

City of Manchester Employees' Contributory Retirement System

GASB Statement Nos. 67 and 68 Accounting and
Financial Reporting for Pensions

December 31, 2020





April 21, 2021

Board of Trustees
City of Manchester Employees'
Contributory Retirement System
Manchester, New Hampshire

Dear Board Members:

The purpose of this report is to provide the accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the City of Manchester Employees' Contributory Retirement System (MECRS). These calculations have been made on a basis that is consistent with our understanding of these accounting standards. This report should not be relied upon for any other purpose than described herein.

GASB Statement Nos. 67 and 68 are the accounting standards that apply to the stand-alone financial reports issued by retirement systems. This information is presented in draft form for review by the City's auditor. Please let us know if there are items that the auditor changes so that we may maintain consistency with the City's financial statements.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of assisting in the reporting and disclosure information that satisfies certain requirements of GASB Statement Nos. 67 and 68. The Net Pension Liability is not an appropriate measure for determining the sufficiency of plan assets to cover the estimated cost of settling the employer's benefit obligation. The Net Pension Liability is not an appropriate measure for assessing the need for or amount of future employer contributions. The calculation of the City's liability for this report may not be applicable for funding purposes of the Retirement System. A calculation of the City's liability for purposes other than satisfying the requirements of GASB Statement Nos. 67 and 68 may produce significantly different results. GASB Statement Nos. 67 and 68 cover pension benefits provided by the Retirement System. The Retirement System also provides post-retirement health benefits through a Section 401(h) sub-trust. The assets and liabilities of the sub-trust have not been included in this report. Please refer to the actuarial valuation for information concerning the liabilities and assets of the sub-trust.

This report may be provided to parties other than the City of Manchester Employees' Contributory Retirement System and the Board of Trustees only in its entirety and only with the permission of the Board. Authorized or unauthorized use of this report does not create a liability between GRS and the other party. GRS is not responsible for unauthorized use of this report.

This report was prepared using our proprietary valuation model and related software which in our professional judgment has the capability to provide results that are consistent with the purposes of the valuation and has no material limitations or known weaknesses. We performed tests to ensure that the model reasonably represents that which is intended to be modeled.

This report is based upon information, furnished to us by the Retirement System, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but was not audited. We are not responsible for the accuracy or completeness of such information.

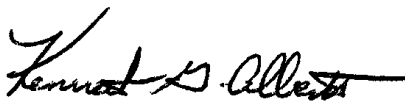
This report complements the actuarial valuation report provided to the City of Manchester Employees' Contributory Retirement System and should be considered collectively as a combined report for the plan year ending December 31, 2020. Please refer to the December 31, 2020 actuarial valuation report for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

To the best of our knowledge, the information contained within this report is accurate and fairly represents the actuarial position of the City of Manchester Employees' Contributory Retirement System for the purposes of GASB Statements No. 67 and No. 68 reporting. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Heidi G. Barry and Kevin T. Noelke are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. The signing individuals are independent of the plan sponsors.

This communication shall not be construed to provide tax advice, legal advice, accounting advice, or investment advice.

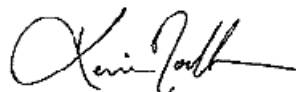
Respectfully submitted,



Kenneth G. Alberts



Heidi G. Barry, ASA, FCA, MAAA



Kevin T. Noelke, ASA, MAAA

KGA/HGB/KTN:dj



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SECTION A



EXECUTIVE SUMMARY

Executive Summary as of December 31, 2020

Actuarial Valuation Date	December 31, 2020
Measurement Date of the Net Pension Liability	December 31, 2020
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2021

Membership

Number of	
- Retirees and Beneficiaries	988
- Inactive, Nonretired Members	112
- Active Members	1,088
- Total	2,188
Covered Payroll #	\$ 54,254,463

Net Pension Liability

Total Pension Liability	\$ 413,910,761
Plan Fiduciary Net Position	259,929,360
Net Pension Liability	\$ 153,981,401
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.80%
Net Pension Liability as a Percentage of Covered Payroll	283.81%

Development of the Single Discount Rate

Single Discount Rate	6.75%
Long-Term Expected Rate of Investment Return	6.75%
Long-Term Municipal Bond Rate*	2.00%
Last year ending December 31 in the 2021 to 2120 projection period for which projected benefit payments are fully funded	2120

Total Pension Expense \$ 18,710,279

Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources
Difference between expected and actual experience	\$ 4,582,311	\$ 680,702
Changes in assumptions	25,876,800	-
Net difference between projected and actual earnings on pension plan investments	10,778,872	26,246,633
Total	\$ 41,237,983	\$ 26,927,335

Based on valuation payroll as of December 31, 2020.

* Source: Fixed-Income municipal bonds with 20 years to maturity that include only federally tax-exempt municipal bonds as reported in Fidelity Index's "20-Year Municipal GO AA Index" as of December 31, 2020, the most recent date available on or before the measurement date. In describing this index, Fidelity notes that the municipal curves are constructed using option-adjusted analytics of a diverse population of over 10,000 tax exempt securities.



Discussion

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the Net Pension Liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires State or local governments to recognize the Net Pension Liability and the pension expense on their financial statements. The Net Pension Liability is the difference between the Total Pension Liability and the Plan's Fiduciary Net Position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

Paragraph 57 of GASB Statement No. 68 States, "Contributions to the pension plan from the employer subsequent to the measurement date of the collective net pension liability and before the end of the employer's reporting period should be reported as a deferred outflow of resources related to pensions." The information contained in this report does not incorporate any contributions made to MECRS subsequent to the measurement date of December 31, 2020.

The pension expense recognized each fiscal year is equal to the change in the Net Pension Liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The statement of fiduciary net position presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The statement of changes in fiduciary net position presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

GASB Statement Nos. 67 and 68 require the notes of the financial statements for the employers and pension plans to include certain additional information. The list of disclosure items should include:

- A description of benefits provided by the plan;
- The type of employees and number of members covered by the pension plan;
- A description of the plan's funding policy, which includes member and employer contribution requirements;
- The pension plan's investment policies;
- The pension Plan's Fiduciary Net Position, Net Pension Liability, and the pension plan's fiduciary net position as a percentage of the Total Pension Liability;
- The Net Pension Liability using a discount rate that is 1% higher and 1% lower than used to calculate the Total Pension Liability and Net Pension Liability for financial reporting purposes;
- Significant assumptions and methods used to calculate the Total Pension Liability;
- Inputs to the discount rates; and
- Certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with GASB Statement No. 67. This information includes:

- The composition of the pension plan's Board and the authority under which benefit terms may be amended;
- A description of how fair value is determined;
- Information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- Annual money-weighted rate of return.

Required Supplementary Information

GASB Statement No. 67 requires a 10-year fiscal history of:

- Sources of changes in the Net Pension Liability;
- Information about the components of the Net Pension Liability and related ratios, including the pension plan's Fiduciary Net Position as a percentage of the Total Pension Liability, and the Net Pension Liability as a percent of covered-employee payroll; and
- Comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.



General Implications of Contribution Allocation Procedure or Funding Policy on Future Expected Plan Contributions and Funded Status

Given the plan's contribution allocation procedure, if all actuarial assumptions are met (including the assumption of the plan earning 6.75% on the actuarial value of assets), then the following outcomes are expected:

1. The employer normal cost as a percentage of pay is expected to remain level as a percentage of payroll.
2. The unfunded liability is expected to be paid off in approximately 19 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.
3. The funded status of the plan is expected to reach a 100% funded ratio in approximately 19 years, which is the number of years remaining in the closed amortization schedule of the unfunded liability.

This funding policy results in the expectation that the plan's assets will be able to fully pay for promised benefits through at least 2120. The projections in this report are strictly for the purpose of determining the GASB single discount rate and are different from a funding projection for the ongoing plan.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. For employer reporting, the net pension liability and pension expense should be measured as of a date (measurement date) no earlier than the end of the employer's prior fiscal year, consistently applied from period to period. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The Total Pension Liability shown in this report is based on an actuarial valuation performed as of December 31, 2020 and a measurement date of December 31, 2020.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a Single Discount Rate that reflects: (1) a long-term expected rate of return on pension plan investments (to the extent that the plan's fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 2.00% (based on the daily rate closest to but not later than the measurement date of the Fidelity "20-Year Municipal GO AA Index"); and the resulting Single Discount Rate is 6.75%.



Assumption Changes

A number of assumptions were modified as a result of the experience study for the 3-year period ended December 31, 2019.

Demographic Assumptions: Rates used to model mortality, salary increases, withdrawals, and retirements were updated for the December 31, 2020 valuation. In addition, the marriage assumption for active employees was reduced from 75% to 50% and the load used to account for end of career payments was increased from 10% to 12%.

Economic Assumptions: The expected rate of investment return was lowered from 7.00% to 6.75%, the price inflation was reduced from 2.25% to 2.00%, and the wage inflation rate was reduced from 2.75% to 2.50% for the December 31, 2020 valuation.

Administrative Expenses: To better reflect the System's observed historical administrative expenses, the normal cost load was increased from 1.00% to 1.25% of active member payroll.

The recognition of these assumption changes reduced the pension funded status from 63.7% to 59.2% and the health funded status from 51.8% to 46.8%. Further, the pension contribution increased by 4.62% of pay and the health contribution by 0.56% of pay.

For a more complete description of the changes please see alternate 2 of our experience study dated October 15, 2020.

Benefit Changes

There were no benefit changes during the year.

SECTION B



FINANCIAL STATEMENTS

Statement of Pension Expense Under GASB Statement No. 68

Plan Year Ended December 31, 2020

A. Expense

1. Service Cost	\$	6,467,132
2. Interest on the Total Pension Liability		25,471,822
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(2,374,547)
5. Projected Earnings on Plan Investments (made negative for addition here)		(16,163,457)
6. Pension Plan Administrative Expense		910,717
7. Other Changes in Plan Fiduciary Net Position		1,982
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		8,638,847
9. Recognition of Outflow (Inflow) of Resources due to Assets		(4,242,217)
10. Total Pension Expense	\$	18,710,279

Statement of Outflows and Inflows Arising from Current Reporting Period Plan Year Ended December 31, 2020

A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$ 2,625,836
2. Assumption Changes (gains) or losses	\$ 29,031,182
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}	4.9787
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	\$ 527,414
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$ 5,831,077
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$ 6,358,491
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	\$ 2,098,422
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$ 23,200,105
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$ 25,298,527

B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$ (14,742,222)
2. Recognition period for Assets {in years}	5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	\$ (2,948,444)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$ (11,793,778)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Plan Year Ended December 31, 2020

A. Outflows and Inflows of Resources Due to Liabilities and Assets to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	\$ 9,590,445	\$ 951,598	\$ 8,638,847
2. Due to Assets	5,740,711	9,982,928	(4,242,217)
3. Total	\$ 15,331,156	\$ 10,934,526	\$ 4,396,630

B. Outflows and Inflows of Resources by Source to be Recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	\$ 1,961,962	\$ 951,598	\$ 1,010,364
2. Assumption Changes	7,628,483	-	7,628,483
3. Net Difference between projected and actual earnings on pension plan investments	5,740,711	9,982,928	(4,242,217)
4. Total	\$ 15,331,156	\$ 10,934,526	\$ 4,396,630

C. Deferred Outflows and Deferred Inflows of Resources by Source to be Recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	\$ 4,582,311	\$ 680,702	\$ 3,901,609
2. Assumption Changes	25,876,800	-	25,876,800
3. Net Difference between projected and actual earnings on pension plan investments	10,778,872	26,246,633	(15,467,761)
4. Total	\$ 41,237,983	\$ 26,927,335	\$ 14,310,648

D. Deferred Outflows and Deferred Inflows of Resources by Year to be Recognized in Future Pension Expenses

	Year Ending December 31	Net Deferred Outflows of Resources
	2021	\$ 3,735,678
	2022	6,728,268
	2023	461,198
	2024	3,385,504
	2025	-
	Thereafter	-
	Total	\$ 14,310,648



Recognition of Deferred Outflows and Inflows of Resources

Year Established	Initial Amount	Initial Recognition Period	Current Year Recognition	Remaining Recognition	Remaining Recognition Period
Deferred Outflow (Inflow) Due to Differences Between Expected and Actual Experience on Liabilities					
2015	\$ 4,528,433	5.8007	\$ 625,083	\$ 0	0.0000
2016	(5,201,876)	5.6570	(919,547)	(604,141)	0.6570
2017	201,281	5.4892	36,669	54,605	1.4892
2018	(172,714)	5.3888	(32,051)	(76,561)	2.3888
2019	3,974,876	5.1435	772,796	2,429,284	3.1435
2020	2,625,836	4.9787	527,414	2,098,422	3.9787
Total			\$1,010,364	\$3,901,609	
Deferred Outflow (Inflow) Due to Assumption Changes					
2015	\$ 0	5.8007	\$ 0	\$ 0	0.0000
2016	0	5.6570	0	0	0.6570
2017	9,866,319	5.4892	1,797,406	2,676,695	1.4892
2018	0	5.3888	0	0	2.3888
2019	0	5.1435	0	0	3.1435
2020	29,031,182	4.9787	5,831,077	23,200,105	3.9787
Total			\$7,628,483	\$25,876,800	
Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments					
2016	\$ 1,756,370	5.0000	\$ 351,274	\$ 0	0.0000
2017	(16,626,501)	5.0000	(3,325,300)	(3,325,301)	1.0000
2018	26,947,183	5.0000	5,389,437	10,778,872	2.0000
2019	(18,545,922)	5.0000	(3,709,184)	(11,127,554)	3.0000
2020	(14,742,222)	5.0000	(2,948,444)	(11,793,778)	4.0000
Total			\$(4,242,217)	\$(15,467,761)	

According to paragraph 33 of GASB No. 68, differences between expected and actual experience and changes in assumptions are recognized in pension expense using a systematic and rational method over a closed period equal to the average of the expected remaining service lives of all employees that are provided with pensions through the pension plan (active employees and inactive employees) determined as of the beginning of the measurement period.

At the beginning of the current measurement period, the expected remaining service lives of all active employees in the plan was approximately 10,893 years. Additionally, the total plan membership (active employees and inactive employees) was 2,188. As a result, the average of the expected remaining service lives for purposes of recognizing the applicable deferred outflows and inflows of resources established in the current measurement period is 4.9787 years.

Additionally, differences between projected and actual earnings on pension plan investments should be recognized in pension expense using a systematic and rational method over a closed five-year period. For this purpose, the deferred outflows and inflows of resources are recognized in the pension expense as a level dollar amount over the closed period identified above.

Statement of Fiduciary Net Position as of December 31, 2020

Assets

Cash and Deposits	\$	4,904,417
Receivables		
Accounts Receivable	\$	379,728
Accrued Interest and Other Dividends		23,771
Additional Contribution Account		1,096,323
Property, Plant, Equipment		18,909
Total Receivables	\$	<u>1,518,731</u>
Investments	\$	272,961,898
Total Assets	\$	<u>279,385,046</u>

Liabilities

Payables		
Accounts Payable and Accrued Expenses	\$	291,195
Payable for Investments Purchased		-
Benefits Payable		1,745,329
Total Liabilities	\$	<u>2,036,524</u>
Assets held for 401(h) Subtrust	\$	<u>17,419,162</u>
Net Position Restricted for Pensions	\$	<u>259,929,360</u>

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2020

Additions

Contributions

Employer	\$ 15,442,093
Employee (Including Additional Contributions, Buybacks, Upgrades and Enrollments)	2,374,547
Total Contributions	\$ 17,816,640

Other	\$ -
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Investment Income

Net Appreciation in Fair Value of Investments	\$ 28,798,527
Less Investment Expense	(772,233)
Net Investment Income	\$ 30,899,858

Total Additions	\$ 48,716,498
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Deductions

Benefit Payments, Additional Contribution Payments, and Refunds of Employee Contributions	\$ 20,669,646
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Pension Plan Administrative Expense	910,717
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Other: Custodial Fees and Foreign Taxes	1,982
	1,982

Total Deductions	\$ 21,582,345
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Net Increase in Net Position	\$ 27,134,153
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Net Position Restricted for Pensions

Beginning of Year	\$ 232,789,386
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Prior Year Adjustment	5,821
	5,821

End of Year	\$ 259,929,360
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Schedule of Proportionate Employer Share for Year Ended December 31, 2020

Deferred Outflows of Resources

Covered Payroll	Employer	Prop. Share	Net Pension Liability	Differences Between Expected and Actual Experience	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Outflows of Resources
\$ 4,789,581	Airport	8.83%	\$ 13,596,558	\$ 404,618	\$ 2,284,921	\$ 893,973	\$ 3,583,512
559,939	Parking Control	1.03%	1,586,008	47,198	266,531	205,481	519,210
2,589,040	Environmental Protection	4.77%	7,344,913	218,576	1,234,323	671,865	2,124,764
8,800,799	School District	16.22%	24,975,783	743,251	4,197,217	595,860	5,536,328
5,402,173	Water Works	9.96%	15,336,548	456,398	2,577,329	1,426,347	4,460,074
32,112,931	General Fund City Departments	59.19%	91,141,591	2,712,270	15,316,479	1,923,608	19,952,357
\$ 54,254,463	Total for All Employers	100.00%	\$ 153,981,401	\$ 4,582,311	\$ 25,876,800	\$ 5,717,134	\$ 36,176,245



Schedule of Proportionate Employer Share for Year Ended December 31, 2020 (Concluded)

Employer	Deferred Inflows of Resources				Pension Expense			
	Differences Between Expected and Actual Experience	Net Difference Between Projected and Actual Investment Earnings on Pension Plan Investments*	Changes of Assum.	Changes in Proportion and Differences Between Employer Cont. and Share of Cont.	Total Deferred Inflows of Resources	Prop. Share of Plan Pension Expense	Net Amortization of Deferred Amounts from Changes in Proportion and Differences Between Employer Contributions and Proportionate Share of Contributions	Total Employer Pension Expense
Airport	\$ 60,106	\$ 1,365,803	\$ -	\$ 1,389,472	\$ 2,815,381	\$ 1,652,118	\$ (124,537)	\$ 1,527,581
Parking Control	7,011	159,318	-	148,321	314,650	192,716	14,367	207,083
Environmental Protection	32,469	737,812	-	288,973	1,059,254	892,480	96,234	988,714
School District	110,410	2,508,871	-	2,981,228	5,600,509	3,034,807	(599,534)	2,435,273
Water Works	67,798	1,540,589	-	180,490	1,788,877	1,863,544	313,132	2,176,676
General Fund City Departments	402,908	9,155,368	-	728,650	10,286,926	11,074,614	300,338	11,374,952
Total for All Employers	\$ 680,702	\$ 15,467,761	\$ -	\$ 5,717,134	\$ 21,865,597	\$ 18,710,279	\$ -	\$ 18,710,279

* We understand that the recommendation of the American Institute of Certified Public Accountants (AICPA) is for the deferred inflows resulting from the net difference between projected and actual investment earnings on pension plan investments to be shown net of the respective outflows resulting from this difference. Beginning in the 2019 report only the net amount is shown.



SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios

Current Period

Plan Year Ended December 31, 2020

A. Total Pension Liability	
1. Service cost	\$ 6,467,132
2. Interest on the Total Pension Liability	\$ 25,471,822
3. Changes of benefit terms	\$ -
4. Difference between expected and actual experience of the Total Pension Liability	\$ 2,625,836
5. Changes of assumptions	\$ 29,031,182
6. Benefit payments, including refunds of employee contributions	\$ (20,669,646)
7. Net change in Total Pension Liability	\$ 42,926,326
8. Total Pension Liability – Beginning	370,984,435
9. Total Pension Liability – Ending	<u><u>\$ 413,910,761</u></u>
B. Plan Fiduciary Net Position	
1. Contributions – Employer	\$ 15,442,093
2. Contributions – Employee	2,374,547
3. Net investment income	30,899,858
4. Benefit payments, including refunds of employee contributions	(20,669,646)
5. Pension plan administrative expense	(910,717)
6. Other	(1,982)
7. Net change in Plan Fiduciary Net Position	\$ 27,134,153
8. Plan Fiduciary Net Position – Beginning	232,795,207
9. Plan Fiduciary Net Position – Ending	<u><u>\$ 259,929,360</u></u>
C. Net Pension Liability	<u><u>\$ 153,981,401</u></u>
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability	62.80%
E. Covered-Employee Payroll	\$ 54,254,463
F. Net Pension Liability as a percentage of Covered-Employee Payroll	283.81%

Schedules of Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios (Multiyear)

(Ultimately 10 Years Will Be Displayed)

Plan Year Ending December 31,	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability							
Service Cost	\$ 6,467,132	\$ 6,188,578	\$ 6,361,053	\$ 6,341,280	\$ 6,327,991	\$ 6,468,648	\$ 6,589,804
Interest on the Total Pension Liability	25,471,822	24,447,847	23,689,732	22,956,480	22,438,990	21,231,157	20,108,289
Benefit Changes: Buybacks and COLA	-	-	-	-	-	-	-
Experience	2,625,836	3,974,876	(172,714)	201,281	(5,201,876)	4,528,433	2,716,119
Assumption Changes	29,031,182	-	-	9,866,319	-	-	-
Benefit Payments	(20,446,872)	(19,272,847)	(17,781,112)	(16,605,774)	(15,812,395)	(14,516,835)	(12,335,397)
Refunds	(222,774)	(302,235)	(567,039)	(229,271)	(220,469)	(446,590)	(207,947)
Net Change in Total Pension Liability	42,926,326	15,036,219	11,529,920	22,530,315	7,532,241	17,264,813	16,870,868
Total Pension Liability - Beginning	370,984,435	355,948,216	344,418,296	321,887,981	314,355,740	297,090,927	280,332,479
Prior Year Adjustment	-	-	-	-	-	-	(112,420)
Total Pension Liability - Ending (a)	\$ 413,910,761	\$ 370,984,435	\$ 355,948,216	\$ 344,418,296	\$ 321,887,981	\$ 314,355,740	\$ 297,090,927
Plan Fiduciary Net Position							
Employer and Other Contributions	\$ 15,442,093	\$ 14,205,016	\$ 13,113,367	\$ 12,221,415	\$ 8,391,456	\$ 11,613,137	\$ 10,959,998
Employee and Add'l Contributions	2,374,547	2,440,534	2,387,580	2,342,148	2,389,882	2,744,956	2,254,021
Pension Plan Net Investment Income	30,899,858	32,777,140	(11,682,616)	30,429,722	11,543,017	(4,783,148)	6,754,397
Benefit Payments	(20,446,872)	(19,272,847)	(17,781,112)	(16,605,774)	(15,812,395)	(14,516,835)	(12,335,397)
Refunds	(222,774)	(302,235)	(567,039)	(229,271)	(220,469)	(446,590)	(207,947)
Pension Plan Administrative Expense	(910,717)	(876,660)	(702,533)	(759,927)	(791,762)	(693,329)	(679,116)
Other	(1,982)	(36,626)	(59,532)	(50,612)	(61,856)	(65,963)	(50,008)
Net Change in Plan Fiduciary Net Position	27,134,153	28,934,322	(15,291,885)	27,347,701	5,437,873	(6,147,772)	6,695,948
Plan Fiduciary Net Position - Beginning	232,789,386	203,944,655	219,277,973	191,930,272	186,492,399	192,562,665	185,979,137
Adjustment	5,821	(89,591)	(41,433)	-	-	77,506	(112,420)
Plan Fiduciary Net Position - Ending (b)	\$ 259,929,360	\$ 232,789,386	\$ 203,944,655	\$ 219,277,973	\$ 191,930,272	\$ 186,492,399	\$ 192,562,665
Net Pension Liability - Ending (a) - (b)	153,981,401	138,195,049	152,003,561	125,140,323	129,957,709	127,863,341	104,528,262
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	62.80 %	62.75 %	57.30 %	63.67 %	59.63 %	59.33 %	64.82 %
Covered-Employee Payroll	\$ 54,254,463	\$ 52,895,992	\$ 51,787,265	\$ 53,364,536	\$ 52,888,074	\$ 52,953,903	\$ 54,267,183
Net Pension Liability as a Percentage of Covered-Employee Payroll	283.81 %	261.26 %	293.52 %	234.50 %	245.72 %	241.46 %	192.62 %
Notes to Schedule:	N/A	N/A	N/A	N/A	N/A	N/A	N/A



Schedules of Required Supplementary Information

Schedule of the Net Pension Liability

(Ultimately 10 Years Will Be Displayed)

December 31,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll*	Net Pension Liability as a % of Covered Payroll
2014	\$ 297,090,927	\$ 192,562,665	\$ 104,528,262	64.82%	\$ 54,267,183	192.62%
2015	314,355,740	186,492,399	127,863,341	59.33%	52,953,903	241.46%
2016	321,887,981	191,930,272	129,957,709	59.63%	52,888,074	245.72%
2017	344,418,296	219,277,973	125,140,323	63.67%	53,364,536	234.50%
2018	355,948,216	203,944,655	152,003,561	57.30%	51,787,265	293.52%
2019	370,984,435	232,789,386	138,195,049	62.75%	52,895,992	261.26%
2020	413,910,761	259,929,360	153,981,401	62.80%	54,254,463	283.81%

**Based on valuation payroll as of plan year ending December 31.*

Schedule of Contributions

(Ultimately 10 Years Will Be Displayed)

<u>Plan Year Ending December 31,</u>	<u>Actuarially Determined Contribution (ADC) #</u>	<u>Actual Contribution</u>	<u>Contribution Deficiency (Excess)</u>	<u>Covered Payroll*</u>	<u>Actual Contribution as a % of Covered Payroll</u>
2014	\$ 10,959,998	\$ 10,959,998	\$ -	\$ 54,267,183	20.20%
2015	11,613,137	11,613,137	-	52,953,903	21.93%
2016	8,391,456	8,391,456	-	52,888,074	15.87%
2017	12,221,415	12,221,415	-	53,364,536	22.90%
2018	13,113,367	13,113,367	-	51,787,265	25.32%
2019	14,205,016	14,205,016	-	52,895,992	26.85%
2020	15,442,093	15,442,093	-	54,254,463	28.46%

**Based on valuation payroll as of plan year ending December 31.*

Employer contributes based on percent of payroll. Employer pays the ADC percentage.



Notes to Schedule of Contributions

Valuation Date: December 31, 2018 and December 31, 2019
Notes Actuarially determined contribution rates are calculated as of December 31 for the contribution period starting 6 months later. Actual contributions reported during the plan year are therefore based on two consecutive ADCs.

Methods and Assumptions Used to Determine Fiscal Year 2020 Contribution Rate:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Period	21 years
Asset Valuation Method	5-year smoothed market; 20% corridor
Wage Inflation	2.75%
Salary Increases	3.75% to 7.43% including inflation
Investment Rate of Return	7.00% (net of investment expenses)
Retirement Age	Age and Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2014 Mortality Table projected to 2026 for males and females using projection scale MP-2017.
Expense Load	1.00% of payroll.
COLA Assumption	1.00% compounded annually.

Other Information:

Notes There were no changes to benefit provision or actuarial assumptions or methods.

Methods and Assumptions Used to Determine Fiscal Year 2021 Contribution Rate:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Period	20 years
Asset Valuation Method	5-year smoothed market; 20% corridor
Wage Inflation	2.75%
Salary Increases	3.75% to 7.43% including inflation
Investment Rate of Return	7.00% (net of investment expenses)
Retirement Age	Age and Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	RP-2014 Mortality Table projected to 2026 for males and females using projection scale MP-2017.
Expense Load	1.00% of payroll.
COLA Assumption	1.00% compounded annually.

Other Information:

Notes There were no changes to benefit provision or actuarial assumptions or methods.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Single Discount Rate

A Single Discount Rate of 6.75% was used to measure the Total Pension Liability. This Single Discount Rate was based on the expected rate of return on pension plan investments of 6.75%. The projection of cash flows used to determine this Single Discount Rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these 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.

Regarding the sensitivity of the Net Pension Liability to changes in the Single Discount Rate, the following presents the plan's Net Pension Liability, calculated using a Single Discount Rate of 6.75%, as well as what the plan's Net Pension Liability would be if it were calculated using a Single Discount Rate that is one percent lower or one percent higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

	Current Single Discount		
	1% Decrease 5.75%	Rate Assumption 6.75%	1% Increase 7.75%
Total Pension Liability (TPL)	\$ 463,834,270	\$ 413,910,761	\$ 371,873,252
Net Position Restricted for Pensions	259,929,360	259,929,360	259,929,360
Net Pension Liability (NPL)	\$ 203,904,910	\$ 153,981,401	\$ 111,943,892

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	988
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	112
Active Plan Members	<u>1,088</u>
Total Plan Members	2,188

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions as of December 31, 2020

Eligibility

Amount

NORMAL RETIREMENT

Members are eligible to retire at age 60.

Straight life pension equals 2.0% of 3-year Final Average Earnings (FAE) times service on and after January 1, 1999 *plus* 1.5% of FAE times service before January 1, 1999.

Members with at least 20 years of service at retirement are eligible for a minimum benefit if employed on or before January 1, 1974.

Minimum benefit for eligible members is 50% of FAE.

EARLY RETIREMENT

Members are eligible to retire early if the sum of age and service is at least 80, or at age 55 with at least 20 years of service.

Computed as a normal retirement pension. If the early retirement occurs prior to the member attaining age 60, the benefit is reduced by 1/6 of 1% for each month that the early retirement precedes age 60.

DEFERRED RETIREMENT

Members are eligible to retire with a deferred benefit after attaining at least 5 years of service, provided they do not take a refund of member contributions.

Pension is computed as a normal retirement pension, based on service and FAE on date of termination. Commencement of benefits begins at age 60.

NON-DUTY DISABILITY

Members are eligible upon attainment of 15 years of service.

Pension is computed as a normal retirement pension based on service and FAE as of date of disability.

DUTY DISABILITY

No age or service requirement.

Pension is computed as a normal retirement pension based on service and FAE as of date of disability. Minimum duty disability benefit is 50% of FAE.



Summary of Benefit Provisions as of December 31, 2020

Eligibility

Amount

ORDINARY DEATH-IN-SERVICE

- | | |
|--|---|
| (1) Any age with less than 5 years of service. | Beneficiary receives member's contributions and accumulated interest, and an additional lump sum equal to one year's salary. |
| (2) Any age with 5 or more years of service. | Beneficiary receives the option of: (1) the greater of (a) 50% of the accrued service retirement benefit (without any early retirement reduction); or (b) pension computed as normal or early retirement benefit (depending on eligibility), actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) lump sum equal to 100% of base salary plus the member's accumulated contributions (including interest). |

DUTY DEATH-IN-SERVICE

- | | |
|--|---|
| Death as a result of a work-related accident; not caused by willful neglect of the member. | The option of: (1) the greater of (a) 50% of FAE, or (b) pension computed as an early retirement benefit actuarially reduced as if the member had elected the 100% Joint & Survivor benefit; or (2) a lump sum as described below; options payable to the spouse or child(ren) under age 18. If no spouse or child(ren) are alive at the time of the member's death, a lump sum is payable to the member's estate in the amount of 100% of base salary plus the member's accumulated contributions (including interest) plus accrued fringe benefits not paid at the time of death. |
|--|---|

MEMBER CONTRIBUTIONS

3.75% of pay for service on and after January 1, 1999. 2.5% of pay for service prior to January 1, 1999. Contributions are credited with 5.0% interest per annum. Members may elect to contribute additional contributions which are accounted for separately. At retirement the additional contribution balance is annuitized to provide an additional benefit, within certain limits.



Summary of Benefit Provisions as of December 31, 2020

OPTIONAL FORMS OF PAYMENT

In lieu of the straight life benefit, a member may elect an actuarially reduced benefit in one of the following forms:

- 100% Joint & Survivor with pop-up
- 66 2/3 % Joint & Survivor with pop-up
- 50% Joint & Survivor with pop-up
- 10-year Certain & Life Option

The actuarial factors for optional forms of payment are based on the 1983 Group Annuity Mortality Table and 7.5% interest.

SERVICE UPGRADE

Members may elect to purchase an increase in their benefit multiplier for service rendered before 1999 under Chapter 159 (or Senate Bill 402). The cost to the member is $\frac{1}{2}$ of the actuarially determined increase in System costs and results in a benefit based on 2% of FAE for the time purchased.

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the *individual entry-age actuarial cost method*. GASB Statement Nos. 67 and 68 require the use of this method having the following characteristics:

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay; and
- The use of Market Value of Assets for the Net Position Restricted for Pensions.

Actuarial Assumptions Used for the Valuation

The contribution requirements and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and member information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experience are:

- Long-term rates of investment return to be generated by the assets of the System;
- Patterns of pay increases to members;
- Rates of mortality among members, retirees and beneficiaries;
- Rates of withdrawal of active members;
- Rates of disability among members; and
- The age patterns of actual retirement.

In a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the accuracy of the assumptions, or the skill of the actuary and the precision of the many calculations made. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). The Board has established a policy of performing an Experience Study every 3-5 years to evaluate/modify valuation assumptions. Assumptions used in this report are based on the January 1, 2017 – December 31, 2019 experience study of the MECRS and were adopted by the Board. These assumptions were first used in the December 31, 2020 preliminary actuarial valuation. We believe the assumptions are reasonable individually and in the aggregate.

Valuation Assumptions

The rate of investment return was 6.75% per year, compounded annually (net of investment expenses). This assumption is used to make money payable at one point in time equal in value to a different amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) is 4.25%. Experience over the last 5 years has been as follows:

	Year Ended December 31					5-Year Average
	2020	2019	2018	2017	2016	
1) Nominal rate of return#	8.6 %	5.6 %	3.4 %	7.4 %	6.3 %	6.2 %
2) Increase in CPI	1.4 %	2.3 %	1.9 %	2.1 %	2.1 %	2.0 %
3) Average Salary Increase (ASI)	5.5 %	4.2 %	(0.1)%	1.2 %	1.1 %	2.4 %
4) Real Return						
- Total: CPI (1) - (2)						4.3 %
- Total: ASI (1) - (3)						3.9 %
- Assumption	4.25 %	4.25 %	4.25 %	4.25 %	4.25 %	4.3 %

The nominal rate of return was computed using the approximate formula: $i = I$ divided by $\frac{1}{2}(A+B-I)$, where I is realized investment income net of expenses, A is the beginning of year asset funding value and B is the end of year funding asset value.

The rate of assumed price inflation was 2.00% per year. This results in a real rate of return over price inflation of 4.75%.

These economic assumptions were updated for the December 31, 2020 valuation.

Valuation Assumptions (Continued)

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member's current salary to the salaries upon which benefit amounts will be based.

Years of Service	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economic)	Increase Next Year
1	3.46%	2.50%	5.96%
2	4.43%	2.50%	6.93%
3	4.22%	2.50%	6.72%
4	3.70%	2.50%	6.20%
5	3.38%	2.50%	5.88%
6	2.93%	2.50%	5.43%
7	2.55%	2.50%	5.05%
8	2.26%	2.50%	4.76%
9	2.06%	2.50%	4.56%
10	1.85%	2.50%	4.35%
15	1.08%	2.50%	3.58%
20	0.77%	2.50%	3.27%
25	0.75%	2.50%	3.25%
30	0.75%	2.50%	3.25%
35	0.75%	2.50%	3.25%
40	0.75%	2.50%	3.25%
Ref:	733		

If the number of active members remains constant, then the total active member payroll will increase 2.50% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Rates of salary increase were updated for the December 31, 2020 valuation.

Valuation Assumptions (Continued)

The rates of retirement used to measure the probability of eligible members retiring during the next year were updated for the December 31, 2020 valuation and are as follows:

Active Members Retiring Next Year Under Normal Retirement			Active Members Retiring Next Year Under Early Retirement			
Ages	% Retiring		Ages	% Retiring		
	Male	Female		Age and Service		Rule of 80
				Male	Female	
60	12%	8%	50			10%
61	11%	15%	51			4%
62	22%	19%	52			7%
63	18%	10%	53			5%
64	18%	10%	54			5%
65	24%	19%	55	5%	10%	5%
66	38%	27%	56	5%	15%	4%
67	15%	19%	57	5%	8%	8%
68	39%	15%	58	5%	7%	8%
69	15%	22%	59	5%	7%	10%
70	27%	25%				
71	50%	19%				
72	42%	19%				
73	50%	19%				
74	50%	19%				
75	100%	19%				
76	100%	19%				
77	100%	19%				
78	100%	19%				
79	100%	19%				
80	100%	100%				
Ref.	999	999		2357	2754	2755

A member was assumed to be eligible for normal retirement after attaining age 60 regardless of service. A member was assumed to be eligible for early retirement after attaining age 55 with at least 20 years of service or if the sum of age and service is at least 80.

Valuation Assumptions (Continued)

The post-retirement healthy mortality table was the Pub-2010 General Healthy Mortality Table projected to 2039 using projection scale MP-2019.

Sample Attained Ages	Single Life Retirement Values					
	Present Value of \$1 Monthly for Life		Percent Dying Next Year		Future Life Expectancy (Years)	
	Male	Female	Male	Female	Male	Female
50	\$158.10	\$162.48	0.2552%	0.1899%	34.83	37.64
55	150.84	156.27	0.3655%	0.2572%	30.30	33.01
60	141.83	148.25	0.5441%	0.3494%	25.91	28.46
65	130.71	137.94	0.7880%	0.5138%	21.66	23.99
70	117.05	125.04	1.2298%	0.8314%	17.58	19.67
75	101.05	109.55	2.0765%	1.4535%	13.77	15.59
80	83.40	91.89	3.6906%	2.6437%	10.36	11.86
Ref:	2705 x 1.00 sb 0	2706 x 1.00 sb 0				

This assumption is used to measure the probabilities of members dying after retirement. The projection to 2039 is the margin for mortality improvement.

Post-retirement disabled mortality table is the Pub-2010 General Disabled Retiree Mortality Tables projected to 2039 using projection scale MP-2019.

Pre-retirement mortality is modeled using the Pub-2010 General Employee Mortality Tables projected to 2039 using projection scale MP-2019.

These tables were updated for the December 31, 2020 valuation in accordance with an experience study for the System of the 3-year period ended December 31, 2019.

Valuation Assumptions (Concluded)

Rates of separation from active membership are shown below (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment. These rates were updated for the December 31, 2020 valuation.

Sample Ages	Years of Service	% of Active Members Separating within Next Year	
		Male	Female
	0-1	24.00%	36.00%
	1-2	18.00%	26.00%
	2-3	13.00%	22.00%
	3-4	7.00%	14.00%
	4-5	7.00%	14.00%
	5-6	n/a	11.00%
30	5 & Up (Men)	4.00%	6.89%
35	6 & Up (Women)	2.96%	5.79%
40		2.33%	5.01%
45		2.00%	4.42%
50		1.87%	3.84%
Ref.		1331 77 x 0.35	1332 37 x 1.3

Rates of disability are divided two-thirds toward duty and one-third toward non-duty disability and are as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Male	Female
20	0.003%	0.003%
25	0.003%	0.003%
30	0.003%	0.003%
35	0.013%	0.013%
40	0.051%	0.051%
45	0.105%	0.105%
50	0.173%	0.173%
55	0.256%	0.256%
60	0.382%	0.382%
Ref.	37 x 0.36	37 x 0.36

Miscellaneous and Technical Assumptions

December 31, 2020

Marriage Assumption:	50% of males and 50% of females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of the year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and exact fractional service on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and withdrawal decrements do not operate after member reaches retirement eligibility.
Administrative Expense Load:	1.25% of payroll.
Normal Form of Benefit:	The assumed normal form of benefit is the straight life form.
Benefit Service:	Exact fractional service as of the valuation date is used to determine the amount of benefit payable.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the actual payroll payable at the time contributions are made.
COLA Assumption:	1.00% compounded annually.
Adjustments:	Normal and Early retirement costs were increased by 12% to reflect lump sums that are payable at retirement but not available in the active data. Retiree liabilities were increased 1% to account for pop-up retiree benefits.
Data Processing:	The Retirement System provides data in excel format. GRS reviews the data for reasonableness and completeness. Questions are sent to the System. Data is then modified based on the answers provided. For new members with less than one year of earnings, reported pay is annualized based on reported service.
Data Adjustments:	For members indicated to have been furloughed or had another absence, their prior year's salary was used to estimate their current annualized salary.

SECTION G

CALCULATION OF THE SINGLE DISCOUNT RATE

Calculation of the Single Discount Rate

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a “risk-free” rate is required, as described in the following paragraph.

The Single Discount Rate (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects: (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits); and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of this valuation, the expected rate of return on pension plan investments is 6.75%; the municipal bond rate is 2.00%; and the resulting SDR is 6.75%.

The tables in this section provide background for the development of the SDR.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities). Administrative expenses were projected at the current level of 1.59% of payroll.

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the SDR. It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

Single Discount Rate Development Projection of Contributions Ending December 31, 2120

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
0	\$ 54,254,463					
1	56,620,812	\$ 2,123,280	\$ 5,056,270	\$ 950,439	\$ 12,581,152	\$ 20,711,141
2	52,768,386	1,978,814	4,691,882	885,772	12,802,181	20,358,649
3	49,844,305	1,869,161	4,413,184	836,688	12,517,534	19,636,567
4	47,188,644	1,769,574	4,155,698	792,110	12,517,408	19,234,790
5	44,779,378	1,679,227	3,916,880	751,668	12,830,344	19,178,118
6	42,471,891	1,592,696	3,688,506	712,934	13,151,102	19,145,238
7	40,176,867	1,506,633	3,458,045	674,410	13,479,880	19,118,967
8	37,972,146	1,423,955	3,239,344	637,402	13,816,877	19,117,578
9	35,777,702	1,341,664	3,026,544	600,566	14,162,299	19,131,072
10	33,659,173	1,262,219	2,820,119	565,004	14,516,356	19,163,698
11	31,626,146	1,185,980	2,624,785	530,877	14,879,265	19,220,908
12	29,712,380	1,114,214	2,440,983	498,753	15,251,247	19,305,197
13	27,889,571	1,045,859	2,267,925	468,155	15,632,528	19,414,467
14	26,196,260	982,360	2,106,628	439,731	16,023,341	19,552,060
15	24,552,948	920,736	1,951,859	412,147	16,423,924	19,708,666
16	22,994,504	862,294	1,806,685	385,986	16,834,523	19,889,488
17	21,549,492	808,106	1,674,475	361,730	17,255,386	20,099,696
18	20,168,675	756,325	1,547,551	338,552	17,686,770	20,329,199
19	18,908,693	709,076	1,434,818	317,402	18,128,939	20,590,235
20	17,633,949	661,273	1,320,483	296,004	-	2,277,760
21	16,490,071	618,378	1,221,060	276,803	-	2,116,241
22	15,403,462	577,630	1,126,545	258,563	-	1,962,738
23	14,382,461	539,342	1,041,373	241,424	-	1,822,140
24	13,383,323	501,875	957,866	224,653	-	1,684,393
25	12,409,187	465,345	879,422	208,301	-	1,553,067
26	11,488,833	430,831	805,383	192,852	-	1,429,066
27	10,541,814	395,318	731,736	176,955	-	1,304,009
28	9,673,060	362,740	665,442	162,372	-	1,190,554
29	8,765,414	328,703	596,440	147,137	-	1,072,280
30	7,938,906	297,709	533,409	133,263	-	964,381
31	7,094,471	266,043	471,601	119,088	-	856,732
32	6,327,098	237,266	416,338	106,207	-	759,811
33	5,576,324	209,112	362,927	93,604	-	665,643
34	4,862,539	182,345	312,391	81,623	-	576,360
35	4,194,872	157,308	266,449	70,415	-	494,171
36	3,558,162	133,431	223,130	59,727	-	416,288
37	2,972,944	111,485	184,108	49,904	-	345,497
38	2,457,704	92,164	150,545	41,255	-	283,964
39	1,994,263	74,785	120,280	33,476	-	228,541
40	1,561,428	58,554	92,767	26,210	-	177,530
41	1,217,331	45,650	71,369	20,434	-	137,453
42	940,886	35,283	54,131	15,794	-	105,208
43	710,655	26,650	40,298	11,929	-	78,877
44	542,163	20,331	30,224	9,101	-	59,657
45	396,999	14,887	21,748	6,664	-	43,299
46	286,077	10,728	15,403	4,802	-	30,933
47	202,653	7,599	10,656	3,402	-	21,658
48	142,875	5,358	7,209	2,398	-	14,965
49	98,558	3,696	4,792	1,654	-	10,142
50	66,097	2,479	3,028	1,110	-	6,617



Single Discount Rate Development Projection of Contributions Ending December 31, 2120 (Concluded)

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
51	\$ 44,474	\$ 1,668	\$ 1,976	\$ 747	\$ -	\$ 4,391
52	30,010	1,125	1,233	504	-	2,863
53	20,627	774	813	346	-	1,932
54	12,218	458	461	205	-	1,124
55	8,596	322	306	144	-	772
56	5,189	195	168	87	-	449
57	3,818	143	119	64	-	326
58	1,885	71	64	32	-	167
59	884	33	29	15	-	77
60	266	10	9	4	-	23
61	-	-	-	-	-	-
62	-	-	-	-	-	-
63	-	-	-	-	-	-
64	-	-	-	-	-	-
65	-	-	-	-	-	-
66	-	-	-	-	-	-
67	-	-	-	-	-	-
68	-	-	-	-	-	-
69	-	-	-	-	-	-
70	-	-	-	-	-	-
71	-	-	-	-	-	-
72	-	-	-	-	-	-
73	-	-	-	-	-	-
74	-	-	-	-	-	-
75	-	-	-	-	-	-
76	-	-	-	-	-	-
77	-	-	-	-	-	-
78	-	-	-	-	-	-
79	-	-	-	-	-	-
80	-	-	-	-	-	-
81	-	-	-	-	-	-
82	-	-	-	-	-	-
83	-	-	-	-	-	-
84	-	-	-	-	-	-
85	-	-	-	-	-	-
86	-	-	-	-	-	-
87	-	-	-	-	-	-
88	-	-	-	-	-	-
89	-	-	-	-	-	-
90	-	-	-	-	-	-
91	-	-	-	-	-	-
92	-	-	-	-	-	-
93	-	-	-	-	-	-
94	-	-	-	-	-	-
95	-	-	-	-	-	-
96	-	-	-	-	-	-
97	-	-	-	-	-	-
98	-	-	-	-	-	-
99	-	-	-	-	-	-
100	-	-	-	-	-	-

Single Discount Rate Development Projection of Plan Fiduciary Net Position Ending December 31, 2120

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	\$ 259,929,360	\$ 20,711,141	\$ 22,980,214	\$ 950,439	\$ 17,438,348	\$ 274,148,196
2	274,148,196	20,358,649	24,174,603	885,772	18,348,911	287,795,381
3	287,795,381	19,636,567	25,475,037	836,688	19,204,580	300,324,803
4	300,324,803	19,234,790	26,707,349	792,110	19,997,546	312,057,680
5	312,057,680	19,178,118	27,963,619	751,668	20,747,270	323,267,782
6	323,267,782	19,145,238	29,274,856	712,934	21,460,614	333,885,844
7	333,885,844	19,118,967	30,561,347	674,410	22,135,030	343,904,084
8	343,904,084	19,117,578	31,791,693	637,402	22,771,598	353,364,165
9	353,364,165	19,131,072	32,985,530	600,566	23,372,190	362,281,330
10	362,281,330	19,163,698	34,086,751	565,004	23,939,803	370,733,077
11	370,733,077	19,220,908	35,126,797	530,877	24,478,800	378,775,110
12	378,775,110	19,305,197	36,058,343	498,753	24,994,576	386,517,787
13	386,517,787	19,414,467	36,878,154	468,155	25,494,633	394,080,578
14	394,080,578	19,552,060	37,599,765	439,731	25,986,676	401,579,818
15	401,579,818	19,708,666	38,205,934	412,147	26,478,866	409,149,269
16	409,149,269	19,889,488	38,690,535	385,986	26,980,587	416,942,823
17	416,942,823	20,099,696	39,067,725	361,730	27,501,913	425,114,977
18	425,114,977	20,329,199	39,323,847	338,552	28,053,420	433,835,197
19	433,835,197	20,590,235	39,429,818	317,402	28,647,885	443,326,096
20	443,326,096	2,277,760	39,419,001	296,004	28,681,636	434,570,487
21	434,570,487	2,116,241	39,316,669	276,803	28,089,304	425,182,561
22	425,182,561	1,962,738	39,114,587	258,563	27,457,838	415,229,986
23	415,229,986	1,822,140	38,805,984	241,424	26,792,185	404,796,903
24	404,796,903	1,684,393	38,393,066	224,653	26,097,645	393,961,222
25	393,961,222	1,553,067	37,904,707	208,301	25,378,632	382,779,913
26	382,779,913	1,429,066	37,374,374	192,852	24,637,896	371,279,649
27	371,279,649	1,304,009	36,786,874	176,955	23,877,509	359,497,338
28	359,497,338	1,190,554	36,143,612	162,372	23,100,276	347,482,184
29	347,482,184	1,072,280	35,454,137	147,137	22,308,722	335,261,912
30	335,261,912	964,381	34,696,835	133,263	21,505,874	322,902,069
31	322,902,069	856,732	33,899,713	119,088	20,694,945	310,434,944
32	310,434,944	759,811	33,044,561	106,207	19,879,014	297,923,001
33	297,923,001	665,643	32,202,588	93,604	19,059,703	285,352,155
34	285,352,155	576,360	31,375,249	81,623	18,236,071	272,707,713
35	272,707,713	494,171	30,484,831	70,415	17,409,776	260,056,415
36	260,056,415	416,288	29,543,983	59,727	16,584,817	247,453,810
37	247,453,810	345,497	28,568,125	49,904	15,764,515	234,945,793
38	234,945,793	283,964	27,567,007	41,255	14,951,704	222,573,198
39	222,573,198	228,541	26,554,795	33,476	14,148,576	210,362,044
40	210,362,044	177,530	25,521,836	26,210	13,357,164	198,348,693
41	198,348,693	137,453	24,456,766	20,434	12,580,484	186,589,429
42	186,589,429	105,208	23,380,639	15,794	11,821,543	175,119,748
43	175,119,748	78,877	22,300,739	11,929	11,082,445	163,968,402
44	163,968,402	59,657	21,228,302	9,101	10,364,789	153,155,444
45	153,155,444	43,299	20,175,290	6,664	9,669,411	142,686,201
46	142,686,201	30,933	19,137,153	4,802	8,996,853	132,572,032
47	132,572,032	21,658	18,115,941	3,402	8,347,789	122,822,135
48	122,822,135	14,965	17,114,732	2,398	7,722,721	113,442,690
49	113,442,690	10,142	16,136,412	1,654	7,121,952	104,436,718
50	104,436,718	6,617	15,180,177	1,110	6,545,696	95,807,745



Single Discount Rate Development Projection of Plan Fiduciary Net Position Ending December 31, 2120 (Concluded)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 6.75%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	\$ 95,807,745	\$ 4,391	\$ 14,245,643	\$ 747	\$ 5,994,204	\$ 87,559,950
52	87,559,950	2,863	13,333,331	504	5,467,723	79,696,700
53	79,696,700	1,932	12,444,312	346	4,966,442	72,220,417
54	72,220,417	1,124	11,577,146	205	4,490,560	65,134,750
55	65,134,750	772	10,731,153	144	4,040,354	58,444,580
56	58,444,580	449	9,907,557	87	3,616,101	52,153,486
57	52,153,486	326	9,106,898	64	3,218,030	46,264,879
58	46,264,879	167	8,330,474	32	2,846,321	40,780,862
59	40,780,862	77	7,578,872	15	2,501,100	35,703,152
60	35,703,152	23	6,854,091	4	2,182,415	31,031,495
61	31,031,495	-	6,158,266	-	1,890,178	26,763,408
62	26,763,408	-	5,493,929	-	1,624,138	22,893,616
63	22,893,616	-	4,863,690	-	1,383,850	19,413,777
64	19,413,777	-	4,270,000	-	1,168,671	16,312,447
65	16,312,447	-	3,715,251	-	977,748	13,574,944
66	13,574,944	-	3,201,651	-	810,017	11,183,310
67	11,183,310	-	2,731,000	-	664,207	9,116,518
68	9,116,518	-	2,304,495	-	538,858	7,350,881
69	7,350,881	-	1,922,573	-	432,357	5,860,666
70	5,860,666	-	1,584,788	-	342,982	4,618,859
71	4,618,859	-	1,289,934	-	268,949	3,597,873
72	3,597,873	-	1,036,183	-	208,456	2,770,147
73	2,770,147	-	821,098	-	159,725	2,108,775
74	2,108,775	-	641,695	-	121,039	1,588,118
75	1,588,118	-	494,553	-	90,779	1,184,344
76	1,184,344	-	375,956	-	67,462	875,850
77	875,850	-	282,068	-	49,756	643,537
78	643,537	-	209,092	-	36,497	470,942
79	470,942	-	153,404	-	26,696	344,233
80	344,233	-	111,665	-	19,529	252,096
81	252,096	-	80,910	-	14,330	185,517
82	185,517	-	58,594	-	10,577	137,500
83	137,500	-	42,602	-	7,867	102,765
84	102,765	-	31,236	-	5,900	77,429
85	77,429	-	23,175	-	4,457	58,711
86	58,711	-	17,430	-	3,384	44,665
87	44,665	-	13,279	-	2,574	33,960
88	33,960	-	10,220	-	1,953	25,693
89	25,693	-	7,911	-	1,472	19,254
90	19,254	-	6,121	-	1,096	14,229
91	14,229	-	4,704	-	804	10,330
92	10,330	-	3,570	-	579	7,339
93	7,339	-	2,663	-	407	5,083
94	5,083	-	1,944	-	279	3,417
95	3,417	-	1,386	-	185	2,216
96	2,216	-	962	-	118	1,371
97	1,371	-	649	-	71	793
98	793	-	425	-	39	408
99	408	-	269	-	19	157
100	157	-	166	-	5	-



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31, 2120

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^{(a)-.5}	(g)=(e)*vf ^{(a)-.5}	(h)=(c)/(1+sdr) ^{(a)-.5}
1	\$ 259,929,360	\$ 22,980,214	\$ 22,980,214	\$ -	\$ 22,241,810	\$ -	\$ 22,241,810
2	274,148,196	24,174,603	24,174,603	-	21,918,333	-	21,918,333
3	287,795,381	25,475,037	25,475,037	-	21,636,904	-	21,636,904
4	300,324,803	26,707,349	26,707,349	-	21,249,230	-	21,249,230
5	312,057,680	27,963,619	27,963,619	-	20,841,928	-	20,841,928
6	323,267,782	29,274,856	29,274,856	-	20,439,554	-	20,439,554
7	333,885,844	30,561,347	30,561,347	-	19,988,548	-	19,988,548
8	343,904,084	31,791,693	31,791,693	-	19,478,456	-	19,478,456
9	353,364,165	32,985,530	32,985,530	-	18,931,998	-	18,931,998
10	362,281,330	34,086,751	34,086,751	-	18,326,972	-	18,326,972
11	370,733,077	35,126,797	35,126,797	-	17,691,953	-	17,691,953
12	378,775,110	36,058,343	36,058,343	-	17,012,773	-	17,012,773
13	386,517,787	36,878,154	36,878,154	-	16,299,363	-	16,299,363
14	394,080,578	37,599,765	37,599,765	-	15,567,494	-	15,567,494
15	401,579,818	38,205,934	38,205,934	-	14,818,236	-	14,818,236
16	409,149,269	38,690,535	38,690,535	-	14,057,320	-	14,057,320
17	416,942,823	39,067,725	39,067,725	-	13,296,828	-	13,296,828
18	425,114,977	39,323,847	39,323,847	-	12,537,705	-	12,537,705
19	433,835,197	39,429,818	39,429,818	-	11,776,573	-	11,776,573
20	443,326,096	39,419,001	39,419,001	-	11,028,892	-	11,028,892
21	434,570,487	39,316,669	39,316,669	-	10,304,694	-	10,304,694
22	425,182,561	39,114,587	39,114,587	-	9,603,494	-	9,603,494
23	415,229,986	38,805,984	38,805,984	-	8,925,269	-	8,925,269
24	404,796,903	38,393,066	38,393,066	-	8,271,943	-	8,271,943
25	393,961,222	37,904,707	37,904,707	-	7,650,327	-	7,650,327
26	382,779,913	37,374,374	37,374,374	-	7,066,313	-	7,066,313
27	371,279,649	36,786,874	36,786,874	-	6,515,443	-	6,515,443
28	359,497,338	36,143,612	36,143,612	-	5,996,734	-	5,996,734
29	347,482,184	35,454,137	35,454,137	-	5,510,389	-	5,510,389
30	335,261,912	34,696,835	34,696,835	-	5,051,697	-	5,051,697
31	322,902,069	33,899,713	33,899,713	-	4,623,550	-	4,623,550
32	310,434,944	33,044,561	33,044,561	-	4,221,936	-	4,221,936
33	297,923,001	32,202,588	32,202,588	-	3,854,203	-	3,854,203
34	285,352,155	31,375,249	31,375,249	-	3,517,735	-	3,517,735
35	272,707,713	30,484,831	30,484,831	-	3,201,782	-	3,201,782
36	260,056,415	29,543,983	29,543,983	-	2,906,760	-	2,906,760
37	247,453,810	28,568,125	28,568,125	-	2,633,019	-	2,633,019
38	234,945,793	27,567,007	27,567,007	-	2,380,093	-	2,380,093
39	222,573,198	26,554,795	26,554,795	-	2,147,729	-	2,147,729
40	210,362,044	25,521,836	25,521,836	-	1,933,662	-	1,933,662
41	198,348,693	24,456,766	24,456,766	-	1,735,800	-	1,735,800
42	186,589,429	23,380,639	23,380,639	-	1,554,495	-	1,554,495
43	175,119,748	22,300,739	22,300,739	-	1,388,942	-	1,388,942
44	163,968,402	21,228,302	21,228,302	-	1,238,547	-	1,238,547
45	153,155,444	20,175,290	20,175,290	-	1,102,679	-	1,102,679
46	142,686,201	19,137,153	19,137,153	-	979,803	-	979,803
47	132,572,032	18,115,941	18,115,941	-	868,869	-	868,869
48	122,822,135	17,114,732	17,114,732	-	768,946	-	768,946
49	113,442,690	16,136,412	16,136,412	-	679,148	-	679,148
50	104,436,718	15,180,177	15,180,177	-	598,503	-	598,503



Single Discount Rate Development

Present Values of Projected Benefits

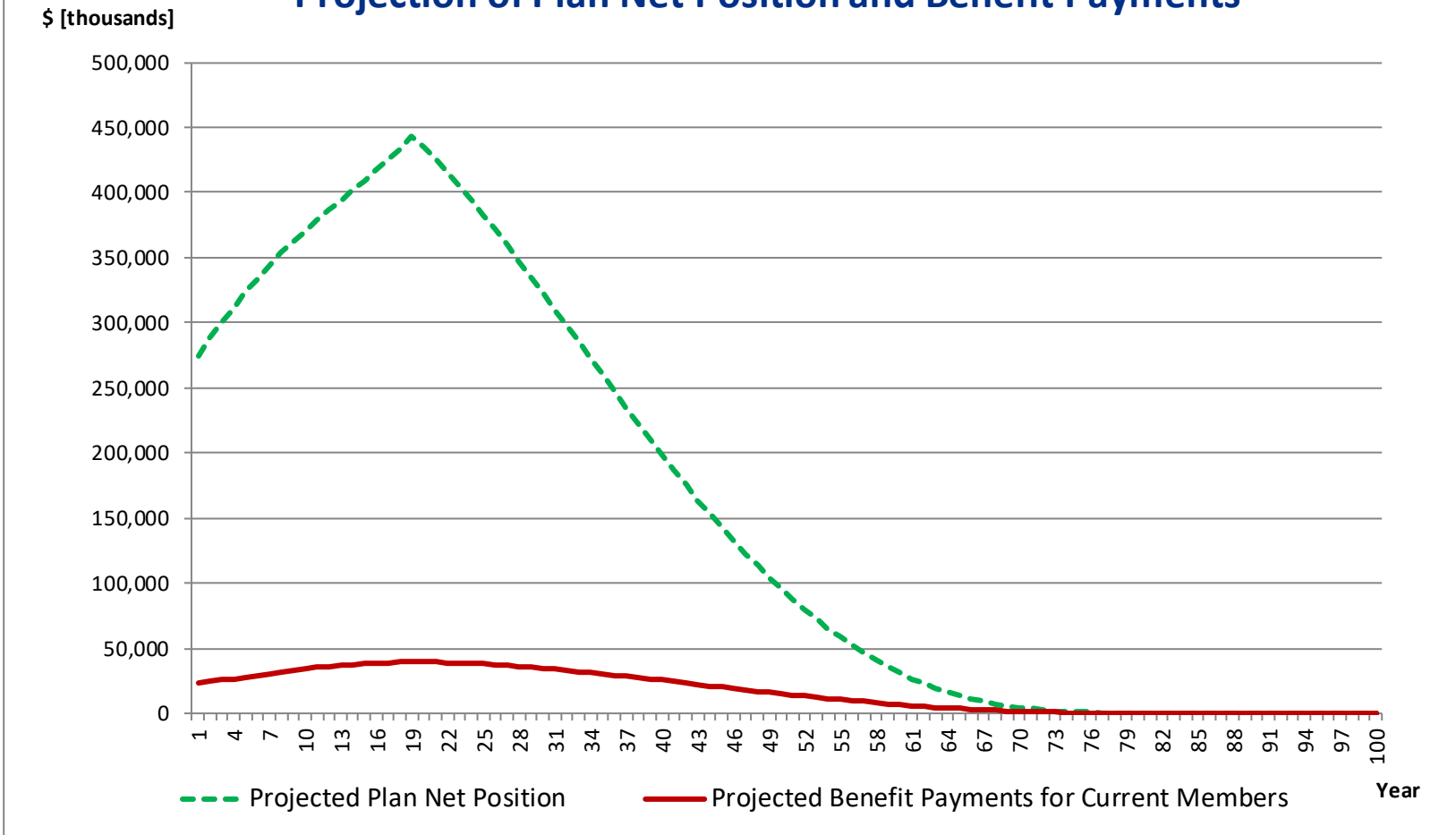
Ending December 31, 2120

(Concluded)

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v ^a ((a)-.5)	(g)=(e)*vf ^a ((a)-.5)	(h)=(c)/(1+sdr) ^a ((a)-.5)
51	\$ 95,807,745	\$ 14,245,643	\$ 14,245,643	\$ -	\$ 526,143	\$ -	\$ 526,143
52	87,559,950	13,333,331	13,333,331	-	461,310	-	461,310
53	79,696,700	12,444,312	12,444,312	-	403,327	-	403,327
54	72,220,417	11,577,146	11,577,146	-	351,495	-	351,495
55	65,134,750	10,731,153	10,731,153	-	305,209	-	305,209
56	58,444,580	9,907,557	9,907,557	-	263,967	-	263,967
57	52,153,486	9,106,898	9,106,898	-	227,292	-	227,292
58	46,264,879	8,330,474	8,330,474	-	194,767	-	194,767
59	40,780,862	7,578,872	7,578,872	-	165,991	-	165,991
60	35,703,152	6,854,091	6,854,091	-	140,624	-	140,624
61	31,031,495	6,158,266	6,158,266	-	118,359	-	118,359
62	26,763,408	5,493,929	5,493,929	-	98,914	-	98,914
63	22,893,616	4,863,690	4,863,690	-	82,030	-	82,030
64	19,413,777	4,270,000	4,270,000	-	67,463	-	67,463
65	16,312,447	3,715,251	3,715,251	-	54,987	-	54,987
66	13,574,944	3,201,651	3,201,651	-	44,389	-	44,389
67	11,183,310	2,731,000	2,731,000	-	35,470	-	35,470
68	9,116,518	2,304,495	2,304,495	-	28,038	-	28,038
69	7,350,881	1,922,573	1,922,573	-	21,912	-	21,912
70	5,860,666	1,584,788	1,584,788	-	16,920	-	16,920
71	4,618,859	1,289,934	1,289,934	-	12,901	-	12,901
72	3,597,873	1,036,183	1,036,183	-	9,708	-	9,708
73	2,770,147	821,098	821,098	-	7,206	-	7,206
74	2,108,775	641,695	641,695	-	5,276	-	5,276
75	1,588,118	494,553	494,553	-	3,809	-	3,809
76	1,184,344	375,956	375,956	-	2,712	-	2,712
77	875,850	282,068	282,068	-	1,906	-	1,906
78	643,537	209,092	209,092	-	1,324	-	1,324
79	470,942	153,404	153,404	-	910	-	910
80	344,233	111,665	111,665	-	620	-	620
81	252,096	80,910	80,910	-	421	-	421
82	185,517	58,594	58,594	-	286	-	286
83	137,500	42,602	42,602	-	195	-	195
84	102,765	31,236	31,236	-	134	-	134
85	77,429	23,175	23,175	-	93	-	93
86	58,711	17,430	17,430	-	65	-	65
87	44,665	13,279	13,279	-	47	-	47
88	33,960	10,220	10,220	-	34	-	34
89	25,693	7,911	7,911	-	24	-	24
90	19,254	6,121	6,121	-	18	-	18
91	14,229	4,704	4,704	-	13	-	13
92	10,330	3,570	3,570	-	9	-	9
93	7,339	2,663	2,663	-	6	-	6
94	5,083	1,944	1,944	-	4	-	4
95	3,417	1,386	1,386	-	3	-	3
96	2,216	962	962	-	2	-	2
97	1,371	649	649	-	1	-	1
98	793	425	425	-	1	-	1
99	408	269	269	-	-	-	-
100	157	166	166	-	-	-	-
Totals	\$ 470,029,707	\$ 470,029,707	\$ 470,029,707	\$ -	\$ 470,029,707	\$ -	\$ 470,029,707



Projection of Plan Net Position and Benefit Payments



SECTION H

GLOSSARY OF TERMS

Glossary of Terms

<i>Accrued Service</i>	Service credited under the system which was rendered before the date of the actuarial valuation.
<i>Actuarial Accrued Liability (AAL)</i>	The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as “accrued liability” or “actuarial liability.”
<i>Actuarial Assumptions</i>	These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.
<i>Actuarial Gain (Loss)</i>	The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.
<i>Actuarial Present Value (APV)</i>	The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.
<i>Actuarial Valuation</i>	The actuarial valuation report determines, as of the actuarial valuation date, the service cost, Total Pension Liability, and related actuarial present value of projected benefit payments for pensions.
<i>Actuarial Valuation Date</i>	The date as of which an actuarial valuation is performed.
<i>Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)</i>	A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically, the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

Glossary of Terms

<i>Amortization Method</i>	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be “open” (meaning, reset each year) or “closed” (the number of years remaining will decline each year).
<i>Amortization Payment</i>	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
<i>Cost-of-Living Adjustments</i>	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
<i>Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)</i>	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
<i>Covered-Employee Payroll</i>	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
<i>Deferred Inflows and Outflows</i>	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
<i>Deferred Retirement Option Program (DROP)</i>	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
<i>Discount Rate</i>	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: <ol style="list-style-type: none">1. The benefit payments to be made while the pension plans’ fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period; and2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

Glossary of Terms

Entry Age Actuarial Cost Method (EAN)

The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit age(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.

Fiduciary Net Position

The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.

GASB

The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.

Long-Term Expected Rate of Return

The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.

Money-Weighted Rate of Return

The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.

Multiple-Employer Defined Benefit Pension Plan

A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.

Municipal Bond Rate

The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.

Net Pension Liability (NPL)

The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.

Non-Employer Contribution Entities

Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB accounting statements, plan members are not considered non-employer contribution entities.

Normal Cost

The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method. The Normal Cost may also be referred to as "Service Cost."



Glossary of Terms

<i>Other Postemployment Benefits (OPEB)</i>	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other postemployment benefits do not include termination benefits.
<i>Real Rate of Return</i>	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
<i>Service Cost</i>	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year. The Service Cost may also be referred to as the “Normal Cost.”
<i>Total Pension Expense</i>	The total pension expense is the sum of the following items that are recognized at the end of the employer’s fiscal year: <ol style="list-style-type: none">1. Service Cost2. Interest on the Total Pension Liability3. Current-Period Benefit Changes4. Employee Contributions (made negative for addition here)5. Projected Earnings on Plan Investments (made negative for addition here)6. Pension Plan Administrative Expense7. Other Changes in Plan Fiduciary Net Position8. Recognition of Outflow (Inflow) of Resources due to Liabilities9. Recognition of Outflow (Inflow) of Resources due to Assets
<i>Total Pension Liability (TPL)</i>	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
<i>Unfunded Actuarial Accrued Liability (UAAL)</i>	The UAAL is the difference between actuarial accrued liability and valuation assets.
<i>Valuation Assets</i>	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of GASB Statement Nos. 67 and 68, the valuation assets are equal to the market value of assets.



April 21, 2021

Mr. William Shea
Executive Director
City of Manchester Employees'
Contributory Retirement System
1045 Elm Street, Suite 403
Manchester, New Hampshire 03101

Dear Bill:

Please find enclosed 10 copies of the GASB Statement Nos. 67 and 68 Accounting and Financial Reporting for Pensions report of the City of Manchester Employees' Contributory Retirement System.

Sincerely,

A handwritten signature in black ink that reads "Kenneth G. Alberts". The signature is written in a cursive, flowing style.

Kenneth G. Alberts

KGA:dj
Enclosures