

**Actuarial Valuation Report as of
January 1, 2018 for the
ERIE COUNTY
EMPLOYEES'
RETIREMENT SYSTEM**

Prepared by:

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SECTION 1 HIGHLIGHTS

This report contains a detailed description and the results of a valuation by Boetger Retirement Plan Services of the Erie County Employees' Retirement System as of January 1, 2018. The contents of this report include a summary of the actuarial position of the Plan as of January 1, 2018 and the contribution for the 2018 plan year, in accordance with the funding standards of Section 6 of Act 96, 1971 of the Commonwealth of Pennsylvania as amended.

Annual Required Contribution

The Annual Required Contribution for the plan year ending December 31, 2018 is \$4,360,594. See Section 5 for the history of employer contributions.

Plan Changes

There have been no changes in the plan benefit provisions since the date of the last report.

Assumption Changes

The salary scale assumption has been modified to reflect the adjustment in salary under the new County pay plan. This change increased the actuarial accrued liability by \$2,233,873 and the annual required contribution by \$302,738. There have been no other changes in the actuarial assumptions since the date of the last report.

Actuarial Experience

During 2017, the Plan experienced an actuarial gain due primarily to investment returns on an actuarial value basis greater than anticipated. The investment yield on an actuarial value basis, net of expenses, was approximately 9.06%. The investment yield on a market value basis, net of expenses, was approximately 13.77%.

Funded Status of the Plan

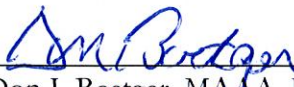
As of January 1, 2018, the ratio of the market value of assets to the actuarial accrued liability is 99%. This means the Plan is strongly funded.

This percentage compares to 94% on the prior valuation date.

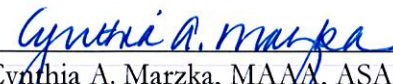
In our opinion, this report presents fairly the financial and actuarial position for the Erie County Employees' Retirement System as of January 1, 2018 in accordance with generally accepted actuarial principles, and on the basis of actuarial assumptions and methods which, in the aggregate, are reasonable (taking into account past experience under the Plan and reasonable expectations) and which in combination represent our best estimate of anticipated experience.

We are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. We are available to provide further information or answer any questions with respect to this report.

April, 2018



Don J. Boetger, MA, FSPA
Actuary and Consultant



Cynthia A. Marzka, MAAA, ASA
Actuary and Consultant

SECTION 2
SUMMARY OF VALUATION RESULTS

Section 2.1
Assets of the Plan

Below is a statement of changes in plan net assets as well as a list of the total assets by classification, as provided by the County.

ERIE COUNTY EMPLOYEES' RETIREMENT SYSTEM		
CHANGES IN PLAN NET ASSETS		
FOR THE 2017 AND 2016 CALENDAR YEARS		
Additions		
	2017 Total	2016 Total
Contributions		
County	\$ 4,642,134	\$ 4,321,221
Plan Members	3,472,718	3,244,397
Total Contributions	8,114,852	7,565,618
Investment Income		
Net Appreciation/Depreciation in Fair Value of Investments	13,004,583	9,874,155
Interest	1,853,792	1,862,321
Dividends	5,426,650	3,717,990
Realized Capital Gains	13,162,861	4,190,266
Loss Recovery	26,893	18,600
Securities Lending	119,820	187,647
Less Investment Expense	<u>721,986</u>	<u>747,247</u>
Net Investment Income	32,872,613	19,103,732
Total Additions	40,987,465	26,669,350
Deductions		
Benefits	15,657,116	13,937,217
Refunds of Contributions	202,395	438,507
Administrative Expense	<u>197,630</u>	<u>197,018</u>
Total Deductions	16,057,141	14,572,742
Net Increase	24,930,324	12,096,608
Net Assets Held In Trust For Pension Benefits		
Beginning of Year	242,775,218	230,678,610
End of Year	\$ 267,705,542	\$ 242,775,218

ERIE COUNTY EMPLOYEES' RETIREMENT PLAN

PLAN ASSETS AS OF DECEMBER 31, 2017 AND 2016

Assets		
	2017	2016
Cash and Short Term Investments	\$ 2,974,833	\$ 3,346,741
Receivables	307	0
Investments, at fair value		
U.S. Government Obligations	\$ 21,952,922	\$ 22,664,040
Domestic Corporate Bonds	26,307,064	32,320,256
Domestic Common Stocks	70,643,355	64,374,687
Mutual Funds- Fixed	13,914,649	13,625,469
Mutual Funds - Equity	89,809,994	57,397,141
Equity Fund	215,391	743,434
International Equities	0	11,752,849
Property Trust	27,732,071	14,604,884
Asset Backed Securities	0	0
Master Limited Partnership	8,490,290	9,512,107
Other Fixed Income	5,152,870	11,844,461
Accrued Income	511,796	589,149
Total Investments	\$ 264,730,402	\$ 239,428,477
Total Assets	\$ 267,705,542	\$ 242,775,218
Liabilities		
Refunds Payable and Other	0	0
Net Assets Held In Trust For Pension Benefits		
	\$ 267,705,542	\$ 242,775,218

Section 2.2
Approximate Rate of Return

APPROXIMATE RATE OF RETURN FOR 2017 PLAN YEAR (MARKET VALUE)	
1.) Market Value as of December 31, 2016	\$ 242,775,218
2.) Contributions Received During Year	8,114,852
3.) Benefits and Expenses Paid During Year	16,779,127
4.) Market Value as of December 31, 2017	267,705,542
5.) Non-Investment Increment: (2) – (3)	(8,664,275)
6.) Investment Increment: (4) – (1) – (5)	33,594,599
7.) Time Weighted Value of Assets: (1) + .5(5)	238,443,081
8.) Approximate Rate of Return for 2017: (6) / (7)	14.09%

HISTORY OF RATE OF RETURNS	
Plan Year	Rate of Return
2016	8.75%
2015	0.63%
2014	6.50%
2013	19.85%
2012	11.88%
2011	1.52%
2010	13.46%
2009	22.21%
2008	-23.17%
2007	10.15%

Section 2.3 Actuarial Value of Assets

The asset valuation method is the “smoothed market value (with phase-in)” method, using a smoothing period of 5 years, as described in paragraph 3.16 of IRS Revenue Procedure 2000-40. When fully phased in, the actuarial value of assets will equal the market value of assets with gains subtracted or losses added at the rate described below:

- a. 4/5 of the prior year’s gain or loss
- b. 3/5 of the second preceding year’s gain or loss
- c. 2/5 of the third preceding year’s gain or loss
- d. 1/5 of the fourth preceding year’s gain or loss

The gain or loss for a year is determined by calculating the difference between the expected value of assets for the year and the market value of assets at the valuation date. The expected value of assets for the year is market value of assets at the prior-year valuation date brought forward with interest at the valuation interest rate to the current valuation date, plus contributions minus benefit disbursements (benefits and expenses), all adjusted with interest at the valuation rate to the current valuation date. If the expected value is less than the market value, the difference is a gain. If the expected value is greater than the market value, there is a loss.

In the first year, the actuarial value of assets is equal to the market value of assets. In subsequent years, the smoothed value is calculated as described above, except that the only gains or losses recognized are those occurring in the year of the change and later. In general, the actuarial value of assets must fall between 80% and 120% of the market value of assets.

**ACTUARIAL VALUE OF ASSETS
CALCULATION OF ASSET (GAIN) OR LOSS FOR THE YEAR**

	Expected Value
Market Value at Beginning of Year	\$ 242,775,218
Interest Expected Using Valuation Assumption	18,208,141
Plus Actual Contributions	8,114,852
Minus Actual Distributions	(16,779,127)
Interest Expected on Contributions and Distributions	(325,104)
Expected Value at End of Year	\$ 251,993,980
Market Value at End of Year	267,705,542
(Gain) or Loss for Year	\$ (15,711,562)

COMPUTATION OF ADJUSTMENT

Year	(Gain) or Loss	Adjustment Percent	Adjustment Amount
2017	(15,711,562)	.80	(12,569,250)
2016	(2,840,784)	.60	(1,704,470)
2015	15,996,759	.40	6,398,704
2014	2,243,564	.20	448,713
2013	(23,589,048)	.00	0
 Total Adjustment			 \$ (7,426,303)

Determination of Actuarial Value of Assets

Market Value of Assets	\$ 267,705,542
Adjustment	<u>(7,426,303)</u>
Actuarial Value of Assets	\$ 260,279,239

In general, the Actuarial Value of Assets must fall between 80% and 120% of the Market Value of Assets.

Lower Limit (80% of Fair Market Value)	\$ 214,164,434
Actuarial Value of Assets	\$ 260,279,239
Upper Limit (120% of Fair Market Value)	\$ 321,246,650

Section 2.4 Allocation of Assets

This Section shows the allocation of the assets among the Plan's reserve accounts (see Section 2.8 for Determination of Reserve Balances) and the Plan's liabilities as of January 1, 2018. The liabilities were determined from the actuarial valuation of the Plan based upon the data submitted by the County.

ASSETS	
Members' Annuity Reserve Account	\$ 46,129,130
County Annuity Reserve Account	47,579,973
Retired Members' Reserve Account	138,764,637
Unrealized Appreciation in Assets	35,231,802
<i>Total Assets, (Market Value) of the Eric County Employees' Retirement System</i>	\$ 267,705,542
LIABILITIES	
Actuarial Present Value of:	
Accumulated Plan Benefits	
Vested	\$ 51,026,880
Nonvested	2,651,347
Future Benefit Accruals	46,193,169
Terminated Vested Benefits	6,484,502
Retired Benefits	138,764,637
Member Accumulated Deductions	46,129,130
<i>Total Liabilities of the Eric County Employees' Retirement System</i>	\$ 291,249,665

Section 2.5
Normal Cost and Unfunded Actuarial Accrued Liability

This Section shows the Normal Cost and Unfunded Actuarial Accrued Liability for 2018 for the Erie County Employees' Retirement System.

Normal Cost for 2018	
a. Retirement Benefits	\$ 2,074,308
b. Termination Benefits	681,087
c. Death Benefits	<u>33,143</u>
Total Normal Cost	\$ 2,788,538

Unfunded Actuarial Accrued Liability as of January 1, 2018	
1. Active Participants	
a. Retirement Benefits	\$ 73,571,546
b. Termination Benefits	4,157,103
c. Death Benefits	<u>948,051</u>
d. Total	\$ 78,676,700
2. Terminated Vested Participants	\$ 6,484,502
3. Retired Members and Beneficiaries	
a. Retirement Benefits	\$ 136,639,674
b. Cost of Living Benefits	<u>2,124,963</u>
c. Total	\$ 138,764,637
4. Member Accumulated Deductions	<u>\$ 46,129,130</u>
5. Total Actuarial Accrued Liability	\$ 270,054,969
6. Actuarial Value of Assets	<u>\$ 260,279,239</u>
7. Unfunded Actuarial Accrued Liability	\$ 9,775,730

Section 2.6 Annual Required Contribution

This Section shows the development of the amortization payment and the calculation of the Annual Required Contribution for 2018.

The amortization schedule is as follows:

Initial Liability	30 Years
Actuarial Gains / Losses	20 Years
Change in Assumptions	15 Years
State Mandated Benefit Changes	20 Years
Local Benefit Changes for Active Employees	10 Years
Local Benefit Changes for Retired Employees	1 Year

If the remaining average period between the current average attained age of active members and the later of earliest average normal retirement age or average assumed retirement age is less than the above amortization periods, the longest applicable remaining average period rounded to the next largest whole number shall be used.

Amortization Payment					
<u>Source</u>	<u>Initial Liability</u>	<u>Effective Date</u>	<u>Remaining Period</u>	<u>Outstanding Balance</u>	<u>Amortization Charge</u>
Initial Liability	\$14,061,142	1/1/2015	8 Years	\$ 11,258,456	\$ 1,788,021
Actuarial Gain	(473,814)	1/1/2016	8 Years	(418,414)	(66,451)
Actuarial Gain	(550,668)	1/1/2017	9 Years	(511,743)	(74,628)
Actuarial Gain	(2,786,442)	1/1/2018	10 Years	(2,786,442)	(377,624)
Assump. Change	2,233,873	1/1/2018	10 Years	<u>2,233,873</u>	<u>302,738</u>
Total				\$ 9,775,730	\$ 1,572,056

The Annual Required Contribution is calculated by adding the Normal Cost Component and the Total Amortization Charge. For 2018, the Annual Required Contribution is determined to be \$4,360,594.

Development of the Annual Required Contribution for 2018	
1. Normal Cost Component	\$ 2,788,538
2. Amortization Payment	<u>1,572,056</u>
3. Annual Required Contribution for 2018	\$ 4,360,594

Section 2.7
Notes to Sections 2.4 and 2.8

The following are notes to Sections 2.4 and 2.8

**Members' Annuity
Reserve Account**

The balance of \$46,129,130 in this account is the total of the contributions deducted from the salaries of the active and terminated vested members of the retirement system and the IRC 414(h)(2) pickup contributions together with the interest additions as of January 1, 2018. Since these accumulations represent the present value as of January 1, 2018 of future benefits, the reserve balance and liability are identical.

**County Annuity
Reserve Account**

The balance of \$82,811,775 in this account as of January 1, 2018 and the amounts expected to be credited in the future, plus investment earnings thereon, represent the reserves set aside for the payment of the county's share of the retirement allowances.

When a County Annuity is scheduled to commence for a particular member, sufficient monies are transferred from the County Annuity Reserve Account to the Retired Members' Reserve Account to provide for such County Annuities actually entered upon.

**Retired Members
Reserve Account**

This is the account out of which monthly retirement allowances including cost-of-living increases and death benefits are paid.

The assets allocated to this reserve account as of January 1, 2018 amount to \$138,764,637. The corresponding liability for those annuitants on the roll is identical.

Section 2.8
Determination of Reserve Balances

	Members Annuity Reserve Account	County Annuity Reserve Account	Retired Members Reserve Account	TOTAL
Balance 1/1/17	\$ 45,909,930	\$ 45,548,553	\$ 129,089,516	\$ 220,547,999
Member Contributions	3,466,296	6,422	0	3,472,718
County Appropriations	0	4,642,134	0	4,642,134
Net Investment Income	0	20,590,016	0	20,590,016
Miscellaneous Income	0	0	0	0
Active Death Refunds	0	0	0	0
Member Contributions Refunded	(202,395)	0	(1,124,312)	(1,326,707)
Pension Payments	0	0	(13,679,458)	(13,679,458)
Death Benefits	(24,863)	0	(828,483)	(853,346)
Retiree and Death Benefit Transfers	(4,891,394)	(10,271,801)	15,163,195	0
Cost-of-Living Funding Requirement	0	0	0	0
Administrative Expenses	0	(197,630)	0	(197,630)
Investment Expenses	0	(721,986)	0	(721,986)
Balance Before Interest	44,257,574	59,595,708	128,620,458	232,473,740
Interest Allocated in 2017	1,871,556	(11,535,680)	9,664,124	0
Balance Before Actuarial Adjustments	46,129,130	48,060,028	138,284,582	232,473,740
Actuarial Adjustments	0	(480,055)	480,055	0
Ending Balance 1/1/18	46,129,130	47,579,973	138,764,637	232,473,740
Unrealized Appreciation	0	35,231,802	0	35,231,802
Assets (Market Value) 1/1/18	\$ 46,129,130	\$ 82,811,775	\$ 138,764,637	\$ 267,705,542

**SECTION 3
PLAN DEMOGRAPHICS**

**Section 3.1
Membership History**

Below is a ten-year history of the Retirement System's membership.

ACTIVE MEMBERS AND VESTED TERMINATED MEMBERS				RETIRED MEMBERS AND BENEFICIARIES		
January 1	Male	Female	Total	Male	Female	Total
2018	570	792	1,362	267	488	755
2017	560	774	1,334	254	480	734
2016	537	762	1,299	254	452	706
2015	537	770	1,307	243	413	656
2014	521	761	1,282	224	401	625
2013	522	757	1,279	211	379	590
2012	533	763	1,296	197	363	560
2011	537	751	1,288	187	346	533
2010	531	771	1,302	171	323	494
2009	533	774	1,307	157	304	461

Section 3.2
Changes in Plan Participation from January 1, 2017 to January 1, 2018

Shown below are the changes that occurred in plan participants during the prior plan year.

	<u>Active</u>	<u>Terminated Vested</u>	<u>Terminated Nonvested</u>	<u>Retired</u>	<u>Benef.</u>	<u>Total</u>
Participants at Prior Valuation Date	1,186	148	71	715	19	2,139
New Participants	123	-	-	-	-	123
Rehires	5	(1)	(2)	-	-	2
Terminated Without Vesting	(49)	-	49	-	-	-
Terminated Vested	(22)	22	-	-	-	-
Became Inactive	-	-	-	-	-	-
Retired	(40)	(5)	-	45	-	-
Deaths	(1)	-	-	(24)	(1)	(26)
Payments Begin to Beneficiary	-	-	-	-	1	1
Payments Begin Due To Domestic Relations Order	-	-	-	-	-	-
Distributions	-	(3)	(39)	-	-	(42)
Data Correction	—	—(1)	—	—	—	—(1)
Participants at Current Valuation Date	1,202	160	79	736	19	2,196

SECTION 4 BASIS OF VALUATION

Section 4.1 Summary of Plan Provisions

Effective Date	The effective date of this plan is January 1, 1942.
Administration	Retirement Board as designated in Act 96 of 1971, the County Pension Law.
Eligibility for Plan Membership	An Employee shall be eligible to become a participant immediately upon becoming an Employee. Part-time Employees may not be covered depending on hours.
Employee Contributions	Each member of the retirement system must contribute 5% of his salary. Currently, Employee contributions will be credited with 4.0% interest. The amount of Employee contributions and rate of interest may be changed from time to time at the direction of the Retirement Board. Employee contributions have been picked-up or pre-tax since January 1, 1983. Voluntary contributions, up to another 10% of pay, are allowed.
Compensation	Total pay received as a county Employee excluding refunds for expenses, contingency and accountable expense allowances and excluding severance payments or payments for unused vacation or sick leave.
Final "Average" Salary	The average of the member's annual compensation received for the three years which produce the highest such average.
Credited Service	Credit is provided for each year, month and day of your service during membership. Non-intervening military service (up to 5 years) may be purchased.

Section 4.2 Benefit Formula and Retirement Dates

Normal Retirement

Eligibility: Retirement occurs at age 60 or at age 55 if the participant has completed 20 years of service.

Pension: Effective March 1, 2007 a monthly pension equal to (a) and (b), as follows:

(a) 1.000% of 1/12th of Final "Average" Salary multiplied by years of credited service from 1/1/50 to 1/1/72,

1.667% of 1/12th of Final "Average" Salary multiplied by years of credited service after 1/1/72,

-- PLUS --

(b) a monthly annuity based on the actuarial equivalent of the member's accumulated contributions with credited interest.

Early Retirement

Eligibility:

Voluntary: Upon completion of 20 years of service

Involuntary: Upon completion of 8 years of service.

Pension:

(a) a monthly pension equal to the actuarial equivalent of the benefits calculated based on the plan formula,

-- PLUS --

(b) a monthly annuity based on the actuarial equivalent of the member's accumulated contributions with credited interest.

Postponed Retirement

A member may work past normal retirement age and continue to accrue pension credits.

Vesting

One Hundred Percent (100%) upon completion of five years of credited service. A member who terminates employment after five years of credited service will receive a deferred annuity commencing at age 60 (or at age 55 if the member has at least 20 years of service at termination). The deferred benefit shall be calculated using the normal retirement pension formula but based on credited service, final average salary and accumulated contributions at termination.

If a member terminates employment prior to entitlement to Plan benefits, he will receive his accumulated contributions with interest.

Disability Retirement

Eligibility: Total and permanent disability prior to superannuation (Normal Retirement) age and after completion of five years of credited service.

Pension: A total monthly pension commencing on the last day of the month following disability retirement equal to 25% of the 1/12th of Final Average Salary at time of retirement. Such total monthly pension shall include the monthly disability that is actuarially equivalent to the member's accumulated contributions at retirement.

Death Benefits

(a) Pre-Retirement. If a member dies after having attained age 60 or having completed ten years of credited service, his beneficiary will receive a lump sum equal to the actuarially determined present value of the benefits calculated in based on the member's Final Average Salary and credited service at time of death plus the member's accumulated contributions with interest at time of death.

(b) Post-Retirement. Upon the death of a terminated or retired member, his beneficiary will receive survivor benefits, if any, in accordance with the form under which benefits were being paid to the member. In any event, the total amount of benefits paid to the deceased member and beneficiary must, at least, equal the member's accumulated contributions with interest.

Section 4.3 Benefit Options and Miscellaneous

Normal Form of Pension Benefits are payable in the form of a life annuity, that is for the member's lifetime only, except that benefits shall never be less than the Employee contribution account plus interest.

Optional Retirement A member may elect to receive the actuarial benefits equivalent of his retirement benefits as a full cash refund annuity or a reduced joint and survivor pension payable for the remainder of his life, with either 100% or 50% of the member's pension continuing after death to the designated beneficiary. A member may also elect to receive, in one payment, the full amount of his accumulated deductions and continue to receive the annuity provided by the county.

Cost-of-Living The cost-of-living increase shall be reviewed at least once in every three years by the Retirement Board. The Board has granted cost-of-living increases in the past as follows:

<u>PERCENTAGE CHANGE IN C.P.I.</u>	<u>EFFECTIVE DATE OF INCREASE</u>
50 %	1/1/98
50 %	1/1/99
50 %	1/1/00
50 %	1/1/01
50 %	1/1/02
50 %	1/1/03
50 %	1/1/04
50 %	1/1/05
50 %	1/1/06
50 %	1/1/07
50 %	1/1/08
100%	1/1/17

Section 4.4 Actuarial Basis

Method for Contributions

Contributions required to fund the plan benefits are determined according to the entry age normal cost method. Under this method, the normal cost for each active participant is the annual amount required from entry age to assumed retirement age to fund his actuarial present value of projected benefits. The actuarial accrued liability is the actuarial present value of projected benefits for all participants minus the actuarial present value of future normal costs. The excess of the actuarial accrued liability over the actuarial value of assets is the unfunded actuarial accrued liability.

Method for Accrued Benefits

The actuarial present value of accumulated plan benefits is a measure of plan benefits that have been earned to date. This is not only a valuation of retirement benefits, but also of deferred vested, death, and disability benefits. Earnings and service for benefit purposes expected to be earned after the valuation date are excluded from this value.

The actuarial assumptions used to determine this value are identical to those used for the funding purposes.

Method of Asset Valuation

The asset valuation method is the “smoothed market value (with phase-in)” method, using a smoothing period of 5 years, as described in paragraph 3.16 of IRS Revenue Procedure 2000-40. When fully phased in, the actuarial value of assets will equal the market value of assets with gains subtracted or losses added at the rate described below:

- a. $4/5$ of the prior year’s gain or loss
- b. $3/5$ of the second preceding year’s gain or loss
- c. $2/5$ of the third preceding year’s gain or loss
- d. $1/5$ of the fourth preceding year’s gain or loss

The gain or loss for a year is determined by calculating the difference between the expected value of assets for the year and the market value of assets at the valuation date. The expected value of assets for the year is market value of assets at the prior-year valuation date brought forward with interest at the valuation interest rate to the current valuation date, plus contributions minus benefit disbursements (benefits and expenses), all adjusted with interest at the valuation rate to the current valuation date. If the expected value is less than the market value, the difference is a gain. If the expected value is greater than the market value, there is a loss.

In the first year, the actuarial value of assets is equal to the market value of assets. In subsequent years, the smoothed value is calculated as described above, except that the only gains or losses recognized are those occurring in the year of the change and later. In general, the actuarial value of assets must fall between 80% and 120% of the market value of assets.

Data

The valuation results are based upon participant census and financial data provided by the plan sponsor. The data was tested for reasonableness and consistency with the prior valuation.

Actuarial Assumptions

The following actuarial assumptions were employed in the determination of the liabilities and annual contributions of the plan as developed in accordance with the funding methods described in this report.

1. The rates of mortality will be in accordance with the Retired Pensioners Mortality Table (RP-2000) projected to 2018.
2. Interest will be earned at the rate of 7.5% per year.
3. Salary projection assumed to equal the following:

<u>Year</u>	<u>Percent Increase</u>
2018	8.0%
2019 & after	3.0%

4. Withdrawal prior to retirement is assumed to occur in accordance with Crocker Sarason Straight Table T-7.
5. No disability prior to retirement is assumed.
6. Retirement is assumed to occur in accordance to the following rates:

<u>Age</u>	<u>Percent Retiring</u>
55	15%
56-59	3%
60-61	10%
62	25%
63-64	15%
65	100%

7. All plan participants have been included in the funding.

**SECTION 5
HISTORICAL INFORMATION**

REVENUES BY SOURCE					
Fiscal Year	Employee Contributions	Employer Contributions	Investment Income	Miscellaneous	Total
2008	2,807,483	3,682,478	(39,088,320)	85,409	(32,512,950)
2009	2,851,636	6,067,903	28,532,073	472	37,452,084
2010	2,842,151	4,318,312	20,937,248	0	28,097,711
2011	2,829,980	5,187,838	2,636,165	3,968	10,657,951
2012	2,790,857	5,897,793	20,537,768	3474	29,229,892
2013	2,844,809	6,812,406	37,898,762	0	47,555,977
2014	2,926,661	5,580,680	14,606,211	1,226	23,114,778
2015	3,057,133	4,341,227	1,465,544	0	8,863,904
2016	3,244,397	4,321,221	19,850,979	0	27,416,597
2017	3,472,718	4,642,134	33,594,599	0	41,709,451

PAYMENTS BY SOURCE				
Fiscal Year	Benefits	Refunds	Administrative/ Investment	Total
2008	6,602,403	369,818	1,076,697	8,048,918
2009	7,967,589	174,188	861,134	9,002,911
2010	8,700,743	419,399	994,820	10,114,962
2011	10,142,131	282,138	1,070,551	11,494,820
2012	9,866,539	150,971	1,044,986	11,062,496
2013	11,144,676	218,318	1,039,341	12,402,335
2014	12,641,440	387,728	1,071,229	14,100,397
2015	13,238,599	368,013	1,033,298	14,639,910
2016	13,937,217	438,507	944,265	15,319,989
2017	15,657,116	202,395	919,616	16,779,127

SECTION 6
AGE, SERVICE AND AVERAGE SALARY PROFILE OF THE ACTIVE MEMBERS
ON JANUARY 1, 2018

FULL YEARS OF SERVICE TO JANUARY 1, 2018									
Age	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	Average Salary
0-24	54	0	0	0	0	0	0	54	31,668
25-29	119	8	0	0	0	0	0	127	34,514
30-34	71	60	5	0	0	0	0	136	37,309
35-39	61	36	41	4	0	0	0	142	38,148
40-44	39	18	38	22	8	0	0	125	41,567
45-49	37	24	34	40	26	6	0	167	43,722
50-54	22	29	24	22	25	33	12	167	45,955
55-59	22	21	27	27	18	18	13	146	42,844
60-64	12	17	16	19	12	4	12	92	42,890
65 +	3	6	11	10	11	2	3	46	37,116
Total	440	219	196	144	100	63	40	1,202	40,487

AVERAGE AGE: 44.8

AVERAGE SERVICE: 10.9

SECTION 7
DEPOSIT ADMINISTRATOR INFORMATION

Boston Advisors, Inc.
Boyd Watterson Asset Management
Boyd Watterson GSA
Dimension Fund Advisors
Emerald Advisors, Inc.
Europacific Fund
Golden Capital Management
Miller Howard MLP
Multi-Employer Property Trust
PNC
Vanguard Funds
Wells Capital

Fiduciary Advisor
Morrison Fiduciary Advisors, Inc.