ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION Actuarial Valuation
AS OF JULY 1, 2008

November 12, 2008

Mr. Phillip Kapler
St. Paul Teachers' Retirement Fund Association
1619 Dayton Avenue, Room 309
St. Paul, MN 55104-6206

## Dear Mr. Kapler:

We are pleased to present the report of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2008. This report provides among other things, the required annual contribution rate of the Fund for the Plan Year commencing July 1, 2008, and ending on June 30, 2009. The actuarial assumptions and actuarial cost method are those recommended based on an Experience Review for the years 2000 through 2006 and adopted by the Board for first use in this valuation.

The necessary participant and financial data was provided by the Fund’s staff. Their efforts in furnishing the materials needed are gratefully acknowledged. Data was checked for internal consistency, but was not otherwise audited.

The report has been prepared in accordance with Section 356.215 of the Minnesota Statutes as well as the Standards for Actuarial Work Established by the State of Minnesota Legislative Commission on Pensions and Retirement. To the best of our knowledge, this report is complete and accurate, and has been prepared in accordance with generally accepted actuarial principles and practice.

Determinations of the liability associated with the benefits described in this report for purposes other than those described above may produce significantly different results. This report may be provided to parties other than the Fund or State oversight entities only in its entirety and only with the permission of the Fund.

The undersigned are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein.

We will be pleased to review this report with you at your convenience.
Respectfully submitted,

W. James Kors, ASA, EA, MAAA


WJK/CN:mrb
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## SUMMARY OF VALUATION RESULTS <br> (dollars in thousands)

This report sets forth the results of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2008. The purposes of this valuation are:

1. To develop the annual required contribution (ARC) rates under GASB requirements.
2. To compare the ARC rates with the current funding policy in place.
3. To review the funding status of the Fund.

The funding status, in basic terms, is a comparison of the fund's liabilities to assets expressed as either an unfunded liability (i.e., the difference between the assets and liabilities) or as a ratio of assets to liabilities. This comparison can be measured in various ways. Fund liabilities are dependent on the actuarial assumptions and actuarial cost method. Fund assets can be measured at market value, book value, or some variation to smooth the fluctuations that invariably occur from year to year. The Actuarial Value of Assets is determined from market value with investment gains and losses smoothed over a five-year period.

## Comments on Results

Total actuarial liabilities increased from $\$ 1,380.2$ to $\$ 1,432.0$ million. This increase is due to expected growth in combination with a loss of $\$ 12.1$ million due to the adoption of new assumptions. The funding impact of the new assumptions is shown in more detail in the summary of valuation results on the following page. There was a decrease in liability due to a smaller than expected COLA benefit increase provided as a result of the COLA Pilot Program as of January 1, 2008 and 2009.

The assets of the plan showed poor investment returns in the past fiscal year. While the actuarial value of assets recognized a portion of the loss incurred in fiscal year ending June 30, 2008, the overall return on the actuarial value of assets still produced a significant gain for the Fund.

The funded ratio based on actuarial value of assets increased from $73.59 \%$ at July 1, 2007, to $75.13 \%$ at July 1, 2008. This increase was mostly due to scheduled recognition of past investment gains and expected funded ratio improvements under the current funding policy.

During 2008, a bill was passed that changed the amortization of the unfunded actuarial accrued liability. Previously, under Chapter 356 of Minnesota Statutes, the actuarial valuation report was required to contain the contribution rate required to pay the normal cost calculated as a level percent of pay using the Entry Age Normal actuarial cost method plus the amortization payment to amortize the unfunded liability by June 30 , 2014. The bill changes the amortization to a 25 -year rolling period, which for this valuation, extends the target amortization date to June 30, 2033. The required contribution rate decreased from $23.40 \%$ for fiscal year ending June 30, 2008, to $17.63 \%$ for fiscal year ending June 30, 2009. The statutory contributions currently in place are not sufficient to cover this contribution rate. The statutory contribution rate for the current plan year based on the Basic Plan and Coordinated Plan active population at the valuation date is $15.73 \%$, a shortfall of $1.90 \%$.

Chapter 356 also requires the Fund to indicate the funded ratio and contribution sufficiency or deficiency based on the Market Value of Assets. Using a Market Value of Assets of \$1,023.6 million results in a funded status of $71.48 \%$ and a contribution shortfall of $3.17 \%$ as of July 1, 2008.

# SUMMARY OF VALUATION RESULTS <br> (dollars in thousands) 

A. CONTRIBUTIONS \% OF PAYROLL (Table 11)

1. Statutory Contributions - Chapter 354A
2. Required Contributions - Chapter 356
3. Sufficiency / (Deficiency)
B. FUNDING RATIOS
4. Accrued Benefit Funding Ratio
a. Current Assets (Table 1)
b. Current Benefit Obligations (Table 8)
c. Funding Ratio
5. Accrued Liability Funding Ratio
a Current Assets (Table 1)
b. Actuarial Accrued Liability (Table 9)
c. Funding Ratio
6. Projected Benefit Funding Ratio (Table 8)
a. Current and Expected Future Assets
b. Current and Expected Future Benefit Obligations
c. Funding Ratio

## C. PLAN PARTICIPANTS

1. Active Members
a. Number (Table 3)
b. Projected Annual Earnings
c. Average Annual Earnings (Projected dollars)
d. Average Age
e. Average Service
f. Additional Members on Leave of Absence
2. Others
a. Service Retirements (Table 4)
b. Disability Retirements (Table 5)

2,431
c. Survivors (Table 6) 286
d. Deferred Retirements (Table 7) 1,693
e. Terminated Other Non-Vested (Table 7)
f. Total

July 1, 2008
July 1, 2008 Prior to Assumption

| Valuation | Changes | Valuation Final |
| :---: | :---: | :---: |
| 16.19\% | 15.73\% | 15.73\% |
| 23.40\% | 17.53\% | 17.63\% |
| (7.21\%) | (1.80\%) | (1.90\%) |


$\begin{array}{r}\$ \quad \begin{array}{r}1,414,512 \\ 1,600,163\end{array} \\ \hline\end{array}$


|  | 3,841 |  | 4,019 |
| ---: | ---: | ---: | ---: |
| $\$$ | 235,880 | $\$$ | 247,291 |
| $\$$ | 59,236 | $\$$ | 60,007 |
|  | 44.9 |  | 44.9 |
|  | 11.7 |  | 11.4 |
|  | 141 |  | 102 |

## Participants

Active membership increased 3.5 percent during fiscal year 2008 from 3,982 to 4,121 (figures include members on leave of absence). Total participants receiving benefits under the Fund, including disabled retirees and beneficiaries, increased 4.0 percent during fiscal year 2008 from 2,741 to 2,851. Total expenditures for these benefits increased from $\$ 84.3$ million to $\$ 89.8$ million during fiscal year 2008, or 6.6 percent.

## Changes in Provisions of the Fund

There were no changes in the provisions of the fund from the prior valuation report.

## Analysis of Actuarial Assumptions

Actuarial assumptions are used to project future demographic and economic expectations for purposes of valuing the liabilities of the plan. The assumptions should reflect current patterns. However, their primary orientation is the long-term outlook for each factor affecting the valuation. Thus, while actual experience will fluctuate over the short run, actuarial assumptions are chosen in an attempt to model the future long-term experience. The actuarial assumptions were developed in accordance with the Standards for Actuarial Work established by the Minnesota Legislative Commission on Pensions and Retirement ("Standards for Actuarial Work").
An Experience Analysis for the years 2000 through 2006 was performed during 2007. Assumption changes adopted by the Board as a result of this review are reflected beginning with this actuarial valuation as of July 1, 2008. Please see the Appendix to this report for a letter summarizing the adopted assumption changes.

## Asset Valuation Method

The method used to develop the Fund's Actuarial Value of Assets, as set out in the Standards for Actuarial Work, is as follows: In years when Fund assets earn above 8.5 percent (i.e., experience gain) or below 8.5 percent (i.e., experience loss) the gain (or loss) will be gradually recognized over five years. This approach both smoothes the Fund's level of contributions and ensures the Fund's assets will track the market value of assets.

## Experience Analysis

Overall, the Fund experienced a gain of $\$ 23.4$ million. There were no large deviations from the expected plan demographic experience. In general, salary increases were smaller than predicted under the current valuation assumption and produced an actuarial gain of $\$ 4.9$ million. Incorporating the new experience study assumptions produced a loss of $\$ 12.1$ million. The largest component of the Fund's gain was due to recognized gains from larger than expected asset returns in prior years. Despite a poor asset return during FY 2008, scheduled recognition of gains and losses from prior years produced an overall gain of $\$ 28.7$ million on the actuarial value of assets.

The changes in unfunded actuarial accrued liabilities are shown in Table 10.

## Looking Ahead

Between July 1, 2008 and the publication of this report, financial markets have declined in almost all asset classes. Although a five year smoothing of gains and losses is used in determining the Fund's Actuarial Value of Assets, a significant asset loss during the period between this valuation date and the next could result in an increase in the Fund's required contribution for the fiscal year beginning July 1, 2009.

## SECTION 1

ASSET INFORMATION

The cost value of the plan assets decreased from $\$ 771.5$ million as of June 30, 2007, to $\$ 767.1$ million as of June 30, 2008. The market value of the plan assets decreased from $\$ 1,156.0$ million as of June 30 , 2007, to $\$ 1,023.6$ million as of June 30, 2008. The expected return on assets using the valuation interest rate assumption of 8.5 percent was $\$ 96$ million. The actual plan experience showed a (negative) return on assets of $\$(79.8)$ million. Twenty percent of the asset return below the expected $\$ 96$ million is recognized as an actuarial loss in the development of the actuarial value of assets. The recognized loss from the current year along with the portion of prior gains and losses recognized this year results in an overall gain of $\$ 28.7$ million on the actuarial value of assets.

Table 1 shows the composition of assets as of June 30, 2008, and the development of the actuarial value of assets as of June 30, 2008. Table 2 details the development of asset values during fiscal year 2008.

# TABLE 1 <br> ACCOUNTING BALANCE SHEET <br> AS OF JUNE 30, 2008 <br> (dollars in thousands) 

A. ASSETS

1. Cash, Equivalents, Short-Term Securities
2. Investments
a. Fixed Income
b. Equity
c. Real Estate
d. Alternative
3. Other Assets*
B. TOTAL ASSETS
C. AMOUNTS CURRENTLY PAYABLE
D. ASSETS AVAILABLE FOR BENEFITS
4. Member Reserves
5. Employer Reserves
6. Total Assets Available for Benefits
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND

ASSETS AVAILABLE FOR BENEFITS
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS

1. Market Value of Assets Available for Benefits (D.3)
2. Unrecognized Asset Returns
a. June 30, 2008
\$ $(175,830)$
b. June 30, 2007
114,209
c. June 30, 2006
36,135
d. June 30, 2005
26,860
3. UAR Adjustment: . 80 * 2(a) + . 60 * 2(b) + . 40 * 2(c) + . 20 * 2(d)
4. Actuarial Value of Assets (F.1-F.3)
\$ 1,023,640
$\left.\begin{array}{lrlll}\$ & 135,589 \\ & 888,051\end{array} \begin{array}{lll} & \$ & 135,589 \\ 631,470\end{array}\right]$
$\xlongequal{\$ \quad 1,027,087} \xlongequal{\$ \quad 770,506}$

* DERIVATION OF OTHER ASSETS

Accounts Receivable
Employer Contribution
Employee Contribution
\$ 1,053

Emioye Contibution
Interest Receivable 890
Dividend Receivable 263
Sale of Securities
Total Accounts Receivable
Fixed Assets
Total Other Assets

## Market Value

121
890

5,934
\$ 8,261
$\begin{array}{r}34 \\ \hline \$ 8,295 \\ \hline \hline\end{array}$
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD
B. OPERATING REVENUES

1. Member Contributions
2. Employer Contributions
3. Supplemental Contributions
4. Investment Income
5. Investment Expenses
6. Net Realized Gain / (Loss)
7. Other
8. Net Change in Unrealized Gain / (Loss)
9. Total Operating Revenue
C. OPERATING EXPENSES
10. Service retirements

| $\$$ | 79,868 | $\$$ | 79,868 |
| :--- | ---: | :---: | ---: |
|  | 826 |  | 826 |
|  | 7,578 |  | 7,578 |
|  | 1,538 |  | 1,538 |
|  | 691 |  | 691 |
|  | 90,501 | $\$$ | 90,501 |

D. OTHER CHANGES IN RESERVES
E. ASSETS AVAILABLE AT END OF PERIOD

| Market Value |  | Cost Value |  |
| :---: | :---: | :---: | :---: |
| \$ | 1,156,017 | \$ | 771,476 |
| \$ | 13,642 | \$ | 13,642 |
|  | 20,775 |  | 20,775 |
|  | 3,509 |  | 3,509 |
|  | 17,651 |  | 17,651 |
|  | $(4,767)$ |  | $(4,767)$ |
|  | 35,274 |  | 35,274 |
|  | - |  | - |
|  | $(127,960)$ |  | - |
| \$ | $(41,876)$ | \$ | 86,084 |

2. Disability benefits
3. Survivor benefits
4. Refunds
5. Administrative expenses
6. Total operating expenses

| $\$$ | - | $\$$ | - |
| :---: | :---: | :---: | :---: |
| $\$$ | $1,023,640$ |  | $\$$ |

F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN

1. Average Balance
(a) Assets available at BOY:
\$ 1,156,017
(b) Assets available at EOY:
1,023,640
(c) Average balance \{[(a) + (b) - Net Investment Income] / 2\}
\$ 1,129,730
\{Net investment income: B.4+B.5+B.6+B.7+B.8\}
2. Expected Return: . 085 * F. 1 96,027
3. Actual Return
4. Current year gross asset return: F.3-F. 2

## SECTION 2

TOTAL MEMBERSHIP DATA

| Age | Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | ALL |
| $<25$ | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 |
| 25-29 | 296 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 361 |
| 30-34 | 221 | 231 | 55 | 0 | 0 | 0 | 0 | 0 | 507 |
| 35-39 | 125 | 178 | 243 | 25 | 0 | 0 | 0 | 0 | 571 |
| 40-44 | 98 | 102 | 185 | 96 | 22 | 0 | 0 | 0 | 503 |
| 45-49 | 95 | 98 | 129 | 106 | 92 | 5 | 0 | 0 | 525 |
| 50-54 | 86 | 72 | 111 | 113 | 94 | 98 | 24 | 0 | 598 |
| 55-59 | 80 | 77 | 89 | 92 | 80 | 90 | 74 | 18 | 600 |
| 60-64 | 49 | 37 | 34 | 48 | 51 | 28 | 25 | 26 | 298 |
| 65+ | 26 | 8 | 6 | 3 | 3 | 4 | 1 | 6 | 57 |
| ALL | 1,177 | 868 | 852 | 483 | 342 | 225 | 124 | 50 | 4,121 |

## AVERAGE ANNUAL EARNINGS

Years of Service

| Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 +}$ | ALL |
| :---: | :---: | ---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: |
|  | 18,206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,206 |
| $\mathbf{2 5 - 2 9}$ | 31,991 | 50,393 | 0 | 0 | 0 | 0 | 0 | 0 | 35,304 |
| $\mathbf{3 0 - 3 4}$ | 36,574 | 50,467 | 58,994 | 0 | 0 | 0 | 0 | 0 | 45,336 |
| $\mathbf{3 5 - 3 9}$ | 39,382 | 55,584 | 64,779 | 70,811 | 0 | 0 | 0 | 0 | 56,617 |
| $\mathbf{4 0 - 4 4}$ | 40,758 | 57,237 | 65,883 | 72,681 | 73,918 | 0 | 0 | 0 | 60,883 |
| $\mathbf{4 5 - 4 9}$ | 32,432 | 58,970 | 66,575 | 73,112 | 79,420 | 83,755 | 0 | 0 | 62,712 |
| $\mathbf{5 0 - 5 4}$ | 34,529 | 53,332 | 65,286 | 70,934 | 73,622 | 79,302 | 80,922 | 0 | 64,726 |
| $\mathbf{5 5 - 5 9}$ | 26,819 | 54,716 | 68,758 | 69,217 | 72,951 | 75,660 | 80,835 | 80,467 | 64,870 |
| $\mathbf{6 0 - 6 4}$ | 27,758 | 47,418 | 67,960 | 74,001 | 73,108 | 76,351 | 82,123 | 87,518 | 64,336 |
| $\mathbf{6 5 +}$ | 8,622 | 32,682 | 60,020 | 52,037 | 69,482 | 78,161 | 102,217 | 97,150 | 38,738 |
| ALL | 32,361 | 53,587 | 65,492 | 71,613 | 74,931 | 77,557 | 81,284 | 86,135 | 56,407 |

Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service

|  | Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5}$ \& Over |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 38,089 | 46,513 | 55,799 | 34,589 | 25,626 | 17,450 | 10,079 | 4,307 | 232,453 |


| Age | Years Retired |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 194 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 194 |
| 60-64 | 378 | 185 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 564 |
| 65-69 | 160 | 288 | 122 | 1 | 0 | 0 | 1 | 0 | 0 | 572 |
| 70-74 | 20 | 125 | 241 | 70 | 0 | 0 | 1 | 0 | 0 | 457 |
| 75-79 | 4 | 6 | 129 | 135 | 71 | 1 | 0 | 0 | 0 | 346 |
| 80-84 | 1 | 5 | 11 | 67 | 108 | 29 | 1 | 0 | 0 | 222 |
| 85-89 | 0 | 1 | 1 | 5 | 48 | 53 | 5 | 0 | 0 | 113 |
| 90+ | 0 | 0 | 0 | 1 | 2 | 19 | 39 | 4 | 2 | 67 |
| ALL | 757 | 610 | 505 | 279 | 229 | 102 | 47 | 4 | 2 | 2,535 |

## AVERAGE ANNUAL BENEFIT

Years Retired

| Age |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| $<45$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 30,412 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 30,412 |
| 60-64 | 32,324 | 31,778 | 11,488 | 0 | 0 | 0 | 0 | 0 | 0 | 32,108 |
| 65-69 | 23,365 | 31,433 | 32,618 | 26,604 | 0 | 0 | 51,873 | 0 | 0 | 29,456 |
| 70-74 | 21,923 | 32,025 | 39,425 | 29,474 | 0 | 0 | 55,388 | 0 | 0 | 35,146 |
| 75-79 | 9,437 | 7,866 | 46,612 | 38,808 | 31,407 | 56,799 | 0 | 0 | 0 | 39,375 |
| 80-84 | 451 | 23,684 | 34,703 | 37,443 | 30,223 | 24,092 | 61,174 | 0 | 0 | 31,681 |
| 85-89 | 0 | 54,180 | 57,387 | 31,443 | 28,871 | 30,242 | 25,931 | 0 | 0 | 29,974 |
| 90+ | 0 | 0 | 0 | 55,910 | 22,567 | 21,523 | 20,787 | 20,326 | 23,631 | 21,630 |
| ALL | 29,503 | 31,401 | 39,494 | 36,024 | 30,240 | 27,130 | 23,591 | 20,326 | 23,631 | 32,510 |

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

|  | Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL |  |  |  |  |  |  |  |  |  |  |
| ALL | 22,333 | 19,155 | 19,944 | 10,051 | 6,925 | 2,767 | 1,109 | 81 | 47 | 82,413 |

DISABILITY RETIREMENTS AS OF JUNE 30, 2008

|  | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 45-49 | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 50-54 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| 55-59 | 6 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 60-64 | 4 | 4 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 11 | 7 | 8 | 0 | 0 | 0 | 0 | 0 | 0 | 26 |

## AVERAGE ANNUAL BENEFIT

|  | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 0 | 0 | 2,543 | 0 | 0 | 0 | 0 | 0 | 0 | 2,543 |
| 45-49 | 0 | 22,900 | 5,233 | 0 | 0 | 0 | 0 | 0 | 0 | 14,066 |
| 50-54 | 12,449 | 24,346 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,398 |
| 55-59 | 34,754 | 9,070 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 31,085 |
| 60-64 | 30,496 | 35,999 | 44,320 | 0 | 0 | 0 | 0 | 0 | 0 | 37,993 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 31,178 | 28,616 | 34,212 | 0 | 0 | 0 | 0 | 0 | 0 | 31,422 |

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 343 | 200 | 274 | 0 | 0 | 0 | 0 | 0 | 0 | 817 |

TABLE 6
SURVIVORS AS OF JUNE 30, 2008

| Age | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 1 | 6 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 9 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 3 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 55-59 | 4 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 6 |
| 60-64 | 1 | 7 | 8 | 4 | 1 | 1 | 0 | 0 | 0 | 22 |
| 65-69 | 2 | 10 | 9 | 8 | 4 | 2 | 0 | 0 | 0 | 35 |
| 70-74 | 1 | 5 | 9 | 18 | 7 | 3 | 1 | 0 | 0 | 44 |
| 75-79 | 0 | 1 | 1 | 17 | 19 | 6 | 3 | 0 | 0 | 47 |
| 80-84 | 0 | 0 | 1 | 4 | 30 | 16 | 3 | 0 | 0 | 54 |
| 85-89 | 0 | 0 | 0 | 2 | 5 | 25 | 9 | 0 | 0 | 41 |
| 90+ | 0 | 0 | 0 | 0 | 1 | 4 | 19 | 0 | 0 | 24 |
| ALL | 12 | 34 | 30 | 53 | 68 | 57 | 35 | 1 | 0 | 290 |

AVERAGE ANNUAL BENEFIT

|  | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 498 | 9,653 | 2,116 | 0 | 0 | 0 | 0 | 0 | 0 | 6,961 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 24,013 | 9,907 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 15,197 |
| $\mathbf{5 5 - 5 9}$ | 22,125 | 0 | 0 | 0 | 25,637 | 0 | 0 | 3,350 | 0 | 19,581 |
| $\mathbf{6 0 - 6 4}$ | 49,712 | 20,526 | 25,182 | 25,582 | 11,783 | 18,916 | 0 | 0 | 0 | 23,994 |
| $\mathbf{6 5 - 6 9}$ | 11,868 | 29,399 | 40,411 | 32,316 | 20,154 | 16,951 | 0 | 0 | 0 | 30,128 |
| $\mathbf{7 0 - 7 4}$ | 59,885 | 37,082 | 35,311 | 35,301 | 29,102 | 21,396 | 13,400 | 0 | 0 | 33,632 |
| $\mathbf{7 5 - 7 9}$ | 0 | 32,041 | 6,422 | 39,605 | 25,334 | 20,256 | 22,385 | 0 | 0 | 29,400 |
| $\mathbf{8 0 - 8 4}$ | 0 | 0 | 50,315 | 39,734 | 30,338 | 25,003 | 33,435 | 0 | 0 | 29,995 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 57,105 | 25,546 | 22,136 | 22,266 | 0 | 0 | 24,286 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 24,349 | 23,590 | 19,884 | 0 | 0 | 20,688 |
| ALL | 24,531 | 22,429 | 31,464 | 36,655 | 27,431 | 22,568 | 21,687 | 3,350 | 0 | 27,095 |

Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH

|  | $<5$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | ALL | 294 | 763 | 944 | 1,943 | 1,865 | 1,286 | 759 | 3 | 0 |

TABLE 7

|  | Active <br> Participants | Leave of Absence | Vested <br> Terminated | Other Non-Vested | Retired Participants | Disableds | Survivors and Beneficiaries | Alternate <br> Payees | Total |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| A. Number as of June 30, 2007 | 3,841 | 141 | 1,693 | 1,533 | 2,414 | 24 | 286 | 17 | 9,949 |
| B. Additions | 394 | 45 | 124 | 195 | 148 | 5 | 26 | 4 | 941 |
| C. Deletions |  |  |  |  |  |  |  |  |  |
| 1. Retirements | (94) | (2) | (48) | (1) | - | - | - | - | (145) |
| 2. Disability | - | (1) | (4) | - | - | - | - | - | (5) |
| 3. Died With Beneficiary | - | - | - | - | (26) | (1) | (21) | - | (48) |
| 4. Died Without Beneficiary | (3) | - | (1) | (1) | (23) | - | - | - | (28) |
| 5. Terminated - Deferred | (95) | (15) | - | (14) | - | - | - | - | (124) |
| 6. Terminated - Not Vested | (138) | (2) | - | - | - | - | - | - | (140) |
| 7. Refunds | (21) | (4) | (40) | (139) | - | - | - | - | (204) |
| 8. Rehired as Active | 178 | (60) | (34) | (74) | - | - | - | - | 10 |
| 9. Leave of Absence | (43) | - | (1) | - | - | - | - | - | (44) |
| 10. Expired Benefits | - | - | - | - | - | - | (1) | - | (1) |
| 11. Disability to Retirement | - | - | - | - | - | (3) | - | - | (3) |
| 12. Write-offs | - | - | - | (101) | - | - | - | - | (101) |
| D. Data Adjustments ${ }^{1}$ | - | - | 6 | 5 | 1 | 1 | - | - | 13 |
| E. Total on June 30, 2008 | 4,019 | 102 | 1,695 | 1,403 | 2,514 | 26 | 290 | 21 | 10,070 |

[^0]
## SECTION 3

FUNDING STATUS

# TABLE 8 

ACTUARIAL BALANCE SHEET
AS OF JULY 1, 2008
A. CURRENTS ASSETS (TABLE 1; Line F.4)
B. EXPECTED FUTURE ASSETS

| 1. | Present Value of Expected Future Statutory Supplemental Contributions | $\$$ |
| :--- | :--- | :--- |
| 2. | Present Value of Future Normal Costs | 278,277 |
| 3. | Total Expected Future Assets | 211,186 |

C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS
D. CURRENT BENEFIT OBLIGATIONS

1. Benefit Recipients
a. Retirement Annuitants
b. Disability Benefits
c. Surviving Spouse and Child Benefits
2. Deferred Retirements
3. Former Members Without Vested Rights
4. Active Members

| a. | Retirement Annuitants | $\$$ | 1,696 | $\$ 375,888$ |  |
| :--- | :--- | ---: | ---: | ---: | ---: |
| b. | Disability Benefits | 34 | 4,175 |  |  |
| c. | Surviving Spouse and Child Benefits |  | 43 |  | 5,401 |
| d. | Withdrawals |  | 801 | 15,801 |  |
|  |  | $\$ 1,381,889$ |  |  |  |

E. EXPECTED FUTURE BENEFIT OBLIGATIONS

| Non-Vested |  | Vested |  | \$ | 1,565,414 |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Total |
|  |  |  |  | \$ | 864,662 | \$ | 864,662 |
|  |  | 7,353 | 7,353 |  |  |
|  |  | 64,282 | 64,282 |  |  |
|  |  | 42,590 | 42,590 |  |  |
|  |  | 1,737 | 1,737 |  |  |
| \$ | 1,696 | \$ | 375,888 | \$ | 377,584 |  |
|  | 34 |  | 4,175 |  | 4,209 |  |
|  | 43 |  | 5,401 |  | 5,444 |  |
|  | 801 |  | 15,801 |  | 16,602 |  |
| \$ | 2,573 | \$ 1,381,889 |  |  | 1,384,463 |  |

F. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS
$\$ \quad 258,763$
G. CURRENT UNFUNDED ACTUARIAL LIABILITY (D. 5 - A)
H. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (F - C)
\$ 1,643,226
\$ 308,511
\$ 77,812

## DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL) AND SUPPLEMENTAL CONTRIBUTION RATE <br> AS OF JULY 1, 2008 <br> (dollars in thousands)

A. DETERMINATION OF ACTUARIAL

ACCRUED LIABILITY (AAL)

1. Active Members
a. Retirement Benefits*
b. Disability Benefits
c. Surviving Spouse and Child Benefits
d. Withdrawals
e. Total
2. Deferred Retirements
3. Former Members Without Vested Rights
4. Annuitants
5. Total

| Actuarial |
| :---: |
| Present Value |
| of Projected |
| Benefits |

Actuarial
Present Value of Future Normal Costs

Actuarial Accrued Liability
B. DETERMINATION OF UNFUNDED ACTUARIAL

ACCRUED LIABILITY (UAAL)


1. Actuarial Accrued Liability (A.5)
2. Current Assets (Table 1; Line F.4)
3. Unfunded Actuarial Accrued Liability (B.1-B.2)
4. Unfinded Actuaial Accrued Liability (B.1-B.2)
\$ 1,432,040
1,075,951

| $\$ \quad 356,089$ |
| :--- |

4,104,379
. Present Value of Future Payrolls Through the
Amortization Date of June 30, 2033 (25-year rolling amortization)
8.68\%
*Includes members on leave of absence.
A. UAAL AT BEGINNING OF YEAR
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING

1. Normal Cost and Expenses 21,806
2. Contributions
3. Interest
4. Total
C. EXPECTED UAAL AT END OF YEAR (A. + B.4)
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED

| 1. Age and Service Retirements | $\$$ |
| :--- | :---: |
| 2. Disability Retirements | (887) |

3. Death-in-Service Benefits
4. Withdrawals
5. Salary Increases
6. Investment Income
7. Mortality of Annuitants

ㄴ․ . 700
8. Assumed COLA vs. Actual COLA for January 1, 2009
9. Other Items
10. Total
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.10)
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS
H. UAAL AT END OF YEAR $(\mathrm{E}+\mathrm{F}+\mathrm{G})$
$(1,342)$
\$ 364,429

31,218

| $\$$ | 15,097 |
| :--- | :--- |

\$ 379,526
(7)
$(4,868)$
$(28,702)$
700
$(1,743)$

|  |
| :---: |
| $\$ \quad(35,517)$ |

\$ 344,009
344,009

| 12,080 |
| ---: |

\$ 356,089
Percent of Payroll A. STATUTORY CONTRIBUTIONS - CHAPTER 354A

1. Employee Contributions

| Percent of Payroll | Dollar Amount |  |
| :---: | :---: | :---: |
| 5.61\% | \$ | 13,864 |
| 8.48\% | \$ | 20,972 |
| 0.50\% |  | 1,230 |
| 1.14\% |  | 2,827 |
| 15.73\% | \$ | 38,893 |

B. REQUIRED CONTRIBUTIONS - CHAPTER 356

1. Normal Cost
a. Retirement Benefits $\quad 7.22 \% \quad \$ \quad 17,843$
b. Disability Benefits
$0.14 \% \quad 336$
c. Surviving Spouse and Child Benefits $\quad 0.16 \% \quad 400$
d. Withdrawals
e. Total
2. Supplemental Contribution Amortization
3. Allowance for Administrative Expenses
4. Total

C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.5 - B.4)
(1.90\%)
$(4,685)$
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:
\$
247,291

## SECTION 4

ACTUARIAL METHODS AND ASSUMPTIONS

## I. ACTUARIAL COST METHOD

An Actuarial Cost Method is a set of techniques used by the actuary to develop contribution levels under a retirement plan. The Actuarial Cost Method used in this valuation for all purposes is the Entry Age Actuarial Cost Method. Under this Method, a Normal Cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination.

To the extent that current assets and future Normal Costs do not support participants' expected future benefits, an Unfunded Actuarial Accrued liability ("UAAL") develops. The UAAL is amortized over the statutory closed amortization period using level percent of payroll assuming payroll increases of $5.00 \%$ per annum. The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL.

## II. CURRENT ACTUARIAL ASSUMPTIONS

## A. Demographic Assumptions

## Mortality:

1. Healthy Pre-Retirement:
a. Male: 1983 Group Annuity Mortality Table for Males set back 7 years
b. Female: 1983 Group Annuity Mortality Table for Females set back 5 years
2. Healthy Post-Retirement
a. Male: 1983 Group Annuity Mortality Table for Males set back 4 years
b. Female: 1983 Group Annuity Mortality Table for Females set back 1 year
3. Disabled Mortality
a. Male: 1977 Railroad Retirement Board Mortality Table for Disabled Lives
b. Female: 1977 Railroad Retirement Board Mortality Table for Disabled Lives

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

| Age | Pre-Retirement Mortality |  | Post-Retirement Mortality |  | Post-Disability Mortality |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female | Male | Female |
| 20 | 3 | 1 | 3 | 2 | 57 | 57 |
| 21 | 3 | 1 | 3 | 2 | 60 | 60 |
| 22 | 3 | 2 | 4 | 2 | 63 | 63 |
| 23 | 3 | 2 | 4 | 2 | 66 | 66 |
| 24 | 3 | 2 | 4 | 2 | 69 | 69 |
| 25 | 4 | 2 | 4 | 2 | 72 | 72 |
| 26 | 4 | 2 | 4 | 3 | 75 | 75 |
| 27 | 4 | 2 | 4 | 3 | 79 | 79 |
| 28 | 4 | 2 | 4 | 3 | 82 | 82 |
| 29 | 4 | 2 | 5 | 3 | 87 | 87 |
| 30 | 4 | 3 | 5 | 3 | 91 | 91 |
| 31 | 4 | 3 | 5 | 3 | 95 | 95 |
| 32 | 5 | 3 | 5 | 4 | 99 | 99 |
| 33 | 5 | 3 | 6 | 4 | 103 | 103 |
| 34 | 5 | 3 | 6 | 4 | 107 | 107 |
| 35 | 5 | 3 | 6 | 4 | 273 | 273 |
| 36 | 6 | 4 | 7 | 5 | 273 | 273 |
| 37 | 6 | 4 | 7 | 5 | 273 | 273 |
| 38 | 6 | 4 | 8 | 5 | 273 | 273 |
| 39 | 7 | 4 | 9 | 6 | 273 | 273 |
| 40 | 7 | 5 | 9 | 6 | 273 | 273 |
| 41 | 8 | 5 | 10 | 7 | 273 | 273 |
| 42 | 9 | 5 | 10 | 7 | 273 | 273 |
| 43 | 9 | 6 | 11 | 8 | 274 | 274 |
| 44 | 10 | 6 | 12 | 8 | 274 | 274 |

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

| Age | Pre-Retirement Mortality |  | Post-Retirement Mortality |  | Post-Disability Mortality |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Male | Female | Male | Female | Male | Female |
| 45 | 10 | 7 | 14 | 9 | 274 | 274 |
| 46 | 11 | 7 | 15 | 10 | 275 | 275 |
| 47 | 12 | 8 | 17 | 11 | 276 | 276 |
| 48 | 14 | 8 | 19 | 12 | 279 | 279 |
| 49 | 15 | 9 | 22 | 14 | 283 | 283 |
| 50 | 17 | 10 | 25 | 15 | 289 | 289 |
| 51 | 19 | 11 | 28 | 16 | 297 | 297 |
| 52 | 22 | 12 | 31 | 18 | 310 | 310 |
| 53 | 25 | 14 | 35 | 19 | 327 | 327 |
| 54 | 28 | 15 | 39 | 21 | 348 | 348 |
| 55 | 31 | 16 | 43 | 23 | 371 | 371 |
| 56 | 35 | 18 | 48 | 25 | 395 | 395 |
| 57 | 39 | 19 | 52 | 28 | 417 | 417 |
| 58 | 43 | 21 | 57 | 31 | 437 | 437 |
| 59 | 48 | 23 | 61 | 34 | 455 | 455 |
| 60 | 52 | 25 | 66 | 38 | 473 | 473 |
| 61 | 57 | 28 | 71 | 42 | 494 | 494 |
| 62 | 61 | 31 | 77 | 47 | 516 | 516 |
| 63 | 66 | 34 | 84 | 52 | 541 | 541 |
| 64 | 71 | 38 | 92 | 58 | 569 | 569 |
| 65 | 77 | 42 | 101 | 64 | 598 | 598 |
| 66 | 84 | 47 | 111 | 71 | 628 | 628 |
| 67 | 92 | 52 | 124 | 78 | 658 | 658 |
| 68 | 101 | 58 | 139 | 87 | 687 | 687 |
| 69 | 111 | 64 | 156 | 97 | 716 | 716 |

St. Paul Teachers' Retirement Fund Association
Actuarial Valuation Report as of 7/1/2008

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 | 7 |
| 26 | 1 | 51 | 7 |
| 27 | 1 | 52 | 7 |
| 28 | 1 | 53 | 7 |
| 29 | 1 | 54 | 7 |
| 30 | 2 | 55 | 14 |
| 31 | 2 | 56 | 14 |
| 32 | 2 | 57 | 14 |
| 33 | 2 | 58 | 14 |
| 34 | 2 | 59 | 14 |
| 35 | 2 | 60 | 29 |
| 36 | 2 | 61 | 29 |
| 37 | 2 | 62 | 29 |
| 38 | 2 | 63 | 29 |
| 39 | 2 | 64 | 29 |
| 40 | 2 |  |  |
| 41 | 2 |  |  |
| 42 | 2 |  |  |
| 43 | 2 |  |  |
| 44 |  |  |  |

Rates of Termination:

| Years of <br> Service |  | Number of Terminations <br> per 1,000 Active Members |  |
| :---: | :---: | :---: | :---: |
|  |  | Male | Female |
|  |  | 400 | 400 |
| 2 |  | 180 | 160 |
| 3 |  | 110 | 100 |
| 4 |  | 90 | 70 |
| 5 |  | 44 | 62 |
| 6 |  | 41 | 55 |
| 7 |  | 38 | 48 |
| 8 |  | 35 | 41 |
| 9 | 29 | 30 |  |
| 10 | 26 | 28 |  |
| $11 \&$ Over | 16 | 26 |  |
|  |  |  | 10 |

Rates of Retirement:

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

| Age | Basic Members <br> Eligible for Rule <br> of 90 Provision | Basic Members <br> Not Eligible for <br> Rule of 90 <br> Provision | Coordinated <br> Members Eligible <br> for Rule of 90 <br> Provision | Coordinated <br> Members Not <br> Eligible for Rule <br> of 90 Provision |
| :---: | :---: | :---: | :---: | :---: |
| 55 | 5,000 | 0 |  |  |
| 55 | 5,000 | 800 | 5,000 | 0 |
| 56 | 5,000 | 1,300 | 5,000 | 500 |
| 57 | 4,000 | 1,300 | 5,000 | 500 |
| 58 | 4,000 | 1,800 | 4,000 | 500 |
| 59 | 3,500 | 1,800 | 4,000 | 700 |
| 60 | 3,500 | 2,000 | 4,000 | 700 |
| 61 | 3,500 | 2,000 | 4,000 | 700 |
| 62 | 3,500 | 4,000 | 4,500 | 1,000 |
| 63 | 3,500 | 4,000 | 4,500 | 2,000 |
| 64 | 4,000 | 4,000 | 3,000 | 2,000 |
| 65 | 5,000 | 5,000 | 3,000 | 2,000 |
| 66 | 3,000 | 5,000 | 5,000 | 3,500 |
| 67 | 3,000 | 5,000 | 3,000 | 3,000 |
| 68 | 3,000 | 5,000 | 3,000 | 3,000 |
| 69 | 3,000 | 5,000 | 3,000 | 3,000 |
| 70 Over | 10,000 | 10,000 | 3,000 | 3,000 |

## B. Economic Assumptions

Investment Return Rate: Pre-retirement - 8.50\% per annum
Post-retirement - $8.50 \%$ per annum
Cost of Living Increases: 2.50\% at January 1, 2009 (actual); 2.00\% per annum thereafter
Future Salary Increases: In addition to the age-based rates shown below, during a tenyear select period, a service-based component of $0.30 \% \times$ (10T ), where T is completed years of service, is included in the salary increase used.

Annual Salary Increases

| Age | Ultimate Rate of Annual Salary Increases | Age | Ultimate Rate of Annual Salary Increases |
| :---: | :---: | :---: | :---: |
| $<22$ | 6.90\% | 45 | 5.75\% |
| 23 | 6.85 | 46 | 5.70 |
| 24 | 6.80 | 47 | 5.65 |
|  |  | 48 | 5.60 |
| 25 | 6.75 | 49 | 5.55 |
| 26 | 6.70 |  |  |
| 27 | 6.65 | 50 | 5.50 |
| 28 | 6.60 | 51 | 5.45 |
| 29 | 6.55 | 52 | 5.40 |
|  |  | 53 | 5.35 |
| 30 | 6.50 | 54 | 5.30 |
| 31 | 6.45 |  |  |
| 32 | 6.40 | 55 | 5.25 |
| 33 | 6.35 | 56 | 5.20 |
| 34 | 6.30 | 57 | 5.15 |
|  |  | 58 | 5.10 |
| 35 | 6.25 | 59 | 5.05 |
| 36 | 6.20 |  |  |
| 37 | 6.15 | 60 \& Over | 5.00 |
| 38 | 6.10 |  |  |
| 39 | 6.05 |  |  |
| 40 | 6.00 |  |  |
| 41 | 5.95 |  |  |
| 42 | 5.90 |  |  |
| 43 | 5.85 |  |  |
| 44 | 5.80 |  |  |

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

## C. Other Assumptions

Marital Status:

It is assumed that $85 \%$ of male members and $60 \%$ of female members have an eligible spouse. The male spouse is assumed four years older than the female spouse. Married members are assumed to have two children.

Deferred Benefit Commencement:

Administrative Expenses:

Allowance for Combined Service Annuity:

Missing Salary and Salary Minimums:

Accelerated Benefit Option:

Supplemental Contributions:

Basic Plan members who terminate vested are assumed to commence benefits at age 60. 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.

Prior year administrative expenses (excluding investment expenses) expressed as a percentage of prior year payroll.
7.00\% load on liabilities for active members and $30.00 \%$ load on liabilities for former members.

Active members with reported salaries of $\$ 100$ or less were assumed to have the average non-zero active salary. Deferred vested members without salary information were valued using accumulated contributions. 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. Active members with salaries less than those reported at the prior valuation date are valued using their prior salary amount.

Retired members who have elected the accelerated benefit option and who have not yet attained the age of 65 are assumed to receive 50 percent of their pre-65 benefit after age 65 .

According to 1996 legislation, the St. Paul School District and the State of Minnesota are scheduled to make a combined annual supplemental contributions of $\$ 1,230,000$. According to 1997 legislation, annual supplemental contributions of $\$ 2,827,000$ are scheduled to be paid on October 1.

## SECTION 5

BASIC PLAN

TABLE 3A
BASIC ACTIVE MEMBERS AS OF JUNE 30, 2008

Years of Service

| Age | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| <25 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 25-29 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 30-34 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 35-39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 40-44 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 3 | 4 | 13 | 0 | 20 |
| 55-59 | 0 | 0 | 0 | 0 | 2 | 15 | 35 | 12 | 64 |
| 60-64 | 0 | 0 | 0 | 0 | 0 | 2 | 10 | 22 | 34 |
| 65+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 4 |
| ALL | 0 | 0 | 0 | 0 | 5 | 21 | 58 | 38 | 122 |

## AVERAGE ANNUAL EARNINGS

Years of Service

| Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 +}$ | ALL |
| :---: | :---: | :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: |
| $<\mathbf{2 5}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{2 5 - 2 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{3 0 - 3 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{3 5 - 3 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 0 - 4 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 0 | 0 | 0 | 0 | 71,756 | 77,339 | 81,208 | 0 | 79,016 |
| $\mathbf{5 5 - 5 9}$ | 0 | 0 | 0 | 0 | 73,730 | 77,878 | 81,869 | 80,172 | 80,361 |
| $\mathbf{6 0 - 6 4}$ | 0 | 0 | 0 | 0 | 0 | 86,045 | 79,513 | 87,702 | 85,196 |
| $\mathbf{6 5 +}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 100,347 | 100,347 |
| ALL | 0 | 0 | 0 | 0 | 72,546 | 78,553 | 81,315 | 86,655 | 82,143 |

Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service

|  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5}$ \& Over |
| ALL | 0 | 0 | 0 | 0 | 363 | 1,650 | 4,716 | 3,293 | 10,021 |


| Age | Years Retired |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| $<45$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 55-59 | 113 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 113 |
| 60-64 | 222 | 146 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 369 |
| 65-69 | 46 | 202 | 99 | 1 | 0 | 0 | 1 | 0 | 0 | 349 |
| 70-74 | 5 | 71 | 202 | 66 | 0 | 0 | 1 | 0 | 0 | 345 |
| 75-79 | 0 | 0 | 102 | 122 | 70 | 1 | 0 | 0 | 0 | 295 |
| 80-84 | 0 | 1 | 9 | 58 | 104 | 28 | 1 | 0 | 0 | 201 |
| 85-89 | 0 | 1 | 1 | 5 | 45 | 53 | 5 | 0 | 0 | 110 |
| 90+ | 0 | 0 | 0 | 1 | 2 | 18 | 39 | 4 | 2 | 66 |
| ALL | 386 | 421 | 414 | 253 | 221 | 100 | 47 | 4 | 2 | 1,848 |

## AVERAGE ANNUAL BENEFIT

|  | Years Retired |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 5 - 5 9}$ | 40,13 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 40,135 |
| $\mathbf{6 0 - 6 4}$ | 41,376 | 36,120 | 11,488 | 0 | 0 | 0 | 0 | 0 | 0 | 39,215 |
| $\mathbf{6 5 - 6 9}$ | 43,170 | 38,323 | 37,743 | 26,604 | 0 | 0 | 51,873 | 0 | 0 | 38,803 |
| $\mathbf{7 0 - 7 4}$ | 55,880 | 45,533 | 44,166 | 30,778 | 0 | 0 | 55,388 | 0 | 0 | 42,089 |
| $\mathbf{7 5 - 7 9}$ | 0 | 0 | 54,502 | 41,747 | 31,797 | 56,799 | 0 | 0 | 0 | 43,847 |
| $\mathbf{8 0 - 8 4}$ | 0 | 37,232 | 36,102 | 41,466 | 31,158 | 24,514 | 61,174 | 0 | 0 | 33,608 |
| $\mathbf{8 5 - 8 9}$ | 0 | 54,180 | 57,387 | 31,443 | 30,544 | 30,242 | 25,931 | 0 | 0 | 30,689 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 55,910 | 22,567 | 22,517 | 20,787 | 20,326 | 23,631 | 21,903 |
| ALL | 41,414 | 38,810 | 44,954 | 38,614 | 31,158 | 27,513 | 23,591 | 20,326 | 23,631 | 38,734 |

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 15,986 | 16,339 | 18,611 | 9,769 | 6,886 | 2,751 | 1,109 | 81 | 47 | 71,580 |


| Age | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 55-59 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 60-64 | 3 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| 65-69 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 70-74 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 75-79 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 80-84 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 7 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 14 |

## AVERAGE ANNUAL BENEFIT

|  | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 12,449 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,449 |
| $\mathbf{5 5 - 5 9}$ | 60,264 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 60,264 |
| $\mathbf{6 0 - 6 4}$ | 39,039 | 42,492 | 55,73 | 0 | 0 | 0 | 0 | 0 | 0 | 46,753 |
| $\mathbf{6 5 - 6 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 0 - 7 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 5 - 7 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 0 - 8 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 44,337 | 42,492 | 55,735 | 0 | 0 | 0 | 0 | 0 | 0 | 47,198 |

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

|  | $<5$ | $5-9$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Age | 310 | 127 | 223 | 0 | 0 | 0 | 0 | 0 | 0 |


|  | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| $<45$ | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 55-59 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 3 |
| 60-64 | 0 | 5 | 6 | 4 | 1 | 1 | 0 | 0 | 0 | 17 |
| 65-69 | 0 | 5 | 9 | 8 | 4 | 2 | 0 | 0 | 0 | 28 |
| 70-74 | 1 | 4 | 8 | 17 | 7 | 3 | 1 | 0 | 0 | 41 |
| 75-79 | 0 | 1 | 1 | 16 | 19 | 6 | 3 | 0 | 0 | 46 |
| 80-84 | 0 | 0 | 1 | 2 | 30 | 16 | 3 | 0 | 0 | 52 |
| 85-89 | 0 | 0 | 0 | 2 | 5 | 25 | 9 | 0 | 0 | 41 |
| 90+ | 0 | 0 | 0 | 0 | 1 | 4 | 19 | 0 | 0 | 24 |
| ALL | 2 | 19 | 25 | 49 | 68 | 57 | 35 | 1 | 0 | 256 |

## AVERAGE ANNUAL BENEFIT

| Age | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| $<45$ | 0 | 11,317 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 11,317 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 0 | 12,047 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 12,047 |
| 55-59 | 46,659 | 0 | 0 | 0 | 25,637 | 0 | 0 | 3,350 | 0 | 25,215 |
| 60-64 | 0 | 24,459 | 30,838 | 25,582 | 11,783 | 18,916 | 0 | 0 | 0 | 25,903 |
| 65-69 | 0 | 39,745 | 40,411 | 32,316 | 20,154 | 16,951 | 0 | 0 | 0 | 33,410 |
| 70-74 | 59,885 | 36,022 | 38,027 | 35,925 | 29,102 | 21,396 | 13,400 | 0 | 0 | 34,151 |
| 75-79 | 0 | 32,041 | 6,422 | 41,588 | 25,334 | 20,256 | 22,385 | 0 | 0 | 29,868 |
| 80-84 | 0 | 0 | 50,315 | 72,371 | 30,338 | 25,003 | 33,435 | 0 | 0 | 30,876 |
| 85-89 | 0 | 0 | 0 | 57,105 | 25,546 | 22,136 | 22,266 | 0 | 0 | 24,286 |
| 90+ | 0 | 0 | 0 | 0 | 24,349 | 23,590 | 19,884 | 0 | 0 | 20,688 |
| ALL | 53,272 | 28,663 | 36,387 | 38,693 | 27,431 | 22,567 | 21,687 | 3,350 | 0 | 28,792 |

Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH

|  | $<5$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 107 | 545 | 910 | 1,896 | 1,865 | 1,286 | 759 | 3 | 0 | 7,371 |

Percent of
Payroll
$\qquad$
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A

1. Employee Contributions $\quad 8.00 \% \quad \$ \quad 843$
2. Employer Contributions 11.64\%
3. Supplemental Contribution

| a. 1996 Legislation | $0.50 \%$ | 52 |  |
| :--- | ---: | ---: | ---: |
| b. 1997 Legislation | $1.14 \%$ | 120 |  |
|  |  | $21.28 \%$ | $\$$ |

B. REQUIRED CONTRIBUTIONS - CHAPTER 356

1. Normal Cost

| a. | Retirement Benefits | $11.16 \%$ | $\$$ | 1,176 |
| :--- | :--- | ---: | ---: | ---: |
| b. | Disability Benefits | $0.34 \%$ | 36 |  |
| c. | Surviving Spouse and Child Benefits | $0.14 \%$ | 15 |  |
| d. | Deferred Retirements | $1.92 \%$ | 203 |  |
|  | e. | $13.57 \%$ | $\$$ | 1,430 |

Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:
\$
10,537

## SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS

## STATUTORY CONTRIBUTIONS

The statutory contributions for members and the employer are $8.00 \%$ and $11.64 \%$ of salary respectively.

## PARTICIPANTS

Professional Educators first employed prior to July 1, 1978 by schools in the City of St. Paul or St. Paul Technical College (including charter schools) whose position requires a license from the Minnesota Department of Education, who are not covered under the Social Security Act and full-time salaried employees of the Retirement Fund Association are covered under the Basic Plan.

## ACCREDITED SERVICE

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

## ACCREDITED ST. PAUL SERVICE

Service earned as a licensed educator in the St. Paul Public Schools, in the St. Paul Technical College, or in certain charter schools, or as an employee of the Association. Also includes accredited service earned as a licensed teacher 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.

## AVERAGE SALARY

Average of the highest five years of Salary during the last 10 years of St. Paul service while making contributions or while disabled.

## 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.

# SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS 

## 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 $0.25 \%$ 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, and 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, augmented at 3.00 percent compounded annually from the age at retirement until age 65 and then actuarially reduced for each month the member is under age 65, unless the member has at least 25 years of service, then the actuarial reduction is from age 60.


## 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

2.50 percent of Average Salary per year of Accredited Service augmented at 3.00 percent compounded annually from the age at termination until 55 and then augmented at 5.00 percent compounded annually from age 55 to the age at which benefits commence. The benefit is actuarially reduced for each month the member is under age 65 at benefit commencement.

## ACTIVE SURVIVOR BENEFIT (Family Benefit)

## Eligibility

Active member with three years of Accredited Service.

## Benefit

- Children's Benefit: 25 percent of the maximum B.A. 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 B.A. 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.


## 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 his death or retirement.

## Benefit

Retirement benefit earned at the time of death or retirement, whichever is earlier, reduced for 100 percent joint survivorship. The benefit is subject to early retirement reductions.

## 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 ( 5.00 percent if terminated before May 16, 1989).

## NORMAL FORM OF RETIREMENT BENEFITS

100 percent Joint \& Survivor with unreduced annuity payments made until the death of the member.

## SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS

## BENEFIT INCREASES

2.00 percent compounded annually. Additional ad hoc increases are given in years when the five year time-weighted rate of return exceeds 8.50 percent. Increases occur on January 1st of each year. To be eligible, the member must have been receiving benefits for at least 12 months at the prior fiscal year end. Beneficiaries are entitled to the same benefit increases the member would have received.

For calendar years 2008 and 2009, the post-retirement adjustment is to be determined differently under a pilot project authorized by the Legislature (Laws of Minnesota 2007, Chapter 134, Article 7). Increases will be equal to the Consumer Price Index urban wage earners and clerical workers all items index as reported by the Bureau of Labor Statistics within the United States Department of Labor each year as part of the determination of annual cost of living adjustments to recipients of federal old age, survivors, and disability insurance.

The cost-of-living adjustment is determined by dividing the most recent average of third quarter monthly index values by the same average third quarter index value from the previous year, subtracting the quantity one from the resulting quotient, and expressing the result as a percentage amount, which must be rounded to the nearest one-tenth of one percent. The final amount may not be a negative number and may not exceed 2.5 percent if the rate of investment return of the retirement fund either for the most recent fiscal year or for the most recent five-year period is less than 8.5 percent. In any case, the increase is limited to a maximum of 5.0 percent in any year. Partial increases are granted for new retirees in the calendar year immediately preceding the increase on the basis of whole calendar quarters that the benefit recipient has been in pay status, calculated to the third decimal place.

SECTION 6<br>COORDINATED PLAN

|  | Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | Under 5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35+ | ALL |
| $<25$ | 101 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 101 |
| 25-29 | 296 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 361 |
| 30-34 | 221 | 231 | 55 | 0 | 0 | 0 | 0 | 0 | 507 |
| 35-39 | 125 | 178 | 243 | 25 | 0 | 0 | 0 | 0 | 571 |
| 40-44 | 98 | 102 | 185 | 96 | 22 | 0 | 0 | 0 | 503 |
| 45-49 | 95 | 98 | 129 | 106 | 92 | 5 | 0 | 0 | 525 |
| 50-54 | 86 | 72 | 111 | 113 | 91 | 94 | 11 | 0 | 578 |
| 55-59 | 80 | 77 | 89 | 92 | 78 | 75 | 39 | 6 | 536 |
| 60-64 | 49 | 37 | 34 | 48 | 51 | 26 | 15 | 4 | 264 |
| 65+ | 26 | 8 | 6 | 3 | 3 | 4 | 1 | 2 | 53 |
| ALL | 1,177 | 868 | 852 | 483 | 337 | 204 | 66 | 12 | 3,999 |

## AVERAGE ANNUAL EARNINGS

|  | Years of Service |  |  |  |  |  |  |  |  |
| :---: | :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 +}$ | ALL |
| $<\mathbf{2 5}$ | 18,206 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,206 |
| $\mathbf{2 5 - 2 9}$ | 31,991 | 50,393 | 0 | 0 | 0 | 0 | 0 | 0 | 35,304 |
| $\mathbf{3 0 - 3 4}$ | 36,574 | 50,467 | 58,994 | 0 | 0 | 0 | 0 | 0 | 45,336 |
| $\mathbf{3 5 - 3 9}$ | 39,382 | 55,584 | 64,779 | 70,811 | 0 | 0 | 0 | 0 | 56,617 |
| $\mathbf{4 0 - 4 4}$ | 40,758 | 57,237 | 65,883 | 72,681 | 73,918 | 0 | 0 | 0 | 60,883 |
| $\mathbf{4 5 - 4 9}$ | 32,432 | 58,970 | 66,575 | 73,112 | 79,420 | 83,755 | 0 | 0 | 62,712 |
| $\mathbf{5 0 - 5 4}$ | 34,529 | 53,332 | 65,286 | 70,934 | 73,683 | 79,386 | 80,584 | 0 | 64,231 |
| $\mathbf{5 5 - 5 9}$ | 26,819 | 54,716 | 68,758 | 69,217 | 72,931 | 75,216 | 79,908 | 81,057 | 63,020 |
| $\mathbf{6 0 - 6 4}$ | 27,758 | 47,418 | 67,960 | 74,001 | 73,108 | 75,605 | 83,862 | 86,502 | 61,650 |
| $\mathbf{6 5 +}$ | 8,622 | 32,682 | 60,020 | 52,037 | 69,482 | 78,161 | 102,217 | 90,756 | 34,088 |
| ALL | 32,361 | 53,587 | 65,492 | 71,613 | 74,966 | 77,454 | 81,257 | 84,489 | 55,622 |

Prior Fiscal Year Earnings (In THOUSANDS) by Years of Service

| Age | Under 5 | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 38,089 | 46,513 | 55,799 | 34,589 | 25,264 | 15,801 | 5,363 | 1,014 | 222,432 |


|  | Years Retired |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 5 - 5 9}$ | 81 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 81 |
| $\mathbf{6 0 - 6 4}$ | 156 | 39 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 195 |
| $\mathbf{6 5 - 6 9}$ | 114 | 86 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 223 |
| $\mathbf{7 0 - 7 4}$ | 15 | 54 | 39 | 4 | 0 | 0 | 0 | 0 | 0 | 112 |
| $\mathbf{7 5 - 7 9}$ | 4 | 6 | 27 | 13 | 1 | 0 | 0 | 0 | 0 | 51 |
| $\mathbf{8 0 - 8 4}$ | 1 | 4 | 2 | 9 | 4 | 1 | 0 | 0 | 0 | 21 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 3 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 |
| ALL | 371 | 189 | 91 | 26 | 8 | 2 | 0 | 0 | 0 | 687 |

## AVERAGE ANNUAL BENEFIT

|  | Years Retired |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 5 - 5 9}$ | 16,848 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 16,848 |
| $\mathbf{6 0 - 6 4}$ | 19,443 | 15,521 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 18,659 |
| $\mathbf{6 5 - 6 9}$ | 15,373 | 15,250 | 10,558 | 0 | 0 | 0 | 0 | 0 | 0 | 14,829 |
| $\mathbf{7 0 - 7 4}$ | 10,604 | 14,265 | 14,868 | 7,942 | 0 | 0 | 0 | 0 | 0 | 13,759 |
| $\mathbf{7 5 - 7 9}$ | 9,437 | 7,866 | 16,804 | 11,224 | 4,090 | 0 | 0 | 0 | 0 | 13,503 |
| $\mathbf{8 0 - 8 4}$ | 451 | 20,297 | 28,406 | 11,516 | 5,906 | 12,270 | 0 | 0 | 0 | 13,238 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 3,772 | 0 | 0 | 0 | 0 | 3,772 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 3,626 | 0 | 0 | 0 | 3,626 |
| ALL | 17,109 | 14,897 | 14,651 | 10,820 | 4,879 | 7,948 | 0 | 0 | 0 | $\mathbf{1 5}, 768$ |

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

| Age | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 6,348 | 2,816 | 1,333 | 281 | 39 | 16 | 0 | 0 | 0 | 10,833 |


|  | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| $\mathbf{4 5 - 4 9}$ | 0 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 2 |
| $\mathbf{5 0 - 5 4}$ | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |
| $\mathbf{5 5 - 5 9}$ | 3 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| $\mathbf{6 0 - 6 4}$ | 1 | 1 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 4 |
| $\mathbf{6 5 - 6 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 0 - 7 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 5 - 7 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 0 - 8 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 4 | 4 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 12 |

## AVERAGE ANNUAL BENEFIT

|  | Years Disabled |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 0 | 0 | 2,543 | 0 | 0 | 0 | 0 | 0 | 0 | 2,543 |
| $\mathbf{4 5 - 4 9}$ | 0 | 22,900 | 5,233 | 0 | 0 | 0 | 0 | 0 | 0 | 14,066 |
| $\mathbf{5 0 - 5 4}$ | 0 | 24,346 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | $\mathbf{2 4 , 3 4 6}$ |
| $\mathbf{5 5 - 5 9}$ | 9,244 | 9,070 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 9,201 |
| $\mathbf{6 0 - 6 4}$ | 4,867 | 16,522 | 21,490 | 0 | 0 | 0 | 0 | 0 | 0 | 16,093 |
| $\mathbf{6 5 - 6 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 0 - 7 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{7 5 - 7 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 0 - 8 4}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 8,150 | 18,210 | 12,689 | 0 | 0 | 0 | 0 | 0 | 0 | 13,016 |

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

| Age | $<5$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 33 | 73 | 51 | 0 | 0 | 0 | 0 | 0 | 0 | 156 |


| Age | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | <5 | 5-9 | 10-14 | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40 \& Over | ALL |
| <45 | 1 | 5 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 8 |
| 45-49 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 50-54 | 3 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 55-59 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 |
| 60-64 | 1 | 2 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 5 |
| 65-69 | 2 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 7 |
| 70-74 | 0 | 1 | 1 | 1 | 0 | 0 | 0 | 0 | 0 | 3 |
| 75-79 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| 80-84 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 2 |
| 85-89 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 90+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 10 | 15 | 5 | 4 | 0 | 0 | 0 | 0 | 0 | 34 |

AVERAGE ANNUAL BENEFIT

|  | Years Since Death |  |  |  |  |  |  |  |  |  |
| :---: | ---: | ---: | ---: | ---: | :---: | ---: | ---: | ---: | ---: | ---: |
| Age | $<\mathbf{5}$ | $\mathbf{5 - 9}$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| $<\mathbf{4 5}$ | 498 | 9,320 | 2,116 | 0 | 0 | 0 | 0 | 0 | 0 | 6,416 |
| $\mathbf{4 5 - 4 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{5 0 - 5 4}$ | 24,013 | 6,697 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17,087 |
| $\mathbf{5 5 - 5 9}$ | 13,948 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 13,948 |
| $\mathbf{6 0 - 6 4}$ | 49,712 | 10,694 | 8,215 | 0 | 0 | 0 | 0 | 0 | 0 | 17,506 |
| $\mathbf{6 5 - 6 9}$ | 11,868 | 19,053 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 17,001 |
| $\mathbf{7 0 - 7 4}$ | 0 | 41,323 | 13,586 | 24,701 | 0 | 0 | 0 | 0 | 0 | 26,537 |
| $\mathbf{7 5 - 7 9}$ | 0 | 0 | 0 | 7,865 | 0 | 0 | 0 | 0 | 0 | 7,865 |
| $\mathbf{8 0 - 8 4}$ | 0 | 0 | 0 | 7,097 | 0 | 0 | 0 | 0 | 0 | 7,097 |
| $\mathbf{8 5 - 8 9}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| $\mathbf{9 0 +}$ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ALL | 18,783 | 14,532 | 6,849 | 11,690 | 0 | 0 | 0 | 0 | 0 | 14,318 |

Total Annual Benefit (IN THOUSANDS) by Years SINCE DEATH

| Age | $<5$ | $5-9$ | $\mathbf{1 0 - 1 4}$ | $\mathbf{1 5 - 1 9}$ | $\mathbf{2 0 - 2 4}$ | $\mathbf{2 5 - 2 9}$ | $\mathbf{3 0 - 3 4}$ | $\mathbf{3 5 - 3 9}$ | $\mathbf{4 0}$ \& Over | ALL |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| ALL | 188 | 218 | 34 | 47 | 0 | 0 | 0 | 0 | 0 | 487 |


|  | Percent of Payroll | Dollar Amount |  |
| :---: | :---: | :---: | :---: |
| A. STATUTORY CONTRIBUTIONS - CHAPTER 354A |  |  |  |
| 1. Employee Contributions | 5.50\% | \$ | 13,021 |
| 2. Employer Contributions | 8.34\% | \$ | 19,745 |
| 3. Supplemental Contribution |  |  |  |
| a. 1996 Legislation | 0.50\% |  | 1,178 |
| b. 1997 Legislation | 1.14\% |  | 2,707 |
| 4. Total | 15.48\% | \$ | 36,651 |
| B. REQUIRED CONTRIBUTIONS - CHAPTER 356 <br> 1. Normal Cost |  |  |  |
| a. Retirement Benefits | 7.04\% | \$ | 16,667 |
| b. Disability Benefits | 0.13\% |  | 300 |
| c. Surviving Spouse and Child Benefits | 0.16\% |  | 385 |
| d. Deferred Retirements | 1.10\% |  | 2,614 |
| e. Total | 8.43\% | \$ | 19,966 |
| Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date: |  | \$ | 236,754 |

[^1]
## SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2008

## STATUTORY CONTRIBUTIONS

The statutory contributions for members and the employer are $5.50 \%$ and $8.34 \%$ respectively.

## PARTICIPANTS

Professional Educators in the public schools of the City of St. Paul, excluding charter schools, whose position requires a license from the Minnesota Department of Education, and who are covered under the Social Security Act and make contributions to the Teachers’ Retirement Fund Association are covered under the Coordinated Plan.

## ALLOWABLE SERVICE

Service rendered while making employee contributions. Service is granted on a proportional basis for part-time teachers.

## 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 years available.

## NORMAL RETIREMENT BENEFIT

## Eligibility

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

## Benefit

1.70 percent of Average Salary for each year of Allowable Service.

## 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) 1.20 percent of Average Salary for each of the first ten years of Allowable Service plus 1.70 percent of Average Salary for each subsequent year of Allowable Service. 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 augmented at 3.00 percent compounded annually from the age at retirement until age 65 and then actuarially reduced for each month the member is under age 65.

## DISABILITY RETIREMENT BENEFIT

## Eligibility

Total and permanent disablement and three years of Allowable Service with at least two years of Allowable Service since the last interruption in service

## Benefit

Normal retirement benefit payable for life without reduction for early commencement. The 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 age at termination until 55 and then augmented at 5.00 percent compounded annually from age 55 to the age at which benefits commence. For members hired after June 30, 2006, the benefit is augmented at $2.5 \%$ compounded annually from the age at termination to the age at which benefits commence.

## 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.

# SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2008 

## Benefit

Retirement benefit earned at the time of death reduced for 100 percent joint survivorship and payable at the time the member would have attained age 55 or immediately if the former member had attained age 55 at time of death. The benefit is subject to 50 percent of the applicable actuarial reduction for early commencement from normal retirement age.

## 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 ( 5.00 percent if terminated before May 16, 1989).

## NORMAL FORM OF RETIREMENT BENEFITS

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

## BENEFIT INCREASES

2.00 percent compounded annually. Additional ad hoc increases are given in years when the five year time-weighted rate of return exceeds 8.50 percent. Increases occur on January 1st of each year. To be eligible, the member must have been receiving benefits for at least 12 months at the prior fiscal year end. Beneficiaries are entitled to the same benefit increases the member would have received.

For calendar years 2008 and 2009, the post-retirement adjustment is to be determined differently under a pilot project authorized by the Legislature (Laws of Minnesota 2007, Chapter 134, Article 7). Increases will be equal to the Consumer Price Index urban wage earners and clerical workers all items index as reported by the Bureau of Labor Statistics within the United States Department of Labor each year as part of the determination of annual cost of living adjustments to recipients of federal old age, survivors, and disability insurance.

The cost-of-living adjustment is determined by dividing the most recent average of third quarter monthly index values by the same average third quarter index value from the previous year, subtracting the quantity one from the resulting quotient, and expressing the result as a percentage amount, which must be rounded to the nearest one-tenth of one percent. The final amount may not be a negative number and may not exceed 2.5 percent if the rate of investment return of the retirement fund either for the most recent fiscal year or for the most recent five-year period is less than 8.5 percent. In any case, the increase is limited to a maximum of 5.0 percent in any year. Partial increases are granted for new retirees in the calendar year immediately preceding the increase on the basis of whole calendar quarters that the benefit recipient has been in pay status, calculated to the third decimal place.

## SECTION 7

GASB DISCLOSURES

## TABLE 14

## SCHEDULE OF FUNDING PROGRESS

(dollars in thousands)

| Actuarial Valuation Date | Actuarial Value of Assets <br> (A) | Actuarial Accrued Liability (B) | $\begin{aligned} & \text { Unfunded } \\ & \text { AAL (UAAL) } \\ & \text { (B)-(A) } \end{aligned}$ | Funded Ratio (A)/(B) | Actual Covered Payroll (Previous FY) <br> (C) | UAAL as \% of Covered Payroll ((B)-(A))/(C) |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 07/01/91 | \$ 326,357 | \$ 495,740 | \$ 169,383 | 65.83\% | \$ 110,131 | 153.80\% |
| 07/01/92 | 355,998 | 533,865 | 177,867 | 66.68\% | 115,274 | 154.30\% |
| 07/01/93 | 393,168 | 571,059 | 177,891 | 68.85\% | 122,930 | 144.71\% |
| 07/01/94 | 407,275 | 596,441 | 189,166 | 68.28\% | 129,308 | 146.29\% |
| 07/01/95 | 445,733 | 633,070 | 187,337 | 70.41\% | 139,175 | 134.61\% |
| 07/01/96 | 494,931 | 664,072 | 169,141 | 74.53\% | 145,677 | 116.11\% |
| 07/01/97 | 556,406 | 805,066 | 248,660 | 69.11\% | 151,363 | 164.28\% |
| 07/01/98 | 625,053 | 861,584 | 236,531 | 72.55\% | 168,564 | 140.32\% |
| 07/01/99 | 704,233 | 938,847 | 234,614 | 75.01\% | 178,254 | 131.62\% |
| 07/01/00 | 801,823 | 998,253 | 196,430 | 80.32\% | 187,950 | 104.51\% |
| 07/01/01 | 869,045 | 1,060,931 | 191,886 | 81.91\% | 202,915 | 94.56\% |
| 07/01/02 | 899,572 | 1,141,300 | 241,728 | 78.82\% | 201,456 | 119.99\% |
| 07/01/03 | 898,760 | 1,189,361 | 290,601 | 75.57\% | 205,655 | 141.31\% |
| 07/01/04 | 898,860 | 1,251,460 | 352,600 | 71.82\% | 221,685 | 159.05\% |
| 07/01/05 | 905,292 | 1,299,832 | 394,540 | 69.65\% | 223,762 | 174.30\% |
| 07/01/06 | 938,919 | 1,346,072 | 407,153 | 69.75\% | 226,351 | 177.66\% |
| 07/01/07 | 1,015,722 | 1,380,151 | 364,429 | 73.59\% | 229,172 | 159.02\% |
| 07/01/08 | 1,075,951 | 1,432,040 | 356,089 | 75.13\% | 235,993 | 150.89\% |

## TABLE 15

## SCHEDULE OF EMPLOYER CONTRIBUTIONS

 (dollars in thousands)| Year <br> Ended <br> June 30 | Actuarially <br> Required Contribution Rate <br> (A) |  | Actual Covered Payroll (B) |  | tual Member ontributions <br> (C) |  | Annual <br> Required Contributions $(\mathrm{A}) *(\mathrm{~B})]-(\mathrm{C})$ |  | ctual Employer <br> ontributions ${ }^{(1)}$ | Percentage <br> Contributed |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1991 | 18.86\% | \$ | 110,131 | \$ | 7,518 | \$ | 13,253 | \$ | 10,255 | 77.38\% |
| 1992 | 18.87\% |  | 115,274 |  | 7,821 |  | 13,931 |  | 10,489 | 75.29 |
| 1993 | 19.74\% |  | 122,930 |  | 8,202 |  | 16,064 |  | 10,839 | 67.47 |
| 1994 | 18.68\% |  | 129,308 |  | 9,100 |  | 15,055 |  | 11,736 | 77.95 |
| 1995 | 18.63\% |  | 139,175 |  | 8,788 |  | 17,140 |  | 13,084 | 76.34 |
| 1996 | 17.96\% |  | 145,677 |  | 9,093 |  | 17,071 |  | 15,101 | 88.46 |
| 1997 | 16.97\% |  | 151,363 |  | 9,484 |  | 16,202 |  | 16,043 | 99.02 |
| 1998 | 20.35\% |  | 168,564 |  | 11,057 |  | 23,246 |  | 21,702 | 93.36 |
| 1999 | 18.82\% |  | 178,254 |  | 11,649 |  | 21,898 |  | 21,066 | 96.20 |
| 2000 | 18.09\% |  | 187,950 |  | 13,184 |  | 20,816 |  | 22,622 | 108.68 |
| 2001 | 16.57\% |  | 202,915 |  | 13,170 |  | 20,453 |  | 23,569 | 115.23 |
| 2002 | 15.81\% |  | 201,456 |  | 14,468 |  | 17,382 |  | 24,216 | 139.32 |
| 2003 | $18.56 \%{ }^{(2)}$ |  | 205,655 |  | 14,222 |  | 23,948 |  | 23,370 | 97.59 |
| 2004 | 20.36\% |  | 221,685 |  | 14,308 |  | 30,827 |  | 23,771 | 77.11 |
| 2005 | 21.59\% |  | 223,762 |  | 13,587 |  | 34,723 |  | 23,833 | 68.64 |
| 2006 | 23.78\% |  | 226,351 |  | 13,453 |  | 40,373 |  | 24,015 | 59.48 |
| 2007 | 24.55\% |  | 229,172 |  | 13,438 |  | 42,823 |  | 24,117 | 56.32 |
| 2008 | 23.40\% |  | 235,993 |  | 13,642 |  | 41,580 |  | 24,285 | 58.40 |

${ }^{(1)}$ Includes contributions from other sources (if applicable)
${ }^{(2)}$ Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 16.19\%

TABLE 16
DEVELOPMENT OF THE FUND
(dollars in thousands)

| Year Ended June 30 | Employer Contributions |  | Employee Contributions |  | Supplemental Contributions |  | Net Investment Return |  | Administrative Expenses |  | Benefit <br> Payments |  | Actuarial <br> Value of Assets EOY |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 2002 |  | - |  | - |  | - |  | - |  | - |  |  | \$ | 899,572 |
| 2003 | \$ | 19,186 | \$ | 14,222 | \$ | 4,184 | \$ | 26,429 | \$ | 499 | \$ | 64,334 |  | 898,760 |
| 2004 |  | 20,378 |  | 14,308 |  | 3,393 |  | 31,417 |  | 516 |  | 68,880 |  | 898,860 |
| 2005 |  | 20,435 |  | 13,587 |  | 3,398 |  | 43,082 |  | 559 |  | 73,510 |  | 905,293 |
| 2006 |  | 19,815 |  | 13,453 |  | 4,200 |  | 76,317 |  | 591 |  | 79,567 |  | 938,919 |
| 2007 |  | 19,666 |  | 13,438 |  | 4,451 |  | 124,214 |  | 696 |  | 84,271 |  | 1,015,722 |
| 2008 |  | 20,775 |  | 13,642 |  | 3,509 |  | 112,804 |  | 691 |  | 89,810 |  | 1,075,951 |

## TABLE 17

Valuation Date
Actuarial Cost Method
Amortization Method
Amortization Period
Asset Valuation Method

## Actuarial Assumptions:

Investment rate of return
Projected salary increases
Cost-of-living adjustments

July 1, 2008
Entry Age Normal
Level Percent of Pay, Open, Assuming Five Percent Payroll Growth
25 year open period
5-Year Smoothed Market
8.50\% Pre-retirement and Post-retirement
$5.00 \%-9.90 \%$; age and service based
2.00\% *

Plan Membership:
Active Members 4,121
Retirees and Beneficiaries 2,851
Terminated Vested Members 1,695
Other Non-Vested Terminated Members $\quad 1,403$
Total 10,070
*Cost-of-living adjustments at January 1, 2009 will be $2.50 \%$ due to the COLA Pilot Program.

## SECTION 8

APPENDIX

# St. Paul Teachers' Retirement Fund Assaciation 

Carol J. Adams
W. Matthew Bogenschultz Feryle W. Borgeson Mike McCollor

John R. Kunz. Eugene R. Waschbusch... Secretary-Treasurer Phillip Kapler $\qquad$ Executive Director

July 18, 2008

Honorable Mary Murphy
343 State Office Building
100 Rev. Dr. Martin Luther King Jr. Blvd.
Saint Paul, Minnesota 55155

## RE: Proposed Actuarial Assumption Changes for the SPTRFA

Dear Rep. Murphy :

The Board of Trustees requested a study from our actuary, Gabriel, Roeder, Smith and Company, to compare plan experience with the forecasted outcomes for the period from July 1, 2000 through June 30, 2006. The purpose of this Experience Study was to assess current assumptions, comparing actual experience to expected or projected experience, recommending any changes that might enhance the accuracy of future valuations, and thereby, measures they contain regarding the adequacy of annual contributions to the fund.

This Experience Study provides a review of the economic and demographic assumptions used to value the fund. The economic assumptions reviewed include :

- the long-term rate of return on investments
- general wage or payroll increases
- inflation

Demographic assumptions reviewed include :

- mortality
- disability rates
- termination rates
- salary increases
- retirement rates

A summary of the key findings and recommendations are noted on page 2 of the Experience Study dated October 1, 2007, and are also listed on the following page.
a) Continue use of the current retirement rate structure. Adjust rates slightly to account for slightly higher expected retirements.
b) Change withdrawal rates to service-based rates with slightly higher expected withdrawals.
c) Reduce disability rates to $60 \%$ of the former rates.
d) Change the male post-retirement mortality setback from 3 to 4 years. No change in mortality otherwise.
e) Further study of the salary increase and combined service annuity assumptions is recommended.

An estimation of the fiscal impact of these proposed changes was derived using results of the July 1, 2006 actuarial valuation report, updated to reflect a change in the service used for benefit projections in the valuation; service under the Combined Service Annuity was used only for eligibility purposes and not for benefits assumed to be provided by the Fund. A summary of the fiscal impact is included in Section III of the GRS study.

The net result from applying the preceding recommended changes were to increase the unfunded liability by approximately $\$ 11.0$ million. The accrued liability funded ratio decreased from $70.77 \%$ to $70.18 \%$. Required contributions increased from $23.60 \%$ to $23.80 \%$ of payroll. This was measured using an amortization period ending June 30, 2021, the target date then in effect. That amortization period has subsequently been extended. The actual effect of adopting the proposed changes will differ from these results somewhat, as the funding status and demographics of the fund will also be different. GRS recommends an effective date of July 1, 2008 for the proposed changes.

The Board has reviewed and recommends that the Commission approve each of the changes recommended by GRS. We will also pursue further analysis on the salary increase assumption, and bring any findings to the Commission at a later date. Further study of the distribution of combined service law liabilities among the plans may be warranted. Enclosed is an Appendix with tables provided by GRS specifying how our valuation assumptions would be modified. If the LCPR approves the Experience Study recommendations, the Board will direct GRS to implement the new assumptions when developing the July 1, 2008 actuarial valuation

## Best Regards,

Phillip Kapler
Executive Director
$\begin{aligned} \text { Courtesy: } & \text { John Kunz, Pres.........................SPTRFA } \\ & \text { Larry Martin, Exec Dir................CPR } \\ & \text { James Koss, Actuary.................... }\end{aligned}$

November 12, 2008

Mr. Phillip Kapler
St. Paul Teachers' Retirement Fund Association
1619 Dayton Avenue, Room 309
Saint Paul, MN 55104-6206
Dear Phil:

Enclosed are 16 bound copies and one unbound copy of the July 1, 2008 actuarial valuation report for the St. Paul Teachers’ Retirement Fund Association. I look forward to presenting the results of the report to the Board of Trustees in December.

W. James Koss

WJK:mrb
Enclosures
cc: Mr. Larry Martin, Executive Director,
Legislative Commission on Pensions and Retirement, (2 bound copies)
Mr. Tom Hanson, Commissioner, Minnesota Department of Finance, (2 bound copies)
Legislative Reference Library, (2 bound copies)
Cathy Nagy, GRS


[^0]:    St. Paul Teachers' Retirement Fund Association
    Actuarial Valuation Report as of July 1, 2008

[^1]:    St. Paul Teachers' Retirement Fund Association
    Actuarial Valuation Report as of July 1, 2008

