GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

ST. PAUL TEACHERS' RETIREMENT FUND ASSOCIATION

GASB STATEMENTS NO. 67 AND NO. 68 ACCOUNTING AND FINANCIAL REPORTING FOR PENSIONS

JUNE 30, 2014

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February 17, 2015

St. Paul Teachers' Retirement Fund Association
1619 Dayton Avenue, Room 309
St. Paul, Minnesota 55104-6206

Dear Trustees:

This report provides accounting and financial reporting information that is intended to comply with the Governmental Accounting Standards Board (GASB) Statements No. 67 and No. 68 for the St. Paul Teachers' Retirement Fund Association ("Fund"). These calculations have been made on a basis that is consistent with our understanding of these accounting standards.

GASB Statement No. 67 is the accounting standard that applies to the financial reports issued by retirement systems. GASB Statement No. 68 establishes accounting and financial reporting for state and local government employers who provide their employees (including former employees) pension benefits through a trust.

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

This report is based upon information, furnished to us by the Fund, concerning retirement and ancillary benefits, active members, deferred vested members, retirees and beneficiaries, and financial data. If your understanding of this information is different, please let us know. This information was checked for internal consistency, but it was not otherwise audited.

To the best of our knowledge, the information contained with this report is accurate and fairly represents the actuarial position of the Fund as of the measurement date. All calculations have been made in conformity with generally accepted actuarial principles and practices as well as with the Actuarial Standards of Practice issued by the Actuarial Standards Board. Bonita J. Wurst and James D. Anderson are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,

By *Bonita J. Wurst*
Bonita J. Wurst
ASA, EA, MAAA

By *James D. Anderson*
James D. Anderson
FSA, EA, MAAA

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SECTION A

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

as of June 30, 2014 *(Dollars in Thousands)*

		2014
Actuarial Valuation Date		June 30, 2014
Measurement Date of the Net Pension Liability		June 30, 2014
Membership		
Number of		
- Service Retirements		3,156
- Survivors		339
- Disability Retirements		34
- Deferred Retirements		1,829
- Terminated other non-vested		1,616
- Active Members		3,959
- Total		10,933
Covered Payroll	$	259,740
Net Pension Liability		
Total Pension Liability	$	1,581,227
Plan Fiduciary Net Position		1,045,435
Net Pension Liability	$	535,792
Plan Fiduciary Net Position as a Percentage of Total Pension Liability		66.12%
Net Pension Liability as a Percentage of Covered Payroll		206.28%
Development of the Single Discount Rate		
Single Discount Rate		8.00%
Long-Term Expected Rate of Investment Return		8.00%
Long-Term Municipal Bond Rate*		4.29%
Last year ending June 30 in the 2015 to 2114 projection period for which projected benefit payments are fully funded		2114
Total Pension Expense	$	38,743

Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

		Deferred Outflows of Resources		Deferred Inflows of Resources
Difference between expected and actual experience	$	-	$	13,006
Changes in assumptions		31,714		-
Net difference between projected and actual earnings on pension plan investments		-		76,610
Total	$	31,714	$	89,616

** Based on the Bond Buyer 20-Bond Index of general obligation municipal bonds as of June 26, 2014 (i.e., the weekly rate closest to but not later than the Measurement Date).*

DISCUSSION

Accounting Standard

For pension plans that are administered through trusts or equivalent arrangements, Governmental Accounting Standards Board (GASB) Statement No. 67 establishes standards of financial reporting for separately issued financial reports and specifies the required approach for measuring the pension liability. Similarly, GASB Statement No. 68 establishes standards for state and local government employers (as well as non-employer contributing entities) to account for and disclose the net pension liability, pension expense, and other information associated with providing retirement benefits to their employees (and former employees) on their basic financial statements.

The following discussion provides a summary of the information that is required to be disclosed under these accounting standards. A number of these disclosure items are provided in this report. However, certain information, such as notes regarding accounting policies and investments, is not included in this report and the retirement system and/or plan sponsor will be responsible for preparing and disclosing that information to comply with these accounting standards.

Financial Statements

GASB Statement No. 68 requires state or local governments to recognize the net pension liability and the pension expense on their financial statements. The net pension liability is the difference between the total pension liability and the plan's fiduciary net position. In traditional actuarial terms, this is analogous to the accrued liability less the market value of assets (not the smoothed actuarial value of assets that is often encountered in actuarial valuations performed to determine the employer's contribution requirement).

The pension expense recognized each fiscal year is equal to the change in the net pension liability from the beginning of the year to the end of the year, adjusted for deferred recognition of the liability and investment experience.

Pension plans that prepare their own, stand-alone financial statements are required to present two financial statements – a statement of fiduciary net position and a statement of changes in fiduciary net position in accordance with GASB Statement No. 67. The *statement of fiduciary net position* presents the assets and liabilities of the pension plan at the end of the pension plan's reporting period. The *statement of changes in fiduciary net position* presents the additions, such as contributions and investment income, and deductions, such as benefit payments and expenses, and net increase or decrease in the fiduciary net position.

Notes to Financial Statements

GASB Statement No. 68 requires the notes of the employer's financial statements to disclose the total pension expense, the pension plan's liabilities and assets, and deferred outflows and inflows of resources related to pensions.

Both GASB Statements, No. 67 and No. 68 require the notes of the financial statements for the employers and pension plans, to include certain additional information. The list of disclosure items should include:

- a description of benefits provided by the plan;
- the type of employees and number of members covered by the pension plan;
- a description of the plan's funding policy, which includes member and employer contribution requirements;
- the pension plan's investment policies;
- the pension plan's fiduciary net position, net pension liability, and the pension plan's fiduciary net position as a percentage of the total pension liability;
- the net pension liability using a discount rate that is 1% higher and 1% lower than the current discount rate used to calculate the total pension liability and net pension liability for financial reporting purposes;
- significant assumptions and methods used to calculate the total pension liability;
- inputs to the discount rates; and
- certain information about mortality assumptions and the dates of experience studies.

Retirement systems that issue stand-alone financial statements are required to disclose additional information in accordance with Statement No. 67. This information includes:

- the composition of the pension plan's board and the authority under which benefit terms may be amended;
- a description of how fair value is determined;
- information regarding certain reserves and investments, which include concentrations of investments greater than or equal to 5%, receivables, and insurance contracts excluded from plan assets; and
- annual money-weighted rate of return.

Required Supplementary Information

Statement No. 67 requires a 10-year fiscal history of:

- sources of changes in the net pension liability;
- information about the components of the net pension liability and related ratios, including the pension plan's fiduciary net position as a percentage of the total pension liability, and the net pension liability as a percent of covered-employee payroll; and
- comparison of the actual employer contributions to the actuarially determined contributions based on the plan's funding policy.

Timing of the Valuation

An actuarial valuation to determine the total pension liability is required to be performed at least every two years. The net pension liability and pension expense should be measured as of the pension plan's fiscal year end (measurement date) on a date that is within the employer's prior fiscal year. If the actuarial valuation used to determine the total pension liability is not calculated as of the measurement date, the total pension liability is required to be rolled forward from the actuarial valuation date to the measurement date.

The total pension liability shown in this report is based on an actuarial valuation performed as of June 30, 2014 and a measurement date of June 30, 2014.

Single Discount Rate

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

Due to the projected sufficiency of assets to pay benefits, the single discount rate is equal to the 8.00% long-term expected rate of return on pension plan investments, for the purposes of this valuation.

Had the Fund been projected to have insufficient assets to pay all projected benefits, the single discount rate would instead reflect a combination of (1) the 8.00% long-term expected rate of return on pension plan investments (for all years where a projected asset sufficiency exists), then (2) a lower tax-exempt municipal bond rate* (for all remaining years where projected asset insufficiencies exist).

*Based on an index of 20-year general obligation bonds with an average AA credit rating, published by the Federal Reserve, as of the measurement date. That municipal bond rate, which was not used to discount any projected benefits in this valuation, was 4.29% (based on the weekly rate closest to but not later than the measurement date of the 20-Year Bond Buyer Index as published by the Federal Reserve).

Effective Date and Transition

GASB Statements No. 67 and No. 68 are effective for fiscal years beginning after June 15, 2013, and June 15, 2014, respectively. Earlier application is encouraged by the GASB.

SECTION B

FINANCIAL STATEMENTS

PENSION EXPENSE UNDER GASB STATEMENT NO. 68

Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

A. Expense

1. Service Cost	$	22,954
2. Interest on the Total Pension Liability		118,503
3. Current-Period Benefit Changes		0
4. Employee Contributions (made negative for addition here)		(16,564)
5. Projected Earnings on Plan Investments (made negative for addition here)		(72,413)
6. Pension Plan Administrative Expense		739
7. Other Changes in Plan Fiduciary Net Position		0
8. Recognition of Outflow (Inflow) of Resources due to Liabilities		4,677
9. Recognition of Outflow (Inflow) of Resources due to Assets		(19,153)
10. Total Pension Expense	**$**	**38,743**

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT REPORTING PERIOD

Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

A. Outflows (Inflows) of Resources due to Liabilities		
1. Difference between expected and actual experience of the Total Pension Liability (gains) or losses	$	(16,257)
2. Assumption Changes (gains) or losses	$	39,642
3. Recognition period for Liabilities: Average of the expected remaining service lives of all employees {in years}		5.0000
4. Outflow (Inflow) of Resources to be recognized in the current pension expense for the difference between expected and actual experience of the Total Pension Liability	$	(3,251)
5. Outflow (Inflow) of Resources to be recognized in the current pension expense for Assumption Changes	$	7,928
6. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Liabilities	$	4,677
7. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for the difference between expected and actual experience of the Total Pension Liability	$	(13,006)
8. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses for Assumption Changes	$	31,714
9. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Liabilities	$	18,708
B. Outflows (Inflows) of Resources due to Assets		
1. Net difference between projected and actual earnings on pension plan investments (gains) or losses	$	(95,763)
2. Recognition period for Assets {in years}		5.0000
3. Outflow (Inflow) of Resources to be recognized in the current pension expense due to Assets	$	(19,153)
4. Deferred Outflow (Inflow) of Resources to be recognized in future pension expenses due to Assets	$	(76,610)

STATEMENT OF OUTFLOWS AND INFLOWS ARISING FROM CURRENT AND PRIOR REPORTING PERIODS

Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

A. Outflows and Inflows of Resources due to Liabilities and Assets to be recognized in Current Pension Expense

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Due to Liabilities	$ 7,928	$ 3,251	$ 4,677
2. Due to Assets	-	19,153	(19,153)
3. Total	$ 7,928	$ 22,404	$ (14,476)

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

	Outflows of Resources	Inflows of Resources	Net Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 3,251	$ (3,251)
2. Assumption Changes	7,928	-	7,928
3. Net Difference between projected and actual earnings on pension plan investments	-	19,153	(19,153)
4. Total	$ 7,928	$ 22,404	$ (14,476)

C. Deferred Outflows and Deferred Inflows of Resources by Source to be recognized in Future Pension Expenses

	Deferred Outflows of Resources	Deferred Inflows of Resources	Net Deferred Outflows of Resources
1. Differences between expected and actual experience	$ -	$ 13,006	$ (13,006)
2. Assumption Changes	31,714	-	31,714
3. Net Difference between projected and actual earnings on pension plan investments	-	76,610	(76,610)
4. Total	$ 31,714	$ 89,616	$ (57,902)

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

Year Ending June 30	Net Deferred Outflows of Resources
2015	$ (14,476)
2016	(14,476)
2017	(14,476)
2018	(14,474)
2019	-
Thereafter	0
Total	$ (57,902)

STATEMENT OF FIDUCIARY NET POSITION

as of June 30, 2014 *(Dollars in Thousands)*

		2014
Assets		
Cash and Deposits	$	14,216
Receivables		
Accounts Receivable - Sale of Investments	$	-
Accrued Interest and Other Dividends		-
Contributions		-
Accounts Receivable - Other		-
Total Receivables	$	-
Investments		
Fixed Income	$	262,961
Equities		682,212
Real Estate		70,650
Other		21,289
Total Investments	$	1,037,112
Total Assets	$	1,051,328
Liabilities		
Payables		
Accounts Payable - Purchase of Investments	$	4,853
Accrued Expenses		1,040
Accounts Payable - Other		-
Total Liabilities	$	5,893
Net Position Restricted for Pensions	$	1,045,435

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

for Year Ended June 30, 2014 *(Dollars in Thousands)*

		2014
Additions		
Contributions		
Employer	$	24,532
Employee		16,564
Other		10,665
Total Contributions	$	51,761
Investment Income		
Net Appreciation in Fair Value of Investments	$	157,581
Interest and Dividends		15,118
Less Investment Expense		(4,523)
Net Investment Income	$	168,176
Other	$	-
Total Additions	$	219,937
Deductions		
Benefit payments, including refunds of employee contributions	$	106,845
Pension Plan Administrative Expense		739
Other		-
Total Deductions	$	107,584
Net Increase in Net Position	$	112,353
Net Position Restricted for Pensions		
Beginning of Year	$	933,082
End of Year	$	1,045,435

SECTION C

REQUIRED SUPPLEMENTARY INFORMATION

Schedule of Changes in Net Pension Liability and Related Ratios Current Period

Fiscal Year Ended June 30, 2014 *(Dollars in Thousands)*

A. Total pension liability		
1. Service Cost	$	22,954
2. Interest on the Total Pension Liability		118,503
3. Changes of benefit terms		0
4. Difference between expected and actual experience of the Total Pension Liability		(16,257)
5. Changes of assumptions*		39,642
6. Benefit payments, including refunds of employee contributions		(106,845)
7. Net change in total pension liability	$	57,997
8. Total pension liability – beginning		1,523,230
9. Total pension liability – ending	**$**	**1,581,227**
B. Plan fiduciary net position		
1. Contributions – employer	$	35,197
2. Contributions – employee		16,564
3. Net investment income		168,176
4. Benefit payments, including refunds of employee contributions		(106,845)
5. Pension Plan Administrative Expense		(739)
6. Other		-
7. Net change in plan fiduciary net position	$	112,353
8. Plan fiduciary net position – beginning		933,082
9. Plan fiduciary net position – ending	**$**	**1,045,435**
C. Net pension liability	**$**	**535,792**
D. Plan fiduciary net position as a percentage of the total pension liability		**66.12%**
E. Covered-employee payroll	**$**	**259,740**
F. Net pension liability as a percentage of covered employee payroll		**206.28%**

** As of July 1, 2013, the COLA was assumed to increase from 1% to 2% on January 1, 2056. As of July 1, 2014, the COLA is assumed to increase from 1% to 2% on January 1, 2032; and from 2% to 3% (current inflation assumption) on January 1, 2044.*

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

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

Last 10 Fiscal Years (to be completed prospectively, commencing with 2014)

Fiscal year ending June 30,	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005
Total Pension Liability										
Service Cost	$ 22,954									
Interest on the Total Pension Liability	118,503									
Benefit Changes	-									
Difference between Expected and Actual Experience	(16,257)									
Assumption Changes	39,642									
Benefit Payments	(105,742)									
Refunds	(1,103)									
Net Change in Total Pension Liability	57,997									
Total Pension Liability - Beginning	1,523,230									
Total Pension Liability - Ending (a)	$ 1,581,227									
Plan Fiduciary Net Position										
Employer Contributions	$ 35,197									
Employee Contributions	16,564									
Pension Plan Net Investment Income	168,176									
Benefit Payments	(105,742)									
Refunds	(1,103)									
Pension Plan Administrative Expense	(739)									
Other	0									
Net Change in Plan Fiduciary Net Position	112,353									
Plan Fiduciary Net Position - Beginning	933,082									
Plan Fiduciary Net Position - Ending (b)	$ 1,045,435									
Net Pension Liability - Ending (a) - (b)	535,792									
Plan Fiduciary Net Position as a Percentage of Total Pension Liability	66.12 %									
Covered Employee Payroll	$ 259,740									
Net Pension Liability as a Percentage of Covered Employee Payroll	206.28 %									

Notes to Schedule:

N/A

SCHEDULES OF REQUIRED SUPPLEMENTARY INFORMATION

Schedule of the Net Pension Liability Multiyear *(Dollars in Thousands)*

Last 10 Fiscal Years (to be completed prospectively, commencing with 2014)

FY Ending June 30,	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2005			$ -			
2006			-			
2007			-			
2008			-			
2009			-			
2010			-			
2011			-			
2012			-			
2013			-			
2014	$ 1,581,227	$ 1,045,435	$ 535,792	66.12%	$ 259,740	206.28%

SCHEDULE OF CONTRIBUTIONS MULTIYEAR *(DOLLARS IN THOUSANDS)*

Last 10 Fiscal Years

FY Ending June 30,	Actuarially Determined Contribution	Actual Contribution	Contribution Deficiency (Excess)	Covered Payroll	Actual Contribution as a % of Covered Payroll
2005	$ 34,723	$ 23,833	$ 10,890	$ 223,762	10.65%
2006	40,373	24,015	16,358	226,351	10.61
2007	42,823	24,117	18,706	229,172	10.52
2008	41,580	24,285	17,295	235,993	10.29
2009	29,007	24,844	4,163	243,166	10.22
2010	30,328	25,126	5,202	239,996	10.47
2011	33,819	25,090	8,729	239,738	10.47
2012	29,797	25,109	4,688	239,053	10.50
2013	41,424	26,445	14,979	247,432	10.69
2014	40,916	35,197	5,719	259,740	13.55

NOTES TO SCHEDULE OF CONTRIBUTIONS

Valuation Date:	June 30, 2014
Notes	Actuarially determined contribution rates are calculated as of each July 1.

Methods and Assumptions Used to Determine Contribution Rates:

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level Percentage of Payroll, Closed
Remaining Amortization Period	28 years
Asset Valuation Method	5-Year smoothed market; no corridor
Inflation	3.00%
Salary Increases	4.00% to 8.90%; age and service based
Investment Rate of Return	8.00% through June 30, 2017; 8.50% thereafter
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition. Last updated for the 2012 valuation pursuant to an experience study of the period 2006 - 2011.
Mortality	RP-2000 Combined Mortality Table, projected with scale AA to 2020, set back one year for males and set back three years for females.

Other Information:

Notes	The plan is assumed to pay a 2.0% post retirement benefit increase beginning January 1, 2029, and a 3.0% post retirement benefit increase beginning January 1, 2038. See separate funding report as of July 1, 2014 for additional detail.

SCHEDULE OF INVESTMENT RETURNS MULTIYEAR

Last 10 Fiscal Years (to be completed prospectively, commencing with 2014)

FY Ending June 30,	Annual Return[1]
2005	
2006	
2007	
2008	
2009	
2010	
2011	
2012	
2013	
2014	18.50 %

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

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

Rate of Return

The Association's money-weighted rate of return for the year ending June 30, 2014 was 18.50% (net). The money-weighted rate of return expresses investment performance, net of investment expenses, adjusted for the actual cash flows that took place during the performance period.

10-Year Schedule of Money-Weighted Investment Return

This schedule is presented to illustrate the requirement to show information for 10 years. However, until a full 10-year trend is compiled, SPTRFA will present information for those years for which information is available.

SECTION D

ADDITIONAL FINANCIAL STATEMENT DISCLOSURES

Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments used in determination of the Total Pension Liability is 8.0 percent. This rate was determined using a building-block method in which best-estimate ranges of expected future real rates of return are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return were adopted by the Board of Trustees after considering input from the Fund's investment consultant and actuary. Best estimates for each major asset class included in the target asset allocation as of June 30, 2014, are summarized in the table below:

Long-Term Expected Real Rate of Return*

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return (Arithmetic)
Domestic Equity	35%	6.55%
International Equity	20%	6.98%
Fixed Income	20%	3.45%
Real Assets	11%	3.90%
Private Equity & Alternatives	9%	7.47%
Opportunistic	5%	6.08%
Total	**100%**	

*For purposes of these calculations, SPTRFA's assumed inflation rate is 2.75%.

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

Single Discount Rate

A single discount rate of 8.00% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 8.00%. The projection of cash flows used to determine this single discount rate assumed that plan member and employer contributions will be made at the current contribution statutory rates. Based on these assumptions, the pension plan’s fiduciary net position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Regarding the sensitivity of the net pension liability to changes in the single discount rate, the following presents the plan’s net pension liability, calculated using a single discount rate of 8.00%, as well as what the plan’s net pension liability would be if it were calculated using a single discount rate that is 100 basis points lower or 100 basis points higher:

Sensitivity of Net Pension Liability to the Single Discount Rate Assumption

(Dollars in Thousands)

1% Decrease 7.00%	Current Single Discount Rate Assumption 8.00%	1% Increase 9.00%
$718,086	$535,792	$385,103

Reconciliation of Members

Summary of Changes in Participant Status During Fiscal Year Ending June 30, 2014

	Active Participants	Leave of Absence	Vested Terminated	Other Non-Vested	Retired Participants	Disableds	Survivors and Beneficiaries	Alternate Payees[2]	Total
A. Number as of June 30, 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 disableds.*

GASB RECONCILIATION (DOLLARS IN THOUSANDS)

	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a) - (b)	Deferred Outflows	Deferred Inflows	Pension Expense
Balance Beginning of Year	**$ 1,523,230**	**$ 933,082**	**$ 590,148**			
Changes for the Year:						
Service Cost	22,954		22,954			22,954
Interest on Total Pension Liability	118,503		118,503			118,503
Interest on Plan Fiduciary Net Position		72,413	(72,413)			(72,413)
Changes in Benefit Terms	-		-			-
Liability Experience Gains and Losses	(16,257)		(16,257)	-	13,006	(3,251)
Changes in Assumptions	39,642		39,642	31,714	-	7,928
Contributions - Employer		35,197	(35,197)			
Contributions - Employees		16,564	(16,564)			(16,564)
Asset Gain/(Loss)		95,763	(95,763)	-	76,610	(19,153)
Benefit Payouts	(106,845)	(106,845)	-			-
Administrative Expenses		(739)	739			739
Other		-	-			-
			-			-
Net Changes	**$ 57,997**	**$ 112,353**	**$ (54,356)**	**$ 31,714**	**$ 89,616**	**$ 38,743**
Balance End of Year	**$ 1,581,227**	**$ 1,045,435**	**$ 535,792**	**$ 31,714**	**$ 89,616**	

SECTION E

SUMMARY OF BENEFIT PROVISIONS

SUMMARY OF BENEFIT PROVISIONS FOR BASIC MEMBERS

STATUTORY CONTRIBUTIONS

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

Contribution After June 30,	Member	Employer
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

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.

Age at Retirement	Under Age 62 or less than 30 years of service	Age 62 or older with 30 years of service
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

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

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 is 1.00 percent
Between 80 percent and 90 percent for two consecutive years, the COLA is 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 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.

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS

STATUTORY CONTRIBUTIONS

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

Contribution After June 30,	Member	Employer
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

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.

	Under Age 62 or less than 30 years of service		Age 62 or older with 30 years of service	
Normal retirement age:	**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

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.

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS

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.

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.

SUMMARY OF BENEFIT PROVISIONS FOR COORDINATED MEMBERS

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 is 1.00 percent
Between 80 percent and 90 percent for two consecutive years, the COLA is 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 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 F

ACTUARIAL COST METHOD AND ACTUARIAL ASSUMPTIONS

Actuarial Methods

Actuarial Cost Method

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

(i) the annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement;

(ii) each annual normal cost is a constant percentage of the member's year by year projected covered pay.

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

Asset Value

Fair market value

Valuation of Future COLAs

Benefit recipients receive a future annual 1.0% COLA. If the funding ratio reaches 80% for two consecutive years, the COLA will increase to 2.0%. If the funding ratio reaches 90% for two consecutive years, the benefit will revert to a CPI-based COLA (currently assumed to be 3%).

To determine an assumption regarding a future change in the COLA, we performed a projection of liabilities and assets based on the following methods and assumptions:

- Future investment returns of 8.00%
- Liabilities and normal cost based on statutory funding assumptions
    - Discount rate of 8.00% through June 30, 2017; 8.50% thereafter
    - Statutory salary increases
- Open group; stable active population (new member profile based on average new members hired in recent years)
- The COLA is assumed to be 1.00% per year until the funding ratio thresholds required to pay a 2.00% or CPI-based COLA (currently assumed to be 3.00%) are reached

Based on these assumptions and methods, the July 1, 2014 projection indicates that this plan is expected to attain the funding ratio threshold required to increase the COLA from 1% to 2% on January 1, 2032; and from 2% to a CPI-based COLA (currently assumed to be 3.00%) on January 1, 2044. These assumptions are reflected in our calculations.

To determine liabilities as of July 1, 2013, we performed a similar projection. The Fund was expected to pay a 2.00% COLA effective January 1, 2056. The threshold for a CPI-based COLA (currently assumed to be 3.00%) was not expected to be attained.

II. CURRENT ACTUARIAL ASSUMPTIONS

The demographic 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. The investment return assumption of 8.00% was adopted by the Board for GASB purposes only in November 2014.

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:
   a. Male: RP-2000 Disabled Life Mortality Table for males
   b. 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.*

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

	Healthy Mortality		Disabled Mortality	
Age	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

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

	Healthy Mortality		Disabled Mortality	
Age	**Male**	**Female**	**Male**	**Female**
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

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		

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

B. Economic Assumptions

Investment Return Rate: 8.00% per annum

Cost of Living Increases: 1.00% per annum through 2031; 2.00% through 2043; 3.00% thereafter

Wage Inflation: 4.00% per annum

Future Salary Increases: In addition to the age-based rates shown on the following page, 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		

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:	Total prior year administrative expenses expressed as a percentage of prior year projected payroll are assumed to increase 4.00% per year and are allocated to the closed group based on the ratio of closed group payroll to total 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.
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 G

CALCULATION OF THE SINGLE DISCOUNT RATE

CALCULATION OF THE SINGLE DISCOUNT RATE

GASB Statement No. 67 includes a specific requirement for the discount rate that is used for the purpose of the measurement of the Total Pension Liability. This rate considers the ability of the fund to meet benefit obligations in the future. To make this determination, employer contributions, employee contributions, benefit payments, expenses and investment returns are projected into the future. The Plan Net Position (assets) in future years can then be determined and compared to its obligation to make benefit payments in those years. As long as assets are projected to be on hand in a future year, the assumed valuation discount rate is used. In years where assets are not projected to be sufficient to meet benefit payments, the use of a “risk-free” rate is required, as described in the following paragraph.

The *single discount rate* (SDR) is equivalent to applying these two rates to the benefits that are projected to be paid during the different time periods. The SDR reflects (1) the long-term expected rate of return on pension plan investments (during the period in which the fiduciary net position is projected to be sufficient to pay benefits) and (2) tax-exempt municipal bond rate based on an index of 20-year general obligation bonds with an average AA credit rating (which is published by the Federal Reserve) as of the measurement date (to the extent that the contributions for use with the long-term expected rate of return are not met).

For the purpose of calculating values as of July 1, 2014 in this valuation, the expected rate of return on pension plan investments is 8.00%; the municipal bond rate is 4.29%; and the resulting single discount rate is 8.00%.

The tables in this section provide background for the development of the single discount rate.

The **Projection of Contributions** table shows the development of expected contributions in future years. Normal Cost contributions for future hires are not included (nor are their liabilities).

The **Projection of Plan Fiduciary Net Position** table shows the development of expected asset levels in future years.

The **Present Values of Projected Benefit Payments** table shows the development of the Single Discount Rate (SDR). It breaks down the benefit payments into present values for funded and unfunded portions and shows the equivalent total at the SDR.

We performed a similar analysis as of July 1, 2013. Based on an expected return of 8.00% and a municipal bond rate of 4.63%, the plan was projected to have sufficient assets to pay all benefits. **The resulting single discount rate as of July 1, 2013 was 8.00%.**

SINGLE DISCOUNT RATE DEVELOPMENT

Projection of Contributions *(Dollars in Thousands)*

	Payroll			Projected Contributions				
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Employer Contributions on Future Payroll toward current UAL*	Supplemental Contributions	Total Contributions
0	$ 259,740	$ -	$ 259,740					
1	273,990	-	273,990	$ 17,809	$ 25,591	$ -	$ 10,665	$ 54,065
2	263,514	21,436	284,950	18,446	25,930	1,597	10,665	56,638
3	257,151	39,197	296,348	19,286	25,947	3,214	10,665	59,112
4	252,267	55,935	308,202	18,920	26,084	4,726	10,665	60,395
5	248,527	72,003	320,530	18,640	25,698	6,084	10,665	61,087
6	244,764	88,587	333,351	18,357	25,309	7,486	10,665	61,817
7	240,887	105,798	346,685	18,067	24,908	8,940	10,665	62,580
8	237,160	123,393	360,553	17,787	24,522	10,427	10,665	63,401
9	233,821	141,154	374,975	17,537	24,177	11,927	10,665	64,306
10	230,582	159,392	389,974	17,294	23,842	13,469	10,665	65,270
11	227,221	178,352	405,573	17,042	23,495	15,071	10,665	66,273
12	223,707	198,088	421,795	16,778	23,131	16,738	10,665	67,312
13	219,854	218,813	438,667	16,489	22,733	18,490	10,665	68,377
14	215,629	240,585	456,214	16,172	22,296	20,329	10,665	69,462
15	210,866	263,597	474,463	15,815	21,804	22,274	10,665	70,558
16	205,370	288,071	493,441	15,403	21,235	24,342	10,665	71,645
17	199,090	314,089	513,179	14,932	20,586	26,540	10,665	72,723
18	192,030	341,676	533,706	14,402	19,856	28,872	10,665	73,795
19	184,262	370,792	555,054	13,820	19,053	31,332	10,665	74,870
20	175,808	401,448	577,256	13,186	18,179	33,922	10,665	75,952
21	166,845	433,501	600,346	12,513	17,252	36,631	10,665	77,061
22	157,359	467,001	624,360	11,802	16,271	39,462	10,665	78,200
23	147,668	501,667	649,335	11,075	15,269	42,391	10,665	79,400
24	137,734	537,574	675,308	10,330	14,242	45,425	7,000	76,997
25	127,577	574,743	702,320	9,568	13,191	48,566	7,000	78,325
26	117,478	612,935	730,413	8,811	12,147	51,793	7,000	79,751
27	107,251	652,379	759,630	8,044	11,090	55,126	7,000	81,260
28	97,214	692,801	790,015	7,291	10,052	58,542	7,000	82,885
29	87,275	734,341	821,616	6,546	9,024	62,052	-	77,622
30	77,484	776,996	854,480	5,811	8,012	65,656	-	79,479
31	67,951	820,708	888,659	5,096	7,026	69,350	-	81,472
32	58,703	865,503	924,206	4,403	6,070	73,135	-	83,608
33	49,933	911,241	961,174	3,745	5,163	77,000	-	85,908
34	41,733	957,888	999,621	3,130	4,315	80,942	-	88,387
35	34,171	1,005,435	1,039,606	2,563	3,533	84,959	-	91,055
36	27,309	1,053,881	1,081,190	2,048	2,824	89,053	-	93,925
37	21,178	1,103,260	1,124,438	1,588	2,190	93,225	-	97,003
38	15,819	1,153,596	1,169,415	1,186	1,636	97,479	-	100,301
39	11,485	1,204,707	1,216,192	861	1,188	101,798	-	103,847
40	7,995	1,256,844	1,264,839	600	827	106,203	-	107,630
41	5,269	1,310,164	1,315,433	395	545	110,709	-	111,649
42	3,251	1,364,799	1,368,050	244	336	115,326	-	115,906
43	1,885	1,420,887	1,422,772	141	195	120,065	-	120,401
44	1,105	1,478,578	1,479,683	83	114	124,940	-	125,137
45	528	1,538,342	1,538,870	40	55	129,990	-	130,085
46	214	1,600,211	1,600,425	16	22	135,218	-	135,256
47	53	1,664,389	1,664,442	4	5	140,641	-	140,650
48	6	1,731,014	1,731,020	-	1	146,271	-	146,272
49	-	1,800,261	1,800,261	-	-	152,122	-	152,122
50	-	1,872,271	1,872,271	-	-	158,207	-	158,207

**Contributions related to future employees in excess of normal cost and expenses of 9.39% of pay.*

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

SINGLE DISCOUNT RATE DEVELOPMENT

Projection of Contributions (continued) *(Dollars in Thousands)*

	Payroll			Projected Contributions				
Year	Payroll for Current Employees	Payroll for New Employees	Total Employee Payroll	Contributions from Current Employees	Employer Contributions for Current Employees	Employer Contributions on Future Payroll toward current UAL*	Supplemental Contributions	Total Contributions
51	-	1,947,162	1,947,162	$ -	$ -	$ 164,535	$ -	$ 164,535
52	-	2,025,049	2,025,049	-	-	171,117	-	171,117
53	-	2,106,051	2,106,051	-	-	177,961	-	177,961
54	-	2,190,293	2,190,293	-	-	185,080	-	185,080
55	-	2,277,904	2,277,904	-	-	192,483	-	192,483
56	-	2,369,020	2,369,020	-	-	200,182	-	200,182
57	-	2,463,781	2,463,781	-	-	208,190	-	208,190
58	-	2,562,332	2,562,332	-	-	216,517	-	216,517
59	-	2,664,826	2,664,826	-	-	225,178	-	225,178
60	-	2,771,419	2,771,419	-	-	234,185	-	234,185
61	-	2,882,276	2,882,276	-	-	243,552	-	243,552
62	-	2,997,567	2,997,567	-	-	253,294	-	253,294
63	-	3,117,469	3,117,469	-	-	263,426	-	263,426
64	-	3,242,168	3,242,168	-	-	273,963	-	273,963
65	-	3,371,855	3,371,855	-	-	284,922	-	284,922
66	-	3,506,729	3,506,729	-	-	296,319	-	296,319
67	-	3,646,998	3,646,998	-	-	308,171	-	308,171
68	-	3,792,878	3,792,878	-	-	320,498	-	320,498
69	-	3,944,593	3,944,593	-	-	333,318	-	333,318
70	-	4,102,377	4,102,377	-	-	346,651	-	346,651
71	-	4,266,472	4,266,472	-	-	360,517	-	360,517
72	-	4,437,131	4,437,131	-	-	374,938	-	374,938
73	-	4,614,616	4,614,616	-	-	389,935	-	389,935
74	-	4,799,201	4,799,201	-	-	405,532	-	405,532
75	-	4,991,169	4,991,169	-	-	421,754	-	421,754
76	-	5,190,815	5,190,815	-	-	438,624	-	438,624
77	-	5,398,448	5,398,448	-	-	456,169	-	456,169
78	-	5,614,386	5,614,386	-	-	474,416	-	474,416
79	-	5,838,961	5,838,961	-	-	493,392	-	493,392
80	-	6,072,520	6,072,520	-	-	513,128	-	513,128
81	-	6,315,421	6,315,421	-	-	533,653	-	533,653
82	-	6,568,038	6,568,038	-	-	554,999	-	554,999
83	-	6,830,759	6,830,759	-	-	577,199	-	577,199
84	-	7,103,989	7,103,989	-	-	600,287	-	600,287
85	-	7,388,149	7,388,149	-	-	624,299	-	624,299
86	-	7,683,675	7,683,675	-	-	649,271	-	649,271
87	-	7,991,022	7,991,022	-	-	675,241	-	675,241
88	-	8,310,663	8,310,663	-	-	702,251	-	702,251
89	-	8,643,089	8,643,089	-	-	730,341	-	730,341
90	-	8,988,813	8,988,813	-	-	759,555	-	759,555
91	-	9,348,365	9,348,365	-	-	789,937	-	789,937
92	-	9,722,300	9,722,300	-	-	821,534	-	821,534
93	-	10,111,192	10,111,192	-	-	854,396	-	854,396
94	-	10,515,640	10,515,640	-	-	888,572	-	888,572
95	-	10,936,265	10,936,265	-	-	924,114	-	924,114
96	-	11,373,716	11,373,716	-	-	961,079	-	961,079
97	-	11,828,665	11,828,665	-	-	999,522	-	999,522
98	-	12,301,811	12,301,811	-	-	1,039,503	-	1,039,503
99	-	12,793,884	12,793,884	-	-	1,081,083	-	1,081,083
100	-	13,305,639	13,305,639	-	-	1,124,326	-	1,124,326

**Contributions related to future employees in excess of normal cost and expenses of 9.39% of pay.*

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

SINGLE DISCOUNT RATE DEVELOPMENT

Projection of Plan Fiduciary Net Position *(Dollars in Thousands)*

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
1	$ 1,045,435	$ 54,065	$ 111,008	$ 740	$ 81,372	$ 1,069,124
2	1,069,124	56,638	113,911	711	83,255	1,094,395
3	1,094,395	59,112	116,554	694	85,271	1,121,530
4	1,121,530	60,395	119,115	681	87,392	1,149,521
5	1,149,521	61,087	121,540	671	89,564	1,177,961
6	1,177,961	61,817	123,748	661	91,781	1,207,150
7	1,207,150	62,580	126,071	650	94,056	1,237,065
8	1,237,065	63,401	128,217	640	96,397	1,268,006
9	1,268,006	64,306	130,057	631	98,836	1,300,460
10	1,300,460	65,270	131,699	623	101,406	1,334,814
11	1,334,814	66,273	133,416	613	104,127	1,371,185
12	1,371,185	67,312	134,968	604	107,017	1,409,942
13	1,409,942	68,377	136,629	594	110,094	1,451,190
14	1,451,190	69,462	138,279	582	113,372	1,495,163
15	1,495,163	70,558	139,924	569	116,869	1,542,097
16	1,542,097	71,645	141,760	554	120,595	1,592,023
17	1,592,023	72,723	143,960	538	124,546	1,644,794
18	1,644,794	73,795	147,504	518	128,671	1,699,238
19	1,699,238	74,870	151,844	498	132,899	1,754,665
20	1,754,665	75,952	156,407	475	137,198	1,810,933
21	1,810,933	77,061	160,911	450	141,567	1,868,200
22	1,868,200	78,200	165,578	425	146,011	1,926,408
23	1,926,408	79,400	170,332	399	150,529	1,985,606
24	1,985,606	76,997	175,264	372	154,979	2,041,946
25	2,041,946	78,325	179,945	344	159,355	2,099,337
26	2,099,337	79,751	184,328	317	163,832	2,158,275
27	2,158,275	81,260	188,762	290	168,433	2,218,916
28	2,218,916	82,885	192,720	262	173,194	2,282,013
29	2,282,013	77,622	196,802	236	177,876	2,340,473
30	2,340,473	79,479	202,540	209	182,402	2,399,605
31	2,399,605	81,472	207,927	183	187,000	2,459,967
32	2,459,967	83,608	212,931	158	191,717	2,522,203
33	2,522,203	85,908	217,622	135	196,603	2,586,957
34	2,586,957	88,387	222,017	113	201,709	2,654,923
35	2,654,923	91,055	225,872	92	207,101	2,727,115
36	2,727,115	93,925	228,661	74	212,880	2,805,185
37	2,805,185	97,003	231,077	57	219,152	2,890,206
38	2,890,206	100,301	232,519	43	226,028	2,983,973
39	2,983,973	103,847	232,863	31	233,655	3,088,581
40	3,088,581	107,630	232,048	22	242,204	3,206,345
41	3,206,345	111,649	230,254	14	251,854	3,339,580
42	3,339,580	115,906	227,551	9	262,786	3,490,712
43	3,490,712	120,401	223,960	5	275,194	3,662,342
44	3,662,342	125,137	219,486	3	289,285	3,857,275
45	3,857,275	130,085	214,406	1	305,274	4,078,227
46	4,078,227	135,256	208,663	1	323,378	4,328,197
47	4,328,197	140,650	202,348	-	343,835	4,610,334
48	4,610,334	146,272	195,498	-	366,895	4,928,003
49	4,928,003	152,122	188,193	-	392,825	5,284,757
50	5,284,757	158,207	180,491	-	421,906	5,684,379

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

SINGLE DISCOUNT RATE DEVELOPMENT

Projection of Plan Fiduciary Net Position (continued) *(Dollars in Thousands)*

Year	Projected Beginning Plan Net Position	Projected Total Contributions	Projected Benefit Payments	Projected Administrative Expenses	Projected Investment Earnings at 8.00%	Projected Ending Plan Net Position
	(a)	(b)	(c)	(d)	(e)	(f)=(a)+(b)-(c)-(d)+(e)
51	$ 5,684,379	$ 164,535	$ 172,432	$ -	$ 454,440	$ 6,130,922
52	6,130,922	171,117	164,057	-	490,750	6,628,732
53	6,628,732	177,961	155,411	-	531,183	7,182,465
54	7,182,465	185,080	146,547	-	576,108	7,797,106
55	7,797,106	192,483	137,523	-	625,924	8,477,990
56	8,477,990	200,182	128,395	-	681,055	9,230,832
57	9,230,832	208,190	119,225	-	741,956	10,061,753
58	10,061,753	216,517	110,073	-	809,116	10,977,313
59	10,977,313	225,178	101,008	-	883,056	11,984,539
60	11,984,539	234,185	92,094	-	964,337	13,090,967
61	13,090,967	243,552	83,388	-	1,053,560	14,304,691
62	14,304,691	253,294	74,953	-	1,151,371	15,634,403
63	15,634,403	263,426	66,850	-	1,258,463	17,089,442
64	17,089,442	273,963	59,134	-	1,375,583	18,679,854
65	18,679,854	284,922	51,855	-	1,503,531	20,416,452
66	20,416,452	296,319	45,060	-	1,643,172	22,310,883
67	22,310,883	308,171	38,789	-	1,795,438	24,375,703
68	24,375,703	320,498	33,065	-	1,961,332	26,624,468
69	26,624,468	333,318	27,903	-	2,141,938	29,071,821
70	29,071,821	346,651	23,308	-	2,338,430	31,733,594
71	31,733,594	360,517	19,270	-	2,552,074	34,626,915
72	34,626,915	374,938	15,764	-	2,784,243	37,770,332
73	37,770,332	389,935	12,759	-	3,036,423	41,183,931
74	41,183,931	405,532	10,219	-	3,310,222	44,889,466
75	44,889,466	421,754	8,100	-	3,607,384	48,910,504
76	48,910,504	438,624	6,354	-	3,929,798	53,272,572
77	53,272,572	456,169	4,930	-	4,279,507	58,003,318
78	58,003,318	474,416	3,785	-	4,658,728	63,132,677
79	63,132,677	493,392	2,875	-	5,069,857	68,693,051
80	68,693,051	513,128	2,159	-	5,515,489	74,719,509
81	74,719,509	533,653	1,601	-	5,998,433	81,249,994
82	81,249,994	554,999	1,171	-	6,521,726	88,325,548
83	88,325,548	577,199	845	-	7,088,654	95,990,556
84	95,990,556	600,287	600	-	7,702,770	104,293,013
85	104,293,013	624,299	419	-	8,367,915	113,284,808
86	113,284,808	649,271	287	-	9,088,244	123,022,036
87	123,022,036	675,241	194	-	9,868,244	133,565,327
88	133,565,327	702,251	128	-	10,712,770	144,980,220
89	144,980,220	730,341	83	-	11,627,065	157,337,543
90	157,337,543	759,555	53	-	12,616,798	170,713,843
91	170,713,843	789,937	33	-	13,688,095	185,191,842
92	185,191,842	821,534	19	-	14,847,575	200,860,932
93	200,860,932	854,396	11	-	16,102,392	217,817,709
94	217,817,709	888,572	6	-	17,460,275	236,166,550
95	236,166,550	924,114	3	-	18,929,577	256,020,238
96	256,020,238	961,079	1	-	20,519,322	277,500,638
97	277,500,638	999,522	-	-	22,239,262	300,739,422
98	300,739,422	1,039,503	-	-	24,099,933	325,878,858
99	325,878,858	1,081,083	-	-	26,112,719	353,072,660
100	353,072,660	1,124,326	-	-	28,289,920	382,486,906

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

SINGLE DISCOUNT RATE DEVELOPMENT

Present Values of Projected Benefits *(Dollars in Thousands)*

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
1	$ 1,045,435	$ 111,008	$ 111,008	$ -	$ 106,817	$ -	$ 106,817
2	1,069,125	113,911	113,911	-	101,492	-	101,492
3	1,094,395	116,554	116,554	-	96,154	-	96,154
4	1,121,530	119,115	119,115	-	90,988	-	90,988
5	1,149,522	121,540	121,540	-	85,963	-	85,963
6	1,177,961	123,748	123,748	-	81,042	-	81,042
7	1,207,150	126,071	126,071	-	76,447	-	76,447
8	1,237,063	128,217	128,217	-	71,989	-	71,989
9	1,268,004	130,057	130,057	-	67,613	-	67,613
10	1,300,457	131,699	131,699	-	63,395	-	63,395
11	1,334,811	133,416	133,416	-	59,464	-	59,464
12	1,371,180	134,968	134,968	-	55,700	-	55,700
13	1,409,938	136,629	136,629	-	52,209	-	52,209
14	1,451,187	138,279	138,279	-	48,925	-	48,925
15	1,495,161	139,924	139,924	-	45,840	-	45,840
16	1,542,094	141,760	141,760	-	43,002	-	43,002
17	1,592,020	143,960	143,960	-	40,434	-	40,434
18	1,644,791	147,504	147,504	-	38,361	-	38,361
19	1,699,235	151,844	151,844	-	36,564	-	36,564
20	1,754,662	156,407	156,407	-	34,873	-	34,873
21	1,810,929	160,911	160,911	-	33,220	-	33,220
22	1,868,196	165,578	165,578	-	31,651	-	31,651
23	1,926,404	170,332	170,332	-	30,148	-	30,148
24	1,985,603	175,264	175,264	-	28,723	-	28,723
25	2,041,942	179,945	179,945	-	27,306	-	27,306
26	2,099,334	184,328	184,328	-	25,899	-	25,899
27	2,158,272	188,762	188,762	-	24,558	-	24,558
28	2,218,912	192,720	192,720	-	23,215	-	23,215
29	2,282,008	196,802	196,802	-	21,951	-	21,951
30	2,340,468	202,540	202,540	-	20,918	-	20,918
31	2,399,600	207,927	207,927	-	19,883	-	19,883
32	2,459,962	212,931	212,931	-	18,853	-	18,853
33	2,522,197	217,622	217,622	-	17,841	-	17,841
34	2,586,952	222,017	222,017	-	16,854	-	16,854
35	2,654,918	225,872	225,872	-	15,876	-	15,876
36	2,727,110	228,661	228,661	-	14,882	-	14,882
37	2,805,181	231,077	231,077	-	13,925	-	13,925
38	2,890,202	232,519	232,519	-	12,974	-	12,974
39	2,983,969	232,863	232,863	-	12,031	-	12,031
40	3,088,576	232,048	232,048	-	11,100	-	11,100
41	3,206,340	230,254	230,254	-	10,199	-	10,199
42	3,339,575	227,551	227,551	-	9,332	-	9,332
43	3,490,706	223,960	223,960	-	8,505	-	8,505
44	3,662,336	219,486	219,486	-	7,717	-	7,717
45	3,857,269	214,406	214,406	-	6,980	-	6,980
46	4,078,220	208,663	208,663	-	6,290	-	6,290
47	4,328,191	202,348	202,348	-	5,648	-	5,648
48	4,610,327	195,498	195,498	-	5,053	-	5,053
49	4,927,996	188,193	188,193	-	4,504	-	4,504
50	5,284,750	180,491	180,491	-	3,999	-	3,999

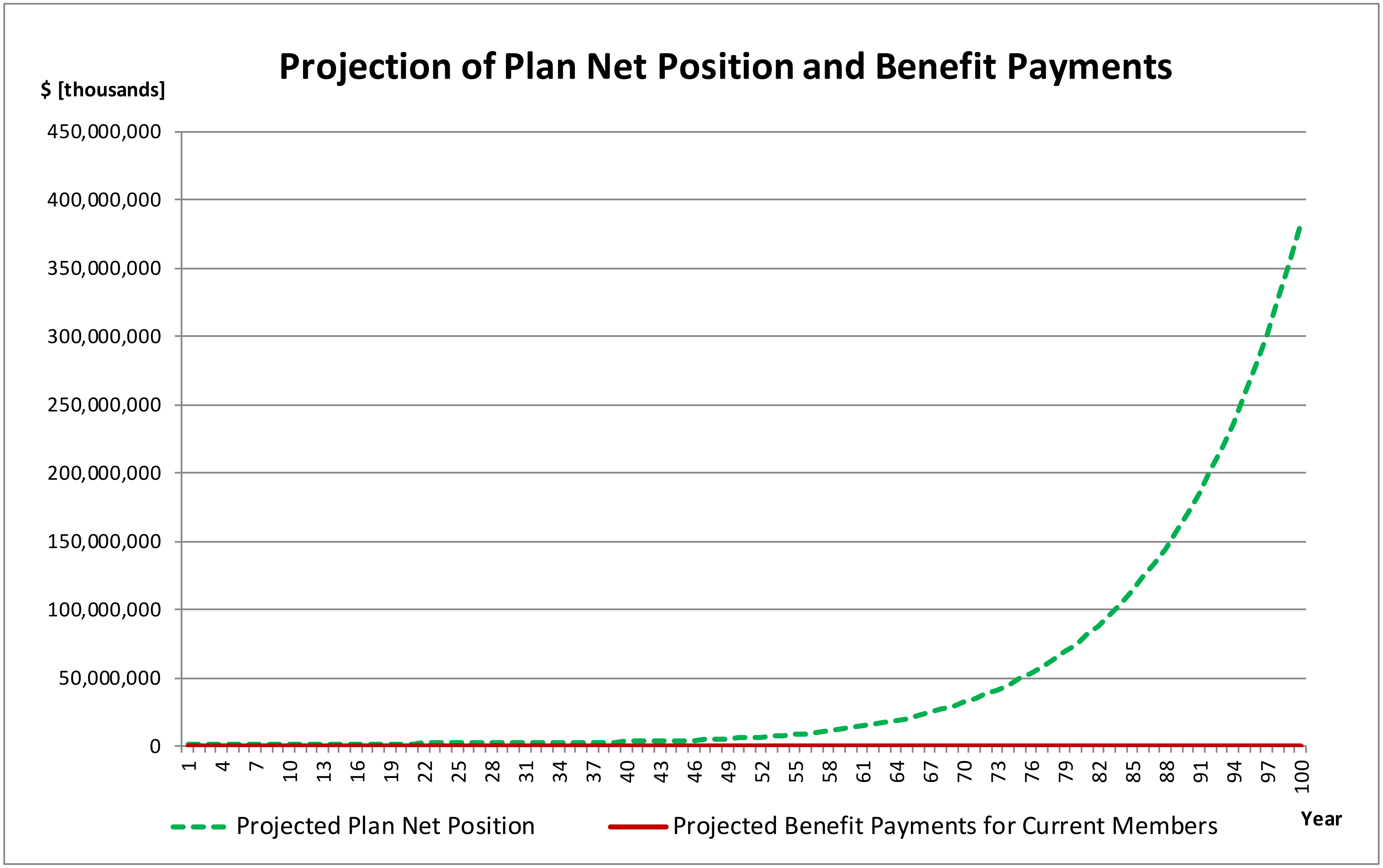
For purposes of this projection, based on GASB guidance, we assumed the current contribution rates would continue after the plan becomes fully funded. If we reflected a decrease in contribution rates due to full funding, future assets and contributions would be less than what is shown herein.

SINGLE DISCOUNT RATE DEVELOPMENT

Present Values of Projected Benefits (continued) *(Dollars in Thousands)*

Year	Projected Beginning Plan Net Position	Projected Benefit Payments	Funded Portion of Benefit Payments	Unfunded Portion of Benefit Payments	Present Value of Funded Benefit Payments using Expected Return Rate (v)	Present Value of Unfunded Benefit Payments using Municipal Bond Rate (vf)	Present Value of Benefit Payments using Single Discount Rate (sdr)
(a)	(b)	(c)	(d)	(e)	(f)=(d)*v^((a)-.5)	(g)=(e)*vf ^((a)-.5)	(h)=((c)/(1+sdr)^(a-.5)
51	$ 5,684,372	$ 172,432	$ 172,432	$ -	$ 3,538	$ -	$ 3,538
52	6,130,915	164,057	164,057	-	3,117	-	3,117
53	6,628,725	155,411	155,411	-	2,734	-	2,734
54	7,182,458	146,547	146,547	-	2,387	-	2,387
55	7,797,099	137,523	137,523	-	2,074	-	2,074
56	8,477,983	128,395	128,395	-	1,793	-	1,793
57	9,230,825	119,225	119,225	-	1,541	-	1,541
58	10,061,746	110,073	110,073	-	1,318	-	1,318
59	10,977,306	101,008	101,008	-	1,120	-	1,120
60	11,984,531	92,094	92,094	-	945	-	945
61	13,090,959	83,388	83,388	-	792	-	792
62	14,304,683	74,953	74,953	-	660	-	660
63	15,634,395	66,850	66,850	-	545	-	545
64	17,089,435	59,134	59,134	-	446	-	446
65	18,679,846	51,855	51,855	-	362	-	362
66	20,416,444	45,060	45,060	-	291	-	291
67	22,310,874	38,789	38,789	-	232	-	232
68	24,375,695	33,065	33,065	-	183	-	183
69	26,624,459	27,903	27,903	-	143	-	143
70	29,071,813	23,308	23,308	-	111	-	111
71	31,733,586	19,270	19,270	-	85	-	85
72	34,626,907	15,764	15,764	-	64	-	64
73	37,770,323	12,759	12,759	-	48	-	48
74	41,183,922	10,219	10,219	-	36	-	36
75	44,889,458	8,100	8,100	-	26	-	26
76	48,910,496	6,354	6,354	-	19	-	19
77	53,272,564	4,930	4,930	-	14	-	14
78	58,003,310	3,785	3,785	-	10	-	10
79	63,132,668	2,875	2,875	-	7	-	7
80	68,693,042	2,159	2,159	-	5	-	5
81	74,719,500	1,601	1,601	-	3	-	3
82	81,249,984	1,171	1,171	-	2	-	2
83	88,325,538	845	845	-	1	-	1
84	95,990,546	600	600	-	1	-	1
85	104,293,003	419	419	-	1	-	1
86	113,284,798	287	287	-	-	-	-
87	123,022,025	194	194	-	-	-	-
88	133,565,317	128	128	-	-	-	-
89	144,980,210	83	83	-	-	-	-
90	157,337,534	53	53	-	-	-	-
91	170,713,834	33	33	-	-	-	-
92	185,191,833	19	19	-	-	-	-
93	200,860,924	11	11	-	-	-	-
94	217,817,700	6	6	-	-	-	-
95	236,166,540	3	3	-	-	-	-
96	256,020,228	1	1	-	-	-	-
97	277,500,627	-	-	-	-	-	-
98	300,739,411	-	-	-	-	-	-
99	325,878,847	-	-	-	-	-	-
100	353,072,649	-	-	-	-	-	-
				Totals	$ 1,811,964	$ -	$ 1,811,964

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


Projection of Plan Net Position and Benefit Payments
$ [thousands]
450,000,000
400,000,000
350,000,000
300,000,000
250,000,000
200,000,000
150,000,000
100,000,000
50,000,000
0
1 4 7 10 13 16 19 22 25 28 31 34 37 40 43 46 49 52 55 58 61 64 67 70 73 76 79 82 85 88 91 94 97 100
Year
Projected Plan Net Position
Projected Benefit Payments for Current Members

SECTION H

GLOSSARY OF TERMS

GLOSSARY OF TERMS

Actuarial Accrued Liability (AAL) The AAL is the difference between the actuarial present value of all benefits and the actuarial value of future normal costs. The definition comes from the fundamental equation of funding which states that the present value of all benefits is the sum of the Actuarial Accrued Liability and the present value of future normal costs. The AAL may also be referred to as "accrued liability" or "actuarial liability."

Actuarial Assumptions These assumptions are estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and compensation increases. Actuarial assumptions are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (compensation increases, payroll growth, inflation and investment return) consist of an underlying real rate of return plus an assumption for a long-term average rate of inflation.

Accrued Service Service credited under the system which was rendered before the date of the actuarial valuation.

Actuarial Equivalent A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate actuarial assumptions.

Actuarial Cost Method A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of the pension trust benefits between future normal cost and actuarial accrued liability. The actuarial cost method may also be referred to as the actuarial funding method.

Actuarial Gain (Loss) The difference in liabilities between actual experience and expected experience during the period between two actuarial valuations is the gain (loss) on the accrued liabilities.

Actuarial Present Value (APV) The amount of funds currently required to provide a payment or series of payments in the future. The present value is determined by discounting future payments at predetermined rates of interest and probabilities of payment.

Actuarial Valuation The actuarial valuation report determines, as of the actuarial valuation date, the service cost, total pension liability, and related actuarial present value of projected benefit payments for pensions.

Actuarial Valuation Date The date as of which an actuarial valuation is performed.

Actuarially Determined Contribution (ADC) or Annual Required Contribution (ARC) A calculated contribution into a defined benefit pension plan for the reporting period, most often determined based on the funding policy of the plan. Typically the Actuarially Determined Contribution has a normal cost payment and an amortization payment.

GLOSSARY OF TERMS

Amortization Payment	The amortization payment is the periodic payment required to pay off an interest-discounted amount with payments of interest and principal.
Amortization Method	The method used to determine the periodic amortization payment may be a level dollar amount, or a level percent of pay amount. The period will typically be expressed in years, and the method will either be "open" (meaning, reset each year) or "closed" (the number of years remaining will decline each year.
Cost-of-Living Adjustments	Postemployment benefit changes intended to adjust benefit payments for the effects of inflation.
Cost-Sharing Multiple-Employer Defined Benefit Pension Plan (cost-sharing pension plan)	A multiple-employer defined benefit pension plan in which the pension obligations to the employees of more than one employer are pooled and pension plan assets can be used to pay the benefits of the employees of any employer that provides pensions through the pension plan.
Covered-Employee Payroll	The payroll of covered employees, which is typically only the pensionable pay and does not include pay above any pay cap.
Deferred Retirement Option Program (DROP)	A program that permits a plan member to elect a calculation of benefit payments based on service credits and salary, as applicable, as of the DROP entry date. The plan member continues to provide service to the employer and is paid for the service by the employer after the DROP entry date; however, the pensions that would have been paid to the plan member are credited to an individual member account within the defined benefit pension plan until the end of the DROP period. Other variations for DROP exist and will be more fully detailed in the plan provision section of the valuation report.
Deferred Inflows and Outflows	The deferred inflows and outflows of pension resources are amounts used under GASB Statement No. 68 in developing the annual pension expense. Deferred inflows and outflows arise with differences between expected and actual experiences; changes of assumptions. The portion of these amounts not included in pension expense should be included in the deferred inflows or outflows of resources.
Discount Rate	For GASB purposes, the discount rate is the single rate of return that results in the present value of all projected benefit payments to be equal to the sum of the funded and unfunded projected benefit payments, specifically: 1. The benefit payments to be made while the pension plans' fiduciary net position is projected to be greater than the benefit payments that are projected to be made in the period and; 2. The present value of the benefit payments not in (1) above, discounted using the municipal bond rate.

GLOSSARY OF TERMS

Entry Age Actuarial Cost Method (EAN)	The EAN is a funding method for allocating the costs of the plan between the normal cost and the accrued liability. The actuarial present value of the projected benefits of each individual included in an actuarial valuation is allocated on a level basis (either level dollar or level percent of pay) over the earnings or service of the individual between entry age and assumed exit ages(s). The portion of the actuarial present value allocated to a valuation year is the normal cost. The portion of this actuarial present value not provided for at a valuation date by the actuarial present value of future normal costs is the actuarial accrued liability. The sum of the accrued liability plus the present value of all future normal costs is the present value of all benefits.
GASB	The Governmental Accounting Standards Board is an organization that exists in order to promulgate accounting standards for governmental entities.
Fiduciary Net Position	The fiduciary net position is the value of the assets of the trust.
Long-Term Expected Rate of Return	The long-term rate of return is the expected return to be earned over the entire trust portfolio based on the asset allocation of the portfolio.
Money-Weighted Rate of Return	The money-weighted rate of return is a method of calculating the returns that adjusts for the changing amounts actually invested. For purposes of GASB Statement No. 67, money-weighted rate of return is calculated as the internal rate of return on pension plan investments, net of pension plan investment expense.
Multiple-Employer Defined Benefit Pension Plan	A multiple-employer plan is a defined benefit pension plan that is used to provide pensions to the employees of more than one employer.
Municipal Bond Rate	The Municipal Bond Rate is the discount rate to be used for those benefit payments that occur after the assets of the trust have been depleted.
Net Pension Liability (NPL)	The NPL is the liability of employers and non-employer contribution entities to plan members for benefits provided through a defined benefit pension plan.
Non-employer Contribution Entities	Non-employer contribution entities are entities that make contributions to a pension plan that is used to provide pensions to the employees of other entities. For purposes of the GASB Accounting statement plan members are not considered non-employer contribution entities.
Normal Cost	The actuarial present value of the pension trust benefits allocated to the current year by the actuarial cost method.

Glossary of Terms

Other Postemployment Benefits (OPEB)	All postemployment benefits other than retirement income (such as death benefits, life insurance, disability, and long-term care) that are provided separately from a pension plan, as well as postemployment healthcare benefits regardless of the manner in which they are provided. Other post-employment benefits do not include termination benefits.
Real Rate of Return	The real rate of return is the rate of return on an investment after adjustment to eliminate inflation.
Service Cost	The service cost is the portion of the actuarial present value of projected benefit payments that is attributed to a valuation year.
Total Pension Expense	The total pension expense is the sum of the following items that are recognized at the end of the employer's fiscal year: 1. Service Cost 2. Interest on the Total Pension Liability 3. Current-Period Benefit Changes 4. Employee Contributions (made negative for addition here) 5. Projected Earnings on Plan Investments (made negative for addition here) 6. Pension Plan Administrative Expense 7. Other Changes in Plan Fiduciary Net Position 8. Recognition of Outflow (Inflow) of Resources due to Liabilities 9. Recognition of Outflow (Inflow) of Resources due to Assets
Total Pension Liability (TPL)	The TPL is the portion of the actuarial present value of projected benefit payments that is attributed to past periods of member service.
Unfunded Actuarial Accrued Liability (UAAL)	The UAAL is the difference between actuarial accrued liability and valuation assets.
Valuation Assets	The valuation assets are the assets used in determining the unfunded liability of the plan. For purposes of the GASB Statement No. 67, the valuation asset is equal to the market value of assets.