

City of Manchester Employees' Contributory Retirement System

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

Measured as of December 31, 2023

for Fiscal Year Ending June 30, 2024





May 2, 2024

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 measurement period ending December 31, 2023. Please refer to the December 31, 2023 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 Nos. 67 and 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 actuaries 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,
Gabriel, Roeder, Smith & Company



Heidi G. Barry, ASA, FCA, MAAA



Kevin T. Noelke, ASA, FCA, MAAA

HGB/KTN:rmn



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SECTION A



EXECUTIVE SUMMARY

Executive Summary as of December 31, 2023

Actuarial Valuation Date	December 31, 2023
Measurement Date of the Net Pension Liability	December 31, 2023
Employer's Fiscal Year Ending Date (Reporting Date)	June 30, 2024

Membership

Number of	
- Retirees and Beneficiaries	1,088
- Inactive, Nonretired Members	126
- Active Members	1,119
- Total	2,333
Covered Payroll #	\$ 62,181,204

Net Pension Liability

Total Pension Liability	\$ 459,815,673
Plan Fiduciary Net Position	273,592,981
Net Pension Liability	\$ 186,222,692
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	59.50%
Net Pension Liability as a Percentage of Covered Payroll	299.48%

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*	3.77%
Last year ending December 31 in the 2024 to 2123 projection period for which projected benefit payments are fully funded	2123

Total Pension Expense \$ 27,394,051

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	\$ 7,511,049	\$ -
Changes in assumptions	6,854,070	-
Net difference between projected and actual earnings on pension plan investments	34,594,344	20,091,220
Total	\$ 48,959,463	\$ 20,091,220

Based on valuation payroll as of December 31, 2023.

* 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 29, 2023, 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, 2023.

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.



Discussion

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.

Discussion

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 16 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 16 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 2123. 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, 2023 and a measurement date of December 31, 2023.

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 3.77% (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%.



Discussion

Assumption Changes

The load for end of career payments affecting final average earnings was increased from 12% to 13%. This increased the TPL by about \$1.5 million. There were no other assumption changes during the year.

Benefit Changes

There were no benefit changes during the year.

SECTION B

FINANCIAL STATEMENTS

Statement of Pension Expense under GASB Statement No. 68 for Fiscal Year Ending June 30, 2024 with Measurement Date December 31, 2023

A. Expense

1. Service Cost	\$	7,822,395
2. Interest on the Total Pension Liability		29,077,152
3. Current-Period Benefit Changes		-
4. Employee Contributions (made negative for addition here)		(2,580,363)
5. Projected Earnings on Plan Investments (made negative for addition here)		(16,470,003)
6. Pension Plan Administrative Expense		784,586
7. Other Changes in Plan Fiduciary Net Position		-
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		9,514,133
9. Recognition of Outflow (Inflow) of Resources due to Assets		(753,849)
10. Total Pension Expense	\$	27,394,051



Statement of Outflows and Inflows Arising from Current Reporting Period for Fiscal Year Ending June 30, 2024 with Measurement Date December 31, 2023

A. Outflows (Inflows) of Resources Due to Liabilities

1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	\$	7,227,104
2. Assumption Changes (gains) or losses	\$	1,465,950
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		4.5990
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	\$	1,571,451
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	\$	318,754
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	\$	1,890,205
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	\$	5,655,653
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	\$	1,147,196
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	\$	6,802,849

B. Outflows (Inflows) of Resources Due to Assets

1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	\$	(14,718,603)
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	\$	(2,943,721)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	\$	(11,774,882)



Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods for Fiscal Year Ending June 30, 2024 with Measurement Date December 31, 2023

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	\$ 9,526,592	\$ 12,459	\$ 9,514,133
2. Due to Assets	11,531,448	12,285,297	(753,849)
3. Total	\$ 21,058,040	\$ 12,297,756	\$ 8,760,284

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	\$ 3,376,761	\$ 12,459	\$ 3,364,302
2. Assumption Changes	6,149,831	-	6,149,831
3. Net Difference between projected and actual earnings on pension plan investments	11,531,448	12,285,297	(753,849)
4. Total	\$ 21,058,040	\$ 12,297,756	\$ 8,760,284

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	\$ 7,511,049	\$ -	\$ 7,511,049
2. Assumption Changes	6,854,070	-	6,854,070
3. Net Difference between projected and actual earnings on pension plan investments	34,594,344	20,091,220	14,503,124
4. Total	\$ 48,959,463	\$ 20,091,220	\$ 28,868,243

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
2024	\$ 11,684,590
2025	8,277,803
2026	10,717,335
2027	(1,811,485)
2028	-
Thereafter	-
Total	\$ 28,868,243



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					
2018	\$ (172,714)	5.3888	\$ (12,459)	\$ -	0.0000
2019	3,974,876	5.1435	772,796	110,896	0.1435
2020	2,625,836	4.9787	527,414	516,180	0.9787
2021	781,152	4.8674	160,487	299,691	1.8674
2022	1,617,855	4.6947	344,613	928,629	2.6947
2023	7,227,104	4.5990	1,571,451	5,655,653	3.5990
Total			\$ 3,364,302	\$ 7,511,049	
Deferred Outflow (Inflow) Due to Assumption Changes					
2018	\$ -	5.3888	\$ -	\$ -	0.0000
2019	-	5.1435	-	-	0.1435
2020	29,031,182	4.9787	5,831,077	5,706,874	0.9787
2021	-	4.8674	-	-	1.8674
2022	-	4.6947	-	-	2.6947
2023	1,465,950	4.5990	318,754	1,147,196	3.5990
Total			\$ 6,149,831	\$ 6,854,070	
Deferred Outflow (Inflow) Due to Differences Between Projected and Actual Earnings on Plan Investments					
2019	\$ (18,545,922)	5.0000	\$ (3,709,186)	\$ -	0.0000
2020	(14,742,222)	5.0000	(2,948,444)	(2,948,446)	1.0000
2021	(13,419,730)	5.0000	(2,683,946)	(5,367,892)	2.0000
2022	57,657,240	5.0000	11,531,448	34,594,344	3.0000
2023	(14,718,603)	5.0000	(2,943,721)	(11,774,882)	4.0000
Total			\$ (753,849)	\$ 14,503,124	

According to paragraph 33 of GASB Statement 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 10,729 years. Additionally, the total plan membership (active employees and inactive employees) was 2,333. 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 4.599 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, 2023

Assets

Cash and Deposits	\$	8,154,372
Receivables		
Accounts Receivable	\$	473,693
Accrued Interest and Other Dividends		194,201
Additional Contribution Account		-
Property, Plant, Equipment		6,716
Total Receivables	\$	<u>674,610</u>
Investments	\$	288,391,790
Total Assets	\$	<u>297,220,772</u>

Liabilities

Payables		
Accounts Payable and Accrued Expenses	\$	143,369
Payable for Investments Purchased		-
Benefits Payable		<u>2,113,963</u>
Total Liabilities	\$	2,257,332
Assets held for 401(h) Subtrust	\$	<u>21,370,459</u>
Net Position Restricted for Pensions	\$	<u><u>273,592,981</u></u>

Statement of Changes in Fiduciary Net Position for Year Ended December 31, 2023

Additions

Contributions	
Employer	\$ 20,289,596
Employee (Including Additional Contributions, Buybacks, Upgrades and Enrollments)	2,580,363
Total Contributions	\$ 22,869,959
Other	\$ -
Investment Income	
Net Appreciation in Fair Value of Investments	\$ 29,291,728
Interest and Dividends	2,612,810
Less Investment Expense	(715,932)
Net Investment Income	\$ 31,188,606
Total Additions	\$ 54,058,565

Deductions

Benefit Payments, Additional Contribution Payments, and Refunds of Employee Contributions	\$ 25,276,720
Pension Plan Administrative Expense	784,586
Total Deductions	\$ 26,061,306
Net Increase in Net Position	\$ 27,997,259

Net Position Restricted for Pensions

Beginning of Year	\$ 245,595,722
Prior Year Adjustment	-
End of Year	\$ 273,592,981

Schedule of Proportionate Employer Share for Fiscal Year Ending June 30, 2024 with Measurement Date December 31, 2023

Deferred Outflows of Resources										
Covered Payroll	Employer	Prop. Share	Net Pension Liability	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 Outflows of Resources		
\$ 5,846,961	Airport	9.40%	\$ 17,504,933	\$ 706,039	\$ 1,363,295	\$ 644,283	\$ 573,406	\$ 3,287,023		
618,939	Parking Control	1.00%	1,862,227	75,110	145,031	68,541	228,666	517,348		
2,836,983	Environmental Protection	4.56%	8,491,755	342,504	661,342	312,546	224,059	1,540,451		
11,954,117	School District	19.22%	35,792,002	1,443,624	2,787,500	1,317,352	1,880,217	7,428,693		
5,970,866	Water Works	9.60%	17,877,378	721,061	1,392,300	657,991	465,333	3,236,685		
34,953,338	General Fund City Departments	56.22%	104,694,397	4,222,711	8,153,656	3,853,357	293,944	16,523,668		
\$ 62,181,204	Total for All Employers	100.00%	\$ 186,222,692	\$ 7,511,049	\$ 14,503,124	\$ 6,854,070	\$ 3,665,625	\$ 32,533,868		

* 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.



**Schedule of Proportionate Employer Share
for Fiscal Year Ending June 30, 2024
with Measurement Date December 31, 2023
(Concluded)**

Employer	Deferred Inflows of Resources				Pension Expense		
	Differences Between Expected and Actual Experience	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	\$ -	\$ -	\$ 511,351	\$ 511,351	\$ 2,575,041	\$ 36,847	\$ 2,611,888
Parking Control	-	-	146,998	146,998	273,941	9,953	283,894
Environmental Protection	-	-	47,790	47,790	1,249,169	130,548	1,379,717
School District	-	-	586,766	586,766	5,265,137	100,988	5,366,125
Water Works	-	-	244,443	244,443	2,629,829	230,415	2,860,244
General Fund City Departments	-	-	2,128,277	2,128,277	15,400,934	(508,751)	14,892,183
Total for All Employers	\$ -	\$ -	\$ 3,665,625	\$ 3,665,625	\$ 27,394,051	\$ -	\$ 27,394,051

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios

Current Period

for Fiscal Year Ending June 30, 2024

with Measurement Date December 31, 2023

A. Total Pension Liability		
1. Service cost	\$	7,822,395
2. Interest on the Total Pension Liability		29,077,152
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		7,227,104
5. Changes of assumptions		1,465,950
6. Benefit payments, including refunds of employee contributions		(25,276,720)
7. Net change in Total Pension Liability		20,315,881
8. Total Pension Liability – Beginning		439,499,792
9. Total Pension Liability – Ending		459,815,673
B. Plan Fiduciary Net Position		
1. Contributions – Employer		20,289,596
2. Contributions – Employee		2,580,363
3. Net investment income		31,188,606
4. Benefit payments, including refunds of employee contributions		(25,276,720)
5. Pension plan administrative expense		(784,586)
6. Other		-
7. Net change in Plan Fiduciary Net Position		27,997,259
8. Plan Fiduciary Net Position – Beginning		245,595,722
9. Plan Fiduciary Net Position – Ending		273,592,981
C. Net Pension Liability		186,222,692
D. Plan Fiduciary Net Position as a percentage of the Total Pension Liability		59.50%
E. Covered-Employee Payroll	\$	62,181,204
F. Net Pension Liability as a percentage of Covered-Employee Payroll		299.48%

Schedules of Required Supplementary Information

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

Measurement Period Ending December 31,	2023	2022	2021	2020	2019	2018	2017	2016	2015	2014
Total Pension Liability										
Service Cost	\$ 7,822,395	\$ 7,086,981	\$ 6,793,736	\$ 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	29,077,152	28,215,371	27,407,254	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	-	-	-	-	-	-	-	-	-	-
Assumption Changes	7,227,104	1,617,855	781,152	2,625,836	3,974,876	(172,714)	201,281	(5,201,876)	4,528,433	2,716,119
Benefit Payments	1,465,950	-	-	29,031,182	-	-	9,866,319	-	-	-
Refunds	(24,678,227)	(23,267,787)	(21,857,612)	(20,446,872)	(19,272,847)	(17,781,112)	(16,605,774)	(15,812,395)	(14,516,835)	(12,335,397)
	(598,493)	(497,062)	(690,857)	(222,774)	(302,235)	(567,039)	(229,271)	(220,469)	(446,590)	(207,947)
Net Change in Total Pension Liability	\$ 20,315,881	\$ 13,155,358	\$ 12,433,673	\$ 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	\$ 439,499,792	\$ 426,344,434	\$ 413,910,761	\$ 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)	\$ 459,815,673	\$ 439,499,792	\$ 426,344,434	\$ 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	\$ 20,289,596	\$ 18,657,250	\$ 17,333,301	\$ 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	2,580,363	2,551,251	2,478,106	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	31,188,606	(38,377,993)	30,846,413	30,899,858	32,777,140	(11,682,616)	30,429,722	11,543,017	(4,783,148)	6,754,397
Benefit Payments	(24,678,227)	(23,267,787)	(21,857,612)	(20,446,872)	(19,272,847)	(17,781,112)	(16,605,774)	(15,812,395)	(14,516,835)	(12,335,397)
Refunds	(598,493)	(497,062)	(690,857)	(222,774)	(302,235)	(567,039)	(229,271)	(220,469)	(446,590)	(207,947)
Pension Plan Administrative Expense	(784,586)	(733,165)	(775,483)	(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	\$ 27,997,259	\$ (41,667,506)	\$ 27,333,868	\$ 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	\$ 245,595,722	\$ 287,263,228	\$ 259,929,360	\$ 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)	\$ 273,592,981	\$ 245,595,722	\$ 287,263,228	\$ 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)	\$ 186,222,692	\$ 193,904,070	\$ 139,081,206	\$ 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	59.50 %	55.88 %	67.38 %	62.80 %	62.75 %	57.30 %	63.67 %	59.63 %	59.33 %	64.82 %
Covered-Employee Payroll	\$ 62,181,204	\$ 56,969,297	\$ 55,323,580	\$ 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	299.48 %	340.37 %	251.40 %	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	N/A	N/A	N/A



Schedules of Required Supplementary Information

Schedule of the Net Pension Liability

Measurement Date 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%
2021	426,344,434	287,263,228	139,081,206	67.38%	55,323,580	251.40%
2022	439,499,792	245,595,722	193,904,070	55.88%	56,969,297	340.37%
2023	459,815,673	273,592,981	186,222,692	59.50%	62,181,204	299.48%

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



Schedule of Contributions

Fiscal Year Ending June 30	Actuarially Determined Contribution (ADC) #	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll*	Actual Contribution as a % of Covered Payroll
2015	\$ 10,959,998	\$ 10,959,998	\$ -	\$ 54,267,183	20.20%
2016	11,613,137	11,613,137	-	52,953,903	21.93%
2017	8,391,456	8,391,456	-	52,888,074	15.87%
2018	12,221,415	12,221,415	-	53,364,536	22.90%
2019	13,113,367	13,113,367	-	51,787,265	25.32%
2020	14,205,016	14,205,016	-	52,895,992	26.85%
2021	15,442,093	15,442,093	-	54,254,463	28.46%
2022	17,333,301	17,333,301	-	55,323,580	31.33%
2023	18,657,250	18,657,250	-	56,969,297	32.75%
2024	20,289,596	20,289,596	-	62,181,204	32.63%

* 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, 2021 and December 31, 2022
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 the Fiscal Year Ending June 30, 2023 Contribution Rate:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Period	18 years
Asset Valuation Method	5-year smoothed market; 20% corridor
Wage Inflation	2.50%
Salary Increases	3.25% to 5.96% including inflation
Investment Rate of Return	6.75% (net of investment expenses)
Retirement Age	Age and Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	Pub-2010 Mortality Table projected to 2039 for males and females using projection scale MP-2019.
Expense Load	1.25% 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 the Fiscal Year Ending June 30, 2024 Contribution Rate:

Actuarial Cost Method	Entry-Age Normal
Amortization Method	Level Percent-of-Payroll, Closed
Remaining Amortization Period	17 years
Asset Valuation Method	5-year smoothed market; 20% corridor
Wage Inflation	2.50%
Salary Increases	3.25% to 5.96% including inflation
Investment Rate of Return	6.75% (net of investment expenses)
Retirement Age	Age and Experience-based table of rates that are specific to the type of eligibility condition.
Mortality	Pub-2010 Mortality Table projected to 2039 for males and females using projection scale MP-2019.
Expense Load	1.25% 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)	\$ 512,101,564	\$ 459,815,673	\$ 413,030,995
Net Position Restricted for Pensions	273,592,981	273,592,981	273,592,981
Net Pension Liability (NPL)	\$ 238,508,583	\$ 186,222,692	\$ 139,438,014

Summary of Population Statistics

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	1,088
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	126
Active Plan Members	<u>1,119</u>
Total Plan Members	2,333

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions as of December 31, 2023

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, 2023

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.
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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, 2023

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, is 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.

Valuation Assumptions

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 three to five 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 actuarial valuation. We believe the assumptions are reasonable individually and in the aggregate.

Valuation Assumptions (Continued)

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 five years has been as follows:

	Year Ended December 31					5-Year Average
	2023	2022	2021	2020	2019	
1) Nominal rate of return#	7.00 %	4.00 %	9.70 %	8.60 %	5.60 %	6.96 %
2) Increase in CPI	3.35 %	6.45 %	7.04 %	1.36 %	2.29 %	4.07 %
3) Average Salary Increase (ASI)	3.20 %	4.14 %	3.69 %	5.49 %	4.24 %	4.15 %
4) Real Return						
- Total: CPI (1) - (2)						2.89 %
- Total: ASI (1) - (3)						2.81 %
- Assumption	4.25 %	4.25 %	4.25 %	4.25 %	4.25 %	4.25 %

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%

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%				

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

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 three-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)		
	6 & Up (Women)	4.00%	6.89%
35		2.96%	5.79%
40		2.33%	5.01%
45		2.00%	4.42%
50		1.87%	3.84%

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%

Miscellaneous and Technical Assumptions

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 13% 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 who have no salary provided, their prior year's salary was used.



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 3.77%; 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 1.26% 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, 2123

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
0	\$ 62,181,204					
1	65,053,453	\$ 2,439,504	\$ 6,010,406	\$ 820,827	\$ 15,015,810	\$ 24,286,548
2	59,607,844	2,235,294	5,473,100	752,116	15,942,876	24,403,386
3	55,748,651	2,090,574	5,082,849	703,422	17,269,042	25,145,888
4	52,487,037	1,968,264	4,746,103	662,268	17,386,894	24,763,530
5	49,688,642	1,863,324	4,451,446	626,958	17,821,566	24,763,295
6	47,164,113	1,768,654	4,192,211	595,104	18,267,106	24,823,075
7	44,803,289	1,680,123	3,946,954	565,316	18,723,783	24,916,177
8	42,610,343	1,597,888	3,723,113	537,646	19,191,878	25,050,525
9	40,506,598	1,518,997	3,509,690	511,102	19,671,676	25,211,465
10	38,454,161	1,442,031	3,303,686	485,204	20,163,468	25,394,389
11	36,564,918	1,371,184	3,113,975	461,366	20,667,554	25,614,079
12	34,692,695	1,300,976	2,928,739	437,743	21,184,242	25,851,700
13	32,881,088	1,233,041	2,749,496	414,885	21,713,849	26,111,271
14	31,242,942	1,171,610	2,589,868	394,215	22,256,695	26,412,388
15	29,639,209	1,111,470	2,433,270	373,980	22,813,112	26,731,832
16	28,121,660	1,054,562	2,289,662	354,832	23,383,440	27,082,496
17	26,580,146	996,755	2,139,984	335,381	-	3,472,120
18	25,153,971	943,274	2,005,461	317,386	-	3,266,121
19	23,793,575	892,259	1,877,400	300,221	-	3,069,880
20	22,492,735	843,478	1,759,307	283,807	-	2,886,592
21	21,175,518	794,082	1,638,117	267,187	-	2,699,386
22	19,850,226	744,383	1,520,760	250,465	-	2,515,608
23	18,600,715	697,527	1,409,955	234,699	-	2,342,181
24	17,319,297	649,474	1,298,539	218,530	-	2,166,543
25	16,106,505	603,994	1,194,997	203,228	-	2,002,219
26	14,823,619	555,886	1,087,503	187,041	-	1,830,429
27	13,611,515	510,432	985,541	171,746	-	1,667,719
28	12,354,068	463,278	882,188	155,880	-	1,501,345
29	11,220,926	420,785	792,083	141,583	-	1,354,451
30	10,056,430	377,116	699,166	126,889	-	1,203,171
31	8,930,349	334,888	611,786	112,681	-	1,059,356
32	7,871,277	295,173	532,563	99,318	-	927,054
33	6,862,196	257,332	457,064	86,585	-	800,982
34	5,913,435	221,754	388,046	74,614	-	684,414
35	5,056,531	189,620	326,710	63,802	-	580,132
36	4,278,981	160,462	271,706	53,991	-	486,159
37	3,537,262	132,647	220,520	44,632	-	397,799
38	2,906,065	108,977	177,805	36,668	-	323,451
39	2,382,525	89,345	143,189	30,062	-	262,596
40	1,886,018	70,726	111,099	23,797	-	205,622
41	1,511,533	56,682	87,222	19,072	-	162,977
42	1,183,532	44,382	67,175	14,933	-	126,490
43	904,127	33,905	50,276	11,408	-	95,589
44	677,428	25,404	36,690	8,548	-	70,642
45	519,712	19,489	27,602	6,558	-	53,649
46	374,444	14,042	19,382	4,725	-	38,149
47	272,298	10,211	13,567	3,436	-	27,215
48	198,159	7,431	9,747	2,500	-	19,677
49	143,655	5,387	6,741	1,813	-	13,941
50	104,279	3,910	4,774	1,316	-	10,000



Single Discount Rate Development Projection of Contributions Ending December 31, 2123 (Concluded)

Year	Payroll for Current Employees	Contributions from Current Employees	Service Cost Contributions	Administrative Expense Contributions	UAL Contributions	Total Contributions
51	\$ 73,364	\$ 2,751	\$ 3,195	\$ 926	\$ -	\$ 6,872
52	51,333	1,925	2,113	648	-	4,686
53	34,514	1,294	1,375	435	-	3,104
54	23,746	890	912	300	-	2,103
55	15,499	581	532	196	-	1,310
56	9,951	373	333	126	-	832
57	5,835	219	171	74	-	464
58	3,453	129	89	44	-	262
59	2,526	95	67	32	-	194
60	1,564	59	51	20	-	130
61	839	31	20	11	-	63
62	139	5	3	2	-	10
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, 2123

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	\$ 273,592,981	\$ 24,286,548	\$ 27,624,175	\$ 820,827	\$ 18,329,470	\$ 287,763,997
2	287,763,997	24,403,386	28,843,749	752,116	19,251,685	301,823,204
3	301,823,204	25,145,888	30,070,610	703,422	20,186,218	316,381,278
4	316,381,278	24,763,530	31,277,173	662,268	21,117,504	330,322,870
5	330,322,870	24,763,295	32,431,651	626,958	22,021,398	344,048,954
6	344,048,954	24,823,075	33,673,923	595,104	22,909,709	357,512,712
7	357,512,712	24,916,177	34,848,816	565,316	23,783,587	370,798,345
8	370,798,345	25,050,525	35,984,027	537,646	24,648,059	383,975,255
9	383,975,255	25,211,465	37,023,402	511,102	25,509,218	397,161,433
10	397,161,433	25,394,389	37,951,981	485,204	26,375,390	410,494,027
11	410,494,027	25,614,079	38,811,695	461,366	27,254,883	424,089,928
12	424,089,928	25,851,700	39,608,648	437,743	28,154,822	438,050,060
13	438,050,060	26,111,271	40,254,680	414,885	29,085,059	452,576,826
14	452,576,826	26,412,388	40,791,360	394,215	30,058,482	467,862,120
15	467,862,120	26,731,832	41,228,454	373,980	31,087,005	484,078,524
16	484,078,524	27,082,496	41,524,580	354,832	32,184,059	501,465,667
17	501,465,667	3,472,120	41,698,875	335,381	32,568,711	495,472,243
18	495,472,243	3,266,121	41,799,996	317,386	32,154,557	488,775,539
19	488,775,539	3,069,880	41,801,324	300,221	31,696,540	481,440,414
20	481,440,414	2,886,592	41,699,017	283,807	31,199,275	473,543,458
21	473,543,458	2,699,386	41,530,714	267,187	30,666,155	465,111,098
22	465,111,098	2,515,608	41,299,946	250,465	30,099,086	456,175,382
23	456,175,382	2,342,181	40,987,519	234,699	29,501,063	446,796,408
24	446,796,408	2,166,543	40,633,619	218,530	28,874,437	436,985,238
25	436,985,238	2,002,219	40,234,873	203,228	28,220,474	426,769,830
26	426,769,830	1,830,429	39,804,365	187,041	27,540,060	416,148,914
27	416,148,914	1,667,719	39,313,638	171,746	26,834,546	405,165,796
28	405,165,796	1,501,345	38,770,726	155,880	26,106,213	393,846,748
29	393,846,748	1,354,451	38,168,002	141,583	25,357,785	382,249,399
30	382,249,399	1,203,171	37,581,247	126,889	24,589,909	370,334,344
31	370,334,344	1,059,356	37,028,093	112,681	23,799,704	358,052,630
32	358,052,630	927,054	36,407,035	99,318	22,987,358	345,460,689
33	345,460,689	800,982	35,714,837	86,585	22,156,620	332,616,868
34	332,616,868	684,414	34,982,983	74,614	21,310,486	319,554,171
35	319,554,171	580,132	34,187,416	63,802	20,452,063	306,335,149
36	306,335,149	486,159	33,349,420	53,991	19,584,805	293,002,702
37	293,002,702	397,799	32,491,079	44,632	18,710,739	279,575,529
38	279,575,529	323,451	31,555,852	36,668	17,833,249	266,139,709
39	266,139,709	262,596	30,576,568	30,062	16,957,041	252,752,716
40	252,752,716	205,622	29,586,154	23,797	16,084,616	239,433,003
41	239,433,003	162,977	28,559,770	19,072	15,218,352	226,235,489
42	226,235,489	126,490	27,511,866	14,933	14,361,235	213,196,415
43	213,196,415	95,589	26,435,773	11,408	13,515,914	200,360,737
44	200,360,737	70,642	25,337,440	8,548	12,685,236	187,770,626
45	187,770,626	53,649	24,234,541	6,558	11,871,520	175,454,696
46	175,454,696	38,149	23,134,841	4,725	11,076,250	163,429,529
47	163,429,529	27,215	22,027,615	3,436	10,300,990	151,726,682
48	151,726,682	19,677	20,920,268	2,500	9,547,591	140,371,182
49	140,371,182	13,941	19,816,216	1,813	8,817,581	129,384,675
50	129,384,675	10,000	18,718,446	1,316	8,112,322	118,787,235



Single Discount Rate Development Projection of Plan Fiduciary Net Position Ending December 31, 2123 (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	\$ 118,787,235	\$ 6,872	\$ 17,628,122	\$ 926	\$ 7,433,101	\$ 108,598,161
52	108,598,161	4,686	16,545,825	648	6,781,206	98,837,580
53	98,837,580	3,104	15,473,078	435	6,157,936	89,525,107
54	89,525,107	2,103	14,412,010	300	5,564,541	80,679,442
55	80,679,442	1,310	13,365,974	196	5,002,163	72,316,745
56	72,316,745	832	12,337,750	126	4,471,804	64,451,505
57	64,451,505	464	11,330,770	74	3,974,320	57,095,445
58	57,095,445	262	10,348,477	44	3,510,392	50,257,578
59	50,257,578	194	9,395,748	32	3,080,463	43,942,455
60	43,942,455	130	8,477,369	20	2,684,680	38,149,876
61	38,149,876	63	7,597,442	11	2,322,891	32,875,377
62	32,875,377	10	6,759,957	2	1,994,665	28,110,093
63	28,110,093	-	5,968,847	-	1,699,272	23,840,519
64	23,840,519	-	5,228,069	-	1,435,669	20,048,118
65	20,048,118	-	4,540,713	-	1,202,501	16,709,906
66	16,709,906	-	3,908,971	-	998,145	13,799,080
67	13,799,080	-	3,333,983	-	820,753	11,285,851
68	11,285,851	-	2,815,895	-	668,310	9,138,265
69	9,138,265	-	2,354,064	-	538,681	7,322,881
70	7,322,881	-	1,947,021	-	429,656	5,805,516
71	5,805,516	-	1,592,498	-	339,003	4,552,021
72	4,552,021	-	1,287,567	-	264,516	3,528,969
73	3,528,969	-	1,028,677	-	204,054	2,704,347
74	2,704,347	-	811,792	-	155,593	2,048,148
75	2,048,148	-	632,607	-	117,248	1,532,789
76	1,532,789	-	486,656	-	87,307	1,133,440
77	1,133,440	-	369,465	-	64,241	828,217
78	828,217	-	276,745	-	46,717	598,189
79	598,189	-	204,510	-	33,588	427,267
80	427,267	-	149,123	-	23,890	302,033
81	302,033	-	107,341	-	16,824	211,516
82	211,516	-	76,333	-	11,743	146,926
83	146,926	-	53,693	-	8,135	101,368
84	101,368	-	37,416	-	5,600	69,553
85	69,553	-	25,883	-	3,836	47,505
86	47,505	-	17,812	-	2,615	32,308
87	32,308	-	12,216	-	1,775	21,868
88	21,868	-	8,354	-	1,199	14,712
89	14,712	-	5,698	-	804	9,818
90	9,818	-	3,871	-	534	6,482
91	6,482	-	2,613	-	351	4,220
92	4,220	-	1,747	-	227	2,699
93	2,699	-	1,153	-	144	1,690
94	1,690	-	748	-	89	1,031
95	1,031	-	476	-	54	609
96	609	-	295	-	31	345
97	345	-	178	-	17	184
98	184	-	105	-	9	88
99	88	-	60	-	4	32
100	32	-	33	-	1	0



Single Discount Rate Development

Present Values of Projected Benefits

Ending December 31, 2123

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	\$ 273,592,981	\$ 27,624,175	\$ 27,624,175	\$ -	\$ 26,736,550	\$ -	\$ 26,736,550
2	287,763,997	28,843,749	28,843,749	-	26,151,697	-	26,151,697
3	301,823,204	30,070,610	30,070,610	-	25,540,096	-	25,540,096
4	316,381,278	31,277,173	31,277,173	-	24,885,129	-	24,885,129
5	330,322,870	32,431,651	32,431,651	-	24,172,055	-	24,172,055
6	344,048,954	33,673,923	33,673,923	-	23,510,959	-	23,510,959
7	357,512,712	34,848,816	34,848,816	-	22,792,753	-	22,792,753
8	370,798,345	35,984,027	35,984,027	-	22,047,058	-	22,047,058
9	383,975,255	37,023,402	37,023,402	-	21,249,529	-	21,249,529
10	397,161,433	37,951,981	37,951,981	-	20,405,139	-	20,405,139
11	410,494,027	38,811,695	38,811,695	-	19,547,888	-	19,547,888
12	424,089,928	39,608,648	39,608,648	-	18,687,851	-	18,687,851
13	438,050,060	40,254,680	40,254,680	-	17,791,716	-	17,791,716
14	452,576,826	40,791,360	40,791,360	-	16,888,915	-	16,888,915
15	467,862,120	41,228,454	41,228,454	-	15,990,525	-	15,990,525
16	484,078,524	41,524,580	41,524,580	-	15,087,006	-	15,087,006
17	501,465,667	41,698,875	41,698,875	-	14,192,348	-	14,192,348
18	495,472,243	41,799,996	41,799,996	-	13,327,180	-	13,327,180
19	488,775,539	41,801,324	41,801,324	-	12,484,875	-	12,484,875
20	481,440,414	41,699,017	41,699,017	-	11,666,809	-	11,666,809
21	473,543,458	41,530,714	41,530,714	-	10,884,984	-	10,884,984
22	465,111,098	41,299,946	41,299,946	-	10,140,047	-	10,140,047
23	456,175,382	40,987,519	40,987,519	-	9,427,016	-	9,427,016
24	446,796,408	40,633,619	40,633,619	-	8,754,679	-	8,754,679
25	436,985,238	40,234,873	40,234,873	-	8,120,626	-	8,120,626
26	426,769,830	39,804,365	39,804,365	-	7,525,748	-	7,525,748
27	416,148,914	39,313,638	39,313,638	-	6,962,967	-	6,962,967
28	405,165,796	38,770,726	38,770,726	-	6,432,609	-	6,432,609
29	393,846,748	38,168,002	38,168,002	-	5,932,186	-	5,932,186
30	382,249,399	37,581,247	37,581,247	-	5,471,654	-	5,471,654
31	370,334,344	37,028,093	37,028,093	-	5,050,227	-	5,050,227
32	358,052,630	36,407,035	36,407,035	-	4,651,542	-	4,651,542
33	345,460,689	35,714,837	35,714,837	-	4,274,570	-	4,274,570
34	332,616,868	34,982,983	34,982,983	-	3,922,227	-	3,922,227
35	319,554,171	34,187,416	34,187,416	-	3,590,660	-	3,590,660
36	306,335,149	33,349,420	33,349,420	-	3,281,168	-	3,281,168
37	293,002,702	32,491,079	32,491,079	-	2,994,583	-	2,994,583
38	279,575,529	31,555,852	31,555,852	-	2,724,484	-	2,724,484
39	266,139,709	30,576,568	30,576,568	-	2,473,006	-	2,473,006
40	252,752,716	29,586,154	29,586,154	-	2,241,595	-	2,241,595
41	239,433,003	28,559,770	28,559,770	-	2,027,008	-	2,027,008
42	226,235,489	27,511,866	27,511,866	-	1,829,165	-	1,829,165
43	213,196,415	26,435,773	26,435,773	-	1,646,482	-	1,646,482
44	200,360,737	25,337,440	25,337,440	-	1,478,291	-	1,478,291
45	187,770,626	24,234,541	24,234,541	-	1,324,537	-	1,324,537
46	175,454,696	23,134,841	23,134,841	-	1,184,480	-	1,184,480
47	163,429,529	22,027,615	22,027,615	-	1,056,479	-	1,056,479
48	151,726,682	20,920,268	20,920,268	-	939,924	-	939,924
49	140,371,182	19,816,216	19,816,216	-	834,024	-	834,024
50	129,384,675	18,718,446	18,718,446	-	738,005	-	738,005



Single Discount Rate Development

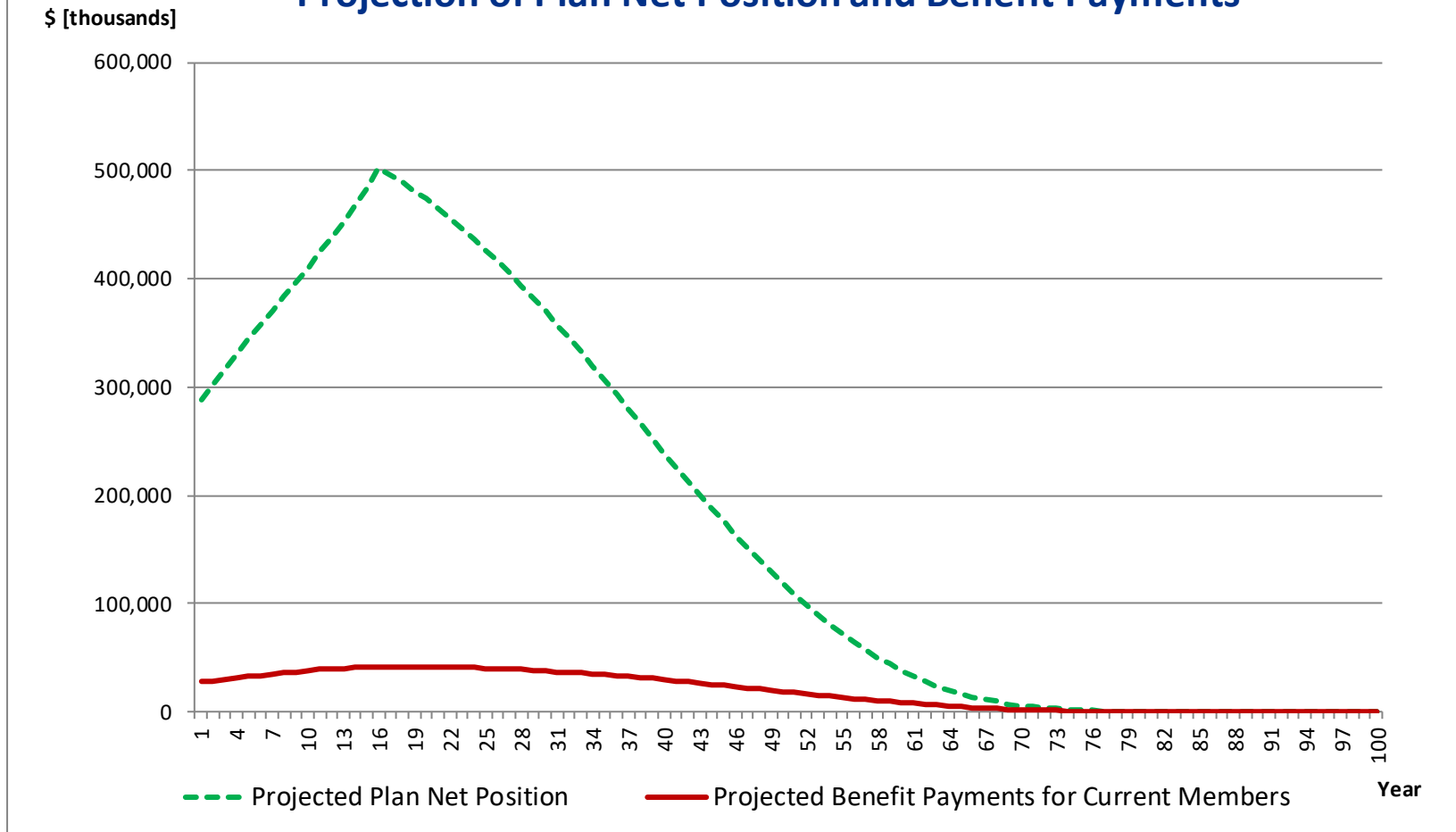
Present Values of Projected Benefits

Ending December 31, 2123 (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)-.5	(g)=(e)*vf^(a)-.5	(h)=(c)/(1+sdr)^(a)-.5
51	\$ 118,787,235	\$ 17,628,122	\$ 17,628,122	\$ -	\$ 651,070	\$ -	\$ 651,070
52	108,598,161	16,545,825	16,545,825	-	572,456	-	572,456
53	98,837,580	15,473,078	15,473,078	-	501,491	-	501,491
54	89,525,107	14,412,010	14,412,010	-	437,565	-	437,565
55	80,679,442	13,365,974	13,365,974	-	380,146	-	380,146
56	72,316,745	12,337,750	12,337,750	-	328,714	-	328,714
57	64,451,505	11,330,770	11,330,770	-	282,796	-	282,796
58	57,095,445	10,348,477	10,348,477	-	241,949	-	241,949
59	50,257,578	9,395,748	9,395,748	-	205,783	-	205,783
60	43,942,455	8,477,369	8,477,369	-	173,929	-	173,929
61	38,149,876	7,597,442	7,597,442	-	146,019	-	146,019
62	32,875,377	6,759,957	6,759,957	-	121,708	-	121,708
63	28,110,093	5,968,847	5,968,847	-	100,669	-	100,669
64	23,840,519	5,228,069	5,228,069	-	82,600	-	82,600
65	20,048,118	4,540,713	4,540,713	-	67,204	-	67,204
66	16,709,906	3,908,971	3,908,971	-	54,196	-	54,196
67	13,799,080	3,333,983	3,333,983	-	43,301	-	43,301
68	11,285,851	2,815,895	2,815,895	-	34,260	-	34,260
69	9,138,265	2,354,064	2,354,064	-	26,830	-	26,830
70	7,322,881	1,947,021	1,947,021	-	20,788	-	20,788
71	5,805,516	1,592,498	1,592,498	-	15,927	-	15,927
72	4,552,021	1,287,567	1,287,567	-	12,063	-	12,063
73	3,528,969	1,028,677	1,028,677	-	9,028	-	9,028
74	2,704,347	811,792	811,792	-	6,674	-	6,674
75	2,048,148	632,607	632,607	-	4,872	-	4,872
76	1,532,789	486,656	486,656	-	3,511	-	3,511
77	1,133,440	369,465	369,465	-	2,497	-	2,497
78	828,217	276,745	276,745	-	1,752	-	1,752
79	598,189	204,510	204,510	-	1,213	-	1,213
80	427,267	149,123	149,123	-	829	-	829
81	302,033	107,341	107,341	-	559	-	559
82	211,516	76,333	76,333	-	372	-	372
83	146,926	53,693	53,693	-	245	-	245
84	101,368	37,416	37,416	-	160	-	160
85	69,553	25,883	25,883	-	104	-	104
86	47,505	17,812	17,812	-	67	-	67
87	32,308	12,216	12,216	-	43	-	43
88	21,868	8,354	8,354	-	28	-	28
89	14,712	5,698	5,698	-	18	-	18
90	9,818	3,871	3,871	-	11	-	11
91	6,482	2,613	2,613	-	7	-	7
92	4,220	1,747	1,747	-	4	-	4
93	2,699	1,153	1,153	-	3	-	3
94	1,690	748	748	-	2	-	2
95	1,031	476	476	-	1	-	1
96	609	295	295	-	1	-	1
97	345	178	178	-	0	-	0
98	184	105	105	-	0	-	0
99	88	60	60	-	-	-	-
100	32	33	33	-	-	-	-
Totals					\$ 525,604,516	\$ -	\$ 525,604,516



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

<i>Entry Age Actuarial Cost Method (EAN)</i>	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.
<i>Fiduciary Net Position</i>	The fiduciary net position is the market value of the assets of the trust dedicated to the defined benefit provisions.
<i>GASB</i>	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
<i>Long-Term Expected Rate of Return</i>	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.
<i>Money-Weighted Rate of Return</i>	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.
<i>Multiple-Employer Defined Benefit Pension Plan</i>	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
<i>Municipal Bond Rate</i>	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.
<i>Net Pension Liability (NPL)</i>	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
<i>Non-Employer Contribution Entities</i>	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.
<i>Normal Cost</i>	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 health care 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.