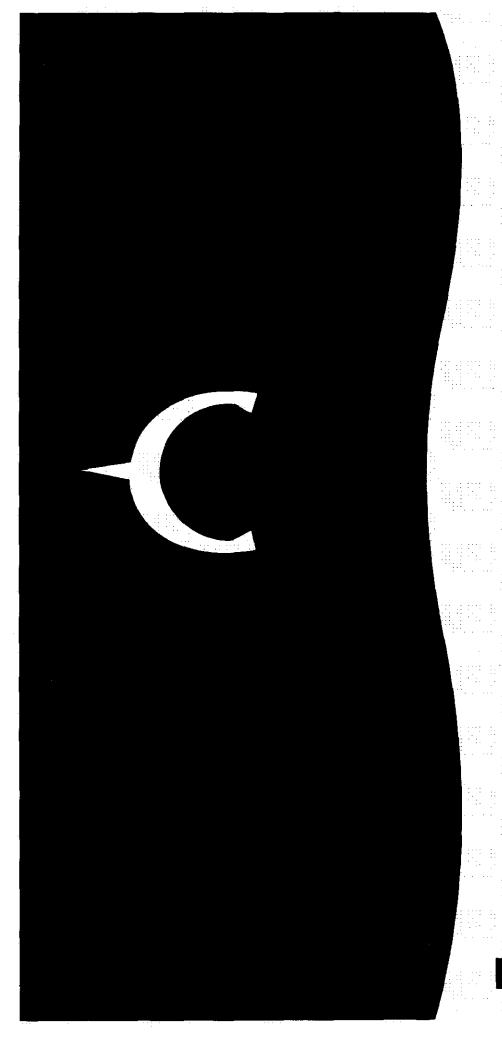
## V. Pension Plan Exhibits

(p) Missouri Employees' Retirement System Actuarial Valuation Report (as of May 1, 2010)



City of Kansas City, Missouri Employees' Retirement System

Actuarial Valuation as of May 1, 2010

**Produced by Cheiron** 

September 2010



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#### LETTER OF TRANSMITTAL

September 20, 2010

Board of Pension Trustees City of Kansas City, Missouri Employees' Retirement System 12<sup>th</sup> Floor, City Hall 414 East 12<sup>th</sup> Street Kansas City, MO 64106

Dear Members of the Board:

At your request, we have conducted an actuarial valuation of the City of Kansas City, Missouri Employees' Retirement System (KCERS) as of May 1, 2010. The valuation is organized as follows:

- In Section I **Board Summary** we describe the purpose of an actuarial valuation and summarize the key results found in this valuation;
- The **Main Body** of the report presents details on the System's:
  - o Section II Assets
  - o Section III Liabilities
  - o Section IV Contributions
  - o Section V Required Accounting Disclosures (GASB)
- In the **Appendices** we conclude our report with detailed information describing the System's membership (Appendix A), actuarial assumptions and methods employed (Appendix B), and a summary of pertinent plan provisions (Appendix C).

The results of this report rely on future plan experience conforming to the underlying assumptions. To the extent that actual plan experience deviates from the underlying assumptions, the results would vary accordingly.

In preparing our report, we relied without audit, on information supplied by KCERS' staff. This information includes, but is not limited to, plan provisions, employee data, and financial information. In addition, we certify that, to the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices which are consistent with the Code of Professional Conduct and applicable Actuarial Standards of Practice as set out by the Actuarial Standards Board.

Finally, as Members of the American Academy of Actuaries, we certify that we meet the Qualification Standards to render the opinions contained in this report.

Sincerely, Cheiron

Stephen McElhaney, FSA, MAAA

Consulting Actuary

Katie Dobbs, FSA, MAAA

Actuary

#### SECTION I BOARD SUMMARY

The primary purpose of the actuarial valuation and this report is to measure, describe and identify as of the valuation date:

- The financial condition of the System,
- Past and expected trends in the financial progress of the System,
- The City's contributions for Fiscal Year Ending 2011, and
- Information required by the Governmental Accounting Standards Board (GASB).

In the balance of this Board Summary we present (A) the basis upon which this year's valuation was completed, (B) the key findings of this valuation including a summary of all key financial results, (C) an examination of the historical trends, and (D) the projected financial outlook for the System.

#### A. Valuation Basis

This May 1, 2010 valuation represents Cheiron's fourth valuation performed for KCERS and there have been no changes since the prior year, therefore the methodology, plan provisions, and assumptions reflected in this valuation are the same as in the May 1, 2009 valuation.

#### **B.** Key Findings of this Valuation

The key results of the May 1, 2010 actuarial valuation are as follows:

- The actuarially determined City contribution rate decreased from 18.47% as of May 1, 2009 to 18.04% as of May 1, 2010. The actual rate that the City is scheduled to use for the current year is 12.12% of payroll. We believe that such rate will need to be increased in the future to sustain the system over the long term.
- The Employees' Retirement System's (ERS) unfunded actuarial liability decreased from \$263 million on May 1, 2009 to \$245 million on May 1, 2010.
- The ERS's funding ratio, the ratio of actuarial asset value over liabilities increased from 72.8% as of May 1, 2009 to 75.3% as of May 1, 2010.
- The primary factors in the improvement of the Plan's funded status was an overall experience gain of \$31.2 million.
  - O During the year ended April 30, 2010, the System's assets earned 28.14% on a market value basis. The return on the actuarial asset value was 9.24% (as compared to 7.50% assumed). This resulted in an actuarial gain on investments of \$15.2 million.

<sup>&</sup>lt;sup>1</sup> The scheduled contribution for General Employees is 9.50% of payroll plus an additional 2.53% of payroll through April 30, 2013 for the early retirement window. The scheduled contribution for Judges and Elected Officials is 19.50% of payroll.



#### SECTION I BOARD SUMMARY

- On the liability side, the System experienced an actuarial gain of \$16.0 million. The majority of this gain was due to salary increases less than expected, resulting in a gain of \$17.2 million.
- The valuation does not include benefits for employees previously employed by a private ambulance company (known as "MAST") since the plan has not yet been formally amended for this group.

#### SECTION I BOARD SUMMARY

Following is Table I-1 which summarizes all the key results of the valuation with respect to the System's membership, assets and liabilities, and contributions. The results are presented and compared for both the current and prior plan year.

| TABLE I-1   |          |  |          |  |   |  |
|---|----------|--|----------|--|---|--|
| City of Kansas City, Missouri Employees' Retirement System Summary of Principal Plan Results                                    |          |  |          |  |   |  |
| Valuation as of:  |          | леграг 1 гап Кс<br>Лау 1, 2009                     |          | Iay 1, 2010  | % Change  |  |
| Participant Counts  |          |  |          |  |   |  |
| Active Participants Disabled Participants Retirees and Beneficiaries Terminated Vested Participants Inactive Participants Total | _        | 3,400<br>16<br>2,001<br>79<br>292<br><b>5,788</b>  |          | 3,291<br>15<br>2,003<br>84<br>99<br><b>5,492</b>   | (3.21%)<br>(6.25%)<br>0.10%<br>6.33%<br>(66.10%)<br>(5.11%) |  |
|   | •        | f  | •        | •  | ` ,   |  |
| Annual Salaries of Active Members  Annual Retirement Allowances for Retired  Members and Beneficiaries <sup>1</sup>             | \$<br>\$ | 160,200,649<br>39,369,539                          | \$<br>\$ | 153,948,044<br>41,371,742                          | (3.90%)<br>5.09%  |  |
| Assets and Liabilities Actuarial Liability (AL) Actuarial Value of Assets Unfunded Actuarial Liability (UAL) Funded Ratio       | \$<br>   | 966,779,322<br>704,069,429<br>262,709,893<br>72.8% | \$<br>\$ | 994,767,684<br>749,551,649<br>245,216,035<br>75.3% | 2.90%<br>6.46%<br>(6.66%)                                   |  |
| Present Value of Accrued Benefits (PVAB) Market Value of Assets Unfunded PVAB Accrued Benefit Funding Ratio                     | \$<br>   | 834,564,907<br>640,063,117<br>194,501,790<br>76.7% | \$<br>\$ | 873,407,319<br>795,328,534<br>78,078,785<br>91.1%  | 4.65%<br>- 24.26%<br>(59.86%)                               |  |
| Contributions as a Percentage of Payroll Normal Cost Rate Unfunded Actuarial Liability Rate Total City Contribution Rate        | Fiso     | 9.14%<br>9.33%<br>18.47%                           | Fisc     | 8.88%<br>9.16%<br>18.04%                           |   |  |
| Annual Required Contribution (GASB)   | \$       | 29,589,060   | \$       | 27,772,227   | -6.14%  |  |

<sup>&</sup>lt;sup>1</sup> The annual retirement allowances do not include the subsidy benefits.

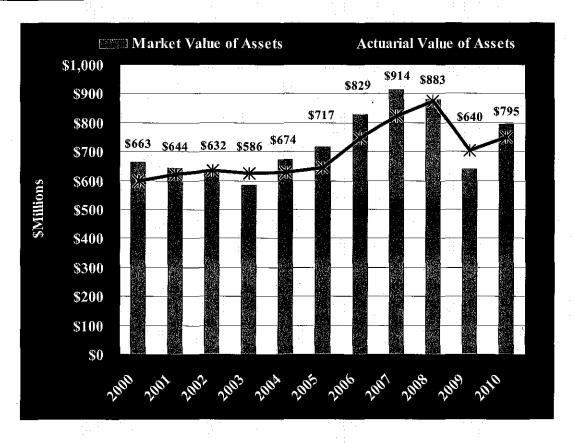


#### SECTION I BOARD SUMMARY

#### C. Historical Trends

Despite the fact that for most retirement systems the greatest attention is given to the current valuation results and in particular the size of the current unfunded actuarial liability and the City's contribution, it is important to remember that each valuation is merely a snapshot in the long-term progress of a pension fund. It is more important to judge a current year's valuation result relative to historical trends, as well as trends expected into the future.

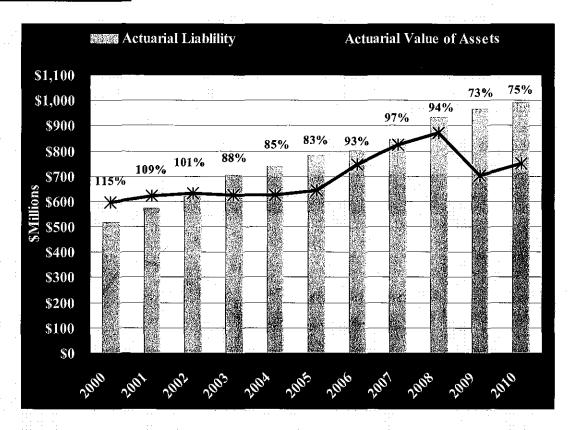
#### System Assets



There was a market value of assets (MVA) gain on investments in 2010, returning 28.14%, increasing from \$640 million to \$795 million. With the asset smoothing method in place, the actuarial value of assets has tracked a slightly smoother path through the volatility of the market value of assets. As can be seen in the graph, the actuarial value of assets (AVA) also increased from 2009 to 2010 returning 9.24% due to recent market gains.

#### SECTION I BOARD SUMMARY

#### **Assets and Liabilities**

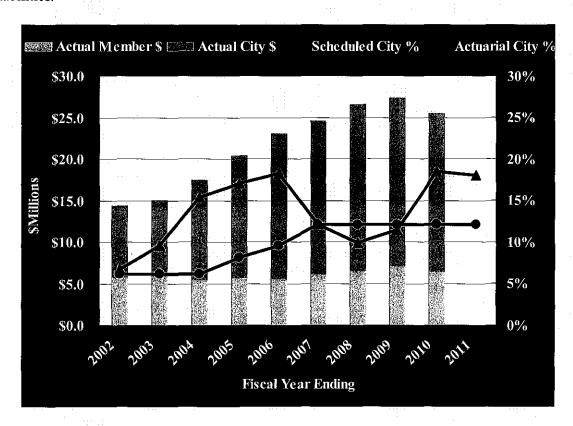


The above chart compares the actuarial value of assets to the actuarial liabilities as well as the funded ratio, sometimes referred to as the benefit security ratio. This chart shows that last year the System had its lowest funded ratio in the past 10 years, but has since increased.

#### SECTION I BOARD SUMMARY

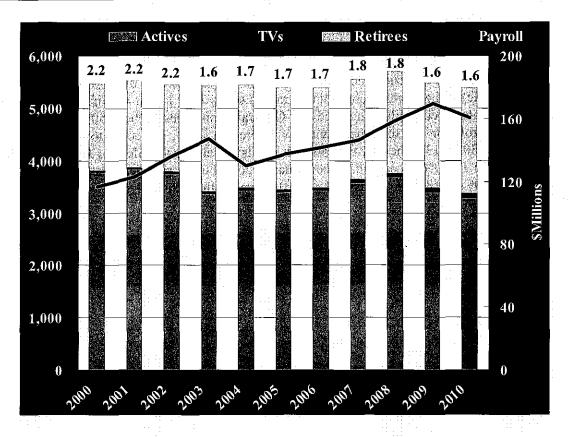
#### **Contribution Rates**

The stacked bars in this graph show the dollar amount of contributions made by the City and the members (depicted on the left hand scale) since Fiscal Year Ending 2002. The green line shows the City's actuarial contribution rate as a percent of payroll (depicted on the right hand scale). The black line shows the scheduled City contribution rate as a percent of payroll (depicted on the right hand scale). The member contribution rate is set by City law at 4% of payroll. The City contribution rate is currently scheduled for General Employees to be 9.50% of payroll plus 2.53% of payroll for the retirement window offered in 2003, projected to be paid annually through April 30, 2013. The City contribution rate is currently scheduled for Judges and Elected Officials to be 19.50% of payroll. The actuarial contribution rate decreased from 18.47% of payroll in 2009 to 18.04% of payroll in 2010 due to the actuarial gain on plan assets and liabilities.



#### SECTION I BOARD SUMMARY

#### Participant Trends



The above chart provides a measure for the maturity in the plan, by comparing the ratio of active members to inactive members (retirees and terminated-vesteds). The active-to-inactive ratio has declined since 2000 from 2.2 actives supporting each inactive member to 1.6 actives supporting each inactive member today.

#### SECTION I BOARD SUMMARY

#### D. Future Expected Financial Trends

The analysis of projected financial trends is perhaps the most important component of this valuation. In this Section, we present the implications of the May 1, 2010 valuation results in terms of (1) the projected City's contributions and (2) projected System's funded status (ratio of assets over liabilities). For each projection set we assume three future different investment return scenarios: baseline returns of 7.50%, optimistic returns of 9.00%, and pessimistic returns of 6.00%. Finally, since the City has historically contributed on the basis of a "scheduled cost<sup>1</sup>," we also show the impact on these projections if the City were to contribute the actuarially computed rate that comes out of each valuation as described in Sec IV. As can be seen in the charts that follow, the difference in the System's projected financial status, between paying the scheduled cost and the actuarially computed costs, are very dramatic.

#### 1. Contribution Rate Projections

The first set of charts show the City's scheduled cost (black line), the GASB Minimum cost (pink line) which is Normal cost plus 30 year amortization of the UAL (shown for comparison purposes), and the actual City contribution rate (gold bars). The years shown in the charts are plan years beginning May 1<sup>st</sup>.

The scheduled City contribution is 9.5%, plus an additional 2.53% for the retirement window offered in 2003, of anticipated payroll for General Employees and 19.5% of anticipated payroll for Judges and Elected Officials.



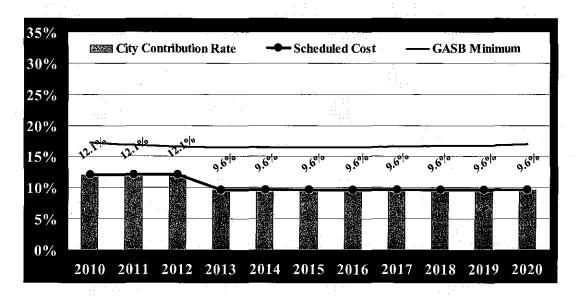
#### SECTION I BOARD SUMMARY

#### a. assuming the City always pays the scheduled cost

These graphs show a comparison of the scheduled contribution rate and the GASB minimum assuming that the City always pays the current scheduled contribution rate.

#### Baseline returns of 7.50%

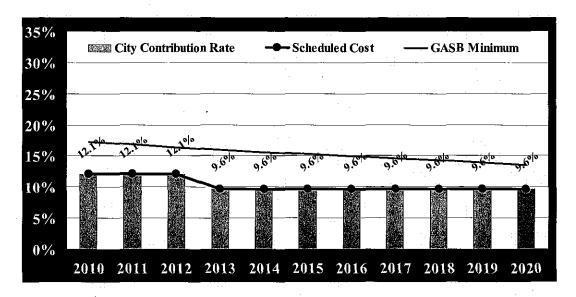
The chart below shows that the scheduled cost will decrease from 12.1% to 9.6% of pay in 2013 while the GASB minimum rate will hover around 16.5% through the next 10 years assuming that the fund earns the assumed investment rate of 7.5% on market value.



#### SECTION I BOARD SUMMARY

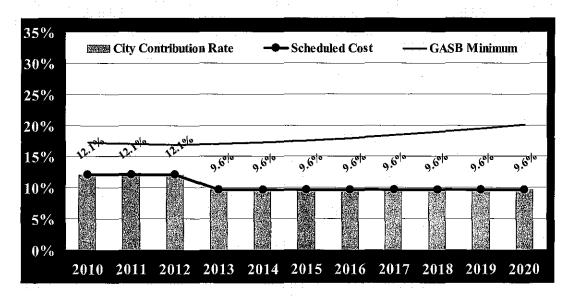
#### Optimistic returns of 9.00%

If the fund earns 1.50% greater than the assumed rate, the GASB minimum gradually decreases from 17% to about 13.5% over next 10 years.



#### Pessimistic returns 6.00%

If the fund earns 1.50% less than the assumed rate, the GASB Minimum rate reaches 20% of pay by the end of the ten year period.





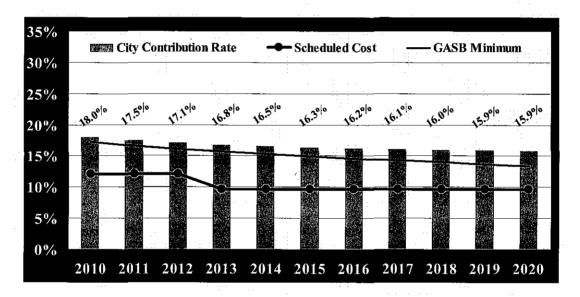
#### SECTION I BOARD SUMMARY

#### b. assuming the City always pays the actuarially computed contribution

These graphs show a comparison of the scheduled contribution rate and the GASB minimum assuming that the City always pays the actuarially computed contribution under the Board's funding policy.

#### Baseline returns of 7.50%

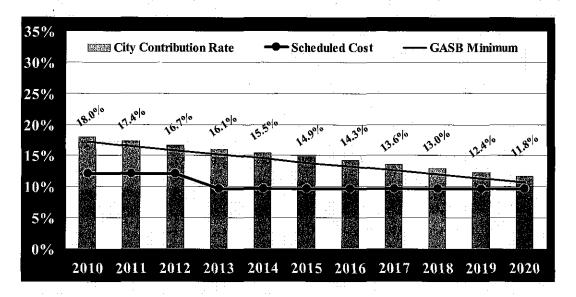
The chart below shows that the actuarially computed contribution will decrease from 18.0% to 15.9% of pay and will be slightly above the GASB minimum rate through 2020 assuming that the fund earns the assumed investment rate of 7.5% on market value.



#### SECTION I BOARD SUMMARY

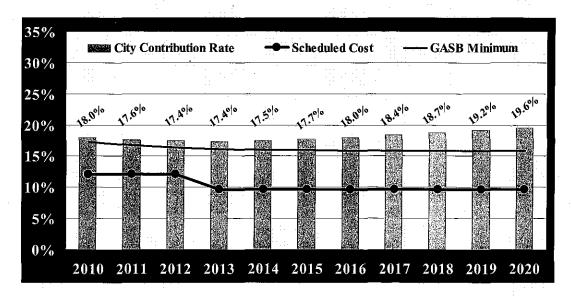
#### Optimistic returns of 9.00%

If the fund earns 1.50% greater than the assumed rate, the actuarially computed contribution decreases gradually to below 12% of pay by the end of the ten year period.



#### Pessimistic returns 6.00%

If the fund earns 1.50% less than the assumed rate, the actuarially computed contribution increases to over 19% of pay by the end of the ten year period.



#### SECTION I BOARD SUMMARY

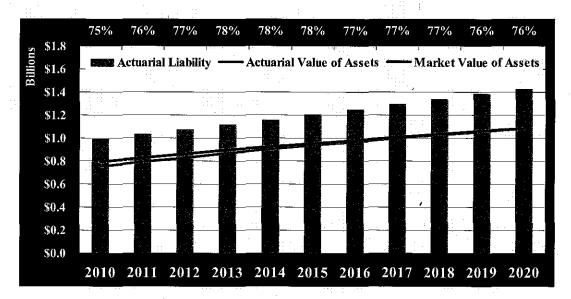
#### 2. Asset and Liability Projections:

This next set of projection charts compare the market value of assets (green line) and the actuarial or smoothed value of assets (gold line) to the System's actuarial liabilities (gray bars). In addition at the top of each chart, we show the System's funded ratio (ratio of actuarial value of assets to actuarial liabilities). The years shown in the chart are plan years beginning May 1<sup>st</sup>.

#### a. assuming the City always pays the scheduled cost

#### Baseline 7.50% return

Assuming that the fund earns the assumed investment rate of 7.5% and that the City continues to contribute the current scheduled contributions rate of 12.1% of pay (declining to 9.6% of pay in 2013), the funded ratio will remain fairly level over the next 10 years.

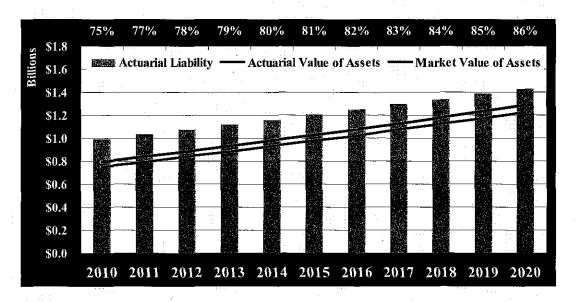




#### SECTION I BOARD SUMMARY

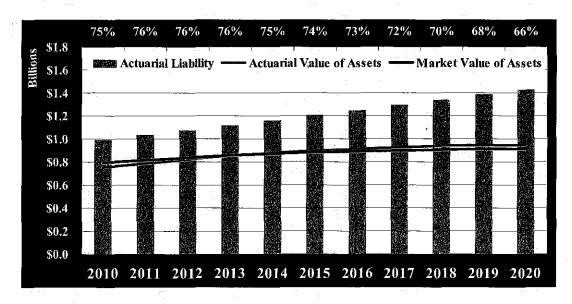
#### **Optimistic Returns of 9.00%**

If the fund earns 1.50% greater than the assumed rate of return the funded ratio will increase to 86% over the next 10 years.



#### Pessimistic Returns of 6.00%

If the fund earns 1.50% less than the assumed rate of return, the funded ratio will decrease to 66% by the end of the ten year period.

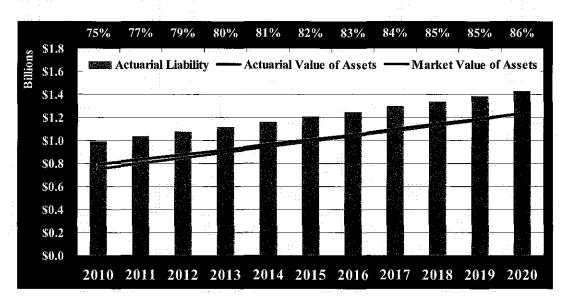


#### SECTION I BOARD SUMMARY

b. assuming the City always pays the actuarially computed contribution

#### Baseline 7.50% return

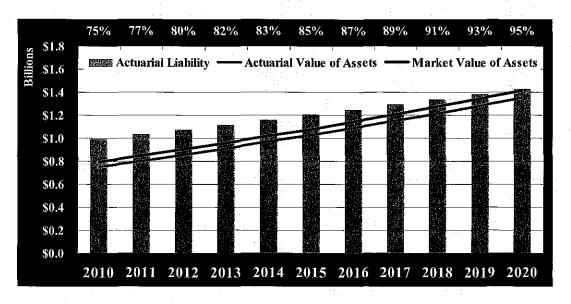
If the City pays the actuarial computed contribution amount and if fund earns the assumed investment return of 7.50%, then the funded ratio will gradually increase to 86% over the next 10 years.



#### SECTION I BOARD SUMMARY

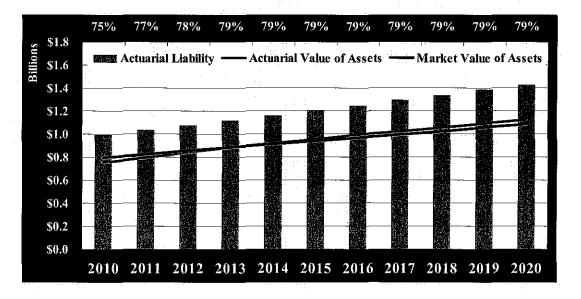
#### **Optimistic Returns of 9.00%**

If the fund earns 1.50% in excess of the assumed rate of return, the funded ratio will begin increasing to a greater extent than above, exceeding 95% by the end of the ten year period.



#### Pessimistic Returns of 6.00%

If the fund earns 1.50% less than the assumed rate of return, then the funded ratio would increase slightly and remain at 79% for most of the next 10 years.



## SECTION II ASSETS

Pension Plan assets play a key role in the financial operation of the System and in the decisions the Trustees may make with respect to future deployment of those assets. The level of assets, the allocation of assets among asset classes, and the methodology used to measure assets will likely impact benefit levels, City contributions, and the ultimate security of participants' benefits.

In this section, we present detailed information on the System assets including:

- **Disclosure** of the System assets as of May 1, 2009 and May 1, 2010;
- Statement of the changes in market values during the year;
- Development of the Actuarial Value of Assets;
- An assessment of investment performance; and
- A projection of the System's expected cash flows for the next ten years.

#### **Disclosure**

There are two types of asset values disclosed in this valuation, the market value of assets and the actuarial value of assets. The market value represents a "snap-shot" or "cash-out" value which provides the principal basis for measuring financial performance from one year to the next. Market values, however, can fluctuate widely with corresponding swings in the marketplace. As a result, market values are usually not as suitable for long-range planning as are the actuarial value of assets which reflect smoothing of annual investment returns.

Table II-1 below discloses and compares each asset value as of April 30, 2009 and 2010.

| TABLE II-1 Statement of Assets at Market Value as of April 30, |                |                |          |  |  |  |
|--|----------------|----------------|----------|--|--|--|
| Assets   | 2009           | 2010           | % Change |  |  |  |
| Cash   | \$ 23,789,683  | \$ 19,526,496  | (17.92%) |  |  |  |
| Stock and Collective Trusts                                    | 631,672,324    | 784,902,402    | 24.26%   |  |  |  |
| Accounts Receivable  | 8,278,711      | 34,062,375     | 311.45%  |  |  |  |
| Interest and Dividends   | 1,386,429      | 1,225,040      | (11.64%) |  |  |  |
| Contributions Receivable                                       | 1,399,399      | 1,439,191      | 2.84%    |  |  |  |
| Expenses   | (1,542,048)    | (854,327)      | (44.60%) |  |  |  |
| Purchase of Investments  | (24,921,381)   | (44,972,643)   | 80.46%   |  |  |  |
| Market Value of Assets   | \$ 640,063,117 | \$ 795,328,534 | 24.26%   |  |  |  |



#### SECTION II ASSETS

### Changes in Market Value

Table II-2 below shows the components of change between the market value of assets as of April 30, 2009 and April 30, 2010.

|                               | T<br>Change: | TABLE<br>s in Ma |           | alues        |                   |
|-------------------------------|--------------|------------------|-----------|--------------|-------------------|
| Value of Assets – April 30, 2 | 2009         | 1                |           | <u> </u>     | \$<br>640,063,117 |
|                               |              |                  |           |              |                   |
| Additions                     |              |                  |           | •            |                   |
| Member Contributions          |              |                  | . \$      | 6,331,891    |                   |
| Employer Contributions        |              |                  |           | 19,186,317   | ·                 |
| Interest and Dividends        |              |                  |           | 16,544,546   | •                 |
| Investment Return             |              | *                | . <u></u> | 163,588,225  |                   |
| Total Additions               |              |                  | \$        | 205,650,979  | •                 |
| Deductions                    | •            |                  |           |              |                   |
| Benefit Payments              |              |                  | \$        | (47,298,174) |                   |
| Administrative Expenses       |              |                  |           | (3,087,388)  |                   |
| Total Deductions              |              |                  | \$        | (50,385,562) |                   |
| Value of Assets – April 30, 2 | 2010         |                  |           | :            | \$<br>795,328,534 |

#### SECTION II ASSETS

#### **Actuarial Value of Assets**

The next table, Table II-3 shows how the actuarial value of assets is developed. The actuarial value of assets method was changed as of May 1, 2008.

Asset values are gradually adjusted toward market value by adding 25% of the difference between the market value and expected actuarial asset value to the expected actuarial asset value. The expected actuarial asset value is the actuarial asset value at the beginning of the year plus contributions, less benefit payments, all with interest at the assumed net rate of investment return on an actuarial basis. If the actuarial value of assets is less than 85% or more than 110% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

|     | TABLE II-3 Development of Actuarial Value of Assets               |    |              |  |  |  |
|-----|---|----|--------------|--|--|--|
| 1.  | Actuarial Value of Assets at May 1, 2009                          | \$ | 704,069,429  |  |  |  |
| 2.  | Contributions   |    | 25,518,208   |  |  |  |
| 3.  | Benefit Payments  |    | (47,298,174) |  |  |  |
| 4.  | Expected Return   |    | 52,003,224   |  |  |  |
| 5.  | Expected Actuarial Value at End of Year $= (1) + (2) + (3) + (4)$ |    | 734,292,687  |  |  |  |
| 6.  | Actual Market Value of Assets at April 30, 2010                   |    | 795,328,534  |  |  |  |
| 7.  | Excess of (6) over (5)  |    | 61,035,847   |  |  |  |
| 8.  | Adjustment toward market value: 25% of (7)                        |    | 15,258,962   |  |  |  |
| 9.  | Adjustment to be within 85%/110% corridor                         |    | 0            |  |  |  |
| 10. | Actuarial Value of Assets at May 1, $2010 = (5) + (8) + (9)$      | \$ | 749,551,649  |  |  |  |

## SECTION II ASSETS

#### **Investment Performance**

The market value of assets (MVA) returned 28.14% during plan year ending May 1, 2010, which is more than the assumed 7.50% return. A return of 9.24% was experienced on the actuarial value of assets (AVA). Below we show additional historical returns.

|      | TABLE II-4a<br>Historical Returns<br>MVA | AVA      |
|------|--|----------|
| 2006 | 17.94%                                   | 18.22%   |
| 2007 | 12.36%                                   | 12.58%   |
| 2008 | (1.73%)                                  | 8.14%    |
| 2009 | (25.78%)                                 | (17.92%) |
| 2010 | 28.14%                                   | 9.24%    |

#### **Projection of System's Future Cash Flows**

| TABLE II-4b Projection of System's Expected Cash Flows |                  |                         |                 |  |  |  |
|--|------------------|-------------------------|-----------------|--|--|--|
| Year Beginning<br>May 1,                               | Benefit Payments | Total<br>Contributions* | Net Cash Flow   |  |  |  |
| 2010   | \$ (52,443,300)  | \$ 24,821,300           | \$ (27,622,000) |  |  |  |
| 2011   | (53,889,800)     | 25,814,200              | (28,075,600)    |  |  |  |
| 2012   | (57,168,200)     | 26,846,800              | (30,321,400)    |  |  |  |
| 2013   | (60,329,300)     | 27,920,700              | (32,408,600)    |  |  |  |
| 2014   | (63,793,700)     | 24,537,900              | (39,255,800)    |  |  |  |
| 2015   | (67,099,500)     | 25,519,400              | (41,580,100)    |  |  |  |
| 2016   | (71,027,800)     | 26,540,200              | (44,487,600)    |  |  |  |
| 2017   | (74,532,500)     | 27,601,800              | (46,930,700)    |  |  |  |
| 2018   | (78,510,200)     | 28,705,900              | (49,804,300)    |  |  |  |
| 2019   | (82,493,700)     | 29,854,100              | (52,639,600)    |  |  |  |

<sup>\*</sup> Expected contributions include City Contributions and Member Contributions. For illustration purposes, we have assumed the City Contribution rate will be based on the scheduled contribution rates and that payroll will increase at the actuarially assumed rate of 4.00% per year.



#### SECTION III LIABILITIES

In this section, we present detailed information on the System liabilities including:

- Disclosure of the System liabilities as of May 1, 2009 and May 1, 2010, and
- Statement of **changes** in these liabilities during the year.

#### **Disclosure**

Several types of liabilities are calculated and presented in this report. Each type is distinguished by the people ultimately using the figures and the purpose for which they are using them.

- Present Value of All Future Benefits: Used for measuring all future System obligations, represents the amount of money needed today to fully pay off all benefits of the System both earned as of the valuation date and those to be earned in the future by current plan participants, under the current plan provisions.
- Actuarial Liability: Used for funding calculations and GASB disclosures, this liability is calculated taking the present value of benefits and subtracting the present value of future member contributions and future employer normal costs under an acceptable actuarial funding method. This method is referred to as the Entry Age Normal funding method.
- Present Value of Accrued Benefits: Used for communicating the current level of liabilities, this liability represents the total amount of money needed today to fully pay off the current accrued obligations of the System, assuming no future accruals of benefits. These liabilities are also required for accounting purposes (FAS 35).

Table III-1, which follows, discloses each of these liabilities for the current and prior valuations. With respect to each disclosure, a subtraction of the appropriate value of plan assets yields, for each respective type, a **net surplus** or an **unfunded liability**.



#### SECTION III LIABILITIES

| TABLE III-1  |      |               |    |               |
|--|------|---------------|----|---------------|
| Liabilities/Net (Surplus)/Uni                      | func | ded           |    |               |
|  |      | May 1, 2009   | N  | May 1, 2010   |
| Present Value of Future Benefits                   |      |               |    |               |
| Active Participant Benefits                        | \$   | 602,581,689   | \$ | 598,173,198   |
| Retiree and Inactive Benefits                      | _    | 502,979,670   |    | 521,175,152   |
| Present Value of Future Benefits (PVB)             | \$   | 1,105,561,359 | \$ | 1,119,348,350 |
| Actuarial Liability                                |      |               |    |               |
| Present Value of Future Benefits (PVB)             | \$   | 1,105,561,359 | \$ | 1,119,348,350 |
| Present Value of Future Normal Costs (PVFNC)       |      | 138,782,037   |    | 124,580,666   |
| Actuarial Liability (AL = PVB – PVFNC)             |      | 966,779,322   |    | 994,767,684   |
| Actuarial Value of Assets (AVA)                    |      | 704,069,429   |    | 749,551,649   |
| Net (Surplus)/Unfunded (AL – AVA)                  | \$   | 262,709,893   | \$ | 245,216,035   |
| Present Value of Accrued Benefits                  |      |               |    |               |
| Present Value of Future Benefits (PVB)             | \$   | 1,105,561,359 | \$ | 1,119,348,350 |
| Present Value of Future Benefit Accruals (PVFBA)   | _    | 270,996,452   |    | 245,941,031   |
| Present Value of Accrued Benefits (PVAB=PVB-PVFBA) |      | 834,564,907   |    | 873,407,319   |
| Market Value of Assets (MVA)                       |      | 640,063,117   |    | 795,328,534   |
| Net Unfunded/(Surplus)                             | \$   | 194,501,790   | \$ | 78,078,785    |

#### SECTION III LIABILITIES

#### **Changes in Liabilities**

Each of the Liabilities disclosed in the prior table are expected to change at each valuation. The components of that change, depending upon which liability is analyzed, can include:

- New hires since the last valuation
- Benefits accrued since the last valuation
- · System amendments increasing benefits
- Passage of time which adds interest to the prior liability
- Benefits paid to retirees since the last valuation
- · Participants retiring, terminating, or dying at rates different than expected
- A change in actuarial or investment assumptions
- A change in the actuarial funding method

Unfunded liabilities will change because of all of the above, and also due to changes in plan assets resulting from:

- Employer contributions different than expected
- Investment earnings different than expected
- A change in the method used to measure plan assets

In each valuation, we report on those elements of change which are of particular significance, potentially affecting the long-term financial outlook of the System. Below, we present key changes in liabilities since the last valuation.

In the table that follows, we show the components of change in the actuarial liability between May 1, 2009 and May 1, 2010.

| TABLE III-2                            |                     |
|--|---------------------|
|  | Actuarial Liability |
| Liabilities May 1, 2009                | \$ 966,779,322      |
| Liabilities May 1, 2010                | 994,767,684         |
| Liability Increase (Decrease)          | 27,988,362          |
| Change Due to:                         |                     |
| Plan Amendments                        | 0                   |
| Assumption Changes                     | 0                   |
| Actuarial (Gain)/Loss                  | (15,972,195)        |
| Benefits Accumulated and Other Sources | 43,960,557          |



#### SECTION III LIABILITIES

In addition, we breakdown the change in actuarial liability further by showing the total actuarial (gain)/loss by source, as shown in Table III-3 below.

| TABLE III-3<br>(Gain)/Loss by Source as of May 1, 2010 |                               |    |              |  |  |
|--|-------------------------------|----|--------------|--|--|
| Turnover   |                               | \$ | 110,435      |  |  |
| Retirement   |                               |    | (3,137,648)  |  |  |
| Disability   |                               |    | ··· -        |  |  |
| Pre-retirement mortality                               |                               |    | 696,083      |  |  |
| Post-retirement mortality                              | <i>i</i>                      |    | (1,855,374)  |  |  |
| Salary increase less than                              | expected for continuing activ | es | (17,180,417) |  |  |
| New entrants   |                               |    | 549,838      |  |  |
| Data Composition & Mi                                  | scellaneous changes           |    | 4,844,888    |  |  |
| Total (Gain)/Loss                                      |                               | \$ | (15,972,195) |  |  |

#### SECTION IV CONTRIBUTIONS

In the process of evaluating the financial condition of any pension plan, the actuary analyzes the assets and liabilities to determine what level (if any) of contributions is needed to properly maintain the funding status of the System. Typically, the actuarial process will use a funding technique that will result in a pattern of contributions that are both stable and predictable.

For this System, the funding method employed is the Entry Age Actuarial Cost Method. Under this method, there are two primary components to the total contribution: the normal cost rate (employee and employer) and the unfunded actuarial liability rate (UAL rate). The normal cost rate is determined by taking the value, as of entry age into the system, of each member's projected future benefits. This value is then divided by the value, also at entry age, of each member's expected future salary. The normal cost rate is multiplied by current salary to determine each member's normal cost rate. Finally, the total normal cost rate is reduced by the member contribution to produce the employer normal cost rate. The difference between the Entry Age Normal actuarial liability and the actuarial value of assets is the unfunded actuarial liability.

The unfunded actuarial liability is amortized under a layered approach over a 20-year period as a level percent of pay for all years except with respect to the experience loss for the plan year ending April 30, 2009. That loss was amortized over 30 years. All future gains or losses to the unfunded actuarial liability will establish new 20-year amortization periods. Payroll is expected to increase 4.0% per year.

Table IV-1 below presents and compares the employer contribution rates for the System for this valuation and the prior one.

| TABLE IV-1 Employer Contribution Rate              |        |          |  |  |  |
|--|--------|----------|--|--|--|
| Fiscal Year Fiscal Year<br>Ending 2010 Ending 2011 |        |          |  |  |  |
| Entry Age Normal Cost Rate                         | 9.14%  | 8.88%    |  |  |  |
| Amortization Payment                               | 9.33%  | <u> </u> |  |  |  |
| Actuarially Determined Contribution                | 18.47% | 18.04%   |  |  |  |



## SECTION IV CONTRIBUTIONS

Table IV-2 below presents the May 1, 2010 employer contribution rates for the System split between the General Employees and the Judges and Elected Officials. The employer contribution rate is based on the amortization schedule shown in Table IV-3. The employer contribution rates are then compared to what the City is expected to contribute for the current plan year. The scheduled City contribution is 9.5%, plus an additional 2.53% for the retirement window offered in 2003, of anticipated payroll for General Employees and 19.5% of anticipated payroll for Judges and Elected Officials.

| TABLE IV-2 Development of Plan Contribution Rate as of May 1, 2010 Judges and General Elected Employees Officials Total |                    |               |                |  |  |  |  |
|---|--------------------|---------------|----------------|--|--|--|--|
| 1. Normal Cost (monthly):   |                    |               |                |  |  |  |  |
| a. Total Normal Cost  | 12.73%             | 24.38%        | 12.88%         |  |  |  |  |
| b. Expected Members Contribution  | on 4.00%           | 4.00%         | 4.00%          |  |  |  |  |
| c. Employer Paid Normal Cost (a   | ) – (b) 8.73%      | 20.38%        | 8.88%          |  |  |  |  |
| 2. Amortization of Unfunded Liability   | ·.<br>•            | 1             | · .            |  |  |  |  |
| a. Actuarial Liability  | \$ 983,445,850     | \$ 11,321,834 | \$ 994,767,684 |  |  |  |  |
| b. Actuarial Value of Assets  | <u>741,020,713</u> | 8,530,936     | 749,551,649    |  |  |  |  |
| c. Unfunded Liability (a) – (b)   | \$ 242,425,137     | \$ 2,790,898  | \$ 245,216,035 |  |  |  |  |
| d. Amortization of Unfunded Liab  | ility 9.17%        | 8.36%         | 9.16%          |  |  |  |  |
| 3. Actuarially Computed Employer<br>Contribution Rate (1) + (2d)  | 17.90%             | 28.74%        | 18.04%         |  |  |  |  |
| 4. Scheduled City Contributions <sup>1</sup>  | 12.03%             | 19.50%        | 12.12%         |  |  |  |  |

<sup>\*</sup> Total payroll is \$153,948,044, and the annual required contribution for plan year ending April 30, 2011 is \$27,772,227 based on the total employer contribution rate. The payroll for the judges and elected officials is \$1,919,571, and the annual required contribution for this group for the plan year ending April 30, 2011 is \$551,685.

<sup>&</sup>lt;sup>1</sup> The scheduled contribution for General Employees is 9.50% of payroll plus an additional 2.53% of payroll through April 30, 2013 for the early retirement window. The scheduled contribution for Judges and Elected Officials is 19.50% of payroll.



#### SECTION IV CONTRIBUTIONS

The Unfunded Actuarial Liability is amortized in accordance with the schedule below:

Initial unfunded actuarial liability (as of May 1, 2008) 20 years Changes to the UAL on May 1, 2009 30 years Changes to the UAL on and after May 1, 2010 20 years

Amortization payments as of May 1, 2010 are shown in the table below.

|   |          |              | TAB            | LE IV-3      |                |                |               |  |  |
|---|----------|--------------|----------------|--------------|----------------|----------------|---------------|--|--|
| Unfunded Actuarial Liabilitiy Amortization Schedule |          |              |                |              |                |                |               |  |  |
|   | Date     | Initial      | Initial        | Remaining    | Outstanding    | Amortization   | Amortization  |  |  |
| <u>Item</u>   | Created  | <u>Years</u> | <u>Balance</u> | <u>Years</u> | <b>Balance</b> | <u>Pavment</u> | <u>Factor</u> |  |  |
| Initial UAL   | 5/1/2008 | 20           | \$ 60,653,589  | 18           | \$ 60,652,321  | \$ 4,490,989   | 13.505        |  |  |
| 2009 (Gain)/Loss*                                   | 5/1/2009 | 30           | 201,970,870    | 29           | 205,687,186    | 11,059,311     | 18.599        |  |  |
| 2010 (Gain)/Loss*                                   | 5/1/2010 | 20           | (21,123,472)   | 20           | (21,123,472)   | (1,446,053)    | 14.608        |  |  |
| Total :   |          |              |                |              | \$ 245,216,035 | \$ 14,104,247  |               |  |  |

<sup>\*</sup> Also includes differences between the Annual Required Contribution and the actual contributions made.

## SECTION V ACCOUNTING STATEMENT INFORMATION

Topic 960 of the Financial Accounting Standards Board requires the System to disclose certain information regarding its funded status. Statement No. 25 of the Governmental Accounting Standards Board (GASB) establishes standards for disclosure of pension information by public employee retirement systems (PERS) and governmental employers in notes to financial statements and supplementary information.

Topic 960 disclosures provide a quasi "snap shot" view of how the System's assets compare to its liabilities if contributions stopped and accrued benefit claims had to be satisfied. However, due to potential legal requirements and the possibility that alternative interest rates would have to be used to determine the liabilities, these values may not be a good indication of the amount of money it would take to buy the benefits for all members if the System were to terminate.

The GASB-25 actuarial liability is the same as the actuarial liability amount calculated for funding purposes.

Both the present value of accrued benefits (Topic 960) and the actuarial liability (GASB-25) are determined assuming that the System is on-going and participants continue to terminate employment, retire, etc., in accordance with the actuarial assumptions. Liabilities are discounted at the assumed valuation interest rate of 7.50% per annum.

Topic 960 specifies that a comparison of the present value of accrued (accumulated) benefits with the market value of the assets as of the valuation date must be provided. GASB Statement No. 25 requires the actuarial liability be compared with the actuarial value of assets for funding purposes. The relevant amounts as of May 1, 2010 are exhibited in Table V-1. Finally, Table V-2 reconciles the Topic 960 liabilities determined as of the prior valuation, May 1, 2009, to the liabilities as of May 1, 2010.

Tables V-3 through V-5 are exhibits to be used with the CAFR report. Table V-3 is the Note to Required Supplementary Information, Table V-4 is a history of gains and losses in actuarial liability, and Table V-5 is the Solvency Test which shows the portion of actuarial liability covered by assets.

Finally, Tables V-6 and V-7 are additional GASB supplemental exhibits. Table V-6 shows historical GASB Annual Required Contribution information, compared to what the City actually contributed. Table V-7 shows historical unfunded actuarial liability (UAL) information, funding ratios, and the UAL as a percent of payroll.



# SECTION V ACCOUNTING STATEMENT INFORMATION

|    |    | Table V-1   |        |  |    |  |
|----|----|---|--------|--|----|--|
|    |    | Accounting Statement In   |        |  |    |  |
|    |    |   | . N    | May 1, 2009                              |    | May 1, 2010                              |
| Α. |    | pic 960 Basis Present Value of Benefits Accrued and Vested to Date  |        |  |    |  |
|    |    | <ul><li>a. Members Currently Receiving Payments</li><li>b. Former Vested Members</li><li>c. Active Members</li></ul>                  | \$<br> | 490,930,308<br>12,049,362<br>331,585,237 | \$ | 509,230,224<br>11,944,928<br>352,232,167 |
|    | 2. | Total Present Value of Accrued Benefits (1a. + 1b. + 1c.)   | \$     | 834,564,907                              | \$ | 873,407,319                              |
|    | 3. | Assets at Market Value  |        | 640,063,117                              | _  | 7 <u>95,328,534</u>                      |
|    | 4. | Unfunded Present Value of Accrued Benefits (2 – 3)  | \$     | 194,501,790                              | \$ | 78,078,785                               |
| :  | 5. | Ratio of Assets to Present Value of Benefits (3/2)  |        | 76.7%                                    |    | 91.1%                                    |
| В. | GA | ASB No. 25 Basis  |        |  |    | ľ  |
|    | 1. | Actuarial Liabilities for retirees and beneficiaries currently receiving benefits and terminated employees not yet receiving benefits | \$     | 502,979,670                              | \$ | 521,175,152                              |
|    | 2. | Actuarial Liabilities for current employees   |        | 463,799,652                              |    | 473,592,532                              |
|    | 3. | Total Actuarial Liability (1 + 2)   | \$     | 966,779,322                              | \$ | 994,767,684                              |
|    | 4. | Net Actuarial Assets available for benefits   |        | 704,069,429                              | _  | 749,551,649                              |
|    | 5. | Unfunded Actuarial Liability (3 – 4)  | \$     | 262,709,893                              | \$ | 245,216,035                              |

# SECTION V ACCOUNTING STATEMENT INFORMATION

| Table V-2<br>Statement of Changes in Total Actuarial<br>Present Value of All Accrued Benefits |      |  |  |  |  |  |
|---|------|--|--|--|--|--|
|   |      | Accumulated Benefit Obligation (Topic 960) |  |  |  |  |
| Actuarial Present Value of Accrued Benefits at May 1, 2009                                    | \$   | 834,564,907                                |  |  |  |  |
| Increase (Decrease) During Years Attributable to:   |      | :<br>: : :                                 |  |  |  |  |
| Passage of Time and Gains/(Losses)  | \$ . | 59,610,740                                 |  |  |  |  |
| Benefit Paid – FY 2010  |      | (49,039,791)                               |  |  |  |  |
| Assumption Change   |      | 0  |  |  |  |  |
| Benefits Accrued  |      | 28,271,463                                 |  |  |  |  |
| Net Increase (Decrease)   | \$   | 38,842,412                                 |  |  |  |  |
| Actuarial Present Value of Accrued Benefits at May 1, 2010                                    | \$   | 873,407,319                                |  |  |  |  |

#### SECTION V ACCOUNTING STATEMENT INFORMATION

# Table V-3 NOTE TO REQUIRED SUPPLEMENTARY INFORMATION

The information presented in the required supplementary schedules was determined as part of the actuarial valuation at the date indicated. Additional information as of the latest actuarial valuation follows.

Valuation date May 1, 2010

Actuarial cost method Entry Age

Amortization method 20-year layered amortization, level percent of pay\*

Remaining amortization period for the UAL Weighted Average of

27.1 years

Asset valuation method Expected Value Method

Actuarial assumptions:

Investment rate of return 7.50%
Projected salary increases
Cost-of-living adjustments 3.0% simple
Inflation 3.0%

The actuarial assumptions used have been based upon recommendations by the actuary and adopted by the System's Board of Trustees.

The rate of employer contributions to the System is composed of the normal cost and an amortization of the unfunded actuarial liability. The normal cost is a level percent of payroll cost which, along with member contributions, will pay for projected benefits at retirement for the average plan participant. The actuarial liability is that portion of the present value of projected benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and the actuarial value of assets as of the same date is the unfunded actuarial liability.

<sup>\*</sup> For all years except changes to the 5/1/2009 unfunded actuarial liability, which are amortized over 30 years.

# SECTION V ACCOUNTING STATEMENT INFORMATION

| Table V-4  ANALYSIS OF FINANCIAL EXPERIENCE  Gain and Loss in Unfunded Actuarial Liability During Years Ended April 30  Resulting from Differences Between Assumed Experience and Actual Experience  Gain (or Loss) for Year ending April 30,  (expressed in thousands)  Type of Activity  2007  2008  2010 |          |                             |          |                               |          |                                  |          | 2010                       |
|---|----------|-----------------------------|----------|-------------------------------|----------|----------------------------------|----------|----------------------------|
| Investment Income Combined Liability Experience Gain (or Loss) During Year from Financial Experience  | \$<br>\$ | 35,814<br>(6,602)<br>29,212 | \$<br>\$ | 3,140<br>(18,452)<br>(15,312) | \$<br>\$ | (216,876)<br>12,781<br>(204,095) | \$<br>\$ | 15,259<br>15,972<br>31,231 |
| Non-Recurring Gain (or Loss) Items<br>Composite Gain (or Loss) During Year  | \$       | 29,212                      | \$       | (27,234)<br>(42,546)          | \$       | $\frac{0}{(204,095)}$            | \$       | (10,108)<br>21,123         |

| Table V-5 SOLVENCY TEST Aggregate Actuarial Liabilities for (expressed in thousands) |  |  |  |   |                              |  |                          |
|--|--|--|--|---|------------------------------|--|--------------------------|
| Valuation Date<br>May 1  | Active<br>Member<br>Contributions<br>(1) | Retirees &<br>Beneficiaries<br>(2)       | Active<br>Member<br>Employer<br>Financed<br>Contributions<br>(3) | Actuarial<br>Value of<br>Reported<br>Assets |                              | n of Actuarial Lia<br>red by Reported A<br>(2) |                          |
| 2007<br>2008<br>2009<br>2010   | 73,078<br>78,339<br>78,693<br>82,853     | 446,908<br>468,489<br>502,980<br>521,175 | 327,407<br>387,506<br>385,106<br>390,740                         | 823,104<br>873,680<br>704,069<br>749,552    | 100%<br>100%<br>100%<br>100% | 100%<br>100%<br>100%<br>100%                   | 93%<br>84%<br>32%<br>37% |



# SECTION V ACCOUNTING STATEMENT INFORMATION

| Table V-6 Supplementary Information Required by GASB - Schedule of City Contributions |                               |                         |                           |  |  |  |  |
|---|-------------------------------|-------------------------|---------------------------|--|--|--|--|
| Plan Year Ended<br>April 30   | Annual Required Contributions | Actual<br>Contributions | Percentage<br>Contributed |  |  |  |  |
| 2001  | \$8,106,825                   | \$8,106,825             | 100.0%                    |  |  |  |  |
| 2002  | \$9,094,835                   | \$8,747,053             | 96.2%                     |  |  |  |  |
| 2003  | \$13,996,455                  | \$9,284,587             | 66.3%                     |  |  |  |  |
| 2004  | \$20,018,740                  | \$12,100,061            | 60.4%                     |  |  |  |  |
| 2005  | \$23,406,798                  | \$14,825,719            | 63.3%                     |  |  |  |  |
| 2006  | \$25,770,978                  | \$17,557,758            | 68.1%                     |  |  |  |  |
| 2007  | \$17,652,900                  | \$18,496,476            | 104.8%                    |  |  |  |  |
| 2008  | \$15,623,936                  | \$20,011,617            | 128.1%                    |  |  |  |  |
| 2009  | \$19,364,846                  | \$20,330,486            | 105.0%                    |  |  |  |  |
| 2010  | \$29,589,060                  | \$19,186,317            | 64.8%                     |  |  |  |  |
| 2011  | \$27,772,227                  |                         | <del></del>               |  |  |  |  |

<sup>\*</sup> The actuarially computed contribution for the current year is described in Section IV.

# SECTION V ACCOUNTING STATEMENT INFORMATION

|                             | Table V-7 Supplementary Information Required by GASB - Schedule of Funding Progress |                         |  |                        |                     |   |  |  |  |
|-----------------------------|---|-------------------------|--|------------------------|---------------------|---|--|--|--|
| Actuarial Valuation<br>Date | Actuarial Value of Assets (a)   | Actuarial Liability (b) | Unfunded Actuarial Liability (b) - (a) | Funded Ratio (a) / (b) | Covered Payroll (c) | UAL as a Percentage of Covered Payroll* [(b) - (a)] / (c) |  |  |  |
| 5/1/2000                    | \$597,085,624   | \$517,046,400           | (\$80,039,224)                         | 115.48%                | \$122,645,800       | N/A   |  |  |  |
| 5/1/2001                    | \$623,249,552   | \$573,339,758           | (\$49,909,794)                         | 108.71%                | \$136,263,216       | N/A   |  |  |  |
| 5/1/2002                    | \$634,025,842   | \$630,683,891           | (\$3,341,951)                          | 100.53%                | \$146,816,820       | N/A   |  |  |  |
| 5/1/2003                    | \$624,897,653   | \$707,513,176           | \$82,615,523                           | 88.32%                 | \$130,028,040       | 63.54%  |  |  |  |
| 5/1/2004                    | \$627,078,139   | \$740,186,346           | \$113,108,207                          | 84.72%                 | \$137,207,640       | 82.44%  |  |  |  |
| 5/1/2005                    | \$645,609,869   | \$781,899,987           | \$136,290,118                          | 82.57%                 | \$141,605,640       | 96.25%  |  |  |  |
| 5/1/2006                    | \$745,720,993   | \$800,839,808           | \$55,118,815                           | 93.12%                 | \$146,365,332       | 37.66%  |  |  |  |
| 5/1/2007                    | \$823,014,181   | \$847,393,167           | \$24,378,986                           | 97.12%                 | \$158,779,836       | 15.35%  |  |  |  |
| 5/1/2008                    | \$873,680,276   | \$934,333,865           | \$60,653,589                           | 93.51%                 | \$169,867,066       | 35.71%  |  |  |  |
| 5/1/2009                    | \$704,069,429   | \$966,779,322           | \$262,709,893                          | 72.83%                 | \$160,200,649       | 163.99%   |  |  |  |
| 5/1/2010                    | \$749,551,649   | \$994,767,684           | \$245,216,035                          | 75.35%                 | \$153,948,044       | 159.28%   |  |  |  |

<sup>\*</sup>Not less than zero

# APPENDIX A MEMBERSHIP INFORMATION

| Kans                  | Kansas City Employees' Retirement System Active Member Data |             |        |             |          |  |  |  |
|-----------------------|---|-------------|--------|-------------|----------|--|--|--|
|                       | _   | May 1, 2009 |        | May 1, 2010 | % Change |  |  |  |
| <u>Total</u>          |   | -           |        |             |          |  |  |  |
| Count                 |   | 3,400       |        | 3,291       | -3.2%    |  |  |  |
| Average Current Age   |   | 45.7        |        | 46.2        | 1.2%     |  |  |  |
| Average Service       |   | 10.7        |        | 11.2        | 4.9%     |  |  |  |
| Average Valuation Pay | \$  | 47,118      | \$     | 46,779      | -0.7%    |  |  |  |
| Annual Compensation   | \$  | 160,200,649 | \$     | 153,948,045 | -3.9%    |  |  |  |
| General               |   |             |        |             |          |  |  |  |
| Count                 |   | 3,380       |        | 3,270       | -3.3%    |  |  |  |
| Average Current Age   |   | 45.6        |        | 46.2        | 1.2%     |  |  |  |
| Average Service       |   | 10.7        |        | 11.2        | 4.9%     |  |  |  |
| Average Valuation Pay | \$  | 46,857      | \$     | 46,492      | -0.8%    |  |  |  |
| Annual Compensation   | \$  | 158,377,580 | \$     | 152,028,474 | -4.0%    |  |  |  |
| ·                     |   |             |        |             |          |  |  |  |
| <u>Judges</u>         |   |             |        |             | •        |  |  |  |
| Count                 |   | 7           |        | 8           | 14.3%    |  |  |  |
| Average Current Age   |   | 52.4        |        | 54.1        | 3.3%     |  |  |  |
| Average Service       |   | 9.1         | •      | 11.2        | 23.5%    |  |  |  |
| Average Valuation Pay | \$  | 142,034     | \$     | 132,198     | -6.9%    |  |  |  |
| Annual Compensation   | \$  | 994,238     | \$     | 1,057,587   | 6.4%     |  |  |  |
|                       |   | ·           |        |             |          |  |  |  |
| Elected Officials     |   |             |        |             | ·        |  |  |  |
| Count                 |   | 13          |        | 13          | 0.0%     |  |  |  |
| Average Current Age   |   | 53.2        |        | 54.2        | 1.9%     |  |  |  |
| Average Service       |   | . :: 4.1    |        | 5.0         | 24.1%    |  |  |  |
| Average Valuation Pay | \$  | 63,756      | \$     | 66,306      | 4.0%     |  |  |  |
| Annual Compensation   | \$  | 828,831     | ·.: \$ | 861,984     | 4.0%     |  |  |  |

# APPENDIX A MEMBERSHIP INFORMATION

| Kansas City                 | Kansas City Employees' Retirement System |                  |                                       |  |  |  |  |  |  |
|-----------------------------|--|------------------|---------------------------------------|--|--|--|--|--|--|
| Table of Plan Coverage      |  |                  |                                       |  |  |  |  |  |  |
|                             | 5/1/2009                                 | 5/1/2010         | % change                              |  |  |  |  |  |  |
| Active Members in Valuation |  |                  | · · · · · · · · · · · · · · · · · · · |  |  |  |  |  |  |
| Number                      | 3,400                                    | 3,291            | -3.2%                                 |  |  |  |  |  |  |
| Average Age                 | 45.7                                     | 46.2             | 1.2%                                  |  |  |  |  |  |  |
| Average Service             | 10.7                                     | 11.2             | 4.3%                                  |  |  |  |  |  |  |
| Total Payroll               | \$160,200,649                            | \$153,948,045    | -3.9%                                 |  |  |  |  |  |  |
| Average anticipated payroll | \$47,118                                 | \$46,779         | -0.7%                                 |  |  |  |  |  |  |
| Account Balance             | \$78,693,441                             | \$82,853,071     | 5.3%                                  |  |  |  |  |  |  |
| Eligible to Retire On:      |  |                  | •                                     |  |  |  |  |  |  |
| Normal Pension              | 57                                       | 60               | 5.3%                                  |  |  |  |  |  |  |
| Optional Pension            | 283                                      | 308              | 8.8%                                  |  |  |  |  |  |  |
| Early Pension               | 222                                      | 240              | 8.1%                                  |  |  |  |  |  |  |
| Deferred Pension            | 1,769                                    | 1,703            | -3.7%                                 |  |  |  |  |  |  |
| Total Active Vested Members | 2,331                                    | 2,311            | -0.9%                                 |  |  |  |  |  |  |
| Vested Terminated Members   | 79                                       | 84               | N/A                                   |  |  |  |  |  |  |
| Deaths During the Plan Year | 74                                       | 79               | N/A                                   |  |  |  |  |  |  |
| Pensioners:                 |  |                  |                                       |  |  |  |  |  |  |
| Number in Pay Status        |  | " :              | •                                     |  |  |  |  |  |  |
| Retirees                    | 1,577                                    | 1,600            | 1.5%                                  |  |  |  |  |  |  |
| Disabled Retirees           | 16                                       | 15               | -6.3%                                 |  |  |  |  |  |  |
| Total                       | 1,593                                    | 1,615            | 1.4%                                  |  |  |  |  |  |  |
| Average Age                 | 69.66                                    | 69.84            | 0.3%                                  |  |  |  |  |  |  |
| Average Monthly Benefit     | \$1,876                                  | \$1 <u>,</u> 947 | 3.8%                                  |  |  |  |  |  |  |
| Beneficiaries in Pay Status | 424                                      | 403              | -5.0%                                 |  |  |  |  |  |  |
| Members Due Refunds         | 292                                      | 99               | -66.1%                                |  |  |  |  |  |  |



# APPENDIX A MEMBERSHIP INFORMATION

### Kansas City Employees' Retirement System Distribution of Active Members by Age and Service as of May 1, 2010

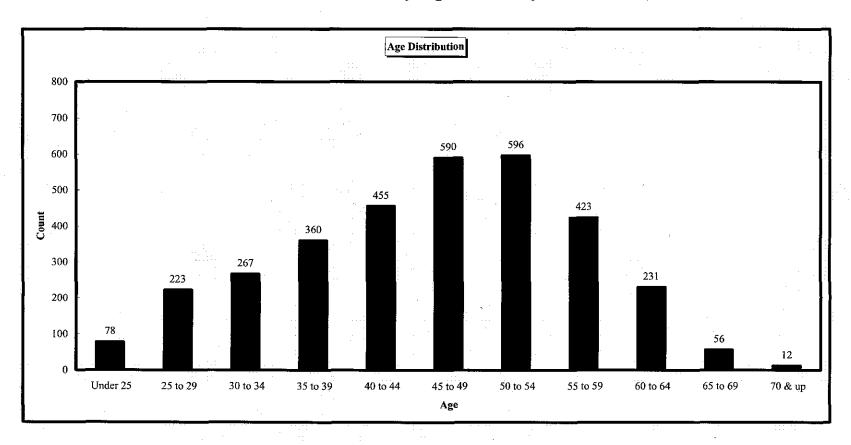
COUNTS BY AGE/SERVICE

|          |                     |                                       |                   |  | UNIS DI AG | E/SERVICE                              |                           |                |          |         |       |
|----------|---------------------|---------------------------------------|-------------------|--|------------|--|---------------------------|----------------|----------|---------|-------|
|          |                     |                                       |                   |  | Servic     | e                                      |                           |                |          | ····    |       |
| Age      | Under 1             | 1 to 4                                | 5 to 9            | 10 to 14                               | 15 to 19   | 20 to 24                               | 25 to 29                  | 30 to 34       | 35 to 39 | 40 & up | Total |
| Under 25 | 7. <b>1</b> 7. 34.3 | 611                                   | 6 0               | . 0                                    |            | 2\$0                                   |                           | 20-            |          | 0       | 78    |
| 25 to 29 | 24                  | 154                                   | 41                | 4                                      | 0          | 0                                      | 0_                        | 0              | 0        | 0       | 223   |
| 30 to 34 | .14                 | 127                                   | - 92              | 38                                     | $\dot{i}$  | - 0                                    | . 0                       | ¢ 0            | 0        | -0      | 267   |
| 35 to 39 | 13                  | 113                                   | 111               | 102                                    | 20         | 1                                      | 0                         | 0              | 0        | 0       | 360   |
| 40 to 44 | 12                  | (\$ <sup>219</sup> 193 <sup>6</sup> ) | **120*            | 197                                    | 67         | 26                                     | 0                         | 0              | 0        | 0 .     | 455   |
| 45 to 49 | 15                  | 111                                   | 115               | 145                                    | 91         | 74                                     | 36                        | . 3            | 0        | 0       | 590   |
| 50 to 54 |                     | * s 108pp.                            | - 5 <b>4</b> € 87 | ************************************** | 79         | 81 -                                   | ir<br>*, <sub>23</sub> 67 | 33             | 2.       | 0       | 596   |
| 55 to 59 | 8                   | 53                                    | 71                | 99                                     | 65         | 57.                                    | 36                        | . 27           | 5        | 2       | 423   |
| 60 to 64 | 1                   | 40                                    | 2.7<br>2.746*     | 15 A 45 A                              | 37         | ************************************** | 17                        | 18             | 3        | 0.0     | 231   |
| 65 to 69 | 0 .                 | 8                                     | 11                | 11                                     | 12         | - 6                                    | 2                         | .: 1           | 3        | 2       | 56    |
| 70 & up  |                     | era milan                             | 14 (14 Earl 5)    | F. 34465                               | 1          | . 0                                    | 0                         | 245<br>2 2 2 0 | 0        |         |       |
| Total    | 111                 | 869                                   | 699_              | 713                                    | 373        | 269                                    | 158                       | 82             | 13       | 4       | 3,291 |



# APPENDIX A MEMBERSHIP INFORMATION

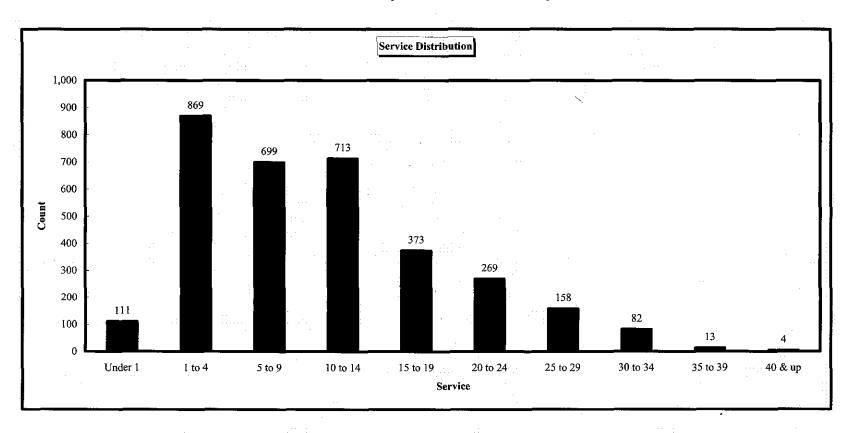
### Kansas City Employees' Retirement System Distribution of Active Members by Age as of May 1, 2010





# APPENDIX A MEMBERSHIP INFORMATION

# Kansas City Employees' Retirement System Distribution of Active Members by Service as of May 1, 2010



# APPENDIX A MEMBERSHIP INFORMATION

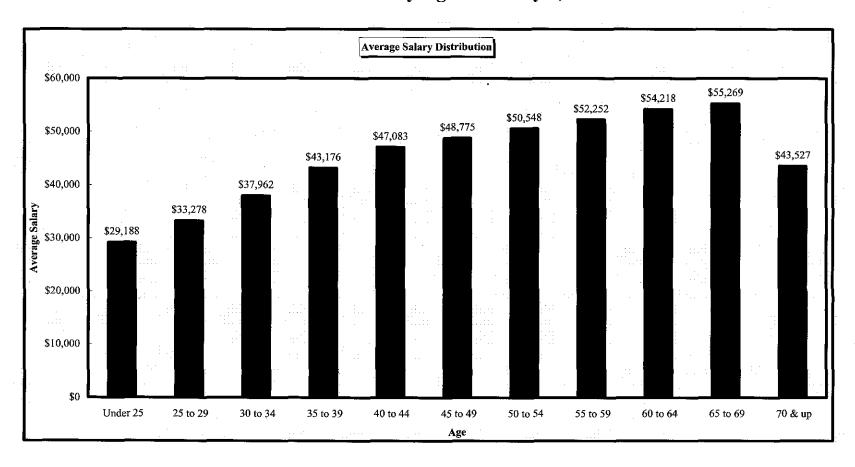
# Kansas City Employees' Retirement System Distribution of Active Members by Age and Service as of May 1, 2010

AVERAGE SALARY BY AGE/SERVICE

|          |            |          |            |           | Servic      | e          |          |          |          |          |          |
|----------|------------|----------|------------|-----------|-------------|------------|----------|----------|----------|----------|----------|
| Age      | Under 1    | 1 to 4   | 5 to 9     | 10 to 14  | 15 to 19    | 20 to 24   | 25 to 29 | 30 to 34 | 35 to 39 | 40 & up  | Total    |
| Under 25 | \$28,355   | \$29,420 | \$0.50     | \$ \$ \$0 | 5 3 % \$0 a | \$0        | \$0      | \$0      | \$0      | \$0      | \$29,188 |
| 25 to 29 | \$34,793   | \$33,022 | \$33,073   | \$36,147  | \$0         | \$0        | \$0      | \$0      | \$0      | \$0      | \$33,278 |
| 30 to 34 | \$\$36,983 | \$37,366 | \$38,504   | \$39,236  | \$35,520    | \$25. \$0  | \$0      | \$0      | \$0      | \$0      | \$37,962 |
| 35 to 39 | \$37,303   | \$39,259 | \$42,504   | \$47,254  | \$51,222    | \$59,832   | \$0      | \$0      | \$0      | \$0      | \$43,176 |
| 40 to 44 | \$39,027   | \$38,208 | \$43,591   | F\$5E684  | \$55,303    | \$53,246   | \$ \$0   | \$0      | \$0 SO   | \$0      | \$47,083 |
| 45 to 49 | \$30,908   | \$38,883 | \$40,921   | \$49,283  | \$59,236    | \$61,312   | \$57,153 | \$53,564 | \$0      | \$0      | \$48,775 |
| 50 to 54 | \$31,447   | \$40,173 | \$43,493   | *\$49;289 | \$52.062    | \$\$60,327 | \$61,204 | \$61,892 | \$67,596 | \$ \$0   | \$50,548 |
| 55 to 59 | \$44,859   | \$40,794 | \$48,531   | \$49,247  | \$59,194    | \$56,346   | \$56,500 | \$60,619 | \$88,839 | \$43,014 | \$52,252 |
| 60 to 64 | \$44,640   | \$47,609 | \$47,643 + | \$55;317  | \$54,633    | \$60,898   | \$63,550 | \$65,047 | \$53,436 | \$0      | \$54,218 |
| 65 to 69 | \$0        | \$71,066 | \$37,581   | \$43,555  | \$60,018    | \$71,174   | \$73,104 | \$43,188 | \$58,888 | \$60,360 | \$55,269 |
| 70 & ир  | \$0        | \$28,920 | \$39,173   | \$48,192  | \$56;580    | \$0        | \$0      | \$0      | \$0      | \$0      | \$43,527 |
| Total    | \$34,913   | \$37,898 | \$42,323   | \$49,196  | \$56,071    | \$59,361   | \$59,612 | \$61,633 | \$70,489 | \$51,687 | \$46,779 |

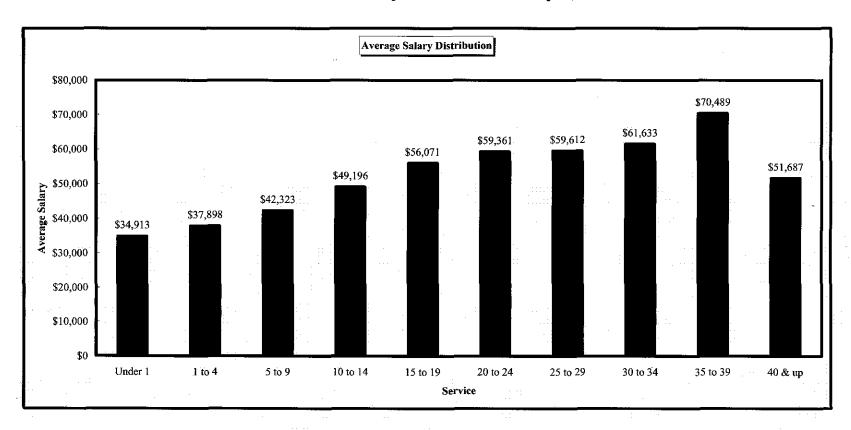
# APPENDIX A MEMBERSHIP INFORMATION

# Kansas City Employees' Retirement System Distribution of Active Members by Age as of May 1, 2010



# APPENDIX A MEMBERSHIP INFORMATION

### Kansas City Employees' Retirement System Distribution of Active Members by Service as of May 1, 2010





# APPENDIX A MEMBERSHIP INFORMATION

| Kansas City Employees' Retirement System Pensions in Payment Status by Type and Monthly Amount |       |        |            |          |        |            |                  |
|--|-------|--------|------------|----------|--------|------------|------------------|
| Monthly Amount   | Total | Normal | Early      | Optional | Vested | Disability | Widows &<br>QDRO |
| Total  | 2,018 | 170    | 195        | 1,118    | 117    | 15         | 403              |
| Under \$500  | 354   | 24     | 71         | 21       | 34     | 2          | 202              |
| \$500-1,000  | 413   | 45     | 71         | 133      | 49     | 6          | 109              |
| 1,000-1,500  | 304   | 32     | 36         | 161      | 23     | 7          | 45               |
| 1,500-2,000  | 281   | 24     | 10         | 218      | 8      | 0          | 21               |
| 2,000-2,500  | 226   | 14     | 3          | 193      | 3      | 0          | 13               |
| 2,500-3,000  | 140   | 7      | 2          | 128      | . 0    | 0          | 3                |
| 3,000-3,500  | 100   | 11     | 1          | 83       | 0      | 0          | 5                |
| 3,500-4,000  | 61    | 5      | 0          | 56       | 0      | .0         | (                |
| 4,000-4,500  | 52    | 2      | 0          | 49       | 0      | 0          | 1                |
| 4,500-5,000  | 27    | 0      | 0          | 25       | 0      | 0          | 2                |
| 5,000 & over   | 60    | 6      | ·: ··· · 1 | . 51     | 0      | 0          | 2                |

During the year ended April 30, 2010 there were 108 new pensions awarded (15 Normal, 14 Early, 40 Optional, 12 Vested, and 27 Widows and QDROs)



# APPENDIX A MEMBERSHIP INFORMATION

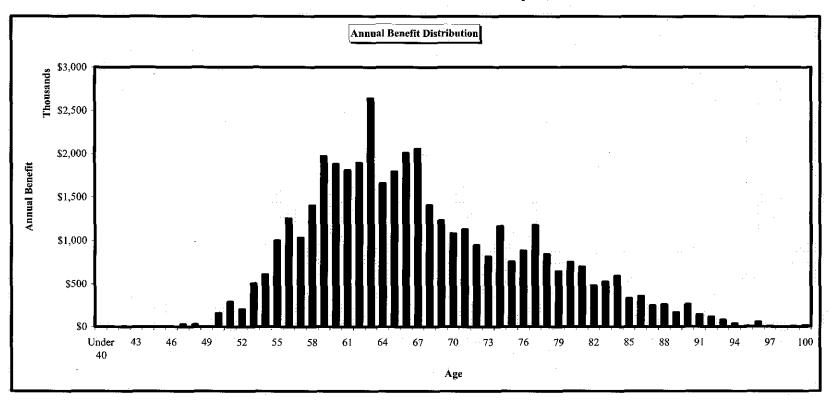
### Kansas City Employees' Retirement System Distribution of Retired Members and Survivors as of May 1, 2010

| Age | Count | Annual Benefit |     | Ago    | :   | Count | Annual Benefit |   |
|-----|-------|----------------|-----|--------|-----|-------|----------------|---|
| <25 | 0     | \$0            |     | 1.51   | 73  | 46    | \$813,853      |   |
| 25  | Ő     | \$0            |     |        | 74  | 56    | \$1,161,735    |   |
| 26  | ő     | \$0            |     |        | 75  | 46    | \$755,545      |   |
| 27  | 0     | \$0            |     |        | 76  | 59    | \$878,192      |   |
| 28  | ő     | \$0            |     |        | 77  | 64    | \$1,172,146    |   |
| 29  | ő     | \$0            |     |        | 78  | 49    | \$838,687      |   |
| 30  | ő     | \$0            |     |        | 79  | 52    | \$643,426      |   |
| 31  | 0     | \$0            |     |        | 80  | 54    | \$748,575      | • |
| 32  | ō     | \$0            |     |        | 81  | 49    | \$695,576      |   |
| 33  | ő     | \$0            |     |        | 82  | 39    | \$479,400      | • |
| 34  | 0     | \$0            |     |        | 83  | 43    | \$521,719      |   |
| 35  | 0     | \$0            |     |        | 84  | 48    | \$587,955      | - |
| 36  | 0     | \$0            |     |        | 85  | 32    | \$323,794      |   |
| 37  | 0     | \$0            |     |        | 86  | 34    | \$350,242      |   |
| 38  | 0     | \$0            |     |        | 87  | 24    | \$244,210      |   |
| 39  | ő     | - \$0          |     |        | 88  | 37    | \$254,863      |   |
| 40  | 0     | \$0            |     |        | 89  | 21    | \$162,844      |   |
| 41  | ŏ     | \$0            |     |        | 90  | 24    | \$257,358      |   |
| 42  | 1     | \$3,079        |     |        | 91  | 20    | \$138,426      |   |
| 43  | 0     | \$0            |     |        | 92  | 13    | \$110,469      |   |
| 44  | 0     | : \$0          |     |        | 93  | 4     | \$75,709       |   |
| 45  | 0     | \$0            |     |        | 94  | 6     | \$34,004       |   |
| 46  | 1     | \$1,616        |     |        | 95  | 2     | \$4,411        | * |
| 47  | 2     | \$25,391       |     |        | 96  | 7     | \$51,690       |   |
| 48  | 1     | \$24,896       | *** |        | 97  | 1     | \$5,443        |   |
| 49  | 0     | \$0            |     |        | 98  | 0     | \$0            |   |
| 50  | 7     | \$153,784      |     |        | 99  | 1     | \$4,442        |   |
| 51  | 9     | \$284,472      |     |        | 100 | 1     | \$5,840        |   |
| 52  | 8     | \$201,710      |     |        | 101 | 2     | \$5,275        |   |
| 53  | 16    | \$502,994      | •   |        | 102 | . 0   | \$0            |   |
| 54  | 20    | \$606,305      |     |        | 103 | 0     | \$0            |   |
| 55  | 35    | \$995,110      |     |        | 104 | 0     | \$0            |   |
| 56  | 41    | \$1,250,994    |     |        | 105 | 0     | \$0            |   |
| 57  | 34    | \$1,029,552    |     |        | 106 | . 0   | \$0            |   |
| 58  | 51    | \$1,399,185    |     |        | 107 | 0     | \$0            |   |
| 59  | 65    | \$1,966,582    |     |        | 108 | 0     | \$0            |   |
| 60  | 66    | \$1,875,770    |     |        | 109 | 0     | \$0            |   |
| 61  | 63    | \$1,804,398    |     |        | 110 | 0     | \$0            |   |
| 62  | 66    | \$1,888,789    |     |        | 111 | 0     | \$0            |   |
| 63  | 96    | \$2,637,981    |     |        | 112 | 0     | \$0            |   |
| 64  | 57    | \$1,655,718    |     |        | 113 | 0     | \$0            |   |
| 65  | 75    | \$1,790,727    |     |        | 114 | 0     | \$0            | • |
| 66  | 83    | \$2,004,934    |     |        | 115 | . 0   | \$0            |   |
| 67  | 87    | \$2,054,170    |     |        | 116 | 0     | \$0            |   |
| 68  | 63    | \$1,402,920    |     |        | 117 | 0     | \$0            |   |
| 69  | 58    | \$1,226,652    |     |        | 118 | 0     | \$0            |   |
| 70  | 54    | \$1,078,375    |     |        | 119 | 0     | \$0            |   |
| 71  | 60    | \$1,124,772    | •   |        | 120 | . 0   | \$0            | • |
| 72  | 50    | \$942,463      |     |        |     |       |                |   |
|     |       |                |     | Totals |     | 2,003 | \$41,259,168   |   |



# APPENDIX A MEMBERSHIP INFORMATION

### Kansas City Employees' Retirement System Distribution of Retired Members and Survivors as of May 1, 2010





# APPENDIX A MEMBERSHIP INFORMATION

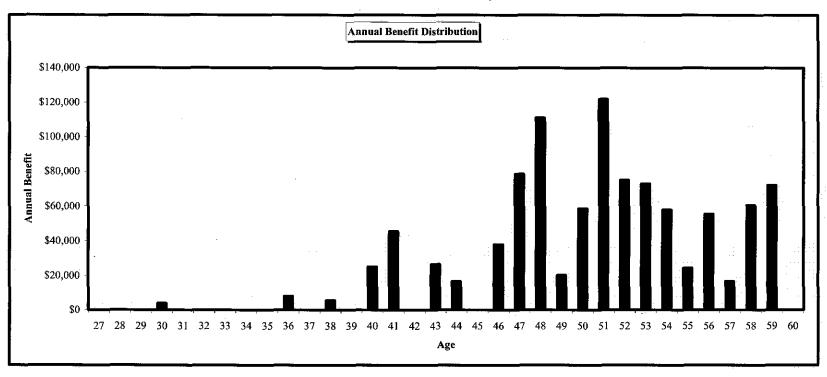
### Kansas City Employees' Retirement System Distribution of Vested Members as of May 1, 2010

| Age  | Count Annual Benefit |       | Age    |     | Annual Benefit |
|------|----------------------|-------|--------|-----|----------------|
| <25  | 0 \$0                |       | 73     | 0   | \$0            |
| 25   | 0 \$0                |       | 74     | 0   | \$0            |
| 26   | 0 . \$0              | •     | 75     | 0   | . \$0          |
| 27   | 0 \$0                |       | 76     | 0   | \$0            |
| 28   | 0 \$0                | •     | 77     | 0   | \$0            |
| 29   | 0 \$0                |       | 78     | 0   | \$0            |
| 30   | 1 \$3,790            |       | 79     | 0   | \$0            |
| 31   | 0 \$0                |       | . 80   | 0   | \$0            |
| 32   | 0 \$0                |       | 81     | 0   | \$0            |
| 33   | 0 \$0                | 4 4 4 | 82     | 0   | \$0            |
| 34   | 0 \$0                |       | 83     | 0   | \$0            |
| 35   | 0 \$0                | •     | 84     | 0   | \$0            |
| 36   | 2 \$7,985            |       | 85     | 0   | \$0            |
| 37   | 0 \$0                |       | 86     | 0   | \$0            |
| 38   | 1 \$5,449            |       | 87     | 0   | \$0            |
| 39   | 0 \$0                |       | 88 :   | 0   | \$0            |
| 40   | 3 \$25,066           |       | 89     | . 0 | \$0            |
| 41   | 3 \$45,540           |       | 90     | 0   | \$0            |
| 42   | 0 \$0                |       | 91     | 0   | \$0            |
| 43   | 1 \$26,561           |       | 92     | 0   | \$0            |
| 44   | 1 \$16,652           |       | 93     | 0   | \$0 .          |
| 45   | 0 \$0                |       | 94     | 0   | \$0            |
| 46   | 3 \$38,013           |       | 95     | 0   | \$0            |
| 47   | 6 \$78,542           |       | 96     | 0   | \$0            |
| 48   | 9 \$110,990          |       | 97     | .0  | \$0            |
| 49   | 3 \$20,254           |       | 98     | 0   | \$0            |
| 50   | 5 \$58,688           |       | 99     | 0   | \$0            |
| 51   | 8 \$121,782          |       | 100    | 0   | \$0            |
| 52   | 6 \$74,978           |       | 101    | 0   | \$0            |
| 53   | 4 \$72,904           |       | 102    | . 0 | \$0            |
| 54   | 4 \$57,993           |       | 103    | 0   | \$0            |
| 55   | 2 \$24,463           |       | 104    | 0   | \$0            |
| 56   | 4 \$55,456           |       | 105    | 0   | \$0            |
| . 57 | 2 \$16,671           |       | 106    | 0   | \$0            |
| 58   | 4 \$60,503           |       | 107    | 0   | \$0            |
| 59   | 7 \$71,923           |       | 108    | 0   | \$0            |
| 60   | 0 \$0                |       | 109    | 0   | \$0            |
| 61   | 4 \$31,624           |       | 110    | 0   | \$0            |
| 62   | 1 \$36,908           |       | 111    | 0   | \$0            |
| 63   | 0 \$0                |       | 112    | 0   | \$0            |
| 64   | 0 \$0                |       | 113    | 0   | \$0            |
| 65   | 0 \$0                |       | 114    | . 0 | \$0            |
| 66   | 0 \$0                |       | 115    | 0   | \$0            |
| 67   | 0 \$0                |       | 116    | 0   | \$0            |
| 68   | 0 \$0                |       | 117    | 0   | \$0            |
| 69   | 0 \$0                |       | 118    | 0   | \$0            |
| 70   | 0 \$0                |       | 119    | 0   | \$0            |
| 71   | 0 \$0                |       | 120    | 0   | \$0            |
| .72  | 0 \$0                |       |        |     |                |
|      |                      |       | Totals | 84  | \$1,062,735    |



# APPENDIX A MEMBERSHIP INFORMATION

# Kansas City Employees' Retirement System Distribution of Vested Members as of May 1, 2010



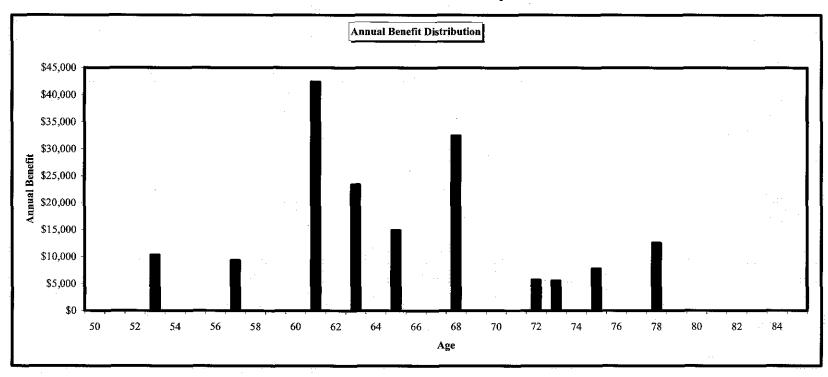
# APPENDIX A MEMBERSHIP INFORMATION

### Kansas City Employees' Retirement System Distribution of Disabled Members as of May 1, 2010

| Age      | Count      | Annual Benefit   | <u> </u> | A ~~     | Count | Annual Benefit    |   |
|----------|------------|--|----------|----------|-------|-------------------|---|
| Age <25  | Count<br>0 |  |          | Age 73   |       | \$5,615           |   |
| 25       | 0          |  |          | 73<br>74 | 1 0   | \$3,013<br>\$0    |   |
| 26       | 0          |  |          | 75       | 1     | \$7,849           |   |
| 20<br>27 | 0          |  | •        | 76       | 0     | \$0               |   |
| 28       | 0          | and the second s |          | 77       | . 0   | \$0               | £ |
| 29       | , 0        | ·  | •        | 78       | 1     | \$12 <b>,</b> 586 |   |
| 30       | 0          |  |          | 79<br>79 | 0     | \$12,300          |   |
| 31       | 0          |  |          | 80       | 0     | \$0               |   |
| 32       | 0          |  |          | 81       | 0     | \$0               |   |
| 33       | 0          |  |          | 82       | 0     | \$0               |   |
| 34       | 0          |  |          | 83       | 0     | \$0               |   |
| 35       | 0          |  |          | 84       | 0     | \$0               |   |
| 36       | 0          |  |          | 85       | 0     | \$0               |   |
| 37       | ő          | and the second s |          | 86       | . 0   | \$0°              |   |
| 38       | 0          |  |          | 87       | 0     | \$0               |   |
| 39       | 0          |  |          | . 88     | 0     | \$0               |   |
| 40       | 0          |  | •        | 89       | . 0   | \$0               |   |
| 41       | 0          |  |          | 90-      | 0     | \$0               |   |
| 42       | 0          |  |          | 91       | . 0   | \$0               |   |
| 43       | 0          |  |          | 92       | . 0   | \$0               |   |
| 44       | 0          |  | •        | 93       | 0     |                   |   |
| 45       | 0          |  |          | 94       | 0     |                   |   |
| 46       | ő          |  |          | 95       | 0     |                   |   |
| 47       | 0          |  |          | 96       | 0     |                   |   |
| 48       | 0          |  |          | 97       | 0     |                   |   |
| 49       | ő          |  |          | 98       | 0     |                   |   |
| 50       | 0          |  |          | 99       | 0     |                   |   |
| 51       | 0          |  |          | 100      | 0     |                   |   |
| 52       | 0          |  |          | . 101    | 0     |                   |   |
| 53       | Ī          |  |          | 102      | 0     | \$0               |   |
| 54       | 0          |  |          | 103      | 0     | \$0               |   |
| 55       | 0          |  |          | 104      | 0     | \$0               |   |
| 56       | 0          |  |          | 105      | 0     |                   |   |
| 57       | 1          |  |          | 106      | 0     | \$0               |   |
| 58       | 0          |  |          | 107      | 0     | \$0               |   |
| 59       | 0          |  |          | 108      | 0     |                   |   |
| 60       | 0          |  |          | 109      | 0     | \$0               |   |
| 61       | 3          |  |          | 110      | 0     | \$0               |   |
| 62       | 0          |  |          | 111      | 0     | \$0               |   |
| 63       | 2          |  |          | 112      | 0     | \$0               |   |
| 64       | 0          |  |          | 113      | 0     | \$0               |   |
| 65       | 1          | \$14,920   |          | 114      | 0     | \$0               |   |
| 66       | 0          | ,  |          | 115      | 0     | \$0               |   |
| 67       | 0          |  |          | 116      | 0     | \$0               |   |
| 68       | 3          |  |          | 117      | 0     | \$0.              |   |
| 69       | 0          |  |          | 118      | 0     | \$0               |   |
| 70       | 0          |  | •        | 119      | 0     | \$0               |   |
| 71       | 0          |  |          | 120      | 0     | \$0               |   |
| 72       | 1          |  |          | •        |       |                   | - |
| •        |            | . , -  |          | Totals   |       | \$164,685         |   |

# APPENDIX A MEMBERSHIP INFORMATION

### Kansas City Employees' Retirement System Distribution of Disabled Members as of May 1, 2010



# APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

#### A. Actuarial Assumptions and Actuarial Cost Method

#### 1. Demographic Assumptions

#### a. Mortality Rates

Healthy:

1994 Group Annuity Mortality Table (sample rates shown below)

Disabled:

1983 Railroad Retirement Board Disabled Life Mortality Table

#### b. Termination Rates before Retirement

|     |       | Ra     | te (%)                 |                                 |
|-----|-------|--------|------------------------|---------------------------------|
|     | Mort  | tality | With                   | idrawal*                        |
| Age | Male  | Female | General<br>Employees** | Judges and<br>Elected Officials |
| 20  | 0.05% | 0.03%  | 10.74%                 | 5.71%                           |
| 25  | 0.07% | 0.03%  | 10.46%                 | 5.14%                           |
| 30  | 0.08% | 0.04%  | 10.09%                 | 3.89%                           |
| 35  | 0.09% | 0.05%  | 9.50%                  | 2.47%                           |
| 40  | 0.11% | 0.07%  | 8.46%                  | 1.18%                           |
| 45  | 0.16% | 0.10%  | 6.79%                  | 0.28%                           |
| 50  | 0.26% | 0.14%  | 4.35%                  | . <b></b>                       |
| 55  | 0.44% | 0.23%  | 1.55%                  |                                 |
| 60  | 0.80% | 0.44%  | 0.15%                  | <b></b>                         |

<sup>\*</sup> Withdrawal rates end upon first assumed retirement age.

<sup>\*\*</sup> Select rates for first four years of service for General Employees:

| · · · · · · · · · · · · · · · · · · · |               |
|---------------------------------------|---------------|
|                                       | Select Period |
| Years of Service                      | Rate          |
| 0-1                                   | 20%           |
| 1 - 2                                 | 15%           |
| 2-3                                   | 12%           |
| 3 – 4                                 | 10%           |

# APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

#### c. Retirement Rates

| Age      | General Employees<br>Age Plus Service<br>Greater than or<br>Equal to 80* | Other General<br>Employees |
|----------|--|----------------------------|
| Under 55 | 15%  | 0%                         |
| 55       | 30%  | 0%                         |
| 56       | 15%  | 0%                         |
| 57       | 15%  | 0%                         |
| 58       | 15%  | 0%                         |
| 59       | 15%  | 0%                         |
| 60       | 15%  | 0%                         |
| 61       | 15%  | 0%                         |
| 62       | 60%  | 100%                       |
| 63       | 60%  | 100%                       |
| 64       | 60%  | 100%                       |
| 65       | 100%   | 100%                       |

<sup>\* 50%</sup> of General Employees are assumed to retire at first age when age plus service equals 80.

|                   | Age | Percent |
|-------------------|-----|---------|
| Elected Officials | 60  | 100%    |
| Judges            | 65  | 100%    |

#### d. Retirement Age for Inactive Vested Members

60

#### e. Unknown Data for Members

Same as those exhibited by Members with similar known characteristics. If not specified, Members are assumed to be male.

#### f. Percent Married

80% for males and 70% for females in active status.

#### g. Age of Spouse

Females 4 years younger than males.

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# APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

#### h. Net Investment Return

7.50% per annum, net of investment fees and administrative expenses (for the current year administrative expenses and investment fees represent approximately 0.4% of plan assets)

#### i. Salary Increases

| General Employees |          |  |  |
|-------------------|----------|--|--|
| Age               | Rate (%) |  |  |
| Less than 25      | 6.00%    |  |  |
| 25 – 29           | 6.00     |  |  |
| 30-:34            | 6.00     |  |  |
| 35 – 39           | 5.50     |  |  |
| 40 - 44           | 5.00     |  |  |
| 45 – 49           | 5.00     |  |  |
| 50 – 54           | 4.50     |  |  |
| 55 <b>–</b> 59    | 4.00     |  |  |
| 60 – 64           | 4.00     |  |  |
| 65 and up         | 4.00     |  |  |

Judges and Elected Official: 6.00% per year for all ages.



# APPENDIX B ACTUARIAL ASSUMPTIONS AND METHODS

#### **B.** Actuarial Methods

#### 1. Actuarial Value of Assets

Asset values are gradually adjusted toward market value by adding 25% of the difference between the market value and expected actuarial asset value to the expected actuarial asset value. The expected actuarial asset value is the actuarial asset value at the beginning of the year plus contributions, less benefit payments, all with interest at the assumed net rate of investment return on an actuarial basis. If the actuarial value of assets is less than 85% or more than 110% of the market value, an adjustment is made to the actuarial value to bring the value within this corridor.

#### 2. Actuarial Cost Method

Entry Age Normal Actuarial Cost Method. Entry age is the age at the time the participant commenced employment. Normal cost and actuarial liability are calculated on an individual basis and are allocated by salary, with normal cost determined as if the current benefit accrual rate had always been in effect.

#### 3. Amortization of Unfunded Actuarial Liability/Surplus

20-year layered amortization method; level percent of pay for all years except the 5/1/2009 Plan Year (30-year layer). Under the layered approach, the May 1, 2009 changes to the unfunded actuarial liability will be written down over a 30-year period and all future changes to the unfunded actuarial liability will establish new 20-year amortization periods.

#### 4. Changes Since Last Valuation

None.

#### APPENDIX C SUMMARY OF PLAN PROVISIONS

#### 1. Plan Year

May 1 through April 30.

#### 2. Membership

All full-time permanent employees in the classified and unclassified services shall become members as a condition of employment. Employees of any administrative board or board of control as organized and existing under general laws of Missouri and as defined in Revised Statutes of Missouri, Section 95.540, whose governing body has elected membership, shall become members. Membership shall begin on the first day of employment.

#### 3. Credited Service

Total creditable service is defined as the sum of the number of years of membership service and prior service.

Membership Service:

Years and full calendar months of employment while a contributing

member of this System.

Prior Service:

Years and full calendar months of employment preceding

December 21, 1962, if continuous with membership service.

#### 4. Normal Retirement

Age Requirement:

General Employees: 65

Judges and Elected Officials: Later of age 60 or expiration of term

of office.

Service Requirement:

General Employees: 5 years of creditable service.

Judges and Elected Officials: One elective term.

Amount:

General Employees:

If unmarried at time of retirement, 2.22% of final average compensation multiplied by years and months of creditable service.

If married at date of retirement, 2.00% of final average compensation multiplied by years and months of creditable service.

Minimum benefit: \$400 per month if retirement with at least 10

years of creditable service.

Maximum benefit: 70% of final average compensation.

#### APPENDIX C SUMMARY OF PLAN PROVISIONS

Judges and Elected Officials:

2.22% of average monthly compensation received by then serving Judges and Elected Officials of the same office during the 24 months preceding the beginning of the annuity multiplied by years and months of creditable service.

Maximum benefit: 70% of the existing salary for then serving Judges and Elected Officials of the same office.

A member retiring with a normal, optional, service or early retirement benefit may elect to withdraw all, or a portion of, member accumulated contributions and interest, and receive a reduced annuity.

Final average compensation is defined as the monthly average of the two highest years of compensation in the last ten years (for Judges and Elected Officials, last ten years for then serving elected official of same office). Compensation does not include bonus, overtime, expense allowance or other extraordinary compensation.

#### 5. Optional Retirement

Age/Service Requirement:

60 and 10 years of creditable service, or the sum of age and

service equals 80, if earlier.

Amount:

Same as normal retirement.

#### 6. Early Retirement

Age/Service Requirement:

General Employees: 60 and 5 years of creditable service,

or 55 and 10 years of creditable service.

Judges and Elected Officials: 55 and 10 years of creditable

service.

Amount:

Accrued benefit reduced by ½ of 1% per month of age less

than 60 or, if service is less than ten ½ of 1% per month of

age less than 65.

#### 7. Disability Benefit

Disability benefits are provided through a separate long-term disability program, effective June 1, 1996.



#### APPENDIX C SUMMARY OF PLAN PROVISIONS

#### 8. Vesting

Age Requirement:

None.

Service Requirement:

Five years of service.

Amount:

Accrued benefit payable at age 60, or payable at age 65 if service

less than 10.

#### 9. Withdrawal (Refund) Benefit

Age Requirement:

None.

Service Requirement: Less than five years of service.

Amount:

An employee terminating before becoming eligible for a deferred

pension or choosing not to elect a deferred benefit, will receive a

return of contributions with interest.

#### 10. Pre-Retirement Death Benefit

#### Service less than five years

Age Requirement:

None.

Service Requirement:

Less than five years.

Amount:

Lump sum equal to the member's accumulated contributions and interest shall be paid to the surviving spouse or, if no surviving spouse, to the designated beneficiary, or, if none, to the member's

estate.

Service of five or more years but less than 20 years:

Age Requirement:

None.

Service Requirement:

Five or more years of service but less than 20 years.

Amount:

The surviving spouse may elect, in lieu of the lump sum settlement above, an annuity equal to 50% of the member's accrued annuity at the time of death. The effective date of this annuity shall be the later of the first day of the month following the member's death or attainment of what would have been the member's early retirement

#### APPENDIX C SUMMARY OF PLAN PROVISIONS

date. The annuity is reduced for early retirement if paid at the member's early retirement date.

#### Service of 20 or more years of service:

Age Requirement:

None.

Service Requirement:

20 or more years of service.

Amount:

The surviving spouse may elect, in lieu of the settlements above, an annuity equal to 100% of the member's accrued annuity at the time of death, actuarially reduced for 100% joint and survivor coverage. The effective date of this annuity shall be the first day of the month

following the member's death.

#### 11. Post-Retirement Death Benefit

Age Requirement:

None.

Service Requirement:

None.

Amount:

The surviving spouse shall receive an annuity equal to 50% of the member's accrued annuity, or, if the member elected the actuarially equivalent 100% joint and survivor annuity, this annuity shall continue to be paid to the surviving spouse. Either annuity is

payable until death or remarriage of the spouse.

#### 12. Minimum Surviving Spouses' Pension

A minimum benefit of \$200 per month is paid to surviving spouses of members with 10 or more years of creditable service.

#### 13. Health Insurance Subsidy

A monthly health insurance subsidy of \$200 is paid to all current and future pensioners. Benefits are payable for the lifetime of the member and are not subject to an annual cost-of-living adjustment.

#### 14. Cost-of-Living Adjustment (COLA)

An increase of 3.00% of the original pension will be made annually. Members must retire on or before January 1<sup>st</sup> in order to receive a COLA in the following year.

#### APPENDIX C SUMMARY OF PLAN PROVISIONS

#### 15. Contributions

a. Member

- 4.00% of salary

- The City "picks up" these employee contributions.

b. City

- 9.50% of payroll for General Employees

- 2.53% of payroll for General Employees for the retirement window offered in 2003, projected to be paid annually through April 30, 2013.

- 19.50% of payroll for Judges and Elected Officials.

#### 16. Interest on Employee Contributions

5.25% per year, compounded.

#### 17. Changes Since Last Valuation

There have been no changes in plan provisions since the preceding actuarial valuation.