

CITY OF DUNEDIN
FIREFIGHTERS' RETIREMENT SYSTEM
ACTUARIAL VALUATION
AS OF OCTOBER 1, 2019
CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021
GASB 67/68 DISCLOSURE INFORMATION
AS OF SEPTEMBER 30, 2019



FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

March 4, 2020

Board of Trustees
City of Dunedin
Firefighters' Pension Board

Re: City of Dunedin Firefighters' Retirement System

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Dunedin Firefighters' Retirement System. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Dunedin, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.

The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

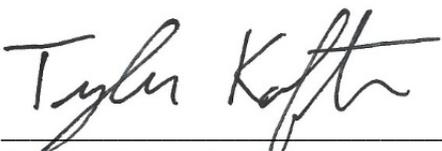
To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Dunedin, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Firefighters' Retirement System. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By: 
Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #17-6595

By: 
Tyler A. Koftan, EA, MAAA
Enrolled Actuary #17-8685

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Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Dunedin Firefighters' Retirement System, performed as of October 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021.

The contribution requirements, compared with those set forth in the February 3, 2020 actuarial impact statement, are as follows:

Valuation Date Applicable to Fiscal Year Ending	10/1/2019 <u>9/30/2021</u>	10/1/2018 <u>9/30/2020</u>
City And State Required Contribution	856,234	839,734
State Contribution (Est.) ¹	290,523	290,523
City Required Contribution ²	\$565,711	\$549,211

¹ The City may use up to \$283,050.40 plus 25% of any amounts received above \$283,050.40 in State Contributions for determining its minimum funding requirements, based on the Mutual Consent Agreement. The amount shown represents what this will be if future State Monies equal the amount received in calendar 2019.

² Please note that the City has access to a prepaid contribution of \$4,663.37 that is available to offset a portion of the above stated requirements for the fiscal year ending September 30, 2020.

As you can see, the Minimum Required Contribution shows an increase when compared to the results determined in the February 3, 2020 actuarial impact statement. The increase is attributable to net unfavorable actuarial experience as described below.

Plan experience was unfavorable overall on the basis of the plan's actuarial assumptions. The primary source of actuarial loss was an investment return of 5.47% (Actuarial Asset Basis) which fell short of the 7.50% assumption. This loss was offset in part by a gain associated with an average salary increase of 5.07% which fell short of the 5.44% assumption.

CHANGES SINCE PRIOR VALUATION

Plan Changes

There have been two plan changes since the prior valuation report.

The first change was to increase the Supplemental Benefit from \$13 per month per year of service to \$16 per month per year of service. The impact of this change is outlined in one of our February 3, 2020 Actuarial Impact Statements.

Additionally, Chapter 2019-21, Laws of Florida was signed into effect granting certain death and disability benefits to firefighters participating in an employer-sponsored retirement plan. Effective July 1, 2019, "the retirement plan must consider the firefighter totally and permanently disabled in the line of duty or to have died in the line of duty if he or she meets the retirement plan's definition of totally and permanently disabled due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer or has died due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer." For this purpose, "cancer" is as defined in Section 112.1816(1), Florida Statutes.

Please note that the benefit changes only relate to the pre-retirement death and disability benefits for the Pension Fund and do not provide for other additional benefits that are provided for in Florida Statutes Section 112.1816. The impact of this change is outlined in our other February 3, 2020 Actuarial Impact Statement.

Actuarial Assumption/Method Changes

There have been no changes of actuarial assumptions or methods since the prior valuation other than an increase in the expected percentage of pre-retirement deaths and disabilities that are in line-of-duty, as a result of the plan change described above.

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	<u>10/1/2019</u>	<u>10/1/2018</u>
A. Participant Data		
Actives	47	50
Service Retirees	35	33
DROP Retirees	5	3
Beneficiaries	6	6
Disability Retirees	5	6
Terminated Vested	<u>2</u>	<u>2</u>
 Total	 100	 100
 Total Annual Payroll	 \$3,405,643	 \$3,517,247
Payroll Under Assumed Ret. Age	3,405,643	3,517,247
 Annual Rate of Payments to:		
Service Retirees	999,772	870,747
DROP Retirees	259,299	187,057
Beneficiaries	139,890	137,764
Disability Retirees	126,774	153,927
Terminated Vested	47,814	47,814
 B. Assets		
Actuarial Value (AVA) ¹	30,484,186	29,326,719
Market Value (MVA) ¹	29,757,444	29,532,334
 C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	18,796,519	19,448,509
Disability Benefits	1,001,087	1,016,450
Death Benefits	284,619	289,964
Vested Benefits	151,529	148,888
Refund of Contributions	28,944	27,620
Service Retirees	10,409,966	8,968,473
DROP Retirees ¹	3,758,418	2,745,308
Beneficiaries	1,456,891	1,503,838
Disability Retirees	1,049,691	1,248,103
Terminated Vested	430,571	399,428
Share Plan Balances ¹	<u>168,698</u>	<u>149,591</u>
 Total	 37,536,933	 35,946,172

C. Liabilities - (Continued)	<u>10/1/2019</u>	<u>10/1/2018</u>
Present Value of Future Salaries	25,947,206	25,897,114
Present Value of Future Member Contributions	1,427,096	1,424,341
Normal Cost (Retirement)	716,227	735,231
Normal Cost (Disability)	85,164	90,852
Normal Cost (Death)	28,379	30,386
Normal Cost (Vesting)	9,812	9,886
Normal Cost (Refunds)	<u>5,136</u>	<u>6,579</u>
Total Normal Cost	844,718	872,934
Present Value of Future Normal Costs	6,314,433	6,305,031
Accrued Liability (Retirement)	13,396,132	14,070,923
Accrued Liability (Disability)	393,446	394,404
Accrued Liability (Death)	79,115	79,917
Accrued Liability (Vesting)	75,862	77,893
Accrued Liability (Refunds)	3,710	3,263
Accrued Liability (Inactives) ¹	17,105,537	14,865,150
Share Plan Balances ¹	<u>168,698</u>	<u>149,591</u>
Total Actuarial Accrued Liability (EAN AL)	31,222,500	29,641,141
Unfunded Actuarial Accrued Liability (UAAL)	738,314	314,422
Funded Ratio (AVA / EAN AL)	97.6%	98.9%

D. Actuarial Present Value of Accrued Benefits	<u>10/1/2019</u>	<u>10/1/2018</u>
Vested Accrued Benefits		
Inactives + Share Plan Balances ¹	17,274,235	15,014,741
Actives	8,464,089	9,086,904
Member Contributions	<u>2,012,728</u>	<u>2,114,703</u>
Total	27,751,052	26,216,348
Non-vested Accrued Benefits	<u>759,925</u>	<u>758,068</u>
Total Present Value		
Accrued Benefits (PVAB)	28,510,977	26,974,416
Funded Ratio (MVA / PVAB)	104.4%	109.5%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
Plan Experience	953,847	
Benefits Paid	(1,388,306)	
Interest	1,971,020	
Other	<u>0</u>	
Total	1,536,561	

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	<u>9/30/2021</u>	<u>9/30/2020</u>

E. Pension Cost

Normal Cost ²	\$925,210	\$954,937
Administrative Expenses ²	79,574	73,235
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 30 years (as of 10/1/2019) ²	56,609	23,183
Minimum Required Contribution	1,061,393	1,051,355
Expected Member Contributions ²	205,159	211,621
Expected City and State Contribution	856,234	839,734

F. Past Contributions

Plan Years Ending:	<u>9/30/2019</u>
City and State Requirement	746,882
Actual Contributions Made:	
City	456,359
State	<u>290,523</u>
Total	746,882

G. Net Actuarial (Gain)/Loss 366,468

¹ The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2019 and 9/30/2018.

² Contributions developed as of 10/1/2019 displayed above have been adjusted to account for assumed salary increase and interest components.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

<u>Year</u>	<u>Projected Unfunded Actuarial Accrued Liability</u>
2019	738,314
2020	738,127
2021	737,298
2028	708,319
2035	618,106
2042	422,832
2049	0

I. (i) 5 Year Comparison of Actual and Assumed Salary Increases

	<u>Actual</u>	<u>Assumed</u>
Year Ended 9/30/2019	5.07%	5.44%
Year Ended 9/30/2018	4.00%	5.23%
Year Ended 9/30/2017	4.09%	5.93%
Year Ended 9/30/2016	2.97%	6.31%
Year Ended 9/30/2015	3.01%	6.56%

(ii) 5 Year Comparison of Investment Return on Market Value and Actuarial Value

	<u>Market Value</u>	<u>Actuarial Value</u>	<u>Assumed</u>
Year Ended 9/30/2019	2.26%	5.47%	7.50%
Year Ended 9/30/2018	10.90%	6.29%	7.50%
Year Ended 9/30/2017	7.55%	6.33%	7.50%
Year Ended 9/30/2016	7.12%	7.85%	7.75%
Year Ended 9/30/2015	-1.47%	7.75%	7.75%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	\$3,405,643
	10/1/2009	3,043,312
(b) Total Increase		11.91%
(c) Number of Years		10.00
(d) Average Annual Rate		1.13%

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.



Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #17-6595

Please let us know when the report is approved by the Board and unless otherwise directed we will provide copies of the report to the following offices to comply with Chapter 112, Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

Mr. Steve Bardin
Municipal Police and Fire
Pension Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

(1) Unfunded Actuarial Accrued Liability as of October 1, 2018	\$314,422
(2) Sponsor Normal Cost developed as of October 1, 2018	679,485
(3) Expected administrative expenses for the year ended September 30, 2019	66,946
(4) Expected interest on (1), (2) and (3)	77,054
(5) Sponsor contributions to the System during the year ended September 30, 2019	746,882
(6) Expected interest on (5)	19,179
(7) Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	371,846
(8) Change to UAAL due to Assumption Change	0
(9) Change to UAAL due to Actuarial (Gain)/Loss	366,468
(10) Unfunded Actuarial Accrued Liability as of October 1, 2019	738,314

Type of <u>Base</u>	<u>Date</u> <u>Established</u>	<u>Years</u> <u>Remaining</u>	<u>10/1/2019</u> <u>Amount</u>	<u>Amortization</u> <u>Amount</u>
UAAL Fresh Start	10/1/2015	26	(977,492)	(72,794)
Benefit Change	10/1/2015	26	618,950	46,093
Assumption Changes	10/1/2016	27	240,059	17,609
Actuarial Gain	10/1/2016	27	(225,573)	(16,547)
Actuarial Loss	10/1/2017	28	380,000	27,487
Reconciliation	10/1/2018	29	(38,987)	(2,784)
Actuarial Loss	10/1/2018	29	174,574	12,465
Benefit Change	10/1/2018	29	217,321	15,517
Benefit Change	10/1/2018	29	(17,006)	(1,214)
Actuarial Loss	10/1/2019	30	366,468	25,852
			738,314	51,684

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1) Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	\$314,422
(2) Expected UAAL as of October 1, 2019	371,846
(3) Summary of Actuarial (Gain)/Loss, by component:	
Investment Return (Actuarial Asset Basis)	590,862
Salary Increases	(64,495)
Active Decrements	(25,756)
Inactive Mortality	(24,266)
Other	<u>(109,877)</u>
Increase in UAAL due to (Gain)/Loss	366,468
Assumption Changes	<u>0</u>
(4) Actual UAAL as of October 1, 2019	\$738,314

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

90% (previously 75%) of active deaths are assumed to be service-incurred.

Interest Rate

7.50% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Payroll Growth

1.13% (prior year 1.32%) for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.

Salary Increases

<u>Service</u>	<u>Salary Increase Assumption</u>
0	11.0%
1	10.0
2	9.0
3	8.0
4	7.0
5	6.5
6	6.5
7	6.5
8	6.5
9	6.5
10	6.0
11	5.5
12	5.0
13	4.5
14+	4.0

The assumed rates of salary increase resulted from an October 3, 2016 Experience Study.

Administrative Expenses

\$72,651 annually, based on the average of actual expenses incurred in the prior two fiscal years.

Amortization Method

New UAAL amortization amounts are amortized over 30 years.

Termination Rates

<u>Service</u>	<u>Probability of Termination</u>
0	5.0%
1	5.0
2	5.0
3	5.0
4	5.0
5	5.0
6	4.0
7	4.0
8	0.0
9	0.0
10+	0.5

The assumed rates of termination resulted from an October 3, 2016 Experience Study.

Disability Rates

<u>Age</u>	<u>% Becoming Disabled During the Year</u>
20	0.14%
25	0.15%
30	0.18%
35	0.23%
40	0.30%
45	0.51%
50	1.00%

90% (previously 75%) of disabilities are assumed to be service-incurred. The assumed rates of disablement were utilized and carried over from the prior actuary. We feel these rates are consistent with those utilized for plans containing other Florida municipal firefighters.

Retirement Rates

<u>Years After First Eligibility for Normal Retirement</u>	<u>Probability of Retirement</u>
0	20%
1	10
2	10
3	10
4	10
5+	100%

Additionally, the assumed rate of retirement is 2.0% for each year of eligibility for early retirement. The assumed rates of retirement resulted from an October 3, 2016 Experience Study.

Funding Method

Entry Age Normal Cost Method

Funding Projection

The following loads are applied for determination of the Sponsor dollar funding requirement for the following year:

- Interest – A half year, based on the current 7.50% assumption
- Salary – A full year, based on the current 5.57% assumption.

Actuarial Asset Method

All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

GLOSSARY

Total Annual Payroll is the projected annual rate of pay for the fiscal year following the valuation date of all covered Members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age.

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined using various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- **Investment Return:** When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.
- **Salary Increases:** When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.
- **Payroll Growth:** The plan's payroll growth assumption, if one is used, causes a predictable annual increase in the plan's amortization payment in order to produce an amortization payment that remains constant as a percentage of payroll if all assumptions are realized. If payroll does not increase according to the plan's payroll growth assumption, the plan's amortization payment can increase significantly as a percentage of payroll even if all assumptions other than the payroll growth assumption are realized.
- **Demographic Assumptions:** Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, closed plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature closed plans with a substantial inactive liability. Similarly, mature closed plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled “Plan Maturity Measures and Other Risk Metrics”. Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 106.5% on October 1, 2016 to 88.7% on October 1, 2019, indicating that the plan has been maturing during the period.
- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 54.8%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.
- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has decreased from 101.2% on October 1, 2016 to 97.6% on October 1, 2019.
- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from October 1, 2016 to October 1, 2019. The current Net Cash Flow Ratio of -1.5% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks in this section as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Support Ratio</u>				
Total Actives	49	47	50	47
Total Inactives ¹	46	49	50	53
Actives / Inactives ¹	106.5%	95.9%	100.0%	88.7%
 <u>Asset Volatility Ratio</u>				
Market Value of Assets (MVA)	25,285,901	26,900,084	29,532,334	29,757,444
Total Annual Payroll	3,381,361	3,276,350	3,517,247	3,405,643
MVA / Total Annual Payroll	747.8%	821.0%	839.6%	873.8%
 <u>Accrued Liability (AL) Ratio</u>				
Inactive Accrued Liability	12,941,126	14,584,527	14,865,150	17,105,537
Total Accrued Liability (EAN)	26,153,165	27,879,991	29,641,141	31,222,500
Inactive AL / Total AL	49.5%	52.3%	50.2%	54.8%
 <u>Funded Ratio</u>				
Actuarial Value of Assets (AVA)	26,458,831	27,850,752	29,326,719	30,484,186
Total Accrued Liability (EAN)	26,153,165	27,879,991	29,641,141	31,222,500
AVA / Total Accrued Liability (EAN)	101.2%	99.9%	98.9%	97.6%
 <u>Net Cash Flow Ratio</u>				
Net Cash Flow ²	(132,638)	(274,495)	(266,759)	(435,071)
Market Value of Assets (MVA)	25,285,901	26,900,084	29,532,334	29,757,444
Ratio	-0.5%	-1.0%	-0.9%	-1.5%

¹ Excludes terminated participants awaiting a refund of member contributions.

² Determined as total contributions minus benefit payments and administrative expenses.

PARTIAL HISTORY OF PREMIUM TAX REFUNDS

<u>Received During Fiscal Year</u>	<u>Amount</u>	<u>Increase from Previous Year</u>
1998	98,180.40	_____%
1999	96,222.13	-2.0%
2000	99,153.84	3.0%
2001	105,318.48	6.2%
2002	115,277.87	9.5%
2003	140,390.49	21.8%
2004	185,679.70	32.3%
2005	179,624.52	-3.3%
2006	203,474.98	13.3%
2007	291,578.32	43.3%
2008	232,457.90	-20.3%
2009	303,971.21	30.8%
2010	291,660.79	-4.0%
2011	289,418.10	-0.8%
2012	309,954.21	7.1%
2013	314,996.10	1.6%
2014	322,029.56	2.2%
2015	303,897.66	-5.6%
2016	286,293.33	-5.8%
2017	298,121.66	4.1%
2018	301,955.98	1.3%
2019	312,939.13	3.6%

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2019

<u>ASSETS</u>	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	572,242.41	572,242.41
Prepaid Expenses	229.39	229.39
Cash	24,709.37	24,709.37
 Total Cash and Equivalents	 597,181.17	 597,181.17
Receivables:		
Investment Income	39,611.91	39,611.91
 Total Receivable	 39,611.91	 39,611.91
Investments:		
U. S. Bonds and Bills	2,864,774.41	2,996,909.60
Federal Agency Guaranteed Securities	1,473,916.49	1,519,948.65
Corporate Bonds	1,684,440.92	1,783,380.35
Stocks	9,669,416.02	11,036,608.45
Mutual Funds:		
Equity	8,023,593.71	8,772,451.06
Pooled/Common/Commingled Funds:		
Real Estate	2,250,000.00	3,047,509.23
 Total Investments	 25,966,141.55	 29,156,807.34
 Total Assets	 26,602,934.63	 29,793,600.42
 <u>LIABILITIES</u>		
Payables:		
Investment Expenses	29,135.85	29,135.85
Administrative Expenses	2,357.40	2,357.40
Prepaid City Contribution	4,663.37	4,663.37
 Total Liabilities	 36,156.62	 36,156.62
 NET POSITION RESTRICTED FOR PENSIONS	 26,566,778.01	 29,757,443.80

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2019
Market Value Basis

ADDITIONS

Contributions:		
Member		186,986.08
Buy-Back		70,955.00
City		456,359.42
State		312,939.13
Total Contributions		1,027,239.63
Investment Income:		
Net Realized Gain (Loss)	465,600.45	
Unrealized Gain (Loss)	(397,857.95)	
Net Increase in Fair Value of Investments		67,742.50
Interest & Dividends		708,801.23
Less Investment Expense ¹		(116,363.10)
Net Investment Income		660,180.63
Total Additions		1,687,420.26
<u>DEDUCTIONS</u>		
Distributions to Members:		
Benefit Payments		1,227,375.35
Lump Sum DROP Distributions		150,596.56
Lump Sum Share Distributions		5,902.43
Refunds of Member Contributions		4,431.97
Total Distributions		1,388,306.31
Administrative Expense		74,004.59
Total Deductions		1,462,310.90
Net Increase in Net Position		225,109.36
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		29,532,334.44
End of the Year		29,757,443.80

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
September 30, 2019

Actuarial Assets for funding purposes are developed by recognizing the total actuarial investment gain or loss for each Plan Year over a five year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Plan Year Ending	Gain/(Loss)	<u>Gain/Loss Not Yet Recognized</u>				
		Amounts Not Yet Recognized by Valuation Year				
		2019	2020	2021	2022	2023
09/30/2015	(2,228,150)	0	0	0	0	0
09/30/2016	(158,623)	(31,723)	0	0	0	0
09/30/2017	2,529	1,011	505	0	0	0
09/30/2018	891,470	534,882	356,588	178,294	0	0
09/30/2019	(1,538,640)	(1,230,912)	(923,184)	(615,456)	(307,728)	0
Total		(726,742)	(566,091)	(437,162)	(307,728)	0

Development of Investment Gain/Loss

Market Value of Assets, including Prepaid Contributions, 09/30/2018	29,533,293
Contributions Less Benefit Payments & Admin Expenses	(431,367)
Expected Investment Earnings*	2,198,821
Actual Net Investment Earnings	660,181
2019 Actuarial Investment Gain/(Loss)	<u>(1,538,640)</u>

*Expected Investment Earnings = 0.075 * [29,533,293 + 0.5 * (431,367)]

Development of Actuarial Value of Assets

(1) Market Value of Assets, 09/30/2019	29,757,444
(2) Gain/(Loss) Not Yet Recognized	(726,742)
(3) Actuarial Value of Assets, 09/30/2019, (1) - (2)	<u>30,484,186</u>

(A) 09/30/2018 Actuarial Assets, including Prepaid Contributions: 29,327,678

(I) Net Investment Income:

1. Interest and Dividends	708,801
2. Realized Gain (Loss)	465,600
3. Unrealized Gain (Loss)	(397,858)
4. Change in Actuarial Value	932,357
5. Investment Expenses	(116,363)
Total	<u>1,592,538</u>

(B) 09/30/2019 Actuarial Assets, including Prepaid Contributions: 30,488,849

Actuarial Assets Rate of Return = $2I/(A+B-I)$: 5.47%

Market Value of Assets Rate of Return: 2.26%

Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis) (590,862)

10/01/2019 Limited Actuarial Assets (not including Prepaid): 30,484,186

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
 SEPTEMBER 30, 2019
 Actuarial Asset Basis

REVENUES

Contributions:		
Member	186,986.08	
Buy-Back	70,955.00	
City	456,359.42	
State	312,939.13	
 Total Contributions		 1,027,239.63
Earnings from Investments:		
Interest & Dividends	708,801.23	
Net Realized Gain (Loss)	465,600.45	
Unrealized Gain (Loss)	(397,857.95)	
Change in Actuarial Value	932,357.00	
 Total Earnings and Investment Gains		 1,708,900.73

EXPENDITURES

Distributions to Members:		
Benefit Payments	1,227,375.35	
Lump Sum DROP Distributions	150,596.56	
Lump Sum Share Distributions	5,902.43	
Refunds of Member Contributions	4,431.97	
 Total Distributions		 1,388,306.31
Expenses:		
Investment related ¹	116,363.10	
Administrative	74,004.59	
 Total Expenses		 190,367.69
 Change in Net Assets for the Year		 1,157,466.36
 Net Assets Beginning of the Year		 29,326,719.44
 Net Assets End of the Year ²		 30,484,185.80

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

²Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2018 to September 30, 2019

Beginning of the Year Balance	458,968.26
Plus Additions	254,628.71
Investment Return Earned	20,881.22
Less Distributions	(150,596.56)
End of the Year Balance	583,881.63

SUPPLEMENTAL CHAPTER 175 SHARE PLAN ACTIVITY
October 1, 2018 through September 30, 2019

9/30/2018 Balance	149,591.46
Prior Year Adjustment	(581.80)
Plus Additions	22,416.55
Investment Return Earned	3,174.03
Administrative Fees	0.00
Less Distributions	(5,902.43)
9/30/2019 Balance	168,697.81

RECONCILIATION OF CITY'S SHORTFALL/(PREPAID) CONTRIBUTION
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1) Required City and State Contributions	\$746,882.00
(2) Less Allowable State Contribution	<u>(290,522.58)</u>
(3) Required City Contribution for Fiscal 2019	456,359.42
(4) Less 2018 Prepaid Contribution	(958.79)
(5) Less Actual City Contributions	<u>(460,064.00)</u>
(6) Equals City's Shortfall/(Prepaid) Contribution as of September 30, 2019	(\$4,663.37)

STATISTICAL DATA

	<u>10/1/2016</u>	<u>10/1/2017</u>	<u>10/1/2018</u>	<u>10/1/2019</u>
<u>Actives</u>				
Number	49	47	50	47
Average Current Age	41.5	42.2	41.9	41.5
Average Age at Employment	29.1	29.6	29.4	29.0
Average Past Service	12.4	12.6	12.5	12.5
Average Annual Salary	\$69,007	\$69,710	\$70,345	\$72,460
<u>Service Retirees</u>				
Number	31	32	33	35
Average Current Age	67.2	67.8	68.3	68.5
Average Annual Benefit	\$25,561	\$25,810	\$26,386	\$28,565
<u>DROP Retirees</u>				
Number	3	4	3	5
Average Current Age	56.3	53.8	55.7	55.5
Average Annual Benefit	\$47,798	\$57,297	\$62,352	\$51,860
<u>Beneficiaries</u>				
Number	6	6	6	6
Average Current Age	60.5	61.5	62.5	65.0
Average Annual Benefit	\$22,961	\$22,961	\$22,961	\$23,315
<u>Disability Retirees</u>				
Number	6	6	6	5
Average Current Age	67.0	68.0	69.0	67.2
Average Annual Benefit	\$25,655	\$25,655	\$25,655	\$25,355
<u>Terminated Vested</u>				
Number	0	2	2	2
Average Current Age ¹	N/A	32.8	37.5	38.5
Average Annual Benefit ²	N/A	\$19,051	\$23,907	\$23,907

¹ Effective 10/1/2018, the Average Current Age excludes participants awaiting a refund of contributions.

² The Average Annual Benefit excludes participants awaiting a refund of contributions.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19												0
20 - 24	1											1
25 - 29	2	3	1									6
30 - 34			1			2	3					6
35 - 39							2	2				4
40 - 44		1					3	4	1			9
45 - 49						3	2	6	3			14
50 - 54								2	1			3
55 - 59							2	1	1			4
60 - 64												0
65+												0
Total	3	4	2	0	0	5	12	15	6	0	0	47

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2018	50
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	0
iii. Refund of member contributions or full lump sum distribution received	(2)
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	<u>(4)</u>
g. Continuing participants	44
h. New entrants	<u>3</u>
i. Total active life participants in valuation	47

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving <u>Benefits</u>	DROP <u>Benefits</u>	Receiving Death <u>Benefits</u>	Receiving Disability <u>Benefits</u>	Vested (Deferred Annuity)	Vested (Due Refund)	<u>Total</u>
a. Number prior valuation	33	3	6	6	2	0	50
Retired	2	(2)	0	0	0	0	0
DROP	0	4	0	0	0	0	4
Vested (Deferred Annuity)	0	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	0	0	0
Hired/Terminated in Same Year	0	0	0	0	0	0	0
Death, With Survivor	0	0	1	(1)	0	0	0
Death, No Survivor	0	0	(1)	0	0	0	(1)
Disabled	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0
b. Number current valuation	35	5	6	5	2	0	53

SUMMARY OF CURRENT PLAN
(Through Ordinance 19-15)

<u>Eligibility</u>	All actively employed full-time firefighters participate in the plan as a condition of employment.
<u>Credited Service</u>	Service is measured as the total number of years and fractional parts of years of service as a firefighter with member contributions. No service is credited for any periods of employment for which the member received a refund of their contributions.
<u>Salary</u>	The fixed monthly compensation for services rendered to the City as a firefighter including holiday pay, plus all tax deferred, tax sheltered and tax exempt items of income otherwise includable as fixed monthly compensation.
<u>Final Average Compensation</u>	One twelfth of the average Compensation for the highest 3 years out of the last 10 years of Credited Service prior to termination or retirement.
<u>Member Contributions</u>	5.5% of Compensation.
<u>Employer Contributions</u>	Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.
<u>Normal Retirement</u>	
Eligibility	A member may retire on the first day of the month coincident with or next following the earlier of: (1) age 52 and 25 years of Credited Service, or (2) age 55 and 10 years of Credited Service, or (3) 20 years of Credited Service regardless of age.
Benefit	3% of AFC multiplied by Credited Service up to 25 years plus 2% of AFC multiplied by Credited Service in excess of 37.5 years. Total benefit is limited to 100% of AFC. In addition, a supplemental benefit of \$16 per year of Credited Service up to a maximum of \$400 is payable monthly to members who meet the requirements for Normal Retirement and retire on or after October 1, 2018 or enter the DROP on or after October 1, 2014 and are still employed on October 1, 2018.
Form of Benefit	Ten Year Certain and Life thereafter; other options available.

Early Retirement

Date	A member may retire on the first day of the month coincident with or next following age 45 and 10 years of Credited Service.
Benefit	The Normal Retirement Benefit is actuarially reduced by 3.00% for each year to age 50 and 3.33% for each year from age 50 to age 45 by which the commencement of benefits precedes the member's Normal Retirement date had the member continued employment as a firefighter. For this purpose, the Normal Retirement date upon completion of 20 years of Credited Service is disregarded.
Form of Benefit	Ten Year Certain and Life thereafter; other options available.

Delayed Retirement

Same as Normal Retirement taking into account compensation earned and service credited until the date of actual retirement.

Vested Termination

Eligibility	A member has earned a non-forfeitable right to Plan benefits after the completion of 10 years of Credited Service.
Benefit	<p>The benefit is the member's accrued Normal Retirement Benefit as of the date of termination. The benefit is payable at the member's Normal Retirement age determined as if the member continued employment as a firefighter. Alternatively, members can elect a reduced Early Retirement Benefit anytime after age 45.</p> <p>Members with less than 10 years of Credited Service will receive a refund of their own accumulated contributions.</p>
Form of Benefit	Ten Year Certain and Life thereafter; other options available.

Service Connected Disability

Eligibility	Any member who becomes totally and permanently disabled and unable to render useful and efficient service as a firefighter as a result from an act occurring in the performance of service for the City is immediately eligible for a disability benefit.
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Benefit	The greater of: (1) The accrued Normal Retirement Benefit taking into account compensation earned and service credited until the date of disability, or (2) 60% of average salary over the 5 highest years of Credited Service.
Duration	Payable until death or recovery from disability with 120 payments guaranteed.

Non-Service Connected Disability

Eligibility	Any member who has 10 years of Credited Service and becomes totally and permanently disabled and unable to render useful and efficient service as a firefighter is immediately eligible for a disability benefit.
Benefit	The greater of: (1) The accrued Normal Retirement Benefit taking into account compensation earned and service credited until the date of disability, or (2) 30% of average salary over the 5 highest years of Credited Service.
Duration	Payable until death or recovery from disability with 120 payments guaranteed.

Death Benefits

In the Line of Duty

Eligibility	Any member whose death is determined to be the result of a service incurred injury is eligible for survivor benefits regardless of Credited Service.
Benefit	50% of base rate of pay in effect on date of death is payable to the spouse. If there is no spouse, or upon death or remarriage of the spouse, 15% of the member's salary is payable to each unmarried child under age 18 (age 22 if a full-time student); 50% total maximum for all such children.
Duration	Spouse benefits payable until death or remarriage. Children's benefits are payable until death, marriage or the attainment of age 18 (age 22 if a full-time student).

Other Pre-Retirement

Eligibility	Any member who dies, and whose death is not attributable to active duty or service, while employed as a firefighter by the City is eligible for survivor benefits regardless of Credited Service.
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Benefit 25% of base rate of pay in effect on date of death is payable to the spouse. If there is no spouse, or upon death or remarriage of the spouse, 7.5% of the member's salary is payable to each unmarried child under age 18 (age 22 if a full-time student)

Duration Spouse benefits payable until death or remarriage. Children's benefits are payable until death, marriage or the attainment of age 18 (age 22 if a full-time student).

Post-Retirement Benefit determined by the form of benefit elected upon retirement.

Deferred Retirement Option Plan

Eligibility A member may retire on the first day of the month coincident with or next following the earlier of: (1) age 52 and 25 years of Credited Service, or (2) age 55 and 10 years of Credited Service, or (3) 20 years of Credited Service regardless of age. Members who meet eligibility must submit a written election to participate in the DROP.

Benefit The member's Credited Service and FAC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FAC.

In addition, a supplemental benefit of \$13 per year of Credited Service up to a maximum of \$325 is payable monthly to members who meet the requirements for Normal Retirement and retire. DROP participants do not receive the supplement until actual termination of employment.

Maximum DROP Period The earlier of 5 years of participation in the DROP or when the member has completed 30 years of Credited Service.

Interest Credited The member's average daily balance of the DROP account is debited or credited with interest on a quarterly basis at a rate equal to the Trust Fund's net investment return for the quarter.

Form of Benefit: Lump Sum, or the member may elect that the DROP distribution be used to purchase an annuity.

Optional Forms

In lieu of electing the Normal Form of benefit, the optional forms of benefits available to all retirees are a Single Life Annuity of the 50%, 66 2/3%, 75% and 100% Joint and Survivor options. A Social Security option is also available for members retiring prior to the time they are eligible for Social Security retirement benefits.

Share Plan

75% of the Excess State Monies received each fiscal year (amounts above \$283,050.40) are allocated equally among Eligible Members.

Board of Trustees

Two Council appointees, two Members of the Plan elected by the membership, and a fifth Member elected by other 4 and appointed by Council as a ministerial duty.

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2019

<u>ASSETS</u>	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	572,243
Prepaid Expenses	229
Cash	24,709
Total Cash and Equivalents	597,181
Receivables:	
Investment Income	39,612
Total Receivable	39,612
Investments:	
U. S. Bonds and Bills	2,996,910
Federal Agency Guaranteed Securities	1,519,949
Corporate Bonds	1,783,380
Stocks	11,036,608
Mutual Funds:	
Equity	8,772,451
Real Estate	3,047,509
Total Investments	29,156,807
Total Assets	29,793,600
<u>LIABILITIES</u>	
Payables:	
Investment Expenses	29,136
Administrative Expenses	2,357
Total Liabilities	31,493
NET POSITION RESTRICTED FOR PENSIONS	29,762,107

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2019
Market Value Basis

ADDITIONS

Contributions:

Member	186,986	
Buy-Back	70,955	
City	460,063	
State	312,939	
 Total Contributions		 1,030,943
 Investment Income:		
Net Increase in Fair Value of Investments	67,744	
Interest & Dividends	708,801	
Less Investment Expense ¹	(116,363)	
 Net Investment Income		 660,182
 Total Additions		 1,691,125

DEDUCTIONS

Distributions to Members:

Benefit Payments	1,227,375	
Lump Sum DROP Distributions	150,597	
Lump Sum Share Distributions	5,902	
Refunds of Member Contributions	4,432	
 Total Distributions		 1,388,306
 Administrative Expense		 74,005
 Total Deductions		 1,462,311
 Net Increase in Net Position		 228,814
 NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		29,533,293
 End of the Year		 29,762,107

¹Investment related expenses include investment advisory, custodial and performance monitoring fees.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2019)

Plan Description

Plan Administration

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Two Council appointees, two Members of the Plan elected by the membership, and a fifth Member elected by other 4 and appointed by Council as a ministerial duty.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	48
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	50
	100

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Dunedin Firefighters' Retirement System prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

Contributions

Member Contributions: 5.5% of Compensation.

Employer Contributions: Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

Investments

Investment Policy:

The following was the Board's adopted asset allocation policy as of September 30, 2019:

Asset Class	Target Allocation
Domestic Equity	52.5%
International Equity	12.5%
Domestic Fixed Income	25.0%
Real Estate	10.0%
Total	100.0%

Concentrations:

The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

Rate of Return:

For the year ended September 30, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 2.26 percent.

The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Deferred Retirement Option Program

Eligibility: A member may retire on the first day of the month coincident with or next following the earlier of: (1) age 52 and 25 years of Credited Service, or (2) age 55 and 10 years of Credited Service, or (3) 20 years of Credited Service regardless of age. Members who meet eligibility must submit a written election to participate in the DROP.

Benefit: The member's Credited Service and FAC are frozen upon entry into the DROP. The monthly retirement benefit as described under Normal Retirement is calculated based upon the frozen Credited Service and FAC.

In addition, a supplemental benefit of \$13 per year of Credited Service up to a maximum of \$325 is payable monthly to members who meet the requirements for Normal Retirement and retire. DROP participants do not receive the supplement until actual termination of employment.

Maximum DROP Period: The earlier of 5 years of participation in the DROP or when the member has completed 30 years of Credited Service.

Interest Credited: The member's average daily balance of the DROP account is debited or credited with interest on a quarterly basis at a rate equal to the Trust Fund's net investment return for the quarter.

The DROP balance as September 30, 2019 is \$583,882.

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2019 were as follows:

Total Pension Liability	\$ 31,231,917
Plan Fiduciary Net Position	\$ (29,762,107)
Sponsor's Net Pension Liability	<u>\$ 1,469,810</u>
Plan Fiduciary Net Position as a percentage of Total Pension Liability	95.29%

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.50%
Investment Rate of Return	7.50%

Mortality Rate Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

Mortality Rate Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Mortality Rate Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated October 3, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

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.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	7.50%
International Equity	8.50%
Domestic Fixed Income	2.50%
Real Estate	4.50%

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Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.50 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. 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. 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.

	1% Decrease 6.50%	Current Discount Rate 7.50%	1% Increase 8.50%
Sponsor's Net Pension Liability	\$ 4,951,831	\$ 1,469,810	\$ (1,453,379)

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	896,035	818,157	856,749
Interest	2,232,784	2,087,665	1,969,652
Change in Excess State Money	-	(32,072)	-
Share Plan Allocation	22,417	14,179	11,304
Changes of benefit terms	170,785	-	-
Differences between Expected and Actual Experience	(170,541)	28,595	(89,355)
Changes of assumptions	-	-	-
Contributions - Buy Back	70,955	-	1,118
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Net Change in Total Pension Liability	1,834,129	1,780,162	1,611,073
Total Pension Liability - Beginning	29,397,788	27,617,626	26,006,553
Total Pension Liability - Ending (a)	<u>\$ 31,231,917</u>	<u>\$ 29,397,788</u>	<u>\$ 27,617,626</u>
Plan Fiduciary Net Position			
Contributions - Employer	460,063	458,623	446,583
Contributions - State	312,939	301,956	298,122
Contributions - Employee	186,986	181,279	180,673
Contributions - Buy Back	70,955	-	1,118
Net Investment Income	660,182	2,899,009	1,888,678
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Administrative Expense	(74,005)	(71,296)	(62,596)
Net Change in Plan Fiduciary Net Position	228,814	2,633,209	1,614,183
Plan Fiduciary Net Position - Beginning	29,533,293	26,900,084	25,285,901
Plan Fiduciary Net Position - Ending (b)	<u>\$ 29,762,107</u>	<u>\$ 29,533,293</u>	<u>\$ 26,900,084</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,469,810</u>	<u>\$ (135,505)</u>	<u>\$ 717,542</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.29%	100.46%	97.40%
Covered Payroll ¹	\$ 3,399,726	\$ 3,295,962	\$ 3,284,952
Net Pension Liability as a percentage of Covered Payroll	43.23%	-4.11%	21.84%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	818,555	795,653
Interest	1,946,348	1,800,848
Change in Excess State Money	-	5,213
Share Plan Allocation	2,432	15,635
Changes of benefit terms	495,699	-
Differences between Expected and Actual Experience	(836,436)	(214,235)
Changes of assumptions	201,521	-
Contributions - Buy Back	73,537	32,877
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Net Change in Total Pension Liability	1,649,107	1,344,606
Total Pension Liability - Beginning	24,357,446	23,012,840
Total Pension Liability - Ending (a)	<u>\$ 26,006,553</u>	<u>\$ 24,357,446</u>
Plan Fiduciary Net Position		
Contributions - Employer	442,686	501,383
Contributions - State	286,293	303,898
Contributions - Employee	186,769	178,122
Contributions - Buy Back	73,537	32,877
Net Investment Income	1,676,263	(353,976)
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Administrative Expense	(69,374)	(76,367)
Net Change in Plan Fiduciary Net Position	1,543,625	(505,448)
Plan Fiduciary Net Position - Beginning	23,742,276	24,247,724
Plan Fiduciary Net Position - Ending (b)	<u>\$ 25,285,901</u>	<u>\$ 23,742,276</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 720,652</u>	<u>\$ 615,170</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	97.23%	97.47%
Covered Payroll ¹	\$ 3,395,812	\$ 3,288,615
Net Pension Liability as a percentage of Covered Payroll	21.22%	18.71%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

	<u>09/30/2014</u>	<u>09/30/2013</u>
Total Pension Liability		
Service Cost	793,320	736,260
Interest	1,685,549	1,586,064
Change in Excess State Money	9,746	-
Share Plan Allocation	29,234	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	64,645	-
Benefit Payments, including Refunds of Employee Contributions	<u>(1,083,306)</u>	<u>(1,108,108)</u>
Net Change in Total Pension Liability	1,499,188	1,214,216
Total Pension Liability - Beginning	<u>21,513,652</u>	<u>20,299,436</u>
Total Pension Liability - Ending (a)	<u>\$ 23,012,840</u>	<u>\$ 21,513,652</u>
Plan Fiduciary Net Position		
Contributions - Employer	510,314	549,848
Contributions - State	322,030	314,996
Contributions - Employee	176,623	172,605
Contributions - Buy Back	64,645	-
Net Investment Income	1,904,122	2,667,160
Benefit Payments, including Refunds of Employee Contributions	<u>(1,083,306)</u>	<u>(1,108,108)</u>
Administrative Expense	<u>(44,389)</u>	<u>(48,564)</u>
Net Change in Plan Fiduciary Net Position	1,850,039	2,547,937
Plan Fiduciary Net Position - Beginning	<u>22,397,685</u>	<u>19,849,748</u>
Plan Fiduciary Net Position - Ending (b)	<u>\$ 24,247,724</u>	<u>\$ 22,397,685</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,234,884)</u>	<u>\$ (884,033)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	105.37%	104.11%
Covered Payroll ¹	\$ 3,211,327	\$ 3,138,275
Net Pension Liability as a percentage of Covered Payroll	-38.45%	-28.17%

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

¹ The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Changes of benefit terms:

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

Additionally, the Supplemental Benefit have been increased from \$13 per month per year of service to \$16 per month per year of service.

For measurement date 09/30/2016, Ordinance 16-22 was adopted. The change was an increase in the Supplemental benefit from \$3 to \$13 per month per year of service up to a maximum of \$325 for Members who retire on or after October 1, 2016 or enter the DROP on or after October 1, 2014.

Changes of assumptions:

For measurement date 09/30/2016, as a result of an October 3, 2016 Experience Study and as a result of recent State legislation, the Board has made the following assumption changes:

- The assumed rates of mortality were changed to match those used by the FRS for special risk employees in their July 1, 2015 valuation report.
- The expected withdrawal rates were reduced, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The investment return assumption was reduced from 7.75% to 7.50% per year, net of investment related expenses.
- The assumed rates of individual salary increase were reduced as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The assumed rates of retirement were reduced at each age, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.

In addition, the inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

For measurement date 09/30/2015, the inflation assumption was lowered from 3.50% to 3.00%

SCHEDULE OF CONTRIBUTIONS
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll ¹	Total Contributions as a percentage of Covered Payroll
09/30/2019	\$ 746,882	\$ 750,586	\$ (3,704)	\$ 3,399,726	22.08%
09/30/2018	\$ 777,513	\$ 778,472	\$ (959)	\$ 3,295,962	23.62%
09/30/2017	\$ 733,401	\$ 733,401	\$ -	\$ 3,284,952	22.33%
09/30/2016	\$ 725,736	\$ 725,736	\$ -	\$ 3,395,812	21.37%
09/30/2015	\$ 784,433	\$ 784,433	\$ -	\$ 3,288,615	23.85%
09/30/2014	\$ 793,364	\$ 793,364	\$ -	\$ 3,211,327	24.71%
09/30/2013	\$ 832,898	\$ 832,898	\$ -	\$ 3,138,275	26.54%

¹ The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates:

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The assumed rates of mortality were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Termination Rates:

Service	Probability of Termination
0	5.0%
1	5.0%
2	5.0%
3	5.0%
4	5.0%
5	5.0%
6	4.0%
7	4.0%
8	0.0%
9	0.0%
10+	0.5%

The assumed rates of termination resulted from an October 3, 2016 Experience Study.

Disability Rates:

See sample rates below. 75% of disabilities are assumed to be service-incurred. The assumed rates of disablement were utilized and carried over from the prior actuary. We feel these rates are consistent with those utilized for plans containing other Florida municipal firefighters.

Retirement Rates:

Years After First Eligibility for Normal Retirement	Probability of Retirement
0	20%
1	10%
2	10%
3	10%
4	10%
5+	100%

Additionally, the assumed rate of retirement is 2.0% for each year of eligibility for early retirement. The assumed rates of retirement resulted from an October 3, 2016 Experience Study.

Interest Rate:

7.50% per year, compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long term return by asset class.

Salary Increases:

Service	Salary Increase Assumption
0	11.0%
1	10.0%
2	9.0%
3	8.0%
4	7.0%
5	6.5%
6	6.5%
7	6.5%
8	6.5%
9	6.5%
10	6.0%
11	5.5%
12	5.0%
13	4.5%
14+	4.0%

The assumed rates of salary increase resulted from an October 3, 2016 Experience Study.

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Payroll Growth: 1.32% per year for amortization of the Unfunded Actuarial Accrued Liability. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Funding Method: Entry Age Normal Cost Method.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 30 Years.

Funding Projection: The following loads are applied for determination of the Sponsor dollar funding requirement for the following year:
 Interest – A half year, based on the current 7.50% assumption.
 Salary – A full year, based on the current 5.29% assumption.

Actuarial Asset Method: All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

Disability Rates:

Age	% Becoming Disabled During the Year
20	0.14%
25	0.15%
30	0.18%
35	0.23%
40	0.30%
45	0.51%
50	1.00%

SCHEDULE OF INVESTMENT RETURNS
Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	2.26%
09/30/2018	10.90%
09/30/2017	7.55%
09/30/2016	7.12%
09/30/2015	-1.47%
09/30/2014	8.56%
09/30/2013	13.40%

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2020)

General Information about the Pension Plan

Plan Description

The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of: Two Council appointees, two Members of the Plan elected by the membership, and a fifth Member elected by other 4 and appointed by Council as a ministerial duty.

All actively employed full-time firefighters participate in the Plan as a condition of employment.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	48
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	2
Active Plan Members	50
	100
	100

Benefits Provided

The Plan provides retirement, termination, disability and death benefits.

A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Dunedin Firefighters' Retirement System prepared by Foster & Foster Actuaries and Consultants.

Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

Contributions

Member Contributions: 5.5% of Compensation.

Employer Contributions: Chapter 175 Premium Tax Refunds and any additional amount determined by the actuary needed to fund the plan properly according to State laws.

Net Pension Liability

The measurement date is September 30, 2019.

The measurement period for the pension expense was October 1, 2018 to September 30, 2019.

The reporting period is October 1, 2019 through September 30, 2020.

The Sponsor's Net Pension Liability was measured as of September 30, 2019.

The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

Actuarial Assumptions:

The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.50%
Salary Increases	Service based
Discount Rate	7.50%
Investment Rate of Return	7.50%

Mortality Rate Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.

Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

Mortality Rate Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.

Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Mortality Rate Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.

Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated October 3, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.

For 2019 the inflation rate assumption of the investment advisor was 2.50%.

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.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	52.5%	7.50%
International Equity	12.5%	8.50%
Domestic Fixed Income	25.0%	2.50%
Real Estate	10.0%	4.50%
Total	100.0%	

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.50 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. 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. 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.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability	Plan Fiduciary Net Position	Net Pension Liability
	(a)	(b)	(a)-(b)
Reporting Period Ending September 30, 2019	\$ 29,397,788	\$ 29,533,293	\$ (135,505)
Changes for a Year:			
Service Cost	896,035	-	896,035
Interest	2,232,784	-	2,232,784
Change in Excess State Money	-	-	-
Share Plan Allocation	22,417	-	22,417
Differences between Expected and Actual Experience	(170,541)	-	(170,541)
Changes of assumptions	-	-	-
Changes of benefit terms	170,785	-	170,785
Contributions - Employer	-	460,063	(460,063)
Contributions - State	-	312,939	(312,939)
Contributions - Employee	-	186,986	(186,986)
Contributions - Buy Back	70,955	70,955	-
Net Investment Income	-	660,182	(660,182)
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,388,306)	-
Administrative Expense	-	(74,005)	74,005
Net Changes	1,834,129	228,814	1,605,315
Reporting Period Ending September 30, 2020	\$ 31,231,917	\$ 29,762,107	\$ 1,469,810

Sensitivity of the Net Pension Liability to changes in the Discount Rate.

	Current Discount		
	1% Decrease	Rate	1% Increase
	6.50%	7.50%	8.50%
Sponsor's Net Pension Liability	\$ 4,951,831	\$ 1,469,810	\$ (1,453,379)

Pension Plan Fiduciary Net Position.

Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

**FINAL PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED
INFLOWS OF RESOURCES RELATED TO PENSIONS
FISCAL YEAR SEPTEMBER 30, 2019**

For the year ended September 30, 2019, the Sponsor has recognized a Pension Expense of \$852,732.

On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	22,876	431,034
Changes of assumptions	80,608	-
Net difference between Projected and Actual Earnings on Pension Plan investments	-	205,783
Employer and State Contributions subsequent to the measurement date	773,002	-
Total	\$ 876,486	\$ 636,817

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State Contributions subsequent to the measurement date has been recognized as a reduction of the Net Pension Liability in the year ended September 30, 2019.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:		
2020	\$	116,404
2021	\$	(286,210)
2022	\$	(190,952)
2023	\$	(172,575)
2024	\$	-
Thereafter	\$	-

**PRELIMINARY PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND
DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS
FISCAL YEAR SEPTEMBER 30, 2020**

For the year ended September 30, 2020, the Sponsor will recognize a Pension Expense of \$1,400,241.

On September 30, 2020, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	17,157	339,461
Changes of assumptions	40,304	-
Net difference between Projected and Actual Earnings on Pension Plan investments	726,743	-
Employer and State Contributions subsequent to the measurement date	TBD	-
Total	TBD	\$ 339,461

The outcome of the Deferred Outflows of resources related to pensions resulting from Employer and State Contributions subsequent to the measurement date will be recognized as a reduction of the Net Pension Liability in the year ended September 30, 2020.

Other amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:			
2021		\$	(12,590)
2022		\$	82,668
2023		\$	101,045
2024		\$	273,620
2025		\$	-
Thereafter		\$	-

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

Reporting Period Ending Measurement Date	09/30/2020 09/30/2019	09/30/2019 09/30/2018	09/30/2018 09/30/2017
Total Pension Liability			
Service Cost	896,035	818,157	856,749
Interest	2,232,784	2,087,665	1,969,652
Change in Excess State Money	-	(32,072)	-
Share Plan Allocation	22,417	14,179	11,304
Changes of benefit terms	170,785	-	-
Differences between Expected and Actual Experience	(170,541)	28,595	(89,355)
Changes of assumptions	-	-	-
Contributions - Buy Back	70,955	-	1,118
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Net Change in Total Pension Liability	1,834,129	1,780,162	1,611,073
Total Pension Liability - Beginning	29,397,788	27,617,626	26,006,553
Total Pension Liability - Ending (a)	<u>\$ 31,231,917</u>	<u>\$ 29,397,788</u>	<u>\$ 27,617,626</u>
Plan Fiduciary Net Position			
Contributions - Employer	460,063	458,623	446,583
Contributions - State	312,939	301,956	298,122
Contributions - Employee	186,986	181,279	180,673
Contributions - Buy Back	70,955	-	1,118
Net Investment Income	660,182	2,899,009	1,888,678
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	(1,136,362)	(1,138,395)
Administrative Expense	(74,005)	(71,296)	(62,596)
Net Change in Plan Fiduciary Net Position	228,814	2,633,209	1,614,183
Plan Fiduciary Net Position - Beginning	29,533,293	26,900,084	25,285,901
Plan Fiduciary Net Position - Ending (b)	<u>\$ 29,762,107</u>	<u>\$ 29,533,293</u>	<u>\$ 26,900,084</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 1,469,810</u>	<u>\$ (135,505)</u>	<u>\$ 717,542</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	95.29%	100.46%	97.40%
Covered Payroll ¹	\$ 3,399,726	\$ 3,295,962	\$ 3,284,952
Net Pension Liability as a percentage of Covered Payroll	43.23%	-4.11%	21.84%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

Reporting Period Ending	09/30/2017	09/30/2016
Measurement Date	09/30/2016	09/30/2015
Total Pension Liability		
Service Cost	818,555	795,653
Interest	1,946,348	1,800,848
Change in Excess State Money	-	5,213
Share Plan Allocation	2,432	15,635
Changes of benefit terms	495,699	-
Differences between Expected and Actual Experience	(836,436)	(214,235)
Changes of assumptions	201,521	-
Contributions - Buy Back	73,537	32,877
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Net Change in Total Pension Liability	1,649,107	1,344,606
Total Pension Liability - Beginning	24,357,446	23,012,840
Total Pension Liability - Ending (a)	<u>\$ 26,006,553</u>	<u>\$ 24,357,446</u>
Plan Fiduciary Net Position		
Contributions - Employer	442,686	501,383
Contributions - State	286,293	303,898
Contributions - Employee	186,769	178,122
Contributions - Buy Back	73,537	32,877
Net Investment Income	1,676,263	(353,976)
Benefit Payments, including Refunds of Employee Contributions	(1,052,549)	(1,091,385)
Administrative Expense	(69,374)	(76,367)
Net Change in Plan Fiduciary Net Position	1,543,625	(505,448)
Plan Fiduciary Net Position - Beginning	23,742,276	24,247,724
Plan Fiduciary Net Position - Ending (b)	<u>\$ 25,285,901</u>	<u>\$ 23,742,276</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ 720,652</u>	<u>\$ 615,170</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	97.23%	97.47%
Covered Payroll ¹	\$ 3,395,812	\$ 3,288,615
Net Pension Liability as a percentage of Covered Payroll	21.22%	18.71%

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS
Last 10 Fiscal Years

Reporting Period Ending	09/30/2015	09/30/2014
Measurement Date	09/30/2014	09/30/2013
Total Pension Liability		
Service Cost	793,320	736,260
Interest	1,685,549	1,586,064
Change in Excess State Money	9,746	-
Share Plan Allocation	29,234	-
Changes of benefit terms	-	-
Differences between Expected and Actual Experience	-	-
Changes of assumptions	-	-
Contributions - Buy Back	64,645	-
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Net Change in Total Pension Liability	1,499,188	1,214,216
Total Pension Liability - Beginning	21,513,652	20,299,436
Total Pension Liability - Ending (a)	<u>\$ 23,012,840</u>	<u>\$ 21,513,652</u>
Plan Fiduciary Net Position		
Contributions - Employer	510,314	549,848
Contributions - State	322,030	314,996
Contributions - Employee	176,623	172,605
Contributions - Buy Back	64,645	-
Net Investment Income	1,904,122	2,667,160
Benefit Payments, including Refunds of Employee Contributions	(1,083,306)	(1,108,108)
Administrative Expense	(44,389)	(48,564)
Net Change in Plan Fiduciary Net Position	1,850,039	2,547,937
Plan Fiduciary Net Position - Beginning	22,397,685	19,849,748
Plan Fiduciary Net Position - Ending (b)	<u>\$ 24,247,724</u>	<u>\$ 22,397,685</u>
Net Pension Liability - Ending (a) - (b)	<u>\$ (1,234,884)</u>	<u>\$ (884,033)</u>
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	105.37%	104.11%
Covered Payroll ¹	\$ 3,211,327	\$ 3,138,275
Net Pension Liability as a percentage of Covered Payroll	-38.45%	-28.17%

Notes to Schedule of Changes in Net Pension Liability and Related Ratios

¹ The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Changes of benefit terms:

For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

Additionally, the Supplemental Benefit have been increased from \$13 per month per year of service to \$16 per month per year of service.

For measurement date 09/30/2016, Ordinance 16-22 was adopted. The change was an increase in the Supplemental benefit from \$3 to \$13 per month per year of service up to a maximum of \$325 for Members who retire on or after October 1, 2016 or enter the DROP on or after October 1, 2014.

Changes of assumptions:

For measurement date 09/30/2016, as a result of an October 3, 2016 Experience Study and as a result of recent State legislation, the Board has made the following assumption changes:

- The assumed rates of mortality were changed to match those used by the FRS for special risk employees in their July 1, 2015 valuation report.
- The expected withdrawal rates were reduced, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The investment return assumption was reduced from 7.75% to 7.50% per year, net of investment related expenses.
- The assumed rates of individual salary increase were reduced as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.
- The assumed rates of retirement were reduced at each age, as shown in the Actuarial Assumptions and Methods section of the 10/01/2016 Valuation report.

In addition, the inflation assumption rate was lowered from 3.00% to 2.50%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

For measurement date 09/30/2015, the inflation assumption was lowered from 3.50% to 3.00%

SCHEDULE OF CONTRIBUTIONS
Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll ¹	Total Contributions as a percentage of Covered Payroll
09/30/2019	\$ 746,882	\$ 750,586	\$ (3,704)	\$ 3,399,726	22.08%
09/30/2018	\$ 777,513	\$ 778,472	\$ (959)	\$ 3,295,962	23.62%
09/30/2017	\$ 733,401	\$ 733,401	\$ -	\$ 3,284,952	22.33%
09/30/2016	\$ 725,736	\$ 725,736	\$ -	\$ 3,395,812	21.37%
09/30/2015	\$ 784,433	\$ 784,433	\$ -	\$ 3,288,615	23.85%
09/30/2014	\$ 793,364	\$ 793,364	\$ -	\$ 3,211,327	24.71%
09/30/2013	\$ 832,898	\$ 832,898	\$ -	\$ 3,138,275	26.54%

¹ The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality Rates:

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.

The assumed rates of mortality were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

Termination Rates:

Service	Probability of Termination
0	5.0%
1	5.0%
2	5.0%
3	5.0%
4	5.0%
5	5.0%
6	4.0%
7	4.0%
8	0.0%
9	0.0%
10+	0.5%

The assumed rates of termination resulted from an October 3, 2016 Experience Study.

Disability Rates:

See sample rates below. 75% of disabilities are assumed to be service-incurred. The assumed rates of disablement were utilized and carried over from the prior actuary. We feel these rates are consistent with those utilized for plans containing other Florida municipal firefighters.

Retirement Rates:

Years After First Eligibility for Normal Retirement	Probability of Retirement
0	20%
1	10%
2	10%
3	10%
4	10%
5+	100%

Additionally, the assumed rate of retirement is 2.0% for each year of eligibility for early retirement. The assumed rates of retirement resulted from an October 3, 2016 Experience Study.

Interest Rate:

7.50% per year, compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long term return by asset class.

Salary Increases:

Service	Salary Increase Assumption
0	11.0%
1	10.0%
2	9.0%
3	8.0%
4	7.0%
5	6.5%
6	6.5%
7	6.5%
8	6.5%
9	6.5%
10	6.0%
11	5.5%
12	5.0%
13	4.5%
14+	4.0%

The assumed rates of salary increase resulted from an October 3, 2016 Experience Study.

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Payroll Growth: 1.32% per year for amortization of the Unfunded Actuarial Accrued Liability. This is in compliance with Part VII of Chapter 112, Florida Statutes.

Funding Method: Entry Age Normal Cost Method.

Amortization Method: Level Percentage of Pay, Closed.

Remaining Amortization Period: 30 Years.

Funding Projection: The following loads are applied for determination of the Sponsor dollar funding requirement for the following year:
 Interest – A half year, based on the current 7.50% assumption.
 Salary – A full year, based on the current 5.29% assumption.

Actuarial Asset Method: All assets are valued at market value with an adjustment made to uniformly spread actuarial investment gains and losses (as measured by actual market value investment return against expected market value investment return) over a five-year period.

Disability Rates:

Age	% Becoming Disabled During the Year
20	0.14%
25	0.15%
30	0.18%
35	0.23%
40	0.30%
45	0.51%
50	1.00%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

The following information is not required to be disclosed but is provided for informational purposes.

FINAL COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ 717,542	\$ 695,142	\$ 1,867,588	
Employer and State Contributions made after 09/30/2018	-	-	773,002	-
Total Pension Liability Factors:				
Service Cost	818,157	-	-	818,157
Interest	2,087,665	-	-	2,087,665
Change in Excess State Money	(32,072)	-	-	(32,072)
Share Plan Allocation	14,179	-	-	14,179
Changes in benefit terms	-	-	-	-
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	28,595	-	28,595	-
Current year amortization of experience difference	-	(228,005)	(5,719)	(222,286)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(40,304)	40,304
Benefit Payments, including Refunds of Employee Contributions	(1,136,362)	-	-	-
Net change	<u>1,780,162</u>	<u>(228,005)</u>	<u>755,574</u>	<u>2,705,947</u>
Plan Fiduciary Net Position:				
Contributions - Employer	458,623	-	(458,623)	-
Contributions - State	301,956	-	(301,956)	-
Contributions - Employee	181,279	-	-	(181,279)
Projected Net Investment Income	2,007,539	-	-	(2,007,539)
Difference between projected and actual earnings on Pension Plan investments	891,470	891,470	-	-
Current year amortization	-	(212,879)	(477,186)	264,307
Benefit Payments, including Refunds of Employee Contributions	(1,136,362)	-	-	-
Administrative Expenses	(71,296)	-	-	71,296
Net change	<u>2,633,209</u>	<u>678,591</u>	<u>(1,237,765)</u>	<u>(1,853,215)</u>
Ending Balance	<u>\$ (135,505)</u>	<u>\$ 1,145,728</u>	<u>\$ 1,385,397</u>	<u>\$ 852,732</u>

PRELIMINARY COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2020

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	\$ (135,505)	\$ 1,145,728	\$ 1,385,397	
Employer and State Contributions made after 09/30/2019	-	-	TBD*	-
Total Pension Liability Factors:				
Service Cost	896,035	-	-	896,035
Interest	2,232,784	-	-	2,232,784
Change in Excess State Money	-	-	-	-
Share Plan Allocation	22,417	-	-	22,417
Changes in benefit terms	170,785	-	-	170,785
Contributions - Buy Back	70,955	-	-	70,955
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	(170,541)	170,541	-	-
Current year amortization of experience difference	-	(262,114)	(5,719)	(256,395)
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(40,304)	40,304
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	-	-	-
Net change	<u>1,834,129</u>	<u>(91,573)</u>	<u>(46,023)</u>	<u>3,176,885</u>
Plan Fiduciary Net Position:				
Contributions - Employer	460,063	-	(460,063)	-
Contributions - State	312,939	-	(312,939)	-
Contributions - Employee	186,986	-	-	(186,986)
Contributions - Buy Back	70,955	-	-	(70,955)
Projected Net Investment Income	2,198,821	-	-	(2,198,821)
Difference between projected and actual earnings on Pension Plan investments	(1,538,639)	-	1,538,639	-
Current year amortization	-	(178,800)	(784,913)	606,113
Benefit Payments, including Refunds of Employee Contributions	(1,388,306)	-	-	-
Administrative Expenses	(74,005)	-	-	74,005
Net change	<u>228,814</u>	<u>(178,800)</u>	<u>(19,276)</u>	<u>(1,776,644)</u>
Ending Balance	<u>\$ 1,469,810</u>	<u>\$ 875,355</u>	<u>TBD</u>	<u>\$ 1,400,241</u>

* Employer and State Contributions subsequent to the measurement date made after September 30, 2019 but made on or before September 30, 2020 need to be added.

AMORTIZATION SCHEDULE - INVESTMENTS

Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)													
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029		
2019	\$ 1,538,639	5	\$ -	\$ 307,727	\$ 307,728	\$ 307,728	\$ 307,728	\$ 307,728	\$ 307,728	\$ -	\$ -	\$ -	\$ -	\$ -	
2018	\$ (891,470)	5	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ (178,294)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2017	\$ (2,529)	5	\$ (506)	\$ (506)	\$ (506)	\$ (506)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2016	\$ 158,624	5	\$ 31,725	\$ 31,725	\$ 31,725	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2015	\$ 2,227,305	5	\$ 445,461	\$ 445,461	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
2014	\$ (170,397)	5	\$ (34,079)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
Net Increase (Decrease) in Pension Expense			\$ 264,307	\$ 606,113	\$ 160,653	\$ 128,928	\$ 129,434	\$ 307,728	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	\$ 201,521	5	\$ 40,304	\$ 40,304	\$ 40,304	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ 40,304	\$ 40,304	\$ 40,304	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	\$ (170,541)	5	\$ -	\$ (34,109)	\$ (34,108)	\$ (34,108)	\$ (34,108)	\$ (34,108)	\$ -	\$ -	\$ -	\$ -	\$ -
2018	\$ 28,595	5	\$ 5,719	\$ 5,719	\$ 5,719	\$ 5,719	\$ 5,719	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2017	\$ (89,355)	5	\$ (17,871)	\$ (17,871)	\$ (17,871)	\$ (17,871)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2016	\$ (836,436)	5	\$ (167,287)	\$ (167,287)	\$ (167,287)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
2015	\$ (214,235)	5	\$ (42,847)	\$ (42,847)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Net Increase (Decrease) in Pension Expense			\$ (222,286)	\$ (256,395)	\$ (213,547)	\$ (46,260)	\$ (28,389)	\$ (34,108)	\$ -	\$ -	\$ -	\$ -	\$ -