November 2011

General Employees Retirement Plan

Actuarial Valuation Report as of July 1, 2011

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Contents

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333 South 7th Street, Suite 1600
Minneapolis, MN 55402-2427
612 642 8600
www.mercer.com

November 2011

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

Dear Trustees of the General Employees Retirement Plan:

Submitted in this report are the July 1, 2011 actuarial valuation results for the General Employees Retirement 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)	13.50%	13.25%
Required Contributions – Chapter 356 (% of Payroll)	13.47%	12.46%
Sufficiency / (Deficiency)	0.03%	0.79%

The contribution sufficiency decreased from 0.79% of payroll to 0.03% of payroll. The primary reasons for the decrease in the sufficiency level were the recognition of deferred investment losses in the actuarial value of assets and the changes in the actuarial assumptions. These increases were partially offset by salary and demographic gains.

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% mandated by Minnesota Statutes.

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

Changes in 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	13.50%	13.25%
Required – Chapter 356	13.47%	12.46%
Sufficiency / (Deficiency)	0.03%	0.79%
Funding Ratios *(Dollars in Thousands)*		
Accrued Benefit Funding Ratio		
– Current assets (AVA)	$ 13,455,753	$ 13,126,993
– Current benefit obligations	17,066,189	16,345,475
– Funding ratio	78.84%	80.31%
Accrued Liability Funding Ratio		
– Current assets (AVA)	$ 13,455,753	$ 13,126,993
– Market value of assets (MVA)	13,616,622	11,338,582
– Actuarial accrued liability	17,898,849	17,180,956
– Funding ratio (AVA)	75.18%	76.40%
– Funding ratio (MVA)	76.08%	66.00%
Projected Benefit Funding Ratio (AVA)		
– Current and expected future assets	$ 20,341,783	$ 20,080,426
– Current and expected future benefit obligations	20,320,840	19,525,234
– Projected benefit funding ratio	100.10%	102.84%
Participant Data		
Active members		
– Number	139,952	140,389
– Projected annual earnings *(000s)*	$ 5,183,629	$ 5,160,545
– Average annual earnings *(projected)*	$ 37,040	$ 36,761
– Average age	47.3	47.2
– Average service	11.1	11.0
Service retirements	62,198	59,159
Survivors	7,289	7,120
Disability retirements	2,334	2,215
Deferred retirements	45,325	45,151
Terminated other non-vested	109,630	126,027
Total	**366,728**	**380,061**

Effects of Changes

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

- The future salary growth rates were updated to be approximately 25 basis points higher on average than the previous table. The summary of rates is shown in the *Actuarial Basis* section of this report.
- The annual payroll growth assumption changed from 4.00% to 3.75%.

The combined impact of the assumption changes described above was to increase the accrued liability by $72 million and increase the required contribution by 0.4% of pay, as follows:

	Before Assumption Changes	Reflecting Assumption Changes	Impact of Changes
Normal Cost Rate (% of pay)	6.50%	6.65%	0.15%
Amortization of Unfunded (% of pay)	6.41%	6.63%	0.22%
Expenses (% of pay)	0.19%	0.19%	0.00%
Total Required Contribution (% of pay)	13.10%	13.47%	0.37%
Accrued Liability Funding Ratio (AVA)	75.5%	75.2%	(0.3%)
Projected Benefit Funding Ratio	91.5%	89.9%	(1.6%)
Unfunded Accrued Liability (AVA) (in millions)	$4,371	$4,443	$72

Valuation of Future Post-Retirement Benefit Increases

A very important assumption affecting the valuation results is the expectation of future post-retirement benefit increases. The plan's accrued liability funding ratio (on a market value of assets basis and assuming 1.0% post-retirement benefit increases in all future years) is currently 76.1%. If the plan reaches a funding ratio of 90% (on a market value of assets basis) in the future, post-retirement increases will revert to the 2.5% level.

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 1% level
- 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 1.0% 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 1.0%, the liability would be $20.2 billion instead of $17.9 billion, resulting in a funded ratio of 67.4% (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 Board of Directors. 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* sections 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. The Trustees are solely responsible 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

Important Notices

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	$	386,765
▪ Fixed income		3,001,635
▪ Equity		8,227,773
▪ SBI Alternative		1,987,577
▪ Other (capital assets)		9,016
Total assets in trust	**$**	**13,612,766**
Assets Receivable		16,242
Amounts Payable		(12,386)
Net assets held in trust for pension benefits	**$**	**13,616,622**

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	$ 11,338,582
2. Contributions	
a. Member	311,115
b. Employer	357,596
c. Other sources	0
d. Total contributions	668,711
3. Investment income	
a. Investment income	2,626,523
b. Investment expenses	(18,955)
c. Net subtotal	2,607,568
4. Other	435
5. Total income *(2.d. + 3.c. + 4.)*	**$ 3,276,714**
6. Benefits Paid	
a. Annuity benefits	(950,708)
b. Refunds	(38,218)
c. Total benefits paid	(988,926)
7. Expenses	
a. Other	0
b. Administrative	(9,748)
c. Total Expenses	(9,748)
8. Total distributions *(6.c. + 7.c.)*	**$ (998,674)**
9. Fund balance at market value at June 30, 2011 *(1. + 5. + 8.)*	**$ 13,616,622**

Plan Assets

Actuarial Asset Value *(Dollars in Thousands)*

				June 30, 2011
1. Market value of assets available for benefits				$ 13,616,622
2. Determination of average balance				
a. Total assets available at July 1, 2010				11,338,582
b. Total assets available at June 30, 2011				13,616,622
c. Net investment income for fiscal year ending June 30, 2011				2,607,568
d. Average balance *[a. + b. – c.] / 2*				11,173,818
3. Expected return *[8.5% x 2.d.]*				949,775
4. Actual return				2,607,568
5. Current year unrecognized asset return *(4. – 3.)*				1,657,793
6. Unrecognized asset returns*				
	Original Amount	**% Not Recognized**		
a. Year ended June 30, 2011	$ 1,657,793	80%		$ 1,326,235
b. Year ended June 30, 2010	672,522	60%		403,513
c. Year ended June 30, 2009	(3,451,678)	40%		(1,380,671)
d. Year ended June 30, 2008	(941,039)	20%		(188,208)
e. Total unrecognized return				$ 160,869
7. Actuarial value at June 30, 2011 *(1. – 6.e.)*				**$ 13,455,753**

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

Membership Data

Distribution of Active Members (Total)

	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	4,525	534	83								**5,142**
Avg. Earnings	9,943	22,044	24,804								**11,439**
25 – 29	5,502	2,617	1,764	61							**9,944**
Avg. Earnings	16,277	31,667	34,729	35,202							**23,717**
30 – 34	3,545	2,370	3,551	1,229	21						**10,716**
Avg. Earnings	17,717	35,113	40,651	45,355	46,513						**32,390**
35 – 39	3,172	2,021	3,251	2,749	582	17					**11,792**
Avg. Earnings	15,963	31,046	40,641	49,660	49,114	50,288					**34,893**
40 – 44	3,704	2,438	4,100	3,334	1,968	731	38				**16,313**
Avg. Earnings	15,501	27,180	34,071	46,800	53,247	52,246	52,132				**34,596**
45 – 49	3,285	2,496	5,045	4,304	2,539	2,272	1,008	82			**21,031**
Avg. Earnings	15,601	25,659	29,718	38,637	48,626	56,568	54,419	50,595			**35,305**
50 – 54	2,534	2,049	4,525	5,159	3,685	2,886	2,089	1,546	92		**24,565**
Avg. Earnings	16,510	26,450	29,961	35,116	41,245	52,193	59,082	55,819	52,584		**37,857**
55 – 59	1,834	1,319	3,140	3,780	3,562	3,382	2,138	2,123	855	28	**22,161**
Avg. Earnings	16,543	28,893	30,823	34,894	37,957	45,762	54,518	60,849	59,045	58,720	**39,934**
60 – 64	1,086	853	1,879	1,957	1,946	2,249	1,449	1,023	637	140	**13,219**
Avg. Earnings	13,400	23,127	27,985	35,922	36,666	43,932	49,367	56,777	65,583	64,092	**38,406**
65 – 69	490	326	754	490	341	377	236	182	92	45	**3,333**
Avg. Earnings	9,030	14,330	20,526	28,905	31,724	39,145	43,408	45,964	58,034	68,010	**27,399**
70+	262	233	508	326	151	108	57	49	27	15	**1,736**
Avg. Earnings	5,664	8,977	11,220	18,226	24,831	28,142	31,022	32,188	34,434	38,347	**15,470**
Total	**29,939**	**17,256**	**28,600**	**23,389**	**14,795**	**12,022**	**7,015**	**5,005**	**1,703**	**228**	**139,952**
Avg. Earnings	**15,007**	**28,379**	**32,711**	**39,343**	**42,644**	**49,041**	**54,221**	**57,473**	**60,697**	**62,512**	**34,304**

* *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 the amount of average actual earnings received in fiscal year end 2011.

Membership Data

Distribution of Active Members (Basic)

	Years of Service June 30, 2011										
Age	**<3**	**3 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25 - 29**	**30 - 34**	**35 - 38**	**40+**	**Total**
<25											**0**
Avg. Earnings											**N/A**
25 – 29											**0**
Avg. Earnings											**N/A**
30 – 34											**0**
Avg. Earnings											**N/A**
35 – 39											**0**
Avg. Earnings											**N/A**
40 – 44											**0**
Avg. Earnings											**N/A**
45 – 49											**0**
Avg. Earnings											**N/A**
50 – 54											**0**
Avg. Earnings											**N/A**
55 – 59											**0**
Avg. Earnings											**N/A**
60 – 64										4	**4**
Avg. Earnings										43,936	**43,936**
65 – 69										8	**8**
Avg. Earnings										52,352	**52,352**
70+										2	**2**
Avg. Earnings										44,790	**44,790**
Total	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**14**	**14**
Avg. Earnings	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**N/A**	**48,867**	**48,867**

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is the amount of average actual earnings received in fiscal year end 2011.

Membership Data

Distribution of Active Members (Coordinated)

	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	4,525	534	83								**5,142**
Avg. Earnings	9,943	22,044	24,804								**11,439**
25 – 29	5,502	2,617	1,764	61							**9,944**
Avg. Earnings	16,277	31,667	34,729	35,202							**23,717**
30 – 34	3,545	2,370	3,551	1,229	21						**10,716**
Avg. Earnings	17,717	35,113	40,651	45,355	46,513						**32,390**
35 – 39	3,172	2,021	3,251	2,749	582	17					**11,792**
Avg. Earnings	15,963	31,046	40,641	49,660	49,114	50,288					**34,893**
40 – 44	3,704	2,438	4,100	3,334	1,968	731	38				**16,313**
Avg. Earnings	15,501	27,180	34,071	46,800	53,247	52,246	52,132				**34,596**
45 – 49	3,285	2,496	5,045	4,304	2,539	2,272	1,008	82			**21,031**
Avg. Earnings	15,601	25,659	29,718	38,637	48,626	56,568	54,419	50,595			**35,305**
50 – 54	2,534	2,049	4,525	5,159	3,685	2,886	2,089	1,546	92		**24,565**
Avg. Earnings	16,510	26,450	29,961	35,116	41,245	52,193	59,082	55,819	52,584		**37,857**
55 – 59	1,834	1,319	3,140	3,780	3,562	3,382	2,138	2,123	855	28	**22,161**
Avg. Earnings	16,543	28,893	30,823	34,894	37,957	45,762	54,518	60,849	59,045	58,720	**39,934**
60 – 64	1,086	853	1,879	1,957	1,946	2,249	1,449	1,023	637	136	**13,215**
Avg. Earnings	13,400	23,127	27,985	35,922	36,666	43,932	49,367	56,777	65,583	64,685	**38,404**
65 – 69	490	326	754	490	341	377	236	182	92	37	**3,325**
Avg. Earnings	9,030	14,330	20,526	28,905	31,724	39,145	43,408	45,964	58,034	71,396	**27,339**
70+	262	233	508	326	151	108	57	49	27	13	**1,734**
Avg. Earnings	5,664	8,977	11,220	18,226	24,831	28,142	31,022	32,188	34,434	37,355	**15,436**
Total	**29,939**	**17,256**	**28,600**	**23,389**	**14,795**	**12,022**	**7,015**	**5,005**	**1,703**	**214**	**139,938**
Avg. Earnings	**15,007**	**28,379**	**32,711**	**39,343**	**42,644**	**49,041**	**54,221**	**57,473**	**60,697**	**63,405**	**34,302**

* *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 the amount of average actual earnings received in fiscal year end 2011.

Membership Data

Distribution of Service Retirements (Total)

	Years Since Retirement 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 – 49								**0**
Avg. Benefit								**N/A**
50 – 54	26	40	1					**67**
Avg. Benefit	17,554	10,626	10,764					**13,317**
55 – 59	749	2,119	84					**2,952**
Avg. Benefit	15,489	11,052	13,033					**12,234**
60 – 64	1,585	5,154	3,407	52	1			**10,199**
Avg. Benefit	14,737	13,754	11,504	16,447	36,674			**13,171**
65 – 69	905	5,549	5,140	2,807	10			**14,411**
Avg. Benefit	12,413	11,867	12,068	11,911	41,852			**12,002**
70 – 74	157	1,181	4,781	4,710	1,584	16		**12,429**
Avg. Benefit	10,943	8,991	10,344	12,669	17,255	22,477		**12,000**
75 – 79	58	387	886	4,045	3,307	902	5	**9,590**
Avg. Benefit	7,890	4,921	7,392	11,519	17,581	18,086	48,553	**13,577**
80 – 84	20	138	295	732	3,073	2,045	481	**6,784**
Avg. Benefit	4,333	4,580	4,259	8,096	15,735	16,844	33,785	**15,765**
85 – 89	2	20	81	153	500	1,923	1,179	**3,858**
Avg. Benefit	6,991	5,048	4,626	4,706	12,621	15,307	25,411	**17,344**
90+	1	7	19	21	62	252	1,546	**1,908**
Avg. Benefit	911	5,134	5,067	4,486	8,662	11,757	18,171	**16,677**
Total	**3,503**	**14,595**	**14,694**	**12,520**	**8,537**	**5,138**	**3,211**	**62,198**
Avg. Benefit	**13,967**	**11,913**	**10,893**	**11,765**	**16,532**	**16,255**	**23,216**	**13,334**

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

Membership Data

Distribution of Service Retirements (Basic)

	Years Since Retirement 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 – 49								**0**
Avg. Benefit								**N/A**
50 – 54								**0**
Avg. Benefit								**N/A**
55 – 59								**0**
Avg. Benefit								**N/A**
60 – 64	3	10	79	13	1			**106**
Avg. Benefit	25,174	34,280	40,000	26,227	36,674			**37,320**
65 – 69	3	49	102	370	8			**532**
Avg. Benefit	40,860	30,655	34,900	39,908	48,293			**38,227**
70 – 74	3	11	114	488	369	11		**996**
Avg. Benefit	61,430	23,614	32,284	39,187	47,050	22,606		**41,022**
75 – 79	2	1	20	256	689	314	5	**1,287**
Avg. Benefit	85,634	4,010	38,930	30,471	42,545	40,282	48,553	**39,595**
80 – 84		1	3	47	500	578	310	**1,439**
Avg. Benefit		989	26,899	30,360	35,287	35,091	46,511	**37,424**
85 – 89			1	5	53	517	642	**1,218**
Avg. Benefit			25,841	26,519	43,282	29,468	37,752	**34,421**
90+					6	55	855	**916**
Avg. Benefit					26,353	28,491	25,824	**25,988**
Total	**11**	**72**	**319**	**1,179**	**1,626**	**1,475**	**1,812**	**6,494**
Avg. Benefit	**50,333**	**29,301**	**35,377**	**36,972**	**41,324**	**33,886**	**33,652**	**36,294**

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

Membership Data

Distribution of Service Retirements (Coordinated)

	Years Since Retirement 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 – 49								**0**
Avg. Benefit								**N/A**
50 – 54	26	40	1					**67**
Avg. Benefit	17,554	10,626	10,764					**13,317**
55 – 59	749	2,119	84					**2,952**
Avg. Benefit	15,489	11,052	13,033					**12,234**
60 – 64	1,582	5,144	3,328	39				**10,093**
Avg. Benefit	14,718	13,714	10,828	13,187				**12,918**
65 – 69	902	5,500	5,038	2,437	2			**13,879**
Avg. Benefit	12,319	11,699	11,606	7,660	16,087			**10,997**
70 – 74	154	1,170	4,667	4,222	1,215	5		**11,433**
Avg. Benefit	9,959	8,854	9,808	9,604	8,206	22,192		**9,472**
75 – 79	56	386	866	3,789	2,618	588		**8,303**
Avg. Benefit	5,113	4,923	6,664	10,239	11,011	6,233		**9,544**
80 – 84	20	137	292	685	2,573	1,467	171	**5,345**
Avg. Benefit	4,333	4,606	4,026	6,569	11,936	9,654	10,713	**9,934**
85 – 89	2	20	80	148	447	1,406	537	**2,640**
Avg. Benefit	6,991	5,048	4,361	3,969	8,985	10,099	10,657	**9,466**
90+	1	7	19	21	56	197	691	**992**
Avg. Benefit	911	5,134	5,067	4,486	6,767	7,085	8,702	**8,080**
Total	**3,492**	**14,523**	**14,375**	**11,341**	**6,911**	**3,663**	**1,399**	**55,704**
Avg. Benefit	**13,853**	**11,827**	**10,350**	**9,144**	**10,698**	**9,155**	**9,698**	**10,657**

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

Membership Data

Distribution of Survivors (Total)

	Years Since Death as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	9	87	39	28	8	10	1	**182**
Avg. Benefit	6,454	5,933	5,610	6,607	6,146	11,783	21,014	**6,407**
45 – 49	4	29	17	10	7	5	1	**73**
Avg. Benefit	4,682	6,929	6,950	11,640	6,802	9,274	8,153	**7,621**
50 – 54	27	66	43	25	16	5		**182**
Avg. Benefit	9,673	9,546	7,734	7,000	9,934	10,068		**8,835**
55 – 59	41	148	111	44	19	11	3	**377**
Avg. Benefit	8,574	9,482	9,745	10,346	15,575	15,720	15,655	**10,100**
60 – 64	51	195	154	66	27	17	4	**514**
Avg. Benefit	9,173	10,655	10,748	11,684	17,666	13,770	24,988	**11,251**
65 – 69	52	202	180	100	60	35	20	**649**
Avg. Benefit	10,255	11,621	12,138	12,266	15,840	19,303	19,537	**12,803**
70 – 74	70	210	226	159	88	58	40	**851**
Avg. Benefit	10,128	14,358	13,243	14,491	17,533	18,492	21,016	**14,662**
75 – 79	80	234	248	220	143	106	62	**1,093**
Avg. Benefit	17,424	15,490	16,539	17,140	18,185	15,046	21,193	**16,835**
80 – 84	85	288	308	230	204	180	126	**1,421**
Avg. Benefit	17,301	17,081	17,999	19,077	19,391	18,924	19,504	**18,396**
85 – 89	58	209	251	198	178	148	159	**1,201**
Avg. Benefit	14,204	17,234	17,182	18,030	16,706	17,536	15,857	**16,985**
90+	13	92	121	112	109	113	186	**746**
Avg. Benefit	17,886	14,823	14,526	14,781	13,466	16,184	11,433	**13,984**
Total	**490**	**1,760**	**1,698**	**1,192**	**859**	**688**	**602**	**7,289**
Avg. Benefit	**12,899**	**13,466**	**14,311**	**15,619**	**16,903**	**17,144**	**16,323**	**14,965**

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

Membership Data

Distribution of Survivors (Basic)

	Years Since Death as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45				1	1	3	1	**6**
Avg. Benefit				5,455	7,517	22,867	21,014	**17,098**
45 – 49				1				**1**
Avg. Benefit				4,515				**4,515**
50 – 54	1	1	2	2	2	1		**9**
Avg. Benefit	27,514	23,621	7,716	8,874	21,980	35,417		**18,168**
55 – 59	3	4	1	3	1	4	1	**17**
Avg. Benefit	16,202	9,161	12,858	7,427	68,407	29,986	8,517	**18,662**
60 – 64	2	7	10	6	5	7	3	**40**
Avg. Benefit	7,154	18,597	27,055	27,199	34,561	20,912	31,189	**24,775**
65 – 69	5	21	24	17	16	16	17	**116**
Avg. Benefit	23,323	20,505	31,977	29,703	31,778	30,723	22,025	**27,535**
70 – 74	11	54	54	38	28	25	33	**243**
Avg. Benefit	26,873	30,913	30,328	31,353	33,365	31,102	23,840	**30,011**
75 – 79	26	75	82	77	48	39	50	**397**
Avg. Benefit	33,915	29,426	29,645	31,811	34,244	27,778	24,392	**30,014**
80 – 84	28	108	113	111	100	91	98	**649**
Avg. Benefit	30,913	30,259	33,026	29,511	29,632	27,448	23,223	**29,088**
85 – 89	21	99	110	97	83	81	124	**615**
Avg. Benefit	27,020	26,185	27,950	27,074	25,661	24,675	17,751	**24,699**
90+	6	43	64	62	63	82	154	**474**
Avg. Benefit	19,726	23,440	19,658	21,195	17,873	18,863	12,467	**17,492**
Total	**103**	**412**	**460**	**415**	**347**	**349**	**481**	**2,567**
Avg. Benefit	**28,503**	**27,586**	**28,694**	**27,891**	**27,660**	**25,117**	**18,505**	**25,844**

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

Membership Data

Distribution of Survivors (Coordinated)

	Years Since Death as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	9	87	39	27	7	7		**176**
Avg. Benefit	6,454	5,933	5,610	6,650	5,950	7,032		**6,042**
45 – 49	4	29	17	9	7	5	1	**72**
Avg. Benefit	4,682	6,929	6,950	12,432	6,802	9,274	8,153	**7,664**
50 – 54	26	65	41	23	14	4		**173**
Avg. Benefit	8,986	9,330	7,735	6,845	8,213	3,731		**8,350**
55 – 59	38	144	110	41	18	7	2	**360**
Avg. Benefit	7,972	9,491	9,717	10,559	12,640	7,567	19,224	**9,695**
60 – 64	49	188	144	60	22	10	1	**474**
Avg. Benefit	9,256	10,359	9,615	10,132	13,826	8,771	6,384	**10,109**
65 – 69	47	181	156	83	44	19	3	**533**
Avg. Benefit	8,865	10,590	9,086	8,694	10,045	9,687	5,438	**9,596**
70 – 74	59	156	172	121	60	33	7	**608**
Avg. Benefit	7,006	8,628	7,879	9,195	10,145	8,940	7,706	**8,527**
75 – 79	54	159	166	143	95	67	12	**696**
Avg. Benefit	9,484	8,916	10,065	9,241	10,071	7,635	7,864	**9,317**
80 – 84	57	180	195	119	104	89	28	**772**
Avg. Benefit	10,614	9,173	9,291	9,344	9,544	10,210	6,488	**9,408**
85 – 89	37	110	141	101	95	67	35	**586**
Avg. Benefit	6,929	9,177	8,782	9,345	8,882	8,906	9,144	**8,888**
90+	7	49	57	50	46	31	32	**272**
Avg. Benefit	16,309	7,261	8,765	6,826	7,431	9,096	6,454	**7,872**
Total	**387**	**1,348**	**1,238**	**777**	**512**	**339**	**121**	**4,722**
Avg. Benefit	**8,746**	**9,150**	**8,966**	**9,064**	**9,612**	**8,936**	**7,652**	**9,051**

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

Membership Data

Distribution of Disability Retirements (Total)

	Years Disabled as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	5	23	14	1				**43**
Avg. Benefit	10,112	5,654	4,585	908				**5,714**
45 – 49	7	53	42	9	7			**118**
Avg. Benefit	8,759	7,766	6,794	4,008	5,495			**7,057**
50 – 54	20	130	114	49	17	6		**336**
Avg. Benefit	13,050	10,281	8,656	6,480	7,089	5,284		**9,089**
55 – 59	57	245	188	100	47	11	1	**649**
Avg. Benefit	15,215	12,075	11,202	10,343	9,507	7,148	5,064	**11,551**
60 – 64	41	297	329	158	43	21	5	**894**
Avg. Benefit	13,934	12,503	12,265	11,783	13,125	7,286	7,448	**12,233**
65 – 69	121	155	12	5	1			**294**
Avg. Benefit	10,948	12,704	3,303	1,912	774			**11,373**
70 – 74								**0**
Avg. Benefit								**N/A**
75 – 79								**0**
Avg. Benefit								**N/A**
80 – 84								**0**
Avg. Benefit								**N/A**
85 – 89								**0**
Avg. Benefit								**N/A**
90+								**0**
Avg. Benefit								**N/A**
Total	**251**	**903**	**699**	**322**	**115**	**38**	**6**	**2,334**
Avg. Benefit	**12,494**	**11,649**	**10,754**	**10,125**	**10,182**	**6,930**	**7,051**	**11,101**

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

Distribution of Disability Retirements (Basic)

	Years Disabled 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 – 49								**0**
Avg. Benefit								**N/A**
50 – 54								**0**
Avg. Benefit								**N/A**
55 – 59								**0**
Avg. Benefit								**N/A**
60 – 64				3	2		1	**6**
Avg. Benefit				60,598	60,062		12,399	**52,386**
65 – 69	1	3						**4**
Avg. Benefit	1,668	46,663						**35,415**
70 – 74								**0**
Avg. Benefit								**N/A**
75 – 79								**0**
Avg. Benefit								**N/A**
80 – 84								**0**
Avg. Benefit								**N/A**
85 – 89								**0**
Avg. Benefit								**N/A**
90+								**0**
Avg. Benefit								**N/A**
Total	**1**	**3**	**0**	**3**	**2**	**0**	**1**	**10**
Avg. Benefit	**1,668**	**46,663**	**N/A**	**60,598**	**60,062**	**N/A**	**12,399**	**45,598**

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

Distribution of Disability Retirements (Coordinated)

	Years Disabled as of June 30, 2011							
Age	**<1**	**1 - 4**	**5 - 9**	**10 - 14**	**15 - 19**	**20 - 24**	**25+**	**Total**
<45	5	23	14	1				**43**
Avg. Benefit	10,112	5,654	4,585	908				**5,714**
45 – 49	7	53	42	9	7			**118**
Avg. Benefit	8,759	7,766	6,794	4,008	5,495			**7,057**
50 – 54	20	130	114	49	17	6		**336**
Avg. Benefit	13,050	10,281	8,656	6,480	7,089	5,284		**9,089**
55 – 59	57	245	188	100	47	11	1	**649**
Avg. Benefit	15,215	12,075	11,202	10,343	9,507	7,148	5,064	**11,551**
60 – 64	41	297	329	155	41	21	4	**888**
Avg. Benefit	13,934	12,503	12,265	10,839	10,835	7,286	6,210	**11,962**
65 – 69	120	152	12	5	1			**290**
Avg. Benefit	11,025	12,033	3,303	1,912	774			**11,042**
70 – 74								**0**
Avg. Benefit								**N/A**
75 – 79								**0**
Avg. Benefit								**N/A**
80 – 84								**0**
Avg. Benefit								**N/A**
85 – 89								**0**
Avg. Benefit								**N/A**
90+								**0**
Avg. Benefit								**N/A**
Total	**250**	**900**	**699**	**319**	**113**	**38**	**5**	**2,324**
Avg. Benefit	**12,538**	**11,532**	**10,754**	**9,650**	**9,299**	**6,930**	**5,981**	**10,952**

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	**140,389**	**45,151**	**126,027**	**59,159**	**2,215**	**7,120**	**380,061**
New entrants	11,561	N/A	N/A	N/A	N/A	N/A	**11,561**
Return to active	2,096	(745)	(1,345)	0	(6)	N/A	**0**
Terminated non-vested	(4,522)	N/A	4,522	N/A	N/A	N/A	**0**
Service retirements	(3,009)	(1,676)	N/A	4,691	(6)	N/A	**0**
Terminated deferred	(4,127)	4,127	N/A	N/A	N/A	N/A	**0**
Terminated refund	(2,062)	(1,445)	(932)	N/A	N/A	N/A	**(4,439)**
Deaths	(192)	(108)	(251)	(1,710)	(70)	(367)	**(2,698)**
New beneficiary	N/A	N/A	N/A	N/A	N/A	572	**572**
Payments expired	N/A	N/A	N/A	N/A	N/A	(33)	**(33)**
Disabled	(153)	(56)	N/A	N/A	209	N/A	**0**
Data correction	(29)	139	1,021	58	(8)	(3)	**1,178**
Consolidated records**	0	(20)	0	0	0	0	**(20)**
Closed accounts	N/A	(42)	(19,412)	N/A	N/A	N/A	**(19,454)**
Net change	(437)	174	(16,397)	3,039	119	169	**(13,333)**
Members on 6/30/2011	**139,952**	**45,325**	**109,630**	**62,198**	**2,334**	**7,289**	**366,728**

* *Includes 20 multiple beneficiaries as of June 30, 2010 and 23 multiple beneficiaries as of June 30, 2011.*
** *Consolidations due to members being both Basic and Coordinated, but one Coordinated retirement record once retired.*

Former Member Statistics	Vested	Non-vested	Total
Number	45,325	109,630	154,955
Average Age	49.7 years	45.9 years	47.0 years
Average Service	7.5 years	0.9 years	2.9 years
Average annual benefits, including augmentation to age 65	$ 5,824	N/A	N/A
Total refund value as of July 1, 2011	$ 366,621,312	$ 56,762,346	$ 423,383,658

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 13.50% statutory contribution net of normal cost and anticipated plan expenses during the period from the valuation date to the statutory unfunded amortization date. .

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

				June 30, 2011
A.	Actuarial Value of Assets			$ 13,455,753
B.	Present value of expected future assets			
	1. Present value of expected future statutory supplemental contributions			$ 4,464,039
	2. Present value of future normal cost contributions			2,421,991
	3. Total present value of future contributions *(1. + 2.)*			$ 6,886,030
C.	Total current and expected future assets *(A. + B.3.)*			$ 20,341,783
		Non-Vested	Vested	Total
D.	Current benefit obligations			
	1. Benefit recipients			
	a. Service retirements	$ 0	$ 7,284,113	$ 7,284,113
	b. Disability	0	245,046	245,046
	c. Survivors	0	785,900	785,900
	2. Deferred retirements with augmentation	0	1,789,933	1,789,933
	3. Former members without vested rights	90,820	0	90,820
	4. Active Members	54,012	6,816,365	6,870,377
	5. Total Current Benefit Obligations	$ 144,832	$ 16,921,357	$ 17,066,189
E.	Expected Future Benefit Obligations			$ 3,254,651
F.	Total Current and Expected Future Benefit Obligations *(D.5. + E.)*			$ 20,320,840
G.	Unfunded Current Benefit Obligations *(D.5. – A.)*			$ 3,610,436
H.	Unfunded Current and Future Benefit Obligations *(F. – C.)*			$ (20,943)

Development of Costs

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

	Actuarial Present Value of Projected Benefits	Actuarial Present Value of Future Normal Costs	Actuarial Accrued Liability
A. Determination of Actuarial Accrued Liability (AAL)			
1. Active Members			
a. Retirement annuities	$ 9,099,370	$ 1,774,092	$ 7,325,278
b. Disability benefits	344,182	115,293	228,889
c. Survivor's benefits	153,445	43,232	110,213
d. Deferred retirements	141,180	49,514	91,666
e. Refunds	386,851	439,860	(53,009)
f. Total	$ 10,125,028	$ 2,421,991	$ 7,703,037
2. Deferred retirements with future augmentation	1,789,933	0	1,789,933
3. Former members without vested rights	90,820	0	90,820
4. Annuitants	8,315,059	0	8,315,059
5. Total	$ 20,320,840	$ 2,421,991	$ 17,898,849
B. Determination of Unfunded Actuarial Accrued Liability (UAAL)			
1. Actuarial accrued liability			$ 17,898,849
2. Current assets (AVA)			13,455,753
3. Unfunded actuarial accrued liability			$ 4,443,096
C. Determination of Supplemental Contribution Rate*,**			
1. Present value of future payrolls through the amortization date of July 1, 2031			$ 67,027,619
2. Supplemental contribution rate *(B.3. / C.1.)*			6.63%

* *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 12.9282.*

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	$	4,053,963
B.	Changes due to interest requirements and current rate of funding		
	1. Normal cost and actual administrative expenses	$	345,274
	2. Contributions		(668,711)
	3. Interest on A., B.1. and B.2.		330,841
	4. Total *(B.1. + B.2.+ B.3.)*	$	7,404
C.	Expected unfunded actuarial accrued liability at end of year *(A. + B.4.)*	$	4,061,367
D.	Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected		
	1. Salary increases	$	(95,370)
	2. Investment return (AVA basis)		453,210
	3. Mortality of benefit recipients		62,521
	4. Other items		(110,459)
	5. Total	$	309,902
E.	Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions *(C. + D.5.)*	$	4,371,269
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	$	71,827
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.)**	$	4,443,096

** The unfunded accrued liability on a market value of assets basis is $4,282,227.*

Development of Costs

Determination of Contribution Sufficiency/(Deficiency) – Total *(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. Member contributions	6.25%	$	323,996
2. Employer contributions	7.25%		375,846
3. Total	13.50%	$	699,842
B. Required contributions – Chapter 356			
1. Normal cost*			
a. Retirement benefits	5.05%	$	261,818
b. Disability benefits	0.30%		15,541
c. Survivors	0.12%		6,336
d. Deferred retirement benefits	0.21%		11,027
e. Refunds	0.97%		50,203
f. Total	6.65%	$	344,925
2. Supplemental contribution amortization by July 1, 2031 of Unfunded Actuarial Accrued Liability	6.63%		343,675
3. Allowance for expenses	0.19%	$	9,849
4. Total (B.1.f. + B.2. + B.3.)	13.47%**	$	698,449
C. Contribution Sufficiency/(Deficiency) *(A.3. – B.4.)*	0.03%	$	1,393

Note: Projected annual payroll for fiscal year beginning on the valuation date: $5,183,629.

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

** *The required contribution on a market value of assets basis is 13.23%*

Development of Costs

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

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 353		
1. Member contributions	9.10%	$ 64
2. Employer contributions	11.78%	84
3. Total	20.88%	$ 148
B. Required contributions – Chapter 356		
1. Normal cost*		
a. Retirement benefits	3.66%	$ 26
b. Disability benefits	0.28%	2
c. Survivors	0.28%	2
d. Deferred retirement benefits	0.85%	6
e. Refunds	1.97%	14
f. Total	7.04%	$ 50

Note: Projected annual payroll for fiscal year beginning on the valuation date: $710.

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

Development of Costs

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

	Percent of Payroll	Dollar Amount
A. Statutory contributions – Chapter 353		
1. Member contributions	6.25%	$ 323,932
2. Employer contributions	7.25%	375,762
3. Total	13.50%	$ 699,694
B. Required contributions – Chapter 356		
1. Normal cost*		
a. Retirement benefits	5.05%	$ 261,792
b. Disability benefits	0.30%	15,539
c. Survivors	0.12%	6,334
d. Deferred retirement benefits	0.21%	11,021
e. Refunds	0.97%	50,189
f. Total	6.65%	$ 344,875

Note: Projected annual payroll for fiscal year beginning on the valuation date: $5,182,919.

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

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 full-career 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 plan year, an average asset value is calculated as the average of the market asset value at the beginning and end of the fiscal year net of investment income for the fiscal year;
- The investment gain or (loss) is taken as the excess of actual investment income over the expected investment income based on the average asset value as calculated above;
- The investment gain or (loss) so determined 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, 2031 assuming payroll increases of 3.75% per annum (4.00% last year). 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 payoll 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.

Actuarial Basis

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 August 31, 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:	8.50% compounded annually pre-retirement. 7.50% compounded annually post-retirement.
Benefit increases after retirement	Payment of annual post-retirement benefit increases of 1% accounted for by using a 7.50% post-retirement assumption, 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 forward 5 years for males and set back 3 years for females. Post-retirement: RP 2000 annuitant generational mortality, white collar adjustment, no adjustment for males and set back 2 years for females. 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 disabled retiree mortality set back 4 years for males and set forward 7 years for 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.

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

Withdrawal

Select and ultimate rates based on recent plan experience. Ultimate rates after the third year are shown in the rate table. Select rates are as follows:

First Year	40.00%
Second Year	15.00%
Third Year	10.00%

Disability

Rates are shown in rate table.

Allowance for Combined Service Annuity

Liabilities for active members are increased by 0.80% and liabilities for former members are increased by 60.00% to account for the effect of some participants having eligibility for a Combined Service Annuity.

Administrative expenses

Prior year administrative expenses expressed as a percentage of prior year payroll.

Refund of contributions

All members 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 65.

Percentage married

75% of male members and 70% of female members are assumed to be married.

Age of spouse

Males are assumed to have a beneficiary 3 years younger, while females are assumed to have a beneficiary 2 years older. For members in payment status, actual spouse date of birth is used if provided.

Eligible children

Retiring members are assumed to have no dependent children.

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Form of payment	Married members retiring from active status assumed to elect subsidized joint and survivor form of annuity as follows: Males / Females 25% J&S option: 5% / 5% 50% J&S option: 15% / 5% 75% J&S option: 10% / 5% 100% J&S option: 30% / 15% Remaining married members and unmarried members are assumed to elect a life annuity. 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: <u>Data for active members</u>: There were 2,141 members reported with zero salary. We used prior year salary (2,110 members), if available; otherwise high five salary with a 10% load to account for salary increases (29 members). If neither prior year salary or high five salary was available, we assumed a value of $35,000. There were also 1,448 members reported without a gender and 177 members reported without a date of birth. We assumed a date of birth of July 1, 1966 and female gender. <u>Data for terminated members</u>: We calculated benefits for these members using the reported Average Salary and credited service. If Average Salary was not reported (430 members), we assumed a value of $24,000. If credited service was not reported (96 members), we assumed credited service was elapsed time from hire to termination date (56 members), otherwise nine years. If termination date was not reported (105 members), we assumed the termination date was equal to hire date plus credited service, otherwise the valuation date unless they are noted as a pre-July 1, 1989 hire, then July 1, 1989. There were 3,219 members reported without a date of birth and 2,496 members reported without a gender. We assumed a date of birth of July 1, 1966 and female gender.
Changes in actuarial assumptions	The salary increase rates were updated to be approximately 25 basis points higher on average than the previous table. The summary of rates is shown herein. The payroll growth assumption changed from 4.00% 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	0.0268%	0.0170%	2.2571%	0.7450%
25	0.0334%	0.0173%	2.2571%	0.7450%
30	0.0559%	0.0210%	2.2571%	0.7450%
35	0.0815%	0.0332%	2.2571%	0.7450%
40	0.1162%	0.0456%	2.2571%	0.8959%
45	0.1620%	0.0646%	2.2571%	1.3456%
50	0.2224%	0.1006%	2.3847%	1.8654%
55	0.3570%	0.1595%	3.0268%	2.4080%
60	0.5759%	0.2680%	3.6732%	3.1325%
65	0.8318%	0.4296%	4.3474%	4.2851%
70	2.8802%	0.6641%	5.2213%	5.9545%

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

	Ultimate Withdrawal		Disability	
Age	Male	Female	Male	Female
20	8.40%	8.40%	0.01%	0.01%
25	6.90	6.90	0.01	0.01
30	5.40	5.40	0.02	0.02
35	3.90	4.20	0.05	0.04
40	3.00	3.50	0.09	0.06
45	2.50	3.00	0.14	0.09
50	2.00	2.50	0.23	0.16
55	0.00	0.00	0.49	0.26
60	0.00	0.00	0.82	0.46
65	0.00	0.00	0.00	0.00
70	0.00	0.00	0.00	0.00

Actuarial Basis

Summary of Actuarial Assumptions *(continued)*

Summary of Rates *(continued)*

Service	Salary Increase
1	12.25%
2	9.15%
3	7.75%
4	6.85%
5	6.25%
6	5.75%
7	5.45%
8	5.15%
9	4.85%
10	4.65%
11	4.45%
12	4.35%
13	4.15%
14	4.05%
15	3.95%
16	3.85%
17+	3.75%

Actuarial Basis

Summary of Plan Provisions – Basic

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. 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	A public employee who is not covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23.
Contributions	Shown as a percent of salary: Member: 9.10% of salary; Employer: 11.78% of salary. Member contributions are "picked up" according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service during which member contributions were made. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leaves and sick leave payments, severance payments, Workers' Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average Salary	Average of the five highest successive years of annual salary. Average salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after three years of Allowable Service Hired after June 30, 2010: 100% vested after five years of Allowable Service
Retirement	
Normal retirement benefit	
Age/Service requirements	Age 65 and vested. Proportionate retirement annuity is available at age 65 and one year of Allowable Service.
Amount	2.70% of Average Salary for each year of Allowable Service.
Early retirement benefit	
Age/Service requirements	(a.) Age 55 and vested. (b.) Any age with 30 years of Allowable Service. (c.) Rule of 90: Age plus Allowable Service totals 90.

Actuarial Basis

Summary of Plan Provisions – Basic *(continued)*

***Retirement** (continued)*	
Early retirement benefit (continued)	
Amount	The greater of (a) or (b): (a.) 2.20% of Average Salary for each of the first ten years of Allowable Service and 2.70% of Average Salary for each subsequent year with reduction of 0.25% for each month if the Member is under age 65 at time of retirement and has less than 30 years of Allowable Service or if the Member is under age 62 and has 30 or more years of Allowable Service. No reduction if age plus years of Allowable Service totals 90. (b.) 2.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65.
Form of payment	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 25%, 50%, 75% or 100% Joint and Survivor with bounce back feature without additional reduction (option canceled if Member is pre-deceased by beneficiary).
Benefit increases	Benefit recipients receive a future annual 1.0% post-retirement benefit increase. If the accrued liability funding ratio reaches 90% (on a Market Value of Assets basis), the benefit increase will revert to 2.5%. A benefit recipient who has been receiving a benefit for at least 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.

Actuarial Basis

Summary of Plan Provisions – Basic *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Basic *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Basic *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Basic *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Basic *(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.

Actuarial Basis

Summary of Plan Provisions – Coordinated

Following is a summary of the major plan provisions used in the valuation of this report. PERA is solely responsible for the validity, accuracy and comprehensiveness of this information. If any of the plan provisions shown below are not accurate and complete, the valuation results may differ significantly from those shown in this report and may require a revision of this report. 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	A public employee who is covered under the Social Security Act. General exceptions are employees covered by other public funds, certain part-time employees and full-time students under age 23. City managers and persons holding certain elective office positions may choose to become Members.
Contributions	Shown as a percent of salary: Member: 6.25% of salary Employer: 7.25% of salary Member contributions are “picked up” according to the provisions of Internal Revenue Code 414(h).
Allowable service	Service during which member contributions are deducted. May also include certain leaves of absence and military service.
Salary	Includes amounts deducted for deferred compensation or supplemental retirement plans, net income from fees and sick leave payments funded by the employer. Excludes unused annual leave and sick leave payments, severance payments, Workers’ Compensation benefits and employer-paid flexible spending accounts, cafeteria plans, healthcare expense accounts, day-care expenses, fringe benefits and the cost of insurance coverage.
Average Salary	Average of the five highest successive years of annual salary. Average salary is based on all Allowable Service if less than five years.
Vesting	Hired before July 1, 2010: 100% vested after three years of Allowable Service Hired after June 30, 2010: 100% vested after five years of Allowable Service
Retirement	
<u>*Normal retirement benefit*</u>	
Age/service requirements	First hired before July 1, 1989: (a.) Age 65 and vested (b.) Proportionate retirement annuity is available at age 65 and one year of Allowable Service.
Amount	1.70% of Average Salary for each year of Allowable Service.

Actuarial Basis

Summary of Plan Provisions – Coordinated *(continued)*

Retirement *(continued)*	
Normal retirement benefit (continued)	
Age/service requirements	First hired after June 30, 1989: (a.) The greater of age 65 or the age eligible for full Social Security retirement benefits but no later than age 66 and vested. (b.) Proportionate Retirement Annuity is available at normal retirement age and one year of Allowable Service.
Amount	1.70% of Average Salary for each year of Allowable Service.
Early retirement benefit	
Age/service requirements	First hired before July 1, 1989: (a.) Age 55 and vested. (b.) Any age with 30 years of Allowable Service. (c.) Rule of 90: Age plus Allowable Service totals 90. First hired after June 30, 1989: (a.) Age 55 and vested.
Amount	First hired before July 1, 1989: The greater of (a) or (b): (a.) 1.20% of Average Salary for each of the first ten years of Allowable Service and 1.70% of Average Salary for each subsequent year with reduction of 0.25% for each month the Member is under age 65 at time of retirement or under age 62 if 30 years of Allowable Service. No reduction if age plus years of Allowable Service totals 90. (b.) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to age 65 at 3.00% per year and actuarial reduction for each month the Member is under age 65. First hired after June 30, 1989: (a.) 1.70% of Average Salary for each year of Allowable Service assuming augmentation to normal retirement age at 3.00% per year (2.50% if hired after June 30, 2006) and actuarial reduction for each month the Member is under normal retirement age.
Form of payment	Life annuity with return on death of any balance of contributions over aggregate monthly payments. Actuarially equivalent options are: 25%, 50%, 75% or 100% Joint and Survivor with bounce back feature without additional reduction (option canceled if Member is pre-deceased by beneficiary).

Actuarial Basis

Summary of Plan Provisions – Coordinated *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Coordinated *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Coordinated *(continued)*

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

Actuarial Basis

Summary of Plan Provisions – Coordinated *(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	$ 3,570,304	$ 4,988,671	$ 1,418,367	71.57%	$ 2,124,409	66.77%
07/01/1992	3,978,110	5,439,953	1,461,843	73.13%	2,299,532	63.57%
07/01/1993	4,374,459	5,784,318	1,409,859	75.63%	2,403,558	58.66%
07/01/1994	4,747,128	6,223,622	1,476,494	76.28%	2,557,522	57.73%
07/01/1995	5,138,461	6,622,069	1,483,608	77.60%	2,679,069	55.38%
07/01/1996	5,786,398	7,270,073	1,483,675	79.59%	2,814,126	52.72%
07/01/1997	6,658,410	8,049,666	1,391,256	82.72%	2,979,260	46.70%
07/01/1998	7,636,668	8,769,303	1,132,635	87.08%	3,271,737	34.62%
07/01/1999	8,489,177	9,443,678	954,501	89.89%	3,302,808	28.90%
07/01/2000	9,609,367	11,133,682	1,524,315	86.31%	3,437,954	44.34%
07/01/2001	10,527,270	12,105,337	1,578,067	86.96%	3,466,587	45.52%
07/01/2002	11,017,414	12,958,105	1,940,691	85.02%	3,809,864	50.94%
07/01/2003	11,195,902	13,776,198	2,580,296	81.27%	4,387,649	58.81%
07/01/2004	11,477,961	14,959,465	3,481,504	76.73%	3,968,034	87.74%
07/01/2005	11,843,936	15,892,555	4,048,619	74.53%	4,096,138	98.84%
07/01/2006	12,495,207	16,737,757	4,242,550	74.65%	4,247,109	99.89%
07/01/2007	12,985,324	17,705,627	4,720,303	73.34%	4,448,954	106.10%
07/01/2008	13,048,970	17,729,847	4,680,877	73.60%	4,722,432	99.12%
07/01/2009	13,158,490	18,799,416	5,640,926	69.99%	4,778,708	118.04%
07/01/2010	13,126,993	17,180,956	4,053,963	76.40%	4,804,627	84.38%
07/01/2011	13,455,753	17,898,849	4,443,096	75.18%	5,079,429[2]	87.47%

[1] *Information prior to 2008 provided by The Segal Company.*
[2] *Assumed equal to actual member contributions divided by 6.125%.*

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	10.04%	$ 2,124,409	$ 94,413	$ 118,878	$ 101,907	85.72%
1992	9.44%	2,299,532	101,655	115,421	109,203	94.61%
1993	9.95%	2,403,558	106,359	132,795	113,183	85.23%
1994	9.58%	2,557,522	112,940	132,071	119,390	90.40%
1995	9.76%	2,679,069	115,986	145,491	123,984	85.22%
1996	9.61%	2,814,126	121,525	148,913	129,738	87.12%
1997	9.75%	2,979,260	128,234	162,244	136,686	84.25%
1998[3]	9.62%	3,271,737	140,385	174,356	151,499	86.89%
1999[4]	9.63%	3,302,808	158,475	159,585	173,370	108.64%
2000[4]	9.22%	3,437,954	171,073	145,906	186,637	127.92%
2001[4, 5]	11.84%	3,466,587	173,380	237,064	188,208	79.39%
2002[4]	11.85%	3,809,864	191,422	260,047	206,982	79.59%
2003[4, 6]	11.52%	4,387,649	205,963	299,494	221,689	74.02%
2004[4]	12.25%	3,968,034	215,697	270,388	225,745	83.49%
2005[4]	12.72%	4,096,138	216,701	304,328	232,963	76.55%
2006[4]	13.26%	4,247,109	235,901	327,265	255,531	78.08%
2007[4]	13.41%	4,448,954	260,907	335,697	283,419	84.43%
2008[4, 7]	13.86%[8]	4,722,432	280,007	374,522	303,304	80.98%
2009[4, 9]	14.22%	4,778,708	298,381	381,151	328,603	86.21%
2010[4, 10]	15.55%	4,804,627	303,571	443,548	342,678	77.26%
2011[4, 11]	12.46%	5,079,429[12]	311,115	321,782	357,596	111.13%
2012[4, 13]	13.47%					

[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 Actuarial Assumptions and Actuarial Valuation Method is 11.41%.*
[6] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 11.86%.*
[7] *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 13.22%.*
[8] *Actuarially Required Contribution Rate provided by The Segal Company.*
[9] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 14.74%.*
[10] *Actuarially Required Contribution Rate prior to change in Asset Valuation Method is 17.16%.*
[11] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions and Plan Provisions is 16.75%.*
[12] *Assumed equal to actual member contributions divided by 6.125%.*
[13] *Actuarially Required Contribution Rate prior to change in Actuarial Assumptions is 13.10%.*

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.

MERCER

Mercer (US) Inc.
333 South 7th Street, Suite 1600
Minneapolis, MN 55402-2427
612 642 8600