November 2011

Public Employees Police & Fire Plan

Actuarial Valuation Report as of July 1, 2011

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Contents

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November 2011

Public Employees Retirement Association of Minnesota
Public Employees Police & Fire Plan
St. Paul MN

Dear Trustees of the Public Employees Police and Fire Fund:

Submitted in this report are the July 1, 2011 actuarial valuation results for the Public Employees Police & Fire Plan. The purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota Legislative Commission on Pensions and Retirement (LCPR) for the Public Employees Retirement Association of Minnesota (PERA) to incorporate, as PERA deems appropriate, in its financial statements; and
- provide the actuarially required contribution rate for the fiscal year beginning July 1, 2011.

To the best of our knowledge and belief, the valuation 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, including one modification regarding decrement timing. The LCPR approved this modification prior to the preparation of this report in order to ensure consistency and comparability. For more information about the decrement timing methodology, please refer to the *Actuarial Basis* section.

We are available to answer any questions on the material in this report or to provide explanations or further details as appropriate. Moreover, this report contains a Glossary of certain terms referenced in the report, which you may wish to consult before reviewing the report. The undersigned credentialed actuaries meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained in this report. In addition, Mr. Dickson meets the requirements of "approved actuary" under Minnesota Statutes, Section 356.215, Subdivision 1, Paragraph (c). We are not aware of any direct or material indirect financial interest or relationship, including investments or other services that could create a conflict of interest, that would impair the objectivity of our work.

Respectfully submitted,

Gary D. Dickson

Gary D. Dickson, FSA, EA, MAAA

Bonita J. Wurst

Bonita J. Wurst, ASA, EA, MAAA

Highlights

Contributions

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

	Actuarial Valuation as of	
Contributions	**July 1, 2011**	**July 1, 2010**
Statutory Contributions – Chapter 353 (% of Payroll)	24.00%	23.75%
Required Contributions – Chapter 356 (% of Payroll)	28.78%	25.52%
Sufficiency / (Deficiency)	(4.78%)	(1.77%)

The contribution deficiency increased from (1.77%) of payroll to (4.78%) of payroll. The primary reasons for the increase in the deficiency level were the recognition of deferred investment losses in the actuarial value of assets and the changes in actuarial assumptions. These increases were partially offset by actuarial gains due to salary increases that were lower than expected. A significant contribution deficiency remains. Without further changes or favorable actuarial experience, the funded status will deteriorate in the future.

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 23% for the plan year ending June 30, 2011. The AVA earned approximately 5% for the plan year ending June 30, 2011 as compared to the assumed rate of 8.5%, which is mandated by statute.

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* section details the required accounting information for the Plan under GASB Statement No. 25 (as amended by GASB 50).

Changes in actuarial assumptions are reflected in this report and summarized in the *Actuarial Basis* and *Effects of Changes* sections.

Principal 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, 2011	**July 1, 2010**
Contributions *(% of Payroll)*		
Statutory – Chapter 353	24.00%	23.75%
Required – Chapter 356	28.78%	25.52%
Sufficiency / (Deficiency)	(4.78%)	(1.77%)
Funding Ratios *(Dollars in Thousands)*		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	$ 5,274,602	$ 5,188,339
– Current benefit obligations	6,151,733	5,780,134
– Funding ratio	85.74%	89.76%
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 5,274,602	$ 5,188,339
– Market value of assets (MVA)	5,317,032	4,453,737
– Actuarial accrued liability	6,363,546	5,963,672
– Funding ratio (AVA)	82.89%	87.00%
– Funding ratio (MVA)	83.55%	74.68%
Projected Benefit Funding Ratio (AVA)		
– Current and expected future assets	$ 7,168,755	$ 7,213,368
– Current and expected future benefit obligations	7,753,202	7,451,459
– Projected benefit funding ratio	92.46%	96.80%
Participant Data		
Active members		
– Number	10,880	11,002
– Projected annual earnings *(000s)*	$ 796,689	$ 795,171
– Average annual earnings *(projected)*	$ 73,225	$ 72,275
– Average age	40.3	40.0
– Average service	12.4	12.1
Service retirements	5,549	5,354
Survivors	1,435	1,413
Disability retirements	864	859
Deferred retirements	1,335	1,315
Terminated other non-vested	870	930
Total	**20,933**	**20,873**

Effects of Changes

The following changes in actuarial assumptions were recognized as of July 1, 2011:

- Healthy pre-retirement mortality was changed from 1983 Group Annuity Mortality set back six years for males and females to RP 2000 non-annuitant generational mortality, white collar adjustment, set back two years for males and females.

- Healthy post-retirement mortality was changed from 1983 Group Annuity Mortality set back one year for males and females to RP 2000 annuitant generational mortality, white collar adjustment.

- Disabled retired mortality was changed from a table based on 1965 Railroad Retirement Board (RRB) rates to RP 2000 healthy annuitant mortality table, white collar adjustment, set forward eight years for males and females.

- The beneficiary age assumption was changed from four years younger to three years younger for male members.

- The optional form assumption for males changed from 0% to 10% electing the 25% J&S optional form, from 40% to 20% electing the 50% J&S optional form, 0% to 20% electing the 75% J&S optional form, and from 45% to 35% electing the 100% J&S optional form. The optional form assumption for females changed from 0% to 5% electing the 25% J&S and the 75% J&S optional forms.

- The salary increase assumption was changed from an age based table to a service based table. The summary of rates is shown in the *Actuarial Basis* section of this report.

- The retirement rate assumption changed from 10% to 13% at ages 50 and 54. The summary of rates is shown in the *Actuarial Basis* section of this report.

- The withdrawal rate assumption for the three-year select period was changed from 3.50% to 8.00% in year one, 5.00% in year two and 3.50% in year three. The ultimate withdrawal rates did not change.

- The annual payroll growth assumption changed from 4.50% to 3.75%.

The combined impact of the above changes was to increase the accrued liability by $148 million and increase the required contribution by 1.5% of pay, as follows:

	Before Assumption Changes	Reflecting Assumption Changes	Impact of Changes
Normal Cost Rate (% of pay)	20.1%	19.8%	(0.3%)
Amortization of Unfunded (% of pay)	7.1%	8.9%	1.8%
Expenses (% of pay)	0.1%	0.1%	0.0%
Total Required Contribution (% of Pay)	27.3%	28.8%	1.5%
Accrued Liability Funding Ratio (AVA)	84.9%	82.9%	(2.0%)
Projected Benefit Funding Ratio	94.4%	92.5%	(1.9%)
Unfunded Accrued Liability (in millions)	$ 941	$ 1,089	$ 148

Effects of Changes

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 1.5% benefit increases after 2012) is currently 83.6%. 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 inflation (up to a cap of 2.5%).

We performed a projection of liabilities and assets, using the 2011 valuation results as a baseline and assuming future experience follows the valuation assumptions (including future investment returns of 8.5%). In addition, the projection utilized the following methods and assumptions:

- Liabilities and normal cost assume future COLAs at 2.5% level payable for all years
- Cash flow assuming future COLAs at current level (1.5% benefit increases after 2012)
- Level normal cost as a percent of pay (assuming total payroll increases as assumed in the valuation for purposes of amortizing the unfunded liability)
- Current statutory contribution levels (i.e. not including potential contribution increases under the contribution stabilizer statutes).

Based on these assumptions and methods, the projection indicates that the funded status of this plan is not expected to reach 90% within the next 15 years of the projection.

The liabilities in this report are based on the assumption that the post-retirement benefit increase will remain at the reduced level of 1.5% indefinitely. We relied on direction from PERA, including PERA's interpretation of applicable Minnesota Statutes, on this issue. If we assumed future post-retirement benefit increases of 2.5% instead of 1.5% after 2012, the actuarial accrued liability would be approximately $7.0 billion instead of approximately $6.4 billion, resulting in an accrued liability funding ratio of 76.0% (on a market value basis).

Important Notices

Mercer has prepared this report exclusively for the Public Employees Retirement Association of Minnesota (PERA) and the Legislative Commission on Pensions and Retirement (LCPR); Mercer is not responsible for reliance upon this report by any other party. Subject to this limitation, PERA may direct that this report be provided to its auditors in connection with audits of the Plan or its sponsoring entities.

The only purposes of this report are to:

- Present Mercer's actuarial estimates of the Plan's liabilities and expenses as required by Minnesota Statutes, Section 356.215 and the Standards for Actuarial Work established by the State of Minnesota LCPR for PERA to incorporate, as PERA deems appropriate, in its financial statements; and
- provide the actuarially required contribution rate for the fiscal year beginning July 1, 2011.

This report may not be used for any other purpose; Mercer is not responsible for the consequences of any unauthorized use.

Decisions about benefit changes, granting new benefits, investment policy, funding policy, benefit security and/or benefit-related issues should not be made on the basis of this valuation, but only after careful consideration of alternative economic, financial, demographic and societal factors, including financial scenarios that assume future sustained investment losses.

The State Board of Investment (SBI) is solely responsible for selecting the plan's investment policies, asset allocations and individual investments. Mercer's actuaries have not provided any investment advice to the Board of Directors of the SBI.

A valuation report is only a snapshot of a Plan's estimated financial condition at a particular point in time; it does not predict the Plan's future financial condition or its ability to pay benefits in the future and does not provide any guarantee of future financial soundness of the Plan. Over time, a plan's total cost will depend on a number of factors, including the amount of benefits the plan pays, the number of people paid benefits, the period of time over which benefits are paid, plan expenses and the amount earned on any assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the valuation date.

Because modeling all aspects of a situation is not possible or practical, we may use summary information, estimates, or simplifications of calculations to facilitate the modeling of future events in an efficient and cost-effective manner. We may also exclude factors or data that are immaterial in our judgment. Use of such simplifying techniques does not, in our judgment, affect the reasonableness of valuation results for the plan.

To prepare the valuation report, actuarial assumptions, as described in the *Actuarial Basis* section of this report, are used in a forward looking financial and demographic model to present a single scenario from a wide range of possibilities; the results based on that single scenario are included in the valuation. The future is uncertain and the plan's actual experience will differ from those assumptions; these differences may be significant or material because these results are very sensitive to the assumptions made and, in some cases, to the interaction between the assumptions.

Different assumptions or scenarios within the range of possibilities may also be reasonable and results based on those assumptions would be different. As a result of the uncertainty inherent in a forward looking projection over a very long period of time, no one projection is uniquely "correct" and many alternative projections of the future could also be regarded as reasonable. Two different actuaries could, quite reasonably, arrive at different results based on the same data and different views of the future. A "sensitivity analysis" shows the degree to which results would be different if you substitute alternative assumptions within the range of possibilities for those

Important Notices

utilized in this report. We have not been engaged to perform such a sensitivity analysis and thus the results of such an analysis are not included in this report. At PERA's request, Mercer is available to perform such a sensitivity analysis.

Actuarial assumptions may also be changed from one valuation to the next because of changes in mandated requirements, plan experience, changes in expectations about the future and other factors. A change in assumptions is not an indication that prior assumptions were unreasonable when made.

The calculation of actuarial liabilities for valuation purposes is based on a current estimate of future benefit payments. The calculation includes a computation of the "present value" of those estimated future benefit payments using an assumed discount rate; the higher the discount rate assumption, the lower the estimated liability will be. For purposes of estimating the liabilities (future and accrued) in this report, you selected an assumption based on the expected long term rate of return on plan investments. Using a lower discount rate assumption, such as a rate based on long-term bond yields, could substantially increase the estimated present value of future and accrued liabilities.

Because valuations are a snapshot in time and are based on estimates and assumptions that are not precise and will differ from actual experience, contribution calculations are inherently imprecise. There is no uniquely "correct" level of contributions for the coming plan year.

Valuations do not affect the ultimate cost of the Plan, only the timing of contributions into the Plan. Plan funding occurs over time. Contributions not made this year, for whatever reason, including errors, remain the responsibility of the Plan sponsor and can be made in later years. If the contribution levels over a period of years are lower or higher than necessary, it is normal and expected practice for adjustments to be made to future contribution levels to take account of this with a view to funding the plan over time.

Data, computer coding and mathematical errors are possible in the preparation of a valuation involving complex computer programming and thousands of calculations and data inputs. Errors in a valuation discovered after its preparation may be corrected by amendment to the valuation or in a subsequent year's valuation.

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the 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* section of this report. PERA is solely responsible for communicating to Mercer any changes required thereto.

To prepare this report Mercer has used and relied on financial data and participant data supplied by PERA and summarized in the *Plan Assets* and *Membership Data* section of this report. PERA is responsible for ensuring that such participant data provides an accurate description of all persons who are participants under the terms of the plan or otherwise entitled to benefits as of the valuation date that is sufficiently comprehensive and accurate for the purposes of this report. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer has not verified or audited any of the data or information provided.

Mercer has also used and relied on the summary of plan provisions, including amendments, and interpretations of plan provisions, supplied by PERA as summarized in the *Actuarial Basis* section of this report and on plan provisions stipulated by statute. We have assumed for purposes of this valuation that copies of any official plan document including all amendments as well as any interpretations of any such document have been provided to Mercer along with a written summary of any other substantive commitments. The Trustees are solely responsible

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for the validity, accuracy and comprehensiveness of this information. If any data or plan provisions supplied are not accurate and complete, the valuation results may differ significantly from the results that would be obtained with accurate and complete information; this may require a later revision of this report. Moreover, plan documents may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

PERA should notify Mercer promptly after receipt of the valuation report if PERA disagrees with anything contained in the valuation report or is aware of any information that would affect the results of the valuation report that has not been communicated to Mercer or incorporated therein. The valuation report will be deemed final and acceptable to PERA unless PERA promptly provides such notice to Mercer.

The information contained in this document (including any attachments) is not intended by Mercer to be used, and it cannot be used, for the purpose of avoiding penalties under the Internal Revenue Code that may be imposed on the taxpayer.

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.
- **Plan accounting under GASB 25 (as amended by GASB 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 for Year Ended June 30, 2011 *(Dollars in Thousands)*

		Market Value
Assets in Trust		
▪ Cash, equivalents, short term securities	$	145,164
▪ Fixed income		1,175,361
▪ Equity		3,221,780
▪ SBI Alternative		778,283
Total assets in trust	**$**	**5,320,588**
Assets Receivable		2,189
Amounts Payable		(5,745)
Net assets held in trust for pension benefits	**$**	**5,317,032**

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, 2010 to June 30, 2011.

		Market Value
Change in Assets		
1. Fund balance at market value at July 1, 2010	$	4,453,737
2. Contributions		
a. Member		73,702
b. Employer		109,604
c. Other sources		0
d. Total contributions		183,306
3. Investment income		
a. Investment income		1,032,404
b. Investment expenses		(7,423)
c. Net subtotal		1,024,981
4. Other		1
5. Total additions *(2.d. + 3.c. + 4.)*	**$**	**1,208,288**
6. Benefits paid		
a. Annuity benefits		(342,219)
b. Refunds		(2,012)
c. Total benefits paid		(344,231)
7. Expenses		
a. Other		0
b. Administrative		(762)
c. Total expenses		(762)
8. Total distributions *(6.c. + 7.c.)*	**$**	**(344,993)**
9. Fund balance at market value at June 30, 2011 *(1. + 5. + 8.)*	**$**	**5,317,032**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

				June 30, 2011
1. Market value of assets available for benefits				$ 5,317,032
2. Determination of average balance				
a. Total assets available at July 1, 2010				4,453,737
b. Total assets available at June 30, 2011				5,317,032
c. Net investment income for fiscal year ending June 30, 2011				1,024,981
d. Average balance *[a. + b. – c.] / 2*				4,372,893
3. Expected return *[8.5% x 2.d.]*				371,696
4. Actual return				1,024,981
5. Current year unrecognized asset return				653,285
6. Unrecognized asset recognized asset returns*				
	Original Amount	**% Not Recognized**		
a. Year ended June 30, 2011	$ 653,285	80%		$ 522,628
b. Year ended June 30, 2010	268,440	60%		161,064
c. Year ended June 30, 2009	(1,395,085)	40%		(558,034)
d. Year ended June 30, 2008	(416,143)	20%		(83,228)
e. Total unrecognized return				$ 42,430
7. Actuarial value at June 30, 2011 *(1. – 6.e.)*				**$ 5,274,602**

** Prior to the year ended June 30, 2009, unrecognized asset returns do not include Post Fund gains or losses.*

Membership Data

Distribution of Active Members

	Years of Service as of June 30, 2011										
Age	**<3***	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 39**	**40+**	**Total**
<25	189	32	1								**222**
Avg. Earnings	33,376	56,344	64,221								**36,825**
25 – 29	412	527	367	1							**1,307**
Avg. Earnings	39,976	58,806	64,017	60,437							**54,335**
30 – 34	199	307	951	286	1						**1,744**
Avg. Earnings	37,784	60,086	65,335	70,745	94,410						**62,171**
35 – 39	91	159	515	1,072	215						**2,052**
Avg. Earnings	36,690	59,249	64,482	72,066	75,365						**67,946**
40 – 44	61	79	317	713	740	226					**2,136**
Avg. Earnings	36,698	54,148	64,716	72,860	77,388	81,209					**72,378**
45 – 49	28	38	136	335	485	593	206	1			**1,822**
Avg. Earnings	31,038	55,512	64,209	72,219	77,194	82,426	81,897	45,599			**76,366**
50 – 54	15	15	63	129	168	284	298	118	1		**1,091**
Avg. Earnings	34,318	65,324	65,654	70,410	77,873	80,765	85,707	86,027	75,018		**79,286**
55 – 59	8	8	36	58	45	74	87	77	6		**399**
Avg. Earnings	23,459	41,951	68,263	68,797	74,457	76,998	84,135	88,400	82,564		**76,795**
60 – 64	2	4	19	12	7	16	17	9	8	2	**96**
Avg. Earnings	13,698	44,411	53,927	72,662	57,290	74,571	78,855	87,239	82,306	98,643	**69,554**
65 – 69	2		2		2		2	1			**9**
Avg. Earnings	12,076		49,948		36,173		67,243	71,323			**44,689**
70+				1	1						**2**
Avg. Earnings				53,010	58,832						**55,921**
Total	**1,007**	**1,169**	**2,407**	**2,607**	**1,664**	**1,193**	**610**	**206**	**15**	**2**	**10,880**
Avg. Earnings	**37,237**	**58,632**	**64,755**	**71,994**	**76,905**	**81,358**	**83,945**	**86,699**	**81,923**	**98,643**	**68,485**

* *This exhibit does not reflect service earned in other PERA plans 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 actual earnings received in fiscal year end 2011.

Membership Data

Distribution of Service Retirements

	Years Retired as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45								**0**
Avg. Benefit								**N/A**
45 - 50								**0**
Avg. Benefit								**N/A**
50 – 54	128	305						**433**
Avg. Benefit	52,440	45,008						**47,205**
55 – 59	118	471	494					**1,083**
Avg. Benefit	57,094	53,217	45,030					**49,905**
60 – 64	31	195	534	530				**1,290**
Avg. Benefit	53,608	45,570	48,957	45,841				**47,276**
65 – 69	7	45	110	658	131	1		**952**
Avg. Benefit	14,652	32,257	36,197	52,390	44,091	51,875		**48,147**
70 – 74	1	3	39	224	403	42		**712**
Avg. Benefit	22,916	25,481	28,959	51,339	55,990	39,530		**51,900**
75 – 79		1	5	84	213	181		**484**
Avg. Benefit		23,504	50,566	42,534	54,469	48,480		**50,054**
80 – 84			4	18	142	120	74	**358**
Avg. Benefit			15,601	50,412	51,995	48,783	55,091	**51,072**
85 – 89				6	68	51	50	**175**
Avg. Benefit				39,557	54,230	35,288	39,314	**43,945**
90+				3	25	9	25	**62**
Avg. Benefit				41,545	52,772	41,685	25,571	**39,651**
Total	**285**	**1,020**	**1,186**	**1,523**	**982**	**404**	**149**	**5,549**
Avg. Benefit	**53,462**	**48,265**	**45,374**	**49,317**	**53,291**	**45,831**	**44,844**	**48,823**

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, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	15	53	43	16	2			**129**
Avg. Benefit	16,761	13,978	17,152	20,275	17,704			**16,199**
45 – 49	2	13	4	4	3	1		**27**
Avg. Benefit	34,311	33,134	30,724	34,508	35,105	25,233		**32,994**
50 – 54	6	15	11	7	3	5	1	**48**
Avg. Benefit	32,061	36,345	33,387	29,230	36,493	44,541	18,660	**34,588**
55 – 59	8	20	17	6	8	3	4	**66**
Avg. Benefit	27,499	32,121	32,812	42,378	36,099	26,288	26,750	**32,563**
60 – 64	4	32	20	20	19	11	9	**115**
Avg. Benefit	28,143	30,977	32,635	31,322	40,834	31,312	29,755	**32,792**
65 – 69	10	39	37	30	27	7	8	**158**
Avg. Benefit	26,353	30,149	29,464	29,590	33,747	29,473	30,660	**30,253**
70 – 74	10	22	28	35	15	13	8	**131**
Avg. Benefit	21,575	30,066	32,822	29,275	28,629	35,908	28,521	**30,116**
75 – 79	12	36	43	26	42	19	17	**195**
Avg. Benefit	27,150	29,554	29,304	22,469	32,541	33,802	25,249	**29,088**
80 – 84	14	39	49	40	57	22	22	**243**
Avg. Benefit	29,252	31,139	28,487	23,440	27,960	29,198	21,396	**27,425**
85 – 89	8	34	26	44	56	21	17	**206**
Avg. Benefit	17,689	26,526	20,832	23,682	27,112	26,167	23,582	**24,737**
90+	2	13	14	23	29	18	18	**117**
Avg. Benefit	33,742	19,894	18,647	19,113	27,038	20,539	16,327	**21,149**
Total	**91**	**316**	**292**	**251**	**261**	**120**	**104**	**1,435**
Avg. Benefit	**24,929**	**27,299**	**27,075**	**25,751**	**30,338**	**29,568**	**23,669**	**27,312**

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, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	7	34	35	9	1			**86**
Avg. Benefit	36,937	33,077	31,116	31,109	22,189			**32,261**
45 – 49	1	30	31	19	6			**87**
Avg. Benefit	37,675	37,254	35,899	32,979	35,922			**35,751**
50 – 54	2	36	52	42	5	4		**141**
Avg. Benefit	16,931	43,538	38,435	37,723	46,199	34,560		**39,386**
55 – 59	4	35	88	48	10	1		**186**
Avg. Benefit	38,556	47,329	48,319	39,683	42,146	38,325		**45,308**
60 – 64		10	71	127	22			**230**
Avg. Benefit		36,530	51,615	53,557	50,636			**51,938**
65 – 69		5	15	49	31			**100**
Avg. Benefit		21,160	40,802	50,617	55,112			**49,065**
70 – 74				12	19			**31**
Avg. Benefit				51,425	49,066			**49,979**
75 – 79				1	1			**2**
Avg. Benefit				29,942	61,340			**45,641**
80 – 84				1				**1**
Avg. Benefit				28,367				**28,367**
85 – 89								**0**
Avg. Benefit								**N/A**
90+								**0**
Avg. Benefit								**N/A**
Total	**14**	**150**	**292**	**308**	**95**	**5**	**0**	**864**
Avg. Benefit	**34,594**	**39,582**	**43,593**	**46,601**	**49,539**	**35,313**	**N/A**	**44,429**

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

Membership Data

Reconciliation of Members

		Terminated		Recipients			
	Actives	Deferred Retirement	Other Non-vested	Service Retirements	Disability Retirements	Survivors*	Total
Members on 6/30/2010	**11,002**	**1,315**	**930**	**5,354**	**859**	**1,413**	**20,873**
New entrants	307	N/A	N/A	N/A	N/A	N/A	**307**
Return to active	37	(24)	(12)	(1)	0	N/A	**0**
Terminated non-vested	(29)	N/A	29	N/A	N/A	N/A	**0**
Service retirements	(264)	(56)	N/A	320	N/A	N/A	**0**
Terminated deferred	(121)	121	N/A	N/A	N/A	N/A	**0**
Terminated refund	(30)	(32)	(18)	N/A	N/A	N/A	**(80)**
Deaths	(9)	(4)	(1)	(126)	(13)	(68)	**(221)**
New beneficiary	N/A	N/A	N/A	N/A	N/A	104	**104**
Payments expired	N/A	N/A	N/A	N/A	N/A	(15)	**(15)**
Disabled	(13)	(6)	N/A	N/A	19	0	**0**
Closed Accounts	0	0	(54)	0	0	0	**(54)**
Data correction	0	21	(4)	2	(1)	1	**19**
Net change	(122)	20	(60)	195	5	22	**60**
Members on 6/30/2011	**10,880**	**1,335**	**870**	**5,549**	**864**	**1,435**	**20,933**

* *Includes 85 multiple beneficiaries as of June 30, 2010 and 82 multiple beneficiaries as of June 30, 2011.*

Former Member Statistics	**Vested**	**Non-vested**	**Total**
Number	1,335	870	2,205
Average Age	45.7 years	44.4 years	45.2 years
Average Service	8.6 years	0.9 years	5.8 years
Average annual benefits, including augmentation to age 55	$ 20,309	N/A	N/A
Total refund value as of valuation date	$ 26,960,117	$ 1,224,669	$ 28,184,786

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 ideally be 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 24.00% 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, 2011 Total
A. Actuarial Value of Assets			$ 5,274,602
B. Present value of expected future assets			
1. Present value of expected future statutory supplemental contributions			$ 504,497
2. Present value of future normal cost contributions			1,389,656
3. Total expected future assets *(1. + 2.)*			$ 1,894,153
C. Total current and expected future assets *(A. + B.3.)*			$ 7,168,755
D. Current benefit obligations			
1. Benefit recipients			
a. Service requirements	$ 0	$ 2,813,814	$ 2,813,814
b. Disability	0	396,661	396,661
c. Survivors	0	319,129	319,129
2. Deferred retirements with augmentation	0	270,043	270,043
3. Former members without vested rights	1,592	0	1,592
4. Active Members	9,203	2,341,291	2,350,494
5. Total Current Benefit Obligations	$ 10,795	$ 6,140,938	$ 6,151,733
E. Expected Future Benefit Obligations			1,601,469
F. Total Current and Expected Future Benefit Obligations *(D.5. + E.)*			$ 7,753,202
G. Current Unfunded Benefit Obligations *(D.5. − A.)*			$ 877,131
H. Current and Future Unfunded Benefit Obligations *(F. − C.)*			$ 584,447

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	$ 3,440,592	1,070,470	$ 2,370,122
b. Disability benefits	347,458	197,661	149,797
c. Survivor's benefits	57,405	35,487	21,918
d. Deferred retirements	91,846	65,509	26,337
e. Refunds	14,662	20,529	(5,867)
f. Total	$ 3,951,963	$ 1,389,656	$ 2,562,307
2. Deferred retirements with future augmentation	270,043	0	270,043
3. Former members without vested rights	1,592	0	1,592
4. Annuitants	3,529,604	0	3,529,604
5. Total	$ 7,753,202	$ 1,389,656	$ 6,363,546
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 6,363,546
2. Current assets (AVA)			5,274,602
3. Unfunded actuarial accrued liability			$ 1,088,944
C. Determination of Supplemental Contribution Rate*,**			
1. Present value of future payrolls through the amortization date of July 1, 2038			$ 12,215,421
2. Supplemental contribution rate *(B.3. / C.1.)*			8.91%

* *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 July 1, 2011 is 15.3405.*

Development of Costs

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

			Year Ending June 30, 2011
A.	Unfunded actuarial accrued liability at beginning of year	$	775,333
B.	Changes due to interest requirements and current rate of funding		
	1. Normal cost and actual administrative expenses	$	157,006
	2. Contributions		(183,306)
	3. Interest on A., B.1. and B.2.		64,786
	4. Total *(B.1. + B.2.+ B.3.)*	$	38,486
C.	Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*		813,819
D.	Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
	1. Salary increases	$	(67,490)
	2. Investment return (AVA)		186,982
	3. Mortality of benefit recipients		16,038
	4. Other items		(8,804)
	5. Total	$	126,726
E.	Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.5.)*	$	940,545
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	$	148,399
H.	Change in unfunded actuarial accrued liability due to changes in actuarial methods	$	0
I.	Unfunded actuarial accrued liability at end of year *(E. + F. + G. + H.)**	$	1,088,944

** The unfunded actuarial accrued liability on a market value of assets basis is $1,046,514.*

Development of Costs

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

The Annual Required Contribution (ARC) is 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	9.60%	$	76,482
2. Employer contributions	14.40%		114,723
3. Total	24.00%	$	191,205
B. Required contributions – Chapter 356			
1. Normal cost*			
a. Retirement benefits	15.20%	$	121,056
b. Disability benefits	2.86%		22,824
c. Survivors	0.53%		4,252
d. Deferred retirement benefits	0.95%		7,556
e. Refunds	0.23%		1,802
f. Total	19.77%	$	157,490
2. Supplemental contribution amortization by July 1, 2038 of Unfunded Actuarial Accrued Liability	8.91%	$	70,985
3. Allowance for expenses	0.10%	$	797
4. Total	28.78%**	$	229,272
C. Contribution Sufficiency/(Deficiency) *(A.3. – B.4.)*	(4.78%)	$	(38,067)

Note: Projected annual payroll for fiscal year beginning on the valuation date: $796,689.

- *Normal cost includes a half-year interest adjustment.*

*** The required contribution on a market value of assets basis is 28.44%.*

Actuarial Basis

Actuarial Cost Method

Actuarial Accrued Liability and required contributions in this report are computed using the Individual Entry Age Normal Cost Method. This method is prescribed by Minnesota Statutes.

The objective under this method is to fund each member's benefits under the Plan as payments which are level as a percentage of salary, starting at original participation date (or employment date), and continuing until the assumed date of retirement termination, disability or death. For valuation purposes, entry age for each member is determined as the age at valuation minus years of service as of the valuation date.

At any given date, a liability is calculated equal to the contributions which would have been accumulated if this method of funding had always been used, the current plan provisions had always been in place, and all assumptions had been precisely accurate. The difference between this liability and the assets (if any) which are held in the fund is the unfunded liability. The unfunded liability is typically funded over a chosen period in accordance with the amortization schedule.

A detailed description of the calculation follows:

The normal cost for each active member under the assumed retirement age is determined by applying to earnings the level percentage of salary which, if contributed each year from date of entry into the Plan until the assumed retirement (termination, disability or death) date, is sufficient to provide the full value of the benefits expected to be payable.

- The present value of future normal costs is the total of the discounted values of all active members' normal cost, assuming these to be paid in each case from the valuation date until retirement (termination, disability or death) date.

- The present value of projected benefits is calculated as the value of all benefit payments expected to be paid to the Plan's current members, including active and retired members, beneficiaries, and terminated members with vested rights.

- The accrued liability is the excess of the present value of projected benefits over the present value of future normal costs.

- The unfunded liability is the excess of the accrued liability over the assets of the fund, and represents that part of the accrued liability which has not been funded by accumulated past contributions.

Current Benefit Obligation is computed under the Projected Unit Credit cost method.

Decrement Timing

All decrements are assumed to occur on the anniversary of the valuation date, beginning on the valuation date. Decrement timing is a fundamental part of the computer programming underlying actuarial calculations. Mercer's valuation systems use beginning of year decrements, a generally accepted actuarial practice. The LCPR approved this modification to the Standards for Actuarial Work prior to the preparation of this report in order to ensure consistency and comparability.

Actuarial Basis

Asset Valuation Method

Assets: 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 fiscal 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 for the fiscal year is recognized over five years at 20% per year;
- The asset value is the sum of the market 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 gains or losses for the fiscal years ending on or after June 30, 2009 are 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

A level percentage of payroll each year to the statutory amortization date of July 1, 2038 assuming payroll increases of 3.75% per annum. If there is a negative Unfunded Actuarial Accrued Liability, the surplus amount shall be amortized over 30 years as a level percentage of payroll. Projected payroll is multiplied by 0.957 in the determination of the present value of future payroll to account for timing differences (as required by the Standards for Actuarial Work).

Benefits included or excluded

To the best of our knowledge, all material benefits have been included in the liability.

IRC Section 415(b): The limitations of Internal Revenue Code Section 415(b) have been incorporated into our calculations. Annual benefits may not exceed the limits in IRC Section 415. This limit is indexed annually. For 2011, the limit is $195,000.

IRC Section 401(a)17: The limitations of Internal Revenue Code Section 401(a)(17) have been incorporated into our calculations. Compensation for any 12-month period used to determine accrued benefits may not exceed the limits in IRC Section 401(a)(17) for the calendar year in which the 12-month period begins. This limit is indexed annually. For 2011, the limit is $245,000.

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.

Changes in methods since prior valuation

None.

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All assumptions are prescribed by Statutes, the 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 November 10, 2010.

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:	8.5% compounded annually pre-retirement 7.0% compounded annually post-retirement (7.5% for the first year)
Benefit increases after retirement	Payment of annual post-retirement benefit increases of 1.0% for 2011 and 2012 and 1.5% thereafter, accounted for by using a 7.0% post-retirement assumption (7.5% for 2011 and 2012), as required by statute.
Payroll growth	3.75% per year.
Salary increases	Reported salary for prior fiscal year, with new hires annualized, increased to current fiscal year and annually for each future year according to the rates in the rate table based on service.
Mortality	
Healthy mortality	Pre-retirement: RP 2000 non-annuitant generational mortality, white collar adjustment, set back two years for males and females. Post-retirement: RP 2000 annuitant generational mortality, white collar adjustment. The RP 2000 non-annuitant 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 non-annuitant mortality table for annuitants younger than age 50. Similarly, the SOA's white collar adjustment is published for ages 30 to 70 for employees and ages 50 to 95 for annuitants; we have applied the age 30 adjustment to active members younger than 30 and made no adjustment for annuitants past age 95.
Disabled mortality	RP 2000 healthy annuitant mortality table, white collar adjustment, set forward eight years for males and females.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Retirement	Members retiring from active status are assumed to retire according to the rates shown in rate table. Members who have attained the highest assumed retirement age are assumed to retire in one year. Ages: 50 — 13% 51 – 53 — 10% 54 — 13% 55 — 30% 56-59 — 20% 60-61 — 25% 62-64 — 35% 65-69 — 50% 70 & Over — 100%
Withdrawal	Select and Ultimate rates based on plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are 8.00% for the first year, 5.00% for the second year and 3.50% for the third year.
Disability	Rates are shown in rate table. Benefits are calculated assuming all future disabilities are duty disabilities.
Allowance for Combined Service Annuity	Liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity due to continued public employment.
Expenses	Prior year administrative expenses expressed as percentage of prior year payroll.
Refund of contributions	All employees withdrawing after becoming eligible for a deferred benefit are assumed to 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 55.
Percentage married	85% of male members and 65% of female members are assumed to be married.
Age of spouse	Wives are assumed to be three years younger than their husbands for male members, and husbands are assumed to be four years older than their wives for female members. 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.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Form of payment	Married members retiring from active status are assumed to elect subsidized joint and survivor form of annuity as follows: Males / Females 25% J&S option: 10% / 5% 50% J&S option: 20% / 15% 75% J&S option: 20% / 5% 100% J&S option: 35% / 15% Unmarried and remaining married members retiring from active status are assumed to receive life annuities. Members receiving deferred annuities (including current terminated deferred members) are assumed to elect a life annuity.
Unknown data for members	To prepare this report, Mercer has used and relied on participant data supplied by the Fund. Although Mercer has reviewed the data in accordance with Actuarial Standards of Practice No. 23, Mercer 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: Data for active members: There were 23 members reported with zero salary. We used prior year salary for these members. There were also 56 members reported without a gender. We assumed male gender. Data for terminated members: We calculated benefits for these members using the reported Average Salary and credited service. If Average Salary was not reported (11 members), we assumed a value of $24,000. If credited service was not reported, we assumed credited service was equal to elapsed time from hire date to termination date (four members), otherwise nine years (seven members). If termination date was not reported (eight members), we assumed the termination date was equal to the hire date plus credited service, otherwise the valuation date. There were 24 members reported without a date of birth and 16 members reported without a gender. We assumed a date of birth of July 1, 1966 and male gender.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Changes in actuarial assumptions	Healthy pre-retirement mortality was changed from 1983 Group Annuity Mortality set back six years for males and females to RP 2000 non-annuitant generational mortality, white collar adjustment, set back two years for males and females. Healthy post-retirement mortality was changed from 1983 Group Annuity Mortality set back one year for males and females to RP 2000 annuitant generational mortality, white collar adjustment. Disabled retired mortality was changed from a table based on 1965 Railroad Retirement Board (RRB) rates and healthy mortality rates to RP 2000 healthy annuitant mortality table, white collar adjustment, set forward eight years for males and females. The beneficiary age assumption was changed from four years younger to three years younger for male members. The optional form assumption for males changed from 0% to 10% electing the 25% J&S optional form, from 40% to 20% electing the 50% J&S optional form, 0% to 20% electing the 75% J&S optional form, and from 45% to 35% electing the 100% J&S optional form. The optional form assumption for females changed from 0% to 5% electing the 25% J&S and the 75% J&S optional forms. The salary increase assumption was changed from an age based table to a service based table. The summary of rates is shown in the *Actuarial Basis* section of this report. The retirement rate assumption changed from 10% to 13% at ages 50 and 54. The summary of rates is shown in the *Actuarial Basis* section of this report. The withdrawal rate assumption for the three-year select period was changed from 3.50% to 8.00% in year one, 5.00% in year two and 3.50% in year three. The ultimate withdrawal rates did not change. The annual payroll growth assumption changed from 4.50% to 3.75%.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Summary of Rates

	Mortality Rates (%)			
	Healthy Pre-Retirement *		Disabled	
Age	**Male**	**Female**	**Male**	**Female**
20	.0203%	.0173%	.0312%	.0253%
25	.0252%	.0178%	.0481%	.0401%
30	.0295%	.0222%	.0766%	.0562%
35	.0455%	.0363%	.1124%	.0837%
40	.0717%	.0481%	.1711%	.1344%
45	.0995%	.0709%	.5716%	.2898%
50	.1433%	.1101%	.5688%	.4685%
55	.1920%	.1764%	.9232%	.7420%
60	.2969%	.2940%	1.5834%	1.2394%
65	.4827%	.4712%	2.6710%	2.0903%
70	.7300%	.7184%	4.7484%	3.4963%

* *Rates shown are RP 2000 non-annuitant mortality, projected to 2011, white collar adjustment, set back two years for males and females. The generational mortality tables assumed for pre-retirement and post-retirement mortality incorporate improvements in mortality in each future year.*

Age	Ultimate Withdrawal	Disability
20	6.01%	0.11%
25	3.24	0.13
30	1.90	0.16
35	1.46	0.19
40	1.26	0.29
45	0.91	0.54
50	0.50	1.04
55	0.11	2.03
60	0.00	0.00

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Summary of Rates *(continued)*

Service	Salary Increase
1	13.00%
2	11.00%
3	9.00%
4	8.00%
5	6.50%
6	6.10%
7	5.80%
8	5.60%
9	5.40%
10	5.30%
11	5.20%
12	5.10%
13	5.00%
14	4.90%
15	4.80%
16	4.80%
17	4.80%
18	4.80%
19	4.80%
20	4.80%
21	4.70%
22	4.60%
23+	4.50%

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. Moreover, these plan provisions may be susceptible to different interpretations, each of which could be reasonable, and that the different interpretations could lead to different valuation results.

Plan year	July 1 through June 30
Eligibility	All full-time and certain part-time, police officers and fire fighters, who are not contributing to any other local retirement fund.
Contributions	Shown as a percent of salary: Member: 9.60% of salary Employer: 14.40% of salary Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Police and Fire 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 lump sum annual leave payments and sick leave payments and Workers' Compensation benefits.
Average salary	Average of the five highest successive years of 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: 50% vested after 5 years of Allowable Service; 60% vested after 6 years of Allowable Service; 70% vested after 7 years of Allowable Service; 80% vested after 8 years of Allowable Service; 90% vested after 9 years of Allowable Service; 100% vested after 10 years of Allowable Service.
Retirement	
Normal retirement benefit	
Age/service requirements	Age 55 and vested. Proportionate retirement annuity is available at age 65 and one year of Allowable Service.
Amount	3.0% of Average Salary for each year of Allowable Service.
Early retirement	
Age/service requirements	Age 50 and vested.
Amount	Normal Retirement Benefit based on Allowable Service and Average Salary at retirement date and 0.10% (0.20% for members enrolled in the plan after June 30, 2007) reduction for each month the member is under age 55.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Retirement *(continued)*	
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 with bounce back feature. The Joint and Survivor options are determined on an actuarially equivalent basis, but with no actuarial reduction for the bounce back feature.
Benefit increases	Benefit recipients receive a future annual 1.0% post-retirement benefit increase on January 1, 2011 and January 1, 2012, and an increase matching the rate of inflation, up to 1.5%, each year thereafter. The annual adjustment will match inflation, up to 2.5%, any time the fund exceeds 90% funding (on a Market Value of Assets basis). A benefit recipient who has been receiving a benefit for at least 18 full months as of December 31 will receive a full increase. Members receiving benefits for at least six full months but less than 18 full months 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.
Disability	
Duty disability benefit	
Age/service requirement	Physically or mentally unable to perform normal duties as a police officer or fire fighter as a direct result of an act of duty specific to protecting property and personal safety of others. Members age 55 or older with 20 or more years of Allowable Service are not eligible to apply for duty disability benefits.
Amount	60.00%, plus an additional 3.00% for each year of service in excess of 20 years, of Average Salary paid until Normal Retirement Age, or for 60 months, whichever is later. The retirement benefit is then recalculated but is never lower than the disability benefit. If a member became disabled prior to July 1, 1997 but did not commence their benefit before July 1, 1997, the benefit is calculated under the laws in effect before July 1, 1997, and an actuarial increase shall be made for the change in post-retirement interest rates from 5.00% to 6.00%.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Disability *(continued)*	
Regular disability benefit	
Age/service requirement	Physically or mentally unable to perform normal duties as a police officer or fire fighter with one year of Allowable Service. Members age 55 or older with 15 or more years of Allowable Service are not eligible to apply for regular disability benefits.
Amount	45.00% of Average Salary, paid until Normal Retirement Age, or for 60 months, whichever is later. The retirement benefit is then recalculated but is never lower than the disability benefit. Benefits for total and permanent regular disability are calculated as 3.00% of Average Salary for each year of Allowable Service, with a minimum of 45.00% of Average Salary. If a member became disabled prior to July 1, 1997 but did not commence their 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 post-retirement interest rates from 5.00% to 6.00%.
Benefit increases	Same as for retirement.
Retirement benefit	
Age/service requirement	Upon cessation of disability benefits.
Amount	Any optional annuity continues. Otherwise, the larger of the disability benefit paid before age 55 or the normal retirement benefit available at age 55, or an actuarially equivalent optional annuity.
Form of payment	Same as for retirement.
Benefit increases	Same as for retirement.

Actuarial Basis

Summary of Plan Provisions *(continued)*

Death	
Surviving spouse benefit	
Age/service requirement	Death of active member or regular disabled member with surviving spouse whose disability benefit accrued before July 1, 2007, who is vested at death (service requirement is waived if death occurs in the line of duty).
Amount	50.00% of salary (60.00% if death occurs in the line of duty after June 30, 2007) averaged over last six months. 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 benefits 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.
Surviving dependent children's benefit	
Age/service requirement	Non-duty related death of active member or regular disabled member with eligible dependent child.
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 salary. Benefits paid until child marries, dies, or attains age 18 (age 23 if full-time student). If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits 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%.
Duty disability surviving spouse benefit	
Age/service requirement	Member who is totally and permanently disabled who dies before age 55 or within five years of the effective date of the disability benefit, whichever is later.
Amount	60.00% of salary averaged over last six months. Benefits paid until spouse's death but no payments while spouse is remarried prior to July 1, 1991. If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits 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 *(continued)*

Death *(continued)*	
Duty disability surviving dependent children's benefit	
Age/service requirement	Death of a member with an eligible dependent child who was disabled in the line of duty and died as a direct result of the disability.
Amount	10.00% of salary averaged over last six months for each child. Family benefit minimum (including spouse's benefit) of 60.00% of salary and maximum of 80.00% of salary. Benefits paid until child marries, dies, or attains age 18 (age 23 if full-time student). If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits 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%.
Surviving spouse optional annuity	
Age/service requirement	Active member dies before age 55. Benefits commence when member would have been age 55 or as early as age 50 if qualified for early retirement, benefits commence immediately if member had 30 years of service.
Amount	Survivor's payment of the 100% joint and survivor benefit the member could have elected if terminated. Alternatively, spouse may elect refund of deceased's contributions with interest if there are no dependent children. If a member became deceased prior to July 1, 1997 and the beneficiary was not eligible to commence their survivor benefits 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 *(continued)*

Termination	
<u>*Refund of contributions*</u>	
Age/service requirement	Termination of public service.
Amount	Member's contributions credited with 6% interest compounded annually prior July 1, 2011 and 4% interest thereafter. A deferred annuity may be elected in lieu of a refund if vested.
<u>*Deferred benefit*</u>	
Age/service requirement	Partially or 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; and (e.) 1.00% from January 1, 2012 thereafter. Members who terminate after 2011 will receive no future augmentation. 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 *(continued)*

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	None.

Plan Accounting Under GASB 25 (as amended by GASB 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)
07/01/1991	$ 839,560	$ 794,295	$ (45,265)	105.70%	$ 238,230	(19.00%)
07/01/1992	979,981	888,826	(91,155)	110.26%	239,158	(38.11%)
07/01/1993	1,118,342	1,009,226	(109,116)	110.81%	253,666	(43.02%)
07/01/1994	1,234,961	1,099,221	(135,740)	112.35%	277,566	(48.90%)
07/01/1995	1,385,901	1,196,795	(189,106)	115.80%	293,919	(64.34%)
07/01/1996	1,633,010	1,334,202	(298,808)	122.40%	316,189	(94.50%)
07/01/1997	1,974,635	1,556,483	(418,152)	126.87%	346,319	(120.74%)
07/01/1998	2,337,313	1,741,344	(595,969)	134.22%	375,131	(158.87%)
07/01/1999	3,679,551	3,004,637	(674,914)	122.46%	352,066	(191.70%)
07/01/2000	4,145,351	3,383,187	(762,164)	122.53%	392,796	(194.04%)
07/01/2001[2]	4,472,041	3,712,360	(759,681)	120.46%	500,839	(151.68%)
07/01/2002[2]	4,672,679	3,886,311	(786,368)	120.23%	522,153	(150.60%)
07/01/2003[2]	4,683,115	4,390,953	(292,162)	106.65%	560,503	(52.12%)
07/01/2004	4,746,834	4,692,190	(54,644)	101.16%	551,266	(9.91%)
07/01/2005	4,814,961	4,956,340	141,379	97.15%	580,723	24.35%
07/01/2006	5,017,951	5,260,564	242,613	95.39%	618,435	39.23%
07/01/2007	5,198,922	5,669,347	470,425	91.70%	648,342	72.56%
07/01/2008	5,233,015	5,918,061	685,046	88.42%	703,701	97.35%
07/01/2009	5,239,855	6,296,274	1,056,419	83.22%	733,164	144.09%
07/01/2010	5,188,339	5,963,672	775,333	87.00%	740,101	104.76%
07/01/2011	5,274,602	6,363,546	1,088,944	82.89%	775,806[3]	140.36%

[1] *Information prior to 2008 provided by the Segal Company.*
[2] *Excludes amounts receivable from municipalities with positive amortizable bases.*
[3] *Assumed equal to actual member contributions divided by 9.50%.*

Plan Accounting Under GASB 25 (as amended by GASB 50)

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

(Dollars in Thousands)

The GASB Statement No. 25 (as amended by GASB 50) required and actual contributions are as follows:

Plan Year Ended June 30	Actuarially Required Contribution Rate[2] (a)	Actual Covered Payroll (b)	Actual Member Contributions (c)	Annual Required Contributions [(a)x(b)] – (c) = (d)	Actual Employer Contributions[3] (e)	Percentage Contributed (e) / (d)
1991	17.56%	$ 238,230	$ 17,636	$ 24,197	$ 26,440	109.27%
1992	17.54%	239,158	19,217	22,731	28,766	126.55%
1993	18.60%	253,666	20,406	26,776	30,434	113.66%
1994	17.45%	277,566	21,806	26,629	32,536	122.18%
1995	17.28%	293,919	22,356	28,433	33,548	117.99%
1996	16.49%	316,189	24,065	28,075	36,066	128.46%
1997	15.11%	346,319	26,354	25,975	39,508	152.10%
1998[4]	15.69%	375,131	28,552	30,306	42,786	141.18%
1999[4]	12.32%	352,066	30,897	12,478	46,280	370.89%
2000[4]	12.87%	392,796	31,214	19,339	53,178	274.98%
2001[4, 5, 6]	12.21%	500,839	31,341	29,811	52,960	177.65%
2002	12.61%	522,153	33,801	32,042	90,664	282.95%
2003[4, 5, 7]	12.52%	560,503	34,751	35,424	50,917	143.74%
2004[4, 6, 8]	19.47%	551,266	36,313	71,019	52,770	74.30%
2005[4]	21.99%	580,723	37,873	89,828	55,802	62.12%
2006[4]	24.36%	618,435	42,970	107,681	63,603	59.07%
2007[4, 9]	25.76%	648,342	50,688	116,325	74,707	64.22%
2008[4, 10]	28.82%	703,701	58,259	144,548	87,023	60.20%
2009[4, 11]	28.41%	733,164	67,701	140,591	101,548	72.23%
2010[4, 12]	29.99%	740,101	71,736	150,220	107,066	71.27%
2011[4, 13]	25.52%	775,806[14]	73,702	124,284	109,604	88.19%
2012[4, 15]	28.78%					

[1] *Information prior to 2008 provided by the Segal Company.*
[2] *Actuarially Required Contributions determined for years ended 1995, 1996 and 1997 did not comply with the parameters of GASB 25 since a one percent growth in covered population is assumed in the amortization calculation.*
[3] *Includes contributions from other sources (if applicable).*
[4] *Actuarially Required Contributions Rate calculated according to parameters of GASB 25 with no assumption for growth of covered population.*
[5] *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 11.41%.*
[6] *Excludes amounts receivable from municipalities with positive amortizable bases.*
[7] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 12.33%*
[8] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 15.36%.*
[9] *Actuarially Required Contribution Rate prior to change in Plan Provisions is 25.77%.*
[10] *Actuarially Required Contribution Rate prior to change in Plan Provisions is 26.75% and prior to change in Asset Valuation Method including new Plan Provisions is 26.27%.*
[11] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 32.75% and prior to change in Plan Provisions is 27.96%.*
[12] *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 33.59%.*
[13] *Actuarially Required Contribution Rate prior to change in Plan Provisions is 32.57%.*
[14] *Assumed equal to actual member contributions divided by 9.50%.*
[15] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 27.29%.*

Glossary

Actuarial Asset Value. The value of assets used in calculating the required contributions. The actuarial asset value may be equal to the fair market value of assets, or it may spread the recognition of certain investment gains or losses over a period of years in accordance with an asset valuation method. The goal of an asset valuation method is to produce a relatively stable asset value thereby reducing year-to-year volatility in contribution requirements.

Actuarial Cost Method. Sometimes called "funding method," a particular technique used by actuaries to establish the amount and incidence of the annual actuarial cost of pension plan benefits, or normal cost, and the related unfunded actuarial accrued liability. Ordinarily, the Annual Required Contribution (ARC) calculated for plan financial reporting is established by the actuarial cost method and comprises the normal cost and an amount for amortization of the unfunded actuarial accrued liability.

Annual Pension Cost. A measure of the periodic cost of an employer's participation in a defined benefit pension plan.

Annual Required Contribution (ARC). The employer's recommended annual contribution to a defined benefit pension plan, calculated in accordance with the parameters of GASB 25 (as amended by GASB 50) or GASB 27. The ARC for a given fiscal reporting period is affected by the specific actuarial cost method selected by the plan sponsor.

ASA. Associate of the Society of Actuaries.

Augmentation. Annual increases to deferred benefits.

Current Benefit Obligations. The present value of benefits earned to the valuation date, based on current service and including future salary increases to retirement.

EA. Enrolled Actuary.

FSA. Fellow of the Society of Actuaries.

MAAA. Member of the American Academy of Actuaries.

Normal Cost. The annual cost assigned to the current year, under the actuarial cost method in use.

Present Value. Sometimes called "actuarial present value," the current worth (on the valuation date) of an amount or series of amounts payable or receivable in the future. The present value is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

Statement No. 25 of the Governmental Accounting Standards Board (GASB 25). The accounting standard governing the financial reporting for defined benefit pension plans and note disclosures for defined contribution plans.

Statement No. 27 of the Governmental Accounting Standards Board (GASB 27). The accounting standard governing a state or local governmental employer's accounting for pensions.

Statement No. 50 of the Governmental Accounting Standards Board (GASB 50). The accounting standard amending both GASB 25 and GASB 27 to require a schedule of funding progress under the Entry Age Normal method for plans that use the aggregate funding method to determine the Annual Required Contribution.

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