

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

Actuarial Valuation  
As of October 1, 2021

Determines the Contribution  
For the 2021/22 Fiscal Year



	<u>Page</u>
Discussion	1
 <b><u>Funding Results</u></b>	
Table I-A Minimum Required Contribution	I-1
Table I-D Present Value of Future Benefits	I-2
Table I-E Present Value of Accrued Benefits	I-3
Table I-F Present Value of Vested Benefits	I-4
Table I-G Entry Age Normal Accrued Liability	I-5
Table I-I Unfunded Liability Bases	I-6
 <b><u>Accounting Results</u></b>	
GASB 67/68 Supplement as of September 30, 2021	
<b><u>Assets</u></b>	
Table II-A Actuarial Value of Assets	II-1
Table II-B Market Value of Assets	II-2
Table II-C Investment Return	II-3
Table II-D Asset Reconciliation	II-4
Table II-E Historical Trust Fund Detail	II-5
Table II-F Other Reconciliations	II-6
 <b><u>Data</u></b>	
Table III-A Summary of Participant Data	III-1
Table III-B Data Reconciliation	III-2
Table III-F Inactive Participant Data	III-3
Table III-G Projected Benefit Payments	III-4
 <b><u>Methods &amp; Assumptions</u></b>	
Table IV-A Summary of Actuarial Methods and Assumptions	IV-1
Table IV-B Changes in Actuarial Methods and Assumptions	IV-2





April 29, 2022

## Introduction

This report presents the results of the October 1, 2021 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, 2021 and to determine the minimum required contribution under Chapter 112, Florida Statutes, for the 2021/22 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 2021/22 plan year. The minimum required contribution is zero, which represents a decrease of \$103,310 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 2021/22 minimum required contribution will be equal to zero.



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 \$4,829,655 excluding any adjustments for future administrative expenses. As illustrated in Table I-A, current assets are sufficient to cover this entire amount. Demographic and investment experience that differs from that assumed may increase the future employer funding requirement.

## 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, 2021, the advance employer contribution is \$532,445, which reflects the advance employer contribution of \$635,755 as of October 1, 2020 less \$103,310 to cover employer contributions that were less than the minimum required contribution for the 2020/21 plan year 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 2021/22 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.

## 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, 2021, 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 J. 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 2021/22 Plan Year**

Entry Age Normal Cost	\$0
Unfunded Liability Amortization Payment	\$0
Expense Allowance	\$17,500
Expected Employee Contribution	\$0
Employer Contribution as of the Beginning of the Plan Year	\$17,500
Overfunding Credit	(\$17,500)
Adjustment to Reflect BOY Employer Contribution	\$0
<b><i>Minimum Required Contribution</i></b>	<b>\$0</b>

**Additional Disclosures**

Present Value of Future Compensation	\$0
Present Value of Future Employer Contributions	\$0
Present Value of Future Employee Contributions	\$0



## Present Value of Future Benefits

Table I-D

	Old Assumptions <u>w/o Amendment</u>	Old Assumptions <u>w/ Amendment</u>	New Assumptions <u>w/ Amendment</u>
<i><u>Actively Employed Participants</u></i>			
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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Vested Participants</u></i>			
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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Due a Refund of Contributions</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Deferred Beneficiaries</u></i>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<i><u>Retired Participants</u></i>			
Service retirements	\$4,129,694	\$4,129,694	\$4,129,694
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$699,961	\$699,961	\$699,961
Sub-total	<b>\$4,829,655</b>	<b>\$4,829,655</b>	<b>\$4,829,655</b>
<i><u>Grand Total</u></i>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>
Present Value of Future Payroll	\$0	\$0	\$0
Present Value of Future Employee Contribs.	\$0	\$0	\$0
Present Value of Future Employer Contribs.	\$0	\$0	\$0





## Present Value of Accrued Benefits

Table I-E

	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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Vested 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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Due a Refund of Contributions</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$4,129,694	\$4,129,694	\$4,129,694
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$699,961	\$699,961	\$699,961
Sub-total	<b>\$4,829,655</b>	<b>\$4,829,655</b>	<b>\$4,829,655</b>
<u>Grand Total</u>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>

Funded Percentage

113.26%

113.26%

113.26%

(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 <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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Vested 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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Due a Refund of Contributions</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$4,129,694	\$4,129,694	\$4,129,694
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$699,961	\$699,961	\$699,961
Sub-total	<b>\$4,829,655</b>	<b>\$4,829,655</b>	<b>\$4,829,655</b>
<u>Grand Total</u>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>





## 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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Vested 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	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Due a Refund of Contributions</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Deferred Beneficiaries</u>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
<u>Retired Participants</u>			
Service retirements	\$4,129,694	\$4,129,694	\$4,129,694
Disability retirements	\$0	\$0	\$0
Beneficiaries receiving	\$0	\$0	\$0
DROP participants	\$699,961	\$699,961	\$699,961
Sub-total	<b>\$4,829,655</b>	<b>\$4,829,655</b>	<b>\$4,829,655</b>
<u>Grand Total</u>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>	<b><u>\$4,829,655</u></b>
less Actuarial Value of Assets	(\$4,937,646)	(\$4,937,646)	(\$4,937,646)
<u>Unfunded Accrued Liability</u>	<b><u>\$0</u></b>	<b><u>\$0</u></b>	<b><u>\$0</u></b>



Unfunded Liability Bases

Table I-I

<u>Description</u>	<u>Original Amount</u>	<u>Outstanding Balance</u>	<u>Amortization Payment</u>	<u>Years Rem.</u>
	<i>Total</i>	\$0 ↓	\$0 ↓	





## Actuarial Value of Assets

## Table II-A

Market Value of Assets as of October 1, 2021	\$5,564,301
Minus DROP account credits	(\$94,210)
Plus/minus advance employer contribution	(\$532,445)
<b>Actuarial Value of Assets as of October 1, 2021</b>	<b><u>\$4,937,646</u></b>

**Historical Actuarial Value of Assets**

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
October 1, 2021	\$4,937,646

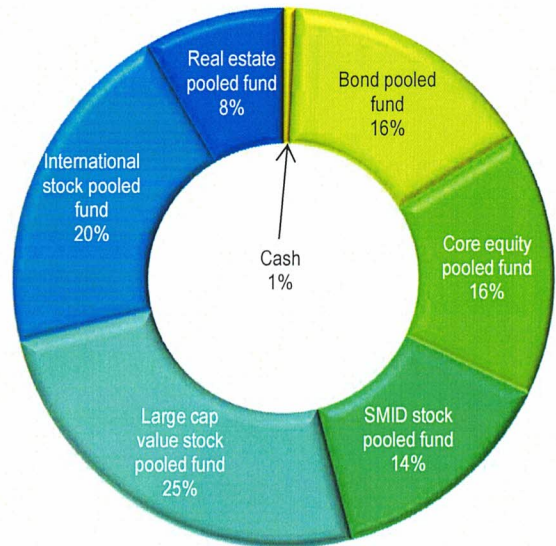


## Market Value of Assets

Table II-B

As of October 1, 2021**Market Value of Assets** **\$5,564,301**

Cash	\$38,950
Bond pooled fund	\$862,467
Core equity pooled fund	\$879,160
SMID stock pooled fund	\$773,438
Large cap value stock pooled fund	\$1,407,768
International stock pooled fund	\$1,135,117
Real estate pooled fund	\$467,401

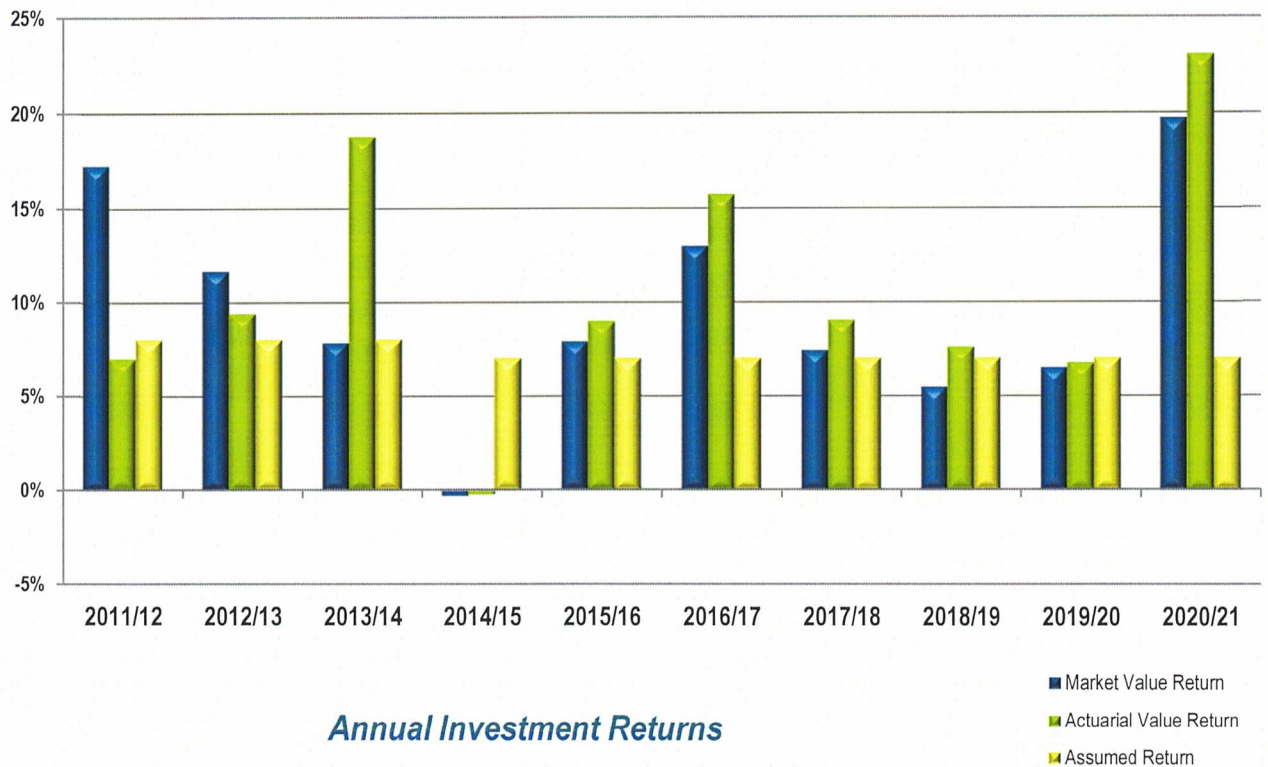
**Historical Market Value of Assets**

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
October 1, 2021	\$5,564,301



## Investment Return

Table II-C

*Annual Investment Returns*

Plan Year	Market Value Return	Actuarial Value Return	Assumed Return
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%
2020/21	19.73%	23.05%	7.00%
10yr. Avg.	9.52%	10.43%	7.30%





## Asset Reconciliation

## Table II-D

	<u>Market Value</u>	<u>Actuarial Value</u>
<b>As of October 1, 2020</b>	<b>\$5,081,123</b>	<b>\$4,311,698</b>
<b><i>Increases Due To:</i></b>		
Employer Contributions	\$0	\$0
Employee Contributions	\$0	\$0
Service Purchase Contributions	\$0	\$0
Total Contributions	<u>\$0</u>	<u>\$0</u>
Interest and Dividends	\$0	
Realized Gains (Losses)	\$0	
Unrealized Gains (Losses)	\$955,829	
Total Investment Income	<u>\$955,829</u>	\$955,829
Other Income	\$0	
<b>Total Income</b>	<u><b>\$955,829</b></u>	<u><b>\$955,829</b></u>
<b><i>Decreases Due To:</i></b>		
Monthly Benefit Payments	(\$457,036)	(\$457,036)
Refund of Employee Contributions	\$0	\$0
DROP Credits		\$39,460
Total Benefit Payments	<u>(\$457,036)</u>	<u>(\$417,576)</u>
Investment Expenses	\$0	
Administrative Expenses	(\$15,615)	(\$15,615)
Advance Employer Contribution		\$103,310
<b>Total Expenses</b>	<u><b>(\$472,651)</b></u>	<u><b>(\$329,881)</b></u>
<b>As of October 1, 2021</b>	<u><b>\$5,564,301</b></u>	<u><b>\$4,937,646</b></u>



## Historical Trust Fund Detail

Table II-E

Income

Plan	Employer	Employee	Service		Realized	Unrealized	Other
<u>Year</u>	<u>Contribs.</u>	<u>Contribs.</u>	<u>Purchase</u>	<u>Interest /</u>	<u>Gains /</u>	<u>Gains /</u>	<u>Income</u>
			<u>Contribs.</u>	<u>Dividends</u>	<u>Losses</u>	<u>Losses</u>	
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
2020/21	\$0	\$0	\$0	\$0	\$0	\$955,829	\$0

Expenses

Plan	Monthly				<u>Other Actuarial Adjustments</u>	
<u>Year</u>	<u>Benefit</u>	<u>Contrib.</u>	<u>Admin.</u>	<u>Invest.</u>	<u>DROP</u>	<u>Advance</u>
	<u>Payments</u>	<u>Refunds</u>	<u>Expenses</u>	<u>Expenses</u>	<u>Credits</u>	<u>Employer</u>
						<u>Contribs.</u>
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
2020/21	\$457,036	\$0	\$15,615	\$0	-\$39,460	-\$103,310

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, 2020	\$133,670
DROP Benefit Credits	\$54,087
DROP Investment Credits	\$9,672
DROP Benefits Paid Out	(\$103,219)
Net DROP Credit	(\$39,460)
DROP Balance as of October 1, 2021	<u>\$94,210</u>

**Advance Employer Contribution**

Advance Employer Contribution as of October 1, 2020	\$635,755
Additional Employer Contribution	\$0
Minimum Required Contribution	(\$103,310)
Net Increase in Advance Employer Contribution	(\$103,310)
Advance Employer Contribution as of October 1, 2021	<u>\$532,445</u>

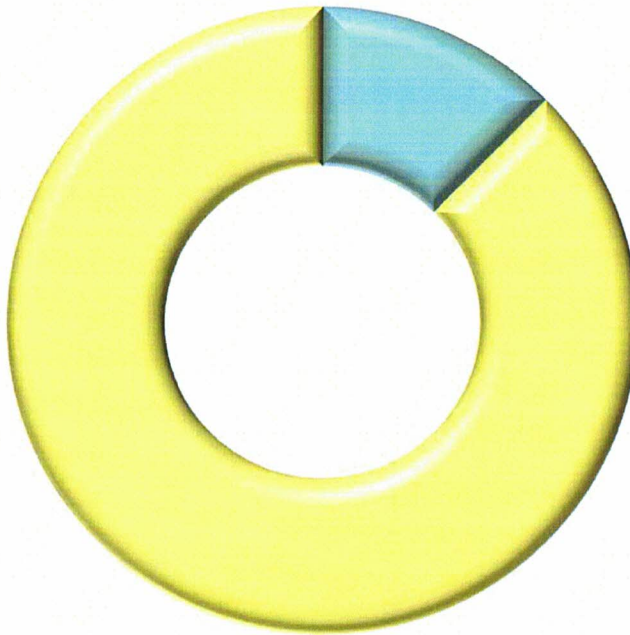




## Summary of Participant Data

Table III-A

As of October 1, 2021

*Participant Distribution by Status*Actively Employed Participants

Active Participants	0
DROP Participants	1

Inactive Participants

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

Participants Receiving a Benefit

Service Retirements	7
Disability Retirements	0
Beneficiaries Receiving	0

**Total Participants 8**Number of Participants Included in Prior Valuations

	<i>Active</i>	<i>DROP</i>	<i>Inactive</i>	<i>Retired</i>	<i>Total</i>
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
October 1, 2021	0	1	0	7	8



## Data Reconciliation

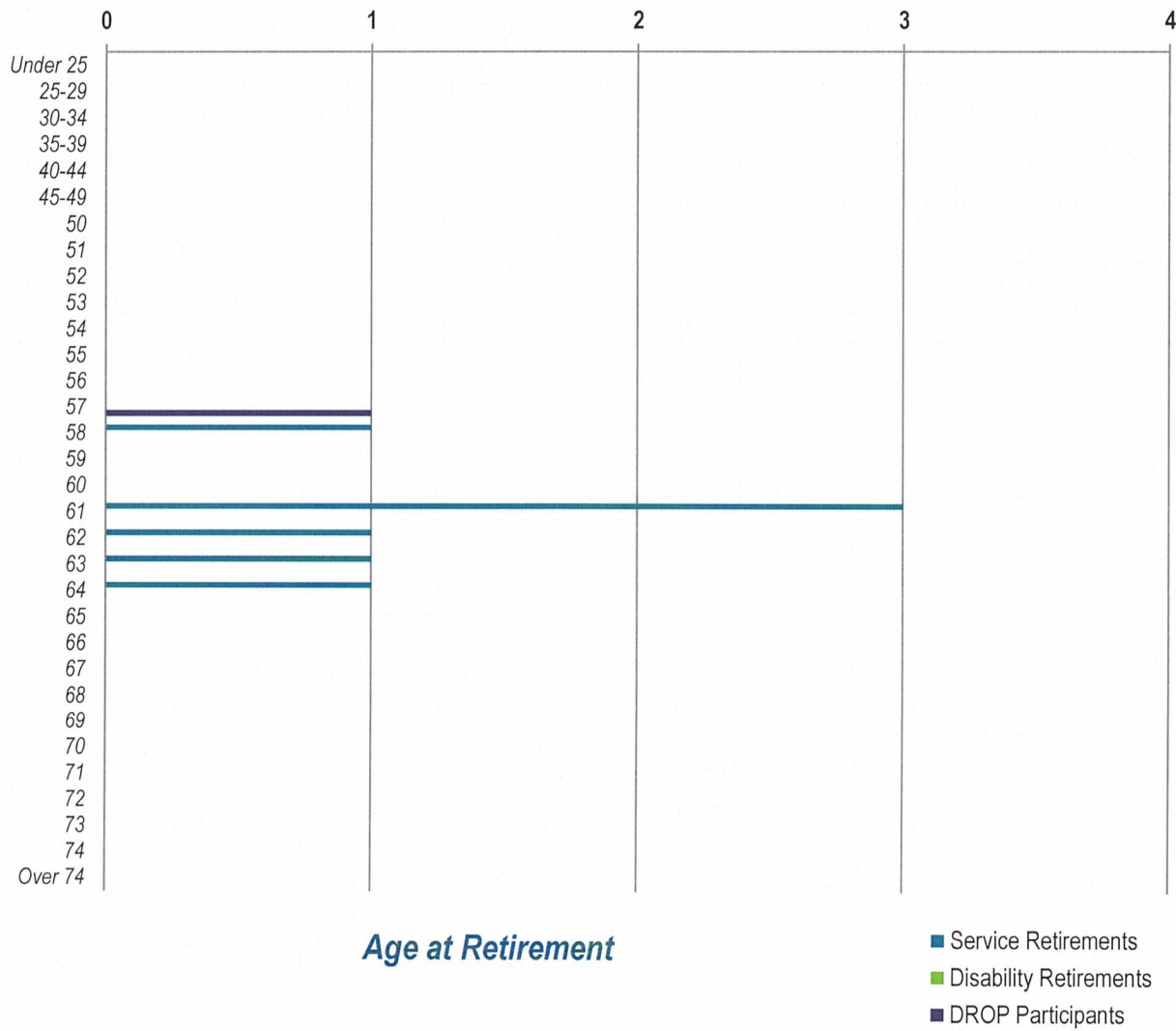
Table III-B

	<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, 2020</u>	0	2	0	0	0	6	0	0	8
<u>Change in Status</u>									
Re-employed									
Terminated									
Retired		(1)				1			
<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, 2021</u>	0	1	0	0	0	7	0	0	8



## Inactive Participant Data

Table III-F

Average Monthly Benefit

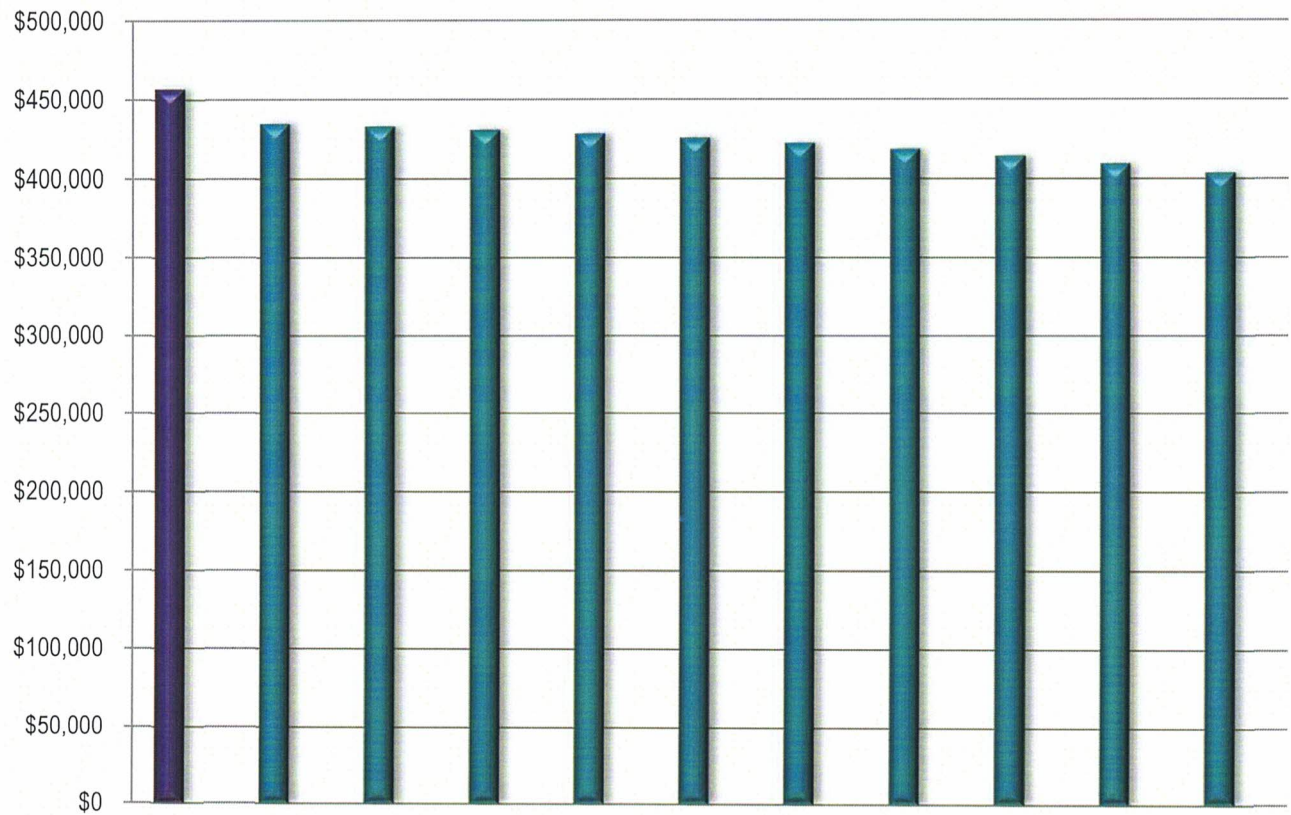
Service Retirements	\$4,550.75
Disability Retirements	Not applicable
Beneficiaries Receiving	Not applicable
DROP Participants	\$4,507.23
Deferred Vested Participants	Not applicable
Deferred Beneficiaries	Not applicable





## Projected Benefit Payments

Table III-G

Actual

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

\$457,036

Projected

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

\$434,773

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

\$432,980

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

\$430,931

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

\$428,559

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

\$425,809

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

\$422,596

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

\$418,870

For the period October 1, 2028 through September 30, 2029

\$414,535

For the period October 1, 2029 through September 30, 2030

\$409,512

For the period October 1, 2030 through September 30, 2031

\$403,699



## 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

No assumptions or methods were changed since the completion of the previous valuation.

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

- (1) *Effective October 1, 2020, 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.*
- (2) *Effective October 1, 2018, the assumed administrative expenses were increased from \$7,500 per year to \$17,500 per year.*
- (3) *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.*
- (4) *Effective October 1, 2014, the amortization period for all bases was shortened from 22 years as of October 1, 2014 to 15 years.*
- (5) *Effective October 1, 2014, the assumed interest rate was decreased from 8.00% per annum to 7.00% per annum.*
- (6) *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.*
- (7) *Effective October 1, 2014, the decrements for termination of employment and disability were eliminated.*
- (8) *Effective October 1, 2014, the assumed retirement age was changed to normal retirement age, but no earlier than one year after the valuation date.*
- (9) *Effective October 1, 2014, the assumed administrative expenses were increased from \$5,000 per year to \$7,500 per year.*
- (10) *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.*

