

**PUBLIC EMPLOYEES RETIREMENT ASSOCIATION OF MINNESOTA
MINNEAPOLIS EMPLOYEES RETIREMENT FUND
ACTUARIAL VALUATION REPORT AS OF JULY 1, 2013**



November 2013

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

Dear Trustees of the Minneapolis Employees Retirement Fund:

The results of the July 1, 2013 annual actuarial valuation of the Minneapolis Employees Retirement Fund are presented in this report. This report was prepared at the request of the Board and is intended for use by the Board and staff and those designated or approved by the Board. This report may be provided to parties other than the Plan only in its entirety. GRS is not responsible for the consequences of any unauthorized use of this report.

The purpose of the valuation is to measure the plan's funding progress, to determine the required contribution rate for the fiscal year beginning July 1, 2013, and to determine the actuarial information required by Governmental Accounting Standards Board (GASB) Statement No. 25. Note that we have not attempted to quantify the impact of GASB Statements No. 67 and No. 68 in this report.

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

Actuarial assumptions, including discount rates, mortality tables and others identified in this report, are prescribed by Minnesota Statutes Section 356.215, the Legislative Commission on Pensions and Retirement (LCPR), and the Trustees. These parties are responsible for selecting the plan's funding policy, actuarial valuation methods, asset valuation methods, and assumptions. The policies, methods and assumptions used in this valuation are those that have been so prescribed and are described in the Actuarial Basis of this report. PERA is solely responsible for communicating to GRS any changes required thereto.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

This report should not be relied on for any purpose other than the purpose described herein. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

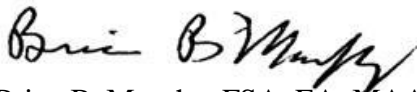
The signing actuaries are independent of the plan sponsor. We are not aware of any relationship that would impair the objectivity of our work.

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

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

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

Respectfully submitted,



Brian B. Murphy, FSA, EA, MAAA



Bonita J. Wurst, ASA, EA, MAAA

BBM/BJW:sc

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Summary of Valuation Results

Contributions

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

| Contributions | Actuarial Valuation as of | |
|--|---------------------------|--------------|
| | July 1, 2013 | July 1, 2012 |
| Statutory Contributions - Chapter 353 (% of Payroll) | 1,311.51% | 1063.53% |
| Required Contributions - Chapter 356 (% of Payroll) | 780.28% | 775.33% |
| Sufficiency / (Deficiency) | 531.23% | 288.20% |
| Statutory Contributions - Chapter 353 (000's) | \$ 55,844 | \$ 56,069 |
| Required Contributions - Chapter 356 (000's) | 33,224 | 40,876 |
| Sufficiency / (Deficiency) | 22,620 | 15,193 |

The annual contribution sufficiency increased from \$15.2 million to \$22.6 million. The primary reasons for the increase are the investment gain from the prior fiscal year and the actual contributions in excess of the required contribution amount.

The actuarial accrued liability funding ratio increased from 69.2% to 74.4%. If the actuarial accrued liability funding ratio of this plan reaches 80%, the MERF Division will be merged with the PERA General Employees Retirement Plan. Upon consolidation, the remaining unfunded liability will be amortized as a level dollar amount through June 30, 2031. The amortization payment will be based on the assumptions of the PERA General Employees Retirement Plan.

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 14.0% for the plan year ending June 30, 2013.

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 Statement No. 50). Statements No. 67 and No. 68, issued in June 2012, replace the requirements of Statements No. 25 and No. 27, respectively. Statement No. 68, effective for the fiscal year beginning July 1, 2014, sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67, effective for the fiscal year beginning July 1, 2013, sets the rules for the systems themselves. Accounting information prepared according to Statements No. 67 and No. 68 will be provided in a separate report.

Summary of Valuation Results

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

| | Actuarial Valuation as of | |
|---|----------------------------------|---------------------|
| | July 1, 2013 | July 1, 2012 |
| Contributions (% of Payroll) | | |
| Statutory - Chapter 353 | 1,311.51% | 1063.53% |
| Required - Chapter 356 | 780.28% | 775.33% |
| Sufficiency / (Deficiency) | 531.23% | 288.20% |
| Contributions (dollars in thousands) | | |
| Statutory Contributions - Chapter 353 | \$ 55,844 | \$ 56,069 |
| Required Contributions - Chapter 356 | 33,224 | 40,876 |
| Sufficiency / (Deficiency) | \$ 22,620 | 15,193 |
| Funding Ratios (dollars in thousands) | | |
| Accrued Benefit Funding Ratio | | |
| - Current assets (AVA) | \$ 868,813 | \$ 842,811 |
| - Current benefit obligations | 1,166,320 | 1,218,673 |
| - Funding ratio | 74.49% | 69.16% |
| Accrued Liability Funding Ratio | | |
| - Current assets (AVA) | \$ 868,813 | \$ 842,811 |
| - Market value of assets (MVA) | 868,813 | 842,811 |
| - Actuarial accrued liability | 1,167,123 | 1,219,735 |
| - Funding ratio (AVA) | 74.44% | 69.10% |
| - Funding ratio (MVA) | 74.44% | 69.10% |
| Projected Benefit Funding Ratio | | |
| - Current and expected future assets* | \$ 1,167,874 | \$ 1,220,783 |
| - Current and expected future benefit obligations | 1,167,874 | 1,220,783 |
| - Projected benefit funding ratio | 100.00% | 100.00% |
| Participant Data | | |
| Active members | | |
| - Number | 64 | 80 |
| - Projected annual earnings (000s) | \$ 4,258 | \$ 5,272 |
| - Average annual earnings (projected) | \$ 66,531 | \$ 65,900 |
| - Average age | 61.4 | 61.5 |
| - Average service | 38.9 | 38.2 |
| Service retirements | 3,022 | 3,142 |
| Survivors | 770 | 790 |
| Disability retirements | 117 | 123 |
| Deferred retirements | 57 | 69 |
| Total | 4,030 | 4,204 |

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

Summary of Valuation Results

Valuation of Future Post-Retirement Benefit Increases

A very important assumption affecting the valuation results is the expectation of future post-retirement benefit increases, which, by statute, depends on the accrued liability funding ratio of the General Employees Retirement Plan (PERA General) instead of this plan which has a 74.4% funding ratio. If PERA General reaches a funding ratio of 90% (on a market value of assets basis) for two consecutive years in the future, post-retirement increases in the Minneapolis Employees Retirement Fund will revert to the 2.5% level. The PERA General Fund'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 77.8%. See the 2013 valuation report for PERA General for additional detail.

The liabilities in this report are based on the assumption that the post-retirement benefit increase will remain at the reduced level of 1.0% indefinitely. If we assumed future post-retirement benefit increases of 2.5% instead of 1.0%, the actuarial accrued liability would be \$1.30 billion instead of \$1.17 billion, resulting in a funded ratio of 66.9% (on a market value basis) as of July 1, 2013.

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 No. 25 (as amended by GASB No. 50)** shows the disclosures required by GASB No. 25 as amended by GASB No. 50.
- **Glossary** defines the terms used in this report.

Plan Assets

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

| Assets in Trust | Market Value | |
|--|-------------------|-------------------|
| | June 30, 2013 | June 30, 2012 |
| Cash, equivalents, short term securities | \$ 22,344 | \$ 13,081 |
| Fixed income | 186,720 | 175,810 |
| Equity | 486,979 | 474,204 |
| SBI Alternative | 117,893 | 123,446 |
| Other | 0 | 0 |
| Total Assets in Trust | \$ 813,936 | \$ 786,541 |
| Assets Receivable* | 55,010 | 56,384 |
| Amounts Payable | (133) | (114) |
| Net Assets Held in Trust for Pension Benefits | \$ 868,813 | \$ 842,811 |

*Assets receivable include the following:

| <u>Source</u> | <u>Market Value as of June 30, 2013</u> | <u>Market Value as of June 30, 2012</u> |
|------------------------|---|---|
| | <u>Amount</u> | <u>Amount</u> |
| State Contributions | \$24.00 million | \$22.75 million |
| Employer Contributions | \$27.00 million | \$27.00 million |
| Other | \$4.00 million | \$6.63 million |

Plan Assets

Reconciliation of Plan Assets (*Dollars in Thousands*)

The following exhibit shows the revenue, expenses and resulting assets of the Fund as reported by the Public Employees Retirement Association for the prior two fiscal years.

| <u>Change in Assets</u> | <u>Market Value</u> | |
|--|----------------------|----------------------|
| | <u>June 30, 2013</u> | <u>June 30, 2012</u> |
| 1. Fund balance at market value at beginning of year* | \$ 842,811 | \$ 910,987 |
| 2. Contributions | | |
| a. Member | 426 | 564 |
| b. Employer | 31,447 | 31,623 |
| c. Other sources | 24,000 | 22,750 |
| d. Total contributions | 55,873 | 54,937 |
| 3. Investment income | | |
| a. Investment income/(loss) | 109,234 | 19,278 |
| b. Investment expenses | (1,118) | (1,079) |
| c. Net subtotal | 108,116 | 18,199 |
| 4. Other | 8 | 206 |
| 5. Total income: (2.d.) + (3.c.) + (4.) | \$ 163,997 | \$ 73,342 |
| 6. Benefits Paid | | |
| a. Annuity benefits | (137,807) | (140,709) |
| b. Refunds | (57) | (637) |
| c. Total benefits paid | (137,864) | (141,346) |
| 7. Expenses | | |
| a. Other | 0 | 0 |
| b. Administrative | (131) | (172) |
| c. Total expenses | (131) | (172) |
| 8. Total disbursements: (6.c.) + (7.c.) | (137,995) | (141,518) |
| 9. Fund balance at market value at end of year*: (1.) + (5.) + (8.) | \$ 868,813 | \$ 842,811 |
| 10. Approximate return on market value of assets | 14.0% | 2.2% |

*Assets include the following contributions as assets receivable:

| | <u>Market Value as of June 30, 2013</u> | <u>Market Value as of June 30, 2012</u> | <u>Market Value as of June 30, 2011</u> |
|---------------|---|---|---|
| <u>Source</u> | <u>Amount</u> | <u>Amount</u> | <u>Amount</u> |
| State | \$24.00 million | \$22.75 million | \$22.75 million |
| Employer | \$27.00 million | \$27.00 million | |

Plan Assets

Actuarial Asset Value (*Dollars in Thousands*)

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

Membership Data

Distribution of Active Members

| Age | Years of Service as of June 30, 2013 | | | | | | | | | Total |
|----------------------|--------------------------------------|-------|-------|---------|---------|---------|---------|---------|---------------|---------------|
| | <3* | 3 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25 - 29 | 30 - 34 | 35+ | |
| < 25 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 25 - 29 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 30 - 34 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 35 - 39 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 40 - 44 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 45 - 49 | | | | | | | | | | |
| Avg. Earnings | | | | | | | | | | |
| 50 - 54 | | | | | | | | | 2 | 2 |
| Avg. Earnings | | | | | | | | | 64,600 | 64,600 |
| 55 - 59 | | | | | | | | | 25 | 25 |
| Avg. Earnings | | | | | | | | | 63,244 | 63,244 |
| 60 - 64 | | | | | | | | | 20 | 20 |
| Avg. Earnings | | | | | | | | | 65,452 | 65,452 |
| 65 - 69 | | | | | | | | | 11 | 11 |
| Avg. Earnings | | | | | | | | | 62,632 | 62,632 |
| 70+ | | | | | | | | | 6 | 6 |
| Avg. Earnings | | | | | | | | | 64,341 | 64,341 |
| Total | | | | | | | | | 64 | 64 |
| Avg. Earnings | | | | | | | | | 63,974 | 63,974 |

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

In each cell, the top number is the count of active participants for the age/service combination and the bottom number is average valuation earnings for the fiscal year ending on the valuation date. The pay shown has been rolled forward at the valuation salary increase assumption from December 31, 2012 to July 1, 2013.

Membership Data

Distribution of Service Retirements

| Age | Years Retired as of June 30, 2013 | | | | | | | Total |
|---------------------|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | <1 | 1 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25+ | |
| <50 | | | | | | | | |
| Avg. Benefit | | | | | | | | |
| 50 - 54 | | 1 | 1 | | | | | 2 |
| Avg. Benefit | | 67,901 | 39,288 | | | | | 53,595 |
| 55 - 59 | | 26 | 75 | 15 | | | | 116 |
| Avg. Benefit | | 40,931 | 38,117 | 39,193 | | | | 38,887 |
| 60 - 64 | 10 | 75 | 183 | 151 | 5 | | | 424 |
| Avg. Benefit | 33,952 | 30,371 | 37,198 | 40,223 | 32,643 | | | 36,937 |
| 65 - 69 | 7 | 62 | 183 | 271 | 68 | 4 | | 595 |
| Avg. Benefit | 13,046 | 30,793 | 36,637 | 42,505 | 49,895 | 35,944 | | 39,934 |
| 70 - 74 | 5 | 17 | 66 | 228 | 96 | 12 | 2 | 426 |
| Avg. Benefit | 48,899 | 20,267 | 24,886 | 33,791 | 50,974 | 46,915 | 32,445 | 36,285 |
| 75 - 79 | 1 | 3 | 17 | 104 | 178 | 41 | 21 | 365 |
| Avg. Benefit | 69,750 | 17,537 | 23,113 | 29,503 | 33,975 | 44,105 | 54,630 | 34,484 |
| 80 - 84 | | | 10 | 29 | 160 | 161 | 68 | 428 |
| Avg. Benefit | | | 25,751 | 22,763 | 33,441 | 33,731 | 50,807 | 35,406 |
| 85 - 89 | | | 2 | 8 | 33 | 112 | 238 | 393 |
| Avg. Benefit | | | 42,515 | 21,780 | 30,576 | 26,306 | 39,466 | 34,625 |
| 90+ | | | | 2 | 5 | 23 | 243 | 273 |
| Avg. Benefit | | | | 27,849 | 39,829 | 23,465 | 29,899 | 29,524 |
| Total | 23 | 184 | 537 | 808 | 545 | 353 | 572 | 3,022 |
| Avg. Benefit | 32,395 | 31,066 | 34,987 | 36,935 | 38,635 | 32,384 | 37,282 | 36,037 |

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

| Age | Years Since Death as of June 30, 2013 | | | | | | | Total |
|---------------------|---------------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| | <1 | 1 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25+ | |
| <45 | | 1 | | | | | | 1 |
| Avg. Benefit | | 18,564 | | | | | | 18,564 |
| 45 - 49 | 1 | 1 | | | | | | 2 |
| Avg. Benefit | 8,843 | 33,396 | | | | | | 21,120 |
| 50 - 54 | 1 | | 1 | | 1 | | | 3 |
| Avg. Benefit | 8,843 | | 31,856 | | 30,147 | | | 23,615 |
| 55 - 59 | 3 | 2 | 5 | 4 | 4 | | 2 | 20 |
| Avg. Benefit | 18,199 | 34,151 | 42,215 | 23,723 | 42,516 | | 14,048 | 31,351 |
| 60 - 64 | 3 | 5 | 5 | 11 | 12 | 5 | 2 | 43 |
| Avg. Benefit | 39,602 | 23,588 | 34,002 | 28,454 | 25,910 | 34,049 | 21,824 | 28,943 |
| 65 - 69 | 11 | 5 | 2 | 7 | 9 | 5 | 14 | 53 |
| Avg. Benefit | 26,049 | 33,015 | 32,618 | 40,443 | 33,880 | 32,443 | 16,640 | 28,303 |
| 70 - 74 | 5 | 11 | 1 | 12 | 16 | 12 | 16 | 73 |
| Avg. Benefit | 27,279 | 33,083 | 16,455 | 31,819 | 34,514 | 41,534 | 24,839 | 32,146 |
| 75 - 79 | 2 | 7 | 1 | 5 | 15 | 25 | 43 | 98 |
| Avg. Benefit | 63,270 | 45,003 | 54,729 | 25,747 | 35,752 | 26,922 | 33,092 | 33,238 |
| 80 - 84 | 11 | 10 | | 3 | 9 | 18 | 86 | 137 |
| Avg. Benefit | 36,222 | 45,224 | | 14,008 | 26,978 | 27,358 | 31,856 | 31,880 |
| 85 - 89 | 6 | 16 | | | 4 | 14 | 137 | 177 |
| Avg. Benefit | 34,727 | 32,552 | | | 47,616 | 29,797 | 34,182 | 34,010 |
| 90+ | 3 | 8 | | | 1 | 5 | 146 | 163 |
| Avg. Benefit | 42,655 | 32,756 | | | 17,984 | 22,076 | 27,292 | 27,626 |
| Total | 46 | 66 | 15 | 42 | 71 | 84 | 446 | 770 |
| Avg. Benefit | 32,073 | 35,111 | 36,624 | 29,609 | 33,180 | 30,046 | 30,342 | 31,166 |

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

| Age | Years Disabled* as of June 30, 2013 | | | | | | | Total |
|---------------------|-------------------------------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|
| | <1 | 1 - 4 | 5 - 9 | 10 - 14 | 15 - 19 | 20 - 24 | 25+ | |
| < 45 | | | | | | | | |
| Avg. Benefit | | | | | | | | |
| 45 - 49 | | | | | | | | |
| Avg. Benefit | | | | | | | | |
| 50 - 54 | | | | | | | | |
| Avg. Benefit | | | | | | | | |
| 55 - 59 | | 1 | | 2 | 2 | 1 | | 6 |
| Avg. Benefit | | 3,878 | | 25,562 | 23,245 | 26,001 | | 21,249 |
| 60 - 64 | 6 | | | 1 | 4 | 5 | 6 | 22 |
| Avg. Benefit | 24,115 | | | 5,995 | 32,112 | 26,752 | 22,366 | 24,867 |
| 65 - 69 | | | 1 | 4 | 10 | 4 | 9 | 28 |
| Avg. Benefit | | | 2,618 | 30,936 | 34,482 | 39,321 | 23,482 | 29,993 |
| 70 - 74 | | | | 5 | 2 | 5 | 6 | 18 |
| Avg. Benefit | | | | 18,002 | 27,562 | 34,299 | 32,731 | 28,501 |
| 75+ | | | | | 4 | 3 | 36 | 43 |
| Avg. Benefit | | | | | 15,721 | 25,990 | 21,190 | 21,016 |
| Total | 6 | 1 | 1 | 12 | 22 | 18 | 57 | 117 |
| Avg. Benefit | 24,115 | 3,878 | 2,618 | 22,573 | 28,989 | 31,473 | 22,890 | 25,052 |

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

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

Membership Data

Reconciliation of Members

| | <u>Terminated</u> | | <u>Recipients</u> | | | <u>Total</u> |
|-----------------------------|-------------------|----------------------------|---------------------------|------------------------------|-----------------|--------------|
| | <u>Actives</u> | <u>Deferred Retirement</u> | <u>Service Retirement</u> | <u>Disability Retirement</u> | <u>Survivor</u> | |
| Members on 7/1/2012 | 80 | 69 | 3,142 | 123 | 790 | 4,204 |
| New members | 0 | 0 | 0 | 0 | 0 | 0 |
| Return to active | 0 | 0 | 0 | 0 | 0 | 0 |
| Terminated non-vested | 0 | 0 | 0 | 0 | 0 | 0 |
| Service retirements | (14) | (13) | 27 | 0 | 0 | 0 |
| Terminated deferred | (2) | 2 | 0 | 0 | 0 | 0 |
| Terminated refund/transfer | 0 | 0 | 0 | 0 | 0 | 0 |
| Deaths | 0 | 0 | (144) | (11) | (56) | (211) |
| New beneficiary | 0 | 0 | 0 | 0 | 46 | 46 |
| Disabled | 0 | 0 | 0 | 0 | 0 | 0 |
| Data adjustments | 0 | (1) | (3) | 5 | (10) | (9) |
| Net change | (16) | (12) | (120) | (6) | (20) | (174) |
| Members on 6/30/2013 | 64 | 57 | 3,022 | 117 | 770 | 4,030 |

| <u>Terminated Member Statistics</u> | <u>Deferred Retirement</u> |
|--|----------------------------|
| Number | 57 |
| Average age | 61.3 |
| Average service | 8.2 |
| Average annual benefit, with augmentation to Normal Retirement Date and 30% CSA load | \$18,566 |

Development of Costs

Actuarial Valuation Balance Sheet (*Dollars in Thousands*)

The actuarial balance sheet is based on the principle that the long-term projected benefit obligations of the plan should be ideally equal to the long-term resources available to fund those obligations. The resources available to meet projected obligations for current members consist of current fund assets plus the present value of anticipated future contributions intended to fund benefits for current members. In the exhibit below, B.2 is the estimated present value of contributions to fund the normal cost rate for current members until their respective termination dates. Item B.1 is the balancing item needed so that C. equals F.

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

| | <u>June 30, 2013</u> | | |
|---|----------------------|---------------|--------------|
| A. Actuarial Value of Assets | | | \$ 868,813 |
| B. Expected Future Assets | | | |
| 1. Present value of expected future statutory supplemental contributions* | | | 298,310 |
| 2. Present value of future normal cost contributions | | | 751 |
| 3. Total expected future assets: (1.) + (2.) | | | \$ 299,061 |
| C. Total Current and Expected Future Assets (A. + B.3) | | | \$ 1,167,874 |
| D. Current Benefit Obligations** | | | |
| 1. Benefit recipients | Non-Vested | Vested | Total |
| a. Service retirements | \$ 0 | \$ 938,384 | \$ 938,384 |
| b. Disability retirements | 0 | 28,112 | 28,112 |
| c. Survivors | 0 | 155,251 | 155,251 |
| 2. Deferred retirements with augmentation | 0 | 10,344 | 10,344 |
| 3. Former members without vested rights | 0 | 0 | 0 |
| 4. Active members | 0 | 34,229 | 34,229 |
| 5. Total Current Benefit Obligations | \$ 0 | \$ 1,166,320 | \$ 1,166,320 |
| E. Expected Future Benefit Obligations | | | \$ 1,554 |
| F. Total Current and Expected Future Benefit Obligations*** | | | \$ 1,167,874 |
| G. Unfunded Current Benefit Obligations: (D.5.) - (A.) | | | \$ 297,507 |
| H. Unfunded Current and Future Benefit Obligations: (F.) - (C.) | | | \$ 0 |
| I. Accrued Benefit Funding Ratio: (A.)/(D.5.) | | | 74.49% |
| J. Projected Benefit Funding Ratio: (C.)/(F.) | | | 100.00% |

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

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

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

Development of Costs

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

| | Actuarial Present Value of Projected Benefits | Actuarial Present Value of Future Normal Costs | Actuarial Accrued Liability |
|--|---|--|--------------------------------|
| A. Determination of Actuarial Accrued Liability (AAL) | | | |
| 1. Active members | | | |
| a. Retirement annuities | \$ 34,407 | \$ 272 | \$ 34,135 |
| b. Disability benefits | 777 | 185 | 592 |
| c. Survivor's benefits | 132 | 17 | 115 |
| d. Deferred retirements | 463 | 196 | 267 |
| e. Refunds* | <u>4</u> | <u>81</u> | <u>(77)</u> |
| f. Total | \$ 35,783 | \$ 751 | \$ 35,032 |
| 2. Deferred retirements with future augmentation | 10,344 | 0 | 10,344 |
| 3. Former members without vested rights | 0 | 0 | 0 |
| 4. Annuitants | <u>1,121,747</u> | <u>0</u> | <u>1,121,747</u> |
| 5. Total | \$1,167,874 | \$ 751 | \$ 1,167,123 |
| B. Determination of Unfunded Actuarial Accrued Liability (UAAL) | | | |
| 1. Actuarial accrued liability | | | \$ 1,167,123 |
| 2. Current assets (AVA) | | | <u>868,813</u> |
| 3. Unfunded actuarial accrued liability | | | \$ 298,310 |
| C. Determination of Supplemental Contribution Rate | | | |
| 1. Current unfunded actuarial accrued liability to be amortized by June 30, 2031 | | | \$ 298,310 |
| 2. Supplemental contribution amount | | | 32,426 ** |

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

** The amortization factor as of July 1, 2013 is 9.1998.

Development of Costs

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

| | Year Ending June 30, 2013 | | |
|--|--------------------------------|----------------|---|
| | Actuarial Accrued Liability | Current Assets | Unfunded Actuarial Accrued Liability |
| A. At beginning of year | \$ 1,219,735 | \$ 842,811 | \$ 376,924 |
| B. Changes due to interest requirements and current rate of funding | | | |
| 1. Normal cost and expenses | 710 | 0 | 710 |
| 2. Benefit Payments | (137,864) | (137,864) | 0 |
| 3. Contributions | 0 | 55,873 | (55,873) |
| 4. Interest on A., B.1., B.2., and B.3. | 94,971 | 64,145 | 30,826 |
| 5. Total (B.1. + B.2. + B.3. + B.4.) | (42,183) | (17,846) | (24,337) |
| C. Expected unfunded actuarial accrued liability at end of year (A. + B.5.) | | | 352,587 |
| D. Increase (decrease) due to actuarial losses (gains) because of experience deviations from expected | | | |
| 1. Age and Service Retirements | | | 12,455 |
| 2. Disability Retirements | | | (63) |
| 3. Death-in-Service Benefits | | | 0 |
| 4. Withdrawals | | | (13,644) |
| 5. Salary increases | | | (824) |
| 6. Investment income | | | (43,848) |
| 7. Mortality of annuitants | | | (7,172) |
| 8. Other items | | | (1,181) |
| 9. Total | | | (54,277) |
| E. Unfunded actuarial accrued liability at end of year before plan amendments and changes in actuarial assumptions (C. + D.9.) | | | 298,310 |
| 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 | | | 0 |
| H. Change in unfunded actuarial accrued liability due to changes in decrement timing and miscellaneous methodology | | | 0 |
| I. Unfunded actuarial accrued liability at end of year (E. + F. + G. + H.) | | | \$ 298,310 |

Development of Costs

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

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

| | <u>Percent of Payroll</u> | <u>Dollar Amount</u> |
|--|-------------------------------|--------------------------|
| A. Statutory contributions - Chapter 353 | | |
| 1. Employee contributions | 9.75% | \$ 415 |
| 2. Employer regular contributions | 9.75% | 415 |
| 3. Employer additional contributions | 2.68% | 114 |
| <i>[2.68% plus \$3,900,000]</i> | 91.59% | 3,900 |
| 4. Employer supplemental contribution | 634.10% | 27,000 |
| 5. Employer special additional contribution** | 0.00% | 0 |
| 6. State contributions | <u>563.64%</u> | <u>24,000</u> |
| 7. Total | 1311.51% | \$ 55,844 |
| B. Required contributions - Chapter 356 | | |
| 1. Normal cost | | |
| a. Retirement benefits | 4.39% | \$ 187 |
| b. Disability benefits | 2.71% | 115 |
| c. Survivors | 0.26% | 11 |
| d. Deferred retirement benefits | 2.44% | 104 |
| e. Refunds* | 0.89% | 38 |
| f. Total | <u>10.69%</u> | <u>\$ 455</u> |
| 2. Supplemental contribution amortization of unfunded actuarial accrued liability by June 30, 2031 | 761.53% | \$ 32,426 |
| 3. Allowance for administrative expenses | 3.20% | 136 |
| 4. Allowance for 1992 investment expenses | <u>4.86%</u> | <u>207</u> |
| 5. Total | 780.28% | \$ 33,224 |
| C. Contribution Sufficiency/(Deficiency) (A.7. - B.5.) | 531.23% | \$ 22,620 |

Note: Projected annual payroll for fiscal year beginning on the valuation date: \$4,258.

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

** Based on current assets and expected benefit payments, not applicable for 2013-2014.

Actuarial Basis

Actuarial Methods

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

Actuarial Cost Method

An actuarial cost method is a set of techniques used by the actuary to develop contribution levels under a retirement plan. The actuarial cost method used in this valuation for all purposes is the Entry Age Actuarial Cost Method. Under this method, a normal cost is developed by amortizing the actuarial value of benefits expected to be received by each active participant (as a level percentage of pay) over the total working lifetime of that participant, from hire to termination. Age as of the valuation date was calculated based on the dates of birth provided by the Fund. Entry age for valuation purposes was calculated as the age on the valuation date minus the provided years of service on the valuation date.

To the extent that current assets and future normal costs do not support participants' expected future benefits, an unfunded actuarial accrued liability ("UAAL") develops. The UAAL is amortized over the statutory amortization period using level dollar. The total contribution developed under this method is the sum of normal cost, expenses, and the payment toward the UAAL.

Select and Ultimate Discount Rate Methodology

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

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

The equivalent single interest rate used in this valuation was 8.29% (8.25% last year).

Funding Objective

The fundamental financing objective of the fund is to establish contribution rates which meet the required deadline for full funding.

Decrement Timing

All decrements are assumed to occur mid-year.

Asset Valuation Method

Market value of assets.

Payment on the Unfunded Actuarial Accrued Liability

A level dollar amount each year to the statutory amortization date (June 30, 2031).

Changes in Methods since Prior Valuation

None.

Actuarial Basis

Summary of Actuarial Assumptions

The following assumptions were used in valuing the liabilities and benefits under the plan. All actuarial assumptions are prescribed by Minnesota Statutes, the Legislative Commission on Pensions and Retirement (LCPR), or the Board of Trustees. These parties are responsible for selecting the assumptions used for this valuation. The assumptions prescribed are based on the last experience study, dated September 30, 2009.

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

| | |
|--|---|
| Investment return | Select and Ultimate Rates: July 1, 2013 to June 30, 2017 8.00% per annum July 1, 2017 and later 8.50% per annum |
| Benefit increases after retirement | Payment of 1% annual cost-of-living adjustments after retirement accounted for explicitly in the projected benefits. This valuation does not reflect any potential additional benefit increases payable if the General Employees' Retirement Plan's funded ratio exceeds 90%. |
| Salary increases | Total reported pay for prior calendar year increased 1.98% (half year of 4.00%, compounded) to prior fiscal year and 4.00% annually for each future year. |
| Mortality rates | |
| Healthy pre-retirement | RP-2000 annuitant mortality table, white collar adjustment, projected to 2018 according to scale AA. |
| Healthy post-retirement | RP-2000 annuitant mortality table, white collar adjustment, projected to 2018 according to scale AA. The RP-2000 employee mortality table as published by the Society of Actuaries (SOA) contains mortality rates for ages 15 to 70 and the annuitant mortality table contains mortality rates for ages 50 to 95. We have applied the employee mortality table for annuitants younger than age 50. |
| Disabled | RP-2000 annuitant mortality table, white collar adjustment, reduced 20%. The table adopted by the LCPR on July 8, 2010 differs from the table recommended in the GRS experience study report dated September 30, 2009, and in some cases, reflects lower mortality than the table used for healthy members. |
| Retirement | Active members are assumed to retire at age 61, or immediately if currently age 61 or older. |
| Withdrawal | Rates are shown in rate table. |
| Disability | Age-related rates based on experience; see table of sample rates |
| Allowance for combined service annuity | Liabilities for active members are increased 0.2% and liabilities for former members are increased by 30.00% to account for the effect of some participants having eligibility for a Combined Service Annuity. |
| Administrative expenses | Prior year administrative expenses (excluding investment expenses) increased by 4.00% expressed as a percentage of annual projected payroll. |

Actuarial Basis

Summary of Actuarial Assumptions (Continued)

| Investment expenses | Investment expenses for the fiscal year ending June 30, 1992 are being amortized as follows: | | | | | | |
|-----------------------------------|---|--------------------------|-----------------------------|------------------------|-------------|-----------|---|
| | <table border="1"> <thead> <tr> <th><u>Beginning Balance</u></th> <th><u>Fixed Annual Payment</u></th> <th><u>Years Remaining</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">\$2,849,000</td> <td style="text-align: center;">\$207,000</td> <td style="text-align: center;">7</td> </tr> </tbody> </table> | <u>Beginning Balance</u> | <u>Fixed Annual Payment</u> | <u>Years Remaining</u> | \$2,849,000 | \$207,000 | 7 |
| <u>Beginning Balance</u> | <u>Fixed Annual Payment</u> | <u>Years Remaining</u> | | | | | |
| \$2,849,000 | \$207,000 | 7 | | | | | |
| Refund of contributions | Account balances accumulate interest until normal retirement date and are discounted back to the valuation date. All employees withdrawing after becoming eligible for a deferred benefit take the larger of their contributions accumulated with interest or the value of their deferred benefit. | | | | | | |
| Commencement of deferred benefits | Members receiving deferred annuities (including current terminated deferred members) are assumed to begin receiving benefits at age 60. | | | | | | |
| Percentage married | 66.67% of active members are assumed to be married. Actual marital status is used for members in payment status. | | | | | | |
| Age of spouse | Females are assumed to be three years younger than their male spouses. For members in payment status, actual spouse date of birth is used, if provided. | | | | | | |
| Eligible children | Retiring members are assumed to have no dependent children. | | | | | | |
| Form of payment | Members are assumed to elect a life annuity. | | | | | | |
| Eligibility testing | Eligibility for benefits is determined based upon the age nearest birthday and service on the date the decrement is assumed to occur. | | | | | | |
| Decrement operation | Withdrawal decrements do not operate during retirement eligibility. | | | | | | |
| Service credit accruals | It is assumed that members accrue one year of service credit per year. | | | | | | |
| Unknown data for certain members | To prepare this report, GRS has used and relied on participant data supplied by the Fund. Although GRS has reviewed the data in accordance with Actuarial Standards of Practice No. 23, GRS has not verified or audited any of the data or information provided. | | | | | | |
| | In cases where submitted data was missing or incomplete, the following assumptions were applied: | | | | | | |
| | There were no members with missing genders or dates of birth. | | | | | | |
| | <u>Data for active members:</u> | | | | | | |
| | Salary and service for calendar year ending December 31, 2012 were not provided for active members. At PERA's direction, we used prior year's salary, with no increase, and prior year's service, increased by one year. | | | | | | |
| | <u>Data for terminated members:</u> | | | | | | |
| | We calculated benefits for these members using the reported Average Salary and credited service. If data was missing, we relied upon the 2012 valuation data for terminated members. For new terminated members, if credited service was reported as unchanged from the prior valuation (two members), we used the service as of the prior valuation increased by one year. If average salary was not reported (two members), we used the average salary from the 2012 valuation. | | | | | | |
| | <u>Data for Retired members:</u> | | | | | | |
| | There was one survivor reported with an expired benefit. This member was excluded from the valuation and the enclosed exhibits. | | | | | | |
| Changes in actuarial assumptions | None. | | | | | | |

Actuarial Basis

Summary of Actuarial Assumptions (Concluded)

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

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

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

Actuarial Basis

Summary of Plan Provisions

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

| | |
|---------------------------|--|
| Plan year | July 1 through June 30. |
| Eligibility/employee rule | <p>An employee of the City of Minneapolis, the Metropolitan Airports Commission, the Met Council/Environmental Services, the Municipal Employees Retirement Fund, and Special School District No. 1 if covered prior to July 1, 1978. Employees covered July 1, 1978 or later are covered by the Public Employees Retirement Association (PERA) Plan.</p> <p>Effective July 1, 1992, licensed peace officers and firefighters who are employed by the Metropolitan Airports Commission and covered by the Minneapolis Employees Retirement Fund will receive the greater of retirement, disability, or survivor benefits under:</p> <p>a) The Minneapolis Employees Retirement Fund; or</p> <p>b) The Public Employees Retirement Association (PERA) Police & Fire Plan.</p> |
| Full consolidation | <p>Per Statute, if the actuarial accrued liability funding ratio of this plan reaches 80%, the MERF Division will be merged with the PERA General Employees Retirement Plan, effective the first day of the month after the actuarial valuation report that triggers the consolidation is provided to the LCPR. Upon consolidation, the remaining unfunded liability will be amortized as a level dollar amount through June 30, 2031. The amortization payment will be based on the assumptions of the PERA General Employees Retirement Plan.</p> |

Actuarial Basis

Summary of Plan Provisions (Continued)

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

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

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

Employer Supplemental Contribution – first due after June 30, 2012 and paid until full consolidation. Equal to the larger of:

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

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

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

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

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

Actuarial Basis

Summary of Plan Provisions (Continued)

| State contributions | Equal to the actuarial required contribution minus expected member and employer regular and additional contributions. The State's contribution cannot exceed the following amounts: | | | | | | | | | | |
|----------------------------------|--|----------|--|--------------------|--------------|--------------------|---------------|--------------------|---------------|-------------------------------|---------------|
| | <table border="1"> <thead> <tr> <th>Due Date</th> <th></th> </tr> </thead> <tbody> <tr> <td>September 15, 2010</td> <td>\$ 9,000,000</td> </tr> <tr> <td>September 15, 2011</td> <td>\$ 22,750,000</td> </tr> <tr> <td>September 15, 2012</td> <td>\$ 22,750,000</td> </tr> <tr> <td>September 15, 2013 and beyond</td> <td>\$ 24,000,000</td> </tr> </tbody> </table> | Due Date | | September 15, 2010 | \$ 9,000,000 | September 15, 2011 | \$ 22,750,000 | September 15, 2012 | \$ 22,750,000 | September 15, 2013 and beyond | \$ 24,000,000 |
| Due Date | | | | | | | | | | | |
| September 15, 2010 | \$ 9,000,000 | | | | | | | | | | |
| September 15, 2011 | \$ 22,750,000 | | | | | | | | | | |
| September 15, 2012 | \$ 22,750,000 | | | | | | | | | | |
| September 15, 2013 and beyond | \$ 24,000,000 | | | | | | | | | | |
| | The State's contributions end on the earlier of September 15, 2031, or in the year following the first date on which MERF assets equal or exceed MERF actuarial accrued liability. | | | | | | | | | | |
| Allowable service | Service during which member contributions were made. Allowable Service may also include certain leaves of absence, military service and service prior to becoming a member. Allowable service also includes time on duty disability provided that the member returns to active service if the disability ceases. | | | | | | | | | | |
| Salary | All amounts of salary, wages or compensation. | | | | | | | | | | |
| Average salary | Average of the five highest calendar years of salary out of the last ten calendar years. | | | | | | | | | | |
| Retirement | | | | | | | | | | | |
| <u>Normal retirement benefit</u> | | | | | | | | | | | |
| Age/service requirement | Age 60 and 10 years of employment. Any age with 30 years of employment. Proportionate retirement annuity is available at age 65 and 1 year allowable service. | | | | | | | | | | |
| Amount | 2.00% of average salary for the first 10 years of allowable service plus 2.50% of average salary for each subsequent year of allowable service. | | | | | | | | | | |

Actuarial Basis

Summary of Plan Provisions (Continued)

Disability

Disability benefit

Age/service requirement Total and permanent disability before age 60 with five years of allowable service, or no allowable service if a work-related disability.

Amount 2.00% of average salary for the first 10 years of disability service plus 2.50% of average salary for each subsequent year of disability service. Disability service is the greater of (a) or (b) where:

- (a.) equals allowable service plus service projected to age 60, subject to a maximum of 22 years, and
- (b.) equals allowable service.

Benefit is reduced by Workers' Compensation benefits.

Payments stop at age 60 or earlier if disability ceases or death occurs. Benefits may be reduced on resumption of partial employment.

Disability after separation

Age/service requirement Total and permanent disability after electing to receive a retirement benefit but before age 60.

Amount Actuarial equivalent of total credit to member's account.

Retirement after disability

Age/service requirement Total and permanent disability after electing to receive a retirement benefit but before age 60. Employee is still disabled after age 60.

Amount Benefit continues according to the option selected.

Actuarial Basis

Summary of Plan Provisions (Continued)

Death

Pre-retirement survivor's spouse benefit

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

Pre-retirement survivor's spouse annuity

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

Refund of accumulated city contributions

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

Lump sum

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

Refund of member contributions at death

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

Actuarial Basis

Summary of Plan Provisions (Concluded)

Termination

Deferred benefit

Age/service requirement Three years of allowable service.

Amount Benefit computed under law in effect at termination and increased by the following percentage (augmentation), compounded annually:

- (a.) 0.00% prior to July 1, 1971,
- (b.) 5.00% from July 1, 1971 to January 1, 1981, and
- (c.) 3.00% thereafter until the annuity begins.

Amount is payable at or after age 60.

Refund of member contributions upon termination

Age/service requirement Termination of public service.

Amount Member's contributions with interest. A deferred annuity may be elected in lieu of a refund if vested.

Form of payment

- Life annuity.
- Life annuity with 3, 5, 10 or 15 years guaranteed.
- Life annuity with lump sum death benefit.
- Joint & Survivor (with or without bounce back feature).

Optional form conversion factors

1986 PET mortality table with a one year setback, blended 50% male and 50% female, and 5% interest.

Two dollar bill and annuity

Optional Two Dollar Bill money purchase annuity available at age 55 with 20 years of service if member had service prior to June 28, 1973. According to PERA, this option is rarely utilized. We have assumed that remaining active members will not elect this optional benefit.

Benefit increases

Benefit recipients receive future annual 1.0% benefit increases. If the accrued liability funding ratio of the General Employees Retirement Plan reaches 90% (on a market value of assets basis) for two consecutive years, the benefit increase will change to 2.5%. If, after reverting to a 2.5% benefit increase, the funding ratio declines to less than 80% for one year or less than 85% for two consecutive years, the benefit increase will decrease to 1.0%.

Changes in plan provisions

The funding ratio threshold that must be attained in the General Employees Retirement Plan to pay a 2.5% postretirement benefit increase to benefit recipients was changed from 90% for one year to 90% for two consecutive years. The funding ratio threshold that determines when a 1.0% postretirement benefit increase must be paid was changed from less than 90% for one year to less than 80% for one year or less than 85% for two consecutive years.

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

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

Schedule of Funding Progress¹ (Dollars in Thousands)

| Actuarial Valuation Date | Actuarial Value of Assets (a) | Actuarial Accrued Liability (AAL) (b) | Liquidity Trigger Adjustment (LTA) (c) | Unfunded (Overfunded) AAL (UAAL) (b) + (c) - (a) | Funded Ratio (a)/[(b) + (c)] | Actual Covered Payroll (Previous FY) (d) | UAAL as a Percentage of Covered Payroll (b) + (c) - (a) (d) |
|--------------------------|-------------------------------|---------------------------------------|--|--|------------------------------|--|---|
| 7-1-2002 | \$ 1,540,221 | \$ 1,667,871 | N/A | \$ 127,650 | 92.35 % | \$ 43,461 | 293.71 % |
| 7-1-2003 | 1,519,421 | 1,645,921 | N/A | 126,500 | 92.31 | 40,537 | 312.06 |
| 7-1-2004 | 1,513,389 | 1,643,140 | N/A | 129,751 | 92.10 | 33,266 | 390.04 |
| 7-1-2005 | 1,489,713 | 1,624,355 | N/A | 134,642 | 91.71 | 27,479 | 489.98 |
| 7-1-2006 | 1,490,280 | 1,617,653 | N/A | 127,373 | 92.13 | 21,669 | 587.82 |
| 7-1-2007 | 1,383,742 | 1,610,881 | N/A | 227,139 | 85.90 | 17,296 | 1,313.27 |
| 7-1-2008 | 1,214,305 | 1,576,855 | \$ 12,135 | 374,685 | 76.42 | 13,957 | 2,684.64 |
| 7-1-2009 | 880,133 | 1,551,099 | 23,912 | 694,878 | 55.88 | 10,979 | 6,328.96 |
| 7-1-2010 ² | 844,033 | 1,286,151 | N/A | 442,118 | 65.62 | 11,090 | 3,986.64 |
| 7-1-2011 ² | 910,987 | 1,238,703 | N/A | 327,716 | 73.54 | 7,869 | 4,164.65 |
| 7-1-2012 ² | 842,811 | 1,219,735 | N/A | 376,924 | 69.10 | 5,785 ³ | 6,515.54 |
| 7-1-2013 ² | 868,813 | 1,167,123 | N/A | 298,310 | 74.44 | 4,369 ³ | 6,827.88 |

¹ Information prior to 2012 provided by prior actuary. See prior reports for additional detail.

² Actuarial value of assets set equal to market value.

³ Assumed equal to actual member contributions divided by 9.75%.

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

Schedule of Contributions from the Employer and Other Contributing Entities¹ (Dollars in Thousands)

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

| Plan Year Ended June 30 | Actuarially Required Contribution Rate (a) | Actual Covered Payroll (b) | Actual Member Contributions (c) | Annual Required Contributions [(a)x(b)] - (c) = (d) | Actual Employer Contributions (e) | Percentage Contributed (e)/(d) |
|-------------------------------|--|----------------------------------|--|---|---|--------------------------------------|
| 2002 | 41.78 % | \$ 43,461 | \$ 4,780 | \$ 13,378 | \$ 21,158 | 158.16% |
| 2003 | 46.64 | 40,537 | 4,167 | 14,739 | 40,199 | 272.73 |
| 2004 | 52.49 | 33,266 | 3,343 | 14,118 | 45,459 | 321.98 |
| 2005 | 63.95 | 27,479 | 3,087 | 14,478 | 19,395 | 133.96 |
| 2006 | 75.07 | 21,669 | 2,312 | 13,955 | 44,953 | 322.14 |
| 2007 | 95.33 | 17,296 | 1,665 | 14,823 | 28,545 | 192.58 |
| 2008 | 187.33 | 13,957 | 1,431 | 24,714 | 15,272 | 61.79 |
| 2009 | 374.32 | 10,979 | 1,072 | 40,026 | 15,646 | 39.09 |
| 2010 | 833.55 | 11,090 | 1,081 | 91,360 | 13,798 | 15.10 |
| 2011 | 538.76 | 7,869 | 767 | 41,628 | 27,855 | 66.91 |
| 2012 | 525.50 | 5,785 ² | 564 | 29,836 | 54,373 | 182.24 |
| 2013 | 775.33 | 4,369 ² | 426 | 33,448 | 55,447 | 165.77 |
| 2014 | 780.29 | | | | | |

¹ Information prior to 2012 provided by prior actuary. See prior reports for additional detail.

² Assumed equal to actual member contributions divided by 9.75%.

Glossary of Terms

| | |
|---|--|
| <i>Accrued Benefit Funding Ratio</i> | The ratio of assets to Current Benefit Obligations. |
| <i>Accrued Liability Funding Ratio</i> | The ratio of assets to Actuarial Accrued Liability. |
| <i>Actuarial Accrued Liability (AAL)</i> | The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs. |
| <i>Actuarial Assumptions</i> | Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members; and other items. |
| <i>Actuarial Cost Method</i> | A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of future Normal Costs and the Actuarial Accrued Liability. |
| <i>Actuarial Equivalent</i> | Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions. |
| <i>Actuarial Present Value (APV)</i> | The amount of funds required to provide a payment or series of payments in the future. It is determined by discounting the future payments with an assumed interest rate and with the assumed probability each payment will be made. |
| <i>Actuarial Present Value of Projected Benefits</i> | The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits, and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due. |
| <i>Actuarial Valuation</i> | The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 25, such as the Funded Ratio and the Annual Required Contribution (ARC). |
| <i>Actuarial Value of Assets</i> | The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution (ARC). |

Glossary of Terms (Continued)

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

Glossary of Terms (Concluded)

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| <i>GASB</i> | Governmental Accounting Standards Board. |
| <i>GASB No. 25 and GASB No. 27</i> | These are the governmental accounting standards that set the accounting rules for public retirement systems and the employers that sponsor or contribute to them. Statement No. 27 sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 25 sets the rules for the systems themselves. |
| <i>GASB No. 50</i> | The accounting standard governing a state or local governmental employer's accounting for pensions. |
| <i>GASB No. 67 and GASB No. 68</i> | Statements No. 67 and No. 68, issued in June 2012, replace the requirements of Statements No. 25 and No. 27, respectively. Statement No. 68, effective for the fiscal year beginning July 1, 2014, sets the accounting rules for the employers that sponsor or contribute to public retirement systems, while Statement No. 67, effective for the fiscal year beginning July 1, 2013, sets the rules for the systems themselves. Accounting information prepared according to Statements No. 67 and No. 68 will be provided in a separate report. |
| <i>Normal Cost</i> | The annual cost assigned, under the Actuarial Cost Method, to the current plan year. |
| <i>Projected Benefit Funding Ratio</i> | The ratio of the sum of Actuarial Value of Assets and Expected Assets to the Actuarial Present Value of Projected Benefits. |
| <i>Unfunded Actuarial Accrued Liability</i> | The difference between the Actuarial Accrued Liability and Actuarial Value of Assets. |
| <i>Valuation Date</i> | The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date. |