GRS Gabriel Roeder Smith & Company
Consultants & Actuaries

PUBLIC EMPLOYEES RETIREMENT ASSOCIATION OF MINNESOTA

MINNEAPOLIS EMPLOYEES RETIREMENT FUND

ACTUARIAL VALUATION REPORT AS OF JULY 1, 2014

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December 3, 2014

Public Employees Retirement Association of Minnesota
Minneapolis Employees Retirement Fund
St. Paul, Minnesota

Dear Trustees of the Minneapolis Employees Retirement Fund:

The results of the July 1, 2014 annual actuarial valuation of the Minneapolis Employees Retirement Fund 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 and to determine the required contribution rate for the fiscal year beginning July 1, 2014. 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.

Guidance regarding the selection of economic assumptions for measuring pension obligations is provided by Actuarial Standards of Practice (ASOP) No. 27. A revision of ASOP No. 27, applicable to valuation dates on or after September 30, 2014, will guide assumption setting for future valuations. A recent review of inflation and investment return assumptions for accounting purposes resulted in a recommended range of 7% to 8% for assumed investment return. Additional review and discussion will be required before the next valuation.

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 herein. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

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

Brian B. Murphy and Bonita J. Wurst 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 Minneapolis Employees Retirement Fund 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

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Summary of Valuation Results

Contributions

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

	Actuarial Valuation as of			
Contributions	**July 1, 2014**		**July 1, 2013**	
Statutory Contributions - Chapter 353 (% of Payroll)	1,793.62%	*	1,311.51%	
Required Contributions - Chapter 356 (% of Payroll)	827.95%		780.28%	
Sufficiency / (Deficiency)	965.67%	*	531.23%	
Statutory Contributions - Chapter 353 (000s)	$ 51,136		$ 55,844	
Required Contributions - Chapter 356 (000s)	23,605		33,224	
Sufficiency / (Deficiency)	27,531		22,620	

**Estimated; must be recalculated at consolidation date.*

The actuarial accrued liability funding ratio increased from 74.4% to 82.0%. An actuarial accrued liability funding ratio of 80% or greater triggers consolidation of the MERF Division into the General Employees Retirement Plan (PERA General Plan). Upon consolidation, employer contributions are calculated as a fixed dollar amount to amortize the remaining unfunded liability as a level dollar amount through June 30, 2031. The amortization payment will be based on the mortality assumptions of the PERA General Employees Retirement Plan.

To estimate the fixed amortization payment, we calculated the actuarial accrued liability as of July 1, 2014, assuming PERA General Plan mortality (RP-2000 generational mortality, white collar adjustment, set back 2 years for females), to be $1,181,956,000. The resulting estimated unfunded actuarial accrued liability as of July 1, 2014 is $246,010,000. The estimated fixed annual amortization payment as of July 1, 2014 is $27,531,000. The fixed amortization payment must be recalculated as of the full consolidation date.

The Required Contribution amount for the fiscal year beginning July 1, 2014, determined according to Minnesota Statutes Chapter 356, is $23.6 million. Statutory Contributions consist of $0.3 million member contributions, $19.1 million State of Minnesota contributions, $4.2 million City of Minneapolis contributions, plus the amount necessary to eliminate the unfunded liability as described above, estimated to be $27.5 million. Total Statutory Contributions are estimated to be $51.1 million. The difference between Required and Statutory Contributions results in an estimated contribution sufficiency as of July 1, 2014 of $27.5 million.

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 18.3% for the plan year ending June 30, 2014.

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. Accounting information prepared according to Statements No. 67 and No. 68 will be provided in a separate report.

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, 2014	**July 1, 2013**
Contributions (*% of Payroll*)		
Statutory - Chapter 353	1,793.62% *	1,311.51%
Required - Chapter 356	827.95%	780.28%
Sufficiency / (Deficiency)	965.67% *	531.23%
Contributions *(dollars in thousands)*		
Statutory Contributions - Chapter 353	$ 51,136	$ 55,844
Required Contributions - Chapter 356	23,605	33,224
Sufficiency / (Deficiency)	$ 27,531	22,620
Funding Ratios (*dollars in thousands*)		
Accrued Benefit Funding Ratio		
- Current assets (AVA)	$ 935,946	$ 868,813
- Current benefit obligations	1,140,457	1,166,320
- Funding ratio	82.07%	74.49%
Accrued Liability Funding Ratio		
- Current assets (AVA)	$ 935,946	$ 868,813
- Market value of assets (MVA)	935,946	868,813
- Actuarial accrued liability	1,140,920	1,167,123
- Funding ratio (AVA)	82.03%	74.44%
- Funding ratio (MVA)	82.03%	74.44%
Projected Benefit Funding Ratio		
- Current and expected future assets**	$ 1,141,324	$ 1,167,874
- Current and expected future benefit obligations	1,141,324	1,167,874
- Projected benefit funding ratio	100.00%	100.00%
Participant Data		
Active members		
- Number	42	64
- Projected annual earnings *(000s)*	$ 2,851	$ 4,258
- Average annual earnings *(projected)*	$ 67,881	$ 66,531
- Average age	61.9	61.4
- Average service	39.6	38.9
Service retirements	2,929	3,022
Survivors	739	770
Disability retirements	109	117
Deferred retirements	43	57
Total	**3,862**	**4,030**

* *Estimated; must be recalculated at consolidation date.*

** *Per the LCPR Standards for Actuarial Work, the present value of expected future statutory supplemental contributions is the balancing item needed to attain a projected benefit funding ratio of 100%. Actual statutory contributions may be significantly different.*

Summary of Valuation Results

Effects of Changes

The following changes in actuarial assumptions and methods were recognized as of July 1, 2014:

- The methodology for valuing future post-retirement increases was clarified in statutes, and the assumed post-retirement benefit increase rate was changed from 1.0% per year to 1.0% per year through 2026 and 2.5% per year thereafter.

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

The combined impact of the above changes was to increase the accrued liability by $26.6 million and increase the required contribution by $3.0 million, as follows:

	Before Assumption Changes	Reflecting Assumption Changes
Normal Cost (000s)	$ 305	$ 307
Amortization of Unfunded Accrued Liability (000s)	19,969	22,939
Expenses (000s)	359	359
Total Required Contribution (000s)	20,633	23,605
Accrued Liability Funding Ratio	84.0%	82.0%
Projected Benefit Funding Ratio	100.0%	100.0%
Unfunded Accrued Liability, in millions	$178.4	$205.0

Summary of Valuation Results

Valuation of Future Post-Retirement Benefit Increases

Benefit recipients receive a future annual 1.0% post-retirement benefit increase. If the funding ratio of the PERA General Plan reaches 90% (based on a 2.5% post-retirement benefit increase assumption) for two consecutive years, the benefit increase in the Minneapolis Employees Retirement Fund will revert to 2.5%. If, after reverting to a 2.5% benefit increase, the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.

To determine an assumption regarding a future change in the post-retirement benefit increase, we performed a projection of PERA General Plan liabilities and assets. See the 2014 valuation report for the PERA General Plan for additional detail. The projection indicates that this plan is expected to begin paying 2.5% benefit increases on January 1, 2027. This assumption is reflected in our calculations.

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 Public Employees Retirement Association of Minnesota. 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.
- **Additional schedules** shows the Schedule of Funding Progress and Schedule of Contributions.
- **Glossary** defines the terms used in this report.

Plan Assets

Statement of Fiduciary Net Position *(Dollars in Thousands)*

	Market Value	
Assets in Trust	**June 30, 2014**	**June 30, 2013**
Cash, equivalents, short term securities	$ 24,264	$ 22,344
Fixed income	205,527	186,720
Equity	540,176	486,979
SBI Alternative	111,099	117,893
Other	0	0
Total Assets in Trust	**$ 881,066**	**$ 813,936**
Assets Receivable*	55,014	55,010
Amounts Payable	(134)	(133)
Net Assets Held in Trust for Pension Benefits	**$ 935,946**	**$ 868,813**

**Assets receivable include the following:*

	Market Value as of June 30, 2014	Market Value as of June 30, 2013
Source	*Amount*	*Amount*
State Contributions	*$24.00 million*	*$24.00 million*
Employer Contributions	*$31.00 million*	*$31.00 million*

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 prior two fiscal years.

Change in Assets	Market Value June 30, 2014	Market Value June 30, 2013
1. Fund balance at market value at beginning of year*	$ 868,813	$ 842,811
2. Contributions		
a. Member	370	426
b. Employer	31,426	31,447
c. Other sources	24,000	24,000
d. Total contributions	55,796	55,873
3. Investment income		
a. Investment income/(loss)	147,184	109,234
b. Investment expenses	(1,227)	(1,118)
c. Net subtotal	145,957	108,116
4. Other	39	8
5. Total income: *(2.d.) + (3.c.) + (4.)*	**$ 201,792**	**$ 163,997**
6. Benefits Paid		
a. Annuity benefits	(134,466)	(137,807)
b. Refunds	(47)	(57)
c. Total benefits paid	(134,513)	(137,864)
7. Expenses		
a. Other	0	0
b. Administrative	(146)	(131)
c. Total expenses	(146)	(131)
8. Total disbursements: *(6.c.) + (7.c.)*	**(134,659)**	**(137,995)**
9. Fund balance at market value at end of year*: *(1.) + (5.) + (8.)*	**$ 935,946**	**$ 868,813**
10. Approximate return on market value of assets	18.3%	14.0%

**Assets include the following contributions as assets receivable:*

Source	*Market Value as of June 30, 2014* *Amount*	*Market Value as of June 30, 2013* *Amount*	*Market Value as of June 30, 2012* *Amount*
State	*$24.00 million*	*$24.00 million*	*$22.75 million*
Employer	*$31.00 million*	*$31.00 million*	*$31.00 million*

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

Actuarial Asset Value is equal to Market Value, including receivable contributions and reduced by amounts payable at the valuation date.

Membership Data

Distribution of Active Members

	Years of Service as of June 30, 2014									
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									16	**16**
Avg. Earnings									64,780	**64,780**
60 - 64									15	**15**
Avg. Earnings									64,272	**64,272**
65 - 69									7	**7**
Avg. Earnings									71,627	**71,627**
70+									4	**4**
Avg. Earnings									59,857	**59,857**
Total									**42**	**42**
Avg. Earnings									**65,271**	**65,271**

* *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. The pay shown has been rolled forward at the valuation salary increase assumption from December 31, 2013 to July 1, 2014.

Membership Data

Distribution of Service Retirements

	Years Retired as of June 30, 2014							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<50								
Avg. Benefit								
50 - 54			1					**1**
Avg. Benefit			39,681					**39,681**
55 - 59	6	16	38	10				**70**
Avg. Benefit	40,232	41,924	37,054	38,880				**38,700**
60 - 64	13	53	153	148	13			**380**
Avg. Benefit	38,215	34,394	37,857	38,921	38,696			**37,929**
65 - 69	12	62	161	265	103	3		**606**
Avg. Benefit	17,676	27,944	35,157	42,671	47,560	19,703		**39,390**
70 - 74	3	25	59	209	130	16	1	**443**
Avg. Benefit	59,167	29,944	29,794	31,582	50,581	50,265	17,867	**37,657**
75 - 79		6	19	104	176	44	21	**370**
Avg. Benefit		40,170	22,438	28,126	34,654	48,383	52,164	**34,908**
80 - 84			7	26	132	160	63	**388**
Avg. Benefit			24,814	25,858	33,947	34,398	54,776	**36,808**
85 - 89			2	10	29	128	206	**375**
Avg. Benefit			40,856	25,487	30,144	28,490	39,448	**34,623**
90+				2	5	27	262	**296**
Avg. Benefit				28,127	32,017	22,657	30,921	**30,167**
Total	**34**	**162**	**440**	**774**	**588**	**378**	**553**	**2,929**
Avg. Benefit	**33,171**	**32,197**	**34,863**	**36,132**	**40,122**	**33,741**	**37,598**	**36,459**

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

	Years Since Death as of June 30, 2014							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45		1						**1**
Avg. Benefit		18,750						**18,750**
45 - 49		2						**2**
Avg. Benefit		21,331						**21,331**
50 - 54			1		1			**2**
Avg. Benefit			32,175		30,449			**31,312**
55 - 59	1	6	3	1	5		1	**17**
Avg. Benefit	12,252	22,176	37,180	31,401	36,009		14,391	**28,394**
60 - 64	5	5	4	12	9	5	2	**42**
Avg. Benefit	30,944	33,380	43,610	26,354	29,575	34,196	14,188	**30,425**
65 - 69	5	15	3	7	12	7	9	**58**
Avg. Benefit	35,794	29,009	41,527	39,300	32,661	30,890	19,743	**31,028**
70 - 74	3	14	1	5	11	9	20	**63**
Avg. Benefit	47,500	32,476	16,619	34,998	32,193	37,894	20,858	**30,176**
75 - 79	3	12		7	10	27	41	**100**
Avg. Benefit	33,268	42,078		26,897	35,920	36,882	32,640	**34,863**
80 - 84	10	15		2	7	22	69	**125**
Avg. Benefit	42,385	36,556		14,128	26,980	27,939	32,174	**32,192**
85 - 89	3	19		1	3	10	129	**165**
Avg. Benefit	29,195	38,230		14,188	28,677	34,330	33,035	**33,448**
90+	2	9			1	3	149	**164**
Avg. Benefit	50,286	35,446			18,164	47,220	29,449	**30,289**
Total	**32**	**98**	**12**	**35**	**59**	**83**	**420**	**739**
Avg. Benefit	**37,508**	**34,182**	**38,280**	**29,385**	**31,779**	**34,020**	**30,584**	**31,911**

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

	Years Disabled* as of June 30, 2014							
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		1		2				**3**
Avg. Benefit		3,916		25,818				**18,517**
60 - 64	6	5			3	3	3	**20**
Avg. Benefit	21,971	23,954			31,854	27,514	23,735	**25,045**
65 - 69				3	8	6	9	**26**
Avg. Benefit				23,647	35,185	36,653	22,783	**29,899**
70 - 74				4	5	3	6	**18**
Avg. Benefit				15,681	29,254	37,983	32,077	**28,634**
75+					1	5	36	**42**
Avg. Benefit					4,015	24,329	22,028	**21,873**
Total	**6**	**6**		**9**	**17**	**17**	**54**	**109**
Avg. Benefit	**21,971**	**20,615**		**20,589**	**31,019**	**31,650**	**23,365**	**25,394**

** Based on effective date as provided by PERA; "Years Disabled" may reflect years since age 65 for members over age 65.*

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

		Terminated	Recipients			
	Actives	Deferred Retirement	Service Retirement	Disability Retirement	Survivor	Total
Members on 7/1/2013	**64**	**57**	**3,022**	**117**	**770**	**4,030**
New members	0	0	0	0	0	**0**
Return to active	0	0	0	0	0	**0**
Terminated non-vested	0	0	0	0	0	**0**
Service retirements	(20)	(16)	36	0	0	**0**
Terminated deferred	(2)	2	0	0	0	**0**
Terminated refund/transfer	0	0	0	0	0	**0**
Deaths	0	0	(130)	(8)	(63)	**(201)**
New beneficiary	0	0	0	0	33	**33**
Disabled	0	0	0	0	0	**0**
Data adjustments	0	0	1	0	(1)	**0**
Net change	(22)	(14)	(93)	(8)	(31)	**(168)**
Members on 6/30/2014	**42**	**43**	**2,929**	**109**	**739**	**3,862**

Terminated Member Statistics	Deferred Retirement
Number	43
Average age	61.4
Average service	9.1
Average annual benefit, with augmentation to Normal Retirement Date and 30% CSA load	$17,271

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 balancing item needed so that C. equals F.

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.

			June 30, 2014
A. Actuarial Value of Assets			$ 935,946
B. Expected Future Assets			
1. Present value of expected future statutory supplemental contributions*			204,974
2. Present value of future normal cost contributions			404
3. Total expected future assets: *(1.) + (2.)*			$ 205,378
C. Total Current and Expected Future Assets *(A.+ B.3)*			$ 1,141,324
D. Current Benefit Obligations**			
1. Benefit recipients	**Non-Vested**	**Vested**	**Total**
a. Service retirements	$ 0	$ 929,063	$ 929,063
b. Disability retirements	0	26,517	26,517
c. Survivors	0	153,122	153,122
2. Deferred retirements with augmentation	0	7,585	7,585
3. Former members without vested rights	0	0	0
4. Active members	0	24,170	24,170
5. Total Current Benefit Obligations	$ 0	$ 1,140,457	$ 1,140,457
E. Expected Future Benefit Obligations			$ 867
F. Total Current and Expected Future Benefit Obligations***			$ 1,141,324
G. Unfunded Current Benefit Obligations: *(D.5.) - (A.)*			$ 204,511
H. Unfunded Current and Future Benefit Obligations: *(F.) - (C.)*			$ 0
I. Accrued Benefit Funding Ratio: *(A.)/(D.5.)*			82.07%
J. Projected Benefit Funding Ratio: *(C.)/(F.)*			100.00%

* *Per the LCPR Standards for Actuarial Work, this represents the balancing item needed so that C. equals F. Actual statutory contributions may be significantly different.*

** *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	$ 24,379	$ 152	$ 24,227	
b. Disability benefits	353	99	254	
c. Survivor's benefits	67	9	58	
d. Deferred retirements	236	103	133	
e. Refunds*	2	41	(39)	
f. Total	$ 25,037	$ 404	$ 24,633	
2. Deferred retirements with future augmentation	7,585	0	7,585	
3. Former members without vested rights	0	0	0	
4. Annuitants	1,108,702	0	1,108,702	
5. Total	$1,141,324	$ 404	$ 1,140,920	
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)				
1. Actuarial accrued liability			$ 1,140,920	
2. Current assets (AVA)			935,946	
3. Unfunded actuarial accrued liability			$ 204,974	
C. Determination of Supplemental Contribution Rate				
1. Current unfunded actuarial accrued liability to be amortized by June 30, 2031			$ 204,974	
2. Supplemental contribution amount			22,939	**

* *Includes non-vested refunds and non-married survivor benefits only.*
** *The amortization factor as of July 1, 2014 is 8.9358.*

Development of Costs

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

	Year Ending June 30, 2014		
	Actuarial Accrued Liability	**Current Assets**	**Unfunded Actuarial Accrued Liability**
A. At beginning of year	$ 1,167,123	$ 868,813	$ 298,310
B. Changes due to interest requirements and current rate of funding			
1. Normal cost, including expenses	601	0	601
2. Benefit Payments	(134,513)	(134,513)	0
3. Contributions	0	55,796	(55,796)
4. Interest on A., B.1., B.2., and B.3.	91,204	66,356	24,848
5. Total *(B.1. + B.2. + B.3. + B.4.)*	(42,708)	(12,361)	(30,347)
C. Expected unfunded actuarial accrued liability at end of year *(A. + B.5.)*			267,963
D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected			
1. Age and Service Retirements			6,506
2. Disability Retirements			(48)
3. Death-in-Service Benefits			1
4. Withdrawals			(6,400)
5. Salary increases			19
6. Investment income			(79,494)
7. Mortality of annuitants			(6,660)
8. Other items			(3,448)
9. Total			(89,524)
E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.9.)*			178,439
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			26,535
H. Change in unfunded actuarial accrued liability due to changes in methodology			0
I. Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)*			$ 204,974

Development of Costs

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

The required contribution is defined in Minnesota 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	9.75%	$ 278
2. Employer regular contributions	9.75%	278
3. Employer additional contributions	2.68%	76
[2.68% plus $3,900,000]	136.79%	3,900
4. Employer supplemental contribution*	965.67%	27,531
5. Employer special additional contribution**	N/A	N/A
6. State contributions	668.98%	19,073
7. Total	1,793.62%	$ 51,136
B. Required contributions - Chapter 356		
1. Normal cost		
a. Retirement benefits	4.47%	$ 127
b. Disability benefits	2.72%	78
c. Survivors	0.26%	7
d. Deferred retirement benefits	2.45%	70
e. Refunds***	0.87%	25
f. Total	10.77%	$ 307
2. Supplemental contribution amortization of unfunded actuarial accrued liability by June 30, 2031	804.59%	$ 22,939
3. Allowance for administrative expenses	5.33%	152
4. Allowance for 1992 investment expenses	7.26%	207
5. Total	827.95%	$ 23,605
C. Contribution Sufficiency/(Deficiency) *(A.7. - B.5.)*	965.67%	$ 27,531

Note: Projected annual payroll for fiscal year beginning on the valuation date: $2,851.

* *Estimated based on unfunded liability of $246,010,000 as of July 1, 2014, amortized as a level dollar amount through June 30, 2031. Estimated unfunded liability reflects General Plan mortality assumptions. Employer supplemental contribution must be recalculated as of full consolidation date.*

** *Not applicable after consolidation.*

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

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

An actuarial cost method is a set of techniques used by the actuary to develop contribution levels under a retirement plan. The actuarial cost method used in this valuation for all purposes is the Entry Age Actuarial Cost Method. Under this method, a normal cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination. 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 dollar. 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 8.33% (8.29% last year).

Valuation of Future Post-Retirement Benefit Increases

If the General Employees Retirement Plan (GERP) has reached the threshold required to pay a 2.5% benefit increase in this plan, Minnesota statutes require the 2.5% benefit increase rate to be reflected in the liability calculations. If the GERP has not yet reached the threshold required to pay a 2.5% benefit increase, Minnesota statutes require a projection to be performed to determine the expected attainment of the threshold, and the expected reversion to a 2.5% benefit increase rate must be reflected in the liability calculations.

Funding Objective

The fundamental financing objective of the fund is to establish contribution rates which 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
Market value of assets.

Payment on the Unfunded Actuarial Accrued Liability
A level dollar amount each year to the statutory amortization date (June 30, 2031).

Changes in Methods since Prior Valuation
The methodology for valuing future post-retirement increases was clarified in statutes.

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 September 30, 2009.

The Allowance for Combined Service Annuity was 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, 2014 to June 30, 2017 8.00% per annum July 1, 2017 and later 8.50% per annum
Benefit increases after retirement	1.00% per annum through 2026 and 2.5% per annum thereafter.
Salary increases	Total reported pay for prior calendar year increased 1.98% (half year of 4.00%, compounded) to prior fiscal year and 4.00% annually for each future year.
Mortality rates	
Healthy pre-retirement	RP-2000 annuitant mortality table, white collar adjustment, projected to 2018 according to scale AA.
Healthy post-retirement	RP-2000 annuitant mortality table, white collar adjustment, projected to 2018 according to scale AA. 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 employee mortality table for annuitants younger than age 50.
Disabled	RP-2000 annuitant mortality table, white collar adjustment, reduced 20%. The table adopted by the LCPR on July 8, 2010 differs from the table recommended in the GRS experience study report dated September 30, 2009, and in some cases, reflects lower mortality than the table used for healthy members.
Retirement	Active members are assumed to retire at age 61, or immediately if currently age 61 or older.
Withdrawal	Rates are shown in rate table.
Disability	Age-related rates based on experience; see table of sample rates.
Allowance for combined service annuity	Liabilities for active members are increased 0.2% and liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.
Administrative expenses	Prior year administrative expenses (excluding investment expenses) increased by 4.00% expressed as a percentage of annual projected payroll.

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

Investment expenses	Investment expenses for the fiscal year ending June 30, 1992 are being amortized as follows: Beginning Balance / Fixed Annual Payment / Years Remaining $2,849,000 / $207,000 / 6
Refund of contributions	Account balances accumulate interest until normal retirement date and are discounted back to the valuation date. 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.
Commencement of deferred benefits	Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 60.
Percentage married	66.67% of active members are assumed to be married. Actual marital status is used for members in payment status.
Age of spouse	Females are assumed to be three years younger than their male spouses. 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	Members are assumed to elect a 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.
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: There were no members with missing genders or dates of birth. Data for active members: There were no active members with missing salary or service. Data for terminated members: Benefits were provided by PERA for 12 members. For the remaining members, we calculated benefits using the reported Average Salary, credited service and termination date from the 2013 valuation data file. Data for Retired members: There was one survivor reported with an expired benefit. This member was excluded from the valuation and the enclosed exhibits. There were no members reported with missing benefits.
Changes in actuarial assumptions	The assumed post-retirement benefit increase rate was changed from 1.0% per year to 1.0% per year through 2026 and 2.5% per year thereafter. See page 4 for additional detail about this assumption.

Actuarial Basis

Summary of Actuarial Assumptions (Concluded)

	Rate (%) *			
	Healthy Post- and Pre-Retirement Mortality		Disability Mortality	
Age	**Male**	**Female**	**Male**	**Female**
20	0.02%	0.01%	0.03%	0.02%
25	0.03	0.02	0.03	0.02
30	0.03	0.02	0.03	0.02
35	0.05	0.04	0.05	0.04
40	0.08	0.05	0.07	0.05
45	0.11	0.08	0.11	0.08
50	0.43	0.18	0.48	0.20
55	0.38	0.30	0.43	0.28
60	0.49	0.51	0.53	0.45
65	0.90	0.83	0.93	0.73
70	1.47	1.39	1.54	1.21

* *Generally, mortality rates are expected to increase as age increases. Due to the combination of pre-retirement rates, post-retirement rates, the white collar adjustment, and Projection Scale AA, the prescribed mortality tables have a few ages where assumed mortality decreases slightly instead of increases. We have used the rates as prescribed, but note that the prescribed assumption may not be reasonable at every age. If the rates were reasonably adjusted so that they decreased at all ages, we would not expect the valuation results to be materially different.*

	Withdrawal		Disability Retirement	
Age	**Male**	**Female**	**Male**	**Female**
20	21.00%	21.00%	0.21%	0.21%
25	11.00	11.00	0.21	0.21
30	5.00	5.00	0.23	0.23
35	1.50	1.50	0.30	0.30
40	1.00	1.00	0.41	0.41
45	1.00	1.00	0.61	0.61
50	1.00	1.00	0.93	0.93
55	1.00	1.00	1.60	1.60
60	1.00	1.00	0.00	0.00
65	0.00	0.00	0.00	0.00

Actuarial Basis

Summary of Plan Provisions

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/employee rule	An employee of the City of Minneapolis, the Metropolitan Airports Commission, the Met Council/Environmental Services, the Municipal Employees Retirement Fund, and Special School District No. 1 if covered prior to July 1, 1978. Employees covered July 1, 1978 or later are covered by the Public Employees Retirement Association (PERA) Plan. Effective July 1, 1992, licensed peace officers and firefighters who are employed by the Metropolitan Airports Commission and covered by the Minneapolis Employees Retirement Fund will receive the greater of retirement, disability, or survivor benefits under: a) The Minneapolis Employees Retirement Fund; or b) The Public Employees Retirement Association (PERA) Police & Fire Plan.
Full consolidation	Per Statute, if the actuarial accrued liability funding ratio of this plan reaches 80%, the MERF Division will be merged with the PERA General Employees Retirement Plan, effective the first day of the month after the actuarial valuation report that triggers the consolidation is provided to the LCPR. Upon consolidation, Employer Special Additional Contributions cease, and Employer Supplemental Contributions are recalculated as a fixed dollar amount to amortize the remaining unfunded liability based on the mortality assumptions of the PERA General Employees Retirement Plan.

Actuarial Basis

Summary of Plan Provisions (Continued)

Contributions

Member: 9.75% of salary

Employer: 9.75% of salary (Employer Regular Contributions)
2.68% of salary plus employing unit's share of $3.9 million (Employer Additional Contribution)

City of Minneapolis	$ 2,763,437
Minneapolis Schools	$ 731,125
Metropolitan Airports Commission	$ 402,512
MnSCU	$ 2,926
Total:	**$ 3,900,000**

Employer Regular and Additional Contributions will be paid as long as there are active members.

Employer Special Additional Contribution – required if expected benefit payments will likely exceed assets during the year (prior to full consolidation).

Employer Supplemental Contribution – first due after June 30, 2012 and until full consolidation, equals the larger of:

- Total actuarial required contributions minus member and employer regular and additional contributions less the maximum State contribution; or
- $27,000,000.

The total employer contribution (Regular, Additional and Supplemental) cannot exceed $34,000,000.

After consolidation, the Employer Supplemental Contribution equals a level dollar amortization payment through June 30, 2031 with actuarial accrued liability based on PERA General Plan mortality assumptions.

Contributions

The Supplemental and Special Additional Contributions are allocated to the employers in proportion to their share of the actuarial accrued liability of MERF on July 1, 2009, as follows:

Employer	Allocation
City of Minneapolis	54.78%
Minneapolis Park Board	10.33%
Met Council	1.74%
Metropolitan Airport Commission	5.76%
Municipal Building Commission	1.08%
Minneapolis School District No. 1	23.04%
Hennepin County	3.17%
MnSCU	0.10%
Total	100.00%

Actuarial Basis

Summary of Plan Provisions (Continued)

State contributions	Equal to the actuarial required contribution minus expected member and employer regular and additional contributions. The State's contribution cannot exceed $24,000,000. The State's contributions end on the earlier of September 15, 2031, or in the year following the first date on which MERF assets equal or exceed MERF actuarial accrued liability.
Allowable service	Service during which member contributions were made. Allowable Service may also include certain leaves of absence, military service and service prior to becoming a member. Allowable service also includes time on duty disability provided that the member returns to active service if the disability ceases.
Salary	All amounts of salary, wages or compensation.
Average salary	Average of the five highest calendar years of salary out of the last ten calendar years.
Retirement	
Normal retirement benefit	
Age/service requirement	Age 60 and 10 years of employment. Any age with 30 years of employment. Proportionate retirement annuity is available at age 65 and 1 year allowable service.
Amount	2.00% of average salary for the first 10 years of allowable service plus 2.50% of average salary for each subsequent year of allowable service.

Actuarial Basis

Summary of Plan Provisions (Continued)

Disability

<u>Disability benefit</u>	
Age/service requirement	Total and permanent disability before age 60 with five years of allowable service, or no allowable service if a work-related disability.
Amount	2.00% of average salary for the first 10 years of disability service plus 2.50% of average salary for each subsequent year of disability service. Disability service is the greater of (a) or (b) where: (a.) equals allowable service plus service projected to age 60, subject to a maximum of 22 years, and (b.) equals allowable service. Benefit is reduced by Workers' Compensation benefits. Payments stop at age 60 or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.
<u>Disability after separation</u>	
Age/service requirement	Total and permanent disability after electing to receive a retirement benefit but before age 60.
Amount	Actuarial equivalent of total credit to member's account.
<u>Retirement after disability</u>	
Age/service requirement	Total and permanent disability after electing to receive a retirement benefit but before age 60. Employee is still disabled after age 60.
Amount	Benefit continues according to the option selected.

Actuarial Basis

Summary of Plan Provisions (Continued)

Death

Pre-retirement survivor's spouse benefit

Age/service requirement	Active member with 18 months of allowable service.
Amount	30% of salary averaged over the last six months to the surviving spouse plus 10% of salary averaged over the last six months to each surviving child. Maximum benefit is $900 per month.

Pre-retirement survivor's spouse annuity

Age/service requirement	Active member or former member who dies before retirement with 20 years of allowable service.
Amount	Actuarial equivalent of a single life annuity which would have been paid as a retirement benefit on the date of death without regard to eligibility age for retirement benefit. If there is no surviving spouse, the designated beneficiary may be a dependent child or dependent parent.

Refund of accumulated city contributions

Age/service requirement	Active member or former member dies after 10 years of allowable service and prior to retirement.
Amount	Present value of the City's annual installments of $60 or, in the case of a former member, the net accumulation of city deposits. This benefit is not payable if survivor's benefits are paid.

Lump sum

Age/service requirement	Death prior to service or disability retirement without an eligible surviving beneficiary.
Amount	$750 with less than 10 years allowable service, or $1,500 with 10 or more years of allowable service.

Refund of member contributions at death

Age/service requirement	Active member or former member dies before retirement.
Amount	The excess of the member's contributions (exclusive of the contributions to the survivor's account) plus interest to the date of death.

Actuarial Basis

Summary of Plan Provisions (Concluded)

Termination	
Deferred benefit	
Age/service requirement	Three years of allowable service.
Amount	Benefit computed under law in effect at termination and increased by the following percentage (augmentation), compounded annually: (a.) 0.00% prior to July 1, 1971, (b.) 5.00% from July 1, 1971 to January 1, 1981, and (c.) 3.00% thereafter until the annuity begins. Amount is payable at or after age 60.
Refund of member contributions upon termination	
Age/service requirement	Termination of public service.
Amount	Member's contributions with interest. A deferred annuity may be elected in lieu of a refund if vested.
Form of payment	▪ Life annuity. ▪ Life annuity with 3, 5, 10 or 15 years guaranteed. ▪ Life annuity with lump sum death benefit. ▪ Joint & Survivor (with or without bounce back feature).
Optional form conversion factors	1986 PET mortality table with a one year setback, blended 50% male and 50% female, and 5% interest.
Two dollar bill and annuity	Optional Two Dollar Bill money purchase annuity available at age 55 with 20 years of service if member had service prior to June 28, 1973. According to PERA, this option is rarely utilized. We have assumed that remaining active members will not elect this optional benefit.
Benefit increases	Benefit recipients receive future annual 1.0% benefit increases. If the accrued liability funding ratio of the General Employees Retirement Plan reaches 90% (on a market value of assets basis) for two consecutive years, the benefit increase will change to 2.5%. If, after reverting to a 2.5% benefit increase, the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.
Changes in plan provisions	None.

Additional Schedules

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

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Liquidity Trigger Adjustment (LTA) (c)	Unfunded (Overfunded) AAL (UAAL) (b) + (c) - (a)	Funded Ratio (a)/[(b) + (c)]	Actual Covered Payroll (Previous FY) (d)	UAAL as a Percentage of Covered Payroll (b) + (c) - (a) / (d)
7-1-2003	$ 1,519,421	$ 1,645,921	N/A	$ 126,500	92.31	$ 40,537	312.06 %
7-1-2004	1,513,389	1,643,140	N/A	129,751	92.10	33,266	390.04
7-1-2005	1,489,713	1,624,355	N/A	134,642	91.71	27,479	489.98
7-1-2006	1,490,280	1,617,653	N/A	127,373	92.13	21,669	587.82
7-1-2007	1,383,742	1,610,881	N/A	227,139	85.90	17,296	1,313.27
7-1-2008	1,214,305	1,576,855	$ 12,135	374,685	76.42	13,957	2,684.64
7-1-2009	880,133	1,551,099	23,912	694,878	55.88	10,979	6,328.96
7-1-2010 [2]	844,033	1,286,151	N/A	442,118	65.62	11,090	3,986.64
7-1-2011 [2]	910,987	1,238,703	N/A	327,716	73.54	7,869	4,164.65
7-1-2012 [2]	842,811	1,219,735	N/A	376,924	69.10	5,785 [3]	6,515.54
7-1-2013 [2]	868,813	1,167,123	N/A	298,310	74.44	4,369 [3]	6,827.88
7-1-2014 [2]	935,946	1,140,920	N/A	204,974	82.03	3,795 [3]	5,401.16

[1] *Information prior to 2012 provided by prior actuary. See prior reports for additional detail.*
[2] *Actuarial value of assets set equal to market value.*
[3] *Assumed equal to actual member contributions divided by 9.75%.*

Additional Schedules

Schedule of Contributions from the Employer and Other Contributing Entities[1]
(Dollars in Thousands)

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 (e)	Percentage Contributed (e)/(d)
2003	46.64 %	$ 40,537	$ 4,167	$ 14,739	$ 40,199	272.73%
2004	52.49	33,266	3,343	14,118	45,459	321.98
2005	63.95	27,479	3,087	14,478	19,395	133.96
2006	75.07	21,669	2,312	13,955	44,953	322.14
2007	95.33	17,296	1,665	14,823	28,545	192.58
2008	187.33	13,957	1,431	24,714	15,272	61.79
2009	374.32	10,979	1,072	40,026	15,646	39.09
2010	833.55	11,090	1,081	91,360	13,798	15.10
2011	538.76	7,869	767	41,628	27,855	66.91
2012	525.50	5,785 [2]	564	29,836	54,373	182.24
2013	775.33	4,369 [2]	426	33,448	55,447	165.77
2014	780.29	3,795 [2]	370	29,242	55,426	189.54
2015	827.95					

[1] *Information prior to 2012 provided by prior actuary. See prior reports for additional detail.*
[2] *Assumed equal to actual member contributions divided by 9.75%.*

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.
GASB No. 67 and GASB No. 68	Statements No. 67 and No. 68, issued in June 2012, replace the requirements of Statements No. 27 and No. 25, respectively. Statement No. 68, effective for the fiscal year beginning July 1, 2014, sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 68, effective for the fiscal year beginning July 1, 2013, sets the rules for the systems themselves. Accounting information prepared according to Statements No. 67 and No. 68 will be provided in a separate report.
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.