St. Paul Teachers' Retirement Fund Association

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

June 30, 2024

| P: 800.521.0498 | www.grsconsulting.com

November 12, 2024

St. Paul Teachers' Retirement Fund Association
2550 University Avenue W, Suite 312N
St. Paul, Minnesota 55114

Dear Trustees:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statement Nos. 67 and 68 for the St. Paul Teachers' Retirement Fund Association ("SPTRFA" or "Fund"). These calculations have been made on a basis that is consistent with our understanding of these Statements.

GASB Statement No. 67 is the accounting standard that applies to the stand-alone financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust. GASB Statement No. 82 is an amendment to Statements No. 67, No. 68, and No. 73, intended to improve consistency in the application of accounting statements.

Our calculation of the liability associated with the benefits described in this report was performed for the purpose of providing reporting and disclosure information that satisfies the requirements of GASB Statement Nos. 67 and 68. *The Net Pension Liability is not an appropriate measure for measuring 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 plan's liability for this report is not applicable for purposes of funding the plan.* A calculation of the plan's liability for purposes other than satisfying the requirements of GASB Statement No. 67 may produce significantly different results. The information in this report is calculated on a total plan basis. The Fund is responsible for preparing the Schedule of Employer Allocations and the Schedule of Pension Amounts by Employer. This report may be provided to parties other than the St. Paul Teachers' Retirement Fund Association only in its entirety and only with the permission of the Board. GRS is not responsible for unauthorized use of this report.

This report is based upon information, furnished to us by the Fund, 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 it was not audited.

This report complements the actuarial valuation report for funding purposes that was or will be provided to the Fund and should be considered in conjunction with that report. Please see the actuarial funding valuation report as of June 30, 2024 for additional discussion of the nature of actuarial calculations and more information related to participant data, economic and demographic assumptions, and benefit provisions.

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.

To the best of our knowledge, the information contained within this report is accurate and represents the actuarial position of the St. Paul Teachers' Retirement Fund Association according to the disclosed assumptions. 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.

The signing actuaries are independent of the plan sponsor.

Bonita J. Wurst and Sheryl L. Christensen 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.

Respectfully submitted,
Gabriel, Roeder, Smith & Company

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, FCA, MAAA

Sheryl Christensen

Sheryl L. Christensen, FSA, EA, FCA, MAAA

BJW/SLC:rmn

Table of Contents

SECTION A

EXECUTIVE SUMMARY

Executive Summary
as of June 30, 2024 (Dollars in Thousands)

		2024
Actuarial Valuation Date		June 30, 2024
Measurement Date of the Net Pension Liability		June 30, 2024
Membership		
Number of		
- Service Retirements		3,953
- Survivors		403
- Disability Retirements		22
- Deferred Retirements		2,681
- Terminated other non-vested		3,106
- Active Members		3,472
- Total		13,637
Covered Payroll	$	319,667
Net Pension Liability		
Total Pension Liability	$	1,933,107
Plan Fiduciary Net Position		1,335,037
Net Pension Liability	$	598,070
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		69.06%
Net Pension Liability as a Percentage of Covered Payroll		187.09%
Development of the Single Discount Rate		
Single Discount Rate		7.00%
Long-Term Expected Rate of Investment Return		7.00%
Long-Term Municipal Bond Rate*		3.97%
Last year ending June 30 in the 2025 to 2124 projection period within which projected benefit payments are fully funded		2124
Total Pension Expense	$	58,923

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	$ 6,405	$ 5,375
Changes in assumptions	-	7,849
Net difference between projected and actual earnings on pension plan investments	76,576	115,090
Total	$ 82,981	$ 128,314

** 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 June 30, 2024.*

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." There were no contributions made to SPTRFA subsequent to the measurement date of June 30, 2024.

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
- A comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Measurement of the Net Pension Liability

The net pension liability is to be measured as the total pension liability, less the amount of the pension plan's fiduciary net position. In actuarial terms, this will be 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).

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 there are no changes in benefits, Chapter 356 required contributions are made, and all actuarial assumptions are met (including the assumption of the plan earning 7.00% on an actuarial value of assets basis, as prescribed by statutes), it is expected that:

(1) The normal cost of the plan is expected to remain approximately level as a percent of pay;
(2) The funded status of the plan is expected to gradually improve and is expected to be 100% funded within the next 24 years; and
(3) The unfunded liability will begin to decline.

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 June 30, 2024 and a measurement date of June 30, 2024.

Single Discount Rate

Projected benefit payments are required to be discounted to their actuarial present values using a single discount rate. This rate differs depending on whether or not the Fund has a projected sufficiency of assets to pay benefits.

Due to the projected sufficiency of assets to pay benefits, the single discount rate is equal to the 7.00% long-term expected rate of return on pension plan investments, for the purposes of this valuation.

Had the Fund been projected to have insufficient assets to pay all projected benefits, the single discount rate would instead reflect a combination of (1) the 7.00% long-term expected rate of return on pension plan investments (for all years where a projected asset sufficiency exists), then (2) a lower tax-exempt municipal bond rate* (for all remaining years where projected asset insufficiencies exist).

* *Source: Based on the 20-Year Municipal GO Index of mixed maturity general obligation municipal bonds as of the weekly rate closest to but not later than the Measurement Date.*

SECTION B

FINANCIAL STATEMENTS

Note – Section B is intended to assist in preparation of the financial statements of the St. Paul Teachers' Retirement Fund Association. Financial statements are the responsibility of management, subject to the auditor’s review.

Statement of Pension Expense under GASB Statement No. 68
Fiscal Year Ended June 30, 2024 (Dollars in Thousands)

A. Expense/(Income)

1.	Service Cost	$ 30,174
2.	Interest on the Total Pension Liability	129,014
3.	Current-Period Benefit Changes	-
4.	Employee Contributions (made negative for addition here)	(25,265)
5.	Projected Earnings on Plan Investments (made negative for addition here)	(84,156)
6.	Pension Plan Administrative Expense	811
7.	Other Changes in Plan Fiduciary Net Position	-
8.	Recognition of Outflow (Inflow) of Resources due to Liabilities	20,068
9.	Recognition of Outflow (Inflow) of Resources due to Assets	(11,723)
10.	**Total Pension Expense / (Income)**	**$ 58,923**

Recognition of Deferred Outflows and Inflows of Resources

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 pension 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 42,585 years. Additionally, the total plan membership (active employees and inactive employees) was 13,384. 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 3.0000 years (rounded).

Additionally, differences between projected and actual earnings on plan investments should be recognized in pension expense using a systematic and rational method over a closed 5-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 Outflows and Inflows Arising from Current Reporting Period Fiscal Year Ended June 30, 2024 (Dollars in Thousands)

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	9,607
2. Assumption Changes (gains) or losses	$	-
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		3
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	$	3,202
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$	-
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	3,202
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	$	6,405
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$	-
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	6,405
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	(63,187)
2. Recognition period for Assets {in years}		5
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	(12,637)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	(50,550)

Statement of Outflows and Inflows Arising from Current and Prior Reporting Periods Fiscal Year Ended June 30, 2024 (Dollars in Thousands)

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/(Inflows) of Resources
1. Due to Liabilities	$ 37,203	$ 17,135	$ 20,068
2. Due to Assets	52,987	64,710	(11,723)
3. Total	$ 90,190	$ 81,845	$ 8,345

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

	Outflows of Resources	Inflows of Resources	Net Outflows/(Inflows) of Resources
1. Differences between expected and actual experience	$ 3,202	$ 9,286	$ (6,084)
2. Assumption Changes	34,001	7,849	26,152
3. Net Difference between projected and actual earnings on pension plan investments	52,987	64,710	(11,723)
4. Total	$ 90,190	$ 81,845	$ 8,345

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/ (Inflows) of Resources
1. Differences between expected and actual experience	$ 6,405	$ 5,375	$ 1,030
2. Assumption Changes	-	7,849	(7,849)
3. Net Difference between projected and actual earnings on pension plan investments	76,576	115,090	(38,514)
4. Total	$ 82,981	$ 128,314	$ (45,333)

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

Year Ending June 30	Net Deferred Outflows/ (Inflows) of Resources
2025	$ (36,444)
2026	22,621
2027	(18,872)
2028	(12,638)
2029	-
Thereafter	-
Total	$ (45,333)

Recognition of Deferred Outflows and Inflows of Resources
Fiscal Year Ended June 30, 2024 (Dollars in Thousands)

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					
2022	$ (11,734)	3.0000	$ (3,912)	$ -	0.0000
2023	(16,123)	3.0000	(5,374)	(5,375)	1.0000
2024	9,607	3.0000	3,202	6,405	2.0000
Total			**$ (6,084)**	**$ 1,030**	
Deferred Outflow (Inflow) due to Assumption Changes					
2022	$ 102,005	3.0000	$ 34,001	$ -	0.0000
2023	(23,547)	3.0000	(7,849)	(7,849)	1.0000
2024	-	3.0000	-	-	2.0000
Total			**$ 26,152**	**$ (7,849)**	
Deferred Outflow (Inflow) due to Differences between Projected and Actual Earnings on Plan Investments					
2020	$ 73,490	5.0000	$ 14,698	$ -	0.0000
2021	(229,203)	5.0000	(45,840)	(45,840)	1.0000
2022	191,443	5.0000	38,289	76,576	2.0000
2023	(31,166)	5.0000	(6,233)	(18,700)	3.0000
2024	(63,187)	5.0000	(12,637)	(50,550)	4.0000
Total			**$ (11,723)**	**$ (38,514)**	
Deferred Outflow (Inflow) due to All Sources					
Total			**$ 8,345**	**$ (45,333)**	

Statement of Fiduciary Net Position as of June 30, 2024 (Dollars in Thousands)

		2024
Assets		
Cash and Deposits	$	13,085
Receivables*	$	16,791
Investments		
Fixed Income	$	281,608
Equity		783,729
Real Assets		78,351
Cash and Cash Equivalents		19,310
Other		166,356
Total Investments	$	1,329,354
Total Assets	$	1,359,230
Liabilities		
Payables		
Accounts Payable - Purchase of Investments	$	24,193
Accrued Expenses		-
Accounts Payable - Other		-
Total Liabilities	$	24,193
Net Position Restricted for Pensions	$	1,335,037

* Accounts Receivable		
Employer contribution	$	437
Employee contribution		236
Service Purchases Receivable		70
Pensions Receivable		74
State Contributions		838
Real Estate Income Receivable		185
Commission Recapture Receivable		1
Interest receivable		54
Dividend receivable		1,329
Misc. Receivable		-
Sales of securities		13,567
Total accounts receivable	$	16,791

Statement of Changes in Fiduciary Net Position for Year Ended June 30, 2024 (Dollars in Thousands)

Additions		
Contributions		
Employer	$	41,954
Employer (for Reemployed Annuitants)		426
Employee		25,265
Other		31,412
Total Contributions	$	99,057
Investment Income		
Net Appreciation in Fair Value of Investments	$	134,484
Interest and Dividends		15,055
Less Investment Expense		(2,196)
Net Investment Income	$	147,343
Other		-
Total Additions	$	246,400
Deductions		
Benefit payments, including refunds of employee contributions	$	127,305
Pension Plan Administrative Expense		811
Other		-
Total Deductions	$	128,116
Net Increase in Net Position	$	118,284
Net Position Restricted for Pensions		
Beginning of Year	$	1,216,753
End of Year	$	1,335,037

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Note – Section C is intended to assist in preparation of the financial statements of the St. Paul Teachers' Retirement Fund Association. Financial statements are the responsibility of management, subject to the auditor’s review.

Schedule of Changes in Net Pension Liability and Related Ratios
Current Period
Fiscal Year Ended June 30, 2024 (Dollars in Thousands)

A. Total Pension Liability		
1. Service Cost	$	30,174
2. Interest on the Total Pension Liability		129,014
3. Changes of benefit terms		-
4. Difference between expected and actual experience of the Total Pension Liability		9,607
5. Changes of assumptions		0
6. Benefit payments, including refunds of employee contributions		(127,305)
7. Net change in Total Pension Liability	$	41,490
8. Total Pension Liability – Beginning		1,891,617
9. Total Pension Liability – Ending	**$**	**1,933,107**
B. Plan Fiduciary Net Position		
1. Contributions – Employer^	$	73,792
2. Contributions – Employee		25,265
3. Net investment income		147,343
4. Benefit payments, including refunds of employee contributions		(127,305)
5. Pension Plan Administrative Expense		(811)
6. Other		-
7. Net change in Plan Fiduciary Net Position	$	118,284
8. Plan Fiduciary Net Position – Beginning		1,216,753
9. Plan Fiduciary Net Position – Ending	**$**	**1,335,037**
C. Net Pension Liability	**$**	**598,070**
D. Plan Fiduciary Net Position as a Percentage of the Total Pension Liability		**69.06%**
E. Covered-Employee payroll	**$**	**319,667**
F. Net pension liability as a percentage of Covered-Employee payroll		**187.09%**

^ *Includes employer contributions, supplemental contributions, and reemployed annuitant employer contributions.*

Schedules of Required Supplementary Information
Schedule of Changes in Net Pension Liability and Related Ratios Multiyear
(Dollars in Thousands)

Last 10 Fiscal Years

Fiscal year ending June 30,	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Total Pension Liability										
Service Cost	$ 30,174	$ 28,846	$ 24,863	$ 23,777	$ 23,120	$ 23,279	$ 25,087	$ 24,098	$ 25,596	$ 24,998
Interest on the Total Pension Liability	129,014	126,124	126,096	123,262	123,300	122,197	125,256	123,820	124,294	123,108
Benefit Changes	-	50,908	-	-	-	-	(74,376)	-		(5,677)
Difference between Expected and Actual Experience	9,607	(16,123)	(11,734)	20,339	(22,742)	(9,831)	(13,445)	7,106	(42,295)	(17,133)
Assumption Changes	-	(23,547)	102,005	(9,741)	(5,601)	(3,037)	118,561	(22,643)		
Benefit Payments	(126,178)	(122,347)	(120,672)	(118,665)	(117,306)	(116,379)	(115,298)	(112,771)	(111,167)	(108,878)
Refunds	(1,127)	(1,539)	(884)	(587)	(1,256)	(701)	(800)	(972)	(628)	(875)
Net Change in Total Pension Liability	41,490	42,322	119,674	38,385	(485)	15,528	64,985	18,638	(4,200)	15,543
Total Pension Liability - Beginning	1,891,617	1,849,295	1,729,621	1,691,236	1,691,721	1,676,193	1,611,208	1,592,570	1,596,770	1,581,227
Total Pension Liability - Ending (a)	$ 1,933,107	$ 1,891,617	$ 1,849,295	$ 1,729,621	$ 1,691,236	$ 1,691,721	$1,676,193	$ 1,611,208	$ 1,592,570	$1,596,770
Plan Fiduciary Net Position										
Employer Contributions*	$ 73,792	$ 54,688	$ 54,735	$ 50,916	$ 49,804	$ 46,981	$ 39,209	$ 38,350	$ 37,228	$ 36,711
Employee Contributions	25,265	22,420	23,099	21,334	20,889	20,626	20,112	20,146	18,538	17,567
Pension Plan Net Investment Income	147,343	110,297	(95,988)	305,232	5,726	60,209	95,886	128,719	1,475	25,757
Benefit Payments	(126,178)	(122,347)	(120,672)	(118,665)	(117,306)	(116,379)	(115,298)	(112,771)	(111,167)	(108,878)
Refunds	(1,127)	(1,539)	(884)	(587)	(1,256)	(701)	(800)	(972)	(628)	(875)
Pension Plan Administrative Expense	(811)	(1,193)	(927)	(779)	(788)	(764)	(786)	(889)	(749)	(748)
Other	-	-	-	-	-	-	-	-	-	-
Net Change in Plan Fiduciary Net Position	118,284	62,326	(140,637)	257,451	(42,931)	9,972	38,323	72,583	(55,303)	(30,466)
Plan Fiduciary Net Position - Beginning	1,216,753	1,154,427	1,295,064	1,037,613	1,080,544	1,070,572	1,032,249	959,666	1,014,969	1,045,435
Plan Fiduciary Net Position - Ending (b)	$ 1,335,037	$ 1,216,753	$ 1,154,427	$ 1,295,064	$ 1,037,613	$ 1,080,544	$1,070,572	$ 1,032,249	$ 959,666	$1,014,969
Net Pension Liability - Ending (a) - (b)	598,070	674,864	694,868	434,557	653,623	611,177	605,621	578,959	632,904	581,801
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	69.06 %	64.32 %	62.43 %	74.88 %	61.35 %	63.87 %	63.87 %	64.07 %	60.26 %	63.56 %
Covered Employee Payroll	$ 319,667	$ 296,674	$ 304,227	$ 279,916	$ 274,667	$ 268,614	$ 263,122	$ 264,342	$ 258,787	$ 263,844
Net Pension Liability as a Percentage of Covered Employee Payroll	187.09 %	227.48 %	228.40 %	155.25 %	237.97 %	227.53 %	230.17 %	219.02 %	244.57 %	220.51 %

Notes to Schedule:

N/A

* *Includes employer contributions, supplemental contributions, and reemployed annuitant employer contributions.*

Schedules of Required Supplementary Information
Schedule of the Net Pension Liability Multiyear
(Dollars in Thousands)

Last 10 Fiscal Years

FY Ending June 30,	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
2015	$ 1,596,770	$ 1,014,969	$ 581,801	63.56%	$ 263,844	220.51%
2016	1,592,570	959,666	632,904	60.26%	258,787	244.57%
2017	1,611,208	1,032,249	578,959	64.07%	264,342	219.02%
2018	1,676,193	1,070,572	605,621	63.87%	263,122	230.17%
2019	1,691,721	1,080,544	611,177	63.87%	268,614	227.53%
2020	1,691,236	1,037,613	653,623	61.35%	274,667	237.97%
2021	1,729,621	1,295,064	434,557	74.88%	279,916	155.25%
2022	1,849,295	1,154,427	694,868	62.43%	304,227	228.40%
2023	1,891,617	1,216,753	674,864	64.32%	296,674	227.48%
2024	1,933,107	1,335,037	598,070	69.06%	319,667	187.09%

Schedule of Contributions Multiyear
(Dollars in Thousands)

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution*	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2015	$ 40,320	$ 36,711	$ 3,609	$ 263,844	13.91%
2016	39,068	37,228	1,840	258,787	14.39
2017	39,172	38,350	822	264,342	14.51
2018	38,196	39,209	(1,013)	263,122	14.90
2019	37,233	46,981	(9,748)	268,614	17.49
2020	39,181	49,804	(10,623)	274,667	18.13
2021	39,072	50,916	(11,844)	279,916	18.19
2022	39,298	54,735	(15,437)	304,227	17.99
2023	36,796	54,688	(17,892)	296,674	18.43
2024	53,053	73,792	(20,739)	319,667	23.08

* *Includes employer contributions, supplemental contributions, and reemployed annuitant employer contributions.*

Notes to Schedule of Contributions

Methods and Assumptions Used to Determine Fiscal Year Ending June 30, 2024 Contribution Rates Reported in this Schedule:

Notes	Actuarially determined contribution rates are calculated as of each June 30 and apply to the fiscal year beginning on the day after the measurement date.
Valuation Date	June 30, 2023
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	25 years
Asset Valuation Method	5-Year smoothed market; no corridor
Inflation	2.5%
Salary Increases	2.50% to 8.00%; service based
Investment Rate of Return	7.0%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2023 valuation pursuant to an experience study of the period 2016 - 2021.
Mortality	Pub-2010 teacher generational mortality table, projected with scale MP-2021 from a base year of 2010, multiplied by a factor of 1.03 for annuitants (no adjustment for employees).

Other Information:

Notes	See separate funding report as of July 1, 2023 for additional detail.

Schedule of Investment Returns Multiyear

Last 10 Fiscal Years

FY Ending June 30,	Annual Return[1]
2015	2.65 %
2016	0.34 %
2017	13.93 %
2018	9.75 %
2019	5.73 %
2020	0.10 %
2021	32.65 %
2022	(9.37)%
2023	9.43 %
2024	12.04 %

[1] *Annual money-weighted rate of return, net of investment expenses.*

The St. Paul Teachers' Retirement Fund Association compiled this data and the related investment notes and furnished this information for inclusion within this report. We did not audit this information. We are not responsible for its accuracy or completeness.

Rate of Return

The Association's money-weighted rate of return for the year ending June 30, 2024 was 12.04% (net of fees). The money-weighted rate of return expresses investment performance, net of fees, adjusted for the actual cash flows that took place during the performance period.

SECTION D

NOTES TO FINANCIAL STATEMENTS

Note – Section D is intended to assist in preparation of the financial statements of the St. Paul Teachers' Retirement Fund Association. Financial statements are the responsibility of management, subject to the auditor's review.

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using a building-block method in which expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. These real rates of return are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2024, these best estimates are summarized in the following table:

Long-Term Expected Real Rate of Return*

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Arithmetic)
Domestic Equity	30%	6.55%
International Equity	20%	6.98%
Fixed Income	30%	3.45%
Real Assets	10%	3.90%
Private Equity & Alternatives	10%	7.47%
Total	**100%**	

** For purposes of these calculations, SPTRFA's assumed inflation rate is 2.50%.*

The St. Paul Teachers' Retirement Fund Association compiled this data and the related investment notes and furnished this information for inclusion within this report. We did not audit this information. We are not responsible for its accuracy or completeness.

Single Discount Rate

A Single Discount Rate of 7.00% 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 7.00%. 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 7.00%, 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

(Dollars in Thousands)

	1% Decrease 6.00%	Current Single Discount Rate Assumption 7.00%	1% Increase 8.00%
Total Pension Liability	$2,175,542	$1,933,107	$1,732,656
Net Position Restricted for Pensions	1,335,037	1,335,037	1,335,037
Net Pension Liability	**$ 840,505**	**$ 598,070**	**$ 397,619**

Note that we believe the 8.0% interest rate assumption does not comply with Actuarial Standards of Practice.

Reconciliation of Members

Summary of Changes in Participant Status
During Fiscal Year Ending June 30, 2024

	Active Participants	Leave of Absence	Vested Terminated	Other Non-Vested	Retired Participants	Disableds	Survivors and Beneficiaries	Alternate Payees[2]	Total
A. Number as of June 30, 2023	3,360	96	2,611	3,007	3,858	23	371	58	13,384
B. Additions	251	72	203	234	144	3	49	3	959
C. Deletions									
1. Retirements	(66)	(2)	(75)	-	-	-	-	-	(143)
2. Disability	(1)	(2)	-	-	-	-	-	-	(3)
3. Died with Beneficiary	(2)	(1)	-	(3)	(48)	-	-	-	(54)
4. Died without Beneficiary	-	-	-	-	(52)	(1)	(27)	(3)	(83)
5. Terminated - Deferred	(164)	(33)	-	-	-	-	-	-	(197)
6. Terminated - Not Vested	(74)	(30)	-	-	-	-	-	-	(104)
7. Refunds	(5)	(1)	(53)	(63)	-	-	-	-	(122)
8. Rehired as Active	125	(51)	(39)	(35)	-	-	-	-	-
9. Leave of Absence	(58)	58	-	-	-	-	-	-	-
10. Repayment of Refund	-	-	-	-	-	-	-	-	-
11. Expired Benefits	-	-	-	-	-	-	-	-	-
12. Disability to Retirement	-	-	-	-	4	(4)	-	-	-
D. Data Adjustments[1]	-	-	34	(34)	-	-	-	-	-
E. Total on June 30, 2024	3,366	106	2,681	3,106	3,906	21	393	58	13,637

1 May include members not valued in prior valuation who repaid refunds or otherwise restored prior service.

2 Includes alternate payees of retired participants (50), disabled participants (1), and survivors (7).

GASB Reconciliation (Dollars in Thousands)
Fiscal Year Ended June 30, 2024

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)	Deferred Outflows	Deferred Inflows	Outflows Prior Year	Total Pension Expense
Balance Beginning of Year	**$ 1,891,617**	**$ 1,216,753**	**$ 674,864**				
Changes for the Year:							
Service Cost	$ 30,174		$ 30,174				$ 30,174
Interest on Total Pension Liability	129,014		129,014				129,014
Interest on Fiduciary Net Position (1)		$ 84,156	(84,156)				(84,156)
Changes in Benefit Terms			-				-
Liability Experience Gains and Losses	9,607		9,607	$ 6,405	$ 5,375	$ (14,661)	(6,084)
Changes in Assumptions	-		-	-	7,849	18,303	26,152
Contributions - Employer		73,792	(73,792)				
Contributions - Employees		25,265	(25,265)				(25,265)
Asset Gain/(Loss) (1)		63,187	(63,187)	76,576	115,090	12,950	(11,723)
Benefit Payouts	(127,305)	(127,305)	-				
Administrative Expenses		(811)	811				811
Other changes		-	-				-
Net Changes	**$ 41,490**	**$ 118,284**	**$ (76,794)**				**$ 58,923**
Balance End of Year	**$ 1,933,107**	**$ 1,335,037**	**$ 598,070**	**$ 82,981**	**$ 128,314**	**$ 16,592**	

(1) *The sum of these items equals the net investment income of $147,343.*

SECTION E

SUMMARY OF BENEFITS

Summary of Benefit Provisions for Basic Members as of July 1, 2024

PARTICIPANTS

Licensed Educators first employed prior to July 1, 1978 by schools in the City of St. Paul or St. Paul College whose position requires a license from the Minnesota Professional Educator Licensing and Standards Board, who are not covered under the Social Security Act.

There are no remaining active Basic Members.

ACCREDITED SERVICE

Service which has been verified and accredited by the Association for the purpose of determining contributions and benefits (may include service earned while working outside of St. Paul Public Schools, previous St. Paul service, military service and governmental service).

ALLOWABLE ST. PAUL SERVICE

Service earned as a licensed educator in the St. Paul Public Schools, in the St. Paul College, or as an employee of the Association. Also includes service credited after receipt of payment as required, for licensed educators on leave.

SALARY

Total compensation earned during a school year (July 1 to June 30) excluding lump sum payments for unused leave at termination and employer-paid insurance coverage.

Summary of Benefit Provisions for Basic Members as of July 1, 2024

AVERAGE SALARY

Average of the highest 5 years of salary during the last 10 years of St. Paul service while making contributions.

NORMAL RETIREMENT BENEFIT

Eligibility

Attainment of age 65 and 5 years of Accredited Service.

Benefit

2.50 percent of Average Salary for each year of Accredited Service.

EARLY RETIREMENT BENEFIT

Eligibility

Attainment of age 55 and 5 years of Accredited Service.

Benefit

The greater of the following benefits:

- 2.00 percent of Average Salary per year of Accredited Service, subject to a maximum of 40 years with a 0.25 percent reduction for each month the member is under age 65. If the member has 25 years of Accredited Service, the reduction is taken from age 60; therefore, no reduction is required if the member is age 60 or older. No reduction is taken if age plus years of Accredited Service totals at least 90.
- 2.50 percent of Average Salary per year of Accredited Service, subject to a maximum of 40 years, reduced for each month the member is under age 65 using linear interpolation of the table listed below.

Age at Retirement	Reduction Factor
55	0.4200
56	0.4600
57	0.5000
58	0.5400
59	0.5800
60	0.6500
61	0.7200
62	0.7900
63	0.8600
64	0.9300
65	1.0000

Summary of Benefit Provisions for Basic Members as of July 1, 2024

DISABILITY RETIREMENT BENEFIT

Eligibility

Total and permanent disablement before attaining age 65 and 5 years of Accredited Service.

Benefit

If the member is under age 65, 75 percent of the member's annual contract salary less any Social Security and Workers' Compensation benefits payable until age 65. At age 65, a normal retirement benefit is calculated using the projected service and average salary as if the member had continued to teach in their position held at the time of disability. Members age 65 or older at time of disability receive a normal retirement benefit.

DEFERRED RETIREMENT BENEFIT

Eligibility

5 years of Accredited Service.

Benefit

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1st of the month following termination until the January 1st after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1st of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012 to June 30, 2019. After June 30, 2019, benefits are not augmented.

PRE-RETIREMENT SURVIVOR BENEFIT (Family Benefit)

Eligibility

Active member with five years of Accredited Service.

Benefit

- Children's Benefit: 25 percent of the maximum Bachelor of Arts salary for the year in which the member died for each eligible child up to a maximum of two. Benefits are paid until the child attains age 18, or 22 for full-time students.
- Spousal Benefit: 15 percent of the maximum Bachelor of Arts salary for an eligible spouse who has legal custody of an eligible child. Spousal benefits cease when the spouse remarries, dies, or elects the regular survivor benefit. Electing the regular survivor benefit does not disqualify the child from receiving the family benefit.

Summary of Benefit Provisions for Basic Members as of July 1, 2024

SURVIVOR BENEFIT (Active or Retired Member)

Eligibility

Active member or retired member with five years of Accredited Service. A surviving spouse must have been married to the member for three years at the earlier of death or retirement.

Benefit

Retirement benefit earned at the time of death or retirement, whichever is earlier, reduced by the use of 100 percent joint survivorship tables, based on the ages of the member and survivor at the time of retirement.

REFUND OF CONTRIBUTIONS

Eligibility

Termination or death where no annuity is payable.

Benefit

Member contributions with 6.00 percent interest accrued through June 30, 2011, 4.00 percent interest accrued through June 30, 2018, and 3.00 percent interest thereafter.

REEMPLOYED ANNUITANTS

The School District shall make the regular employer contribution and additional employer contribution, plus a supplemental contribution equal to 2.5 percent of salary, on behalf of any retired member who is reemployed by the School District. Reemployed annuitants do not accrue additional benefits.

NORMAL FORM OF RETIREMENT BENEFITS

Unreduced annuity payments made until the death of the member, with a 100 percent Joint and Survivor adjusted pension payable to the surviving beneficiary.

BENEFIT INCREASES

1.0 percent per year on January 1.

For retirements on and after July 1, 2024, the first benefit increase is delayed until the retiree reaches Normal Retirement Age (not applicable to Rule of 90 retirees, Rule of 62/30 retirees, disability benefit recipients, or survivors).

Summary of Benefit Provisions for Basic Members as of July 1, 2024

CHANGES IN PLAN PROVISIONS

There were no changes in plan provisions since the prior valuation.

Summary of Benefit Provisions for Coordinated Members as of June 30, 2024

STATUTORY CONTRIBUTIONS

Statutory contribution rates for members and their employers are shown as a percent-of-pay below.

Contribution after June 30,	Member	Employer Regular	Employer Additional
2023	7.75%	9.00%	3.84%
2024	7.50%	9.00%	3.84%
2025	8.75%	9.75%	3.84%
2026	9.00%	9.75%	3.84%

SUPPLEMENTAL CONTRIBUTIONS

1996 legislation provides for a variable amortization aid contribution paid annually on July 15. The actual contribution during the past fiscal year was $838,000.

Annual supplemental contributions of $14,827,000 will be contributed by the State of Minnesota each October 1. The contributions will continue until the earlier of the Plan achieving 100% funded ratio for three consecutive years, or June 30, 2048.

2024 legislation provides for a one-time state aid contribution in the amount of $1,538,000, to be paid by October 1, 2024.

PARTICIPANTS

Licensed educators in the public schools of the City of St. Paul, excluding charter schools, whose position requires a license from the Minnesota Professional Educator Licensing and Standards Board, and who are covered under the Social Security Act and make contributions to the St. Paul Teachers' Retirement Fund Association, are covered under the Coordinated Plan.

ALLOWABLE SERVICE

Service earned as a licensed educator in the St. Paul Public Schools, in the St. Paul College, or in certain charter schools, or as an employee of the Association. Also includes service credited after receipt of payment as required, for licensed educators on leave. Service is granted on a proportional basis for part-time teachers.

Summary of Benefit Provisions for Coordinated Members as of June 30, 2024

SALARY

Total compensation excluding lump sum payments for unused leave at termination and employer-paid insurance coverage.

AVERAGE SALARY

Average of the highest five successive years of salary while making contributions. In cases where the Allowable Service is less than five years, Average Salary is based on the Allowable Service years.

NORMAL RETIREMENT BENEFIT

Eligibility

Three years of Allowable Service. The eligibility age is 65 for those hired before July 1, 1989. The eligibility age is the earlier of eligibility for full Social Security retirement benefits to a maximum of age 66 for those hired on or after July 1, 1989 and retired prior to July 1, 2025. Beginning July 1, 2025, the eligibility age is 65 for all members. A Proportionate Retirement Annuity is available at Normal Retirement Age with one year of Allowable Service.

Benefit

1.70 percent of Average Salary for each year of Allowable Service rendered before July 1, 2015 and 1.90 percent of Average Salary for each year of Allowable Service rendered after June 30, 2015.

Summary of Benefit Provisions for Coordinated Members as of June 30, 2024

EARLY RETIREMENT BENEFIT

Eligibility

Attainment of age 55 and 3 years of Allowable Service.

Benefit

Members hired before July 1, 1989 are eligible for the greater of the following benefits. Members hired after July 1, 1989 are eligible for the benefits shown in item (b):

a) For the first 10 years of Allowable Service, 1.20 percent of Average Salary for each year of Allowable Service rendered prior to July 1, 2015, plus 1.40 percent of Average Salary for each year of Allowable Service rendered after June 30, 2015. Additionally, for each subsequent year of Allowable Service in excess of 10 years, 1.70 percent of Average Salary for each year rendered prior to July 1, 2015, plus 1.90 percent of Average Salary for each year rendered after June 30, 2015. There is a reduction of 0.25 percent for each month the member is under age 65, or under age 62 with 30 years of Allowable Service. No reduction applies if the age plus years of service totals at least 90.

b) 1.70 percent of Average Salary per year of Allowable Service rendered before July 1, 2015 and 1.90 percent of Average Salary for each year of service rendered after June 30, 2015 reduced for each month the member is under the Normal Retirement Age using linear interpolation of the factors in the tables listed below.

	Reduction Factor	
	Under Age 62 or Less than 30 Years of Service	
Normal Retirement Age:	**65**	**66**
Age at Retirement		
55	0.4200	0.3500
56	0.4600	0.3900
57	0.5000	0.4300
58	0.5400	0.4700
59	0.5800	0.5100
60	0.6500	0.5800
61	0.7200	0.6500
62	0.7900	0.7200
63	0.8600	0.7900
64	0.9300	0.8600
65	1.0000	0.9300
66		1.0000

Summary of Benefit Provisions for Coordinated Members as of June 30, 2024

DISABILITY RETIREMENT BENEFIT

Eligibility

Total and permanent disablement and three years of Allowable Service with service earned within the current fiscal year and at least two years of Allowable Service since the last interruption in service.

Benefit

Calculated as a normal retirement benefit payable for life without reduction for early commencement. At normal retirement age, the benefit converts from a disability benefit to a retirement benefit. The disability benefit is reduced by any Workers' Compensation benefits payable.

DEFERRED RETIREMENT BENEFIT

Eligibility

Three years of Allowable Service.

Benefit

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1st of the month following termination until the January 1st after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1st of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012 to June 30, 2019. After June 30, 2019, benefits are not augmented.

SURVIVOR BENEFIT (Active Members)

Eligibility

Active member with three years of Allowable service. A surviving spouse is defined as the person legally married to the member at the time of death. If none, a dependent child who is the legal child of the member, who is less than 20 years of age and unmarried.

Benefit

Retirement benefit earned at the time of death with choices for either a reduced for 100 percent joint survivorship, or 5-, 10-, 15-, or 20-year term certain. The benefit is available immediately upon application. Actuarial reductions assuming 2.5 percent augmentation for the calculation of the survivorship portion of a 100 percent joint and survivor benefit are actuarially determined based on the member's and survivor's ages at the death of the member.

Early retirement reductions apply to the survivor benefit based on the member's age when deceased. If the deceased member had not yet attained age 55 at time of death, the additional early retirement reduction from age 55 to the age of the member at death applies at only one-half of the actuarial rate.

Summary of Benefit Provisions for Coordinated Members as of June 30, 2024

REFUND OF CONTRIBUTIONS

Eligibility

Termination or death where no annuity is payable or a refund of contributions is chosen in lieu of an annuity.

Benefit

Member contributions with 6.00 percent interest accrued through June 30, 2011, 4.00 percent interest accrued through June 30, 2018, and 3.00 percent interest thereafter.

REEMPLOYED ANNUITANTS

The School District shall make the regular employer contribution and additional employer contribution, plus a supplemental contribution equal to 2.5 percent of salary, on behalf of any retired member who is reemployed by the School District. Reemployed annuitants do not accrue additional benefits.

NORMAL FORM OF RETIREMENT BENEFITS

Straight life annuity. Actuarially equivalent options are available to provide post-retirement beneficiary or survivor benefits.

BENEFIT INCREASES

1.0 percent per year on January 1.

For retirements on and after July 1, 2024, the first benefit increase is delayed until the retiree reaches Normal Retirement Age (not applicable to Rule of 90 retirees, Rule of 62/30 retirees, disability benefit recipients, or survivors).

CHANGES IN PLAN PROVISIONS

Member contributions decrease from 7.75% of pay to 7.50% of pay effective July 1, 2024, and from 9.00% of pay to 8.75% of pay effective July 1, 2025. Effective July 1, 2026, the member contribution rate returns to 9.00% of pay.

An additional one-time direct state aid contribution of $1.5 million will be contributed to the Plan by October 1, 2024.

Annual supplemental contributions of $14,827,000 will continue until the earlier of the Plan achieving 100% funded ratio for three consecutive years, or June 30, 2048. This contribution was previously due to expire upon attainment of fully funded status on an actuarial value of assets basis for one year (or July 1, 2048, if earlier).

SECTION F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Cost Method and Actuarial Assumptions

I. Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date were determined using an Individual Entry-Age Actuarial Cost Method having the following characteristics:

1) 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; and
2) Each annual normal cost is a constant percentage of the member's year by year projected covered pay.

Actuarial gains/(losses), as they occur, reduce (increase) the Unfunded Actuarial Accrued Liability.

II. Current Actuarial Assumptions

Assumptions are based on an experience study for the five-year period of July 1, 2016 to June 30, 2021, as well as a legislated change to the investment return assumption effective July 1, 2023.

A. Demographic Assumptions

Mortality:

1. Healthy and Disabled Annuitant Mortality:
    a. Male: Pub-2010 Male Healthy Teacher Retiree Mortality Table, adjusted for mortality improvements using projection scale MP-2021 from 2010. Rates are multiplied by a factor of 1.03.
    b. Female: Pub-2010 Female Healthy Teacher Retiree Mortality Table, adjusted for mortality improvements using projection scale MP-2021 from 2010. Rates are multiplied by a factor of 1.03.
2. Employee Mortality:
    a. Male: Pub-2010 Male Healthy Teacher Employee Mortality Table, adjusted for mortality improvements using projection scale MP-2021 from 2010.
    b. Female: Pub-2010 Female Healthy Teacher Employee Mortality Table, adjusted for mortality improvements using projection scale MP-2021 from 2010.

Deaths Expressed as the Number of Occurrences per 10,000:

Age in 2024	Post-Retirement Mortality Male	Post-Retirement Mortality Female
55	22	19
56	24	21
57	27	23
58	30	26
59	34	28
60	37	30
61	41	33
62	46	35
63	50	38
64	55	40
65	61	43
66	67	47
67	74	51
68	82	56
69	91	62
70	101	69
71	113	77
72	127	87
73	143	99
74	162	113
75	184	130
76	209	149
77	237	172
78	270	198
79	307	227
80	349	261
81	398	300
82	455	344
83	519	394
84	592	452
85	676	517
86	770	590
87	875	672
88	993	765
89	1124	869
90	1268	985
91	1425	1115
92	1593	1259
93	1770	1415
94	1955	1582

Actuarial Cost Method and Actuarial Assumptions

Deaths Expressed as the Number of Occurrences per 10,000:

Age in 2024	Pre-Retirement Mortality Male	Pre-Retirement Mortality Female
25	2	1
26	2	1
27	2	1
28	3	1
29	3	2
30	3	2
31	3	2
32	4	2
33	4	2
34	4	3
35	5	3
36	5	3
37	5	3
38	5	3
39	6	4
40	6	4
41	6	4
42	6	4
43	7	4
44	7	4
45	7	5
46	8	5
47	8	5
48	9	6
49	10	6
50	10	7
51	11	7
52	12	8
53	14	9
54	15	9
55	16	10
56	18	11
57	20	12
58	22	14
59	24	15
60	27	16
61	30	18
62	33	20
63	36	21
64	40	23

Actuarial Cost Method and Actuarial Assumptions

Rates of Disability:

Disability Expressed as the Number of Occurrences per 10,000:

Age	Disability	Age	Disability
20	1	45	4
21	1	46	4
22	1	47	4
23	1	48	4
24	1	49	4
25	1	50	6
26	1	51	6
27	1	52	6
28	1	53	6
29	1	54	6
30	2	55	12
31	2	56	12
32	2	57	12
33	2	58	12
34	2	59	12
35	2	60	20
36	2	61	20
37	2	62	20
38	2	63	20
39	2	64	20
40	2		
41	2		
42	2		
43	2		
44	2		

Rates of Termination:

	Number of Terminations per 1,000 Active Members	
Year	Male	Female
1	450	450
2	235	200
3	160	120
4	75	95
5	65	75
6	55	70
7	40	60
8	35	50
9	30	50
10	30	50
11	30	40
12	30	30
13	30	25
14	25	20
15 & Over	25	20

Rates of Retirement:

Retirements Expressed as the Number of Occurrences per 10,000:

Age	Male Coordinated Members Eligible for Rule of 90 Provision	Female Coordinated Members Eligible for Rule of 90 Provision	Male Coordinated Members Not Eligible for Rule of 90 Provision	Female Coordinated Members Not Eligible for Rule of 90 Provision
<55	2,500	3,500	0	0
55	2,500	3,500	500	500
56	3,500	3,000	500	500
57	3,000	2,000	500	500
58	2,500	2,500	700	500
59	2,500	3,000	700	700
60	2,500	3,000	1,200	900
61	3,000	3,000	800	1,000
62	5,000	3,500	2,000	1,800
63	3,000	3,000	2,500	2,100
64	2,500	2,500	2,500	2,100
65	10,000	10,000	3,000	4,500
66	10,000	10,000	3,500*	5,000*
67	10,000	10,000	4,000	4,500
68	10,000	10,000	3,500	3,000
69	10,000	10,000	3,500	2,500
70 & Over	10,000	10,000	10,000	10,000

**2,800 for male members and 3,200 for female members hired after June 30, 1989 with a Normal Retirement Age equal to 66.*

Note: Members reaching age 62 and 30 years of service prior to age 65 are assumed to retire at the same rate as Rule of 90 retirements.

Actuarial Cost Method and Actuarial Assumptions

B. Economic Assumptions

Investment Return Rate:	7.00%
Single Discount Rate:	7.00%
Price Inflation:	2.50% per year
Payroll Growth (Wage Inflation):	2.50% per year
Future Salary Increases:	Service-based rates shown below:

Annual Salary Increases

Year	Ultimate Rate of Annual Salary Increases	Year	Ultimate Rate of Annual Salary Increases
1	8.00%	21	2.70%
2	6.75%	22	2.50%
3	6.50%	23 & Over	2.50%
4	6.25%		
5	6.00%		
6	5.75%		
7	5.50%		
8	5.25%		
9	5.00%		
10	4.75%		
11	4.50%		
12	4.25%		
13	4.00%		
14	3.75%		
15	3.50%		
16	3.40%		
17	3.30%		
18	3.20%		
19	3.10%		
20	2.90%		

Asset Value: The actuarial value of assets is smoothed by using a five-year average market value.

Actuarial Cost Method and Actuarial Assumptions

C. Other Assumptions

Marital Status:	It is assumed that 75% of male members and 60% of female members have an eligible spouse. The male spouse is assumed to be two years older than the female spouse. Married members are assumed to have two dependent children.
Deferred Benefit Commencement:	Basic Plan members who terminate vested are assumed to commence benefits at age 61. Coordinated Plan members are assumed to commence benefits at age 63. If the member is already past the assumed deferral age, the member is assumed to commence benefits one year from the valuation date.
Administrative Expenses:	In the valuation year, equal to prior year administrative expenses expressed as a percent of prior year projected payroll. In each subsequent year, equal to the initial administrative expense percentage applied to payroll for the closed group.
Refund of Contributions:	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit. Account balances for deferred members accumulate interest until the assumed benefit commencement date and are discounted back to the valuation date.
Allowance for Combined Service Annuity:	20.0% load on liabilities for former, vested members. 9.0% load on liabilities for former, non-vested members.
Missing Salary and Salary Minimums:	Active members with reported salaries of $100 or less were assumed to have the average non-zero active salary. Active members with salaries less than those reported at the prior valuation date are valued using their prior salary amount. Active members who have been hired within one year of the valuation date have had their pay annualized by dividing by months of service credited, not to exceed the average non-zero active salary. For members on leave of absence at valuation date who were not on leave at the prior valuation date, the prior year's valuation pay was used.
Missing Data for Deferred Vested Members:	Deferred vested members without a reported benefit and without salary information were assumed to have a final average salary of $40,000.
Decrement Timing:	Retirement and Termination: end of valuation year – consistent with retirements and terminations occurring at the end of the school year. Death and Disability: middle of valuation year.
Eligibility Testing:	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Actuarial Cost Method and Actuarial Assumptions

Service Credit Accruals:	It is assumed that members accrue one year of service credit per year. Exact fractional service is used to determine the amount of benefit payable.
Supplemental Contributions:	1996 legislation provides for a variable amortization aid contribution paid annually on July 15. We assumed the annual amortization aid contribution will equal $838,000, which was the actual contribution for the most recent fiscal year. Additionally, annual supplemental contributions equal to $14,827,000 are scheduled to be paid each October 1. The contributions described herein will continue until the plan is 100% funded for three consecutive years or until June 30, 2048, whichever occurs earlier.
Projected Annual Payroll Calculation:	The census data as of July 1, 2024 reflects retirements and terminations occurring during the months of May and June; however, it does not necessarily reflect the replacements hired to fill their positions who may have hire dates in August and September. We assumed that May and June retirements are replaced by members coming in at the B.A. entry salary level of $54,788; the Projected Annual Payroll for the fiscal year ending June 30, 2025 includes this replacement salary amount.
Changes in Actuarial Assumptions Since the Prior Valuation:	There were no changes since the prior valuation.

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 municipal bond rate is required, as described in the following paragraph. The plan is projected to have sufficient assets to pay all benefits.

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 7.00%; the municipal bond rate is 3.97%; and the resulting SDR is 7.00%.

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).

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 using the SDR.

Single Discount Rate Development
Projection of Contributions (Dollars in Thousands)

	Payroll			Projected Contributions				
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Employer Contributions on Future Payroll toward Current UAL*	Supplemental Contributions**	Total Contributions
0	$ 319,667	$ -	$ 319,667					
1	320,759	-	320,759	$ 24,057	$ 41,186	$ -	$ 17,203	$ 82,446
2	305,482	23,296	328,778	26,730	41,515	2,819	15,665	86,729
3	295,187	41,811	336,998	26,567	40,116	5,164	15,665	87,512
4	286,308	59,115	345,423	25,768	38,909	7,301	15,665	87,643
5	278,264	75,794	354,058	25,044	37,816	9,361	15,665	87,886
6	270,242	92,668	362,910	24,322	36,726	11,444	15,665	88,157
7	261,613	110,370	371,983	23,545	35,553	13,631	15,665	88,394
8	252,966	128,316	381,282	22,767	34,378	15,847	15,665	88,657
9	244,084	146,730	390,814	21,968	33,171	18,121	15,665	88,925
10	234,907	165,678	400,585	21,142	31,924	20,461	15,665	89,192
11	225,659	184,940	410,599	20,309	30,667	22,840	15,665	89,481
12	216,028	204,836	420,864	19,443	29,358	25,297	15,665	89,763
13	206,426	224,960	431,386	18,578	28,053	27,783	15,665	90,079
14	196,410	245,760	442,170	17,677	26,692	30,351	15,665	90,385
15	186,724	266,501	453,225	16,805	25,376	32,913	15,665	90,759
16	177,058	287,497	464,555	15,935	24,062	35,506	15,665	91,168
17	167,045	309,124	476,169	15,034	22,701	38,177	15,665	91,577
18	157,172	330,901	488,073	14,146	21,360	40,866	-	76,372
19	146,998	353,277	500,275	13,230	19,977	43,630	-	76,837
20	136,347	376,435	512,782	12,271	18,530	46,490	-	77,291
21	125,647	399,955	525,602	11,308	17,075	49,394	-	77,777
22	115,047	423,695	538,742	10,354	15,635	52,326	-	78,315
23	104,774	447,436	552,210	9,430	14,239	55,258	-	78,927
24	94,607	471,408	566,015	8,515	12,857	58,219	-	79,591
25	84,776	495,390	580,166	7,630	11,521	61,181	-	80,332
26	75,494	519,176	594,670	6,794	10,260	64,118	-	81,172
27	66,784	542,753	609,537	6,011	9,076	67,030	-	82,117
28	58,007	566,768	624,775	5,221	7,883	69,996	-	83,100
29	49,465	590,929	640,394	4,452	6,722	72,980	-	84,154
30	41,752	614,652	656,404	3,758	5,674	75,910	-	85,342
31	34,865	637,949	672,814	3,138	4,738	78,787	-	86,663
32	28,571	661,064	689,635	2,571	3,883	81,641	-	88,095
33	23,207	683,669	706,876	2,089	3,154	84,433	-	89,676
34	18,236	706,312	724,548	1,641	2,478	87,230	-	91,349
35	14,116	728,545	742,661	1,270	1,918	89,975	-	93,163
36	10,254	750,974	761,228	923	1,394	92,745	-	95,062
37	7,292	772,966	780,258	656	991	95,461	-	97,108
38	5,023	794,742	799,765	452	683	98,151	-	99,286
39	3,250	816,509	819,759	292	442	100,839	-	101,573
40	2,005	838,248	840,253	180	272	103,524	-	103,976
41	1,219	860,040	861,259	110	166	106,215	-	106,491
42	707	882,084	882,791	64	96	108,937	-	109,097
43	395	904,466	904,861	36	54	111,701	-	111,791
44	181	927,301	927,482	16	25	114,522	-	114,563
45	90	950,579	950,669	8	12	117,397	-	117,417
46	38	974,398	974,436	3	5	120,338	-	120,346
47	13	998,784	998,797	1	2	123,350	-	123,353
48	1	1,023,766	1,023,767	-	-	126,435	-	126,435
49	-	1,049,361	1,049,361	-	-	129,596	-	129,596
50	-	1,075,595	1,075,595	-	-	132,836	-	132,836

* *Contributions related to future employees in excess of normal cost and expenses of 10.24% of pay.*

** *Supplemental contributions are equal to $15,665,000 until the earlier of 100% funding for three consecutive years (on an AVA basis), or June 30, 2048; this contribution is assumed to end after 18 years. An additional one-time $1.5 million direct state aid contribution is included for FYE June 30, 2025.*

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless noted otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

Single Discount Rate Development
Projection of Contributions (Concluded) (Dollars in Thousands)

	Payroll			Projected Contributions				
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Employer Contributions on Future Payroll toward Current UAL*	Supplemental Contributions**	Total Contributions
51	$ -	$ 1,102,485	$ 1,102,485	$ -	$ -	$ 136,157	$ -	$ 136,157
52	-	1,130,047	1,130,047	-	-	139,561	-	139,561
53	-	1,158,298	1,158,298	-	-	143,050	-	143,050
54	-	1,187,256	1,187,256	-	-	146,626	-	146,626
55	-	1,216,937	1,216,937	-	-	150,292	-	150,292
56	-	1,247,360	1,247,360	-	-	154,049	-	154,049
57	-	1,278,544	1,278,544	-	-	157,900	-	157,900
58	-	1,310,508	1,310,508	-	-	161,848	-	161,848
59	-	1,343,271	1,343,271	-	-	165,894	-	165,894
60	-	1,376,852	1,376,852	-	-	170,041	-	170,041
61	-	1,411,274	1,411,274	-	-	174,292	-	174,292
62	-	1,446,556	1,446,556	-	-	178,650	-	178,650
63	-	1,482,720	1,482,720	-	-	183,116	-	183,116
64	-	1,519,788	1,519,788	-	-	187,694	-	187,694
65	-	1,557,782	1,557,782	-	-	192,386	-	192,386
66	-	1,596,727	1,596,727	-	-	197,196	-	197,196
67	-	1,636,645	1,636,645	-	-	202,126	-	202,126
68	-	1,677,561	1,677,561	-	-	207,179	-	207,179
69	-	1,719,500	1,719,500	-	-	212,358	-	212,358
70	-	1,762,488	1,762,488	-	-	217,667	-	217,667
71	-	1,806,550	1,806,550	-	-	223,109	-	223,109
72	-	1,851,714	1,851,714	-	-	228,687	-	228,687
73	-	1,898,006	1,898,006	-	-	234,404	-	234,404
74	-	1,945,457	1,945,457	-	-	240,264	-	240,264
75	-	1,994,093	1,994,093	-	-	246,270	-	246,270
76	-	2,043,945	2,043,945	-	-	252,427	-	252,427
77	-	2,095,044	2,095,044	-	-	258,738	-	258,738
78	-	2,147,420	2,147,420	-	-	265,206	-	265,206
79	-	2,201,105	2,201,105	-	-	271,837	-	271,837
80	-	2,256,133	2,256,133	-	-	278,632	-	278,632
81	-	2,312,536	2,312,536	-	-	285,598	-	285,598
82	-	2,370,350	2,370,350	-	-	292,738	-	292,738
83	-	2,429,609	2,429,609	-	-	300,057	-	300,057
84	-	2,490,349	2,490,349	-	-	307,558	-	307,558
85	-	2,552,608	2,552,608	-	-	315,247	-	315,247
86	-	2,616,423	2,616,423	-	-	323,128	-	323,128
87	-	2,681,833	2,681,833	-	-	331,206	-	331,206
88	-	2,748,879	2,748,879	-	-	339,487	-	339,487
89	-	2,817,601	2,817,601	-	-	347,974	-	347,974
90	-	2,888,041	2,888,041	-	-	356,673	-	356,673
91	-	2,960,242	2,960,242	-	-	365,590	-	365,590
92	-	3,034,248	3,034,248	-	-	374,730	-	374,730
93	-	3,110,104	3,110,104	-	-	384,098	-	384,098
94	-	3,187,857	3,187,857	-	-	393,700	-	393,700
95	-	3,267,553	3,267,553	-	-	403,543	-	403,543
96	-	3,349,242	3,349,242	-	-	413,631	-	413,631
97	-	3,432,973	3,432,973	-	-	423,972	-	423,972
98	-	3,518,798	3,518,798	-	-	434,572	-	434,572
99	-	3,606,768	3,606,768	-	-	445,436	-	445,436
100	-	3,696,937	3,696,937	-	-	456,572	-	456,572

* *Contributions related to future employees in excess of normal cost and expenses of 10.24% of pay.*

** *Supplemental contributions are equal to $15,665,000 until the earlier of 100% funding for three consecutive years (on an AVA basis), or June 30, 2048; this contribution is assumed to end after 18 years.*

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless noted otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position (Dollars in Thousands)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 1,335,037	$ 82,446	$ 126,401	$ 866	$ 91,910	$ 1,382,126
2	1,382,126	86,729	129,649	825	95,244	1,433,625
3	1,433,625	87,512	131,200	797	98,823	1,487,963
4	1,487,963	87,643	133,298	773	102,560	1,544,095
5	1,544,095	87,886	135,209	751	106,432	1,602,453
6	1,602,453	88,157	137,490	730	110,449	1,662,839
7	1,662,839	88,394	140,052	706	114,597	1,725,072
8	1,725,072	88,657	142,681	683	118,872	1,789,237
9	1,789,237	88,925	145,497	659	123,277	1,855,283
10	1,855,283	89,192	148,407	634	127,810	1,923,244
11	1,923,244	89,481	151,225	609	132,481	1,993,372
12	1,993,372	89,763	153,895	583	137,309	2,065,966
13	2,065,966	90,079	156,457	557	142,314	2,141,345
14	2,141,345	90,385	159,346	530	147,503	2,219,357
15	2,219,357	90,759	161,765	504	152,894	2,300,741
16	2,300,741	91,168	164,280	478	158,519	2,385,670
17	2,385,670	91,577	166,627	451	164,399	2,474,568
18	2,474,568	76,372	168,986	424	170,018	2,551,548
19	2,551,548	76,837	171,228	397	175,347	2,632,107
20	2,632,107	77,291	173,826	368	180,913	2,716,117
21	2,716,117	77,777	176,601	339	186,716	2,803,670
22	2,803,670	78,315	179,188	311	192,775	2,895,261
23	2,895,261	78,927	181,691	283	199,122	2,991,336
24	2,991,336	79,591	184,272	255	205,783	3,092,183
25	3,092,183	80,332	186,727	229	212,784	3,198,343
26	3,198,343	81,172	189,076	204	220,164	3,310,399
27	3,310,399	82,117	190,929	180	227,977	3,429,384
28	3,429,384	83,100	192,870	157	236,274	3,555,731
29	3,555,731	84,154	194,921	134	245,085	3,689,915
30	3,689,915	85,342	196,500	113	254,465	3,833,109
31	3,833,109	86,663	197,416	94	264,503	3,986,765
32	3,986,765	88,095	197,922	77	275,292	4,152,153
33	4,152,153	89,676	197,656	63	286,933	4,331,043
34	4,331,043	91,349	196,945	49	299,538	4,524,936
35	4,524,936	93,163	195,711	38	313,215	4,735,565
36	4,735,565	95,062	194,002	28	328,084	4,964,681
37	4,964,681	97,108	191,859	20	344,266	5,214,176
38	5,214,176	99,286	188,540	14	361,920	5,486,828
39	5,486,828	101,573	184,652	9	381,219	5,784,959
40	5,784,959	103,976	180,065	5	402,329	6,111,194
41	6,111,194	106,491	174,911	3	425,429	6,468,200
42	6,468,200	109,097	169,273	2	450,703	6,858,725
43	6,858,725	111,791	163,337	1	478,337	7,285,515
44	7,285,515	114,563	157,205	-	508,518	7,751,391
45	7,751,391	117,417	150,864	-	541,446	8,259,390
46	8,259,390	120,346	144,397	-	577,329	8,812,668
47	8,812,668	123,353	137,827	-	616,388	9,414,582
48	9,414,582	126,435	131,185	-	658,857	10,068,689
49	10,068,689	129,596	124,484	-	704,984	10,778,785
50	10,778,785	132,836	117,748	-	755,034	11,548,907

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless noted otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

Single Discount Rate Development
Projection of Plan Fiduciary Net Position (Concluded)
(Dollars in Thousands)

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 7.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 11,548,907	$ 136,157	$ 110,997	$ -	$ 809,289	$ 12,383,356
52	12,383,356	139,561	104,249	-	868,050	13,286,718
53	13,286,718	143,050	97,528	-	931,636	14,263,876
54	14,263,876	146,626	90,857	-	1,000,390	15,320,035
55	15,320,035	150,292	84,262	-	1,074,674	16,460,739
56	16,460,739	154,049	77,770	-	1,154,876	17,691,894
57	17,691,894	157,900	71,407	-	1,241,408	19,019,795
58	19,019,795	161,848	65,202	-	1,334,711	20,451,152
59	20,451,152	165,894	59,182	-	1,435,252	21,993,116
60	21,993,116	170,041	53,375	-	1,543,532	23,653,314
61	23,653,314	174,292	47,806	-	1,660,084	25,439,884
62	25,439,884	178,650	42,502	-	1,785,476	27,361,508
63	27,361,508	183,116	37,485	-	1,920,316	29,427,455
64	29,427,455	187,694	32,778	-	2,065,252	31,647,623
65	31,647,623	192,386	28,397	-	2,220,976	34,032,588
66	34,032,588	197,196	24,356	-	2,388,228	36,593,656
67	36,593,656	202,126	20,666	-	2,567,799	39,342,915
68	39,342,915	207,179	17,331	-	2,760,536	42,293,299
69	42,293,299	212,358	14,353	-	2,967,343	45,458,647
70	45,458,647	217,667	11,728	-	3,189,191	48,853,777
71	48,853,777	223,109	9,447	-	3,427,115	52,494,554
72	52,494,554	228,687	7,495	-	3,682,229	56,397,975
73	56,397,975	234,404	5,851	-	3,955,721	60,582,249
74	60,582,249	240,264	4,491	-	4,248,869	65,066,891
75	65,066,891	246,270	3,385	-	4,563,039	69,872,815
76	69,872,815	252,427	2,503	-	4,899,696	75,022,435
77	75,022,435	258,738	1,813	-	5,260,410	80,539,770
78	80,539,770	265,206	1,286	-	5,646,864	86,450,554
79	86,450,554	271,837	892	-	6,060,861	92,782,360
80	92,782,360	278,632	604	-	6,504,331	99,564,719
81	99,564,719	285,598	400	-	6,979,343	106,829,260
82	106,829,260	292,738	258	-	7,488,111	114,609,851
83	114,609,851	300,057	162	-	8,033,008	122,942,754
84	122,942,754	307,558	99	-	8,616,571	131,866,784
85	131,866,784	315,247	59	-	9,241,519	141,423,491
86	141,423,491	323,128	34	-	9,910,761	151,657,346
87	151,657,346	331,206	19	-	10,627,409	162,615,942
88	162,615,942	339,487	11	-	11,394,796	174,350,214
89	174,350,214	347,974	6	-	12,216,487	186,914,669
90	186,914,669	356,673	3	-	13,096,298	200,367,637
91	200,367,637	365,590	2	-	14,038,313	214,771,538
92	214,771,538	374,730	1	-	15,046,901	230,193,168
93	230,193,168	384,098	-	-	16,126,737	246,704,003
94	246,704,003	393,700	-	-	17,282,826	264,380,529
95	264,380,529	403,543	-	-	18,520,521	283,304,593
96	283,304,593	413,631	-	-	19,845,553	303,563,777
97	303,563,777	423,972	-	-	21,264,052	325,251,801
98	325,251,801	434,572	-	-	22,782,578	348,468,951
99	348,468,951	445,436	-	-	24,408,152	373,322,539
100	373,322,539	456,572	-	-	26,148,287	399,927,398

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless notes otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

Single Discount Rate Development
Present Values of Projected Benefits (Dollars in Thousands)

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	$ 1,335,037	$ 126,401	$ 126,401	$ -	$ 122,197	$ -	$ 122,197
2	1,382,126	129,649	129,649	-	117,137	-	117,137
3	1,433,624	131,200	131,200	-	110,784	-	110,784
4	1,487,961	133,298	133,298	-	105,192	-	105,192
5	1,544,092	135,209	135,209	-	99,719	-	99,719
6	1,602,449	137,490	137,490	-	94,768	-	94,768
7	1,662,835	140,052	140,052	-	90,218	-	90,218
8	1,725,067	142,681	142,681	-	85,899	-	85,899
9	1,789,233	145,497	145,497	-	81,864	-	81,864
10	1,855,279	148,407	148,407	-	78,038	-	78,038
11	1,923,240	151,225	151,225	-	74,318	-	74,318
12	1,993,368	153,895	153,895	-	70,682	-	70,682
13	2,065,962	156,457	156,457	-	67,158	-	67,158
14	2,141,341	159,346	159,346	-	63,924	-	63,924
15	2,219,353	161,765	161,765	-	60,649	-	60,649
16	2,300,736	164,280	164,280	-	57,562	-	57,562
17	2,385,666	166,627	166,627	-	54,565	-	54,565
18	2,474,564	168,986	168,986	-	51,717	-	51,717
19	2,551,544	171,228	171,228	-	48,975	-	48,975
20	2,632,102	173,826	173,826	-	46,466	-	46,466
21	2,716,111	176,601	176,601	-	44,119	-	44,119
22	2,803,664	179,188	179,188	-	41,837	-	41,837
23	2,895,256	181,691	181,691	-	39,646	-	39,646
24	2,991,331	184,272	184,272	-	37,579	-	37,579
25	3,092,177	186,727	186,727	-	35,588	-	35,588
26	3,198,337	189,076	189,076	-	33,678	-	33,678
27	3,310,393	190,929	190,929	-	31,783	-	31,783
28	3,429,378	192,870	192,870	-	30,006	-	30,006
29	3,555,725	194,921	194,921	-	28,341	-	28,341
30	3,689,909	196,500	196,500	-	26,702	-	26,702
31	3,833,103	197,416	197,416	-	25,071	-	25,071
32	3,986,759	197,922	197,922	-	23,491	-	23,491
33	4,152,147	197,656	197,656	-	21,925	-	21,925
34	4,331,037	196,945	196,945	-	20,417	-	20,417
35	4,524,929	195,711	195,711	-	18,962	-	18,962
36	4,735,560	194,002	194,002	-	17,566	-	17,566
37	4,964,675	191,859	191,859	-	16,236	-	16,236
38	5,214,172	188,540	188,540	-	14,911	-	14,911
39	5,486,824	184,652	184,652	-	13,648	-	13,648
40	5,784,955	180,065	180,065	-	12,439	-	12,439
41	6,111,190	174,911	174,911	-	11,292	-	11,292
42	6,468,195	169,273	169,273	-	10,213	-	10,213
43	6,858,721	163,337	163,337	-	9,210	-	9,210
44	7,285,510	157,205	157,205	-	8,285	-	8,285
45	7,751,386	150,864	150,864	-	7,430	-	7,430
46	8,259,385	144,397	144,397	-	6,647	-	6,647
47	8,812,663	137,827	137,827	-	5,929	-	5,929
48	9,414,577	131,185	131,185	-	5,274	-	5,274
49	10,068,684	124,484	124,484	-	4,677	-	4,677
50	10,778,780	117,748	117,748	-	4,135	-	4,135

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless noted otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

Single Discount Rate Development
Present Values of Projected Benefits (Concluded)
(Dollars in Thousands)

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	$ 11,548,902	$ 110,997	$ 110,997	$ -	$ 3,643	$ -	$ 3,643
52	12,383,351	104,249	104,249	-	3,197	-	3,197
53	13,286,712	97,528	97,528	-	2,796	-	2,796
54	14,263,870	90,857	90,857	-	2,434	-	2,434
55	15,320,028	84,262	84,262	-	2,110	-	2,110
56	16,460,731	77,770	77,770	-	1,820	-	1,820
57	17,691,886	71,407	71,407	-	1,562	-	1,562
58	19,019,787	65,202	65,202	-	1,333	-	1,333
59	20,451,143	59,182	59,182	-	1,130	-	1,130
60	21,993,107	53,375	53,375	-	953	-	953
61	23,653,305	47,806	47,806	-	798	-	798
62	25,439,875	42,502	42,502	-	663	-	663
63	27,361,499	37,485	37,485	-	546	-	546
64	29,427,446	32,778	32,778	-	446	-	446
65	31,647,614	28,397	28,397	-	361	-	361
66	34,032,579	24,356	24,356	-	290	-	290
67	36,593,646	20,666	20,666	-	230	-	230
68	39,342,905	17,331	17,331	-	180	-	180
69	42,293,288	14,353	14,353	-	139	-	139
70	45,458,637	11,728	11,728	-	106	-	106
71	48,853,767	9,447	9,447	-	80	-	80
72	52,494,544	7,495	7,495	-	59	-	59
73	56,397,964	5,851	5,851	-	43	-	43
74	60,582,238	4,491	4,491	-	31	-	31
75	65,066,880	3,385	3,385	-	22	-	22
76	69,872,805	2,503	2,503	-	15	-	15
77	75,022,425	1,813	1,813	-	10	-	10
78	80,539,760	1,286	1,286	-	7	-	7
79	86,450,544	892	892	-	4	-	4
80	92,782,349	604	604	-	3	-	3
81	99,564,708	400	400	-	2	-	2
82	106,829,249	258	258	-	1	-	1
83	114,609,841	162	162	-	1	-	1
84	122,942,743	99	99	-	-	-	-
85	131,866,773	59	59	-	-	-	-
86	141,423,481	34	34	-	-	-	-
87	151,657,335	19	19	-	-	-	-
88	162,615,932	11	11	-	-	-	-
89	174,350,203	6	6	-	-	-	-
90	186,914,658	3	3	-	-	-	-
91	200,367,627	2	2	-	-	-	-
92	214,771,528	1	1	-	-	-	-
93	230,193,158	-	-	-	-	-	-
94	246,703,992	-	-	-	-	-	-
95	264,380,519	-	-	-	-	-	-
96	283,304,583	-	-	-	-	-	-
97	303,563,767	-	-	-	-	-	-
98	325,251,791	-	-	-	-	-	-
99	348,468,941	-	-	-	-	-	-
100	373,322,529	-	-	-	-	-	-
				Totals	$ 2,213,884	$ -	$ 2,213,884

For purposes of this projection, based on GASB guidance, we assumed the statutory contribution rates would continue after the plan becomes fully funded unless noted otherwise. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SECTION H

GLOSSARY OF TERMS

Glossary of Terms

Accrued Service	Service credited under the system which was rendered before the date of the actuarial valuation.
Actuarial Accrued Liability (AAL)	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."
Actuarial Assumptions	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.
Actuarial Cost Method	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.
Actuarial Equivalent	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.
Actuarial Gain (Loss)	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.
Actuarial Present Value (APV)	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.
Actuarial Valuation	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.
Actuarial Valuation Date	The date as of which an actuarial valuation is performed.
Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC)	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

Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	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).
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	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.
Covered-Employee Payroll	The payroll of employees that are provided with pensions through the pension plan.
Deferred Inflows and Outflows	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.
Deferred Retirement Option Program (DROP)	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.
Discount Rate	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: 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; and 2. 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 cost 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 contributing entities to plan members for benefits provided through a defined benefit pension plan.
Non-Employer Contributing Entities	Non-employer contributing 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 contributing entities.
Normal Cost	The portion of the actuarial present value allocated to a valuation year is called the normal cost. For purposes of application to the requirements of this Statement, the term normal cost is the equivalent of service cost.

Glossary of Terms

Other Postemployment Benefits (OPEB) 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.

Real Rate of Return The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.

Service Cost The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.

Total Pension Expense The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year:

1. Service Cost
2. Interest on the Total Pension Liability
3. Current-Period Benefit Changes
4. Employee Contributions (made negative for addition here)
5. Projected Earnings on Plan Investments (made negative for addition here)
6. Pension Plan Administrative Expense
7. Other Changes in Plan Fiduciary Net Position
8. Recognition of Outflow (Inflow) of Resources due to Liabilities
9. Recognition of Outflow (Inflow) of Resources due to Assets

Total Pension Liability (TPL) The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.

Unfunded Actuarial Accrued Liability (UAAL) The UAAL is the difference between actuarial accrued liability and valuation assets.

Valuation Assets 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.