

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION
ACTUARIAL VALUATION
AS OF JULY 1, 2014

December 23, 2014

Ms. Jill E. Schurtz
Executive Director
St. Paul Teachers' Retirement Fund Association
1619 Dayton Avenue, Room 309
St. Paul, MN 55104-6206

Dear Ms. Schurtz:

We are pleased to present the report of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2014. This report provides among other things, the required annual contribution rate of the Fund for the Plan Year commencing July 1, 2014, and ending on June 30, 2015.

The valuation was based upon information furnished by the Fund staff, concerning Retirement Fund benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. Their efforts in furnishing the materials needed are gratefully acknowledged. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the Fund.

The report has been prepared at the request of the Fund's Board of Trustees 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. This report is intended for use by the Fund and those determined or approved by the Fund's Board of Trustees. This report may be provided to parties other than the Fund only in its entirety and only with the permission of the Board.

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.

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 of this report. The Fund is solely responsible for communicating to GRS any changes required thereto.

This report should not be relied on 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.

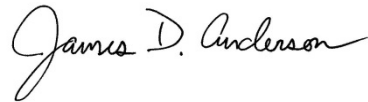
Bonita J. Wurst and James D. Anderson are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion herein. The signing actuaries are independent of the plan sponsor.

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

Respectfully submitted,



Bonita J. Wurst, ASA, EA, MAAA



James D. Anderson, FSA, EA, MAAA

BJW/JDA:ah

TABLE OF CONTENTS

Summary of Valuation Results		1-5
Section 1	Asset Information	
	Assets of the Plan	6
Table 1	Accounting Balance Sheet	7
Table 2	Changes in Assets Available for Benefits	8
Section 2	Total Membership Data	
Table 3	Active Members	9
Table 4	Service Retirements	10
Table 5	Disability Retirements	11
Table 6	Survivors	12
Table 7	Reconciliation of Members	13
Section 3	Funding Status	
Table 8	Actuarial Balance Sheet	14
Table 9	Determination of Unfunded Actuarial Accrued Liability (UAAL) and Supplemental Contribution Rate	15
Table 10	Changes in Unfunded Actuarial Accrued Liability (UAAL)	16
Table 11	Determination of Contribution Sufficiency	17
Section 4	Actuarial Methods and Assumptions	
Table 12	Summary of Actuarial Methods and Assumptions	18-25
Section 5	Basic Plan	
	Membership Data	
Table 3A	Active Members	26
Table 4A	Service Retirements	27
Table 5A	Disability Retirements	28
Table 6A	Survivors	29

TABLE OF CONTENTS (CONCLUDED)

Section 5 (Concluded)

Funding Status

Table 11A	Determination of Contribution Sufficiency	30
-----------	---	----

Plan Provisions

	Summary of Benefit Provisions for Basic Members	31-34
--	---	-------

Section 6 Coordinated Plan

Membership Data

Table 3B	Active Members	35
----------	----------------	----

Table 4B	Service Retirements	36
----------	---------------------	----

Table 5B	Disability Retirements	37
----------	------------------------	----

Table 6B	Survivors	38
----------	-----------	----

Funding Status

Table 11B	Determination of Contribution Sufficiency	39
-----------	---	----

	Summary of Benefit Provisions for Coordinated Members	40-43
--	---	-------

Section 7 GASB Statements No. 25 and No. 27 Disclosures

Table 14	Schedule of Funding Progress	44
----------	------------------------------	----

Table 15	Schedule of Employer Contributions	45
----------	------------------------------------	----

Table 16	Development of the Fund	46
----------	-------------------------	----

Table 17	GASB Supplementary Information	47
----------	--------------------------------	----

SUMMARY OF VALUATION RESULTS

This report sets forth the results of the actuarial valuation of the St. Paul Teachers' Retirement Fund Association ("Fund") as of July 1, 2014. 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

The Fund shows improvement in all significant metrics since last year's valuation. Because of better than expected investment return and legislation that ensures the continuation of supplemental state contributions, the Fund's funding ratio is expected to increase in future years. For the first time since the current cost-of-living adjustment (COLA) provisions were adopted, it is anticipated that the 80% and 90% funding ratio thresholds that must be attained for higher COLA's to be paid will be reached in the future. Please note that this is an actuarial projection, not a guarantee of benefits to be paid.

Assets and Liabilities

On an actuarial value of assets basis, taking into account the potential implementation of COLA increases, the funded ratio increased from 60.40% at July 1, 2013, to 61.81% at July 1, 2014. There were gains on the actuarial value of assets of \$48.8 million due to the recognition of investment gains from this year and prior years. Total actuarial liabilities increased from \$1,467.3 to \$1,533.6 million. This increase was primarily due to the recognition of \$52.4 million of additional liability due to the assumption that COLA's will change from 1% to 2% in 2029 and from 2% to 3% in 2038. This is only an assumption; not a guarantee of benefits to be paid. Actual timing will depend upon actual experience. If the COLA assumption had not been changed, the funding ratio on an actuarial basis would have been 64.00% as of July 1, 2014.

On a market value of assets basis, taking into account the potential implementation of COLA increases, the funded ratio increased from 63.59% at July 1, 2013, to 68.17% at July 1, 2014. If the COLA assumption had not been changed, the funding ratio on a market value of assets basis would have been 70.58% as of July 1, 2014.

Contribution Rates

Due to strong investment gains, the required contribution rate (as defined in Section 356 of Minnesota Statutes) decreased from 22.13% of pay for fiscal year ending June 30, 2014, to 21.94% of pay for fiscal year ending June 30, 2015. The statutory contribution rate increased from 19.33% of payroll to 19.75% of payroll but is currently not sufficient to cover the required contribution rate (i.e. statutory contributions are not sufficient to fully amortize the unfunded actuarial accrued liability over the statutory amortization period of 28 years). The contribution shortfall decreased from 2.80% of pay as of July 1, 2013 to 2.19% of pay, or \$6.0 million per year. If the COLA assumption had not been changed, the shortfall would have been significantly less, at 1.03% of pay. The contribution increases that are being phased-in over the next three years will ultimately increase the statutory contribution rate (and decrease the contribution shortfall) by 2.00% of pay. The current contribution deficiency reduced by 2.00% of pay is only 0.19% of pay. On a market value of assets basis, statutory contributions are sufficient, with statutory contributions as of July 1, 2014 equal to the calculated required contribution rate. This sufficiency is expected to grow as scheduled contribution increases are phased in.

SUMMARY OF VALUATION RESULTS

Actuarial Methods and Assumptions

Minnesota Statutes were revised in 2014 to establish a process for setting a COLA assumption for purposes of preparing actuarial valuations. Pursuant to this legislation, if the plan has not yet reached the statutory threshold triggering payment of a 2.0% or CPI-based COLA, the actuary must perform a projection to determine whether the plan is expected to attain the threshold in a timeframe that is actuarially meaningful, and if so, the expected change to a 2.0% or CPI-based COLA rate must be reflected in the liability calculations.

We performed a projection of liabilities and assets, using the 2014 valuation results as a baseline and assuming future experience follows the valuation assumptions prescribed in Minnesota Statutes (including future investment returns of 8.0% for three years and 8.5% thereafter). In addition, the projection utilized the following methods and assumptions:

- Future investment returns of 8.00% through June 30, 2017; 8.50% thereafter
- Open group; stable active population (new member profile based on average new members hired in recent years)
- The COLA is assumed to be 1.0% per year until the funding ratio threshold required to pay a 2.0% COLA is reached and is assumed to be 2.0% per year until the threshold required to pay a CPI-based COLA is reached
- Current statutory contribution levels including scheduled increases

Based on these assumptions and methods, and recent investment returns that exceeded assumptions, the projection indicates that this plan is expected to attain the funding ratio threshold to pay the 2.0% COLA in approximately 15 years, and the funding ratio threshold to pay the CPI-based COLA in approximately 24 years. The liabilities in this report are based on the assumption that the COLA will equal 1.0% through 2028, 2.0% for 2029 to 2037, and 3.0% (the current inflation assumption) for all years thereafter. This is only an assumption; not a guarantee of benefits to be paid. If the COLA assumption had not been changed, the funding ratio on an actuarial value of assets basis would have been 64.00% as of July 1, 2014. Previously, we assumed the COLA would be 1.0% per year indefinitely.

The amortization period was statutorily changed in 2014 from a 25-year rolling amortization to a fixed amortization date of June 30, 2042.

Minnesota Statute Section 356.215 requires a select interest rate assumption of 8.0 percent through June 30, 2017 and an ultimate interest rate assumption of 8.5 percent after June 30, 2017. GRS reviewed the investment return assumption in the 2012 Experience Study and recommended an assumed rate of return of 7.5 percent per year. The impact of using an assumed rate of return of 7.5 percent is shown in the 2012 valuation report. The Actuarial Standard of Practice on selecting economic assumptions for pensions (ASOP No. 27) was recently updated. The updated standards may warrant an updated review of the reasonability of the long term rate of return assumption before the 2015 valuation.

All assumptions are included in Section 4 of the report.

SUMMARY OF VALUATION RESULTS

Benefit and Contribution Provisions

The 2014 Omnibus Retirement Bill included a change to future contributions. The State of Minnesota is scheduled to make annual supplemental contributions of \$7,000,000 on October 1 until the plan is 100% funded or June 30, 2042, whichever occurs earlier. The additional contributions will ultimately have a favorable impact on the funding of the plan.

Additionally, the funding ratio thresholds that must be attained to pay a higher COLA were changed from 80% or 90% for one year to 80% or 90% for two consecutive years.

Effects of Changes (Actuarial Value of Assets Basis)

	Results as of July 1, 2014 (\$000's)		
	Prior to Changes	Reflecting Plan and Assumption Changes	Reflecting Plan, Assumption, and Amortization Period Changes
A. FUNDING RATIOS			
1. Accrued Liability Funding Ratio			
a. Current Assets	\$ 947,972	\$ 947,972	\$ 947,972
b. Actuarial Accrued Liability	1,481,239	1,533,603	1,533,603
c. Funding Ratio	64.00%	61.81%	61.81%
2. Projected Benefit Funding Ratio			
a. Current and Expected Future Assets	\$ 1,594,622	\$ 1,661,086	\$ 1,683,810
b. Current and Expected Future Benefit Obligations	1,672,878	1,745,155	1,745,155
c. Funding Ratio	95.32%	95.18%	96.48%
B. STATUTORY CONTRIBUTIONS - CHAPTER 354A			
1. Employee Contributions	6.51%	6.51%	6.51%
2. Employer Contributions	9.35%	9.35%	9.35%
3. Supplemental Contribution			
a. 1996 Legislation	0.31%	0.31%	0.31%
b. 1997 Legislation	1.03%	1.03%	1.03%
c. 2013/2014 Legislation	2.55%	2.55%	2.55%
4. Total	19.75%	19.75%	19.75%
C. REQUIRED CONTRIBUTIONS - CHAPTER 356			
1. Normal Cost	7.78%	8.52%	8.52%
2. Supplemental Contribution Amortization	12.73%	13.98%	13.15%
3. Allowance for Administrative Expenses	0.27%	0.27%	0.27%
4. Total	20.78%	22.77%	21.94%

SUMMARY OF VALUATION RESULT

Participants

Active membership decreased 2.5% during fiscal year 2014 from 4,061 to 3,959 (figures include members on leave of absence). Total participants receiving benefits under the Fund, including disabled retirees and beneficiaries, increased 3.7% during fiscal year 2014 from 3,404 to 3,529. Total expenditures for these benefits increased from \$104.4 million to \$106.8 million during fiscal year 2014, or 2.3%.

Asset Valuation Method

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

Experience Analysis

Overall, the Fund had an experience gain of \$68.5 million. In general, salary increases were smaller than predicted under the current valuation assumption and produced an actuarial gain of \$6.8 million. The largest component of the Fund's experience gain was the investment gain. The market value of Fund assets returned 18.43% (net of fees) for the year ended June 30, 2014, higher than the 8.00% assumption. However, only 20% of this asset gain was recognized in actuarial value of assets. There was a gain of \$48.8 million on the actuarial value of assets. The rate of return on the actuarial value of assets for 2014 is 13.7%. The experience gain was partially offset by a \$52.4 million increase in the liability due to the expectation of future COLA changes.

The changes in unfunded actuarial accrued liabilities are shown in Table 10 in Section 3.

Looking Ahead

A 5-year smoothed value of assets, used to determine both the funded status and required contribution level, reduces the volatility of the valuation results. As of July 1, 2014, the actuarial value of assets was 90.7% of market value. This means that if market value returns equal those assumed in the valuation, over the next few years there will be an upward bias in the actuarial value of assets.

The following table shows the July 1, 2014, valuation results, taking into account potential COLA increases, if they had been based on the market value instead of smoothed actuarial value:

Market Value Results as of July 1, 2014	
Actuarial Accrued Liability	\$1,533.6 million
Market Value of Assets	\$1,045.4 million
Unfunded Actuarial Accrued Liability (Market Value Basis)	\$ 488.2 million
Funded Ratio (Market Value Basis)	68.17%
Statutory Contribution Rate	19.75% of pay
Required Contribution Rate (Market Value Basis)	19.75% of pay
Shortfall (Market Value Basis)	0.00% of pay

SUMMARY OF VALUATION RESULTS

(dollars in thousands)

	July 1, 2013	July 1, 2014
	Valuation	Valuation
A. CONTRIBUTIONS % OF PAYROLL (Table 11)		
1. Statutory Contributions - Chapter 354A	19.33%	19.75%
2. Required Contributions - Chapter 356	22.13%	21.94%
3. Sufficiency / (Deficiency)	(2.80%)	(2.19%)
B. FUNDING RATIOS		
1. Accrued Liability Funding Ratio		
a. Current Assets (Table 1)	\$ 886,296	\$ 947,972
b. Actuarial Accrued Liability (Table 9)	1,467,350	1,533,603
c. Funding Ratio	60.40%	61.81%
2. Projected Benefit Funding Ratio (Table 8)		
a. Current and Expected Future Assets	\$ 1,529,540	\$ 1,683,810
b. Current and Expected Future Benefit Obligations	1,655,608	1,745,155
c. Funding Ratio	92.39%	96.48%
C. PLAN PARTICIPANTS		
1. Active Members		
a. Number (Table 3)	3,941	3,876
b. Projected Annual Earnings	\$ 270,395	\$ 273,990
c. Average Annual Earnings (Projected dollars)	\$ 65,989	\$ 68,316
d. Average Age	44.8	44.7
e. Average Service	11.5	11.4
f. Additional Members on Leave of Absence	120	83
2. Others		
a. Service Retirements (Table 4)	3,047	3,156
b. Disability Retirements (Table 5)	30	34
c. Survivors (Table 6)	327	339
d. Deferred Retirements (Table 7)	1,788	1,829
e. Terminated Other Non-Vested (Table 7)	1,435	1,616
f. Total - Others	6,627	6,974
3. Grand Total (1.a + 1.f + 2.f)	10,688	10,933

SECTION 1

ASSET INFORMATION

ASSETS OF THE PLAN

The cost value of the plan assets increased from \$723.2 million as of June 30, 2013, to \$884.3 million as of June 30, 2014. The market value of the plan assets increased from \$933.1 million as of June 30, 2013, to \$1,045.4 million as of June 30, 2014. The expected return on assets using the valuation interest rate assumption of 8.0 percent was \$72 million. The actual plan experience showed a return on assets of \$168 million. Twenty percent of the asset return above the expected \$72 million is recognized as an actuarial gain in the development of the actuarial value of assets. The recognized gain from the current year along with the portion of prior gains and losses recognized this year results in an overall gain of \$48.8 million on the actuarial value of assets.

The 2011, 2013, and 2014 asset gains as well as the 2012 asset loss (amounts shown on the next page) will be recognized incrementally over the next four years. As of July 1, 2014, there are currently more unrecognized asset gains than losses, which means that if return assumptions are met, over the next few years the actuarial value of assets will grow more than 8.00% per year.

Table 1 shows the composition of assets as of June 30, 2014, and the development of the actuarial value of assets as of June 30, 2014. Table 2 details the development of asset values during fiscal year 2014.

TABLE 1
ACCOUNTING BALANCE SHEET
AS OF JUNE 30, 2014
(dollars in thousands)

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS		
1. Cash, Equivalents, Short-Term Securities	\$ 14,216	\$ 14,216
2. Investments		
a. Fixed Income	262,961	249,390
b. Equity	682,212	546,841
c. Real Estate	70,650	60,422
d. Alternative	15,773	13,793
3. Other Assets*	<u>5,516</u>	<u>5,516</u>
B. TOTAL ASSETS	<u>\$ 1,051,328</u>	<u>\$ 890,178</u>
C. AMOUNTS CURRENTLY PAYABLE	\$ 5,893	\$ 5,885
D. ASSETS AVAILABLE FOR BENEFITS		
1. Member Reserves	\$ 161,417	\$ 161,417
2. Employer Reserves	<u>884,018</u>	<u>722,876</u>
3. Total Assets Available for Benefits	<u>\$ 1,045,435</u>	<u>\$ 884,293</u>
E. TOTAL AMOUNTS CURRENTLY PAYABLE AND ASSETS AVAILABLE FOR BENEFITS	<u>\$ 1,051,328</u>	<u>\$ 890,178</u>
F. DETERMINATION OF ACTUARIAL VALUE OF ASSETS		
1. Market Value of Assets Available for Benefits (D.3)	\$ 1,045,435	
2. Unrecognized Asset Returns		
a. June 30, 2014	\$ 95,762	
b. June 30, 2013	46,697	
c. June 30, 2012	(82,006)	
d. June 30, 2011	128,185	
3. UAR Adjustment: $.80 * 2(a) + .60 * 2(b) + .40 * 2(c) + .20 * 2(d)$	<u>97,463</u>	
4. Actuarial Value of Assets: (F.1 - F.3)	<u>\$ 947,972</u>	

*** DERIVATION OF OTHER ASSETS**

	<u>Market Value</u>
Accounts Receivable	
Employer Contribution	\$ 22
Employee Contribution	15
Service Purchases Receivable	13
Pensions Receivable	2
State Contributions	838
Real Estate Income Receivable	-
Commission Recapture Receivable	2
Interest Receivable	1,237
Dividend Receivable	195
Misc. Receivable	8
Security Purchases Receivable	-
Sale of Securities	<u>3,000</u>
Total Accounts Receivable	\$ 5,332
Fixed Assets	<u>184</u>
Total Other Assets	<u>\$ 5,516</u>

*Numbers may not add due to rounding.

TABLE 2
CHANGE(S) IN ASSETS AVAILABLE FOR BENEFITS
AS OF JUNE 30, 2014
(dollars in thousands)

	<u>Market Value</u>	<u>Cost Value</u>
A. ASSETS AVAILABLE AT BEGINNING OF PERIOD	\$ 933,082	\$ 723,218
B. OPERATING REVENUES		
1. Member Contributions	\$ 16,564	\$ 16,564
2. Employer Contributions	24,532	24,532
3. Supplemental Contributions	10,665	10,665
4. Investment Income	15,119	15,119
5. Investment Expenses	(4,523)	(4,523)
6. Net Realized Gain / (Loss)	206,331	206,303
7. Other	-	-
8. Net Change in Unrealized Gain / (Loss)	<u>(48,751)</u>	<u>-</u>
9. Total Operating Revenue	\$ 219,937	\$ 268,660
C. OPERATING EXPENSES		
1. Service Retirements	\$ 94,935	\$ 94,935
2. Disability Benefits	665	665
3. Survivor Benefits	10,142	10,142
4. Refunds	1,103	1,103
5. Administrative Expenses	<u>739</u>	<u>739</u>
6. Total Operating Expenses	\$ 107,584	\$ 107,584
D. OTHER CHANGES IN RESERVES	\$ -	\$ -
E. ASSETS AVAILABLE AT END OF PERIOD	<u>\$ 1,045,435</u>	<u>\$ 884,293</u>
F. DETERMINATION OF CURRENT YEAR UNRECOGNIZED ASSET RETURN		
1. Average Balance		
(a) Assets available at BOY:		\$ 933,082
(b) Assets available at EOY:		1,045,435
(c) Average balance $\{[(a) + (b) - \text{Net Investment Income}] / 2\}$ {Net investment income: B.4+B.5+B.6+B.8}		\$ 905,171
2. Expected Return: $.080 * F.1$		72,414
3. Actual Return		168,176
4. Current Year Gross Asset Gain/(Loss): F.3 - F.2		\$ 95,762

SECTION 2

TOTAL MEMBERSHIP DATA

TABLE 3
ACTIVE MEMBERS AS OF JUNE 30, 2014*

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<25	56	0	0	0	0	0	0	0	56
25-29	324	28	0	0	0	0	0	0	352
30-34	288	147	39	0	0	0	0	0	474
35-39	161	122	193	39	0	0	0	0	515
40-44	130	77	148	206	21	0	0	0	582
45-49	83	56	115	169	106	10	0	0	539
50-54	86	41	77	119	101	106	5	1	536
55-59	77	37	62	90	82	69	47	9	473
60-64	43	37	49	52	53	53	22	13	322
65+	38	15	13	15	7	9	6	7	110
ALL	1,286	560	696	690	370	247	80	30	3,959

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<25	29,685	0	0	0	0	0	0	0	29,685
25-29	39,723	56,693	0	0	0	0	0	0	41,073
30-34	45,215	59,283	72,020	0	0	0	0	0	51,784
35-39	43,400	62,126	73,562	76,017	0	0	0	0	61,609
40-44	48,378	65,784	75,143	80,546	84,515	0	0	0	70,177
45-49	45,605	66,505	73,538	81,543	85,503	88,187	0	0	73,641
50-54	38,307	61,375	76,561	81,360	86,334	90,255	94,034	80,738	75,048
55-59	40,155	60,013	71,014	81,037	84,159	85,275	89,197	86,308	73,494
60-64	32,110	48,317	63,081	79,223	83,976	83,978	89,496	91,637	69,692
65+	9,429	53,168	48,290	76,899	81,959	87,324	86,009	98,891	50,045
ALL	41,012	60,702	72,703	80,560	85,090	87,326	89,342	91,368	64,628

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

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	ALL
ALL	52,742	33,993	50,601	55,586	31,483	21,570	7,147	2,741	255,862

*Including those on leave of absence, pay annualized for new hires.

TABLE 4
SERVICE RETIREMENTS AS OF JUNE 30, 2014

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	0	0	2	0	0	0	0	0	0	2
45-49	0	0	0	0	0	0	0	0	0	0
50-54	2	0	0	0	0	0	0	0	0	2
55-59	111	0	1	0	0	0	0	0	0	112
60-64	368	158	1	0	0	0	0	0	0	527
65-69	305	388	194	4	1	0	0	0	0	892
70-74	54	167	298	128	1	0	0	1	0	649
75-79	6	19	117	226	70	1	0	0	0	439
80-84	3	4	13	111	116	49	0	0	0	296
85-89	0	1	4	8	46	87	25	2	0	173
90+	0	0	1	1	5	22	28	7	0	64
ALL	849	737	631	478	239	159	53	10	0	3,156

AVERAGE ANNUAL BENEFIT

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	0	0	5,598	0	0	0	0	0	0	5,598
45-49	0	0	0	0	0	0	0	0	0	0
50-54	13,074	0	0	0	0	0	0	0	0	13,074
55-59	22,630	0	2,400	0	0	0	0	0	0	22,449
60-64	26,275	28,613	5,598	0	0	0	0	0	0	26,937
65-69	23,384	32,579	35,066	59,298	12,132	0	0	0	0	30,073
70-74	15,510	25,653	31,648	32,082	28,095	0	0	54,781	0	28,878
75-79	7,547	30,345	32,994	40,874	31,616	65,962	0	0	0	36,444
80-84	11,029	8,317	9,440	49,253	38,773	31,407	0	0	0	39,503
85-89	0	477	28,188	36,035	43,050	31,986	22,407	69,532	0	33,895
90+	0	0	31,440	60,604	43,680	19,923	32,339	27,212	0	28,824
ALL	23,858	29,927	32,299	40,580	37,447	30,352	27,654	38,433	0	30,961

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	20,255	22,056	20,380	19,397	8,950	4,826	1,466	384	0	97,714

TABLE 5
DISABILITY RETIREMENTS AS OF JUNE 30, 2014

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	2	1	0	0	0	0	0	0	0	3
45-49	1	0	0	0	0	0	0	0	0	1
50-54	4	3	0	0	0	0	0	0	0	7
55-59	3	1	2	1	0	0	0	0	0	7
60-64	9	4	2	0	0	0	0	0	0	15
65-69	1	0	0	0	0	0	0	0	0	1
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	20	9	4	1	0	0	0	0	0	34

AVERAGE ANNUAL BENEFIT

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	18,201	7,719	0	0	0	0	0	0	0	14,707
45-49	15,128	0	0	0	0	0	0	0	0	15,128
50-54	18,299	8,948	0	0	0	0	0	0	0	14,292
55-59	22,005	13,147	25,681	5,526	0	0	0	0	0	19,436
60-64	24,589	7,698	27,940	0	0	0	0	0	0	20,531
65-69	3,112	0	0	0	0	0	0	0	0	3,112
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	20,758	8,723	26,810	5,526	0	0	0	0	0	17,836

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	415	79	107	6	0	0	0	0	0	606

TABLE 6
SURVIVORS AS OF JUNE 30, 2014

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	4	0	5	0	0	0	0	0	0	9
45-49	1	1	2	0	0	0	0	0	0	4
50-54	2	0	0	0	0	0	0	0	0	2
55-59	4	2	2	0	0	0	0	0	0	8
60-64	3	2	3	2	1	1	0	0	1	13
65-69	6	3	9	6	3	1	1	0	0	29
70-74	2	4	11	13	11	5	1	0	0	47
75-79	4	2	8	14	27	8	4	2	0	69
80-84	6	1	1	4	20	25	4	2	1	64
85-89	0	0	0	1	8	26	15	3	0	53
90+	2	0	0	0	2	9	20	8	0	41
ALL	34	15	41	40	72	75	45	15	2	339

AVERAGE ANNUAL BENEFIT

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	8,918	0	4,260	0	0	0	0	0	0	6,330
45-49	1,883	526	799	0	0	0	0	0	0	1,002
50-54	21,640	0	0	0	0	0	0	0	0	21,640
55-59	4,297	12,659	12,050	0	0	0	0	0	0	8,325
60-64	18,406	30,973	5,927	30,842	41,468	27,075	0	0	3,350	20,656
65-69	47,539	35,680	20,794	30,596	23,253	21,339	19,976	0	0	30,140
70-74	31,837	20,192	29,668	37,201	39,144	18,579	23,874	0	0	31,952
75-79	26,792	34,180	22,681	43,887	37,556	34,963	17,482	23,832	0	34,532
80-84	48,241	39,490	33,837	33,232	40,206	34,067	25,487	27,041	16,838	36,318
85-89	0	0	0	53,135	36,967	32,823	29,782	34,234	0	33,051
90+	29,274	0	0	0	54,418	29,510	28,894	22,169	0	28,981
ALL	28,156	25,563	19,355	38,234	38,396	31,889	27,563	25,453	10,094	30,862

Total Annual Benefit (IN THOUSANDS) by Years Since Member Death

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	957	383	794	1,529	2,765	2,392	1,240	382	20	10,462

TABLE 7
RECONCILIATION OF MEMBERS
AS OF JUNE 30, 2014

	Active Participants	Leave of Absence	Vested Terminated	Other Non-Vested	Retired Participants	Disabled	Survivors and Beneficiaries	Alternate Payees ²	Total
A. Number as of June 30, 2013	3,941	120	1,788	1,435	3,015	29	327	33	10,688
B. Additions	464	9	143	362	173	4	22	3	1,180
C. Deletions									
1. Retirements	(108)	(7)	(56)			(2)			(173)
2. Disability	(2)	(1)			(1)				(4)
3. Died with Beneficiary	(1)		(2)		(19)				(22)
4. Died without Beneficiary					(48)		(9)		(57)
5. Terminated - Deferred	(138)	(5)							(143)
6. Terminated - Not Vested	(362)								(362)
7. Refunds	(28)	(3)	(20)	(116)					(167)
8. Rehired as Active	116	(30)	(21)	(65)					
9. Leave of Absence	(6)		(3)						(9)
10. Expired Benefits							(1)		(1)
11. Disability to Retirement									
12. Write-offs									
D. Data Adjustments ¹					1	2			3
E. Total on June 30, 2014	3,876	83	1,829	1,616	3,121	33	339	36	10,933

¹ Includes members not valued in prior valuation who repaid refunds for prior service.

² Includes alternate payees of both retired participants and disabled participants.

SECTION 3
FUNDING STATUS

TABLE 8
ACTUARIAL BALANCE SHEET
AS OF JULY 1, 2014
(dollars in thousands)

A. CURRENT ASSETS (TABLE 1; Line F.4)	\$	947,972
B. EXPECTED FUTURE ASSETS		
1. Present Value of Expected Future Statutory Supplemental Contributions*	\$	524,286
2. Present Value of Future Normal Costs		211,552
3. Total Expected Future Assets	\$	<u>735,838</u>
C. TOTAL CURRENT AND EXPECTED FUTURE ASSETS	\$	<u>1,683,810</u>
D. TOTAL CURRENT AND EXPECTED FUTURE BENEFIT OBLIGATIONS	\$	<u>1,745,155</u>
E. CURRENT AND FUTURE UNFUNDED ACTUARIAL LIABILITY (D - C)	\$	61,345

* Includes the effect of scheduled employee and employer contribution increases of 1.00% each, and \$7 million annual state contributions.

TABLE 9
DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AND SUPPLEMENTAL CONTRIBUTION RATE
AS OF JULY 1, 2014
(dollars in thousands)

	<u>Actuarial Present Value of Projected Benefits</u>	<u>Actuarial Present Value of Future Normal Costs</u>	<u>Actuarial Accrued Liability</u>
A. DETERMINATION OF ACTUARIAL ACCRUED LIABILITY (AAL)			
1. Active Members*			
a. Retirement Benefits	\$ 598,139	\$ 153,082	\$ 445,057
b. Disability Benefits	12,597	4,757	7,840
c. Surviving Spouse and Child Benefits	8,506	2,851	5,655
d. Vested Withdrawals	33,924	35,749	(1,825)
e. Refund Liability Due to Death or Withdrawal	2,963	15,113	(12,150)
f. Total	<u>656,129</u>	<u>211,552</u>	<u>444,577</u>
2. Deferred Retirements	\$ 69,181	-	\$ 69,181
3. Former Members without Vested Rights	4,228	-	4,228
4. Annuitants	<u>1,015,617</u>	-	<u>1,015,617</u>
5. Total	<u>\$ 1,745,155</u>	<u>\$ 211,552</u>	<u>\$ 1,533,603</u>
B. DETERMINATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)			
1. Actuarial Accrued Liability (A.5)			\$ 1,533,603
2. Current Assets (Table I; Line F.4)			<u>\$ 947,972</u>
3. Unfunded Actuarial Accrued Liability (B.1 - B.2)			<u>\$ 585,631</u>
C. DETERMINATION OF SUPPLEMENTAL CONTRIBUTION RATE			
1. Present Value of Future Payrolls Through the Amortization Date of June 30, 2042 [#]			\$ 4,454,657
2. Supplemental Contribution Rate (B.3 / C.1)			13.15%

*Includes members on leave of absence.

[#] Calculated using 8.0% select and 8.5% ultimate annual investment return rate.

TABLE 10
CHANGES IN UNFUNDED ACTUARIAL ACCRUED LIABILITY (UAAL)
AS OF JULY 1, 2014
(dollars in thousands)

A. UAAL AT BEGINNING OF YEAR	\$	581,054
B. CHANGE DUE TO INTEREST REQUIREMENTS AND CURRENT RATE OF FUNDING		
1. Normal Cost and Expenses	\$	21,907
2. Contributions		(51,761)
3. Interest*		50,561
4. Total	\$	<u>20,707</u>
C. EXPECTED UAAL AT END OF YEAR (A + B.4)	\$	601,761
D. INCREASE / (DECREASE) DUE TO ACTUARIAL LOSSES / (GAINS) BECAUSE OF EXPERIENCE DEVIATIONS FROM EXPECTED		
1. Age and Service Retirements	\$	(909)
2. Disability Retirements		57
3. Death-in-Service Benefits		(155)
4. Withdrawals		(1,886)
5. Salary Increases		(6,763)
6. Investment Income		(48,829)
7. Mortality of Annuitants		1,132
8. Other Items		(11,141)
9. Total	\$	<u>(68,494)</u>
E. UAAL AT END OF YEAR BEFORE PLAN AMENDMENTS AND CHANGES IN ACTUARIAL ASSUMPTIONS (C + D.9)	\$	533,267
F. CHANGE IN UAAL DUE TO PLAN AMENDMENTS		-
G. CHANGE IN UAAL DUE TO CHANGES IN ACTUARIAL ASSUMPTIONS		<u>52,364</u>
H. UAAL AT END OF YEAR (E + F + G)	\$	<u><u>585,631</u></u>

*Interest on assets determined at 8.00%; interest on liability determined at 8.37%.

TABLE 11
DETERMINATION OF CONTRIBUTION SUFFICIENCY
AS OF JULY 1, 2014
(dollars in thousands)

	<u>Percent of Payroll</u>	<u>Dollar Amount</u>
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.51%	\$ 17,827
2. Employer Contributions	9.35%	25,613
3. Supplemental Contribution		
a. 1996 Legislation	0.31%	838
b. 1997 Legislation	1.03%	2,827
c. 2014 Legislation	2.55%	7,000
4. Total	<u>19.75%</u>	<u>\$ 54,105</u>
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.27%	\$ 17,171
b. Disability Benefits	0.18%	491
c. Surviving Spouse and Child Benefits	0.11%	302
d. Vested Withdrawals	1.33%	3,639
e. Refund Liability Due to Death or Withdrawal	0.63%	1,720
f. Total	<u>8.52%</u>	<u>\$ 23,323</u>
2. Supplemental Contribution Amortization	13.15%	36,030
3. Allowance for Administrative Expenses	0.27%	740
4. Total	<u>21.94%</u>	<u>\$ 60,093</u>
C. CONTRIBUTION SUFFICIENCY / (DEFICIENCY) (A.4 - B.4)	(2.19%)	(5,988)
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 273,990

SECTION 4

ACTUARIAL METHODS AND ASSUMPTIONS

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

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. Years of Service for valuation purposes was provided by the Retirement Fund. Age as of the valuation date was calculated based on the dates of birth provided by the Retirement Fund. Entry Age for valuation purposes was calculated as the age on the valuation date minus the years of service on the valuation date.

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 closed statutory amortization period ending June 30, 2042 using level percent of payroll assuming payroll increases of 4.00% per annum. (In prior valuations, a 25 - year open amortization period was used.) The total contribution developed under this method is the sum of the Normal Cost and the payment toward the UAAL.

II. CURRENT ACTUARIAL ASSUMPTIONS

The assumptions were last updated for the July 1, 2013 valuation as a result of an experience study during the five-year period of July 1, 2006 to June 30, 2011, as well as a legislated change to the investment return assumption in 2012.

A. Demographic Assumptions

Mortality:

1. Healthy Mortality*:

- a. Male: RP-2000 Combined Mortality Table for males projected with Scale AA to 2020 set back 1 year
- b. Female: RP-2000 Combined Mortality Table for females projected with Scale AA to 2020 set back 3 years

2. Disabled Mortality:

- i. Male: RP-2000 Disabled Life Mortality Table for males
- ii. Female: RP-2000 Disabled Life Mortality Table for females

* *Mortality rates were adjusted to include margin for future mortality improvement as described in the table name above.*

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

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

Age	Healthy Mortality		Disabled Mortality	
	Male	Female	Male	Female
20	2	1	226	75
21	2	1	226	75
22	2	1	226	75
23	3	1	226	75
24	3	1	226	75
25	3	1	226	75
26	3	1	226	75
27	3	1	226	75
28	3	2	226	75
29	4	2	226	75
30	4	2	226	75
31	4	2	226	75
32	5	2	226	75
33	5	2	226	75
34	6	3	226	75
35	6	3	226	75
36	7	3	226	75
37	8	4	226	75
38	8	4	226	75
39	9	4	226	75
40	9	4	226	75
41	9	5	226	75
42	10	5	226	75
43	10	5	226	75
44	10	6	226	75

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

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

<u>Age</u>	<u>Healthy Mortality</u>		<u>Disabled Mortality</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
45	11	6	226	75
46	12	7	238	82
47	12	8	251	90
48	13	8	264	98
49	13	9	277	106
50	14	9	290	115
51	15	10	303	125
52	17	11	316	135
53	18	12	329	145
54	19	13	342	155
55	21	15	354	165
56	25	17	367	176
57	29	20	380	187
58	33	23	393	197
59	38	27	407	208
60	43	31	420	218
61	49	35	435	229
62	57	40	450	241
63	65	46	466	253
64	76	53	483	266
65	85	60	502	280
66	96	69	522	296
67	111	78	545	313
68	124	88	569	332
69	135	99	596	353

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

Rates of Disability:

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

Age	Disability	Age	Disability
20	2	45	5
21	2	46	5
22	2	47	5
23	2	48	5
24	2	49	5
25	2	50	10
26	2	51	10
27	2	52	10
28	2	53	10
29	2	54	10
30	3	55	20
31	3	56	20
32	3	57	20
33	3	58	20
34	3	59	20
35	3	60	40
36	3	61	40
37	3	62	40
38	3	63	40
39	3	64	40
40	3		
41	3		
42	3		
43	3		
44	3		

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

Rates of Termination:

Years of Service	Number of Terminations per 1,000 Active Members	
	Male	Female
0	400	400
1	180	180
2	140	140
3	100	100
4	60	67
5	50	59
6	45	51
7	41	43
8	37	35
9	33	31
10	29	27
11	25	23
12	20	19
13	20	15
14	20	13
15 & Over	20	13

Rates of Retirement:

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

Age	Basic Members Eligible for Rule of 90 Provision	Basic Members Not Eligible for Rule of 90 Provision	Male Coordinated Members Eligible for Rule of 90 Provision	Female Coordinated Members Eligible for Rule of 90	Male Coordinated Members Not Eligible for Rule of 90 Provision	Female Coordinated Members Not Eligible for Rule of 90 Provision
55	5,000	800	3,500	3,500	700	500
56	5,000	1,300	3,500	3,500	700	500
57	4,000	1,300	3,500	3,500	700	500
58	4,000	1,800	3,500	3,500	700	500
59	3,500	1,800	3,500	3,500	700	500
60	3,500	2,000	3,500	3,500	1,100	800
61	3,500	2,000	3,500	3,500	1,500	1,100
62	3,500	4,000	3,500	3,500	1,900	1,400
63	3,500	4,000	3,500	3,500	2,300	1,900
64	4,000	4,000	3,500	4,000	2,700	2,400
65	5,000	5,000	3,500	5,000	3,100	3,500
66	3,000	5,000	3,500	5,000	3,500	3,500
67	3,000	5,000	3,500	5,000	3,500	3,500
68	3,000	5,000	3,500	5,000	3,500	3,500
69	3,000	5,000	3,500	5,000	3,500	3,500
70 & Over	10,000	10,000	10,000	10,000	10,000	10,000

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

B. Economic Assumptions

Investment Return Rate: Select and Ultimate Rates:
8.00% for the period July 1, 2014 to June 30, 2017
8.50% thereafter
8.40% Equivalent Discount Rate – Present Value of Benefits Determination

Cost of Living Increases: 1.00% per annum through 2028; 2.00% through 2037; 3.00% thereafter.

Wage Inflation: 4.00% per annum

Future Salary Increases: In addition to the age-based rates shown below, during the first 15 years of employment, a service-based component of 0.20% x (15-T), 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	5.90%	45	4.75%
23	5.85	46	4.70
24	5.80	47	4.65
		48	4.60
25	5.75	49	4.55
26	5.70		
27	5.65	50	4.50
28	5.60	51	4.45
29	5.55	52	4.40
		53	4.35
30	5.50	54	4.30
31	5.45		
32	5.40	55	4.25
33	5.35	56	4.20
34	5.30	57	4.15
		58	4.10
35	5.25	59	4.05
36	5.20		
37	5.15	60 & Over	4.00
38	5.10		
39	5.05		
40	5.00		
41	4.95		
42	4.90		
43	4.85		
44	4.80		

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

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

C. Other Assumptions

Marital Status:	It is assumed that 75% of male members and 60% of female members have an eligible spouse. The male spouse is assumed to be two years older than the female spouse. Married members are assumed to have two dependent children.
Deferred Benefit Commencement:	Basic Plan members who terminate vested are assumed to commence benefits at age 61. Coordinated Plan members are assumed to commence benefits at age 62. If the member is already past the assumed deferral age, the member is assumed to commence benefits one year from the valuation date.
Administrative Expenses:	Prior year administrative expenses (excluding investment expenses) are expressed as a percentage of payroll and then applied to current projected payroll.
Allowance for Combined Service Annuity:	7.00% load on liabilities for active members hired before July 1, 1989; 2.00% load on liabilities for active members hired after June 30, 1989; and 30.00% load on liabilities for former members.
Missing Salary and Salary Minimums:	Active members with reported salaries of \$100 or less were assumed to have the average non-zero active salary. Active members with salaries less than those reported at the prior valuation date are valued using their prior salary amount. Active members who have been hired within one year of the valuation date have had their pay annualized by dividing by months of service credited, not to exceed the average non-zero active salary. For members on leave of absence at valuation date who were not on leave at the prior valuation date, the prior year's valuation pay was used. Deferred vested members without salary information were valued using accumulated contributions.
Supplemental Contributions:	1996 legislation provides for a variable amortization aid contribution paid annually on July 15. We assumed the annual amortization aid contribution will equal \$838,000, which was the actual contribution for the most recent fiscal year. Additionally, according to 1997 legislation, annual additional supplemental contributions currently equal to \$2,827,000 are scheduled to be paid on October 1. The contributions described herein will continue until the plan is 100% funded or until June 30, 2037, whichever occurs earlier. According to 2014 legislation, the State of Minnesota will make annual supplemental contributions of \$7,000,000 on October 1 until the plan is 100% funded or June 30, 2042, whichever occurs earlier.

TABLE 12
ACTUARIAL METHODS AND ASSUMPTIONS
AS OF JULY 1, 2014

Decrement Timing:	Retirement and Termination: end of valuation year – consistent with retirements and terminations occurring at the end of the school year. Death and Disability: middle of valuation year.
Valuation of Future Post-Retirement Benefit Increases:	If the plan has reached the funding ratio threshold required to pay a different benefit increase, Minnesota Statutes require the benefit increase rate to be reflected in the liability calculations. If the plan has not yet reached the funding ratio threshold required to pay a benefit increase, Minnesota Statutes require a projection to be performed to determine the expected attainment of the funding ratio thresholds, and the expected payment of benefit increases must be reflected in the liability calculations.
Projected Annual Payroll Calculation:	The census data as of July 1, 2014 reflects retirements and terminations occurring during the months of May and June; however, it does not necessarily reflect the replacements hired to fill their positions who may have hire dates in August and September. We assumed that May and June retirements are replaced by members coming in at the B.A. Step 1 salary level of \$43,021; and the Projected Annual Payroll for the fiscal year ending June 30, 2015 includes this replacement salary amount.

SECTION 5
BASIC PLAN

TABLE 3A
BASIC ACTIVE MEMBERS AS OF JUNE 30, 2014

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<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	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	1	2	3
65+	0	0	0	0	0	0	0	4	4
ALL	0	0	0	0	0	0	1	6	7

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<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	0	0	0	0	0
55-59	0	0	0	0	0	0	0	0	0
60-64	0	0	0	0	0	0	85,404	74,380	78,055
65+	0	0	0	0	0	0	0	106,734	106,734
ALL	0	0	0	0	0	0	85,404	95,949	94,443

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

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	ALL
ALL	0	0	0	0	0	0	85	576	661

TABLE 4A
BASIC SERVICE RETIREMENTS AS OF JUNE 30, 2014

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	0	0	2	0	0	0	0	0	0	2
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	13	0	0	0	0	0	0	0	0	13
60-64	62	77	1	0	0	0	0	0	0	140
65-69	50	205	156	3	1	0	0	0	0	415
70-74	6	49	201	102	1	0	0	1	0	360
75-79	1	5	60	184	62	1	0	0	0	313
80-84	0	0	0	89	105	49	0	0	0	243
85-89	0	0	1	5	38	83	25	2	0	154
90+	0	0	0	1	4	18	27	7	0	57
ALL	132	336	421	384	211	151	52	10	0	1,697

AVERAGE ANNUAL BENEFIT

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	0	0	5,598	0	0	0	0	0	0	5,598
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	43,284	0	0	0	0	0	0	0	0	43,284
60-64	43,785	39,549	5,598	0	0	0	0	0	0	41,182
65-69	46,611	46,017	39,706	72,551	12,132	0	0	0	0	43,826
70-74	29,453	46,196	39,325	37,037	28,095	0	0	54,781	0	39,459
75-79	5,313	71,508	49,396	47,133	34,568	65,962	0	0	0	45,394
80-84	0	0	0	57,133	41,600	31,407	0	0	0	45,234
85-89	0	0	39,319	39,406	48,207	33,208	22,407	69,532	0	35,868
90+	0	0	0	60,604	46,485	23,410	33,395	27,212	0	30,879
ALL	43,863	44,940	40,661	46,902	40,613	31,672	28,112	38,433	0	41,966

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	5,790	15,100	17,118	18,010	8,569	4,783	1,462	384	0	71,216

TABLE 5A
BASIC DISABILITY RETIREMENTS AS OF JUNE 30, 2014

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	0	1	0	0	0	0	0	0	0	1
60-64	3	0	1	0	0	0	0	0	0	4
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	3	1	1	0	0	0	0	0	0	5

AVERAGE ANNUAL BENEFIT

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	0	13,147	0	0	0	0	0	0	0	13,147
60-64	48,459	0	46,301	0	0	0	0	0	0	47,919
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	48,459	13,147	46,301	0	0	0	0	0	0	40,965

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	145	13	46	0	0	0	0	0	0	205

TABLE 6A
BASIC SURVIVORS AS OF JUNE 30, 2014

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	0	0	1	0	0	0	0	0	0	1
60-64	0	1	2	2	1	1	0	0	1	8
65-69	3	1	6	5	2	1	1	0	0	19
70-74	2	0	7	11	11	5	1	0	0	37
75-79	3	1	5	13	26	8	4	2	0	62
80-84	6	1	1	3	19	25	4	2	1	62
85-89	0	0	0	1	7	26	15	3	0	52
90+	2	0	0	0	2	9	20	8	0	41
ALL	17	4	22	35	68	75	45	15	2	283

AVERAGE ANNUAL BENEFIT

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	42,994	0	0	0	0	0	0	0	0	42,994
55-59	0	0	23,420	0	0	0	0	0	0	23,420
60-64	0	49,274	1,096	30,842	41,468	27,075	0	0	3,350	23,130
65-69	58,759	79,007	23,698	35,915	28,206	21,339	19,976	0	0	35,515
70-74	31,837	0	37,988	40,341	39,144	18,579	23,874	0	0	35,694
75-79	27,604	63,242	25,329	45,119	37,998	34,963	17,482	23,832	0	36,201
80-84	48,241	39,490	33,837	39,527	41,885	34,067	25,487	27,041	16,838	37,124
85-89	0	0	0	53,135	40,325	32,823	29,782	34,234	0	33,428
90+	29,274	0	0	0	54,418	29,510	28,894	22,169	0	28,981
ALL	41,985	57,753	27,009	41,236	39,755	31,889	27,563	25,453	10,094	34,345

Total Annual Benefit (IN THOUSANDS) by Years Since Member Death

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	714	231	594	1,443	2,703	2,392	1,240	382	20	9,720

TABLE 11A
BASIC DETERMINATION OF CONTRIBUTION SUFFICIENCY
AS OF JULY 1, 2014
(dollars in thousands)

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	9.00%	\$ 62
2. Employer Contributions	12.64%	87
3. Supplemental Contribution		
a. 1996 Legislation	0.31%	2
b. 1997 Legislation	1.03%	7
c. 2014 Legislation	2.55%	18
4. Total	25.53%	\$ 176
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	8.56%	\$ 59
b. Disability Benefits	0.44%	3
c. Surviving Spouse and Child Benefits	0.09%	1
d. Deferred Retirements	1.73%	12
e. Refund Liability Due to Death or Withdrawal	1.27%	9
f. Total	12.09%	\$ 84
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 688

SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2014

STATUTORY CONTRIBUTIONS

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

<u>Contribution After June 30,</u>	<u>Member</u>	<u>Employer</u>
2013	8.75%	12.39%
2014	9.00%	12.64%
2015	9.50%	13.14%
2016	10.00%	13.39%
2017	10.00%	13.64%

PARTICIPANTS

Professional Educators first employed prior to July 1, 1978 by schools in the City of St. Paul or St. Paul College (including charter schools) whose position requires a license from the Minnesota Department of Education, who are not covered under the Social Security Act.

ACCREDITED SERVICE

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

ALLOWABLE ST. PAUL SERVICE

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

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% of Average Salary for each year of Accredited Service.

SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2014

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

<u>Age at Retirement</u>	<u>Under Age 62 or less than 30 years of service</u>	<u>Age 62 or older with 30 years of service</u>
55	0.5376	
56	0.5745	
57	0.6092	
58	0.6419	
59	0.6726	
60	0.7354	
61	0.7947	
62	0.8507	0.8831
63	0.9035	0.9246
64	0.9533	0.9635
65	1.0000	1.0000

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.

SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2014

DEFERRED RETIREMENT BENEFIT

Eligibility

5 years of Accredited Service.

Benefit

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1st of the month following termination until the January 1st after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1st of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012.

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 by the use of one hundred percent joint survivorship tables, based on the ages of the member and survivor at the time of retirement.

SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS AS OF JULY 1, 2014

REFUND OF CONTRIBUTIONS

Eligibility

Termination or death where no annuity is payable, or prior to age 55, if a refund of contributions is chosen in lieu of an annuity.

Benefit

Member contributions with 6.00 percent interest accrued before July 1, 2011, with 4.00 percent accrual thereafter.

NORMAL FORM OF RETIREMENT BENEFITS

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

BENEFIT INCREASES

If the Accrued Liability Funding Ratio, based on Actuarial Value of Assets, as determined by the most recent actuarial valuation is:

Less than 80 percent for two consecutive years, the COLA: 1.00 percent

Between 80 percent and 90 percent for two consecutive years, the COLA: 2.00 percent

If at least 90 percent for two consecutive years, then the subdivisions for the 1.00 percent and 2.00 percent provisions above will expire and COLAs will be paid as follows:

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 COLA to recipients of federal old age survivors, and disability insurance.

The COLA 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 final 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 5.0 percent. 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
COORDINATED PLAN

TABLE 3B
COORDINATED ACTIVE MEMBERS AS OF JUNE 30, 2014*

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<25	56	0	0	0	0	0	0	0	56
25-29	324	28	0	0	0	0	0	0	352
30-34	288	147	39	0	0	0	0	0	474
35-39	161	122	193	39	0	0	0	0	515
40-44	130	77	148	206	21	0	0	0	582
45-49	83	56	115	169	106	10	0	0	539
50-54	86	41	77	119	101	106	5	1	536
55-59	77	37	62	90	82	69	47	9	473
60-64	43	37	49	52	53	53	21	11	319
65+	38	15	13	15	7	9	6	3	106
ALL	1,286	560	696	690	370	247	79	24	3,952

AVERAGE ANNUAL EARNINGS

Age	Years of Service								ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35+	
<25	29,685	0	0	0	0	0	0	0	29,685
25-29	39,723	56,693	0	0	0	0	0	0	41,073
30-34	45,215	59,283	72,020	0	0	0	0	0	51,783
35-39	43,400	62,126	73,562	76,017	0	0	0	0	61,609
40-44	48,378	65,784	75,143	80,546	84,515	0	0	0	70,177
45-49	45,605	66,505	73,538	81,543	85,503	88,187	0	0	73,641
50-54	38,307	61,375	76,561	81,360	86,334	90,255	94,034	80,738	75,047
55-59	40,155	60,013	71,014	81,037	84,159	85,275	89,197	86,308	73,494
60-64	32,110	48,317	63,081	79,223	83,976	83,978	89,691	94,775	69,613
65+	9,429	53,168	48,290	76,899	81,959	87,324	86,009	88,434	47,906
ALL	41,012	60,702	72,703	80,560	85,090	87,326	89,392	90,222	64,575

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

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35 & Over	ALL
ALL	52,742	33,993	50,601	55,586	31,483	21,570	7,062	2,165	255,202

*Including those on leave of absence, pay annualized for new hires.

TABLE 4B
COORDINATED SERVICE RETIREMENTS AS OF JUNE 30, 2014

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	2	0	0	0	0	0	0	0	0	2
55-59	98	0	1	0	0	0	0	0	0	99
60-64	306	81	0	0	0	0	0	0	0	387
65-69	255	183	38	1	0	0	0	0	0	477
70-74	48	118	97	26	0	0	0	0	0	289
75-79	5	14	57	42	8	0	0	0	0	126
80-84	3	4	13	22	11	0	0	0	0	53
85-89	0	1	3	3	8	4	0	0	0	19
90+	0	0	1	0	1	4	1	0	0	7
ALL	717	401	210	94	28	8	1	0	0	1,459

AVERAGE ANNUAL BENEFIT

Age	Years Retired									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<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	13,074	0	0	0	0	0	0	0	0	13,074
55-59	19,890	0	2,400	0	0	0	0	0	0	19,713
60-64	22,727	18,217	0	0	0	0	0	0	0	21,783
65-69	18,830	17,525	16,022	19,540	0	0	0	0	0	18,107
70-74	13,767	17,123	15,739	12,642	0	0	0	0	0	15,698
75-79	7,994	15,643	15,729	13,456	8,740	0	0	0	0	14,211
80-84	11,029	8,317	9,440	17,376	11,785	0	0	0	0	13,226
85-89	0	477	24,478	30,416	18,556	6,630	0	0	0	17,901
90+	0	0	31,440	0	32,463	4,228	3,830	0	0	12,092
ALL	20,175	17,346	15,534	14,754	13,588	5,429	3,830	0	0	18,162

Total Annual Benefit (IN THOUSANDS) by Years RETIRED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	14,465	6,956	3,262	1,387	380	43	4	0	0	26,498

TABLE 5B
COORDINATED DISABILITY RETIREMENTS AS OF JUNE 30, 2014

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	2	1	0	0	0	0	0	0	0	3
45-49	1	0	0	0	0	0	0	0	0	1
50-54	4	3	0	0	0	0	0	0	0	7
55-59	3	0	2	1	0	0	0	0	0	6
60-64	6	4	1	0	0	0	0	0	0	11
65-69	1	0	0	0	0	0	0	0	0	1
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	17	8	3	1	0	0	0	0	0	29

AVERAGE ANNUAL BENEFIT

Age	Years Disabled									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	18,201	7,719	0	0	0	0	0	0	0	14,707
45-49	15,128	0	0	0	0	0	0	0	0	15,128
50-54	18,299	8,948	0	0	0	0	0	0	0	14,292
55-59	22,005	0	25,681	5,526	0	0	0	0	0	20,484
60-64	12,654	7,698	9,579	0	0	0	0	0	0	10,572
65-69	3,112	0	0	0	0	0	0	0	0	3,112
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	15,869	8,170	20,314	5,526	0	0	0	0	0	13,848

Total Annual Benefit (IN THOUSANDS) by Years DISABLED

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	270	65	61	6	0	0	0	0	0	402

TABLE 6B
COORDINATED SURVIVORS AS OF JUNE 30, 2014

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	4	0	5	0	0	0	0	0	0	9
45-49	1	1	2	0	0	0	0	0	0	4
50-54	1	0	0	0	0	0	0	0	0	1
55-59	4	2	1	0	0	0	0	0	0	7
60-64	3	1	1	0	0	0	0	0	0	5
65-69	3	2	3	1	1	0	0	0	0	10
70-74	0	4	4	2	0	0	0	0	0	10
75-79	1	1	3	1	1	0	0	0	0	7
80-84	0	0	0	1	1	0	0	0	0	2
85-89	0	0	0	0	1	0	0	0	0	1
90+	0	0	0	0	0	0	0	0	0	0
ALL	17	11	19	5	4	0	0	0	0	56

AVERAGE ANNUAL BENEFIT

Age	Years Since Member Death									ALL
	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	
<45	8,918	0	4,260	0	0	0	0	0	0	6,330
45-49	1,883	526	799	0	0	0	0	0	0	1,002
50-54	287	0	0	0	0	0	0	0	0	287
55-59	4,297	12,659	680	0	0	0	0	0	0	6,169
60-64	18,406	12,672	15,588	0	0	0	0	0	0	16,696
65-69	36,319	14,016	14,985	4,003	13,347	0	0	0	0	19,930
70-74	0	20,192	15,107	19,930	0	0	0	0	0	18,106
75-79	24,356	5,117	18,267	27,866	26,086	0	0	0	0	19,747
80-84	0	0	0	14,347	8,305	0	0	0	0	11,326
85-89	0	0	0	0	13,462	0	0	0	0	13,462
90+	0	0	0	0	0	0	0	0	0	0
ALL	14,327	13,858	10,492	17,215	15,300	0	0	0	0	13,261

Total Annual Benefit (IN THOUSANDS) by Years Since Member Death

	<5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & Over	ALL
ALL	244	152	199	86	61	0	0	0	0	743

TABLE 11B
COORDINATED DETERMINATION OF CONTRIBUTION SUFFICIENCY
AS OF JULY 1, 2014
(dollars in thousands)

	Percent of Payroll	Dollar Amount
A. STATUTORY CONTRIBUTIONS - CHAPTER 354A		
1. Employee Contributions	6.50%	\$ 17,765
2. Employer Contributions	9.34%	25,526
3. Supplemental Contribution		
a. 1996 Legislation	0.31%	836
b. 1997 Legislation	1.03%	2,820
c. 2014 Legislation	2.55%	6,982
4. Total	19.73%	\$ 53,929
B. REQUIRED CONTRIBUTIONS - CHAPTER 356		
1. Normal Cost		
a. Retirement Benefits	6.26%	\$ 17,112
b. Disability Benefits	0.18%	488
c. Surviving Spouse and Child Benefits	0.11%	301
d. Deferred Retirements	1.33%	3,627
e. Refund Liability Due to Death or Withdrawal	0.63%	1,711
e. Total	8.51%	\$ 23,239
Projected Annual Payroll for Fiscal Year Beginning on the Valuation Date:		\$ 273,302

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2014

STATUTORY CONTRIBUTIONS

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

<u>Contribution After June 30,</u>	<u>Member</u>	<u>Employer</u>
2013	6.25%	9.09%
2014	6.50%	9.34%
2015	7.00%	9.84%
2016	7.50%	10.09%
2017	7.50%	10.34%

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 St. Paul Teachers' Retirement Fund Association, are covered under the Coordinated Plan.

ALLOWABLE SERVICE

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

SALARY

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

AVERAGE SALARY

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

NORMAL RETIREMENT BENEFIT

Eligibility

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

Benefit

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

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2014

EARLY RETIREMENT BENEFIT

Eligibility

Attainment of age 55 and 3 years of Allowable Service.

Benefit

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

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

- b) 1.70 percent of Average Salary per year of Allowable Service rendered before July 1, 2015 and 1.90 percent of Average Salary for each year of service rendered after June 30, 2015 reduced for each month the member is under the Normal Retirement Age using linear interpolation of the table listed below. For normal retirement ages between ages 65 and 66, the early retirement factors will be determined using linear interpolation between the early retirement factors applicable for normal retirement ages 65 and 66.

Normal retirement age:	Under Age 62 or less than 30 years of service		Age 62 or older with 30 years of service	
	65	66	65	66
Age at Retirement				
55	0.5376	0.4592		
56	0.5745	0.4992		
57	0.6092	0.5370		
58	0.6419	0.5726		
59	0.6726	0.6062		
60	0.7354	0.6726		
61	0.7947	0.7354		
62	0.8507	0.7947	0.8831	0.8389
63	0.9035	0.8507	0.9246	0.8831
64	0.9533	0.9035	0.9635	0.9246
65	1.0000	0.9533	1.0000	0.9635
66		1.0000		1.0000

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2014

DISABILITY RETIREMENT BENEFIT

Eligibility

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

Benefit

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

DEFERRED RETIREMENT BENEFIT

Eligibility

Three years of Allowable Service.

Benefit

Benefit computed under law in effect at termination and payable as a normal or early retirement benefit. For members hired on or before June 30, 2006, the benefit is augmented at 3.00 percent compounded annually from the 1st of the month following termination until the January 1st after turning age 55 and then augmented at 5.00 percent compounded annually from that date to July 1, 2012. For members hired after June 30, 2006, the benefit is augmented at 2.50 percent compounded annually from the 1st of the month following termination to July 1, 2012. Augmentation for all members, regardless of hire date, changed to 2.00 percent as of July 1, 2012 for the portion of benefit deferral which occurs after June 30, 2012.

SURVIVOR BENEFIT (Active Members)

Eligibility

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

Benefit

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

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

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS AS OF JULY 1, 2014

REFUND OF CONTRIBUTIONS

Eligibility

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

Benefit

Member contributions with 6.00 percent interest accrued until July 1, 2011, with 4.00 percent accrual thereafter.

NORMAL FORM OF RETIREMENT BENEFITS

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

BENEFIT INCREASES

Effective July 1, 2011, for the next COLA payable January 1, 2012, the 2011 Omnibus Pension Bill modified statutes to provide a transitional change to the COLA. If the Accrued Liability Funding Ratio based on the Actuarial Value of Assets, as determined by the two consecutive and most recent actuarial valuations are:

Less than 80 percent for two consecutive years, the COLA: 1.00 percent

Between 80 percent and 90 percent for two consecutive years, the COLA: 2.00 percent

If at least 90 percent for two consecutive years, then the subdivisions for the 1.00 percent and 2.00 percent provisions above will expire and COLAs will be paid as follows:

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 COLA to recipients of federal old age, survivors, and disability insurance.

The COLA 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 final 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 5.00 percent. 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 STATEMENTS NO. 25 AND NO. 27 DISCLOSURES

This information is presented in draft form for review by the Fund's auditor. Please let us know if there are any changes so that we may maintain consistency with the Fund's financial statements.

TABLE 14
SCHEDULE OF FUNDING PROGRESS
(dollars in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (A)	Actuarial Accrued Liability (B)	Unfunded AAL (UAAL) (B)-(A)	Funded Ratio (A)/(B)	Actual Covered Payroll (Previous FY) (C)	UAAL as % of Covered Payroll ((B)-(A))/(C)
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	176.32%
07/01/06	938,919	1,346,072	407,153	69.75%	226,351	179.88%
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%
07/01/09	1,049,954	1,454,314	404,360	72.20%	243,166	166.29%
07/01/10	1,001,444	1,471,630	470,185	68.05%	239,996	195.91%
07/01/11	972,718	1,389,875	417,157	69.99%	239,738	174.01%
07/01/12	911,930	1,471,216	559,286	61.98%	239,053	233.96%
07/01/13	886,296	1,467,350	581,054	60.40%	247,432	234.83%
07/01/14	947,972	1,533,603	585,631	61.81%	259,740	225.47%

TABLE 15
SCHEDULE OF EMPLOYER CONTRIBUTIONS
(dollars in thousands)

Year Ended June 30	Actuarially Required Contribution Rate (A)	Actual Covered Payroll (B)	Actual Member Contributions (C)	Annual Required Contributions (D) = [(A)*(B)]-(C)	Actual Employer Contributions ⁽¹⁾ (E)	Percentage Contributed (E) / (D)
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
2009	17.63%	243,166	13,864	29,007	24,844	85.65
2010	18.40%	239,996	13,832	30,328	25,126	82.85
2011	19.84%	239,738	13,745	33,819	25,090	74.19
2012	18.37%	239,053	14,117	29,797	25,109	84.27
2013	22.87%	247,432	15,164	41,424	26,445	63.84
2014	22.13%	259,740	16,564	40,916	35,197	86.02

⁽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)

<u>Year Ended June 30</u>	<u>Employer Contributions</u>	<u>Employee Contributions</u>	<u>Supplemental Contributions</u>	<u>Net Investment Return</u>	<u>Administrative Expenses</u>	<u>Benefit Payments</u>	<u>Actuarial Value of Assets EOY</u>
2004	-	-	-	-	-	-	\$ 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
2009	21,501	13,864	3,343	28,924	605	93,024	1,049,954
2010	21,018	13,832	4,108	9,496	602	96,362	1,001,444
2011	21,013	13,745	4,077	31,391	722	98,230	972,718
2012	21,452	14,117	3,658	3,447	736	102,726	911,930
2013	22,780	15,164	3,665	37,919	751	104,411	886,296
2014	24,532	16,564	10,665	117,499	739	106,845	947,972

TABLE 17
GASB SUPPLEMENTARY INFORMATION

Valuation Date	July 1, 2014
Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percent of Pay, Closed, Assuming Four Percent Payroll Growth
Amortization Period	Closed Period ending June 30, 2042
Asset Valuation Method	5-Year Smoothed Market
Actuarial Assumptions:	
Investment rate of return	8.00% during 3-year select period, 8.50% thereafter
Projected salary increases	4.00% - 8.90%; age and service based
Cost-of-living adjustments	1% through 2028; 2% through 2037; 3% thereafter *
Plan Membership:	
Active Members	3,959
Retirees and Beneficiaries	3,529
Terminated Vested Members	1,829
Other Non-Vested Terminated Members	<u>1,616</u>
Total	10,933

**Beginning with the cost-of-living adjustment payable January 1, 2012, COLA is 1.00% until 80% funding is achieved, 2.00% once 80% funding is achieved but funding is less than 90%. Once 90% funding is achieved, COLA determined by CPI with a maximum of 5.00% and a minimum of 0.00%.*