

CITY OF FORT MEADE
POLICE OFFICERS'
RETIREMENT PLAN

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2018

DETERMINES THE CONTRIBUTION
FOR THE 2018/19 FISCAL YEAR



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January 24, 2019

Introduction

This report presents the results of the October 1, 2018 actuarial valuation of the City of Fort Meade Police Officers' Retirement Plan. The report is based on the participant data and asset information provided by the pension plan administrator and, except for a cursory review for reasonableness including a comparison to the data provided for the previous valuation, we have not attempted to verify the accuracy of this information.

The primary purpose of this report is to provide a summary of the funded status of the plan as of October 1, 2018 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2018/19 plan year. In addition, this report provides a projection of the long-term funding requirements of the plan, statistical information concerning the assets held in the trust, statistical information concerning the participant population, and a summary of any recent plan changes.

The liabilities and cost presented in this report are based on numerous assumptions concerning the cost of benefits to be provided in the future, long-term investment returns, and the future demographic experience of the current participants. Anyone referring to this report should remember that the cost developed herein is only an *estimate* of the true cost of providing post-employment pension benefits. No one can predict with certainty whether the true cost will be higher or lower than the cost presented in this report. The calculated cost is entirely dependent upon the assumptions that are described in Table IV-A. If any of the assumptions is changed, then the cost shown in this report will change accordingly. Likewise, if any of the assumptions is not completely realized, then the cost shown in this report will change in the future.

Certain assumptions play a bigger role than others in determining the cost of the post-employment pension benefits. In some cases, relatively small changes in a particular assumption can have a dramatic impact on the anticipated cost of benefits. Although a thorough analysis of the impact of such changes is beyond the scope of this report, Table I-B illustrates the impact that alternative long-term investment returns would have on the minimum required contribution rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2018/19 plan year. The minimum required contribution is \$32,551, which represents an increase of \$3,685 from the prior valuation.

Table I-C provides a breakdown of the sources of change in the contribution rate. Significantly, the rate decreased by \$211 due to investment gains, decreased by another \$2,156 due to demographic experience, and increased by \$6,052 due to the assumption change that is described below. Although the market value of assets earned 7.55% during the 2017/18 plan year, the actuarial value of assets is based on a five-year phase-in of the investment gains and losses.



On that basis, the actuarial value of assets earned 7.67%, whereas a 7.50% annual investment return was required to maintain a stable contribution rate.

Chapter 112, Florida Statutes, sets forth the rules concerning the minimum required contribution for public pension plans within the state. Essentially, the City must contribute an amount equal to the annual normal cost of the plan plus an amortization payment towards the unfunded liability, where the amortization period is no longer than 30 years and where both amounts are adjusted as necessary for administrative expenses and to reflect interest on any delayed payment of the contribution beyond the valuation date. On this basis, the City's 2018/19 minimum required contribution is equal to \$32,551.

Based on the current assets, participant data, and actuarial assumptions and methods that are used to value the plan, the present-day value of the total long-term funding requirement is \$1,337,547. As illustrated in Table I-A, current assets are sufficient to cover \$1,204,372 of this amount and the employer's 2018/19 contribution will cover \$32,551 of this amount, leaving \$100,624 to be covered by future employer funding beyond the 2018/19 fiscal year. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Contents of the Report

Tables I-D through I-G provide a detailed breakdown of various liability amounts by type of benefit and by participant group. Tables II-A through II-F provide information concerning the assets of the trust fund. Specifically, Table II-A shows the development of the actuarial value of assets, which is based on the market value of assets. Tables III-A through III-D provide statistical information concerning the plan's participant population. In particular, Table III-D gives a 10-year projection of the cash that is expected to be required from the trust fund in order to pay benefits to the current group of participants. Finally, Tables IV-A through IV-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

Assumption Change

Since the completion of the previous valuation, the assumed interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.

Certification

This actuarial valuation was prepared 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 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 change in plan costs or required contribution rates have been taken into account in the valuation.

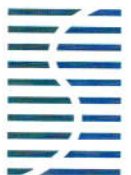
For the firm,



Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

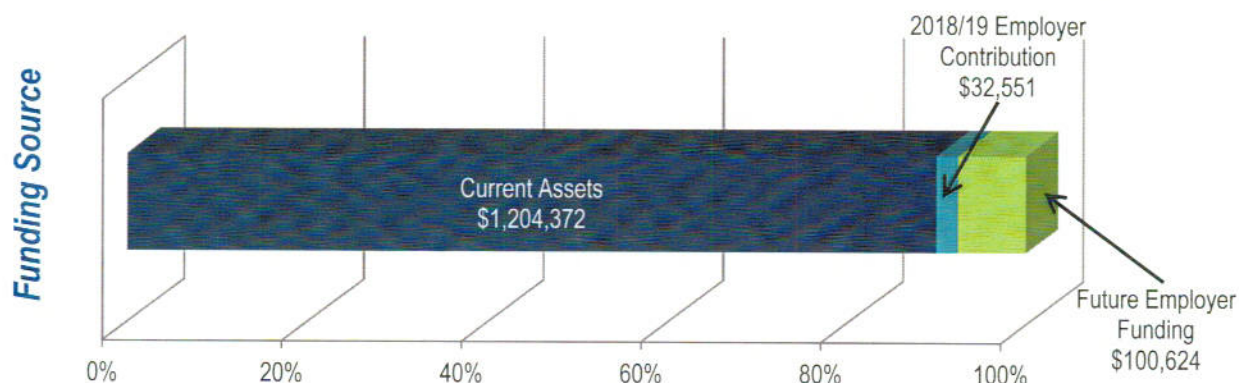
Enrolled Actuary No. 17-04927

The individual above is a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.



Minimum Required Contribution

Table I-A



For the 2018/19 Plan Year

Normal Cost for the 2018/19 Plan Year	\$0
Unfunded Liability Amortization Payment for the 2018/19 Plan Year	\$18,071
Expense Allowance for the 2018/19 Plan Year	\$13,138
	\$31,209
Adjustment to Reflect End-of-Quarter Employer Contributions	\$1,342
Required Employer Contribution for the 2018/19 Plan Year	\$32,551

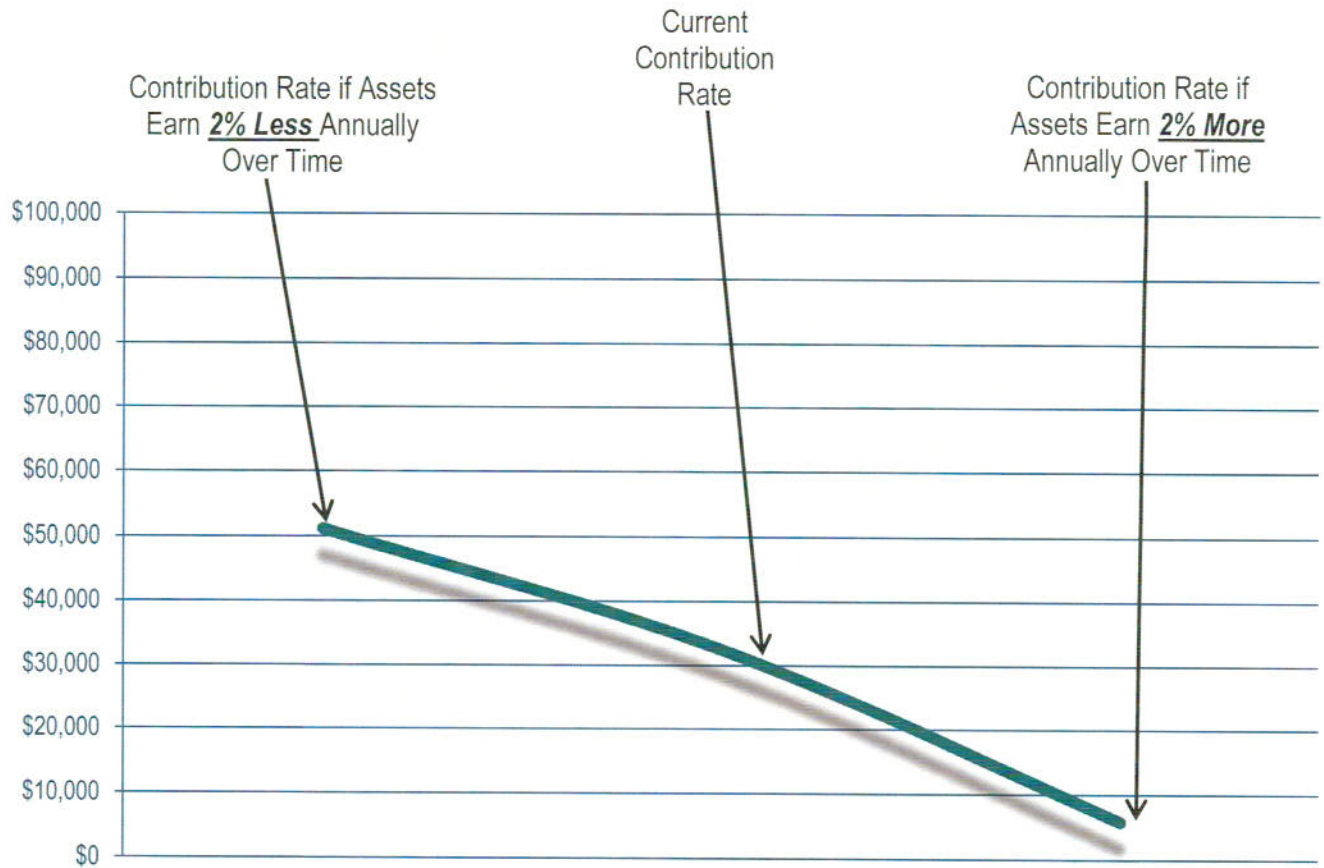
Additional Disclosures

Present Value of Future Compensation	\$0
Present Value of Future Employer Contributions	\$133,175
Present Value of Future Employee Contributions	\$0



Sensitivity Analysis

Table I-B



The line above illustrates the sensitivity of the contribution rate to changes in the long-term investment return.



Gain and Loss Analysis

Table I-C

Source of Change in the Contribution Rate

Previous minimum required contribution rate	\$28,866
Increase (decrease) due to investment gains and losses	(\$211)
Increase (decrease) due to demographic experience	(\$2,156)
Increase (decrease) due to plan amendments	\$0
Increase (decrease) due to actuarial assumption changes	\$6,052
Increase (decrease) due to actuarial method changes	\$0
Current minimum required contribution rate	<u>\$32,551</u>



Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$0	\$0	\$0
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Deferred Vested Participants</u>			
Retirement benefits	\$270,637	\$270,637	\$291,433
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$270,637	\$270,637	\$291,433
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$869,593	\$869,593	\$900,994
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$127,634	\$127,634	\$131,982
DROP participants	\$0	\$0	\$0
Sub-total	\$997,227	\$997,227	\$1,032,976
<u>Grand Total</u>	<u>\$1,267,864</u>	<u>\$1,267,864</u>	<u>\$1,324,409</u>
Present Value of Future Payroll	\$0	\$0	\$0
Present Value of Future Employee Contribs.	\$0	\$0	\$0
Present Value of Future Employer Contribs.	\$76,630	\$76,630	\$133,175



Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$0	\$0	\$0
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Deferred Vested Participants</u>			
Retirement benefits	\$270,637	\$270,637	\$291,433
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
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Sub-total	\$270,637	\$270,637	\$291,433
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$869,593	\$869,593	\$900,994
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$127,634	\$127,634	\$131,982
DROP participants	\$0	\$0	\$0
Sub-total	\$997,227	\$997,227	\$1,032,976
<u>Grand Total</u>	<u>\$1,267,864</u>	<u>\$1,267,864</u>	<u>\$1,324,409</u>
<u>Funded Percentage</u>	97.17%	97.17%	93.02%

(Note: Funded percentage is equal to the ratio of the usable portion of the market value of assets divided by the present value of accrued benefits.)



Present Value of Vested Benefits

Table I-F

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
<u>Actively Employed Participants</u>			
Retirement benefits	\$0	\$0	\$0
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Deferred Vested Participants</u>			
Retirement benefits	\$270,637	\$270,637	\$291,433
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$270,637	\$270,637	\$291,433
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$869,593	\$869,593	\$900,994
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$127,634	\$127,634	\$131,982
DROP participants	\$0	\$0	\$0
Sub-total	\$997,227	\$997,227	\$1,032,976
<u>Grand Total</u>	<u>\$1,267,864</u>	<u>\$1,267,864</u>	<u>\$1,324,409</u>



Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<u>Actively Employed Participants</u>			
Retirement benefits	\$0	\$0	\$0
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$0	\$0	\$0
<u>Deferred Vested Participants</u>			
Retirement benefits	\$270,637	\$270,637	\$291,433
Termination benefits	\$0	\$0	\$0
Disability benefits	\$0	\$0	\$0
Death benefits	\$0	\$0	\$0
Refund of employee contributions	\$0	\$0	\$0
Sub-total	\$270,637	\$270,637	\$291,433
<u>Due a Refund of Contributions</u>	\$0	\$0	\$0
<u>Deferred Beneficiaries</u>	\$0	\$0	\$0
<u>Retired Participants</u>			
Service retirements	\$869,593	\$869,593	\$900,994
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$127,634	\$127,634	\$131,982
DROP participants	\$0	\$0	\$0
Sub-total	\$997,227	\$997,227	\$1,032,976
<u>Grand Total</u>	<u>\$1,267,864</u>	<u>\$1,267,864</u>	<u>\$1,324,409</u>



Unfunded Liability Bases

Table I-H

<u>Description</u>	<u>Original Amount</u>	<u>Outstanding Balance</u>	<u>Amortization Payment</u>	<u>Years Rem.</u>
Total		\$166,291	\$18,071	
		↓	↓	
10/1/2016 UAAL	\$118,674	\$109,247	\$12,216	13
Plan Amendment	\$519	\$499	\$53	14
10/1/2018 Assumption Change	\$56,545	\$56,545	\$5,802	15



Actuarial Value of Assets

Table II-A

	<u>Investment Gain (Loss)</u>		<u>Unrecognized Gain (Loss)</u>
For the 2014/15 plan year	(\$92,450)	x 20%	(\$18,490)
For the 2015/16 plan year	\$8,901	x 40%	\$3,560
For the 2016/17 plan year	\$70,130	x 60%	\$42,078
For the 2017/18 plan year	\$511	x 80%	\$409
			<u>\$27,557</u>

Market Value of Assets as of October 1, 2018 \$1,231,929

Minus advance employer contributions \$0

Adjustment for unrecognized gain or loss as shown above,
but restricted to an amount that keeps the actuarial value
of assets within an 80%-120% corridor of the market value (\$27,557)

Actuarial Value of Assets as of October 1, 2018 \$1,204,372

<u>Historical Actuarial Value of Assets</u>	
October 1, 2009	N/A
October 1, 2010	N/A
October 1, 2011	N/A
October 1, 2012	N/A
October 1, 2013	\$1,222,669
October 1, 2014	\$1,232,170
October 1, 2015	\$1,244,198
October 1, 2016	\$1,264,877
October 1, 2017	\$1,199,547
October 1, 2018	\$1,204,372

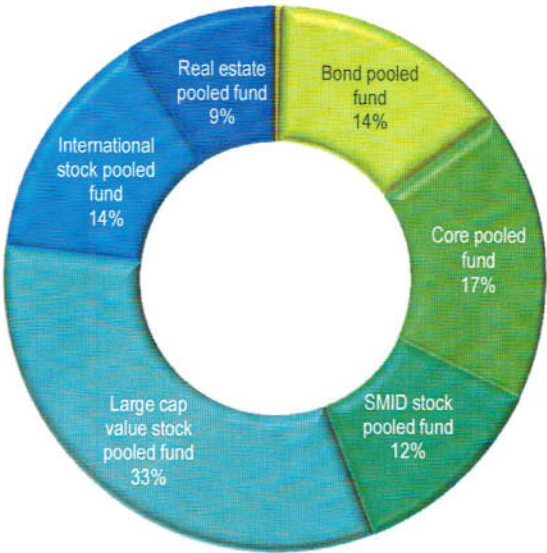


Market Value of Assets

Table II-B

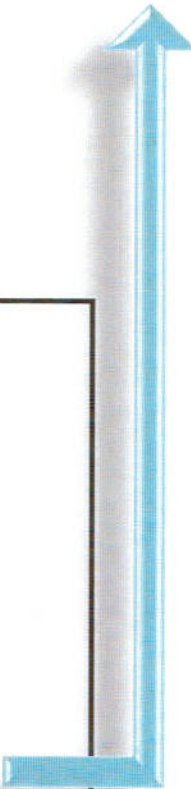
As of October 1, 2018

Market Value of Assets	<u>\$1,231,929</u>
Cash	\$4,929
Bond pooled fund	\$178,676
Core pooled fund	\$211,947
SMID stock pooled fund	\$147,870
Large cap value stock pooled fund	\$402,946
International stock pooled fund	\$174,980
Real estate pooled fund	\$110,903
Expense payable	(\$322)



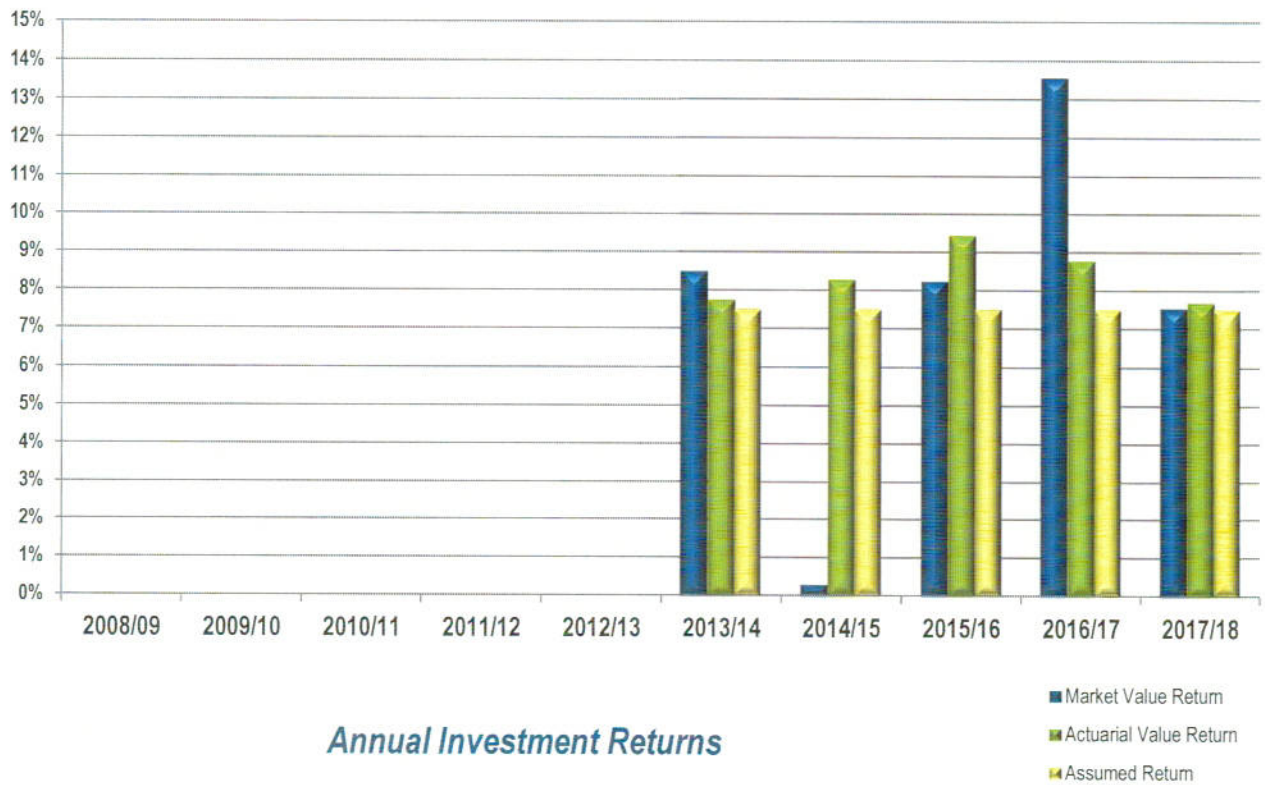
Historical Market Value of Assets

October 1, 2009	N/A
October 1, 2010	N/A
October 1, 2011	N/A
October 1, 2012	N/A
October 1, 2013	\$1,290,171
October 1, 2014	\$1,314,427
October 1, 2015	\$1,257,490
October 1, 2016	\$1,242,266
October 1, 2017	\$1,226,503
October 1, 2018	\$1,231,929



Investment Return

Table II-C



Plan	Market Value	Actuarial Value	Assumed
<u>Year</u>	<u>Return</u>	<u>Return</u>	<u>Return</u>
2008/09	N/A	N/A	N/A
2009/10	N/A	N/A	N/A
2010/11	N/A	N/A	N/A
2011/12	N/A	N/A	N/A
2012/13	N/A	N/A	N/A
2013/14	8.50%	7.74%	7.50%
2014/15	0.30%	8.27%	7.50%
2015/16	8.25%	9.43%	7.50%
2016/17	13.56%	8.78%	7.50%
2017/18	7.55%	7.67%	7.50%
5yr. Avg.	7.55%	8.38%	7.50%



Asset Reconciliation

Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
As of October 1, 2017	\$1,226,503	\$1,199,547
<i>Increases Due To:</i>		
Employer Contributions	\$28,866	\$28,866
Total Contributions	<u>\$28,866</u>	<u>\$28,866</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$89,406	
Total Investment Income	<u>\$89,406</u>	\$88,805
Other Income	\$0	
Total Income	<u>\$118,272</u>	<u>\$117,671</u>
<i>Decreases Due To:</i>		
Monthly Benefit Payments	(\$101,324)	(\$101,324)
Total Benefit Payments	<u>(\$101,324)</u>	<u>(\$101,324)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$11,522)	(\$11,522)
Advance Employer Contribution		\$0
Total Expenses	<u>(\$112,846)</u>	<u>(\$112,846)</u>
As of October 1, 2018	<u>\$1,231,929</u>	<u>\$1,204,372</u>



Historical Trust Fund Detail

Table II-E

Income

<u>Plan</u> <u>Year</u>	<u>Employer</u> <u>Contribs.</u>	<u>Interest /</u> <u>Dividends</u>	<u>Realized</u> <u>Gains /</u> <u>Losses</u>	<u>Unrealized</u> <u>Gains /</u> <u>Losses</u>	<u>Other</u> <u>Income</u>
2008/09	N/A	N/A	N/A	N/A	N/A
2009/10	N/A	N/A	N/A	N/A	N/A
2010/11	N/A	N/A	N/A	N/A	N/A
2011/12	N/A	N/A	N/A	N/A	N/A
2012/13	N/A	N/A	N/A	N/A	N/A
2013/14	\$31,528	\$0	\$0	\$106,199	\$0
2014/15	\$49,502	\$0	\$0	\$3,892	\$0
2015/16	\$0	\$0	\$0	\$99,007	\$0
2016/17	\$23,448	\$0	\$0	\$156,795	\$0
2017/18	\$28,866	\$0	\$0	\$89,406	\$0

Expenses

<u>Plan</u> <u>Year</u>	<u>Monthly</u> <u>Benefit</u> <u>Payments</u>	<u>Admin.</u> <u>Expenses</u>	<u>Invest.</u> <u>Expenses</u>	<u>Other Actuarial Adjustments</u> <u>Advance</u> <u>Employer</u> <u>Contribs.</u>
2008/09	N/A	N/A	N/A	N/A
2009/10	N/A	N/A	N/A	N/A
2010/11	N/A	N/A	N/A	N/A
2011/12	N/A	N/A	N/A	N/A
2012/13	N/A	N/A	N/A	N/A
2013/14	\$98,915	\$14,556	\$0	\$0
2014/15	\$98,915	\$11,416	\$0	\$25,517
2015/16	\$98,915	\$15,316	\$0	-\$21,902
2016/17	\$181,252	\$14,754	\$0	-\$3,615
2017/18	\$101,324	\$11,522	\$0	\$0

Note: Information was not available to separate the investment expenses from the investment income nor was information available to separate the investment income by source.

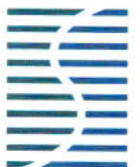


Other Reconciliations

Table II-F

Advance Employer Contribution

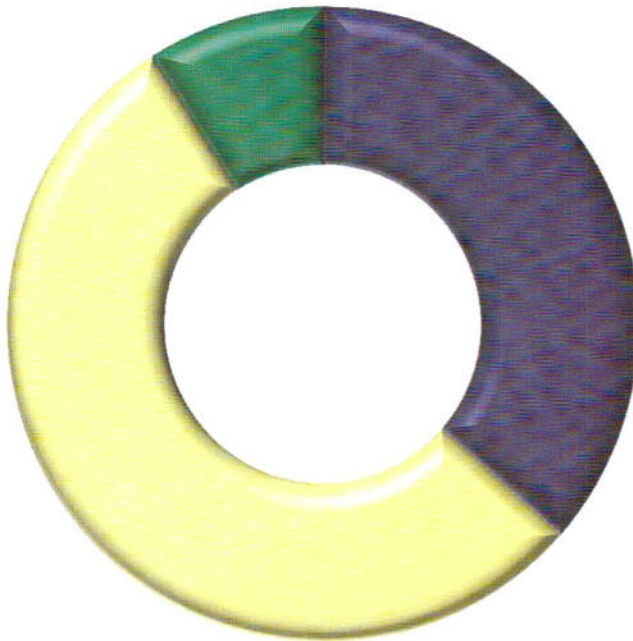
Advance Employer Contribution as of October 1, 2017	\$0
Additional Employer Contribution	\$28,866
Minimum Required Contribution	(\$28,866)
Net Increase in Advance Employer Contribution	\$0
Advance Employer Contribution as of October 1, 2018	\$0



Summary of Participant Data

Table III-A

As of October 1, 2018

*Participant Distribution by Status*Actively Employed Participants

◆ Active Participants	0
◆ DROP Participants	0

Inactive Participants

◆ Deferred Vested Participants	4
◆ Due a Refund of Contributions	0
◆ Deferred Beneficiaries	0

Participants Receiving a Benefit

◆ Service Retirements	6
◆ Disability Retirements	0
◆ Beneficiaries Receiving	1

Total Participants 11

Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
October 1, 2009	N/A	N/A	N/A	N/A	N/A
October 1, 2010	N/A	N/A	N/A	N/A	N/A
October 1, 2011	N/A	N/A	N/A	N/A	N/A
October 1, 2012	N/A	N/A	N/A	N/A	N/A
October 1, 2013	N/A	N/A	N/A	N/A	N/A
October 1, 2014	0	0	7	5	12
October 1, 2015	0	0	7	5	12
October 1, 2016	0	0	7	5	12
October 1, 2017	0	0	6	5	11
October 1, 2018	0	0	4	7	11



Data Reconciliation

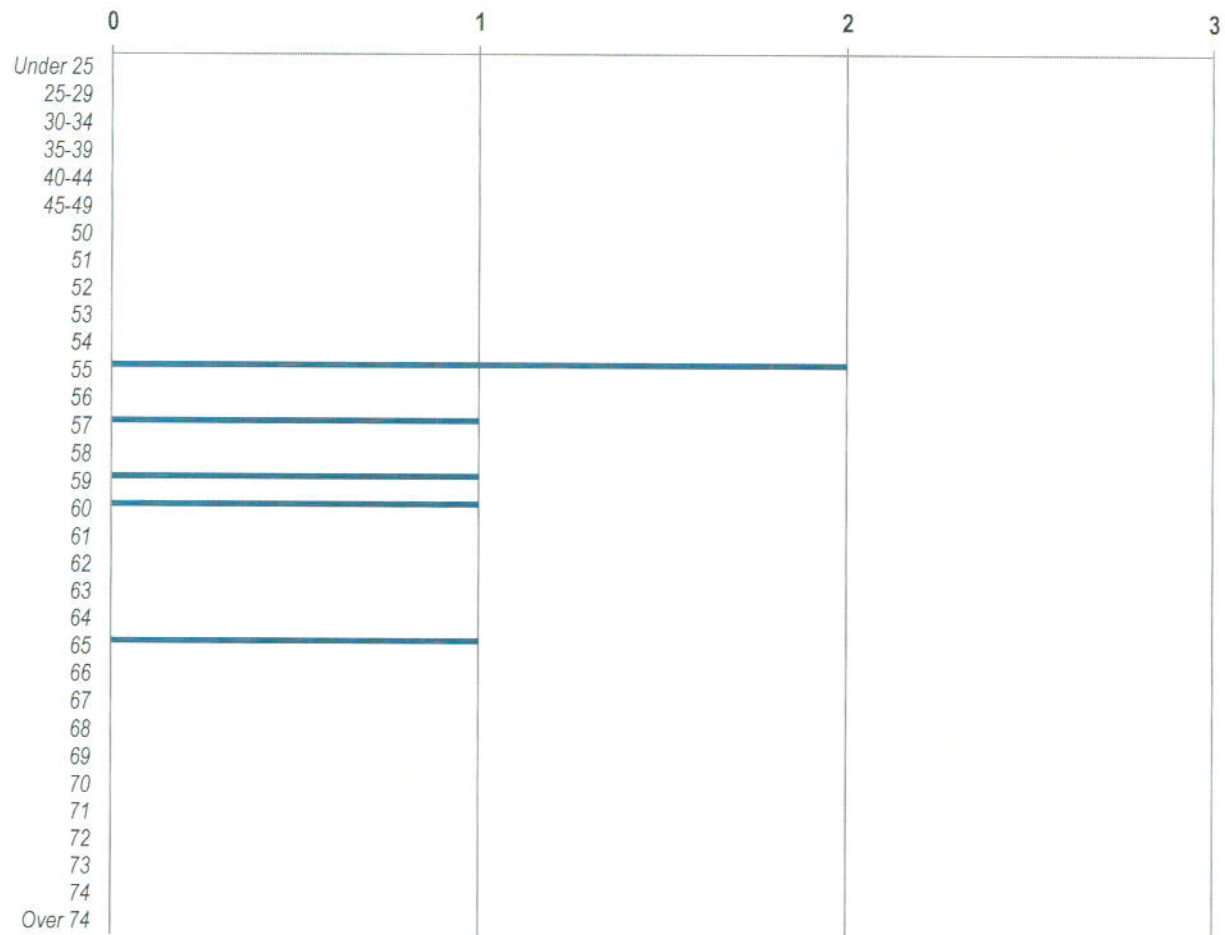
Table III-B

	<u>Active</u>	<u>DROP</u>	<u>Deferred Vested</u>	<u>Due a Refund</u>	<u>Def. Benef.</u>	<u>Service Retiree</u>	<u>Disabled Retiree</u>	<u>Benef. Rec'v.</u>	<u>Total</u>
<u>October 1, 2017</u>	0	0	6	0	0	4	0	1	11
<u>Change in Status</u>									
Re-employed									
Terminated									
Retired			(2)			2			
<u>Participation Ended</u>									
Transferred Out									
Cashed Out									
Died									
<u>Participation Began</u>									
Newly Hired									
Transferred In									
New Beneficiary									
<u>Other Adjustment</u>									
<u>October 1, 2018</u>	0	0	4	0	0	6	0	1	11



Inactive Participant Data

Table III-C

**Age at Retirement**

- Service Retirements
- Disability Retirements
- DROP Participants

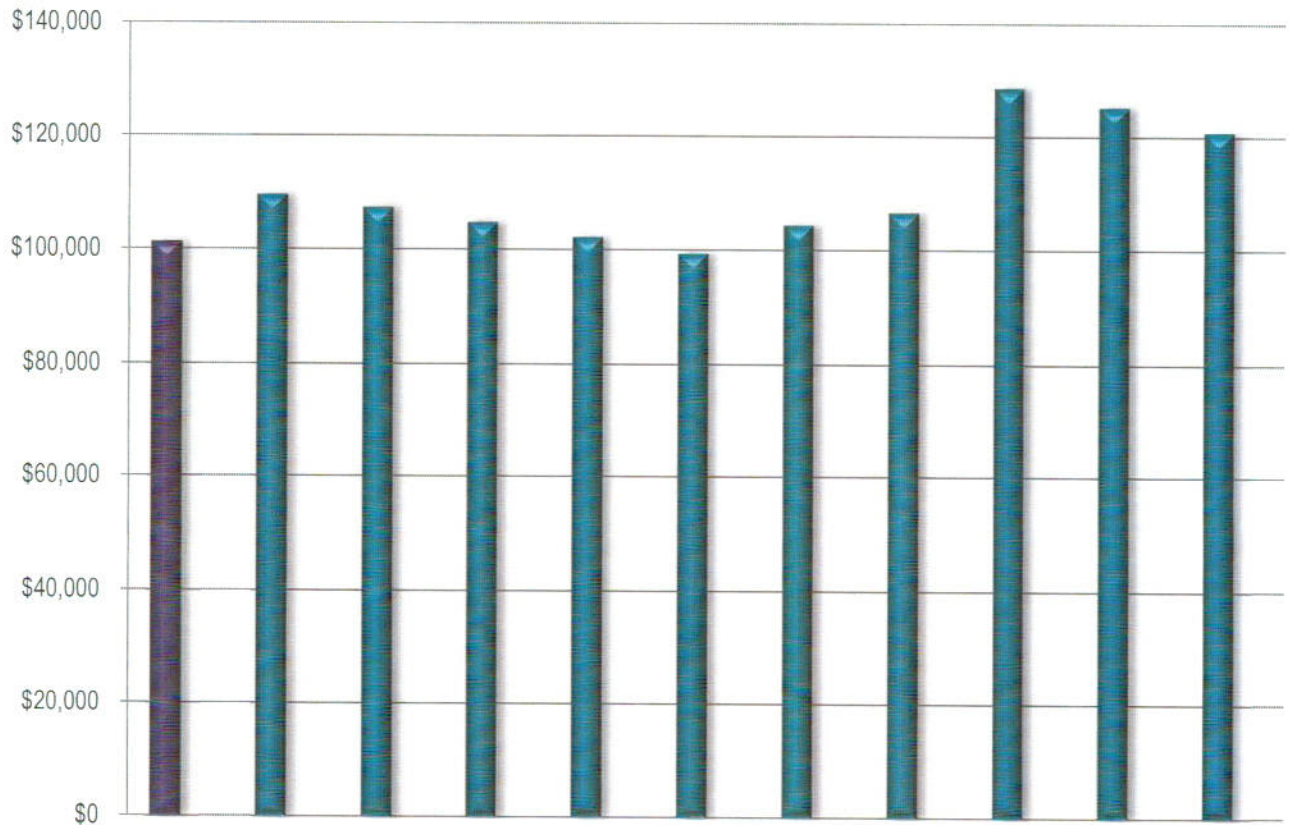
Average Monthly Benefit

Service Retirements	\$1,350.79
Disability Retirements	Not applicable
Beneficiaries Receiving	\$1,201.53
DROP Participants	Not applicable
Deferred Vested Participants	\$804.44
Deferred Beneficiaries	Not applicable



Projected Benefit Payments

Table III-D

Actual

For the period October 1, 2017 through September 30, 2018

\$101,324

Projected

For the period October 1, 2018 through September 30, 2019

\$109,594

For the period October 1, 2019 through September 30, 2020

\$107,334

For the period October 1, 2020 through September 30, 2021

\$104,896

For the period October 1, 2021 through September 30, 2022

\$102,278

For the period October 1, 2022 through September 30, 2023

\$99,473

For the period October 1, 2023 through September 30, 2024

\$104,423

For the period October 1, 2024 through September 30, 2025

\$106,630

For the period October 1, 2025 through September 30, 2026

\$128,688

For the period October 1, 2026 through September 30, 2027

\$125,297

For the period October 1, 2027 through September 30, 2028

\$120,875



Summary of Actuarial Methods and Assumptions

Table IV-A

NOTE: The following assumptions and methods have been selected and approved by the Board of Trustees based in part on the advice of the plan's enrolled actuary in accordance with the authority granted to the Board under the pension ordinances and State law.

1. **Actuarial Cost Method**

Unit credit cost method (nominally)

2. **Amortization Method**

The unfunded actuarial accrued liability is amortized as a level dollar amount over a period of 15 years.

3. **Asset Method**

The actuarial value of assets is equal to the market value of assets, adjusted to reflect a five-year phase-in of the difference between the expected market value and the actual market value for each of the last five years.

4. **Interest (or Discount) Rate**

7.00% per annum

5. **Decrements**

- Mortality: Sex-distinct rates set forth in the RP-2000 Blue Collar Mortality Table, with full generational improvements in mortality using Scale BB
- Retirement: 100% retirement is assumed at the earliest of: (a) any age with 40 years of service; (b) age 55 with 30 years of service; (c) age 60 with 10 years of service; or (d) age 65.

6. **Form of Payment**

Future retirees have been assumed to select the 10-year certain and life annuity.

7. **Expenses**

Administrative expenses are assumed to be equal to the average non-investment expenses for the two most recent plan years. In addition, the interest rate set forth in item 4. above is assumed to be net of investment expenses and commissions.



Changes in Actuarial Methods and Assumptions

Table IV-B

Since the completion of the previous valuation, the interest (or discount) rate was decreased from 7.50% per annum to 7.00% per annum.

The following additional assumption and method changes were made during the past several years:

- (1) *Effective October 1, 2016, the mortality basis was changed from a 2015 projection of the RP-2000 Mortality Table for annuitants to a full generational projection using Scale BB of the RP-2000 Blue Collar Mortality Table as required by State law.*

