Gabriel Roeder Smith & Company
Consultants & Actuaries

MINNESOTA GENERAL EMPLOYEES RETIREMENT PLAN

ACTUARIAL VALUATION REPORT AS OF JULY 1, 2012

GRS
Gabriel Roeder Smith & Company
Consultants & Actuaries
100 South Fifth Street
Suite 1900
Minneapolis, MN 55402-1267
612.605.6200 phone
612.605.6203 fax
www.gabrielroeder.com

November 2012

Public Employees Retirement Association of Minnesota
General Employees Retirement Plan
St. Paul, Minnesota

Dear Trustees of the General Employees Retirement Plan:

The results of the July 1, 2012 annual actuarial valuation of the General Employees Retirement Plan are presented in this report. This report was prepared at the request of the Board and is intended for use by the Retirement Plan and those designated or approved by the Board. This report may be provided to parties other than the Plan only in its entirety. GRS is not responsible for the consequences of any unauthorized use of this report.

The purpose of the valuation is to measure the Plan's funding progress, to determine the required contribution rate for the fiscal year beginning July 1, 2012, and to determine the actuarial information required by Governmental Accounting Standards Board (GASB) Statement No. 25. Note that we have not attempted to quantify the impact of GASB Statements No. 67 and No. 68 in this report.

The valuation was based upon information furnished by the Public Employees Retirement Association of Minnesota (PERA), concerning benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by PERA.

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 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. PERA is solely responsible for communicating to GRS any changes required thereto.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

This report should not be relied on for any purpose other than the purpose described in the primary communication. 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.

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

The undersigned actuaries are members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. In addition, Mr. Murphy meets the requirements of “approved actuary” under Minnesota Statutes Section 356.215, Subdivision 1, Paragraph (c).

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

We are available to answer any questions or provide further details.

Respectfully submitted,

Brian B. Murphy

Brian B. Murphy, FSA, EA, MAAA

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, MAAA

BBM/BJW:sc

Contents

Summary of Valuation Results

Contributions

The following table summarizes important contribution information as described in the Development of Costs section.

Contributions	Actuarial Valuation as of July 1, 2012	Actuarial Valuation as of July 1, 2011
Statutory Contributions - Chapter 353 (% of Payroll)	13.50%	13.50%
Required Contributions - Chapter 356 (% of Payroll)	14.46%	13.47%
Sufficiency / (Deficiency)	(0.96)%	0.03%

The statutory contribution changed from being sufficient by 0.03% of payroll to a deficiency of (0.96%) of payroll. The primary reasons for the year over year decline are the recognition of investment losses from this year and prior years in the actuarial value of assets and the change in assumed investment return. See page 3 for additional detail about these changes.

Statutory contributions are not sufficient to fully amortize the unfunded actuarial accrued liability over the statutory amortization period of 19 years. Based on the current member and employer contribution rates and other methods and assumptions described in this report, it would take 24 years to eliminate the unfunded liability.

The Plan Assets section provides detail on the plan assets used for the valuation including a development of the actuarial value of assets (AVA). The market value of assets (MVA) earned approximately 2.3% for the plan year ending June 30, 2012. The AVA earned approximately 4.2% for the plan year ending June 30, 2012 as compared to the assumed rate of 8.5%. The assumed rate is mandated by Minnesota Statutes.

Participant reconciliation and statistics are detailed in the Membership Data section. The Actuarial Basis section includes a summary of plan provisions and actuarial methods and assumptions used for the calculations in this report. The Plan Accounting sections detail the required accounting information for the Plan under GASB No. 25 (as amended by GASB No. 50).

Summary of Valuation Results

A summary of principal valuation results from the current valuation and the prior valuation follows. Any changes in Plan provisions, actuarial assumptions or valuation methods and procedures between the two valuations are described after the summary.

	Actuarial Valuation as of	
	July 1, 2012	**July 1, 2011**
Contributions (*% of Payroll*)		
Statutory - Chapter 353	13.50%	13.50%
Required - Chapter 356	14.46%	13.47%
Sufficiency / (Deficiency)	(0.96)%	0.03%
Funding Ratios (*dollars in thousands*)		
Accrued Benefit Funding Ratio		
- Current assets (AVA)	$ 13,661,682	$ 13,455,753
- Current benefit obligations	17,561,706	17,066,189
- Funding ratio	77.79%	78.84%
Accrued Liability Funding Ratio		
- Current assets (AVA)	13,661,682	$ 13,455,753
- Market value of assets (MVA)	13,577,653	13,616,622
- Actuarial accrued liability	$ 18,598,897	17,898,849
- Funding ratio (AVA)	73.45%	75.18%
- Funding ratio (MVA)	73.00%	76.08%
Projected Benefit Funding Ratio		
- Current and expected future assets	$ 20,492,589	$ 20,341,783
- Current and expected future benefit obligations	21,129,663	20,320,840
- Projected benefit funding ratio	96.98%	100.10%
Participant Data		
Active members		
- Number	139,330	139,952
- Projected annual earnings *(000s)*	$ 5,201,524	$ 5,183,629
- Average projected annual earnings	$ 37,332	$ 37,040
- Average age	47.3	47.3
- Average service	11.1	11.1
Service retirements	64,472	62,198
Survivors	7,425	7,289
Disability retirements	3,638	2,334
Deferred retirements	44,354	45,325
Terminated other non-vested	115,287	109,630
Total	**374,506**	**366,728**

Summary of Valuation Results

The 2011 valuation was prepared by Mercer. As part of the transition of actuarial work from Mercer to GRS, we replicated the 2011 valuation including a change from beginning of year decrement timing to mid-year decrement timing. The results of this replication are as follows:

	Valuation Results As of July 1, 2011 (000's)		
	Mercer	**GRS**	**Ratio**
Present Value of Projected Benefits	$20,320,840	$20,336,704	100.1%
Actuarial Accrued Liability	$17,898,849	$17,819,580	99.6%
Required Contributions (% of pay)	13.47%	13.45%	99.9%

Differences in valuation results due to differences in actuarial software are not unexpected. The replication results indicate a high degree of consistency.

Effects of Changes

The following changes in plan provisions, actuarial assumptions, and methods were recognized as of July 1, 2012:

- Augmentation for privatizations occurring after 2010 was reduced. This change had no impact on the valuation results.
- The investment return assumption was changed from 8.5% pre-retirement and 7.5% post-retirement to a 5-year select and ultimate approach with rates of 8.0% pre-retirement and 7.0% post-retirement for the period July 1, 2012 to June 30, 2017 and 8.5% pre-retirement and 7.5% post-retirement thereafter.
- The salary increase rates were updated to be approximately 25 basis points lower on average than the previous table.

Summary of Valuation Results

Effects of Changes (Concluded)

The combined impact of the assumption changes was to increase the accrued liability by $240 million and increase the required contribution by 0.5% of pay, as follows:

	Before Assumption Changes	Reflecting Assumption Changes
Normal Cost Rate, % of pay	6.8%	6.9%
Amortization of Unfunded Accrued Liability, % of pay	7.0%	7.4%
Expenses (% of pay)	0.2%	0.2%
Total Required Contribution, % of pay	14.0%	14.5%
Accrued Liability Funding Ratio	74.5%	73.5%
Projected Benefit Funding Ratio	98.2%	97.0%
Unfunded Accrued Liability (in billions)	$4.7	$4.9

Refer to the Actuarial Basis section of this report for a complete description of these changes.

Summary of Valuation Results

Valuation of Future Post-Retirement Benefit Increases

A very important assumption affecting the valuation results is the expectation of future post-retirement benefit increases. The Plan's accrued liability funding ratio (on a market value of assets basis and assuming 1.0% post-retirement benefit increases in all future years) is currently 73.0%. If the Plan reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases will revert to the 2.5% level.

The liabilities in this report are based on the assumption that the post-retirement benefit increase will remain at the reduced level of 1.0% indefinitely. If we assumed future post-retirement benefit increases of 2.5% instead of 1.0%, the actuarial accrued liability would be $21.0 billion instead of $18.6 billion, resulting in a funded ratio of 64.8% (on a market value basis) as of July 1, 2012.

Supplemental Information

The remainder of the report includes information supporting the results presented in the previous sections.

- **Plan assets** presents information about the plan's assets as reported by the Minnesota State Retirement System. The assets represent the portion of total fund liabilities that has been funded.
- **Membership data** presents and describes the membership data used in the valuation.
- **Development of costs** shows the liabilities for Plan benefits and the derivation of the contribution amount.
- **Actuarial basis** describes the Plan provisions, as well as the methods and assumptions used to value the plan. The valuation is based on the premise that the Plan is ongoing.
- **Plan accounting under GASB No. 25 (as amended by GASB No. 50)** shows the disclosures required by GASB Statement No. 25 as amended by GASB Statement No. 50.
- **Glossary** defines the terms used in this report.

Plan Assets

Statement of Plan Net Assets as of June 30, 2012 *(Dollars in Thousands)*

Assets in Trust		**Market Value**
Cash, equivalents, short term securities	$	271,693
Fixed income		3,020,637
Equity		8,147,351
SBI Alternative		2,120,943
Other		8,745
Total Assets in Trust	**$**	**13,569,369**
Assets Receivable		19,563
Amounts Payable		(11,279)
Net Assets Held in Trust for Pension Benefits	$	13,577,653

Plan Assets

Reconciliation of Plan Assets *(Dollars in Thousands)*

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Public Employees Retirement Association for the Plan's Fiscal Year July 1, 2011 to June 30, 2012.

Change in Assets	**Market Value**
1. Fund balance at market value at July 1, 2011	$ 13,616,622
2. Contributions	
a. Member	321,412
b. Employer	368,037
c. Other sources	0
d. Total contributions	689,449
3. Investment income	
a. Investment income/(loss)	338,896
b. Investment expenses	(18,479)
c. Net subtotal	320,417
4. Other	564
5. Total income: *(2.d.) + (3.c.) + (4.)*	**$ 1,010,430**
6. Benefits Paid	
a. Annuity benefits	(1,000,644)
b. Refunds	(39,105)
c. Total benefits paid	(1,039,749)
7. Expenses	
a. Other	0
b. Administrative	(9,650)
c. Total expenses	(9,650)
8. Total disbursements: *(6.c.) + (7.c.)*	**(1,049,399)**
9. Fund balance at market value at July 1, 2012: *(1.) + (5.) + (8.)*	**$ 13,577,653**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

			June 30, 2012
1. Market value of assets available for benefits			$ 13,577,653
2. Determination of average balance			
a. Total assets available at July 1, 2011			13,616,622
b. Total assets available at June 30, 2012			13,577,653
c. Net investment income for fiscal year ending June 30, 2012			320,417
d. Average balance *[a. + b. - c.] / 2*			13,436,929
3. Expected return *[8.5% * 2.d.]*			1,142,139
4. Actual return			320,417
5. Current year asset gain/(loss) *[4. - 3.]*			(821,722)
6. Unrecognized asset returns			
	Original Amount	**% Not Recognized**	
a. Year ended June 30, 2012	$ (821,722)	80%	(657,378)
b. Year ended June 30, 2011	1,657,793	60%	994,676
c. Year ended June 30, 2010	672,522	40%	269,009
d. Year ended June 30, 2009	(3,451,678)	20%	(690,336)
e. Unrecognized return adjustment			(84,029)
7. **Actuarial value at June 30, 2012** *(1. - 6.e.)*			**$ 13,661,682**

Membership Data

Distribution of Active Members (Total)

	Years of Service as of June 30, 2012									
Age	**<3***	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35+**	**Total**
< 25	3,950	289	39							**4,278**
Avg. Earnings	13,087	21,506	25,121							**13,765**
25 - 29	6,070	2,128	1,488	29						**9,715**
Avg. Earnings	19,828	30,258	35,030	36,755						**24,492**
30 - 34	4,190	2,085	3,755	1,052	18					**11,100**
Avg. Earnings	23,358	35,032	41,209	45,480	41,312					**33,715**
35 - 39	3,378	1,735	3,353	2,669	504	8				**11,647**
Avg. Earnings	20,761	30,940	42,327	50,771	50,397	47,229				**36,663**
40 - 44	3,722	1,991	3,935	3,107	1,999	501	20			**15,275**
Avg. Earnings	19,582	28,249	36,091	48,999	54,613	53,176	59,168			**36,686**
45 - 49	3,426	2,195	4,836	3,876	2,426	1,902	777	18		**19,456**
Avg. Earnings	18,365	25,314	30,833	40,677	50,367	56,920	54,789	54,128		**35,940**
50 - 54	2,645	1,889	4,719	5,255	3,573	2,771	2,066	1,204	36	**24,158**
Avg. Earnings	20,956	26,361	30,169	35,847	42,943	54,127	59,840	55,271	54,101	**38,559**
55 - 59	2,092	1,271	3,193	4,100	3,742	3,301	2,372	1,973	843	**22,887**
Avg. Earnings	20,284	27,239	31,583	35,744	38,183	46,297	55,770	60,985	58,535	**40,290**
60 - 64	1,259	820	2,023	2,276	2,188	2,419	1,706	1,071	937	**14,699**
Avg. Earnings	17,673	24,960	29,788	36,739	37,819	44,193	51,258	59,301	64,090	**39,952**
65 - 69	570	348	862	615	462	537	356	219	205	**4,174**
Avg. Earnings	11,255	16,354	22,051	33,521	35,748	42,327	44,210	50,398	64,530	**31,380**
70+	306	233	554	374	180	114	77	57	46	**1,941**
Avg. Earnings	7,087	9,961	13,526	17,823	23,534	29,374	33,688	34,602	42,337	**16,872**
Total	**31,608**	**14,984**	**28,757**	**23,353**	**15,092**	**11,553**	**7,374**	**4,542**	**2,067**	**139,330**
Avg. Earnings	**19,126**	**28,165**	**33,761**	**40,258**	**43,554**	**49,431**	**54,984**	**58,205**	**61,210**	35,616

* *This exhibit does not reflect service earned in other PERA or Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date.

Membership Data

Distribution of Active Members (Basic)

	Years of Service as of June 30, 2012									
Age	**<3***	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35+**	**Total**
< 25										
Avg. Earnings										
25 - 29										
Avg. Earnings										
30 - 34										
Avg. Earnings										
35 - 39										
Avg. Earnings										
40 - 44										
Avg. Earnings										
45 - 49										
Avg. Earnings										
50 - 54										
Avg. Earnings										
55 - 59										
Avg. Earnings										
60 - 64									2	**2**
Avg. Earnings									53,775	**53,775**
65 - 69									8	**8**
Avg. Earnings									54,885	**54,885**
70+									1	**1**
Avg. Earnings									49,174	**49,174**
Total									**11**	**11**
Avg. Earnings									**54,164**	**54,164**

* *This exhibit does not reflect service earned in other PERA or Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date.

Membership Data

Distribution of Active Members (Coordinated)

	Years of Service as of June 30, 2012									
Age	**<3***	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35+**	**Total**
< 25	3,950	289	39							**4,278**
Avg. Earnings	13,087	21,506	25,121							**13,765**
25 - 29	6,070	2,128	1,488	29						**9,715**
Avg. Earnings	19,828	30,258	35,030	36,755						**24,492**
30 - 34	4,190	2,085	3,755	1,052	18					**11,100**
Avg. Earnings	23,358	35,032	41,209	45,480	41,312					**33,715**
35 - 39	3,378	1,735	3,353	2,669	504	8				**11,647**
Avg. Earnings	20,761	30,940	42,327	50,771	50,397	47,229				**36,663**
40 - 44	3,722	1,991	3,935	3,107	1,999	501	20			**15,275**
Avg. Earnings	19,582	28,249	36,091	48,999	54,613	53,176	59,168			**36,686**
45 - 49	3,426	2,195	4,836	3,876	2,426	1,902	777	18		**19,456**
Avg. Earnings	18,365	25,314	30,833	40,677	50,367	56,920	54,789	54,128		**35,940**
50 - 54	2,645	1,889	4,719	5,255	3,573	2,771	2,066	1,204	36	**24,158**
Avg. Earnings	20,956	26,361	30,169	35,847	42,943	54,127	59,840	55,271	54,101	**38,559**
55 - 59	2,092	1,271	3,193	4,100	3,742	3,301	2,372	1,973	843	**22,887**
Avg. Earnings	20,284	27,239	31,583	35,744	38,183	46,297	55,770	60,985	58,535	**40,290**
60 - 64	1,259	820	2,023	2,276	2,188	2,419	1,706	1,071	935	**14,697**
Avg. Earnings	17,673	24,960	29,788	36,739	37,819	44,193	51,258	59,301	64,112	**39,965**
65 - 69	570	348	862	615	462	537	356	219	197	**4,166**
Avg. Earnings	11,255	16,354	22,051	33,521	35,748	42,327	44,210	50,398	64,922	**31,546**
70+	306	233	554	374	180	114	77	57	45	**1,940**
Avg. Earnings	7,087	9,961	13,526	17,823	23,534	29,374	33,688	34,602	42,185	**16,855**
Total	**31,608**	**14,984**	**28,757**	**23,353**	**15,092**	**11,553**	**7,374**	**4,542**	**2,056**	**139,319**
Avg. Earnings	**19,126**	**28,165**	**33,761**	**40,258**	**43,554**	**49,431**	**54,984**	**58,205**	**61,248**	**35,615**

* *This exhibit does not reflect service earned in other PERA or Combined Service Annuity benefits. It should not be relied upon as an indicator of non-vested status.*

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date.

Membership Data

Distribution of Service Retirements (Total)

	Years Retired as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<50	1							**1**
Avg. Benefit	8,926							**8,926**
50 - 54	21	26						**47**
Avg. Benefit	9,399	9,958						**9,709**
55 - 59	798	1,538	53					**2,389**
Avg. Benefit	14,188	11,469	11,161					**12,370**
60 - 64	2,034	4,848	2,688	41				**9,611**
Avg. Benefit	14,241	14,154	11,535	12,283				**13,432**
65 - 69	1,515	6,419	5,347	2,254	13			**15,548**
Avg. Benefit	12,647	12,389	12,668	11,808	27,681			**12,439**
70 - 74	256	1,759	5,200	4,582	1,335	8		**13,140**
Avg. Benefit	8,198	10,401	10,540	12,594	15,035	28,609		**11,659**
75 - 79	79	474	1,248	4,313	3,011	787	6	**9,918**
Avg. Benefit	6,842	5,808	8,318	11,165	17,774	17,540	40,551	**13,046**
80 - 84	28	175	374	971	3,336	1,903	410	**7,197**
Avg. Benefit	5,455	5,239	4,881	9,198	15,313	17,834	28,861	**15,101**
85 - 89	1	34	120	216	650	2,107	1,180	**4,308**
Avg. Benefit	923	5,511	4,746	6,266	14,429	15,296	27,017	**17,549**
90+		8	23	37	107	361	1,777	**2,313**
Avg. Benefit		2,761	4,218	4,436	11,928	12,188	18,692	**16,937**
Total	**4,733**	**15,281**	**15,053**	**12,414**	**8,452**	**5,166**	**3,373**	**64,472**
Avg. Benefit	**13,194**	**12,317**	**11,095**	**11,554**	**16,054**	**16,376**	**22,879**	**13,317**

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Service Retirements (Basic)

	Years Retired as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<50								
Avg. Benefit								
50 - 54								
Avg. Benefit								
55 - 59								
Avg. Benefit								
60 - 64	1	2	33	3				**39**
Avg. Benefit	5,009	47,246	42,967	25,261				**40,851**
65 - 69	7	27	87	259	9			**389**
Avg. Benefit	12,109	29,671	36,502	39,816	34,370			**37,746**
70 - 74		19	76	434	271	6		**806**
Avg. Benefit		30,080	29,509	39,157	46,057	29,770		**40,283**
75 - 79		4	25	242	616	237	6	**1,130**
Avg. Benefit		66,004	39,449	30,131	45,384	41,861	40,551	**41,295**
80 - 84	1		4	50	494	540	223	**1,312**
Avg. Benefit	52,262		19,807	31,003	36,008	37,266	45,753	**37,954**
85 - 89			1	13	94	480	630	**1,218**
Avg. Benefit			26,100	27,133	38,822	31,924	40,987	**37,088**
90+					14	69	925	**1,008**
Avg. Benefit					41,363	30,097	27,273	**27,662**
Total	**9**	**52**	**226**	**1,001**	**1,498**	**1,332**	**1,784**	**5,902**
Avg. Benefit	**15,782**	**33,291**	**35,079**	**36,540**	**41,898**	**35,753**	**34,471**	**36,981**

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Service Retirements (Coordinated)

	Years Retired as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<50	1							**1**
Avg. Benefit	8,926							**8,926**
50 - 54	21	26						**47**
Avg. Benefit	9,399	9,958						**9,709**
55 - 59	798	1,538	53					**2,389**
Avg. Benefit	14,188	11,469	11,161					**12,370**
60 - 64	2,033	4,846	2,655	38				**9,572**
Avg. Benefit	14,245	14,141	11,145	11,259				**13,320**
65 - 69	1,508	6,392	5,260	1,995	4			**15,159**
Avg. Benefit	12,650	12,316	12,274	8,172	12,629			**11,790**
70 - 74	256	1,740	5,124	4,148	1,064	2		**12,334**
Avg. Benefit	8,198	10,186	10,258	9,814	7,134	25,125		**9,789**
75 - 79	79	470	1,223	4,071	2,395	550		**8,788**
Avg. Benefit	6,842	5,296	7,682	10,037	10,673	7,060		**9,414**
80 - 84	27	175	370	921	2,842	1,363	187	**5,885**
Avg. Benefit	3,722	5,239	4,720	8,014	11,716	10,135	8,717	**10,006**
85 - 89	1	34	119	203	556	1,627	550	**3,090**
Avg. Benefit	923	5,511	4,566	4,930	10,305	10,391	11,014	**9,847**
90+		8	23	37	93	292	852	**1,305**
Avg. Benefit		2,761	4,218	4,436	7,497	7,956	9,376	**8,653**
Total	**4,724**	**15,229**	**14,827**	**11,413**	**6,954**	**3,834**	**1,589**	**58,570**
Avg. Benefit	**13,189**	**12,246**	**10,730**	**9,362**	**10,487**	**9,644**	**9,866**	**10,932**

In each cell, the top number is the count of retired participants for the age/years retired combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Survivors (Total)

	Years Since Death as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	13	80	40	21	14	8	2	**178**
Avg. Benefit	5,651	4,991	5,087	6,324	7,476	13,921	13,611	**5,912**
45 - 49	5	24	21	9	3	5	3	**70**
Avg. Benefit	3,727	6,072	8,124	8,242	7,201	10,285	4,046	**7,062**
50 - 54	14	61	38	20	15	4		**152**
Avg. Benefit	9,527	9,856	7,729	7,009	10,958	15,458		**9,176**
55 - 59	41	156	102	43	22	7	3	**374**
Avg. Benefit	10,195	8,795	10,342	8,568	9,848	17,319	23,105	**9,681**
60 - 64	53	177	157	67	25	18	8	**505**
Avg. Benefit	11,102	10,764	10,160	12,374	16,575	14,331	16,467	**11,330**
65 - 69	63	214	184	85	47	34	15	**642**
Avg. Benefit	12,585	10,164	11,783	11,988	13,701	25,334	18,400	**12,362**
70 - 74	69	215	223	151	87	62	34	**841**
Avg. Benefit	11,170	12,773	12,300	13,241	16,319	15,846	22,062	**13,569**
75 - 79	75	281	232	217	132	95	68	**1,100**
Avg. Benefit	16,429	13,956	16,911	15,873	18,180	16,355	22,703	**16,381**
80 - 84	84	289	273	233	192	162	128	**1,361**
Avg. Benefit	17,885	18,291	17,378	19,941	19,431	16,551	20,333	**18,511**
85 - 89	54	252	257	223	199	145	148	**1,278**
Avg. Benefit	17,183	16,626	18,015	19,872	18,900	17,070	18,427	**18,108**
90+	19	114	163	139	144	128	217	**924**
Avg. Benefit	20,552	16,139	15,638	16,456	13,969	17,324	13,004	**15,279**
Total	**490**	**1,863**	**1,690**	**1,208**	**880**	**668**	**626**	**7,425**
Avg. Benefit	**13,976**	**13,195**	**14,246**	**16,037**	**16,919**	**17,029**	**17,511**	**15,098**

In each cell, the top number is the count of survivors for the age/years since death combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Survivors (Basic)

	Years Since Death as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45				1	1	3	1	**6**
Avg. Benefit				5,509	7,592	23,095	21,224	**17,269**
45 - 49				1				**1**
Avg. Benefit				4,560				**4,560**
50 - 54		1	1	1	1	1		**5**
Avg. Benefit		27,789	13,611	2,268	8,792	35,607		**17,613**
55 - 59	1	6	3	3		3	1	**17**
Avg. Benefit	7,634	12,944	13,767	9,599		31,526	27,651	**16,331**
60 - 64		6	4	5	4	4	6	**29**
Avg. Benefit		19,507	10,854	15,417	43,343	27,875	21,233	**22,407**
65 - 69	7	11	21	9	6	21	9	**84**
Avg. Benefit	27,406	17,311	29,435	32,412	28,686	33,718	24,721	**28,509**
70 - 74	8	42	44	32	27	22	29	**204**
Avg. Benefit	24,797	27,922	28,796	28,174	31,771	31,321	24,691	**28,444**
75 - 79	25	76	85	68	39	32	53	**378**
Avg. Benefit	29,716	29,126	28,356	31,720	36,816	30,051	26,707	**29,991**
80 - 84	30	103	91	103	88	70	93	**578**
Avg. Benefit	34,368	33,835	34,869	32,125	31,577	26,905	24,836	**31,090**
85 - 89	19	98	109	106	102	75	110	**619**
Avg. Benefit	32,999	28,447	30,229	30,837	27,336	23,731	22,261	**27,456**
90+	9	50	82	78	75	87	165	**546**
Avg. Benefit	28,949	27,008	22,227	23,291	19,624	21,467	14,470	**20,105**
Total	**99**	**393**	**440**	**407**	**343**	**318**	**467**	**2,467**
Avg. Benefit	**30,902**	**29,064**	**28,828**	**29,147**	**28,263**	**25,788**	**20,720**	**26,996**

In each cell, the top number is the count of survivors for the age/years since death combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Survivors (Coordinated)

	Years Since Death as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	13	80	40	20	13	5	1	**172**
Avg. Benefit	5,651	4,991	5,087	6,365	7,467	8,417	5,998	**5,516**
45 - 49	5	24	21	8	3	5	3	**69**
Avg. Benefit	3,727	6,072	8,124	8,702	7,201	10,285	4,046	**7,098**
50 - 54	14	60	37	19	14	3		**147**
Avg. Benefit	9,527	9,558	7,570	7,258	11,113	8,741		**8,889**
55 - 59	40	150	99	40	22	4	2	**357**
Avg. Benefit	10,259	8,629	10,239	8,490	9,848	6,663	20,832	**9,364**
60 - 64	53	171	153	62	21	14	2	**476**
Avg. Benefit	11,102	10,457	10,141	12,129	11,477	10,461	2,169	**10,655**
65 - 69	56	203	163	76	41	13	6	**558**
Avg. Benefit	10,732	9,776	9,509	9,570	11,508	11,792	8,918	**9,931**
70 - 74	61	173	179	119	60	40	5	**637**
Avg. Benefit	9,383	9,095	8,246	9,225	9,366	7,335	6,813	**8,805**
75 - 79	50	205	147	149	93	63	15	**722**
Avg. Benefit	9,785	8,332	10,294	8,640	10,365	9,399	8,556	**9,255**
80 - 84	54	186	182	130	104	92	35	**783**
Avg. Benefit	8,727	9,684	8,632	10,287	9,153	8,672	8,370	**9,225**
85 - 89	35	154	148	117	97	70	38	**659**
Avg. Benefit	8,598	9,104	9,019	9,938	10,029	9,932	7,328	**9,328**
90+	10	64	81	61	69	41	52	**378**
Avg. Benefit	12,994	7,648	8,969	7,716	7,822	8,533	8,349	**8,307**
Total	**391**	**1,470**	**1,250**	**801**	**537**	**350**	**159**	**4,958**
Avg. Benefit	**9,691**	**8,952**	**9,113**	**9,375**	**9,672**	**9,070**	**8,086**	**9,178**

In each cell, the top number is the count of survivors for the age/years since death combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Disability Retirements (Total)

	Years Disabled as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
< 45	3	20	9	3				**35**
Avg. Benefit	5,420	6,264	4,795	1,778				**5,429**
45 - 49	9	30	34	12	2			**87**
Avg. Benefit	6,857	8,424	5,937	5,809	4,082			**6,830**
50 - 54	15	110	107	37	16	7		**292**
Avg. Benefit	14,217	11,140	8,305	5,788	6,350	6,246		**9,201**
55 - 59	41	224	175	97	44	13		**594**
Avg. Benefit	16,564	11,866	11,193	8,599	9,016	8,237		**11,168**
60 - 64	48	297	306	171	46	25	5	**898**
Avg. Benefit	14,453	13,008	11,869	11,006	10,335	9,159	4,894	**12,027**
65 - 69	189	468	79	20	4	2	1	**763**
Avg. Benefit	13,734	12,178	10,294	10,337	8,730	5,774	12,523	**12,286**
70 - 74		76	371	5	2			**454**
Avg. Benefit		11,477	13,396	21,326	35,197			**13,258**
75+			41	254	129	63	28	**515**
Avg. Benefit			16,128	15,199	16,911	17,662	16,392	**16,068**
Total	**305**	**1,225**	**1,122**	**599**	**243**	**110**	**34**	**3,638**
Avg. Benefit	**13,967**	**11,997**	**11,737**	**11,986**	**13,452**	**13,673**	**14,588**	**12,252**

In each cell, the top number is the count of disabled participants for the age/years disabled combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Disability Retirements (Basic)

	Years Disabled as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
< 45								
Avg. Benefit								
45 - 49								
Avg. Benefit								
50 - 54								
Avg. Benefit								
55 - 59								
Avg. Benefit								
60 - 64								
Avg. Benefit								
65 - 69	4	7		1			1	**13**
Avg. Benefit	59,238	29,468		56,136			12,523	**39,376**
70 - 74		3	17	3	1			**24**
Avg. Benefit		52,185	47,141	32,191	70,028			**46,856**
75+			7	39	33	29	16	**124**
Avg. Benefit			33,566	36,899	33,453	29,097	23,859	**32,286**
Total	**4**	**10**	**24**	**43**	**34**	**29**	**17**	**161**
Avg. Benefit	**59,238**	**36,283**	**43,182**	**37,018**	**34,529**	**29,097**	**23,192**	**35,031**

In each cell, the top number is the count of disabled participants for the age/years disabled combination and the bottom number is the average annual benefit amount.

Membership Data

Distribution of Disability Retirements (Coordinated)

	Years Disabled as of June 30, 2012							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
< 45	3	20	9	3				**35**
Avg. Benefit	5,420	6,264	4,795	1,778				**5,429**
45 - 49	9	30	34	12	2			**87**
Avg. Benefit	6,857	8,424	5,937	5,809	4,082			**6,830**
50 - 54	15	110	107	37	16	7		**292**
Avg. Benefit	14,217	11,140	8,305	5,788	6,350	6,246		**9,201**
55 - 59	41	224	175	97	44	13		**594**
Avg. Benefit	16,564	11,866	11,193	8,599	9,016	8,237		**11,168**
60 - 64	48	297	306	171	46	25	5	**898**
Avg. Benefit	14,453	13,008	11,869	11,006	10,335	9,159	4,894	**12,027**
65 - 69	185	461	79	19	4	2		**750**
Avg. Benefit	12,750	11,915	10,294	7,927	8,730	5,774		**11,816**
70 - 74		73	354	2	1			**430**
Avg. Benefit		9,805	11,776	5,028	367			**11,383**
75+			34	215	96	34	12	**391**
Avg. Benefit			12,538	11,263	11,225	7,908	6,437	**10,925**
Total	**301**	**1,215**	**1,098**	**556**	**209**	**81**	**17**	**3,477**
Avg. Benefit	**13,365**	**11,797**	**11,050**	**10,050**	**10,023**	**8,151**	**5,983**	**11,197**

In each cell, the top number is the count of disabled participants for the age/years disabled combination and the bottom number is the average annual benefit amount.

Membership Data

Reconciliation of Members*

	Active Members	Vested Terminated Members	Nonvested Terminated Members	Retired Participants	Disableds	Beneficiaries	Total
A. Number as of June 30, 2011	139,952	45,325	109,630	62,462	2,066	7,293	366,728
B. Data Adjustments	(13)	(1)	(78)	(1)	(6)	(21)	(120)
C. Additions	15,704	5,782	8,797	5,389	218	538	36,428
D. Deletions:							
1. Service Retirements	(3,147)	(2,023)	(27)		(176)		(5,373)
2. Disability	(152)	(57)	(1)				(210)
3. Death	(169)	(121)	(243)	(1,767)	(71)	(385)	(2,756)
4. Terminated--Vested	(5,439)	-	(251)				(5,690)
5. Terminated--Refund	(2,245)	(1,315)	(1,070)				(4,630)
6. Terminated--Nonvested	(5,157)	(2,347)					(7,504)
7. Returned to Active		(886)	(1,440)				(2,326)
8. Other Adjustments				(7)	(1)	(19)	(27)
E. Preliminary Number as of June 30, 2012*	139,334	44,357	115,317	66,076	2,030	7,406	374,520
F. Data Adjustments	(4)	(3)	(30)	4		19	(14)
G. Disabilility Reclassification				(1,608)	1,608		0
H. Final	**139,330**	**44,354**	**115,287**	**64,472**	**3,638**	**7,425**	**374,506**

**Provided by PERA and checked for reasonableness.*

Terminated Member Statistics	Deferred Retirement	Other Non-Vested	Total
Number	44,354	115,287	159,641
Average age	49.7	46.6	47.5
Average service	7.7	0.9	2.8
Average annual benefit, with augmentation to Normal Retirement Date and 60% CSA load	$10,358	N/A	$10,358
Average refund value, with 60% CSA load	$24,314	$1,090	$ 7,542

Development of Costs

Actuarial Valuation Balance Sheet *(Dollars in Thousands)*

The actuarial balance sheet is based on the principle that the long-term projected benefit obligations of the plan should be ideally equal to the long-term resources available to fund those obligations. The resources available to meet projected obligations for current members consist of current fund assets plus the present value of anticipated future contributions intended to fund benefits for current members. In the exhibit below, B.2 is the estimated present value of contributions to fund the normal cost rate for current members until their respective termination dates. Item B.1 is the present value of the total 13.50% statutory contribution net of normal cost and anticipated plan expenses during the period from the valuation date to the statutory unfunded amortization date.

The contributions made in excess of amounts required for current benefit payments are accumulated as a reserve to help meet benefit payments in later years. It is this reserve system which permits the establishment of a level rate of contribution each year.

	Non-Vested	Vested	June 30, 2012
A. Actuarial Value of Assets			$ 13,661,682
B. Expected Future Assets			
1. Present value of expected future statutory supplemental contributions			4,300,141
2. Present value of future normal cost contributions			2,530,766
3. Total expected future assets: *(1.) + (2.)*			$ 6,830,907
C. Total Current and Expected Future Assets *(A.+ B.3)*			$ 20,492,589
D. Current Benefit Obligations*			
1. Benefit recipients	**Non-Vested**	**Vested**	**Total**
a. Service retirements	$ 0	$ 7,684,908	$ 7,684,908
b. Disability retirements	0	378,883	378,883
c. Survivors	0	806,254	806,254
2. Deferred retirements with augmentation	0	1,789,362	1,789,362
3. Former members without vested rights	125,615	0	125,615
4. Active members	98,205	6,678,479	6,776,684
5. Total Current Benefit Obligations	$ 223,820	$ 17,337,886	$ 17,561,706
E. Expected Future Benefit Obligations			$ 3,567,957
F. Total Current and Expected Future Benefit Obligations**			$ 21,129,663
G. Unfunded Current Benefit Obligations: *(D.5.) - (A.)*			$ 3,900,024
H. Unfunded Current and Future Benefit Obligations: *(F.) - (C.)*			$ 637,074
I. Accrued Benefit Funding Ratio: *(A.)/(D.)*			77.79%
J. Projected Benefit Funding Ratio: *(C.)/(F.)*			96.98%

* *Present value of credited projected benefits (projected compensation, current service)*

** *Present value of projected benefits (projected compensation, projected service)*

Development of Costs

Determination of Unfunded Actuarial Accrued Liability and Supplemental Contribution Rate (*Dollars in Thousands)*

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active members			
a. Retirement annuities	$ 9,320,930	$ 1,760,172	$ 7,560,758
b. Disability benefits	343,211	114,363	228,848
c. Survivor's benefits	165,039	44,142	120,897
d. Deferred retirements	469,289	433,880	35,409
e. Refunds*	46,172	178,209	(132,037)
f. Total	$ 10,344,641	$ 2,530,766	$ 7,813,875
2. Deferred retirements with future augmentation	1,789,362	0	1,789,362
3. Former members without vested rights	125,615	0	125,615
4. Annuitants	8,870,045	0	8,870,045
5. Total	$ 21,129,663	$ 2,530,766	$ 18,598,897
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 18,598,897
2. Current assets (AVA)			13,661,682
3. Unfunded actuarial accrued liability			$ 4,937,215
C. Determination of Supplemental Contribution Rate**			
1. Present value of future payrolls through the amortization date of June 30, 2031			$ 66,462,760
2. Supplemental contribution rate: *(B.3.) / (C.1.)*			7.43 % ***

* *Includes non-vested refunds and non-married survivor benefits only.*

** *The amortization of the unfunded actuarial accrued liability (UAAL) using the current amortization method results in initial payments less than the "interest only" payment on the UAAL. Payments less than the interest only amount will result in the UAAL increasing for an initial period of time.*

*** *The amortization factor as of June 30, 2012 is 12.7776.*

Development of Costs

Changes in Unfunded Actuarial Accrued Liability (UAAL) *(Dollars in Thousands)*

		Year Ending June 30, 2012
A. Unfunded actuarial accrued liability at beginning of year	$	4,443,096
B. Changes due to interest requirements and current rate of funding		
1. Normal cost and expenses	$	354,575
2. Contributions		(689,449)
3. Interest on A., B.1. and B.2.		363,431
4. Total *(B.1. + B.2. + B.3.)*	$	28,557
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	4,471,653
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
1. Age and Service Retirements	$	20,068
2. Disability Retirements		(689)
3. Death-in-Service Benefits		1,236
4. Withdrawals		(26,863)
5. Salary increases		(284,924)
6. Investment income		572,622
7. Mortality of annuitants		5,446
8. Other items		19,099
9. Total	$	305,995
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.9.)*	$	4,777,648
F. Change in unfunded actuarial accrued liability due to changes in plan provisions	$	0
G. Change in unfunded actuarial accrued liability due to changes in actuarial assumptions	$	240,412
H. Change in unfunded actuarial accrued liability due to changes in decrement timing and miscellaneous methodology	$	(80,845)
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)**	$	4,937,215

** The unfunded actuarial accrued liability on a market value of assets basis is 5,021,244.*

Development of Costs

Determination of Contribution Sufficiency/(Deficiency) – Total *(Dollars in Thousands)*

The required contribution is defined in statutes as the sum of normal cost, a supplemental contribution to amortize the UAAL, and an allowance for expenses.

	Percent of Payroll	Dollar Amount
A. Statutory contributions - Chapter 353		
1. Employee contributions	6.25%	$ 325,113
2. Employer contributions	7.25%	377,139
3. Total	13.50%	$ 702,252
B. Required contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	4.93%	$ 256,420
b. Disability benefits	0.29%	15,084
c. Survivors	0.12%	6,242
d. Deferred retirement benefits	1.03%	53,588
e. Refunds*	0.47%	24,448
f. Total	6.84%	$ 355,782
2. Supplemental contribution amortization of Unfunded Actuarial Accrued Liability by June 30, 2031	7.43%	$ 386,473
3. Allowance for expenses	0.19%	9,883
4. Total	14.46% **	$ 752,138
C. Contribution Sufficiency/(Deficiency) *(A.3. - B.4.)*	(0.96)%	$ (49,886)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $5,201,524.

* *Includes non-vested refunds and non-married survivor benefits only.*

** *The required contribution on a market value of assets basis is 14.58% of payroll.*

Development of Costs

Determination of Normal Cost – Basic *(Dollars in Thousands)*

	Percent of Payroll	Dollar Amount
A. Statutory contributions - Chapter 353		
1. Employee contributions	9.10%	$ 56
2. Employer contributions	11.78%	73
3. Total	20.88%	$ 129
B. Required contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	2.65%	$ 16
b. Disability benefits	0.24%	1
c. Survivors	0.10%	1
d. Deferred retirement benefits	3.05%	19
e. Refunds*	0.70%	4
f. Total	6.74%	$ 41

** Includes non-vested refunds and non-married survivor benefits only.*

Note: Projected annual payroll for fiscal year beginning on the valuation date: $617.

Development of Costs

Determination of Normal Cost – Coordinated *(Dollars in Thousands)*

	Percent of Payroll	Dollar Amount
A. Statutory contributions - Chapter 353		
1. Employee contributions	6.25%	$ 325,057
2. Employer contributions	7.25%	377,066
3. Total	13.50%	$ 702,123
B. Required contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	4.93%	$ 256,404
b. Disability benefits	0.29%	15,083
c. Survivors	0.12%	6,241
d. Deferred retirement benefits	1.03%	53,569
e. Refunds*	0.47%	24,444
f. Total	6.84%	$ 355,741

** Includes non-vested refunds and non-married survivor benefits only.*

Note: Projected annual payroll for fiscal year beginning on the valuation date: $5,200,907.

Actuarial Basis

Actuarial Methods

All actuarial methods are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement, or the Board of Trustees. Different methodologies may also be reasonable and results based on other methodologies would be different.

Actuarial Cost Method

Actuarial Accrued Liability and required contributions in this report are computed using the Entry Age Normal Cost Method. This method is prescribed by Minnesota Statute. 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. Age as of the valuation date was calculated based on the dates of birth provided by the Fund. Entry age for valuation purposes was calculated as the age on the valuation date minus the provided 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 statutory amortization period using level percent of payroll assuming payroll increases. The total contribution developed under this method is the sum of normal cost, expenses, and the payment toward the UAAL.

Select and Ultimate Discount Rate Methodology

Based on direction from the LCPR's actuary, the select and ultimate discount rate methodology was applied to the entry age normal results as follows:

1. The present value of projected benefits was calculated using the prescribed select and ultimate discount rates.
2. An equivalent single interest rate that produced approximately the same present value of projected benefits was determined.
3. The equivalent single interest rate was used to determine the entry age normal accrued liability and normal cost.

The equivalent single interest rate used in this valuation was 8.34%.

Funding Objective

The fundamental financing objective of the fund is to establish contribution rates which, when expressed as a percentage of active member payroll, will remain approximately level from generation to generation and meet the required deadline for full funding.

Decrement Timing

All decrements are assumed to occur mid-year.

Actuarial Basis

Actuarial Methods (Concluded)

Asset Valuation Method

The assets are valued based on a five-year moving average of expected and market values (five-year average actuarial value) determined as follows:

- At the end of each plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;
- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;
- The investment gain or (loss) so determined is recognized over five years at 20% per year;
- The asset value is the sum of the market asset value plus the scheduled recognition of investment gains or (losses) during the current and the preceding four fiscal years.

The Minnesota Post Retirement Investment Fund (Post Fund) was dissolved on June 30, 2009. For the purpose of determining the actuarial value of assets, the Post Fund asset loss for the fiscal year ending June 30, 2009 is recognized incrementally over five years at 20% per year, similar to the smoothing described above. Prior to June 30, 2009, Post Fund asset gains and losses were not smoothed.

Payment on the Unfunded Actuarial Accrued Liability

Payment equals a level percentage of payroll each year to the statutory amortization date of June 30, 2031 assuming payroll increases of 3.75% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount is amortized over 30 years as a level percentage of payroll. Projected payroll is multiplied by 0.959 in the determination of the present value of future payroll to account for timing differences (as required by the Standards for Actuarial Work).

Changes in Methods since Prior Valuation

Decrement timing was changed from beginning of year to mid-year.

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. The assumptions prescribed are based on the last experience study, dated August 2009, prepared by a former actuary.

The Allowance for Combined Service Annuity was also based on a recommendation by a former actuary. We are unable to judge the reasonableness of this assumption without performing a substantial amount of additional work beyond the scope of the assignment.

Investment return	Select and Ultimate Rates: July 1, 2012 to June 30, 2017 7.00% per annum post-retirement 8.00% per annum pre-retirement July 1, 2017 and later 7.50% per annum post-retirement 8.50% per annum pre-retirement
Benefit increases after retirement	Payment of 1.00% annual benefit increases after retirement are accounted for by using the 7.50% post-retirement assumption (7.0% during 5-year select period), as required by Minnesota Statute. Mathematically, this assumption funds a post-retirement benefit increase of 0.9% instead of 1.0%.
Salary increases	Reported salary at valuation date increased according to the rate table, to current fiscal year and annually for each future year. Prior fiscal year salary is annualized for members with less than one year of service earned during the year.
Payroll growth	3.75% per year.
Mortality rates	
Healthy Pre-retirement	RP-2000 employee generational mortality table, white collar adjustment, set forward 5 years for males and set back 3 years for females.
Healthy Post-retirement	RP-2000 annuitant generational mortality table, white collar adjustment, no adjustment for males and set back 2 years for females. The RP-2000 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. We have applied the annuitant mortality table for active members beyond age 70 until the assumed retirement age and the employee mortality table for annuitants younger than age 50.
Disabled	RP-2000 disabled mortality table set back 4 years for males and set forward 7 years for females.
Retirement	Members retiring from active status are assumed to retire according to the age related rates shown in the rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Withdrawal	Select and Ultimate rates based on actual experience. Ultimate rates after the third year are shown in rate table. Select rates in the first three years are: Year / Select Withdrawal Rates 1 — 40.00% 2 — 15.00% 3 — 10.00%
Disability	Age-related rates based on experience; see table of sample rates.
Allowance for combined service annuity	Liabilities for active members are increased by 0.80% and liabilities for former members are increased by 60.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Prior year administrative expenses expressed as percentage of prior year projected payroll.
Refund of contributions	All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit. Account balances for deferred members accumulate interest until normal retirement date and are discounted back to the valuation date.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at Normal Retirement.
Percentage married	75% of male and 70% of female active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Males are assumed to have a beneficiary 3 years younger, while females are assumed to have a beneficiary 2 years older. For members in payment status, actual spouse date of birth is used, if provided.
Eligible children	Retiring members are assumed to have no dependent children.
Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males: 5% elect 25% Joint & Survivor option 15% elect 50% Joint & Survivor option 10% elect 75% Joint & Survivor option 30% elect 100% Joint & Survivor option Females: 5% elect 25% Joint & Survivor option 5% elect 50% Joint & Survivor option 5% elect 75% Joint & Survivor option 15% elect 100% Joint & Survivor option Remaining married members and unmarried members are assumed to elect the Straight Life option. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a straight life annuity.
Eligibility testing	Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur.
Decrement operation	Withdrawal decrements do not operate during retirement eligibility.
Service credit accruals	It is assumed that members accrue one year of service credit per year.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Unknown data for certain members	To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided. In cases where submitted data was missing or incomplete, the following assumptions were applied: <u>Data for active members:</u> There were 1,889 members reported with zero salary. We used prior year salary (1,013 members), if available; otherwise high five salary with a 10% load to account for salary increases (841 members). If neither prior year salary or high five salary was available, we assumed a value of $35,000. There were also 1,490 members reported without a gender and 246 members reported without a date of birth. We assumed a date of birth of July 1, 1966 and female gender. <u>Data for terminated members:</u> We calculated benefits for these members using the reported Average Salary and credited service. If Average Salary was not reported (355 members), we assumed a value of $24,000. If credited service was not reported (157 members), we assumed credited service was elapsed time from hire to termination date (109 members); otherwise nine years. If termination date was not reported (118 members), we assumed the termination date was equal to hire date plus credited service; otherwise the valuation date unless they are noted as a pre-July 1, 1989 hire, then July 1, 1989. There were 17 members reported without a date of birth and 113 members reported without a gender. We assumed a date of birth of July 1, 1966 and female gender.
Changes in actuarial assumptions	The investment return assumption was changed from 8.5% pre-retirement and 7.5% post-retirement to a 5-year select and ultimate approach with rates of 8.0% pre-retirement and 7.0% post-retirement for the period July 1, 2012 to June 30, 2017 and 8.5% pre-retirement and 7.5% post-retirement thereafter. The salary increase rates were updated to be approximately 25 basis points lower on average than the previous table. The summary of rates is shown herein.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

	Rate (%)			
	Healthy Pre-Retirement Mortality*		Disability Mortality	
Age	Male	Female	Male	Female
20	0.04%	0.02%	2.26%	0.75%
25	0.04	0.02	2.26	0.75
30	0.06	0.02	2.26	0.75
35	0.09	0.04	2.26	0.75
40	0.13	0.05	2.26	0.90
45	0.20	0.08	2.26	1.35
50	0.27	0.12	2.38	1.87
55	0.43	0.19	3.03	2.41
60	0.67	0.28	3.67	3.13
65	0.98	0.45	4.35	4.29
70	3.36	0.70	5.22	5.95

* *These rates were adjusted for mortality improvements using projection scale AA.*

	Withdrawal Rates After Third Year		Disability Retirement	
Age	Male	Female	Male	Female
20	8.40%	8.40%	0.01%	0.01%
25	6.90	6.90	0.01	0.01
30	5.40	5.40	0.02	0.02
35	3.90	4.20	0.05	0.04
40	3.00	3.50	0.09	0.06
45	2.50	3.00	0.14	0.09
50	2.00	2.50	0.23	0.16
55	0.00	0.00	0.49	0.26
60	0.00	0.00	0.82	0.46
65	0.00	0.00	0.00	0.00

Actuarial Basis

Summary of Actuarial Assumptions (Concluded)

	Retirement	
Age	Rule of 90 Eligible	Other
55	20%	6%
56	20	6
57	20	6
58	20	7
59	20	8
60	20	8
61	25	12
62	35	20
63	25	16
64	25	18
65	35	35
66	25	25
67	20	20
68	20	20
69	20	20
70	20	20
71+	100	100

Salary Scale	
Year	Increase
1	12.03%
2	8.90
3	7.46
4	6.58
5	5.97
6	5.52
7	5.16
8	4.87
9	4.63
10	4.42
11	4.24
12	4.08
13	3.94
14	3.82
15	3.70
16	3.60
17	3.51
18+	3.50

Actuarial Basis

Summary of Plan Provisions - Basic

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30.
Eligibility	A public employee who is not covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23.
Contributions	Shown as a percent of salary: Member 9.10% of salary Employer 11.78% of salary Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service during which member contributions were made. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leaves and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average salary	Average of the five highest successive years of annual salary. Average salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after 3 years of Allowable Service. Hired after June 30, 2010: 100% vested after 5 years of Allowable Service. (Not applicable since all Basic members were hired before 1968.)
Retirement	
Normal retirement benefit	
Age/service requirement	Age 65 and vested. Proportionate retirement annuity is available at age 65 and one year of Allowable Service.
Amount	2.70% of Average Salary for each year of Allowable Service.
Early retirement benefit	
Age/service requirement	(a.) Age 55 and vested. (b.) Any age with 30 years of Allowable Service. (c.) Rule of 90: Age plus Allowable Service totals 90.

Actuarial Basis

Summary of Plan Provisions – Basic (Continued)

Retirement (Continued)

Early retirement benefit (Continued)

Age/service requirement: The greater of (a) or (b):

Amount:

(a.) 2.20% of Average Salary for each of the first ten years of Allowable Service and 2.70% of Average Salary for each subsequent year with reduction of 0.25% for each month if the Member is under age 65 at time of retirement and has less than 30 years of Allowable Service or if the Member is under age 62 and has 30 or more years of Allowable Service. No reduction if age plus years of Allowable Service totals 90.

(b.) 2.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.

Form of payment

Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

25%, 50%, 75% or 100% Joint and Survivor. If a Joint and Survivor benefit is elected and the beneficiary predeceases the annuitant, the annuitant's benefit increases to the Life Annuity amount. This "bounce back" is subsidized by the plan.

Benefit increases

Benefit recipients receive a future annual 1.0% post-retirement benefit increase. If the accrued liability funding ratio reaches 90% (on a Market Value of Assets basis), the benefit increase will revert to 2.5%.

A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of June 30 will receive a pro rata increase.

Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is the greater of $25 times each full year of Allowable Service or the difference between $400 times each full year of Allowable Service and the sum of benefits paid from any Minnesota public pension plan plus cash payments from the Social Security Administration for the preceding fiscal year July 1, 1988 through June 30, 1989. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from the fund. Effective January 1, 2002, annual lump sum payment is divided by 12 and paid as a monthly life annuity in the annuity form elected.

Actuarial Basis

Summary of Plan Provisions – Basic (Continued)

Disability	
Disability benefit	
Age/service requirement	Total and permanent disability before normal retirement age if vested.
Amount	Normal Retirement benefit based on Allowable Service and Average Salary at disability without reduction for commencement before Normal Retirement Age. Supplemental benefit of $25 per month payable to the later of the normal retirement age or the five-year anniversary of commencement of disability. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater. If a member becomes disabled prior to July 1, 1997 but did not commence his or her benefit before July 1, 1997, the benefit payable is calculated under the laws in effect at the time the Member became disabled and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. Payments stop earlier if disability ceases. If death occurs prior to age 65, or within five years of disability, the surviving spouse can receive a refund or a survivor benefit. Dependent children are entitled to dependent child benefits subject to the 70.00% family maximum. Payments revert to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.
Form of payment	Same as for retirement.
Benefit increases	Same as for retirement.
Retirement after disability	
Age/service requirement	Normal retirement age
Amount	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions - Basic (Continued)

Death	
Surviving spouse benefit	
Age/service requirement	Active Member with 18 months of Allowable Service or while Member is receiving a disability benefit.
Amount	50.00% of salary averaged over last six months. Family benefit is maximum of 70.00% and minimum of 50.00% of average salary. Benefit paid until spouse's death but no payments while spouse is remarried prior to July 1, 1991. If a member becomes deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit as of July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. Surviving spouse optional annuity may be elected in lieu of this benefit.
Benefit increases	Same as for retirement.
Surviving dependent children's benefit	
Age/service requirement	Active Member with 18 months of Allowable Service or while Member is receiving a disability benefit.
Amount	10.00% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 50.00% of salary and maximum of 70.00% of average salary. Benefits paid until child marries, dies, or attains age 18 (age 22 if full-time student). If a member becomes deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions - Basic (Continued)

Death (Continued)	
<u>Surviving spouse optional annuity</u>	
Age/service requirement	Member or former Member who dies before retirement benefits commence and other survivor annuity is waived by spouse.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced the same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer. If a member becomes deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit as of July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.
<u>Refund of contributions with interest</u>	
Age/service requirement	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount	The excess of the Member's contributions with 6.00% interest until June 30, 2011; 4.00% interest thereafter over any disability or survivor benefits paid.
Termination	
<u>Refund of contributions</u>	
Age/service requirement	Termination of public service.
Amount	If member terminated before July 1, 2011, member's contributions credited with 6% interest compounded annually prior to July 1, 2011 and 4% interest thereafter. If member terminated after June 30, 2011, member's contributions credited with 4% interest compounded annually. A deferred annuity may be elected in lieu of a refund if three or more years of Allowable Service.

Actuarial Basis

Summary of Plan Provisions - Basic (Continued)

Termination (Continued)

Deferred benefit

Age/service requirement: Fully vested.

Amount: Benefit computed under law in effect at termination and increased by the following "augmentation" percentage compounded annually for terminations prior to 2012:

(a.) 0.00% before July 1, 1971;

(b.) 5.00% from July 1, 1971 to January 1, 1981;

(c.) 3.00% thereafter until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012;

(d.) 5.00% thereafter until the earlier of the date the annuity begins and January 1, 2012; and

(e.) 1.00% from January 1, 2012 thereafter.

Members who terminate after 2011 will receive no future augmentation.

Members active with a public employer the day prior to the privatization of the employer become vested immediately and receive enhanced augmentation (unless the enhancement results in a net loss to the Plan). Amount is payable at a normal or early retirement. Augmentation equals 2% compounded annually, unless the enhancement results in a net loss to the Plan, in which case augmentation equals 1% compounded annually. If prioritization occurred prior to January 1, 2011, augmentation occurs at the rate of 4.0% compounded annually through the year the Member turns age 55 and 6.0% thereafter until the annuity begins. If privatization occurred prior to January 1, 2007 (or January 1, 2008 for Hutchinson Area Health Care), augmentation occurs at the rate of 5.5% compounded annually through the year the Member turns age 55 and 7.5% thereafter until the annuity begins.

If a member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997 and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.

Form of payment: Same as for retirement.

Optional form conversion factors: Actuarially equivalent factors based on 1983 Group Annuity Mortality blended 85% male (set forward one year) and 15% female, and 6% interest.

Actuarial Basis

Summary of Plan Provisions - Basic (Concluded)

Combined service annuity	Members are eligible for combined service benefits if they: (a.) Meet minimum retirement age for each plan participated in and total public service meets the vesting requirements of each plan; or (b.) Have three or more years of service under PERA and the covered fund(s) (if hired prior to July 1, 2010). Other requirements for combined service include: (a.) Member must have at least six months of allowable service credit in each plan worked under; (b.) Member may not be in receipt of a benefit from another plan. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans.
Changes in plan provisions	Augmentation for privatizations occurring after 2010 was reduced as described herein.

Actuarial Basis

Summary of Plan Provisions - Coordinated

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report.

Plan year	July 1 through June 30.
Eligibility	A public employee who is covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23. City managers and persons holding certain elective office positions may choose to become Members.
Contributions	Shown as a percent of salary: Member: 6.25% of salary Employer: 7.25% of salary Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service during which member contributions are deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leave and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average salary	Average of the five highest successive years of annual salary. Average salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after three years of Allowable Service. Hired after June 30, 2010: 100% vested after five years of Allowable Service.
Retirement	
<u>Normal retirement benefit</u>	
Age/service requirement	First hired before July 1, 1989: (a.) Age 65 and vested. (b.) Proportionate retirement annuity is available at age 65 and one year of Allowable Service.
Amount	1.70% of Average Salary for each year of Allowable Service.

Actuarial Basis

Summary of Plan Provisions – Coordinated (Continued)

Retirement (Continued)

Normal retirement benefit (Continued)

Age/service requirement

First hired after June 30, 1989:

(a.) The greater of age 65 or the age eligible for full Social Security retirement benefits but no later than age 66 and vested.
(b.) Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.

Amount

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

Early retirement benefit

Age/service requirement

First hired before July 1, 1989:

(a.) Age 55 and vested.
(b.) Any age with 30 years of Allowable Service.
(c.) Rule of 90: Age plus Allowable Service totals 90.

First hired after June 30, 1989:

(a.) Age 55 and vested.

Amount

First hired before July 1, 1989:

The greater of (a) or (b):

(a.) 1.20% of Average Salary for each of the first ten years of Allowable Service and 1.70% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or under age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90.
(b.) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.

First hired after June 30, 1989:

(a.) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to normal retirement age at 3.00% per year (2.50% if hired after June 30, 2006) and actuarial reduction for each month the Member is under normal retirement age.

Form of payment

Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are:

25%, 50%, 75% or 100% Joint and Survivor . If a Joint and Survivor benefit is elected and the beneficiary predeceases the annuitant, the annuitant's benefit increases to the Life Annuity amount. This "bounce back" is subsidized by the plan.

Actuarial Basis

Summary of Plan Provisions – Coordinated (Continued)

Retirement (Continued)	
Benefit increases	Benefit recipients receive a future annual 1.0% post-retirement benefit increase. If the accrued liability funding ratio reaches 90% (on a Market Value of Assets basis), the benefit increase will revert to 2.5%. A benefit recipient who has been receiving a benefit for at least 12 full months as of June 30 will receive a full increase. Members receiving benefits for at least one month but less than 12 full months as of June 30 will receive a pro rata increase. Members retired under laws in effect before July 1, 1973 receive an additional lump sum payment each year. In 1989, this lump sum payment is $25 times each full year of Allowable Service. In each following year, the lump sum payment will increase by the same percentage increase that is applied to regular annuities paid from the fund.
Disability	
Disability benefit	
Age/service requirement	Total and permanent disability before normal retirement age if vested.
Amount	Normal Retirement benefit based on Allowable Service and Average Salary at disability without reduction for commencement before normal retirement age. The disability benefit is reduced to that amount which, when added to Workers' Compensation, does not exceed the salary the disabled Member received as of the date of the disability or the salary currently payable for the same employment position substantially similar to the one the person held as of the date of the disability, whichever is greater. If a Member becomes disabled prior to July 1, 1997 but did not commence his or her benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%. Payments stop if disability ceases or death occurs. Payments change to a retirement annuity at normal retirement age. Benefits may be reduced on resumption of partial employment.
Form of payment	Same as for retirement.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions – Coordinated (Continued)

Disability (Continued)	
Retirement after disability	
Age/service requirement	Normal retirement age.
Amount	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before normal retirement age or the normal retirement benefit available at normal retirement age, or an actuarially equivalent optional annuity.
Benefit increases	Same as for retirement.
Death	
Surviving spouse optional annuity	
Age/service requirement	Member or former Member who dies before retirement or disability benefits commence.
Amount	Survivor's payment of the 100% joint and survivor benefit the Member could have elected if terminated or an actuarial equivalent term certain annuity. If commencement is prior to age 65 (age 62 if 30 years of service), the benefit is reduced the same as early retirement with half the applicable reduction factor used from age 55 to the actual commencement age. If no surviving spouse, then an actuarial equivalent dependent child benefit is paid to age 20 or for five years if longer. If a member becomes deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefit before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.
Refund of contributions	
Age/service requirement	Member dies before receiving any retirement benefits and survivor benefits are not payable.
Amount	The excess of the Member's contributions with 6.00% interest until June 30, 2011; 4.00% interest thereafter over any disability or survivor benefits paid.
Termination	
Refund of contributions	
Age/service requirement	Termination of public service.
Amount	If member terminated before July 1, 2011, member's contributions credited with 6% interest compounded annually prior to July 1, 2011 and 4% interest thereafter. If member terminated after June 30, 2011, member's contributions credited with 4% interest compounded annually. A deferred annuity may be elected in lieu of a refund if vested.

Actuarial Basis

Summary of Plan Provisions – Coordinated (Continued)

Termination (Continued)	
Deferred benefit	
Age/service requirement	Fully vested.
Amount	Benefit computed under law in effect at termination and increased by the following percentage (augmentation) compounded annually for terminations prior to 2012: (a.) 0.00% before July 1, 1971; (b.) 5.00% from July 1, 1971 to January 1, 1981; (c.) 3.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of January 1 of the year following attainment of age 55 and January 1, 2012; (d.) 5.00% (2.50% if hired after June 30, 2006) thereafter until the earlier of the date the annuity begins and January 1, 2012; (e.) 1.00% from January 1, 2012 to when the benefit begins. Members who terminate after 2011 will receive no future augmentation. Members active with a public employer the day prior to the privatization of the employer become vested immediately and receive enhanced augmentation (unless the enhancement results in a net loss to the Plan). Amount is payable at a normal or early retirement. Augmentation equals 2% compounded annually, unless the enhancement results in a net loss to the Plan, in which case augmentation equals 1% compounded annually. If privatization occurred prior to January 1, 2011, augmentation occurs at the rate of 4.0% compounded annually through the year the Member turns age 55 and 6.0% thereafter until the annuity begins. If privatization occurred prior to January 1, 2007 (or January 1, 2008 for Hutchinson Area Health Care), augmentation occurs at the rate of 5.5% compounded annually through the year the Member turns age 55 and 7.5% thereafter until the annuity begins. If a member terminated employment prior to July 1, 1997 but was not eligible to commence their pension before July 1, 1997, the benefit payable is calculated under the laws in effect before July 1, 1997 and an actuarial increase shall be made for the change in the post-retirement interest rates from 5.00% to 6.00%.
Form of payment	Same as for retirement.
Optional form conversion factors	Actuarially equivalent factors based on 1983 Group Annuity Mortality blended 85% male (set forward one year) and 15% female, and 6% interest.

Actuarial Basis

Summary of Plan Provisions – Coordinated (Concluded)

Combined service annuity	Members are eligible for combined service benefits if they: (a.) Meet minimum retirement age for each plan participated in and total public service meets the vesting requirements of each plan; or (b.) Have three or more years of service under PERA and the covered fund(s) (if hired prior to July 1, 2010). Other requirements for combined service include: (a.) Member must have at least six months of allowable service credit in each plan worked under; (b.) Member may not be in receipt of a benefit from another plan. Members who meet the above requirements must have their benefit based on the following: (a.) Allowable service in all covered plans are combined in order to determine eligibility for early retirement. (b.) Average salary is based on the high five consecutive years during their entire service in all covered plans
Changes in plan provisions	Augmentation for privatizations occurring after 2010 was reduced as described herein.

Plan Accounting Under GASB No. 25 (as amended by GASB No. 50)

Provided below is information required under GASB Statement No. 25 as amended by GASB Statement No. 50 - Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans as amended by GASB Statement No. 50.

Schedule of Funding Progress[1] *(Dollars in Thousands)*

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded (Overfunded) AAL (UAAL) (b) - (a)	Funded Ratio (a)/(b)	Actual Covered Payroll (Previous FY) (c)	UAAL as a Percentage of Covered Payroll [(b)-(a)]/(c)
7-1-1991	$ 3,570,304	$ 4,988,671	$ 1,418,367	71.57 %	$ 2,124,409	66.77 %
7-1-1992	3,978,110	5,439,953	1,461,843	73.13	2,299,532	63.57
7-1-1993	4,374,459	5,784,318	1,409,859	75.63	2,403,558	58.66
7-1-1994	4,747,128	6,223,622	1,476,494	76.28	2,557,522	57.73
7-1-1995	5,138,461	6,622,069	1,483,608	77.60	2,679,069	55.38
7-1-1996	5,786,398	7,270,073	1,483,675	79.59	2,814,126	52.72
7-1-1997	6,658,410	8,049,666	1,391,256	82.72	2,979,260	46.70
7-1-1998	7,636,668	8,769,303	1,132,635	87.08	3,271,737	34.62
7-1-1999	8,489,177	9,443,678	954,501	89.89	3,302,808	28.90
7-1-2000	9,609,367	11,133,682	1,524,315	86.31	3,437,954	44.34
7-1-2001	10,527,270	12,105,337	1,578,067	86.96	3,466,587	45.52
7-1-2002	11,017,414	12,958,105	1,940,691	85.02	3,809,864	50.94
7-1-2003	11,195,902	13,776,198	2,580,296	81.27	4,387,649	58.81
7-1-2004	11,477,961	14,959,465	3,481,504	76.73	3,968,034	87.74
7-1-2005	11,843,936	15,892,555	4,048,619	74.53	4,096,138	98.84
7-1-2006	12,495,207	16,737,757	4,242,550	74.65	4,247,109	99.89
7-1-2007	12,985,324	17,705,627	4,720,303	73.34	4,448,954	106.10
7-1-2008	13,048,970	17,729,847	4,680,877	73.60	4,722,432	99.12
7-1-2009	13,158,490	18,799,416	5,640,926	69.99	4,778,708	118.04
7-1-2010	13,126,993	17,180,956	4,053,963	76.40	4,804,627	84.38
7-1-2011	13,455,753	17,898,849	4,443,096	75.18	5,079,429 [2]	87.47
7-1-2012	13,661,682	18,598,897	4,937,215	73.45	5,142,592 [3]	96.01

[1] *Information prior to 2012 provided by prior actuaries. See prior reports for additional detail.*
[2] *Assumed equal to actual member contributions divided by 6.125%.*
[3] *Assumed equal to actual member contributions divided by 6.25%.*

Plan Accounting Under GASB No. 25 (as amended by GASB No. 50)

Schedule of Contributions from the Employer and Other Contributing Entities[1]

(Dollars in Thousands)

The GASB Statement No. 25 required and actual contributions are as follows:

Plan Year Ended June 30	Actuarially Required Contribution Rate (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a)x(b)] - (c) = (d)	Actual Employer Contributions[2] (e)	Percentage Contributed (e)/(d)
1991	10.04 %	$ 2,124,409	$ 94,413	$ 118,878	$ 101,907	85.72%
1992	9.44	2,299,532	101,655	115,421	109,203	94.61
1993	9.95	2,403,558	106,359	132,795	113,183	85.23
1994	9.58	2,557,522	112,940	132,071	119,390	90.40
1995	9.76	2,679,069	115,986	145,491	123,984	85.22
1996	9.61	2,814,126	121,525	148,913	129,738	87.12
1997	9.75	2,979,260	128,234	162,244	136,686	84.25
1998	9.62	3,271,737	140,385	174,356	151,499	86.89
1999	9.63	3,302,808	158,475	159,585	173,370	108.64
2000	9.22	3,437,954	171,073	145,906	186,637	127.92
2001	11.84	3,466,587	173,380	237,064	188,208	79.39
2002	11.85	3,809,864	191,422	260,047	206,982	79.59
2003	11.52	4,387,649	205,963	299,494	221,689	74.02
2004	12.25	3,968,034	215,697	270,387	225,745	83.49
2005	12.72	4,096,138	216,701	304,328	232,963	76.55
2006	13.26	4,247,109	235,901	327,266	255,531	78.08
2007	13.41	4,448,954	260,907	335,698	283,419	84.43
2008	13.86	4,722,432	280,007	374,522	303,304	80.98
2009	14.22	4,778,708	298,381	381,151	328,603	86.21
2010	15.55	4,804,627	303,571	443,548	342,678	77.26
2011	12.46	5,079,429 [3]	311,115	321,782	357,596	111.13
2012	13.47	5,142,592 [4]	321,412	371,295	368,037	99.12
2013	14.46					

[1] *Information prior to 2012 provided by prior actuary. See prior reports for additional detail.*
[2] *Includes contributions from other sources (if applicable).*
[3] *Assumed equal to actual member contributions divided by 6.125%.*
[4] *Assumed equal to actual member contributions divided by 6.25%.*

Glossary of Terms

Accrued Benefit Funding Ratio The ratio of assets to Current Benefit Obligations.

Accrued Liability Funding Ratio The ratio of assets to Actuarial Accrued Liability.

Actuarial Accrued Liability (AAL) The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

Actuarial Assumptions Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items.

Actuarial Cost Method A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability.

Actuarial Equivalent Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

Actuarial Present Value (APV) The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made.

Actuarial Present Value of Projected Benefits The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

Actuarial Valuation The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 25, such as the Funded Ratio and the Annual Required Contribution (ARC).

Actuarial Value of Assets The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution (ARC).

Glossary of Terms (Continued)

Amortization Method	A method for determining the Amortization Payment. Under the Level Percentage of Pay method, the Amortization payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. The stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.
Amortization Payment	That portion of the plan contribution or ARC which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.
Amortization Period	The period used in calculating the Amortization Payment.
Annual Required Contribution (ARC)	The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation, determined under GASB No. 25. The ARC consists of the Employer Normal Cost and Amortization Payment.
Augmentation	Annual increases to deferred benefits.
Closed Amortization Period	A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.
Current Benefit Obligations	The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.
Employer Normal Cost	The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.
Expected Assets	The present value of anticipated future contributions intended to fund benefits for current members.
Experience Gain/Loss	A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. On the other hand, losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

Glossary of Terms (Concluded)

GASB	Governmental Accounting Standards Board.
GASB No. 25 and GASB No. 27	These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves.
GASB No. 50	The accounting standard governing a state or local governmental employer's accounting for pensions.
Normal Cost	The annual cost assigned, under the Actuarial Cost Method, to the current plan year.
Projected Benefit Funding Ratio	The ratio of the sum of Actuarial Value of Assets and Expected Assets to the Actuarial Present Value of Projected Benefits.
Unfunded Actuarial Accrued Liability	The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.
Valuation Date	The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.