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January 31, 2025

Mr. Phillip Tencick
Executive Director and CIO
St. Paul Teachers' Retirement Fund Association
2550 University Avenue W., Suite 312N
St. Paul, Minnesota 55114

Re: Projection of Contributions and Funding Status

Dear Mr. Tencick:

Attached are 30-year projections of estimated funded status, required contributions, and statutory contributions under three asset return scenarios for the St. Paul Teachers' Retirement Fund Association (SPTRFA). These projections, including the underlying investment return assumptions, are required by the Minnesota Standards for Actuarial Work. Unless noted otherwise, the estimates are based on participant data, assumptions, methods, and plan provisions as detailed in the SPTRFA Actuarial Valuation Report for funding purposes as of July 1, 2024.

Basis for Projections

For all enclosed projections, liabilities are determined using the statutory investment return assumption of 7.0%. As required by the Minnesota Standards for Actuarial Work, the projections reflect three asset return scenarios (7.0%, 5.5%, and 8.5%). Note that we believe the 8.5% rate of return assumption is outside of the range of reasonable expected returns for this plan.

The estimates are based on the actuarial value of assets with five-year smoothing of investment gains or losses.

Payroll is assumed to increase approximately 2.5% per year over the long term, consistent with the valuation assumption for total payroll growth.

The projection is an open group projection; meaning, active members projected to retire or otherwise terminate in the future are replaced with new active members so that the total active membership of the fund remains at 3,472 members. The profile of these new members is the same as new members hired between July 1, 2018 and June 30, 2023. Average salary at hire increases at the assumed payroll growth rate.

- Average age at hire is 34.9
- Average salary at hire is $66,200
- Approximately 77% female, 23% male

If actuarial accrued liability exceeds assets, the unfunded actuarial accrued liability is amortized through June 30, 2048 per Minnesota Statute 356.215, Subdivision 11. Per Minnesota Statute 356.215, Subdivision 11 (l), a negative unfunded actuarial accrued liability (i.e., when assets exceed liability) is amortized over a rolling 30-year period.

Annual supplemental contributions of $15.665 million are assumed to continue until the earlier of 100% funding on an actuarial value of assets basis for three consecutive years, or June 30, 2048 if earlier. The supplemental contributions are projected to be eliminated in fiscal years ending 2037, 2042, and 2049 in the 8.5%, 7.0%, and 5.5% investment return scenarios, respectively.

Comments

The reader should keep the following in mind when reviewing these results:

- The enclosed projections are based on assumptions as outlined in the SPTRFA actuarial funding valuation as of July 1, 2024.
- Statutory contributions are defined in statutes as a fixed percentage of payroll plus any statutory supplemental contributions and represent the amount that is actually contributed to the plan. Required contributions are defined in statutes and the LCPR Standards for Actuarial Work and represent the amount needed to fully fund the plan by June 30, 2048 (normal cost, expenses, and a payment to amortize the unfunded liability).
- Investment experience that has occurred since the measurement date is not reflected in this report.
- Actual payroll growth has consistently fallen short of the 2.5% assumption; average growth over the last 10 years (ending June 30, 2024) was 2.1%, which was up significantly from the previous 10-year average of 1.8% (average payroll growth for the 10-year period ending June 30, 2023). SPTRFA's preliminary projected payroll for fiscal year 2025 is $323 million. If actual payroll growth over the projection period is less than 2.5% per year, contributions to pay the unfunded actuarial accrued liability must increase over time to make up for the assumption not being met.
- Note that plan changes may result in behavior changes that are not anticipated in the current assumptions.

- In the 7.0% and 8.5% investment return scenarios, surplus assets reduce the projected required contributions to amounts less than normal cost. We typically recommend the contribution be at least equal to the normal cost of the plan and suggest that plans with considerable surplus assets investigate the pros and cons of reducing the risk of the plan's investment allocation to preserve surplus assets.

Disclosures

The purpose of this report is to estimate the Fund's funding progress and required contribution rates over a 30-year period according to prescribed assumptions and the Minnesota Standards for Actuarial Work. To the best of our knowledge and belief, the calculations were completed in accordance with the requirements of Minnesota Statutes, Section 356.215, and the requirements of the Standards for Actuarial Work established by the Legislative Commission on Pensions and Retirement.

This report should not be relied upon for any purpose other than the purpose described herein. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results. GRS is not responsible for the consequences of any unauthorized use.

The valuation was based upon data and information through June 30, 2024 furnished by the SPTRFA staff concerning Retirement Fund benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency but did not audit the data. We are not responsible for the accuracy or completeness of the information provided by SPTRFA.

The contribution rates shown in this report have been determined using the actuarial assumptions and methods disclosed in Section 4 of the July 1, 2024 valuation report. That valuation report includes risk metrics on pages 7 through 10, but does not include a robust assessment of the risks of future experience not meeting the actuarial assumptions. Additional assessment of risks was outside the scope of this assignment.

We have assessed that the contribution rate calculated under the current funding policy (7.0% investment return scenario) is a reasonable Actuarially Determined Employer Contribution (ADEC) and it is consistent with the plan accumulating adequate assets to make benefit payments when due.

The projections assumed the continuing ability of the plan sponsor to make the contributions necessary to fund this plan. A determination regarding whether or not the plan sponsor is actually able to do so is outside our scope of expertise and was not performed.

Actuarial assumptions, including discount rates, mortality tables, and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Board of Trustees. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Actuarial Basis section of the valuation report. SPTRFA is solely responsible for communicating to GRS any changes required thereto.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of such future measurements.

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.

Professional Qualifications

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge and belief, the information contained in this report is accurate and fairly presents the actuarial position of the St. Paul Teachers' Retirement Fund Association as of the valuation date and was performed in accordance with the requirements of Minnesota Statutes Section 356.215, and the requirements of the Standards for Actuarial Work established by the LCPR. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

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. The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

Sincerely,
Gabriel, Roeder, Smith & Company

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

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

BJW/SLC:ah
Enclosure

Other Observations

General Implications of the 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 7.0% 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.

Limitations of Funded Status Measurements

Unless otherwise indicated, a funded status measurement presented in this report is based upon the actuarial accrued liability and the actuarial value of assets. Unless otherwise indicated, with regard to any funded status measurements presented in this report:

1) The measurement is inappropriate for assessing the sufficiency of plan assets to cover the estimated cost of settling the plan's benefit obligations; in other words, of transferring the obligations to an unrelated third party in an arm's length market value type transaction.
2) The measurement is dependent upon the actuarial cost method which, in combination with the plan's amortization policy, affects the timing and amounts of future contributions. The amounts of future contributions will most certainly differ from those assumed in this report due to future actual experience differing from assumed experience based upon the actuarial assumptions. A funded status measurement in this report of 100% is not synonymous with no required future contributions. If the funded status were 100%, the plan would still require future normal cost contributions (i.e., contributions to cover the cost of the active membership accruing an additional year of service credit).
3) The measurement would produce a different result if the market value of assets were used instead of the actuarial value of assets.

Limitations of Project Scope

Actuarial standards to not require the actuary to evaluate the ability of the plan sponsor or other contributing entity to make required contributions to the plan when due. Such an evaluation was not within the scope of this project and is not within the actuary's domain of expertise. Consequently, the actuary performed no such evaluation.

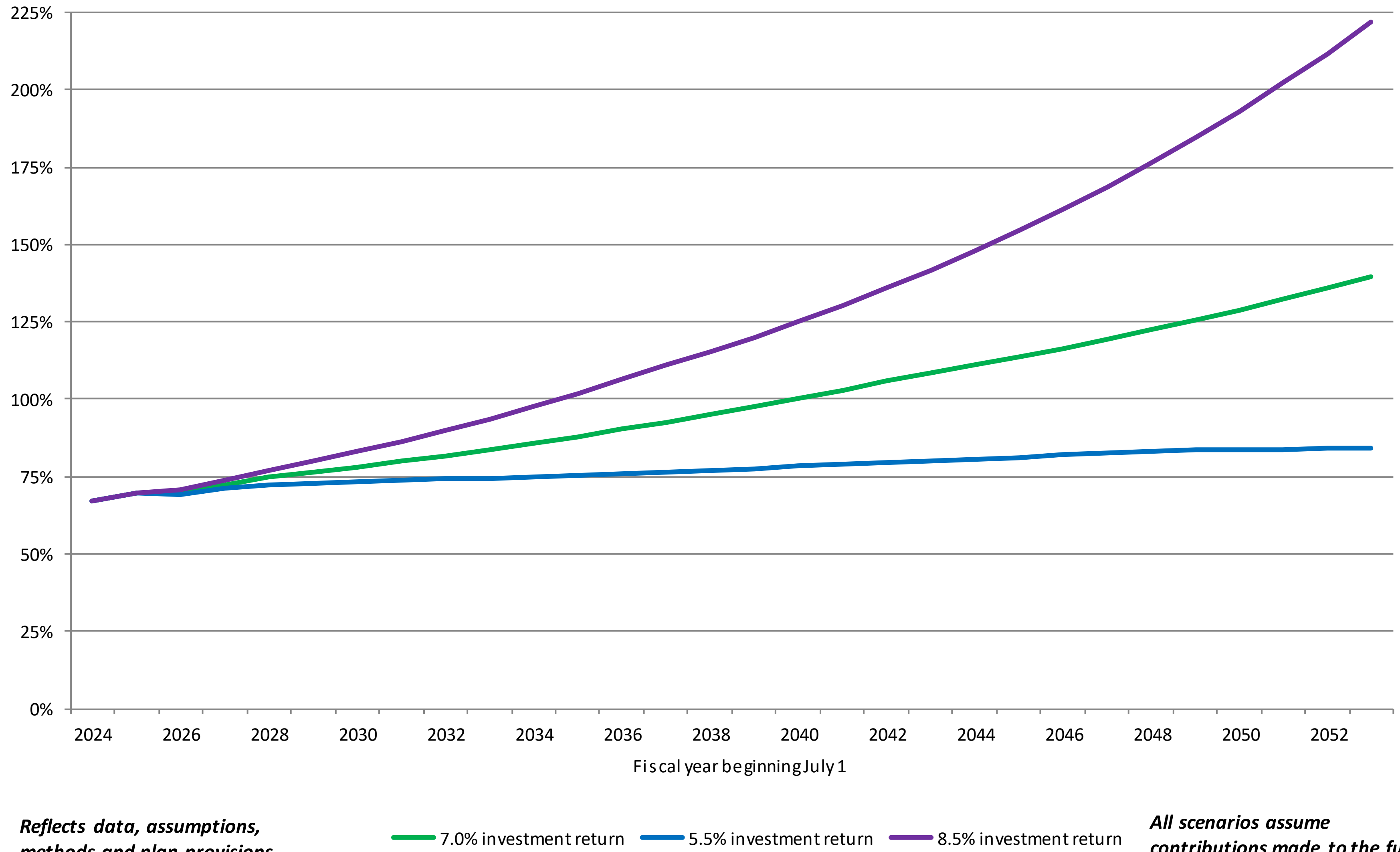
This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Estimated Accrued Liability Funded Ratio

(Actuarial Value of Assets Basis)

In all scenarios the interest rate used to discount liabilities is 7.00%.



Reflects data, assumptions, methods and plan provisions as of July 1, 2024.

All scenarios assume contributions made to the fund are equal to the statutory rate.

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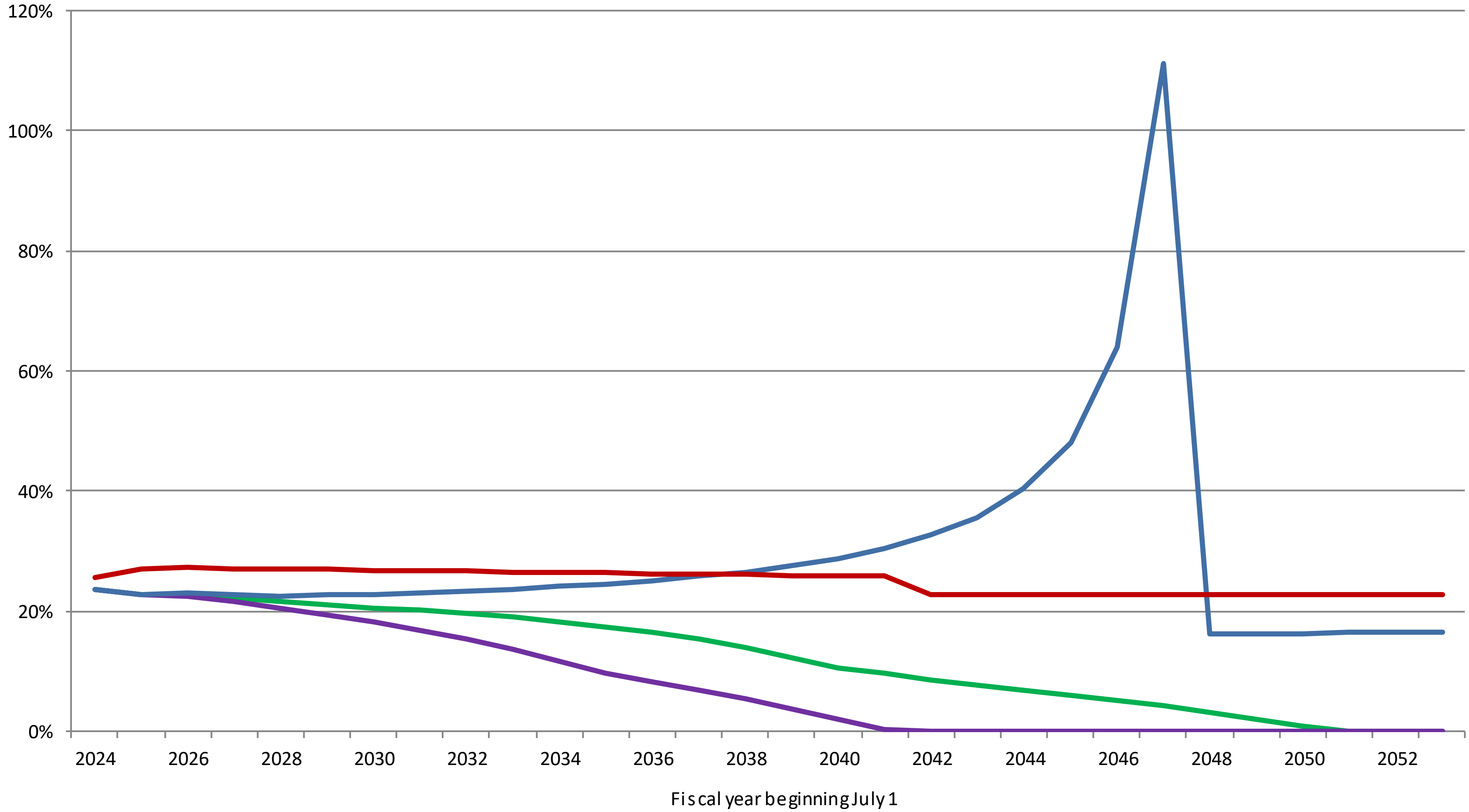
St. Paul Teachers' Retirement Fund Association
Estimated Required Contribution Rates
(% of Pay, Actuarial Value of Assets Basis)

In all scenarios the interest rate used to discount liabilities is 7.00%.



Reflects data, assumptions, methods and plan provisions as of July 1, 2024.

All scenarios assume contributions made to the fund are equal to the statutory rate.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 7.0% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Contributions (% of Payroll)										
Statutory - Chapter 354A	25.67%	27.05%	27.18%	27.07%	26.96%	26.85%	26.75%	26.66%	26.56%	26.47%
Required - Chapter 356 (AVA)	23.52%	22.74%	22.83%	22.09%	21.44%	21.02%	20.57%	20.08%	19.52%	18.90%
Sufficiency / (Deficiency)	2.15%	4.31%	4.35%	4.98%	5.52%	5.83%	6.18%	6.58%	7.04%	7.57%
Contributions										
Statutory - Chapter 354A	$ 82,960	$ 89,938	$ 92,710	$ 94,662	$ 96,659	$ 98,662	$ 100,669	$ 102,710	$ 104,805	$ 106,925
Required - Chapter 356 (AVA)	76,037	75,593	77,863	77,261	76,856	77,222	77,408	77,361	77,041	76,361
Sufficiency / (Deficiency)	6,923	14,345	14,847	17,401	19,803	21,440	23,261	25,349	27,764	30,564
Funding Ratios										
Current Assets (AVA)	$1,299,916	$1,372,825	$1,406,102	$1,482,086	$1,556,712	$1,623,002	$1,693,528	$1,768,278	$1,847,511	$1,931,392
Actuarial Accrued Liability (AAL)	1,933,107	1,970,948	2,008,084	2,046,525	2,086,262	2,127,668	2,170,510	2,214,605	2,259,988	2,306,570
Unfunded AAL	633,191	598,124	601,982	564,439	529,550	504,666	476,982	446,327	412,477	375,178
Funding Ratio	67.2%	69.7%	70.0%	72.4%	74.6%	76.3%	78.0%	79.9%	81.8%	83.7%
Benefit Payments	$ 126,401	$ 130,547	$ 132,669	$ 134,917	$ 136,928	$ 139,297	$ 141,969	$ 144,710	$ 147,648	$ 150,697
Ratio of Assets to Benefit Payments	10.28	10.52	10.60	10.99	11.37	11.65	11.93	12.22	12.51	12.82

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 7.0% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Contributions (% of Payroll)										
Statutory - Chapter 354A	26.38%	26.29%	26.20%	26.12%	26.03%	25.95%	25.87%	25.79%	22.59%	22.59%
Required - Chapter 356 (AVA)	18.19%	17.38%	16.43%	15.31%	13.97%	12.32%	10.42%	9.49%	8.53%	7.72%
Sufficiency / (Deficiency)	8.19%	8.91%	9.77%	10.81%	12.06%	13.63%	15.45%	16.30%	14.06%	14.87%
Contributions										
Statutory - Chapter 354A	$ 109,110	$ 111,340	$ 113,650	$ 116,008	$ 118,470	$ 121,005	$ 123,581	$ 126,238	$ 113,264	$ 115,990
Required - Chapter 356 (AVA)	75,260	73,610	71,265	68,010	63,555	57,469	49,761	46,457	42,763	39,627
Sufficiency / (Deficiency)	33,850	37,729	42,385	47,998	54,914	63,536	73,820	79,781	70,502	76,363
Funding Ratios										
Current Assets (AVA)	$2,020,156	$2,114,286	$2,214,321	$2,320,838	$2,433,950	$2,554,669	$2,683,435	$2,820,929	$2,967,726	$3,108,292
Actuarial Accrued Liability (AAL)	2,354,333	2,403,470	2,454,218	2,506,804	2,560,992	2,617,374	2,675,970	2,737,031	2,800,639	2,866,984
Unfunded AAL	334,177	289,184	239,897	185,967	127,042	62,705	(7,465)	(83,898)	(167,087)	(241,308)
Funding Ratio	85.8%	88.0%	90.2%	92.6%	95.0%	97.6%	100.3%	103.1%	106.0%	108.4%
Benefit Payments	$ 153,675	$ 156,539	$ 159,325	$ 162,486	$ 165,219	$ 168,114	$ 170,936	$ 173,870	$ 176,814	$ 180,274
Ratio of Assets to Benefit Payments	13.15	13.51	13.90	14.28	14.73	15.20	15.70	16.22	16.78	17.24

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 7.0% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**
Contributions (% of Payroll)										
Statutory - Chapter 354A	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%
Required - Chapter 356 (AVA)	6.87%	5.98%	5.05%	4.08%	3.07%	2.01%	0.91%	0.00%	0.00%	0.00%
Sufficiency / (Deficiency)	15.72%	16.61%	17.54%	18.51%	19.52%	20.58%	21.68%	22.59%	22.59%	22.59%
Contributions										
Statutory - Chapter 354A	$ 118,771	$ 121,628	$ 124,580	$ 127,613	$ 130,743	$ 133,987	$ 137,339	$ 140,752	$ 144,242	$ 147,862
Required - Chapter 356 (AVA)	36,113	32,197	27,856	23,055	17,757	11,927	5,519	-	-	-
Sufficiency / (Deficiency)	82,658	89,431	96,724	104,558	112,986	122,060	131,820	140,752	144,242	147,862
Funding Ratios										
Current Assets (AVA)	$3,257,905	$3,416,899	$3,586,013	$3,765,910	$3,957,100	$4,160,314	$4,376,316	$4,606,276	$4,850,733	$5,110,252
Actuarial Accrued Liability (AAL)	2,935,740	3,006,741	3,080,178	3,156,115	3,234,438	3,315,194	3,398,406	3,484,456	3,573,076	3,663,949
Unfunded AAL	(322,165)	(410,158)	(505,835)	(609,795)	(722,662)	(845,119)	(977,910)	(1,121,820)	(1,277,658)	(1,446,303)
Funding Ratio	111.0%	113.6%	116.4%	119.3%	122.3%	125.5%	128.8%	132.2%	135.8%	139.5%
Benefit Payments	$ 184,076	$ 187,874	$ 191,809	$ 196,063	$ 200,469	$ 205,061	$ 209,497	$ 214,414	$ 219,844	$ 225,226
Ratio of Assets to Benefit Payments	17.70	18.19	18.70	19.21	19.74	20.29	20.89	21.48	22.06	22.69

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 5.5% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Contributions (% of Payroll)										
Statutory - Chapter 354A	25.67%	27.05%	27.18%	27.07%	26.96%	26.85%	26.75%	26.66%	26.56%	26.47%
Required - Chapter 356 (AVA)	23.52%	22.82%	23.11%	22.69%	22.47%	22.64%	22.84%	23.08%	23.36%	23.70%
Sufficiency / (Deficiency)	2.15%	4.23%	4.07%	4.38%	4.49%	4.21%	3.91%	3.58%	3.20%	2.77%
Contributions										
Statutory - Chapter 354A	$ 82,960	$ 89,938	$ 92,710	$ 94,662	$ 96,659	$ 98,662	$ 100,669	$ 102,710	$ 104,805	$ 106,925
Required - Chapter 356 (AVA)	76,037	75,867	78,811	79,335	80,572	83,172	85,957	88,950	92,197	95,727
Sufficiency / (Deficiency)	6,923	14,071	13,899	15,327	16,088	15,491	14,712	13,760	12,608	11,198
Funding Ratios										
Current Assets (AVA)	$1,299,916	$1,368,886	$1,392,820	$1,453,829	$1,507,607	$1,546,915	$1,587,986	$1,630,599	$1,674,796	$1,720,512
Actuarial Accrued Liability (AAL)	1,933,107	1,970,948	2,008,084	2,046,525	2,086,262	2,127,668	2,170,510	2,214,605	2,259,988	2,306,570
Unfunded AAL	633,191	602,062	615,265	592,696	578,655	580,752	582,524	584,007	585,192	586,058
Funding Ratio	67.2%	69.5%	69.4%	71.0%	72.3%	72.7%	73.2%	73.6%	74.1%	74.6%
Benefit Payments	$ 126,401	$ 130,547	$ 132,669	$ 134,917	$ 136,928	$ 139,297	$ 141,969	$ 144,710	$ 147,648	$ 150,697
Ratio of Assets to Benefit Payments	10.28	10.49	10.50	10.78	11.01	11.11	11.19	11.27	11.34	11.42

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 5.5% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043
Contributions (% of Payroll)										
Statutory - Chapter 354A	26.38%	26.29%	26.20%	26.12%	26.03%	25.95%	25.87%	25.79%	25.71%	25.64%
Required - Chapter 356 (AVA)	24.08%	24.54%	25.09%	25.74%	26.53%	27.51%	28.76%	30.37%	32.55%	35.65%
Sufficiency / (Deficiency)	2.30%	1.75%	1.11%	0.38%	(0.50)%	(1.56)%	(2.89)%	(4.58)%	(6.84)%	(10.01)%
Contributions										
Statutory - Chapter 354A	$ 109,110	$ 111,340	$ 113,650	$ 116,008	$ 118,470	$ 121,005	$ 123,581	$ 126,238	$ 128,929	$ 131,655
Required - Chapter 356 (AVA)	99,622	103,947	108,809	114,342	120,744	128,288	137,372	148,660	163,224	183,028
Sufficiency / (Deficiency)	9,488	7,393	4,841	1,666	(2,274)	(7,283)	(13,791)	(22,422)	(34,295)	(51,373)
Funding Ratios										
Current Assets (AVA)	$1,767,737	$1,816,693	$1,867,637	$1,920,845	$1,976,105	$2,034,076	$2,094,820	$2,158,609	$2,225,577	$2,295,928
Actuarial Accrued Liability (AAL)	2,354,333	2,403,470	2,454,218	2,506,804	2,560,992	2,617,374	2,675,970	2,737,031	2,800,639	2,866,984
Unfunded AAL	586,596	586,777	586,581	585,959	584,888	583,299	581,150	578,423	575,062	571,057
Funding Ratio	75.1%	75.6%	76.1%	76.6%	77.2%	77.7%	78.3%	78.9%	79.5%	80.1%
Benefit Payments	$ 153,675	$ 156,539	$ 159,325	$ 162,486	$ 165,219	$ 168,114	$ 170,936	$ 173,870	$ 176,814	$ 180,274
Ratio of Assets to Benefit Payments	11.50	11.61	11.72	11.82	11.96	12.10	12.26	12.42	12.59	12.74

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association
Scenario: 5.5% Investment Return for All Years
Fiscal Year Beginning July 1

$ in Thousands	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**	**2050**	**2051**	**2052**	**2053**
Contributions (% of Payroll)										
Statutory - Chapter 354A	25.57%	25.50%	25.43%	25.36%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%
Required - Chapter 356 (AVA)	40.32%	48.16%	63.89%	111.22%	16.21%	16.25%	16.29%	16.34%	16.39%	16.45%
Sufficiency / (Deficiency)	(14.75)%	(22.66)%	(38.46)%	(85.86)%	6.38%	6.34%	6.30%	6.25%	6.20%	6.14%
Contributions										
Statutory - Chapter 354A	$ 134,436	$ 137,293	$ 140,245	$ 143,278	$ 130,743	$ 133,987	$ 137,339	$ 140,752	$ 144,242	$ 147,862
Required - Chapter 356 (AVA)	211,997	259,285	352,333	628,294	93,814	96,372	99,040	101,808	104,685	107,691
Sufficiency / (Deficiency)	(77,561)	(121,992)	(212,088)	(485,016)	36,929	37,614	38,299	38,944	39,557	40,171
Funding Ratios										
Current Assets (AVA)	$2,369,348	$2,445,705	$2,525,235	$2,608,065	$2,694,127	$2,767,349	$2,842,969	$2,921,439	$3,002,528	$3,085,972
Actuarial Accrued Liability (AAL)	2,935,740	3,006,741	3,080,178	3,156,115	3,234,438	3,315,194	3,398,406	3,484,456	3,573,076	3,663,949
Unfunded AAL	566,391	561,036	554,942	548,050	540,311	547,846	555,437	563,017	570,548	577,978
Funding Ratio	80.7%	81.3%	82.0%	82.6%	83.3%	83.5%	83.7%	83.8%	84.0%	84.2%
Benefit Payments	$ 184,076	$ 187,874	$ 191,809	$ 196,063	$ 200,469	$ 205,061	$ 209,497	$ 214,414	$ 219,844	$ 225,226
Ratio of Assets to Benefit Payments	12.87	13.02	13.17	13.30	13.44	13.50	13.57	13.63	13.66	13.70

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

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St. Paul Teachers' Retirement Fund Association

Scenario: 8.5% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033
Contributions (% of Payroll)										
Statutory - Chapter 354A	25.67%	27.05%	27.18%	27.07%	26.96%	26.85%	26.75%	26.66%	26.56%	26.47%
Required - Chapter 356 (AVA)	23.52%	22.65%	22.55%	21.49%	20.37%	19.33%	18.18%	16.87%	15.37%	13.64%
Sufficiency / (Deficiency)	2.15%	4.40%	4.63%	5.58%	6.59%	7.52%	8.57%	9.79%	11.19%	12.83%
Contributions										
Statutory - Chapter 354A	$ 82,960	$ 89,938	$ 92,710	$ 94,662	$ 96,659	$ 98,662	$ 100,669	$ 102,710	$ 104,805	$ 106,925
Required - Chapter 356 (AVA)	76,037	75,319	76,907	75,148	73,033	71,038	68,408	64,999	60,647	55,115
Sufficiency / (Deficiency)	6,923	14,619	15,803	19,513	23,626	27,625	32,261	37,711	44,158	51,810
Funding Ratios										
Current Assets (AVA)	$1,299,916	$1,376,763	$1,419,503	$1,510,869	$1,607,236	$1,702,101	$1,804,622	$1,915,147	$2,034,328	$2,162,753
Actuarial Accrued Liability (AAL)	1,933,107	1,970,948	2,008,084	2,046,525	2,086,262	2,127,668	2,170,510	2,214,605	2,259,988	2,306,570
Unfunded AAL	633,191	594,185	588,581	535,656	479,026	425,566	365,888	299,458	225,660	143,816
Funding Ratio	67.2%	69.9%	70.7%	73.8%	77.0%	80.0%	83.1%	86.5%	90.0%	93.8%
Benefit Payments	$ 126,401	$ 130,547	$ 132,669	$ 134,917	$ 136,928	$ 139,297	$ 141,969	$ 144,710	$ 147,648	$ 150,697
Ratio of Assets to Benefit Payments	10.28	10.55	10.70	11.20	11.74	12.22	12.71	13.23	13.78	14.35

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 8.5% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	**2034**	**2035**	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**
Contributions (% of Payroll)										
Statutory - Chapter 354A	26.38%	26.29%	26.20%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%
Required - Chapter 356 (AVA)	11.64%	9.75%	8.25%	6.67%	5.22%	3.68%	2.04%	0.31%	0.00%	0.00%
Sufficiency / (Deficiency)	14.74%	16.54%	17.95%	15.92%	17.37%	18.91%	20.55%	22.28%	22.59%	22.59%
Contributions										
Statutory - Chapter 354A	$ 109,110	$ 111,340	$ 113,650	$ 100,343	$ 102,805	$ 105,340	$ 107,916	$ 110,573	$ 113,264	$ 115,990
Required - Chapter 356 (AVA)	48,143	41,303	35,799	29,638	23,743	17,141	9,752	1,514	-	-
Sufficiency / (Deficiency)	60,967	70,036	77,852	70,705	79,061	88,199	98,164	109,058	113,264	115,990
Funding Ratios										
Current Assets (AVA)	$2,301,123	$2,450,427	$2,611,757	$2,786,297	$2,958,590	$3,145,398	$3,347,810	$3,567,222	$3,804,995	$4,062,692
Actuarial Accrued Liability (AAL)	2,354,333	2,403,470	2,454,218	2,506,804	2,560,992	2,617,374	2,675,970	2,737,031	2,800,639	2,866,984
Unfunded AAL	53,210	(46,956)	(157,538)	(279,493)	(397,598)	(528,023)	(671,840)	(830,191)	(1,004,356)	(1,195,708)
Funding Ratio	97.7%	102.0%	106.4%	111.2%	115.5%	120.2%	125.1%	130.3%	135.9%	141.7%
Benefit Payments	$ 153,675	$ 156,539	$ 159,325	$ 162,486	$ 165,219	$ 168,114	$ 170,936	$ 173,870	$ 176,814	$ 180,274
Ratio of Assets to Benefit Payments	14.97	15.65	16.39	17.15	17.91	18.71	19.59	20.52	21.52	22.54

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.

This exhibit should only be viewed in conjunction with GRS' January 31, 2025 letter.

St. Paul Teachers' Retirement Fund Association

Scenario: 8.5% Investment Return for All Years

Fiscal Year Beginning July 1

$ in Thousands	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053
Contributions (% of Payroll)										
Statutory - Chapter 354A	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%
Required - Chapter 356 (AVA)	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sufficiency / (Deficiency)	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%	22.59%
Contributions										
Statutory - Chapter 354A	$ 118,771	$ 121,628	$ 124,580	$ 127,613	$ 130,743	$ 133,987	$ 137,339	$ 140,752	$ 144,242	$ 147,862
Required - Chapter 356 (AVA)	-	-	-	-	-	-	-	-	-	-
Sufficiency / (Deficiency)	118,771	121,628	124,580	127,613	130,743	133,987	137,339	140,752	144,242	147,862
Funding Ratios										
Current Assets (AVA)	$ 4,341,506	$ 4,642,938	$ 4,969,000	$ 5,321,742	$ 5,703,189	$ 6,115,725	$ 6,561,917	$ 7,044,903	$ 7,567,370	$ 8,132,227
Actuarial Accrued Liability (AAL)	2,935,740	3,006,741	3,080,178	3,156,115	3,234,438	3,315,194	3,398,406	3,484,456	3,573,076	3,663,949
Unfunded AAL	(1,405,766)	(1,636,197)	(1,888,822)	(2,165,627)	(2,468,751)	(2,800,531)	(3,163,511)	(3,560,447)	(3,994,295)	(4,468,278)
Funding Ratio	147.9%	154.4%	161.3%	168.6%	176.3%	184.5%	193.1%	202.2%	211.8%	222.0%
Benefit Payments	$ 184,076	$ 187,874	$ 191,809	$ 196,063	$ 200,469	$ 205,061	$ 209,497	$ 214,414	$ 219,844	$ 225,226
Ratio of Assets to Benefit Payments	23.59	24.71	25.91	27.14	28.45	29.82	31.32	32.86	34.42	36.11

Numbers may not add due to rounding.

The interest rate used to discount liabilities was 7.0%.