected with generational projection using scale MP-2016. Females – RP-2006 Employee female, projected with generational projection using scale MP-2016.
Healthy Retiree:	Males – 102% of RP-2006 Healthy Annuitant male, projected with generational projection using scale MP-2016. Females – 107% of RP-2006 Healthy Annuitant female, projected with generational projection using scale MP-2016.
Disabled Retiree:	Males – 97% of RP-2006 Disabled male, projected with generational projection using scale MP-2016. Females – 95% of RP-2006 Disabled female, projected with generational projection using scale MP-2016.

The actuarial assumptions used were based on the results of an experience study dated October 12, 2017. They are the same as the assumptions used in the January 1, 2020 funding actuarial valuation.

The long-term expected rate of return on pension plan investments is 7.50%. The long-term expected rate of return was determined using a method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Discount rate: The discount rate used to measure the total pension liability was 7.50% as of December 31, 2019. The projection of cash flows used to determine the discount rate assumed plan member and employer contributions will be made at rates equal to those based on this January 1, 2020, Actuarial Valuation Report. For this purpose, only employer contributions that are intended to fund benefits of current plan members and their beneficiaries are included. Projected employer contributions that are intended to fund the service costs of future plan members and their beneficiaries, as well as projected contributions from future plan members, are not included. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan members as of December 31, 2019. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability as of December 31, 2019.

Sensitivity of the net pension liability to changes in the discount rate: The following presents the net pension liability, calculated using the discount rate of 7.50%, as well as what the net pension liability would be if it were calculated using a discount rate that is one-percentage-point lower (6.50%) or one-percentage-point higher (8.50%) than the current rate:

	1% Decrease (6.50%)	Current Discount Rate (7.50%)	1% Increase (8.50%)
Net pension liability as of December 31, 2019	\$814,385,630	\$581,707,064	\$385,367,800

Exhibit 2 – Schedules of Changes in Net Pension Liability

	Year Ending December 31, 2019	Year Ending December 31, 2018
Total pension liability		
Service cost	\$15,800,135	\$15,874,798
Interest	171,350,196	172,254,741
Change of benefit terms	0	0
Differences between expected and actual experience	(16,270,627)	(751,483)
Changes of assumptions	52,178,675	0
Benefit payments, including refunds of employee contributions	(195,786,444)	(202,163,452)
Net change in total pension liability	\$27,271,935	(\$14,785,396)
Total pension liability – beginning	<u>2,293,063,354</u>	<u>2,307,848,750</u>
Total pension liability – ending (a)	<u>\$2,320,335,289</u>	<u>\$2,293,063,354</u>
Plan fiduciary net position		
Contributions – employer	\$57,316,293	\$61,177,816
Contributions – employee	13,217,363	12,651,528
Net investment income	248,691,426	(34,842,454)
Benefit payments, including refunds of employee contributions	(195,786,444)	(202,163,452)
Administrative expense	(3,120,727)	(4,921,689)
Other	<u>0</u>	<u>0</u>
Net change in plan fiduciary net position	120,317,911	(168,098,251)
Plan fiduciary net position – beginning	<u>1,618,310,314</u>	<u>1,786,408,565</u>
Plan fiduciary net position – ending (b)	<u>\$1,738,628,225</u>	<u>\$1,618,310,314</u>
Net pension liability – ending (a) – (b)	<u>\$581,707,064</u>	<u>\$674,753,040</u>
Plan fiduciary net position as a percentage of the total pension liability	74.9%	70.6%
Covered employee payroll	\$191,043,797	\$189,451,404
Net pension liability as percentage of covered employee payroll	304.5%	356.2%

Exhibit 3 – Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

As shown in Exhibit 2, during the plan year that ended December 31, 2019, the changes in net pension liability due to differences between expected and actual demographic experience is a decrease of \$16,270,627. The average expected remaining service lives of all members is 2.3 years, determined as of January 1, 2019 (the beginning of the measurement period ending December 31, 2019). Therefore, of the \$16,270,627 demographic gain, \$7,074,186 is recognized in pension expense in the current year and \$9,196,441 is reflected as a deferred inflow of resources related to pensions. Of the \$52,178,675 assumption change loss, \$22,686,380 is recognized in pension expense in the current year and \$29,492,295 is reflected as a deferred outflow of resources related to pensions.

Based on the assumed investment return of 7.75% for the year ending December 31, 2019, the expected net investment income for the year was \$120,595,929. As shown in Exhibit 2, the actual net investment income for the year was \$248,691,426. The difference between actual and expected investment experience is a decrease in net pension liability of \$128,095,497, which is recognized over a 5-year period. Of this amount, \$25,619,101 is reflected in the current year and \$102,476,396 is reflected as a deferred inflow of resources related to pensions.

	Year Established	Original Balance	Original Amortization Period	Amortization Amount During 2019	Outstanding Balance at December 31, 2019
Outflows					
Investments	2015	99,580,196	5.0 years	19,916,036	0
Investments	2016	19,761,598	5.0 years	3,952,320	3,952,318
Assumptions	2017	63,931,243	2.6 years	14,753,363	0
Investments	2018	167,716,897	5.0 years	33,543,379	100,630,137
Assumptions	2019	52,178,675	2.3 years	22,686,380	29,492,295
Total outflows				\$94,851,478	\$134,074,750
Inflows					
Demographics	2017	2,919,790	2.6 years	673,798	0
Investments	2017	125,341,015	5.0 years	25,068,203	50,136,406
Demographics	2018	751,483	2.2 years	341,583	68,317
Demographics	2019	16,270,627	2.3 years	7,074,186	9,196,441
Investment	2019	128,095,497	5.0 years	25,619,101	102,476,396
Total inflows				\$58,776,871	\$161,877,560

Exhibit 3 – Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions (continued)

	December 31, 2019	December 31, 2018
Deferred Outflows of Resources (Outstanding Balances)		
Difference between expected and actual experience in the Total Pension Liability	\$0	\$0
Changes of assumptions	29,492,295	14,753,363
Net difference between projected and actual earnings on pension plan investments	0	86,789,581
Total Deferred Outflows of Resources	\$29,492,295	\$101,542,944
Deferred Inflows of Resources (Outstanding Balances)		
Difference between expected and actual experience in the Total Pension Liability	\$9,264,758	\$1,083,698
Changes of assumptions	0	0
Net difference between projected and actual earnings on pension plan investments	48,030,347	0
Total Deferred Inflows of Resources	\$57,295,105	\$1,083,698
Deferred outflows of resources and deferred inflows of resources related to pension will be recognized as follows:		
Year Ended December 31:		
2019	N/A	\$46,081,514
2020	\$2,352,272	12,359,177
2021	(12,460,263)	8,475,176
2022	7,924,280	33,543,379
2023	(25,619,099)	0
2024	0	0
Thereafter	0	0

Exhibit 4 – Pension Expense

Exhibit 4 below shows the individual components of collective pension expense, which totaled \$92,532,373 for the fiscal year that ended December 31, 2019.

Annual pension expense for the year can also be viewed as the change in net pension liability, plus employer contributions for the year, less the change in outstanding balances of deferred outflows and deferred inflows of resources from the end of the prior fiscal year to end of the current fiscal year. The change in net pension liability during the year was -\$93,045,976 and employer contributions were \$57,316,293. The net value of deferred outflows and deferred inflows of resources as of the end of the current fiscal year is -\$27,802,810 compared to the net value as of the end of the prior fiscal of \$100,459,246 for a change of \$128,262,056. Therefore, the pension expense for the fiscal year that ended December 31, 2019, is $-\$93,045,976 + \$57,316,293 + \$128,262,056$, or \$92,532,373.

	Fiscal Year Ending December 31, 2019	Fiscal Year Ending December 31, 2018
Components of pension expense		
• Service Cost	15,800,135	15,874,798
• Interest on the total pension liability	171,350,196	172,254,741
• Projected earnings on plan investments	(120,595,929)	(132,874,443)
• Contributions - member	(13,217,363)	(12,651,528)
• Administrative expense	3,120,727	4,921,689
• Current year recognition of:		
Changes of assumptions	37,439,743	24,588,940
Difference between expected and actual experience	(8,089,567)	2,239,740
Difference between projected and actual earnings on pension plan investments	6,724,431	41,754,254
Change of benefit terms	0	0
Total pension expense	\$92,532,373	\$116,108,191

Section 5: Actuarial Valuation Basis

Exhibit I – Actuarial Assumptions and Actuarial Cost Method

Rationale for Assumptions

The information and analysis used in selecting each assumption that has a significant effect on this actuarial valuation is shown in the Actuarial Experience Study as of December 31, 2016 prepared by Conduent. Assumptions that were changed from the prior valuation include retirement rates, termination rates, disability rates, mortality rates, salary increase rates and the net investment return assumption. Current data is reviewed in conjunction with each annual valuation. Based on professional judgment, no assumption changes are warranted at this time, beyond the assumption changes recommended by Conduent in the most recent Actuarial Experience Study.

Net Investment Return:

7.50%.

The net investment return assumption is a long-term estimate derived from historical data, current and recent market expectations, and professional judgment. As part of the analysis, a building block approach was used that reflects inflation expectations and anticipated risk premiums for each of the portfolio's asset classes, as well as the Plan's target asset allocation. The net investment return reduction phase-in to 7.50% was completed as of January 1, 2020.

Salary Increases:

Age	General Employees	Elected Officials	Deputy Sheriffs
20	10.5%	3.5%	11.5%
25	6.0	3.5	10.0
30	5.0	3.5	7.1
35	4.2	3.5	5.6
40	4.0	3.5	3.2
45	3.0	3.5	3.0
50	3.0	3.5	3.0
55	3.0	3.0	3.0
60	3.0	3.0	3.0

Salary increases include an assumed inflation rate of 2.50%

Payroll Growth:	3.50%. For purposes of amortizing the unfunded actuarial accrued liability on a level percentage basis, the System uses 1.75%. This rate reflects the anticipated growth rate of the County's revenues.
Cost-of-Living Adjustments:	2.00% of original benefit per year to retired employees. Surviving beneficiary receives proportionate amount based on survivorship percentage. These increases are set in the plan provisions.
Mortality Rates:	<p><i>Healthy Annuitants and Beneficiaries:</i> For males, 102% of RP-2006 Healthy Annuitant male, projected with generational projection using scale MP-2016. For females, 107% of RP-2006 Healthy Annuitant female, projected with generational projection using scale MP-2016.</p> <p><i>Disabled Annuitants:</i> For males, 97% of RP-2006 Disabled male, projected with generational projection using scale MP-2016. For females, 95% of RP-2006 Disabled female, projected with generational projection using scale MP-2016.</p> <p><i>Death in Active Service:</i> For males, RP-2006 Employee male, projected with generational projection using scale MP-2016. For females, RP-2006 Employee female, projected with generational projection using scale MP-2016.</p> <p>The tables reasonably reflect the mortality experience of the Plan as of the measurement date. The generational projection of the mortality tables past the measurement date reflects future mortality improvement between the measurement date and those years.</p>

Termination Rates before Retirement:

Age	Rate (%)			
	Withdrawal – Ultimate			Disability
	General Employees	Elected Officials	Deputy Sheriffs	
20	25.0	4.0	18.6	0.00
25	25.0	4.0	18.6	0.04
30	10.1	4.0	8.6	0.05
35	7.2	4.0	5.7	0.07
40	6.0	4.0	3.0	0.17
45	5.7	4.0	3.0	0.21
50	5.7	4.0	2.0	0.21
55	3.0	4.0	1.0	0.21
60	0.0	0.0	0.0	0.21
65	0.0	0.0	0.0	0.21

Termination Rates before Retirement, continued:

Select rates for General Employees and Elected Officials are shown in the following table.

Age	Select Period Termination Rates (%)					
	General Employees Year 1	General Employees Year 2	General Employees Year 3	General Employees Year 4	General Employees Year 5	Elected Officials Under 5 Years
20	36.0	25.0	25.0	15.0	12.5	0.0
25	31.2	23.4	20.4	15.0	11.9	0.0
30	27.1	22.4	16.8	13.2	9.1	0.0
35	24.7	21.4	14.8	11.4	7.2	0.0
40	22.3	19.2	14.0	10.4	6.7	0.0
45	21.5	16.8	14.0	10.0	5.9	0.0
50	21.5	14.8	14.0	10.0	7.6	0.0
55	21.5	14.0	14.0	10.0	9.0	0.0
60	0.0	0.0	0.0	0.0	0.0	0.0

The withdrawal rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual withdrawals and disability retirements by age based on the prior assumptions over the most recent experience study period.

Retirement Rates:

Age	General Employees Eligible for Backdrop	General Employees Not Eligible for Backdrop	Elected Officials	Deputy Sheriffs
45-49	10.0	0.0	0.0	15.0
50	15.0	10.0	0.0	15.0
51-54	15.0	10.0	0.0	30.0
55	15.0	10.0	14.9	30.0
56	15.0	10.0	14.9	30.0
57	15.0	10.0	17.3	30.0
58	15.0	10.0	15.3	30.0
59	15.0	10.0	18.6	30.0
60	15.0	10.0	14.6	50.0
61	25.0	10.0	16.9	50.0
62	25.0	25.0	21.3	50.0
63	25.0	25.0	20.0	50.0
64	25.0	25.0	18.2	50.0
65	40.0	33.3	22.8	100.0
66	40.0	33.3	16.9	100.0
67	40.0	33.3	19.3	100.0
68	40.0	33.3	25.7	100.0
69	40.0	33.3	27.0	100.0
70	100.0	100.0	100.0	100.0

The retirement rates were based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment. As part of the analysis, a comparison was made between the actual retirements by age and the projected retirements based on the prior assumptions over the most recent experience study period.

Retirement Rates for Inactive Vested Participants:

100% of inactive vested participants are assumed to retire at the participants' Normal Retirement Age. The retirement rates for inactive vested participants are based on historical and current demographic data, adjusted to reflect estimated future experience and professional judgment.

Backdrop Utilization:	75% of retirees are assumed to elect the Backdrop. Of the employees electing the Backdrop, 75% are assumed to take the maximum possible Backdrop, based on eligibility for an unreduced benefit. 25% are assumed to take half of the maximum period. If those assumptions produce a Backdrop date after April 1, 2013, the participant is assumed to take the Backdrop using an effective date of April 1, 2013.
Unknown Data for Participants:	Same as those exhibited by participants with similar known characteristics. If not specified, participants are assumed to be male.
Percent Married:	80%, with beneficiaries the same age as the participant.
Percent Married with at Least One Dependent Child:	21.6% for General Employees, 43.2% for Deputy Sheriffs and Elected Officials. For participants who die prior to age 60, it is assumed the dependent child will remain a dependent until the member would have turned age 60.
Disability Type:	For represented employees, disabilities are assumed to be 50% Ordinary and 50% Accidental. For non-represented employees, disabilities are assumed to be Ordinary (100%).
Benefit Election:	All participants are assumed to elect the Straight Life Annuity form of payment.
Death Benefits:	All death benefits are assumed to be ordinary.
Actuarial Value of Assets:	Market value of assets less unrecognized returns. Unrecognized return is equal to the difference between the actual market return and the expected return on the market value, and is recognized over a ten-year period. The Actuarial Value of Assets was set equal to the Market Value of Assets at January 1, 2013.
Actuarial Cost Method:	<p>Entry Age Actuarial Cost Method. Entry Age is the age at date of employment or, if date is unknown, current age minus years of service. Normal Cost and Actuarial Accrued Liability are calculated on an individual basis.</p> <p>The outstanding balance of the Unfunded Actuarial Accrued Liability as of January 1, 2015 is being amortized over a fixed 21 year period. Changes to the Unfunded Actuarial Accrued Liability arising from plan changes, assumption changes, and experience gains and losses are amortized as a level percentage of payroll over a 20-year period. For this purpose, the payroll growth assumption is limited to 1.75%.</p> <p>The variance between the actual contribution and the contribution requirement for a year is amortized over a five year period on a level dollar basis.</p>

Exhibit II – Summary of Plan Provisions

This exhibit summarizes the major provisions of the Plan included in the valuation. It is not intended to be, nor should it be interpreted as, a complete statement of all plan provisions.

Plan Year:	January 1 through December 31
Plan Status:	Ongoing
Membership:	Any person regularly employed by the County at an annual wage or salary, including any person employed by the State of Wisconsin, but receiving a portion of compensation from the County.
Vesting Service:	<p>Service during a period of employment with the County or in any department of in any town, village, city or metropolitan sewerage commission in the County, which department has by consolidation or merger been absorbed by the County. Creditable service shall consist of prior service, military service, and membership service, as well as service credited for military service in Vietnam. Additional credit for periods of military service will be earned as follows:</p> <ul style="list-style-type: none"> • Less than 5 years of service with the County: no military service granted. • Between 5 and 10 years of service with the County: up to 1 year of military service granted. • Between 10 and 15 years of service with the County: up to 2 years of military service granted. • Between 15 and 20 years of service with the County: up to 3 years of military service granted. • 20 or more years of service with the County: up to 4 years of military service granted.
Benefit Service:	Same as vesting service except that service prior to becoming a participant does not count.
Compensation:	<p>Compensation is the full rate of compensation payable to the member if working the full normal working time for the member's position. Compensation includes authorized overtime payments and the compensation rate assumed to have been received while the member is on an authorized leave of absence. In cases where compensation includes maintenance, the Pension Board shall fix the value of that part of compensation not payable in money.</p> <p>Compensation shall not exceed \$285,000 in 2020, as indexed for the cost of living.</p>

Final Average Salary (FAS):	<p>Final average salary means the average annual salary for the highest three consecutive years of service.</p> <p>Exceptions:</p> <ul style="list-style-type: none"> • For Deputy Sheriffs hired on or after January 1, 1982, excluding DA investigators and non-represented Deputy Sheriffs, the final average salary means the average annual salary for the highest five years of service. • For DA investigators and non-Deputy Sheriffs hired before July 1, 1995 and all Deputy Sheriffs hired before January 1, 1982, the final average salary is increased by 7.5% for each year worked after January 1, 2001 to a maximum of 25%.
Voluntary Employee Contribution:	<ul style="list-style-type: none"> • Up to 10% of earnings, provided that the employee was contributing on January 1, 1971. The benefit payable to a member at termination of employment includes any voluntary contribution balance, in addition to the amounts described below.
Mandatory Employee Contribution:	<ul style="list-style-type: none"> • Public Safety and General employees contribute 50% of the allocated cost of the actuarially determined contribution.
Rule of 75:	<ul style="list-style-type: none"> • For eligible employees, unreduced retirement if age plus credited service exceeds 75.
Normal Retirement Eligibility:	<ul style="list-style-type: none"> • Elected Officials <ul style="list-style-type: none"> ○ Age 60, or age 55 with 30 years of service ○ If hired before January 1, 2006, Rule of 75 is available • Firefighters, Federated Nurses, and Machinists <ul style="list-style-type: none"> ○ Age 60 with 5 years of service, or age 55 with 30 years of service ○ Rule of 75 for Firefighters hired before December 1, 1996, Nurses hired before January 1, 1997, and Machinists hired before January 1, 1994 ○ For Federated Nurses and Machinists hired after January 1, 2012, age 64 or age 55 with 30 years of service • Attorneys, Building Trades, non-represented employees, DC48, and TEAMCO <ul style="list-style-type: none"> ○ Age 60, or age 55 with 30 years of service ○ Age 64 or age 55 with 30 years of service (for all hired after January 1, 2010 except DC48) ○ Age 64 or age 55 with 30 years of service (for DC48 hired after August 1, 2011) ○ Age 64 (non-represented employees) ○ Rule of 75 for Attorneys, Building Trades, and non-represented employees hired before January 1, 2006 ○ Rule of 75 for DC48 and TEAMCO hired before January 1, 1994

Normal Retirement Eligibility, continued:	<ul style="list-style-type: none"> • Deputy Sheriffs <ul style="list-style-type: none"> ○ Age 57, or age 55 with 15 years of service • Rule of 75 for non-represented Deputy Sheriffs, DA investigators, and Deputy Sheriffs hired before January 1, 1994.
Normal Retirement Amount:	<ul style="list-style-type: none"> • Elected Officials <ul style="list-style-type: none"> ○ Hired before March 15, 2002: 2.5% of FAS per year of service prior to October 14, 2010 and 1.6% of FAS per years of service thereafter, not greater than 80%. ○ Hired on or after March 15, 2002: 2.0% of FAS per year of service prior to October 14, 2010 and 1.6% of FAS per years of service thereafter, not greater than 80% • General Employees <ul style="list-style-type: none"> ○ 2.0% of FAS per year of service, not greater than 80% ○ The rate is reduced to 1.6% of FAS per years of service as follows: <ul style="list-style-type: none"> ▪ For non-represented employees, effective January 1, 2010 ▪ For Attorneys and TEAMCO, effective May 1, 2010 ▪ For Machinists, effective June 1, 2010 ▪ For DC48, effective August 1, 2011 ▪ For Building Trades and Federated Nurses, effective January 1, 2012 • Deputy Sheriffs <ul style="list-style-type: none"> ○ For Deputy Sheriffs hired before July 1, 1995, DA investigators and non-represented Deputy Sheriffs, 2.5% of FAS per year of service, not greater than 80% ○ For Deputy Sheriffs hired on or after July 1, 1995, 2.0% of FAS per years of service, not greater than 80% • For all members, 1.6% of FAS per year of service after 80% of FAS has been reached
Early Retirement:	<ul style="list-style-type: none"> • Age Requirement: 55 • Service Requirement: 15 years • Amount: Benefits reduced by 5/12 of 1% for each month by which payment of benefits precedes Normal Retirement Age • Early Retirement is not applicable for Deputy Sheriffs, DA investigators and non-represented Deputy Sheriffs (they are eligible for unreduced retirement at age 55 with 15 years of service)
Ordinary Disability:	<ul style="list-style-type: none"> • Service Requirement: 15 years • Amount: benefits calculated as for normal retirement. Minimum benefit is 25% of FAS.

Accidental Disability	<ul style="list-style-type: none"> • All employees are eligible • If the employee has attained normal retirement age, normal retirement benefits apply • If the employee has not attained normal retirement age, the benefit is computed as the normal retirement benefits but not less than 60% of FAS • Employees whose benefit is not less than 75% of FAS <ul style="list-style-type: none"> ○ Elected Officials and non-represented employees hired before February 19, 1987 ○ Attorneys hired on or after January 1, 1987 ○ Building Trades hired before October 30, 1987 ○ Federated Nurses hired before January 1, 1987 ○ Machinists hired before May 18, 1988 ○ DC48 hired before July 24, 1987 ○ TEAMCO hired before January 12, 1988 ○ Deputy Sheriffs ○ DA investigators and non-represented Deputy Sheriffs hired before February 19, 1987 • Benefits received prior to age 62 are recalculated after age 62 to include service from the date of disability to age 62
Ordinary Death Benefit:	<ul style="list-style-type: none"> • Only applicable to Deputy Sheriffs not eligible for normal retirement • Only applicable if the cause of death was not an accident in active duty • Employee has completed 1 year of service • Surviving spouse or child shall be entitled to survivor benefits (see section on survivor benefits)
Accidental Death Benefit:	<ul style="list-style-type: none"> • Only applicable to Deputy Sheriffs when death occurs due to an accident in active duty • Benefit of 50% of FAS shall be paid <ul style="list-style-type: none"> ○ To surviving spouse for life or until remarriage ○ If surviving spouse benefit is not payable, to children under age 18 ○ If surviving spouse and child benefits are not payable, to dependent parent for life ○ Benefit shall not be less than ordinary death benefit amount
Lump Sum Death Benefit:	<ul style="list-style-type: none"> • If no other death benefit is payable, a lump sum of one half of FAS, not greater than \$2,000. • Member must have 1 year of service

Survivor Benefits:	<ul style="list-style-type: none"> • Member dies prior to age 60 after completing 1 year of service • Surviving spouse has at least one child and was married to the member at least 1 year prior to death • Monthly benefit of 40% of final salary prior to age 60 • Reduced by monthly survivor benefits paid by Social Security • At age 60, 50% of benefit based on actual FAS and service projected to age 60 • Additional benefit of 10% of final salary less social security benefits shall be paid to each eligible unmarried child under age 18. Age limit is 22 if unmarried child is a student.
Refund of Contributions:	<ul style="list-style-type: none"> • Available at termination of employment
Vesting:	<ul style="list-style-type: none"> • Service Requirement: 5 years of service • Accrued benefit is at least \$10 per month • Amount: as per Normal Retirement Benefit • If member withdraws employee contributions, vested benefit does not apply
Optional Forms of Benefits:	<ul style="list-style-type: none"> • Options that pay a reduced benefit on an actuarially equivalent basis <ul style="list-style-type: none"> ○ Option 1 – If member dies before benefits paid exceed the member’s accumulated contributions at retirement, the balance is paid as a lump sum. ○ Option 2 – 50% Joint and Survivor Annuity. ○ Option 3 – 100% Joint and Survivor Annuity.
Cost of Living Adjustment (COLA):	2% of original benefit amount per year to retired employees. Surviving spouses get a proportionate increase based on survivorship percentage.

Backdrop:

- Members that are not eligible
 - Elected Officials, non-represented employees and Deputy Sheriffs hired on or after March 15, 2002
 - Machinists and TEAMCO hired on or after November 4, 2005
 - Attorneys hired on or after January 1, 2006
 - Federated Nurses hired on or after December 15, 2005
 - Firefighters hired on or after June 19, 2007
 - DC48 hired on or after February 1, 2007
- Retiring members who satisfy eligibility criteria may elect to use a past retirement date
- Member must have been eligible to retire at Backdrop date
- Backdrop date must be at least 1 year prior to the date the member terminated employment
- Backdrop monthly benefit calculated using service and salary as of Backdrop date
- Member receives cash payment of payments from Backdrop date to retirement date, including interest
- On and after April 1, 2013, if the Backdrop date is after April 1, 2013 the Backdrop benefit will not reflect any service or salary for the period from April 1, 2013 to the Backdrop date. This provision does not apply to Elected Officials, Building Trades, Machinists, Federated Nurses and Firefighters.

Section 6: Additional Summary Tables of Member Data

TABLE 1 – SUMMARY OF MEMBERSHIP DATA AS OF JANUARY 1, 2020

Active Participants

	General Employees	Deputy Sheriffs	Elected Officials	Total
Number of Participants	3,287	268	6	3,561
Average Annual Salaries*	\$55,356	\$66,093	\$116,192	\$56,267
Average Age	44.6	40.8	59.4	44.3
Average Benefit Service	9.0	13.7	11.7	9.4

* The salaries shown in the table above represent a rate of pay increased by the salary assumption

Inactive Participants

	Number	Annual Annuities	Average Annuities	Average Age
Participants with Deferred Benefits	1,293	\$10,914,247	\$8,441	51.4
Retired Participants	6,825	159,052,026	23,304	72.1
Beneficiaries	913	16,320,216	17,875	78.9
Disability Retirees	263	6,725,514	25,572	65.0
Total	9,294	\$193,012,003	\$20,767	69.6

*Only included for participants with deferred annuities

TABLE 2 – MEMBERSHIP STATISTICS (UNAUDITED)

Active Participants

Members as of January 1, 2019	3,425
Changes during the year:	
New enrollments	619
Vested terminations	(63)
Nonvested terminations	(97)
Retirements	(126)
Deaths in active service	(3)
Withdrawals	(194)
Data Adjustment	0
Members as of December 31, 2019	3,561

Retirements and Survivors

	Maximum Pension	Refund	100%	75%	50%	25%	5%	10-Yr	Survivors and Beneficiaries	Total
January 1, 2019	3,314	230	1,488	290	942	531	42	285	920	8,042
Changes during the year:										
Adjustments (actuary)	-	-	(1)	1	1	-	-	2	1	4
Retirements	94	-	34	19	26	10	-	14	52	249
Benefits Expired	-	-	-	-	-	-	-	-	-	-
Pensioner Deaths	(120)	(16)	(39)	(4)	(39)	(9)	(1)	(6)	(60)	(294)
December 31, 2019	3,288	214	1,482	306	930	532	41	295	913	8,001

TABLE 3A – PARTICIPANTS IN ACTIVE SERVICE AS OF DECEMBER 31, 2019 BY AGE, YEARS OF CREDITABLE SERVICE, AND AVERAGE PAYROLL

All Employee Groups

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Total	Years of Creditable Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	145	145	--	--	--	--	--	--	--	--
	\$41,358	\$41,358	--	--	--	--	--	--	--	--
25 - 29	367	346	21	--	--	--	--	--	--	--
	\$44,928	\$44,730	\$48,192	--	--	--	--	--	--	--
30 - 34	447	342	86	19	--	--	--	--	--	--
	\$48,583	\$47,112	\$53,463	--	--	--	--	--	--	--
35 - 39	376	225	80	51	20	--	--	--	--	--
	\$54,225	\$52,028	\$54,609	\$59,245	\$64,616	--	--	--	--	--
40 - 44	454	179	103	70	73	29	--	--	--	--
	\$60,721	\$52,733	\$71,844	\$63,108	\$58,563	\$70,194	--	--	--	--
45 - 49	513	176	71	63	80	94	29	--	--	--
	\$61,015	\$55,933	\$53,562	\$64,969	\$63,370	\$69,626	\$67,104	--	--	--
50 - 54	521	143	67	46	74	105	71	13	2	--
	\$60,985	\$57,569	\$63,821	\$59,792	\$57,280	\$62,072	\$66,188	--	--	--
55 - 59	384	95	49	34	66	53	48	35	4	--
	\$59,994	\$55,237	\$61,027	\$63,687	\$56,781	\$60,513	\$63,618	\$66,362	--	--
60 - 64	271	53	45	36	46	36	26	22	6	1
	\$60,848	\$65,341	\$54,080	\$57,796	\$53,455	\$65,365	\$67,309	\$69,812	--	--
65 & over	83	16	8	16	11	4	11	13	2	2
	\$67,543	--	--	--	--	--	--	--	--	--
Total	3561	1720	530	335	370	321	185	83	14	3
	\$56,267	\$50,223	\$59,469	\$61,543	\$58,523	\$64,900	\$65,905	\$70,773	--	--

TABLE 3B – PARTICIPANTS IN ACTIVE SERVICE AS OF DECEMBER 31, 2019 BY AGE, YEARS OF CREDITABLE SERVICE, AND AVERAGE PAYROLL

General Employees

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Total	Years of Creditable Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	131	131	--	--	--	--	--	--	--	--	--
	\$40,099	\$40,099	--	--	--	--	--	--	--	--	--
25 - 29	316	298	18	--	--	--	--	--	--	--	--
	\$43,232	\$43,064	--	--	--	--	--	--	--	--	--
30 - 34	415	322	75	18	--	--	--	--	--	--	--
	\$47,835	\$46,469	\$52,503	--	--	--	--	--	--	--	--
35 - 39	354	211	77	49	17	--	--	--	--	--	--
	\$53,862	\$51,712	\$54,380	\$59,202	--	--	--	--	--	--	--
40 - 44	428	175	102	68	65	18	--	--	--	--	--
	\$60,136	\$52,713	\$71,958	\$63,041	\$56,494	--	--	--	--	--	--
45 - 49	453	173	71	63	68	64	14	--	--	--	--
	\$59,305	\$55,952	\$53,562	\$64,969	\$61,563	\$66,783	--	--	--	--	--
50 - 54	468	143	66	46	66	75	60	10	2	--	--
	\$59,341	\$57,569	\$62,763	\$59,792	\$55,243	\$57,455	\$64,371	--	--	--	--
55 - 59	374	94	48	34	66	48	46	34	4	--	--
	\$59,542	\$54,921	\$60,411	\$63,687	\$56,781	\$59,075	\$63,165	\$66,137	--	--	--
60 - 64	265	52	45	36	46	34	24	21	6	1	--
	\$59,896	\$64,088	\$54,080	\$57,796	\$53,455	\$63,246	\$64,162	\$69,612	--	--	--
65 & over	83	16	8	16	11	4	11	13	2	2	--
	\$67,543	--	--	--	--	--	--	--	--	--	--
Total	3,287	1,615	510	330	339	243	155	78	14	3	--
	\$55,356	\$49,819	\$59,233	\$61,545	\$57,080	\$61,558	\$63,744	\$70,467	--	--	--

TABLE 3C – PARTICIPANTS IN ACTIVE SERVICE AS OF DECEMBER 31, 2019 BY AGE, YEARS OF CREDITABLE SERVICE, AND AVERAGE PAYROLL

Deputy Sheriffs

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Total	Years of Creditable Service								
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over
Under 25	14	14	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
25 - 29	51	48	3	--	--	--	--	--	--	--
	\$55,432	\$55,070	--	--	--	--	--	--	--	--
30 - 34	32	20	11	1	--	--	--	--	--	--
	\$58,282	\$57,462	--	--	--	--	--	--	--	--
35 - 39	22	14	3	2	3	--	--	--	--	--
	\$60,070	--	--	--	--	--	--	--	--	--
40 - 44	26	4	1	2	8	11	--	--	--	--
	\$70,347	--	--	--	--	--	--	--	--	--
45 - 49	60	3	--	--	12	30	15	--	--	--
	\$73,922	--	--	--	--	\$75,692	--	--	--	--
50 - 54	52	--	--	--	8	30	11	3	--	--
	\$74,381	--	--	--	--	\$73,614	--	--	--	--
55 - 59	8	--	--	--	--	5	2	1	--	--
	--	--	--	--	--	--	--	--	--	--
60 - 64	3	--	--	--	--	1	1	1	--	--
	--	--	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--
Total	268	103	18	5	31	77	29	5	--	--
	\$66,093	\$55,441	--	--	\$74,306	\$74,617	\$75,287	--	--	--

TABLE 3D – PARTICIPANTS IN ACTIVE SERVICE AS OF DECEMBER 31, 2019 BY AGE, YEARS OF CREDITABLE SERVICE, AND AVERAGE PAYROLL

Elected Officials

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Total	Years of Creditable Service									
		0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & over	
Under 25	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
25 - 29	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
30 - 34	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
35 - 39	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
40 - 44	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
45 - 49	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
50 - 54	1	--	1	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
55 - 59	2	1	1	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
60 - 64	3	1	--	--	--	1	1	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
65 & over	--	--	--	--	--	--	--	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--
Total	6	2	2	--	--	1	1	--	--	--	--
	--	--	--	--	--	--	--	--	--	--	--

**TABLE 4 – ACTIVE AND DEFERRED VESTED MEMBERS OBTAINING RETIREMENT ELIGIBILITY
OVER NEXT FIVE CALENDAR YEARS**

Actives Reaching Retirement Eligibility

Year	General Employees	Elected Officials	Deputy Sheriffs	Total
Eligible at Valuation Date	610	4	20	634
2020	91	-	4	95
2021	95	-	3	98
2022	79	-	10	89
2023	81	1	13	95
2024	<u>99</u>	-	<u>15</u>	<u>114</u>
Total Over Next 5 Years	<u>445</u>	<u>1</u>	<u>45</u>	<u>491</u>
Grand Total Eligible	1,055	5	65	1,125

Deferred Vested Members Reaching Retirement Age

Year	Total
2020	58
2021	80
2022	55
2023	61
2024	48
Total Over Next 5 Years	302

TABLE 5 – RETIREE AND BENEFICIARY MEMBERSHIP DATA AS OF JANUARY 1, 2020

Number and Average Annual Benefits

Age Last Birthday	Number	Annual Benefit	Average Annual Benefit
Retired Participants			
Under 60	464	\$13,854,563	\$29,859
60 – 64	993	23,158,824	23,322
65 – 69	1,607	36,651,982	22,808
70 – 74	1,578	38,044,464	24,109
75 – 79	1,024	23,893,291	23,333
80 & over	1,159	23,448,902	20,232
Total	6,825	\$159,052,026	\$23,304
Beneficiaries			
Under 60	53	\$780,769	\$14,731
60 – 64	56	982,144	17,538
65 – 69	100	2,104,681	21,047
70 – 74	134	2,689,058	20,068
75 – 79	138	2,158,227	15,639
80 & over	432	7,605,337	17,605
Total	913	\$16,320,216	\$17,875
Disabled Participants			
Under 60	98	\$3,045,962	\$31,081
60 – 64	46	1,136,500	24,707
65 – 69	35	954,032	27,258
70 – 74	22	431,270	19,603
75 – 79	31	605,356	19,528
80 & over	31	552,394	17,819
Total	263	\$6,725,514	\$25,572
Grand Total	8,001	\$182,097,756	\$22,759

TABLE 6 – FIVE-YEAR HISTORY OF MEMBERSHIP DATA

Active Participants

Valuation as of January 1	Number of Active Participants	Percentage Change in Membership	Total Annual Payroll	Percentage Change in Payroll
2020	3,561	3.97%	\$200,365,711	4.88%
2019	3,425	-2.20%	191,043,797	0.92%
2018	3,502	0.40%	189,298,469	1.66%
2017	3,488	-3.62%	186,213,740	-4.44%
2016	3,619	-1.66%	194,871,557	-1.70%

Retired, Disabled, and Beneficiary Participants

Valuation as of January 1	Number on roll	Additions	Deletions	Percentage Change in Membership	Annual Annuities	Percentage Change in Annuities
2020	8,001	254	295	-0.51%	\$182,097,756	1.07%
2019	8,042	307	302	0.06%	180,165,695	1.71%
2018	8,037	333	294	-0.32%	177,140,993	1.24%
2017	8,063	363	291	0.90%	174,967,121	3.36%
2016	7,991	362	350	0.15%	169,278,563	2.56%

TABLE 7A – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Age as of January 1, 2020

All Employees

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
18	--	--	2	--	2	--
19	2	--	4	--	6	--
20	3	--	2	--	5	--
21	9	--	8	--	17	--
22	11	--	11	--	22	866,223
23	22	\$998,566	19	--	41	1,839,624
24	28	1,213,004	24	994,339	52	2,207,343
25	31	1,437,029	24	1,078,856	55	2,515,885
26	39	1,809,368	38	1,619,879	77	3,429,247
27	40	1,819,284	26	997,571	66	2,816,856
28	45	2,113,135	42	1,846,211	87	3,959,347
29	36	1,702,569	46	2,064,545	82	3,767,114
30	51	2,651,657	36	1,512,005	87	4,163,661
31	33	1,695,039	39	1,726,073	72	3,421,112
32	36	1,836,600	50	2,174,940	86	4,011,540
33	52	2,828,294	59	2,725,150	111	5,553,444
34	44	2,434,882	47	2,132,080	91	4,566,962
35	29	1,469,033	49	2,680,967	78	4,150,000
36	34	1,957,021	48	2,399,025	82	4,356,045
37	26	1,481,995	37	1,687,800	63	3,169,795
38	22	1,393,651	48	2,391,998	70	3,785,648

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
39	40	2,743,229	43	2,183,994	83	4,927,224
40	31	1,856,183	52	3,189,505	83	5,045,688
41	44	2,630,854	48	2,762,577	92	5,393,432
42	36	2,238,221	42	2,367,004	78	4,605,225
43	51	3,628,066	43	2,311,207	94	5,939,273
44	55	3,665,540	53	2,969,322	108	6,634,862
45	32	2,181,520	51	2,478,669	83	4,660,189
46	39	2,445,367	43	2,619,886	82	5,065,252
47	56	3,428,007	61	3,516,903	117	6,944,909
48	62	4,016,804	53	3,168,995	115	7,185,799
49	59	3,921,075	57	3,515,734	116	7,436,809
50	46	2,934,929	62	3,733,746	108	6,668,674
51	44	3,063,983	55	2,903,143	99	5,967,127
52	45	3,132,024	58	2,960,741	103	6,092,765
53	41	2,850,293	64	3,727,926	105	6,578,219
54	55	3,474,921	50	2,947,912	105	6,422,833
55	29	1,969,480	45	2,350,491	74	4,319,971
56	45	2,836,865	33	1,822,990	78	4,659,854
57	28	1,783,687	34	1,817,965	62	3,601,652
58	43	2,883,961	47	2,468,781	90	5,352,743
59	33	2,096,130	47	3,007,504	80	5,103,634
60	35	2,038,305	37	2,063,959	72	4,102,264
61	34	2,176,990	34	1,986,993	68	4,163,983
62	22	1,602,797	23	1,246,180	45	2,848,977
63	26	1,847,240	28	1,426,975	54	3,274,215
64	17	--	15	--	32	2,100,424
65	17	--	14	--	31	2,083,707

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
66	6	--	7	--	13	--
67	4	--	3	--	7	--
68	6	--	5	--	11	--
69	4	--	4	--	8	--
70	2	--	2	--	4	--
71	2	--	3	--	5	--
72	--	--	--	--	--	--
73	--	--	--	--	--	--
74	1	--	--	--	1	--
75	--	--	--	--	--	--
76	--	--	1	--	1	--
77	1	--	1	--	2	--
Total	1,684	\$101,671,239	1,877	\$98,694,472	3,561	\$200,365,711

TABLE 7B – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Years of Service as of January 1, 2020

All Employees

(Compensation in cells with fewer than 20 records has been suppressed)

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	144	\$5,279,282	182	\$6,423,177	326	\$11,702,459
1	177	9,381,802	247	11,715,767	424	21,097,568
2	153	8,723,228	164	8,505,027	317	17,228,255
3	107	5,895,452	144	7,209,810	251	13,105,261
4	90	5,366,896	130	6,484,574	220	11,851,470
5	65	4,074,223	108	5,761,038	173	9,835,261
6	62	4,106,131	72	3,927,512	134	8,033,644
7	70	4,384,828	61	3,057,288	131	7,442,116
8	65	3,963,778	53	3,000,585	118	6,964,363
9	44	2,902,217	39	2,341,200	83	5,243,418
10	29	1,799,221	23	1,328,571	52	3,127,792
11	41	2,764,281	42	2,437,895	83	5,202,176
12	43	2,649,353	37	2,136,195	80	4,785,548
13	23	1,503,208	25	1,808,808	48	3,312,015
14	30	1,819,289	42	2,462,480	72	4,281,770
15	29	1,805,774	35	2,026,029	64	3,831,803
16	18	- -	24	1,313,318	42	2,516,419
17	32	2,138,757	25	1,292,788	57	3,431,545
18	40	2,723,198	30	1,582,127	70	4,305,325
19	53	3,233,346	54	2,743,748	107	5,977,094
20	41	2,630,643	51	3,016,452	92	5,647,095

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
21	53	3,475,410	47	2,800,220	100	6,275,630
22	42	2,799,456	28	1,682,695	70	4,482,151
23	40	2,821,571	25	1,634,163	65	4,455,734
24	21	1,497,633	20	1,224,884	41	2,722,516
25	41	2,957,954	19	--	60	4,175,224
26	24	1,628,091	29	1,767,120	53	3,395,211
27	12	--	20	1,215,424	32	2,113,811
28	24	1,796,011	18	--	42	2,963,845
29	16	--	12	--	28	1,878,454
30	15	--	19	--	34	2,446,269
31	12	--	20	1,323,340	32	2,179,252
32	8	--	10	--	18	--
33	4	--	5	--	9	--
34	4	--	3	--	7	--
35	4	--	3	--	7	--
36	1	--	4	--	5	--
37	--	--	--	--	--	--
38	2	--	1	--	3	--
39	1	--	3	--	4	--
40	2	--	2	--	4	--
41	1	--	--	--	1	--
42	1	--	--	--	1	--
43	--	--	1	--	1	--
Total	1,684	\$101,671,239	1,877	\$98,694,472	3,561	\$200,365,711

TABLE 7C – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Age as of January 1, 2020

General Employees

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
18	--	--	2	--	2	--
19	2	--	4	--	6	--
20	3	--	2	--	5	--
21	9	--	8	--	17	--
22	8	--	11	--	19	--
23	16	--	17	--	33	\$1,409,368
24	25	\$1,055,052	24	\$994,339	49	2,049,390
25	21	865,371	22	965,798	43	1,831,170
26	28	1,252,550	37	1,559,987	65	2,812,537
27	30	1,272,011	26	997,571	56	2,269,582
28	38	1,702,849	41	1,787,233	79	3,490,082
29	28	1,244,315	45	2,013,722	73	3,258,037
30	43	2,174,361	36	1,512,005	79	3,686,366
31	27	1,334,327	39	1,726,073	66	3,060,400
32	33	1,664,831	49	2,114,834	82	3,779,665
33	45	2,429,982	56	2,560,885	101	4,990,867
34	41	2,255,620	46	2,078,781	87	4,334,401
35	26	1,278,242	49	2,680,967	75	3,959,209
36	31	1,792,646	48	2,399,025	79	4,191,671
37	22	1,255,367	36	1,626,728	58	2,882,094
38	18	--	45	2,211,093	63	3,355,575

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
39	36	2,494,621	43	2,183,994	79	4,678,616
40	27	1,599,281	52	3,189,505	79	4,788,786
41	40	2,379,197	47	2,688,019	87	5,067,216
42	34	2,103,339	42	2,367,004	76	4,470,344
43	44	3,107,462	42	2,237,180	86	5,344,642
44	50	3,297,493	51	2,820,987	101	6,118,481
45	30	2,023,297	50	2,403,507	80	4,426,804
46	34	2,075,093	42	2,545,753	76	4,620,847
47	42	2,386,701	58	3,296,384	100	5,683,085
48	48	2,958,641	50	2,962,337	98	5,920,978
49	47	3,064,141	52	3,141,762	99	6,205,904
50	31	1,839,559	60	3,578,314	91	5,417,873
51	35	2,383,314	51	2,611,818	86	4,995,132
52	35	2,323,659	57	2,886,715	92	5,210,374
53	37	2,546,707	63	3,653,899	100	6,200,606
54	50	3,104,331	48	2,799,859	98	5,904,190
55	28	1,894,286	45	2,350,491	73	4,244,777
56	42	2,603,899	33	1,822,990	75	4,426,889
57	26	1,635,634	34	1,817,965	60	3,453,599
58	41	2,735,627	47	2,468,781	88	5,204,408
59	31	1,931,500	47	3,007,504	78	4,939,004
60	32	1,808,846	37	2,063,959	69	3,872,805
61	33	2,046,487	34	1,986,993	67	4,033,480
62	21	1,474,047	23	1,246,180	44	2,720,227
63	25	1,718,490	28	1,426,975	53	3,145,465
64	17	--	15	--	32	2,100,424
65	17	--	14	--	31	2,083,707

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
66	6	--	7	--	13	--
67	4	--	3	--	7	--
68	6	--	5	--	11	--
69	4	--	4	--	8	--
70	2	--	2	--	4	--
71	2	--	3	--	5	--
72	--	--	--	--	--	--
73	--	--	--	--	--	--
74	1	--	--	--	1	--
75	--	--	--	--	--	--
76	--	--	1	--	1	--
77	1	--	1	--	2	--
Total	1,453	\$86,167,140	1,834	\$95,788,479	3,287	\$181,955,619

TABLE 7D – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Years of Service as of January 1, 2020

General Employees

(Compensation in cells with fewer than 20 records has been suppressed)

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	133	\$4,796,798	182	\$6,423,177	315	\$11,219,975
1	163	8,524,156	244	11,553,714	407	20,077,870
2	125	7,187,929	160	8,277,550	285	15,465,480
3	94	5,139,119	143	7,150,389	237	12,289,508
4	72	4,296,762	124	6,141,111	196	10,437,873
5	62	3,895,974	107	5,702,433	169	9,598,408
6	54	3,618,078	72	3,927,512	126	7,545,591
7	65	4,081,290	60	2,995,004	125	7,076,293
8	63	3,842,271	53	3,000,585	116	6,842,855
9	43	2,768,584	38	2,280,129	81	5,048,713
10	26	1,621,407	23	1,328,571	49	2,949,978
11	39	2,638,790	42	2,437,895	81	5,076,685
12	42	2,589,292	37	2,136,195	79	4,725,486
13	22	1,441,690	25	1,808,808	47	3,250,497
14	29	1,764,168	42	2,462,480	71	4,226,649
15	28	1,730,382	35	2,026,029	63	3,756,411
16	17	- -	24	1,313,318	41	2,437,723
17	30	1,990,704	25	1,292,788	55	3,283,492
18	36	2,445,199	30	1,582,127	66	4,027,327
19	46	2,714,038	52	2,597,977	98	5,312,015
20	33	2,037,564	46	2,645,506	79	4,683,070

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
21	38	2,353,756	43	2,503,446	81	4,857,202
22	31	1,976,071	26	1,534,536	57	3,510,607
23	18	--	21	1,346,966	39	2,521,054
24	15	--	17	--	32	1,997,081
25	22	1,516,082	18	--	40	2,654,008
26	14	--	26	1,538,789	40	2,411,736
27	8	--	20	1,215,424	28	1,817,564
28	20	1,444,567	17	--	37	2,538,374
29	15	--	12	--	27	1,803,665
30	12	--	19	--	31	2,207,612
31	10	--	19	--	29	1,949,599
32	8	--	10	--	18	--
33	4	--	5	--	9	--
34	4	--	3	--	7	--
35	4	--	3	--	7	--
36	1	--	4	--	5	--
37	--	--	--	--	--	--
38	2	--	1	--	3	--
39	1	--	3	--	4	--
40	2	--	2	--	4	--
41	1	--	--	--	1	--
42	1	--	--	--	1	--
43	--	--	1	--	1	--
Total	1,453	\$86,167,140	1,834	\$95,788,479	3,287	\$181,955,619

TABLE 7E – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Age as of January 1, 2020

Deputy Sheriffs

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
22	3	--	--	--	3	--
23	6	--	2	--	8	--
24	3	--	--	--	3	--
25	10	--	2	--	12	--
26	11	--	1	--	12	--
27	10	--	--	--	10	--
28	7	--	1	--	8	--
29	8	--	1	--	9	--
30	8	--	--	--	8	--
31	6	--	--	--	6	--
32	3	--	1	--	4	--
33	7	--	3	--	10	--
34	3	--	1	--	4	--
35	3	--	--	--	3	--
36	3	--	--	--	3	--
37	4	--	1	--	5	--
38	4	--	3	--	7	--
39	4	--	--	--	4	--
40	4	--	--	--	4	--
41	4	--	1	--	5	--
42	2	--	--	--	2	--

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
43	7	--	1	--	8	--
44	5	--	2	--	7	--
45	2	--	1	--	3	--
46	5	--	1	--	6	--
47	14	--	3	--	17	--
48	14	--	3	--	17	--
49	12	--	5	--	17	--
50	15	--	2	--	17	--
51	9	--	4	--	13	--
52	9	--	1	--	10	--
53	4	--	1	--	5	--
54	5	--	2	--	7	--
55	1	--	--	--	1	--
56	2	--	--	--	2	--
57	2	--	--	--	2	--
58	2	--	--	--	2	--
59	1	--	--	--	1	--
60	3	--	--	--	3	--
Grand Total	225	\$14,806,947	43	\$2,905,994	268	\$17,712,941

TABLE 7F – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Years of Service as of January 1, 2020

Deputy Sheriffs

(Compensation in cells with fewer than 20 records has been suppressed)

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	11	--	--	--	11	--
1	12	--	3	--	15	--
2	28	\$1,535,299	4	--	32	\$1,762,776
3	13	--	1	--	14	--
4	18	--	6	--	24	1,413,597
5	3	--	1	--	4	--
6	8	--	--	--	8	--
7	5	--	1	--	6	--
8	2	--	--	--	2	--
9	--	--	1	--	1	--
10	3	--	--	--	3	--
11	2	--	--	--	2	--
12	1	--	--	--	1	--
13	1	--	--	--	1	--
14	1	--	--	--	1	--
15	1	--	--	--	1	--
16	1	--	--	--	1	--
17	2	--	--	--	2	--
18	4	--	--	--	4	--
19	7	--	2	--	9	--
20	8	--	5	--	13	--

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
21	15	--	4	--	19	--
22	11	--	2	--	13	--
23	22	1,647,483	4	--	26	1,934,680
24	5	--	3	--	8	--
25	19	--	1	--	20	1,521,215
26	10	--	3	--	13	--
27	4	--	--	--	4	--
28	3	--	1	--	4	--
29	1	--	--	--	1	--
30	2	--	--	--	2	--
31	2	--	1	--	3	--
Total	225	\$14,806,947	43	\$2,905,994	268	\$17,712,941

TABLE 7G – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Age as of January 1, 2020

Elected Officials

(Compensation in cells with fewer than 20 records has been suppressed)

Age	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
52	1	--	--	--	1	--
53	--	--	--	--	--	--
54	--	--	--	--	--	--
55	--	--	--	--	--	--
56	1	--	--	--	1	--
57	--	--	--	--	--	--
58	--	--	--	--	--	--
59	1	--	--	--	1	--
60	--	--	--	--	--	--
61	1	--	--	--	1	--
62	1	--	--	--	1	--
63	1	--	--	--	1	--
Total	6	--	--	--	6	--

TABLE 7H – DETAILED TABULATIONS OF THE DATA

The Number and Annual Salaries of Members in Active Service Distributed by Years of Service as of January 1, 2020

Elected Officials

(Compensation in cells with fewer than 20 records has been suppressed)

Service	Men		Women		Total	
	Number	Compensation	Number	Compensation	Number	Compensation
0	--	--	--	--	--	--
1	2	--	--	--	2	--
2	--	--	--	--	--	--
3	--	--	--	--	--	--
4	--	--	--	--	--	--
5	--	--	--	--	--	--
6	--	--	--	--	--	--
7	--	--	--	--	--	--
8	--	--	--	--	--	--
9	1	--	--	--	1	--
10	--	--	--	--	--	--
11	--	--	--	--	--	--
12	--	--	--	--	--	--
13	--	--	--	--	--	--
14	--	--	--	--	--	--
15	--	--	--	--	--	--
16	--	--	--	--	--	--
17	--	--	--	--	--	--
18	--	--	--	--	--	--
19	--	--	--	--	--	--
20	--	--	--	--	--	--

Service	Number	Men Compensation	Number	Women Compensation	Number	Total Compensation
21	--	--	--	--	--	--
22	--	--	--	--	--	--
23	--	--	--	--	--	--
24	1	--	--	--	1	--
25	--	--	--	--	--	--
26	--	--	--	--	--	--
27	--	--	--	--	--	--
28	1	--	--	--	1	--
29	--	--	--	--	--	--
30	1	--	--	--	1	--
Total	6	--	--	--	6	--

TABLE 7I – DETAILED TABULATIONS OF THE DATA

The Number and Annual Benefits Payable to Members Receiving Benefits Distributed by Age as of January 1, 2020

All Members

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
19	2	\$28,293	2	\$12,041	4	\$40,333
20	--	--	--	--	--	--
21	--	--	--	--	--	--
22	--	--	--	--	--	--
23	--	--	--	--	--	--
24	--	--	--	--	--	--
25	--	--	--	--	--	--
26	1	4,763	--	--	1	4,763
27	--	--	--	--	--	--
28	--	--	--	--	--	--
29	--	--	--	--	--	--
30	--	--	1	10,277	1	10,277
31	2	18,212	--	--	2	18,212
32	--	--	--	--	--	--
33	--	--	--	--	--	--
34	--	--	--	--	--	--
35	--	--	--	--	--	--
36	2	9,952	--	--	2	9,952
37	1	16,926	--	--	1	16,926
38	--	--	--	--	--	--
39	1	21,976	1	4,554	2	26,530
40	1	44,910	--	--	1	44,910

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
41	1	2,495	1	17,156	2	19,651
42	1	37,291	1	6,630	2	43,921
43	2	78,549	--	--	2	78,549
44	2	56,692	2	68,535	4	125,228
45	3	72,083	1	49,620	4	121,703
46	2	52,906	1	28,730	3	81,636
47	1	47,495	--	--	1	47,495
48	6	243,537	5	127,731	11	371,268
49	6	246,226	5	126,118	11	372,344
50	17	618,356	2	90,291	19	708,647
51	5	187,290	9	266,528	14	453,818
52	13	511,074	12	302,198	25	813,272
53	15	578,456	20	580,134	35	1,158,590
54	17	574,919	27	800,973	44	1,375,891
55	22	863,634	39	1,033,664	61	1,897,298
56	27	858,533	62	1,651,938	89	2,510,472
57	37	1,026,939	34	1,003,874	71	2,030,813
58	37	984,754	55	1,389,833	92	2,374,588
59	29	884,521	82	2,039,687	111	2,924,208
60	52	1,499,274	102	2,092,172	154	3,591,446
61	73	2,057,690	112	2,357,662	185	4,415,352
62	71	1,767,337	164	3,685,188	235	5,452,525
63	110	2,801,798	141	2,945,914	251	5,747,713
64	108	2,898,374	162	3,172,058	270	6,070,432
65	121	3,187,476	169	3,465,931	290	6,653,407
66	143	3,625,168	199	3,801,279	342	7,426,447
67	147	4,453,182	213	3,924,762	360	8,377,944

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
68	147	3,949,262	221	4,718,116	368	8,667,378
69	183	5,051,528	199	3,533,990	382	8,585,517
70	173	4,755,308	236	4,300,054	409	9,055,362
71	159	4,860,661	197	3,822,662	356	8,683,323
72	175	4,705,088	234	4,809,966	409	9,515,053
73	129	3,925,940	190	4,414,884	319	8,340,824
74	105	2,817,743	137	2,775,003	242	5,592,746
75	93	2,462,446	134	2,773,887	227	5,236,333
76	95	2,570,850	136	2,591,017	231	5,161,868
77	90	2,627,204	134	2,608,500	224	5,235,704
78	63	1,658,301	106	1,992,835	169	3,651,136
79	75	2,115,061	89	1,657,905	164	3,772,966
80	71	1,807,281	107	2,105,690	178	3,912,971
81	50	1,274,043	106	2,137,625	156	3,411,668
82	58	1,489,748	101	1,653,387	159	3,143,136
83	57	1,511,417	93	1,737,700	150	3,249,117
84	38	1,073,196	95	1,843,054	133	2,916,250
85	36	1,093,449	78	1,430,299	114	2,523,748
86	31	879,034	69	1,148,125	100	2,027,159
87	48	1,134,457	74	1,361,272	122	2,495,729
88	36	919,239	72	1,313,673	108	2,232,912
89	24	687,126	87	1,362,119	111	2,049,245
90	24	494,978	70	1,053,378	94	1,548,356
91	16	362,787	62	862,881	78	1,225,668
92	17	422,610	59	912,401	76	1,335,010
93	8	127,817	46	608,484	54	736,301
94	10	219,103	34	532,831	44	751,934

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
95	8	194,900	29	405,834	37	600,734
96	7	103,498	18	285,766	25	389,264
97	1	11,624	17	166,068	18	177,692
98	5	75,410	16	170,609	21	246,019
99	1	8,353	9	100,201	10	108,554
100	--	--	6	62,720	6	62,720
101	--	--	3	30,327	3	30,327
102	--	--	1	1,463	1	1,463
103	--	--	--	--	--	--
104	--	--	--	--	--	--
105	--	--	1	7,008	1	7,008
Total	3,111	\$85,750,546	4,890	\$96,347,211	8,001	\$182,097,756

TABLE 7J – DETAILED TABULATIONS OF THE DATA

The Number and Annual Benefits Payable to Members Receiving Benefits Distributed by Age as of January 1, 2020

Retired Members

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
48	1	\$73,051	--	--	1	\$73,051
49	2	93,442	2	\$53,646	4	147,088
50	7	301,747	2	90,291	9	392,038
51	3	130,659	7	234,403	10	365,062
52	9	360,549	9	243,129	18	603,679
53	14	563,572	14	402,445	28	966,017
54	15	509,596	20	603,412	35	1,113,008
55	18	698,285	26	673,054	44	1,371,338
56	21	739,678	51	1,373,849	72	2,113,527
57	34	922,258	31	929,179	65	1,851,437
58	36	961,649	44	1,202,239	80	2,163,888
59	29	884,521	69	1,809,909	98	2,694,430
60	47	1,333,389	92	1,890,126	139	3,223,515
61	68	1,952,453	105	2,224,586	173	4,177,039
62	65	1,642,825	146	3,301,710	211	4,944,536
63	102	2,611,139	131	2,738,976	233	5,350,115
64	102	2,808,813	135	2,654,805	237	5,463,618
65	112	3,045,729	155	3,128,725	267	6,174,455
66	132	3,353,749	184	3,472,782	316	6,826,531
67	139	4,199,996	197	3,594,157	336	7,794,153
68	139	3,854,028	195	4,125,899	334	7,979,927
69	176	4,903,277	178	2,973,640	354	7,876,916

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
70	167	4,639,703	214	3,936,611	381	8,576,314
71	150	4,702,520	171	3,321,824	321	8,024,344
72	168	4,588,181	202	4,057,755	370	8,645,936
73	124	3,838,993	167	3,921,572	291	7,760,565
74	99	2,743,292	116	2,294,015	215	5,037,306
75	85	2,334,745	108	2,224,253	193	4,558,998
76	85	2,442,394	115	2,240,815	200	4,683,209
77	84	2,523,431	108	2,090,268	192	4,613,699
78	62	1,640,650	85	1,536,163	147	3,176,813
79	69	2,025,714	68	1,276,604	137	3,302,318
80	65	1,761,873	90	1,796,381	155	3,558,255
81	48	1,256,695	81	1,510,690	129	2,767,385
82	50	1,368,109	74	1,232,395	124	2,600,504
83	49	1,421,484	64	1,137,497	113	2,558,982
84	37	1,060,733	71	1,355,811	108	2,416,544
85	36	1,093,449	51	899,309	87	1,992,758
86	26	819,502	44	759,935	70	1,579,437
87	45	1,127,321	40	645,922	85	1,773,243
88	33	888,064	43	750,748	76	1,638,812
89	22	665,297	55	860,429	77	1,525,726
90	21	479,917	40	578,835	61	1,058,752
91	16	362,787	38	546,649	54	909,436
92	15	384,169	29	413,656	44	797,825
93	7	124,394	21	261,694	28	386,088
94	9	211,999	19	305,404	28	517,403
95	7	183,550	16	178,650	23	362,200
96	6	99,775	10	107,678	16	207,453

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
97	1	11,624	9	80,321	10	91,945
98	4	65,904	11	98,115	15	164,020
99	1	8,353	4	34,025	5	42,378
100	--	--	4	49,540	4	49,540
101	--	--	--	--	--	--
102	--	--	1	1,463	1	1,463
103	--	--	--	--	--	--
104	--	--	--	--	--	--
105	--	--	1	7,008	1	7,008
Total	2,862	\$80,819,029	3,963	\$78,232,997	6,825	\$159,052,026

TABLE 7K – DETAILED TABULATIONS OF THE DATA

The Number and Annual Benefits Payable to Members Receiving Benefits Distributed by Age as of January 1, 2020

Disabled Members

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
39	1	\$21,976	--	--	1	\$21,976
40	1	44,910	--	--	1	44,910
41	--	--	--	--	--	--
42	1	37,291	--	--	1	37,291
43	2	78,549	--	--	2	78,549
44	2	56,692	1	\$48,774	3	105,467
45	1	46,687	1	49,620	2	96,306
46	2	52,906	--	--	2	52,906
47	1	47,495	--	--	1	47,495
48	5	170,487	2	83,805	7	254,291
49	4	152,783	2	49,406	6	202,189
50	9	300,980	--	--	9	300,980
51	1	49,822	2	32,125	3	81,947
52	4	150,524	3	59,069	7	209,593
53	1	14,884	5	159,287	6	174,171
54	2	65,323	5	171,192	7	236,515
55	4	165,349	8	275,619	12	440,968
56	5	111,678	8	171,283	13	282,960
57	2	99,151	3	74,695	5	173,846
58	1	23,105	4	57,436	5	80,542
59	--	--	5	123,060	5	123,060
60	4	146,900	5	128,921	9	275,821

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
61	5	105,236	1	23,558	6	128,794
62	6	124,512	9	247,373	15	371,885
63	6	148,761	4	68,894	10	217,655
64	3	63,421	3	78,925	6	142,346
65	4	87,225	2	33,654	6	120,880
66	7	245,341	1	34,616	8	279,957
67	6	209,040	1	14,224	7	223,263
68	3	36,896	6	175,077	9	211,973
69	2	56,216	3	61,743	5	117,959
70	3	93,757	4	59,874	7	153,631
71	3	78,490	2	31,143	5	109,632
72	1	34,862	3	54,186	4	89,048
73	1	25,761	1	10,319	2	36,080
74	4	42,878	--	--	4	42,878
75	2	25,783	5	70,595	7	96,378
76	2	57,674	3	59,433	5	117,107
77	2	49,818	6	102,453	8	152,272
78	1	17,651	3	78,062	4	95,712
79	3	61,877	2	41,397	5	103,275
80	1	18,772	1	21,841	2	40,613
81	--	--	1	15,453	1	15,453
82	2	38,604	2	41,174	4	79,778
83	1	28,767	2	25,688	3	54,455
84	--	--	1	23,969	1	23,969
85	--	--	3	41,820	3	41,820
86	2	39,444	2	38,067	4	77,511
87	--	--	4	83,219	4	83,219

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
88	--	--	3	38,699	3	38,699
89	--	--	2	49,864	2	49,864
90	--	--	3	40,840	3	40,840
91	--	--	1	16,208	1	16,208
92	--	--	1	14,077	1	14,077
93	--	--	--	--	--	--
94	--	--	--	--	--	--
95	--	--	--	--	--	--
96	--	--	1	16,500	1	16,500
Total	123	\$3,528,280	140	\$3,197,234	263	\$6,725,514

TABLE 7L – DETAILED TABULATIONS OF THE DATA

The Number and Annual Benefits Payable to Members Receiving Benefits Distributed by Age as of January 1, 2020

Beneficiaries

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
19	2	\$28,293	2	\$12,041	4	\$40,333
20	--	--	--	--	--	--
21	--	--	--	--	--	--
22	--	--	--	--	--	--
23	--	--	--	--	--	--
24	--	--	--	--	--	--
25	--	--	--	--	--	--
26	1	4,763	--	--	1	4,763
27	--	--	--	--	--	--
28	--	--	--	--	--	--
29	--	--	--	--	--	--
30	--	--	1	10,277	1	10,277
31	2	18,212	--	--	2	18,212
32	--	--	--	--	--	--
33	--	--	--	--	--	--
34	--	--	--	--	--	--
35	--	--	--	--	--	--
36	2	9,952	--	--	2	9,952
37	1	16,926	--	--	1	16,926
38	--	--	--	--	--	--
39	--	--	1	4,554	1	4,554
40	--	--	--	--	--	--

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
41	1	2,495	1	17,156	2	19,651
42	--	--	1	6,630	1	6,630
43	--	--	--	--	--	--
44	--	--	1	19,761	1	19,761
45	2	25,397	--	--	2	25,397
46	--	--	1	28,730	1	28,730
47	--	--	--	--	--	--
48	--	--	3	43,926	3	43,926
49	--	--	1	23,067	1	23,067
50	1	15,630	--	--	1	15,630
51	1	6,809	--	--	1	6,809
52	--	--	--	--	--	--
53	--	--	1	18,402	1	18,402
54	--	--	2	26,369	2	26,369
55	--	--	5	84,992	5	84,992
56	1	7,177	3	106,807	4	113,985
57	1	5,531	--	--	1	5,531
58	--	--	7	130,158	7	130,158
59	--	--	8	106,717	8	106,717
60	1	18,986	5	73,124	6	92,110
61	--	--	6	109,519	6	109,519
62	--	--	9	136,104	9	136,104
63	2	41,898	6	138,045	8	179,943
64	3	26,140	24	438,328	27	464,468
65	5	54,521	12	303,552	17	358,073
66	4	26,078	14	293,881	18	319,959
67	2	44,147	15	316,382	17	360,528

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
68	5	58,339	20	417,140	25	475,479
69	5	92,035	18	498,607	23	590,642
70	3	21,848	18	303,568	21	325,416
71	6	79,651	24	469,695	30	549,346
72	6	82,045	29	698,024	35	780,069
73	4	61,186	22	482,993	26	544,180
74	2	31,573	21	480,988	23	512,561
75	6	101,917	21	479,040	27	580,958
76	8	70,782	18	290,770	26	361,552
77	4	53,954	20	415,779	24	469,733
78	--	--	18	378,610	18	378,610
79	3	27,470	19	339,904	22	367,374
80	5	26,636	16	287,467	21	314,103
81	2	17,348	24	611,482	26	628,829
82	6	83,035	25	379,818	31	462,853
83	7	61,165	27	574,515	34	635,680
84	1	12,463	23	463,275	24	475,738
85	--	--	24	489,170	24	489,170
86	3	20,088	23	350,123	26	370,211
87	3	7,136	30	632,131	33	639,268
88	3	31,175	26	524,226	29	555,401
89	2	21,829	30	451,826	32	473,655
90	3	15,062	27	433,703	30	448,764
91	--	--	23	300,024	23	300,024
92	2	38,440	29	484,668	31	523,108
93	1	3,423	25	346,790	26	350,213
94	1	7,104	15	227,427	16	234,531

Age	Men		Women		Total	
	Number	Annuities	Number	Annuities	Number	Annuities
95	1	11,350	13	227,184	14	238,534
96	1	3,723	7	161,587	8	165,310
97	--	--	8	85,747	8	85,747
98	1	9,505	5	72,494	6	81,999
99	--	--	5	66,176	5	66,176
100	--	--	2	13,180	2	13,180
101	--	--	3	30,327	3	30,327
Total	126	\$1,403,237	787	\$14,916,980	913	\$16,320,216

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