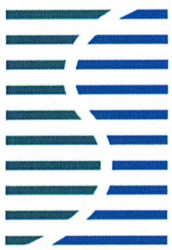
Retirement Plan for the Management Employees Of the City of Cooper City

Actuarial Valuation
As of October 1, 2020

Determines the Contribution
For the 2020/21 Fiscal Year



SOUTHERN ACTUARIAL SERVICES

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April 14, 2021

Introduction

This report presents the results of the October 1, 2020 actuarial valuation of the Retirement Plan for the Management Employees of the City of Cooper City. 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, 2020 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2020/21 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 normal cost rate.

Minimum Required Contribution

Table I-A shows the development of the minimum required contribution for the 2020/21 plan year. The minimum required contribution is $103,310, which represents a decrease of $54,822 from the prior valuation.

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 minus the expected employee contributions plus an amortization payment towards the unfunded liability, where the amortization period is no longer than 30 years and where all 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 2020/21 minimum required contribution will be equal to $103,310. Furthermore, if an actuarial valuation is not prepared as of October 1, 2021, then the minimum required contribution for the 2021/22 fiscal year will also be $103,310.

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 $4,927,408 excluding any adjustments for future administrative expenses. As illustrated in Table I-A, current assets are sufficient to cover $4,311,698 of this amount and the employer's 2020/21 expected contribution will cover $103,310 of this amount, leaving $512,400 to be covered by future employer funding beyond the 2020/21 fiscal year. Again, demographic and investment experience that differs from that assumed will either increase or decrease the future employer funding requirement.

Amortization of the Unfunded Liability

This plan uses the entry age normal cost method (nominally) to develop an unfunded liability each year. The unfunded liability is then amortized or "paid off" over a period of time. The period over which the unfunded liability is amortized is often referred to as the "funding period" of the plan. Although under Chapter 112 the maximum allowable funding period is 30 years, the unfunded liability should be paid off within a period that does not exceed the expected future working life of the active employees who are covered by the plan or, if there are no active employees covered by the plan, the expected future lifetime of the retired participants. Table I-I shows the various components of the unfunded liability and the respective funding period for each component. We ave used a closed 15-year funding period beginning October 1, 2014 to amortize all components of the unfunded liability.

Advance Employer Contribution

The City has made contributions to the plan in excess of the minimum amount that was required to be contributed pursuant to Chapter 112. In this report, the excess contributions are referred to as an "advance employer contribution." As of October 1, 2020, the advance employer contribution is $635,755, which reflects the advance employer contribution of $814,935 as of October 1, 2018 less $179,180 to cover employer contributions that were less than the minimum required contribution for the 2018/19 and 2019/20 plan years as shown in Table II-F.

The City may apply all or any portion of the advance employer contribution towards the minimum required contribution for the 2020/21 plan year or for any later plan year. The minimum required contribution for that plan year will be reduced dollar-for-dollar by the amount of the advance employer contribution that is applied in this manner.

Alternatively, at any time, the City may apply all or any portion of the advance employer contribution as an *extra* contribution in excess of the minimum required contribution. In this case, the immediate application of the entire balance of the advance employer contribution as of October 1, 2020 would eliminate the minimum required contribution for the 2020/21 plan year.

Actuarial Assumption Change

Since the completion of the previous valuation, the mortality basis was changed from the RP-2000 Combined Mortality Table with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018.

Identification and Assessment of Risk

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, there is always a risk that, should these assumptions not be realized, the liabilities of the plan, the contributions required to fund the plan, and the funded status of the plan may be significantly different than the amounts shown in this report.

Although a thorough analysis of the risk of not meeting the assumptions is beyond the scope of this report, this discussion is intended to identify the significant risks faced by the plan. In some cases, a more detailed review of the risks, including numerical analysis, may be appropriate to help the plan sponsor and other interested parties assess the specific impact of not realizing certain assumptions. For example, Table I-B illustrates the impact that alternative long-term investment returns would have on the contribution rate. Note that this report is not intended to provide advice on the management or reduction of the identified risks nor is this report intended to provide investment advice.

The most significant risk faced by most defined benefit pension plans is investment risk, i.e. the risk that long-term investment returns will be less than assumed. Other related risks include a risk that, if the investments of the plan decline dramatically over a short period of time (such as occurred with many pension plans in 2008), the plan's assets may not have sufficient time to recover before benefits become due. Even if the assets of the plan grow in accordance with the assumed investment return over time, if benefit payments are expected to be large in the short-term (for example, if the plan provides an actuarial equivalent lump sum payment option and a large number of participants are expected to become entitled to such a lump sum in the near future), the plan's assets may not be sufficient to support such a high level of benefit payments. We have provided a 10-year projection of the expected benefit payments in Table III-G to help the Trustees in formulating an investment policy that is expected to provide an investment return that meets both the short- and long-term cash flow needs of the pension plan.

Another source of risk is demographic experience. This is the risk that participants will receive salary increases that are different than the amount assumed, that participants will retire, become disabled, or terminate their employment at a rate that is different than assumed, and that participants will live longer than assumed, just to cite a few examples of the demographic risk faced by the plan. Although for most pension plans, the demographic risk is not as significant as the investment risk, particularly in light of the fact that the mortality assumption includes a component for future life expectancy increases, the demographic risk can nevertheless be a significant contributing factor to liabilities and contribution rates that become higher than anticipated.

A third source of risk is the risk that the plan sponsor (or other contributing entities) will not make, or will not have the ability to make, the contributions that are required to keep the plan funded at a sufficient level. Material changes in the number of covered employees, covered payroll, and, in some cases, hours worked by active participants can also significantly impact the plan's liabilities and the level of contributions received by the plan.

Contents of the Report

Tables I-D through I-I 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. Tables III-A through III-G provide statistical information concerning the plan's participant population. In particular, Table III-G 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 and IV-B provide a summary of the actuarial assumptions and methods that are used to value the plan's benefits as of October 1, 2020, as well as a summary of the changes that have occurred since the previous valuation report was prepared.

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

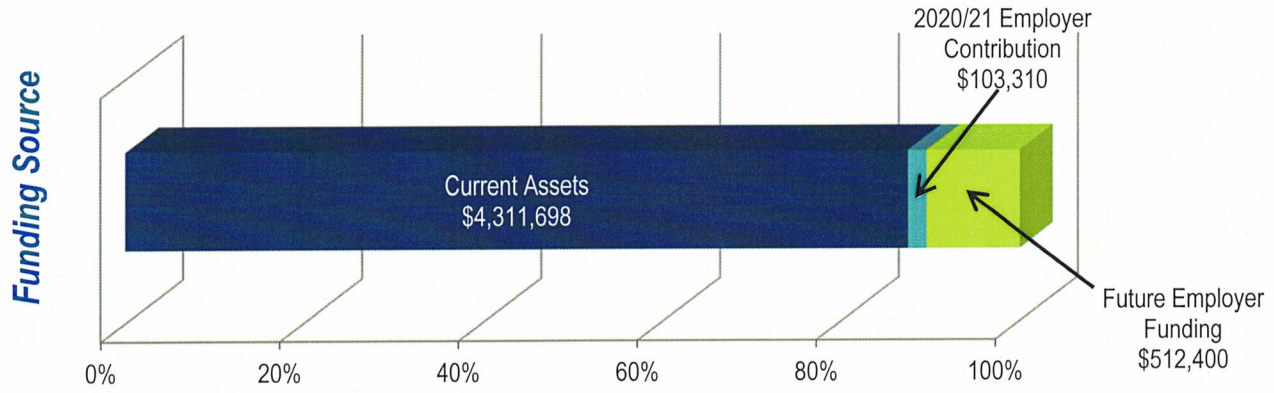
Charles T. Carr
Consulting Actuary
Southern Actuarial Services Company, Inc.

Enrolled Actuary No. 20-04927

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 2020/21 Plan Year

Entry Age Normal Cost	$0
Unfunded Liability Amortization Payment	$85,810
Expense Allowance	$17,500
Expected Employee Contribution	$0
Employer Contribution as of the Beginning of the Plan Year	$103,310
Adjustment to Reflect Monthly Employer Contributions	$0
Minimum Required Contribution	**$103,310**

Additional Disclosures

Present Value of Future Compensation	$0
Present Value of Future Employer Contributions	$615,710
Present Value of Future Employee Contributions	$0

Present Value of Future Benefits

Table I-D

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
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**
Deferred Vested Participants			
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**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$3,661,323	$3,661,323	$3,512,549
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$1,423,044	$1,423,044	$1,397,359
Sub-total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Grand Total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Present Value of Future Payroll	$0	$0	$0
Present Value of Future Employee Contribs.	$0	$0	$0
Present Value of Future Employer Contribs.	$790,169	$790,169	$615,710

Present Value of Accrued Benefits

Table I-E

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
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**
Deferred Vested Participants			
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**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$3,661,323	$3,661,323	$3,512,549
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$1,423,044	$1,423,044	$1,397,359
Sub-total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Grand Total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Funded Percentage	97.31%	97.31%	100.76%

(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
Actively Employed Participants			
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**
Deferred Vested Participants			
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**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$3,661,323	$3,661,323	$3,512,549
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$1,423,044	$1,423,044	$1,397,359
Sub-total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Grand Total	**$5,084,367**	**$5,084,367**	**$4,909,908**

Entry Age Normal Accrued Liability

Table I-G

	Old Assumptions w/o Amendment	Old Assumptions w/ Amendment	New Assumptions w/ Amendment
Actively Employed Participants			
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**
Deferred Vested Participants			
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**
Due a Refund of Contributions	**$0**	**$0**	**$0**
Deferred Beneficiaries	**$0**	**$0**	**$0**
Retired Participants			
Service retirements	$3,661,323	$3,661,323	$3,512,549
Disability retirements	$0	$0	$0
Beneficiaries receiving	$0	$0	$0
DROP participants	$1,423,044	$1,423,044	$1,397,359
Sub-total	**$5,084,367**	**$5,084,367**	**$4,909,908**
Grand Total	**$5,084,367**	**$5,084,367**	**$4,909,908**
less Actuarial Value of Assets	*($4,311,698)*	*($4,311,698)*	*($4,311,698)*
Unfunded Accrued Liability	**$772,669**	**$772,669**	**$598,210**

Unfunded Liability Bases

Table I-I

Description	Original Amount	Outstanding Balance	Amortization Payment	Years Rem.
	Total	***$598,210***	***$85,810***	
10/1/2020 Fresh Start	$598,210	$598,210	$85,810	9

Actuarial Value of Assets

Table II-A

Market Value of Assets as of October 1, 2020	$5,081,123
Minus DROP account credits	($133,670)
Plus/minus advance employer contribution	($635,755)
Actuarial Value of Assets as of October 1, 2020	**$4,311,698**

Historical Actuarial Value of Assets

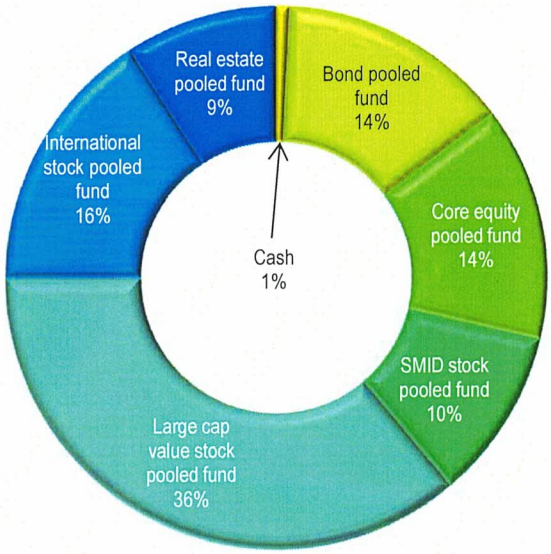
October 1, 2011	$1,901,446
October 1, 2012	$2,125,637
October 1, 2013	$2,327,326
October 1, 2014	$3,363,042
October 1, 2015	$3,264,002
October 1, 2016	$3,456,895
October 1, 2017	$3,905,947
October 1, 2018	$4,126,863
October 1, 2019	$4,266,040
October 1, 2020	$4,311,698

Market Value of Assets

Table II-B

As of October 1, 2020

Market Value of Assets	**$5,081,123**
Cash	$40,649
Bond pooled fund	$706,276
Core equity pooled fund	$711,357
SMID stock pooled fund	$518,275
Large cap value stock pooled fund	$1,834,285
International stock pooled fund	$807,899
Real estate pooled fund	$462,382

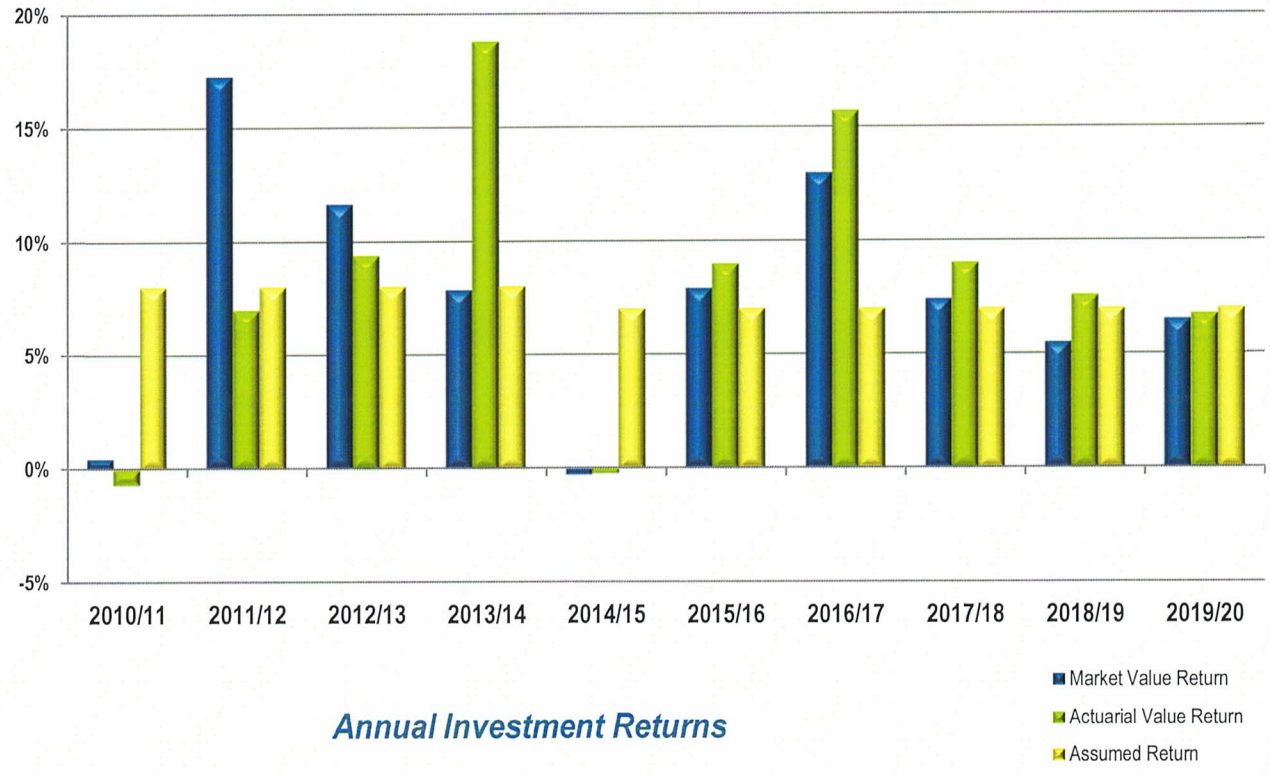


Historical Market Value of Assets

October 1, 2011	$2,093,553
October 1, 2012	$2,529,990
October 1, 2013	$2,926,262
October 1, 2014	$3,432,921
October 1, 2015	$3,561,022
October 1, 2016	$4,034,868
October 1, 2017	$4,761,276
October 1, 2018	$4,941,798
October 1, 2019	$5,059,927
October 1, 2020	$5,081,123

Investment Return

Table II-C



Annual Investment Returns

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
2010/11	0.44%	-0.69%	8.00%
2011/12	17.26%	7.00%	8.00%
2012/13	11.66%	9.41%	8.00%
2013/14	7.86%	18.77%	8.00%
2014/15	-0.28%	-0.21%	7.00%
2015/16	7.92%	9.00%	7.00%
2016/17	12.99%	15.71%	7.00%
2017/18	7.43%	9.04%	7.00%
2018/19	5.50%	7.60%	7.00%
2019/20	6.52%	6.76%	7.00%
10yr. Avg.	7.61%	8.09%	7.40%

Asset Reconciliation

Table II-D

	Market Value	Actuarial Value
As of October 1, 2018	**$4,941,798**	**$4,126,863**
Increases Due To:		
Employer Contributions	$137,084	$137,084
Employee Contributions	$32,368	$32,368
Service Purchase Contributions	$0	$0
Total Contributions	$169,452	$169,452
Interest and Dividends	$0	
Realized Gains (Losses)	$0	
Unrealized Gains (Losses)	$587,829	
Total Investment Income	$587,829	$587,829
Other Income	$0	
Total Income	**$757,281**	**$757,281**
Decreases Due To:		
Monthly Benefit Payments	($592,421)	($592,421)
Refund of Employee Contributions	$0	$0
DROP Credits		($133,670)
Total Benefit Payments	($592,421)	($726,091)
Investment Expenses	$0	
Administrative Expenses	($25,535)	($25,535)
Advance Employer Contribution		$179,180
Total Expenses	**($617,956)**	**($572,446)**
As of October 1, 2020	**$5,081,123**	**$4,311,698**

Historical Trust Fund Detail

Table II-E

Income

Plan Year	Employer Contribs.	Employee Contribs.	Service Purchase Contribs.	Interest / Dividends	Realized Gains / Losses	Unrealized Gains / Losses	Other Income
2010/11	$343,155	$52,073	$0	$0	$0	$8,789	$0
2011/12	$301,131	$43,797	$0	$0	$0	$367,360	$0
2012/13	$336,520	$35,959	$0	$0	$0	$300,561	$0
2013/14	$506,288	$28,150	$0	$0	$0	$240,525	$0
2014/15	$366,299	$29,366	$0	$0	$0	-$9,895	$0
2015/16	$407,167	$30,554	$0	$0	$0	$289,334	$0
2016/17	$415,079	$31,636	$0	$0	$0	$536,281	$0
2017/18	$378,645	$31,616	$0	$0	$0	$347,409	$0
2018/19	$137,084	$23,114	$0	$0	$0	$267,552	$0
2019/20	$0	$9,254	$0	$0	$0	$320,277	$0

Expenses

Other Actuarial Adjustments

Plan Year	Monthly Benefit Payments	Contrib. Refunds	Admin. Expenses	Invest. Expenses	DROP Credits	Advance Employer Contribs.
2010/11	$198,170	$0	$5,232	$0	$0	$29,271
2011/12	$266,483	$0	$9,368	$0	$0	-$18,983
2012/13	$267,979	$0	$8,789	$0	$20,427	$73,691
2013/14	$261,166	$0	$7,138	$0	$49,452	-$330,854
2014/15	$244,921	$0	$12,748	$0	$44,429	$185,581
2015/16	$244,921	$0	$8,288	$0	$57,373	$223,580
2016/17	$246,044	$0	$10,544	$0	$72,381	$204,975
2017/18	$559,765	$0	$17,383	$0	-$244,062	$203,668
2018/19	$295,462	$0	$14,159	$0	$39,723	-$21,048
2019/20	$296,959	$0	$11,376	$0	$93,947	-$158,132

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

DROP Account Reconciliation

DROP Balance as of October 1, 2018	$0
DROP Benefit Credits	$37,656
DROP Investment Credits	$2,067
DROP Benefits Paid Out	$0
Net DROP Credit	$39,723
DROP Balance as of October 1, 2019	$39,723
DROP Benefit Credits	$83,528
DROP Investment Credits	$10,419
DROP Benefits Paid Out	$0
Net DROP Credit	$93,947
DROP Balance as of October 1, 2020	$133,670

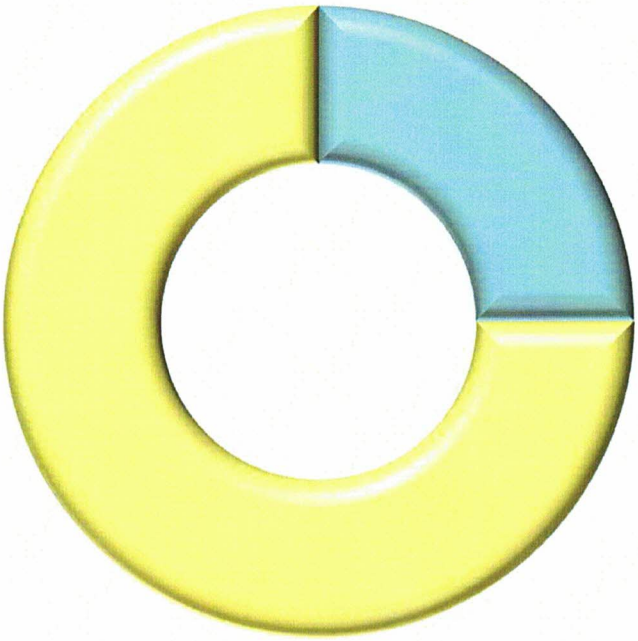
Advance Employer Contribution

Advance Employer Contribution as of October 1, 2018	$814,935
Additional Employer Contribution	$137,084
Minimum Required Contribution	($158,132)
Net Increase in Advance Employer Contribution	($21,048)
Advance Employer Contribution as of October 1, 2019	$793,887
Additional Employer Contribution	$0
Minimum Required Contribution	($158,132)
Net Increase in Advance Employer Contribution	($158,132)
Advance Employer Contribution as of October 1, 2020	$635,755

Summary of Participant Data

Table III-A

As of October 1, 2020



Participant Distribution by Status

Actively Employed Participants	
Active Participants	0
DROP Participants	2
Inactive Participants	
Deferred Vested Participants	0
Due a Refund of Contributions	0
Deferred Beneficiaries	0
Participants Receiving a Benefit	
Service Retirements	6
Disability Retirements	0
Beneficiaries Receiving	0
Total Participants	**8**

Number of Participants Included in Prior Valuations

	Active	*DROP*	*Inactive*	*Retired*	*Total*
October 1, 2011	3	0	0	6	9
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	2	1	0	5	8
October 1, 2015	2	1	0	5	8
October 1, 2016	2	1	0	5	8
October 1, 2017	2	1	0	5	8
October 1, 2018	2	0	0	6	8
October 1, 2019	N/A	N/A	N/A	N/A	N/A
October 1, 2020	0	2	0	6	8

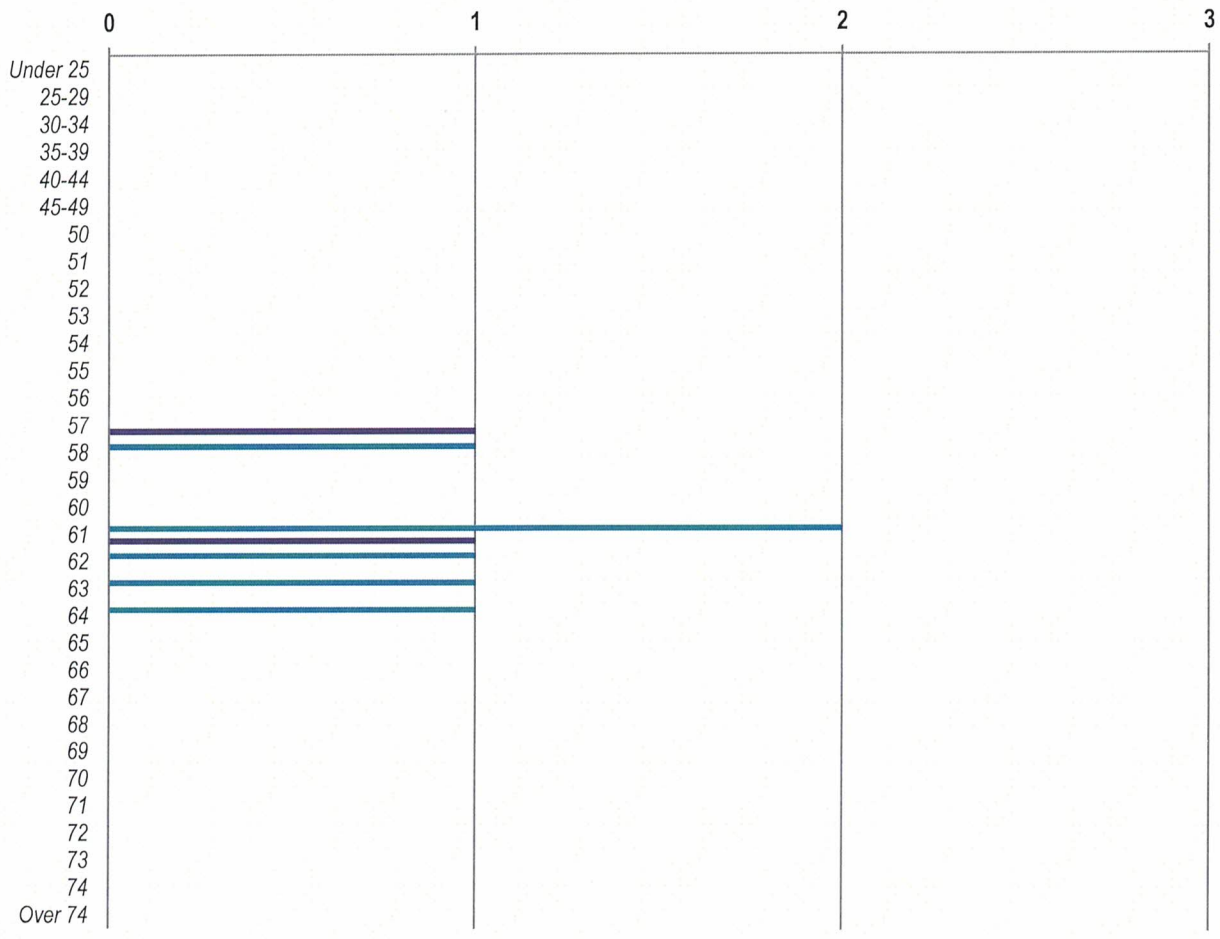
Data Reconciliation

Table III-B

	Active	DROP	Deferred Vested	Due a Refund	Def. Benef.	Service Retiree	Disabled Retiree	Benef. Rec'v.	Total
October 1, 2018	2	0	0	0	0	6	0	0	**8**
Change in Status									
Re-employed									
Terminated									
Retired									
Participation Ended									
Transferred Out	(2)	2							
Cashed Out									
Died									
Participation Began									
Newly Hired									
Transferred In									
New Beneficiary									
Other Adjustment									
October 1, 2020	0	2	0	0	0	6	0	0	**8**

Inactive Participant Data

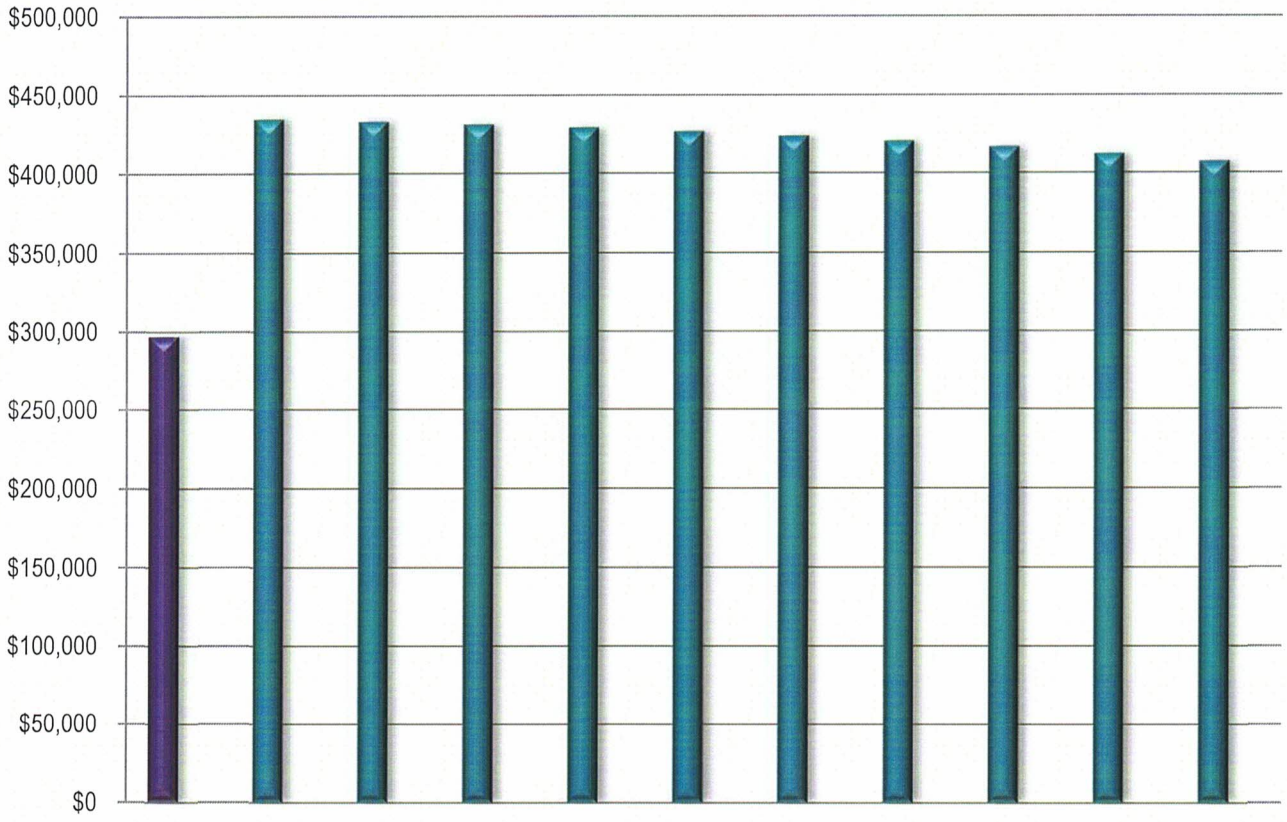
Table III-F



	Average Monthly Benefit
Service Retirements	*$4,524.70*
Disability Retirements	*Not applicable*
Beneficiaries Receiving	*Not applicable*
DROP Participants	*$4,607.12*
Deferred Vested Participants	*Not applicable*
Deferred Beneficiaries	*Not applicable*

Projected Benefit Payments

Table III-G



Actual	
For the period October 1, 2019 through September 30, 2020	$296,959
Projected	
For the period October 1, 2020 through September 30, 2021	$434,862
For the period October 1, 2021 through September 30, 2022	$433,197
For the period October 1, 2022 through September 30, 2023	$431,315
For the period October 1, 2023 through September 30, 2024	$429,178
For the period October 1, 2024 through September 30, 2025	$426,717
For the period October 1, 2025 through September 30, 2026	$423,874
For the period October 1, 2026 through September 30, 2027	$420,574
For the period October 1, 2027 through September 30, 2028	$416,759
For the period October 1, 2028 through September 30, 2029	$412,341
For the period October 1, 2029 through September 30, 2030	$407,237

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

Individual entry age normal cost method (nominally)

2. Amortization Method

The unfunded actuarial accrued liability is amortized as a level dollar amount over a closed period of 15 years from October 1, 2014.

3. Asset Method

The actuarial value of assets is equal to the market value of assets.

4. Interest (or Discount) Rate

7.00% per annum

5. Decrements

- Post-retirement mortality: Sex-distinct rates set forth in the PUB-2010 Headcount-Weighted Below Median Healthy Retiree Mortality Table for general employees, with full generational improvements in mortality using Scale MP-2018 and with male ages set back one year

6. Expenses

Administrative expenses are assumed to be $17,500 per year. 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 mortality basis was changed from the RP-2000 Combined Mortality Table with generational improvements in mortality using Scale BB to selected PUB-2010 Mortality Tables with generational improvements in mortality using Scale MP-2018.

The following additional assumption and method changes were made during the past 10 years:

(1) *Effective October 1, 2018, the assumed administrative expenses were increased from $7,500 per year to $17,500 per year.*

(2) *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 Combined Mortality Table as required by State law.*

(3) *Effective October 1, 2014, the amortization period for all bases was shortened from 22 years as of October 1, 2014 to 15 years.*

(4) *Effective October 1, 2014, the assumed interest rate was decreased from 8.00% per annum to 7.00% per annum.*

(5) *Effective October 1, 2014, the mortality basis was updated from the unprojected RP-2000 Mortality Table to the RP-2000 Mortality Table, projected to 2015 by Scale AA.*

(6) *Effective October 1, 2014, the decrements for termination of employment and disability were eliminated.*

(7) *Effective October 1, 2014, the assumed retirement age was changed to normal retirement age, but no earlier than one year after the valuation date.*

(8) *Effective October 1, 2014, the assumed administrative expenses were increased from $5,000 per year to $7,500 per year.*

(9) *Effective October 1, 2014, the four-year phase-in of investment gains and losses was eliminated for purposes of determining the actuarial value of assets.*