



**The Report of the  
Fifty-First Annual Actuarial Valuation**

**of the  
City of Sioux Falls Employee's Retirement System  
December 31, 2001**

**Submitted to  
The Board of Trustees**

**City of Sioux Falls Employee's Retirement System  
Sioux Falls, South Dakota**

**Gabriel, Roeder, Smith & Company**



## OUTLINE OF CONTENTS

| Page | Items   |
|------|---|
| 1    | <i>Cover Letter</i>   |
|      | <i>Valuation Results, Comments, Recommendations and Conclusions</i> |
| A-1  | Financial objective   |
| A-2  | Computed City-State contributions                                   |
| A-3  | Active & retired members, benefits as a percent of payroll          |
| A-4  | Computed and actual contributions – comparative statement           |
| A-5  | Actuarial Balance Sheet   |
| A-6  | Gain/Loss derivation  |
| A-7  | Post-retirement health insurance - computed City contributions      |
| A-8  | Post-retirement health insurance - comparative statements           |
| A-9  | Comments, recommendations and conclusions                           |
| A-11 | General/Management computed contributions                           |
| A-12 | Police computed contributions                                       |
|      | <i>Summary of Benefit Provisions and Valuation Data</i>             |
| B-1  | Summary of benefit provisions                                       |
| B-3  | Reported asset information  |
| B-8  | Retired life data   |
| B-10 | Vested former member data   |
| B-11 | Active member data  |
|      | <i>Financial Principles and Actuarial Valuation Process</i>         |
| C-1  | Actuarial cost method   |
| C-2  | Actuarial assumptions   |
| C-4  | Actuarial assumptions used for the valuation                        |
| C-9  | Miscellaneous technical assumptions                                 |
| C-10 | Definitions of technical terms                                      |
| C-12 | Sick leave utilization experience                                   |
|      | <i>Disclosures Required By GASB Statement No. 25, 26 and 27</i>     |
| D-1  | Schedule of funding progress  |
| D-2  | Summary of actuarial methods and assumptions                        |
| D-3  | Statement Number 26   |



**GABRIEL, ROEDER, SMITH & COMPANY**

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May 9, 2002

The Board of Trustees  
City of Sioux Falls Employee's Retirement System  
Sioux Falls, South Dakota

Ladies and Gentlemen:

Submitted in this report are the results of the Fifty-First Annual Actuarial Valuation of the assets, actuarial values and contribution requirements associated with benefits (pensions and post-retirement health insurance) provided by the City of Sioux Falls Employee's Retirement System. The purpose of the valuation was to measure the System's funding progress and to determine contribution rates for the second following calendar year.

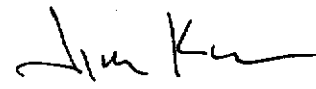
The date of the valuation was December 31, 2001.

The valuation was based upon information, furnished by your Secretary, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for year-to-year consistency but was not otherwise audited.

To the best of our knowledge this report is complete and accurate and was made in accordance with Standards of Practice prescribed by the Actuarial Standards Board and in compliance with the statutes governing the Retirement System. The actuarial assumptions used for the valuation produce results which we believe are reasonable.

Respectfully submitted,

  
Louise M. Gates, ASA

  
W. James Koss, ASA

LMG/WJK:ct

## **Section A**



### **Valuation Results, Comments, Recommendations and Conclusions**

## FINANCIAL OBJECTIVE

The financial objective of the Retirement System is to establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year-to-year and will accumulate reserves during members' working lifetimes which will be sufficient to pay promised benefits throughout retirement.

## CONTRIBUTION RATES

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the financial objective are determined by an annual actuarial valuation and are sufficient to:

- (1) cover the actuarial present value of benefits assigned to the current year by the actuarial cost methods described in Section C (the normal cost); and
- (2) amortize over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (unfunded actuarial accrued liability).

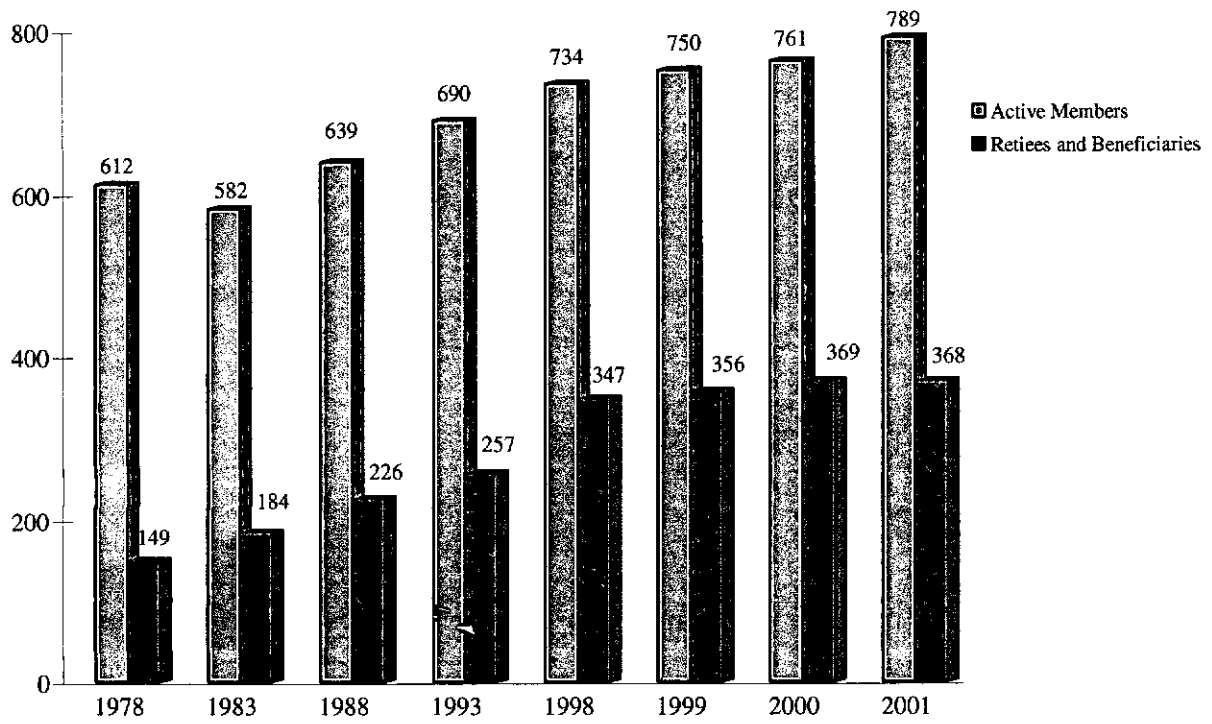
Contribution requirements for the year beginning January 1, 2003 are shown on page A-2.

**PENSION CONTRIBUTIONS COMPUTED TO MEET THE FINANCIAL  
OBJECTIVE OF THE RETIREMENT SYSTEM  
FOR THE YEAR BEGINNING JANUARY 1, 2003**

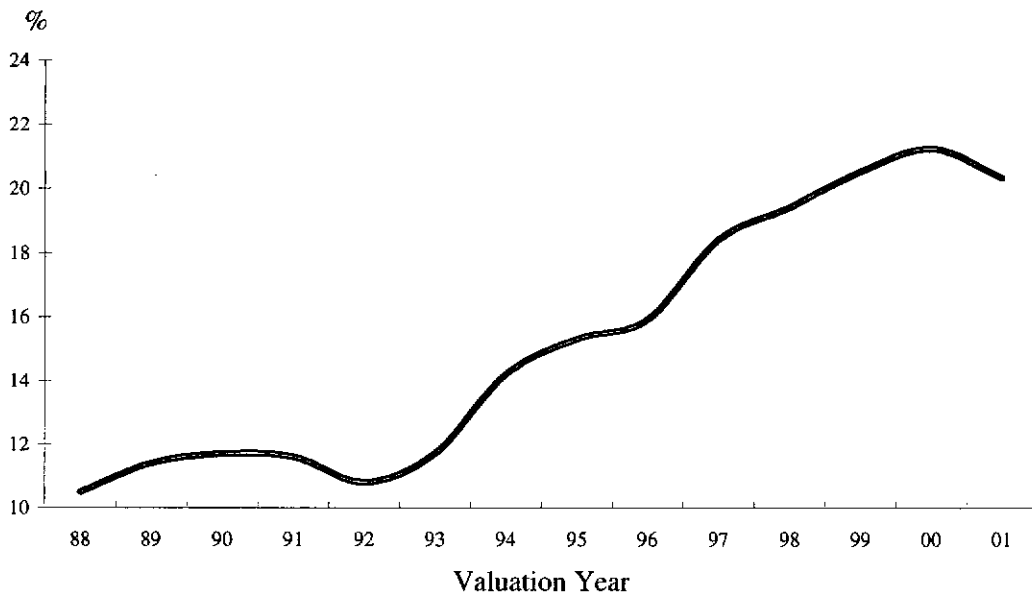
| Contributions for                          | Contributions Expressed<br>As Percents of Payroll |        |
|--|---|--------|
|  | General   | Police |
| Normal Cost                                |   |        |
| Age & service benefits                     | 9.60%   | 15.93% |
| Death and Disability benefits              | 1.03  | 1.31   |
| Termination benefits                       |   |        |
| Deferred age & service benefits            | 0.50  | 0.21   |
| Refunds of member contributions            | 0.26  | 0.87   |
| Total Normal Cost                          | 11.39%  | 18.32% |
| Unfunded Actuarial Accrued Liabilities (1) | (0.62)%   | 4.10%  |
| Total Contribution Requirement             | 10.77%  | 22.42% |
| Member portion                             | 3.00%   | 8.00%  |
| City-State portion                         | 7.77%   | 14.42% |

- (1) The excess of valuation assets over pension accrued liabilities was amortized as a level percent of active member payroll over a period of 22 years, producing an amortization credit of 0.62% of General/Management payroll. The same amortization period was used in financing accrued liabilities in the Police group, producing an amortization payment of 4.10% of payroll.

### Active and Retired Members



### Pension Benefits as a Percent of Payroll



**COMPUTED AND ACTUAL CITY CONTRIBUTIONS  
COMPARATIVE STATEMENT**

| Fiscal Year | Valuation Date<br>December 31 | Actual Dollar Contrib. | Valuation Payroll | Projected Payroll* | % of Payroll Contributions |         | Weighted Average |
|-------------|-------------------------------|------------------------|-------------------|--------------------|----------------------------|---------|------------------|
|             |                               |                        |                   |                    | General                    | Police  |                  |
| 1988        | 1986 #                        | \$1,392,281            | \$14,377,195      | \$15,556,125       | 7.17 %                     | 10.66 % | 7.92 %           |
| 1989        | 1987                          | 1,383,003              | 15,680,286        | 16,966,069         | 7.14                       | 11.80   | 8.15             |
| 1990        | 1988 @#                       | 1,443,686              | 15,876,924        | 16,512,001         | 8.37                       | 9.74    | 8.66             |
| 1991        | 1989 @#                       | 1,396,023              | 16,570,850        | 17,399,392         | 6.80                       | 7.58    | 6.97             |
| 1992        | 1990 @#                       | 1,774,429              | 17,211,716        | 18,072,302         | 9.03                       | 9.59    | 9.16             |
| 1993        | 1991 #                        | 2,263,003              | 19,100,960        | 20,056,008         | 9.37                       | 11.03   | 9.75             |
| 1994        | 1992 @#                       | 2,907,613              | 21,155,752        | 22,213,540         | 10.26                      | 17.20   | 11.85            |
| 1995        | 1993                          | 2,894,831              | 22,272,331        | 23,385,947         | 9.50                       | 17.36   | 11.20            |
| 1996        | 1994                          | 3,035,778              | 23,186,822        | 24,346,163         | 9.69                       | 17.57   | 11.37            |
| 1997        | 1995                          | 3,004,970              | 24,295,495        | 25,510,270         | 9.25                       | 16.92   | 11.09            |
| 1998        | 1996                          | 3,398,714              | 25,525,258        | 26,801,520         | 9.29                       | 17.27   | 11.20            |
| 1999        | 1997 #                        | 3,467,147              | 25,830,779        | 26,993,164         | 10.33                      | 18.09   | 12.14            |
| 2000        | 1998 @                        | 3,382,633              | 27,295,184        | 28,523,467         | 9.68                       | 16.85   | 11.42            |
| 2001        | 1999                          | 3,187,191              | 27,623,182        | 28,866,225         | 8.47                       | 13.90   | 9.80             |
| 2002        | 2000 **                       |                        | 29,068,666        | 30,376,756         | 7.60                       | 15.60   | 9.67             |
| 2003        | 2001 **                       |                        | 31,751,356        | 33,180,167         | 7.77                       | 14.42   | 9.45             |

@ After changes in actuarial assumptions or methods.

# After changes in benefit provisions.

\* The valuation payroll is projected from the valuation date to the appropriate fiscal year. The current projection factor is equal to 1.045.

\*\* Reflects full funding credit.



# ACTUARIAL BALANCE SHEET - DECEMBER 31, 2001

## *Present Resources and Expected Future Resources*

|   | General       | Police       | Total         |
|---|---------------|--------------|---------------|
| A. Valuation assets   | \$109,152,934 | \$55,842,870 | \$164,995,804 |
| B. Actuarial present value of expected future employer contributions      |               |              |               |
| 1. For normal costs   | 19,207,653    | 9,125,560    | 28,333,214    |
| 2. For unfunded actuarial accrued liabilities                             | (2,263,974)   | 5,032,532    | 2,768,558     |
| 3. Total  | 16,943,679    | 14,158,092   | 31,101,772    |
| C. Actuarial present value of expected future member contributions        | 6,970,967     | 7,040,068    | 14,011,036    |
| D. Total Actuarial Present Value of Present and Expected Future Resources | \$133,067,581 | \$77,041,031 | \$210,108,611 |

## *Actuarial Present Value of Expected Future Benefit Payments and Reserves*

|   |               |              |               |
|---|---------------|--------------|---------------|
| A. To retirees and beneficiaries  | \$ 46,807,020 | \$33,388,584 | \$ 80,195,604 |
| B. To vested terminated members   | 1,991,113     | 131,369      | 2,122,482     |
| C. To present active members  |               |              |               |
| 1. Allocated to service rendered prior to valuation date                          | 58,090,826    | 27,355,449   | 85,446,275    |
| 2. Allocated to service likely to be rendered after valuation date                | 26,178,622    | 16,165,629   | 42,344,250    |
| 3. Total  | 84,269,448    | 43,521,078   | 127,790,525   |
| D. Reserves   |               |              |               |
| 1. Allocated to retirants and beneficiaries                                       | 0             | 0            | 0             |
| 2. Unallocated investment income  | 0             | 0            | 0             |
| 3. Total  | 0             | 0            | 0             |
| E. Total Actuarial Present Value of Expected Future Benefit Payments and Reserves | \$133,067,581 | \$77,041,031 | \$210,108,611 |

**DERIVATION OF ACTUARIAL GAIN (LOSS)  
YEAR ENDED DECEMBER 31, 2001**

The actuarial gains or losses realized in the operation of the Retirement System provide an experience test. Gains and losses are expected to cancel each other over a period of years (in the absence of double-digit inflation) and sizable year-to-year fluctuations are common. Details of the derivation of the actuarial gain (loss) are shown below.

|   | <u>General</u> | <u>Police</u> |
|---|----------------|---------------|
| (1) UAAL* at start of year                          | \$(2,554,623)  | \$6,298,966   |
| (2) Normal cost                                     | 2,446,454      | 1,374,311     |
| (3) Actual contributions                            | 2,777,112      | 1,769,904     |
| (4) Interest accrual                                | (217,596)      | 488,094       |
| (5) Expected UAAL before changes                    | (3,102,877)    | 6,391,467     |
| (6) Change from benefit increases                   | none           | none          |
| (7) Change from revised actuarial methods           | none           | none          |
| (8) Expected UAAL after changes                     | (3,102,877)    | 6,391,467     |
| (9) Actual UAAL at end of year                      | (2,263,974)    | 5,032,532     |
| (10) Gain (loss) (8) - (9)                          | (838,903)      | 1,358,935     |
| (11) Gain (loss) as percent of AAL at start of year | (0.8)%         | 2.4%          |

\* *Unfunded actuarial accrued liability.*

**POST-RETIREMENT HEALTH INSURANCE  
CITY'S COMPUTED CONTRIBUTIONS FOR THE FISCAL YEAR  
BEGINNING JANUARY 1, 2003**

| <b>Contributions for</b>                                   | <b>Level Contribution as % of Active Payroll</b> |                  |
|--|--|------------------|
|  | <b>General</b>                                   | <b>Police</b>    |
| Normal Cost  | 0.91 %   | 1.26 %           |
| UAAL Contribution  | 1.06   | 1.75             |
| <b>TOTAL COMPUTED CITY RATE</b>                            | <b>1.97 %</b>                                    | <b>3.01 %</b>    |
| <b>DOLLAR CONTRIBUTION BASED<br/>ON VALUATION PAYROLL*</b> | <b>\$488,753</b>                                 | <b>\$251,948</b> |

\* *Projected to coming fiscal year. Projection factor is equal to 1.045.*

Unfunded actuarial accrued liabilities (UAAL) were amortized as a level percent of active member payroll over a period of 22 years.

**POST-RETIREMENT HEALTH INSURANCE  
COMPARATIVE STATEMENT**

| Fiscal Year | Valuation Date<br>December 31 | Actual Dollar Contrib. | Valuation Payroll | Projected Payroll* | Computed City Contributions<br>As % of Payroll |        |                  |
|-------------|-------------------------------|------------------------|-------------------|--------------------|--|--------|------------------|
|             |                               |                        |                   |                    | General  | Police | Weighted Average |
| 1989        | 1987                          | \$ 67,327              | \$15,680,286      | \$16,966,069       | 0.31 %   | 0.71 % | 0.40 %           |
| 1990        | 1988 @                        | 85,385                 | 15,876,924        | 16,512,001         | 0.40   | 0.93   | 0.58             |
| 1991        | 1989 @                        | 149,466                | 16,570,850        | 17,399,392         | 0.72   | 1.47   | 0.90             |
| 1992        | 1990 @                        | 227,797                | 17,211,716        | 18,072,302         | 1.03   | 2.07   | 1.26             |
| 1993        | 1991                          | 248,137                | 19,100,960        | 20,056,008         | 1.02   | 1.97   | 1.24             |
| 1994        | 1992                          | 256,785                | 21,155,752        | 22,213,540         | 0.95   | 1.85   | 1.16             |
| 1995        | 1993                          | 296,373                | 22,272,331        | 23,385,948         | 1.06   | 2.02   | 1.27             |
| 1996        | 1994                          | 333,542                | 23,186,822        | 24,346,163         | 1.12   | 2.31   | 1.37             |
| 1997        | 1995                          | 336,736                | 24,295,495        | 25,510,270         | 1.10   | 2.03   | 1.32             |
| 1998        | 1996                          | 324,620                | 25,525,258        | 26,801,521         | 1.03   | 1.79   | 1.21             |
| 1999        | 1997 @                        | 278,993                | 25,830,779        | 26,993,164         | 0.73   | 1.92   | 1.01             |
| 2000        | 1998                          | 234,897                | 27,295,184        | 28,523,467         | 0.71   | 1.75   | 0.96             |
| 2001        | 1999                          | 309,197                | 27,623,182        | 28,866,225         | 0.96   | 1.81   | 1.16             |
| 2002        | 2000 @                        |                        | 29,068,666        | 30,376,756         | 1.59   | 2.60   | 1.85             |
| 2003        | 2001 @                        |                        | 31,751,356        | 33,180,167         | 1.97   | 3.01   | 2.23             |

\* The valuation payroll is projected from the valuation date to the appropriate fiscal year. The current projection factor is equal to 1.045.

@ After changes in actuarial assumptions or methods.

## COMMENTS, RECOMMENDATIONS AND CONCLUSIONS

**Comment A:** Pension plan experience was favorable during the year ended December 31, 2001 in the Police group. Investment income on a funding value basis exceeded the long-term assumed rate, and was a source of the favorable experience. In addition, lower than anticipated pay increases contributed to the favorable experience. It is important to note that during the year 2001 the market value rate of return was significantly lower than the assumed rate. In contrast, the rate of return on a funding value basis was higher than anticipated. This difference is due to the recognition of prior investment gains (a feature of the asset smoothing method). The investment gain for both groups was \$2.2 million.

Overall pension plan experience in the General/Management group was not favorable during the year ended December 31, 2001. Actual pay increases exceeded assumed rates and was the primary source of unfavorable experience. Favorable investment experience on a funding value basis partially offset the experience loss. In addition, a reserve was established in recognition of scheduled future pay increases in excess of the assumed rate over the next 2 years. This reserve (\$1.8 million) increased the current year's Police pension contribution rate by 1.4% of active member pay.

**Comment B:** During the year ended December 31, 2001, there were no plan provision changes reported to the actuary.

**Comment C:** Pension assets exceeded pension accrued liabilities in the General/Management group by \$2.3 million. This excess (full funding credit) was amortized as a level percent of payroll over a 22 year period and applied as a credit to the normal cost contribution. There is no universally accepted procedure for computing the City's contribution in the presence of a full funding credit. The magnitude of the credit and, in fact, the use of the credit at all is a matter of policy. The numbers shown in this report represent one reasonable approach. A shorter period would result in a larger offset to the normal cost contribution rate.

**Comment D:** In recognition of recent changes in the medical plan options offered to retirees, a new method was used in this valuation to develop premiums and recognize the change in utilization of medical plans among retirees. The method is described in Section C of this report. This new method recognized a weighted average of premiums from both the indemnity and managed care plans in developing retiree health contribution rates.

**Conclusion:** The Retirement System is in good financial condition in accordance with level percent-of-payroll financing. In order for this to continue, investment markets will have to rebound from their current disappointing levels.

**CONTRIBUTIONS COMPUTED TO MEET THE FINANCIAL OBJECTIVE  
OF THE RETIREMENT SYSTEM  
FOR THE YEAR BEGINNING JANUARY 1, 2003  
GENERAL/MANAGEMENT**

| <b>Contributions for</b>                   | <b>Contributions Expressed<br/>As Percents of Payroll</b> |               |              |
|--|---|---------------|--------------|
|  | <b>Pension</b>  | <b>Health</b> | <b>Total</b> |
| Normal Cost                                |   |               |              |
| Age & service benefits                     | 9.60%   | 0.79%         | 10.39%       |
| Death and Disability benefits              | 1.03  | 0.12          | 1.15         |
| Termination benefits                       |   |               |              |
| Deferred age & service benefits            | 0.50  | 0.00          | 0.50         |
| Refunds of member contributions            | 0.26  | 0.00          | 0.26         |
| Total Normal Cost                          | 11.39%  | 0.91%         | 12.30%       |
| Unfunded Actuarial Accrued Liabilities (1) | (0.62)%   | 1.06%         | 0.44%        |
| Total Contribution Requirement             | 10.77%  | 1.97%         | 12.74%       |
| Member portion                             | 3.00%   | 0.00%         | 3.00%        |
| City-State portion                         | 7.77%   | 1.97%         | 9.74%        |

- (1) The excess of valuation assets over pension accrued liabilities was amortized as a level percent of active member payroll over a period of 22 years, producing an amortization credit of 0.62% of payroll. The same amortization period was used in financing retiree health accrued liabilities.

**CONTRIBUTIONS COMPUTED TO MEET THE FINANCIAL OBJECTIVE  
OF THE RETIREMENT SYSTEM  
FOR THE YEAR BEGINNING JANUARY 1, 2003  
POLICE**

| Contributions for                          | Contributions Expressed<br>As Percents of Payroll |        |        |
|--|---|--------|--------|
|  | Pension   | Health | Total  |
| Normal Cost                                |   |        |        |
| Age & service benefits                     | 15.93%  | 1.14%  | 17.07% |
| Death and Disability benefits              | 1.31  | 0.12   | 1.43   |
| Termination benefits                       |   |        |        |
| Deferred age & service benefits            | 0.21  | 0.00   | 0.21   |
| Refunds of member contributions            | 0.87  | 0.00   | 0.87   |
| Total Normal Cost                          | 18.32%  | 1.26%  | 19.58% |
| Unfunded Actuarial Accrued Liabilities (1) | 4.10%   | 1.75%  | 5.85%  |
| Total Contribution Requirement             | 22.42%  | 3.01%  | 25.43% |
| Member portion                             | 8.00%   | 0.00%  | 8.00%  |
| City-State portion                         | 14.42%  | 3.01%  | 17.43% |

*last year 15.6*

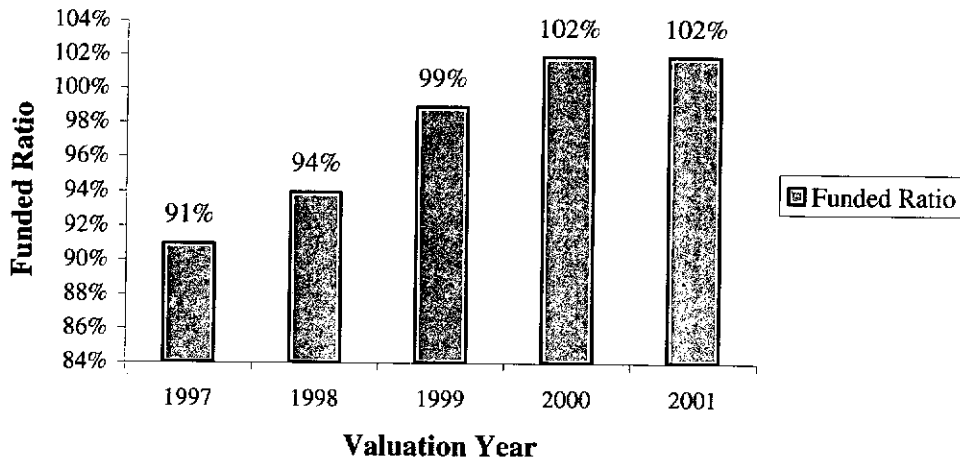
- (1) Unfunded actuarial accrued liabilities for pensions and retiree health benefits were amortized as a level percent of active member payroll over a period of 22 years.



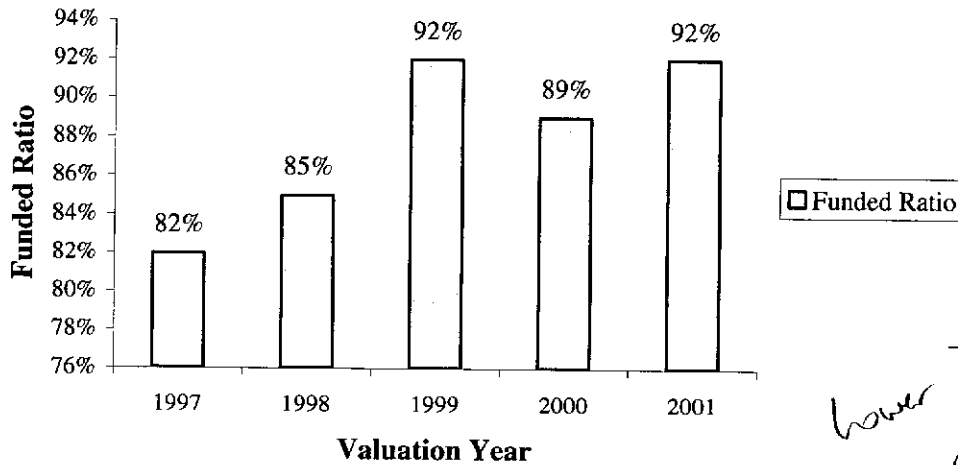
# FUNDED RATIO HISTORY PENSION LIABILITIES

*Not health*

## General/Management



## Police



*lower than if used  
Market Value*

**Section B**



**Summary of Benefit Provisions  
and Valuation Data**

**BENEFIT PROVISIONS EVALUATED  
AND/OR CONSIDERED  
(DECEMBER 31, 2001)**

**Regular Unreduced Retirement**

*Eligibility* - General members: age 55 with 30 or more years service, or age 60 with 5 years service.

Police: age 50 with 25 years service, or age 60 with 15 years service.

*Mandatory Retirement Age* - Police: age 60 (age 65 with employer consent).

*Annual Amount* - General members: 1.8% of final average pay times years of service.

Police: final average pay times the sum of a) 2.5% times the first 25 years of service, plus b) 1.5% times service in excess of 25 years.

*Type of Final Average Pay* - Highest 3 consecutive years out of last 10. Some lump sums are included.

**Early Reduced Retirement**

*Eligibility* - 20 or more years of service.

*Annual Amount* - Same as regular retirement except that the benefit is actuarially reduced.

**Deferred Retirement (vested benefit):**

*Eligibility* - General Members: 5 years of service. Benefit commences at age 60.

Police: 15 years of service. Benefit commences at age 60.

*Annual Amount* - Computed as a regular retirement benefit based on service and final average pay at termination.

**Duty Disability Retirement:**

*Eligibility* - No age or service requirement.

*Annual Amount* - Computed as a regular retirement benefit. If disabled before eligible for regular retirement, additional service is credited for the period between disability and the time member would have been eligible for regular retirement if he had not been disabled. Minimum benefit is 12.5% of final average pay for general members and 20% of final average pay for police. Worker's Compensation payments are offset.

**BENEFIT PROVISIONS EVALUATED  
AND/OR CONSIDERED  
(DECEMBER 31, 2001)**

**Non-Duty Disability Retirement:**

*Eligibility* - 10 years of service.

*Annual Amount* - Computed as a regular retirement benefit based on service and final average pay at time of disability. Worker's Compensation payments are offset.

**Duty Death Before Retirement:**

*Eligibility* - No age or service requirement. Worker's Compensation must be payable.

*Annual Amount* - Refund of accumulated contributions. Spouse receives pension of 1/3 of final average pay until death. Unmarried children under age 18 or an eligible handicapped child each receive an equal share of 1/6 of final average pay (if no spouse each child receives 1/4 to a maximum of 1/2). If no spouse or eligible children, dependent parents each receive 1/6 of final average pay (each parent's pension limited to \$600 annually). Worker's Compensation payments are offset.

**Non-Duty Death Before Retirement:**

*Eligibility* - 10 years of service.

*Annual Amount* - Spouse (or some other dependent if an Option B election was in force) receives a benefit computed as regular retirement benefit but actuarially reduced in accordance with a 100% joint and survivor election. Minimum benefit is \$360 annually. If no Option B election is in force, each unmarried child under age 18 or an eligible handicapped child receives \$2,400 annually. If no Option B election is in force and there is no eligible spouse, member contributions are refunded.

**Post-Retirement Cost-of-Living Adjustments:** Annual increase equal to 100% of the CPI in June of each year (with a cap of 3%) applied to the member's current benefit. The first increase will be granted after 36 months of retirement.

**Member Contributions:** Police: 8% of compensation.  
Elected officials, appointed officers and management employees: 3.0% of compensation.  
Other members: 3.0% of compensation.

## REPORTED FUND BALANCES (MARKET VALUE)

| Reserves                | Reported Fund Balances |                     |
|-------------------------|------------------------|---------------------|
|                         | December 31, 2000      | December 31, 2001   |
| Annuity Savings Fund    |                        |                     |
| General division        | \$ 14,410,443          | \$ 14,953,154       |
| Police division         | 5,659,551              | 6,315,670           |
| Totals                  | <u>20,069,994</u>      | <u>21,268,824</u>   |
| Employer Reserve Fund   |                        |                     |
| General division        | (1,153,558)            | (2,501,707)         |
| Police division         | (9,416,247)            | (9,069,422)         |
| Totals                  | <u>(10,569,805)</u>    | <u>(11,571,129)</u> |
| Retirement Reserve Fund |                        |                     |
| General division        | 29,991,229             | 32,712,052          |
| Police division         | 27,794,126             | 28,622,161          |
| Totals                  | <u>57,785,355</u>      | <u>61,334,213</u>   |
| Income Fund             | 90,786,760             | 83,497,007          |
| Expense Fund            | <u>87,123</u>          | <u>23,004</u>       |
| Total Balances          | \$158,159,427          | \$154,551,919       |

## DERIVATION OF VALUATION ASSETS

|  | Pensions      | Health      | Grand<br>Total   |
|--|---------------|-------------|------------------|
| Assumed Interest                                       | 8.00%         | 8.00%       | 8.00%            |
| A. Funding Value, 12/31/00                             | \$152,796,352 | \$2,094,814 | \$154,891,166    |
| B. Market Value Beginning of Year                      | 156,115,014   | 2,044,413   | 158,159,427      |
| C. Non-Investment Net Cash Flow                        | (2,109,651)   | 37,667      | (2,071,984)      |
| D. Investment Income(Market total)                     |               |             | (1,535,524)      |
| E. Market Value End of Year                            |               |             | 154,551,919      |
| F. Phase-in Factor                                     |               |             | 20%              |
| G. Expected Income                                     |               |             | 12,308,414       |
| H. Market Value Gain (Loss): [(D) - (G)]               |               |             | (13,843,938)     |
| I. Method Change: #                                    |               |             | 16,361,456       |
| J. Recognition of Gain/(Loss)                          |               |             |                  |
| J1. Year One   |               |             | (2,768,788)      |
| J2. Year Two   |               |             | (2,340,287)      |
| J3. Year Three   |               |             | 2,079,724        |
| J4. Year Four  |               |             | 1,149,935        |
| J5. Year Five#   |               |             | 4,090,364        |
| J6. Total (J1...J5)                                    |               |             | <u>2,210,948</u> |
| K. Funding Value, 12/31/01<br>[(A) + (C) + (G) + (J6)] |               |             | 167,338,544      |
| L. Gross Funding Rate of Return                        |               |             | 9.4%             |
| Percent Allocation (A+C)/Total                         | 98.6%         | 1.4%        | 100.0%           |
| Funding Value of Assets                                | \$164,995,804 | \$2,342,740 | \$167,338,544    |

# Four year phase-in.

**SUMMARY OF  
CURRENT ASSET INFORMATION  
REPORTED FOR VALUATION**

*Trust Assets*

|                        | <b>December 31, 2001<br/>Market Value</b> |
|------------------------|---|
| Cash & equivalents     | \$ 783,965                                |
| Receivables & Accruals | 434,732                                   |
| Investments            | 153,400,129                               |
| Less accounts payable  | 66,907                                    |
| Total Assets           | <b>\$154,551,919</b>                      |

*Revenues and Expenditures of Trust*

|                                 | <b>2001</b>          | <b>2000</b>          |
|---------------------------------|----------------------|----------------------|
| Balance - January 1             | \$158,159,427        | \$160,245,442        |
| Revenues                        |                      |                      |
| Employee's contributions        | 1,359,825            | 1,249,943            |
| Employer contributions          | 3,537,191            | 3,667,166            |
| Investment income               | (1,535,524)          | (539,610)            |
| Other income                    | 0                    | 0                    |
| Expenditures                    |                      |                      |
| Benefit payments                | 6,190,412            | 5,847,524            |
| Hospitalization Insurance       | 309,197              | 234,897              |
| Refunds of member contributions | 237,070              | 177,771              |
| Operating expenses              | 232,321              | 203,322              |
| Miscellaneous                   | 0                    | 0                    |
| Balance - December 31           | <b>\$154,551,919</b> | <b>\$158,159,427</b> |

**MARKET VALUE OF ASSETS REPORTED FOR VALUATION  
COMPARATIVE STATEMENT**

| Year<br>Ended<br>Dec. 31 | Assets               |            | Revenues             |                      |                      | Expenses               |                     |                   | Assets<br>Year-End |
|--------------------------|----------------------|------------|----------------------|----------------------|----------------------|------------------------|---------------------|-------------------|--------------------|
|                          | Beginning<br>of Year |            | Employee<br>Contrib. | Employer<br>Contrib. | Investment<br>Income | Retirement<br>Benefits | Contrib.<br>Refunds | Misc.<br>Expenses |                    |
| 1988                     | \$ 34,337,341        | \$ 899,365 | \$ 1,392,281         | \$ 6,778,655         | \$ 1,497,337         | \$ 101,072             | \$ 235,059          | \$ 41,574,174     |                    |
| 1989                     | 41,574,174           | 949,043    | 1,450,330            | 8,003,122            | 1,670,682            | 131,935                | 276,852             | 49,897,200        |                    |
| 1990                     | 49,897,200           | 987,508    | 1,529,071            | (437,429)            | 1,877,163            | 100,727                | 300,798             | 49,697,662        |                    |
| 1991                     | 49,697,662           | 1,085,944  | 1,545,489            | 10,749,642           | 2,018,227            | 86,490                 | 359,539             | 60,614,481        |                    |
| 1992                     | 60,614,481           | 1,120,093  | 2,002,226            | 4,717,981            | 2,208,203            | 76,968                 | 416,011             | 65,753,599        |                    |
| 1993                     | 65,753,599           | 1,195,413  | 2,511,140            | 9,480,618            | 2,327,641            | 74,987                 | 426,547             | 76,111,595        |                    |
| 1994                     | 76,111,595           | 1,270,016  | 3,164,398            | 209,322              | 2,727,077            | 77,774                 | 379,964             | 77,570,516        |                    |
| 1995                     | 77,570,516           | 1,322,338  | 3,191,204            | 18,315,824           | 3,299,025            | 168,376                | 521,138             | 96,411,343        |                    |
| 1996                     | 96,411,343           | 1,485,256  | 3,369,320            | 12,535,654           | 3,782,793            | 83,772                 | 510,740             | 109,424,268       |                    |
| 1997                     | 109,424,268          | 1,540,007  | 3,341,706            | 17,474,254           | 4,202,853            | 189,073                | 533,763             | 126,854,546       |                    |
| 1998                     | 126,854,546          | 1,462,159  | 3,723,334            | 14,571,870           | 4,998,076            | 114,099                | 504,691             | 140,995,043       |                    |
| 1999                     | 140,995,043          | 1,193,764  | 3,746,140            | 20,287,090           | 5,421,649            | 160,909                | 394,037             | 160,245,442       |                    |
| 2000                     | 160,245,442          | 1,249,943  | 3,667,166            | (539,610)            | 5,847,524            | 177,771                | 438,219             | 158,159,427       |                    |
| 2001                     | 158,159,427          | 1,359,825  | 3,537,191            | (1,535,524)          | 6,190,412            | 237,070                | 541,518             | 154,551,919       |                    |



**RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS  
COMPARATIVE STATEMENT**

| Year Ended Dec. 31 | Added to Rols |                 | Post-Ret. Increases |                 | Removed from Rols |                 | Rolls End of Year |                 | Average Annual  |                 | Present Value of  |                   | Expected Removals |          |
|--------------------|---------------|-----------------|---------------------|-----------------|-------------------|-----------------|-------------------|-----------------|-----------------|-----------------|-------------------|-------------------|-------------------|----------|
|                    | No.           | Annual Benefits | No.                 | Annual Benefits | No.               | Annual Benefits | No.               | Annual Benefits | Annual Benefits | Annual Benefits | Value of Benefits | Value of Benefits | Removals          | Removals |
| 1988               | 18            | \$209,342       | 7                   | \$22,696        | 226               | \$1,661,078     | \$                | 7,350           | \$              | 17,562,692      | 7.8               |                   |                   |          |
| 1989 #@            | 17            | 239,410         | 10                  | 40,142          | 233               | 1,886,307       |                   | 8,096           |                 | 18,578,798      | 8.0               |                   |                   |          |
| 1990 #@@           | 18            | 178,016         | 13                  | 92,112          | 238               | 2,012,847       |                   | 8,457           |                 | 23,236,648      | 8.5               |                   |                   |          |
| 1991               | 17            | 196,011         | 11                  | 46,477          | 244               | 2,208,720       |                   | 9,052           |                 | 26,080,427      | 9.0               |                   |                   |          |
| 1992               | 9             | 80,391          | 9                   | 62,352          | 244               | 2,282,072       |                   | 9,353           |                 | 26,466,852      | 8.9               |                   |                   |          |
| 1993               | 22            | 375,706         | 9                   | 49,328          | 257               | 2,614,261       |                   | 10,172          |                 | 30,495,388      | 9.4               |                   |                   |          |
| 1994               | 30            | 618,891         | 8                   | 57,983          | 279               | 3,292,237       |                   | 11,800          |                 | 39,021,252      | 10.0              |                   |                   |          |
| 1995               | 30            | 472,315         | 13                  | 115,481         | 296               | 3,717,861       |                   | 12,560          |                 | 44,353,632      | 10.6              |                   |                   |          |
| 1996               | 25            | 433,300         | 13                  | 163,629         | 308               | 4,070,250       |                   | 13,215          |                 | 48,501,396      | 11.6              |                   |                   |          |
| 1997 #             | 29            | 692,487         | 10                  | 89,454          | 327               | 4,741,850       |                   | 14,501          |                 | 59,459,496      | 11.6              |                   |                   |          |
| 1998               | 25            | 527,295         | 5                   | 38,762          | 347               | 5,298,034       |                   | 15,268          |                 | 66,486,000      | 9.8               |                   |                   |          |
| 1999               | 25            | 400,981         | 16                  | 133,245         | 356               | 5,672,008       |                   | 15,933          |                 | 71,686,116      | 7.8               |                   |                   |          |
| 2000               | 27            | 395,644         | 14                  | 59,225          | 369               | 6,156,864       |                   | 16,685          |                 | 76,925,868      | 10.9              |                   |                   |          |
| 2001               | 22            | 390,161         | 23                  | 274,403         | 368               | 6,443,668       |                   | 17,510          |                 | 80,195,604      | 11.3              |                   |                   |          |

# After changes in actuarial assumptions or methods.

@ After changes in benefit provisions.

+ 2 years COLA.

**RETIREES AND BENEFICIARIES DECEMBER 31, 2001  
TABULATED BY TYPE OF BENEFITS BEING PAID**

| <u>Type of Benefits Being Paid</u>   | <u>No.</u> | <u>Annual Benefits</u> |
|--------------------------------------|------------|------------------------|
| Age and Service Retirement Benefits  | 283        | \$5,407,256            |
| Disability Retirement Benefits       | 14         | 243,973                |
| Survivor Retirement Benefits         | <u>71</u>  | <u>792,439</u>         |
| Total Retirement Benefits Being Paid | 368        | \$6,443,668            |

**RETIREES AND BENEFICIARIES - BY ATTAINED AGES  
DECEMBER 31, 2001**

| Attained<br>Ages | No.        | Monthly<br>Benefits |
|------------------|------------|---------------------|
| Under 40         | 3          | \$ 1,285            |
| 40 - 44          | 1          | \$ 1,033            |
| 45 - 49          | 8          | 9,714               |
| 50 - 54          | 22         | 50,829              |
| 55 - 59          | 48         | 107,775             |
| 60 - 64          | 64         | 119,555             |
| 65 - 69          | 58         | 80,479              |
| 70 - 74          | 61         | 78,820              |
| 75 - 79          | 48         | 47,252              |
| 80 - 84          | 34         | 26,637              |
| 85 - 89          | 14         | 10,933              |
| 90 & Over        | 7          | 2,660               |
| <b>Totals</b>    | <b>368</b> | <b>\$536,972</b>    |

**VESTED FORMER MEMBERS DECEMBER 31, 2001  
TABULATED BY ATTAINED AGES**

| <u>Attained<br/>Ages</u> | <u>No.</u> | <u>Monthly<br/>Benefits</u> |
|--------------------------|------------|-----------------------------|
| Under 40                 | 3          | \$ 15,082                   |
| 40 - 44                  | 5          | 43,293                      |
| 45 - 49                  | 10         | 111,652                     |
| 50 - 54                  | 8          | 90,926                      |
| 55 - 59                  | 7          | 78,909                      |
| 60 & Over                | 2          | 12,740                      |
| <b>Totals</b>            | <b>35</b>  | <b>\$352,602</b>            |

**ACTIVE MEMBERS DECEMBER 31, 2001  
TABULATED BY VALUATION DIVISIONS**

| <b>Valuation Groups</b>     | <b>No.</b> | <b>Annual<br/>Payroll</b> | <b>Age</b>  | <b>Average<br/>Service</b> | <b>Pay</b>      |
|-----------------------------|------------|---------------------------|-------------|----------------------------|-----------------|
| General/Management Member   | 611        | \$23,741,440              | 44.0 yrs.   | 12.0 yrs.                  | \$38,857        |
| Police Members              | <u>178</u> | <u>8,009,916</u>          | 38.0        | 10.8                       | 45,000          |
| <b>Total Active Members</b> | <b>789</b> | <b>\$31,751,356</b>       | <b>42.6</b> | <b>11.7</b>                | <b>\$40,243</b> |

## ACTIVE MEMBERS INCLUDED IN VALUATION COMPARATIVE SCHEDULE

| Valuation<br>Date | Active Members |        |        | Valuation<br>Payroll | Average |         |          |         |
|-------------------|----------------|--------|--------|----------------------|---------|---------|----------|---------|
|                   | General        | Police | Totals |                      | Age     | Service | Pay      | % Incr. |
| December 31       |                |        |        |                      |         |         |          |         |
| 1988              | 511            | 128    | 639    | \$15,876,924         | 40.6    | 11.1    | \$24,847 | (0.1) % |
| 1989              | 515            | 133    | 648    | 16,570,850           | 40.8    | 11.1    | 25,572   | 2.9     |
| 1990              | 529            | 133    | 662    | 17,211,716           | 41.1    | 11.3    | 26,000   | 1.7     |
| 1991              | 547            | 139    | 686    | 19,100,960           | 41.2    | 11.4    | 27,844   | 7.1     |
| 1992              | 555            | 143    | 698    | 21,155,752           | 41.8    | 12.0    | 30,309   | 8.9     |
| 1993              | 552            | 138    | 690    | 22,272,331           | 42.1    | 12.3    | 32,279   | 6.5     |
| 1994              | 563            | 136    | 699    | 23,186,822           | 42.0    | 12.0    | 33,171   | 2.8     |
| 1995              | 568            | 155    | 723    | 24,295,495           | 43.0    | 11.9    | 33,604   | 1.3     |
| 1996              | 575            | 160    | 735    | 25,525,258           | 42.0    | 11.8    | 34,728   | 3.3     |
| 1997              | 571            | 158    | 729    | 25,830,779           | 42.2    | 11.8    | 35,433   | 2.0     |
| 1998              | 573            | 161    | 734    | 27,295,184           | 42.2    | 11.7    | 37,187   | 5.0     |
| 1999              | 588            | 162    | 750    | 27,623,182           | 42.4    | 11.7    | 36,830   | (1.0)   |
| 2000              | 587            | 174    | 761    | 29,068,666           | 42.4    | 11.7    | 38,198   | 3.7     |
| 2001              | 611            | 178    | 789    | 31,751,356           | 42.6    | 11.7    | 40,243   | 5.4     |

## ADDITIONS TO AND REMOVALS FROM ACTIVE MEMBERSHIP ACTUAL AND EXPECTED NUMBERS

| Year<br>Ended<br>Dec. 31 | Number Added<br>During<br>Year |     | Normal<br>Retirement |      | Disability<br>Retirement |     | Died-In-<br>Service |     | Other<br>Terminations |      | Active<br>Members<br>End of<br>Year |
|--------------------------|--------------------------------|-----|----------------------|------|--------------------------|-----|---------------------|-----|-----------------------|------|-------------------------------------|
|                          | A                              | E   | A                    | E    | A                        | E   | A                   | E   | A                     | E    |                                     |
|                          | 1988                           | 45  | 36                   | 15   | 4.8                      | 0   | 1.8                 | 0   | 1.9                   | 21   |                                     |
| 1989                     | 44                             | 35  | 14                   | 3.4  | 1                        | 1.8 | 0                   | 1.8 | 20                    | 32.3 | 648                                 |
| 1990                     | 47                             | 33  | 10                   | 5.3  | 1                        | 1.7 | 0                   | 1.9 | 22                    | 32.0 | 662                                 |
| 1991                     | 51                             | 27  | 13                   | 5.5  | 1                        | 1.8 | 2                   | 1.9 | 11                    | 32.9 | 686                                 |
| 1992                     | 26                             | 14  | 5                    | 7.0  | 1                        | 1.8 | 1                   | 2.0 | 7                     | 34.3 | 698                                 |
| 1993                     | 27                             | 35  | 20                   | 8.9  | 0                        | 1.8 | 0                   | 2.1 | 15                    | 30.8 | 690                                 |
| 1994                     | 47                             | 38  | 27                   | 8.2  | 0                        | 1.8 | 0                   | 2.2 | 11                    | 27.2 | 699                                 |
| 1995                     | 66                             | 42  | 20                   | 8.2  | 3                        | 1.8 | 0                   | 2.2 | 19                    | 27.2 | 723                                 |
| 1996                     | 45                             | 33  | 17                   | 8.3  | 0                        | 2.1 | 1                   | 2.2 | 15                    | 30.3 | 735                                 |
| 1997                     | 38                             | 44  | 21                   | 8.3  | 1                        | 2.1 | 0                   | 2.2 | 22                    | 30.3 | 729                                 |
| 1998                     | 45                             | 50  | 21                   | 7.8  | 1                        | 1.6 | 0                   | 0.9 | 23                    | 26.8 | 734                                 |
| 1999                     | 56                             | 46  | 14                   | 7.5  | 1                        | 1.6 | 2                   | 0.9 | 23                    | 27.5 | 750                                 |
| 2000                     | 68                             | 57  | 17                   | 11.0 | 2                        | 1.1 | 0                   | 1.0 | 38                    | 27.9 | 761                                 |
| 2001                     | 64                             | 36  | 11                   | 10.0 | 1                        | 1.2 | 1                   | 1.0 | 23                    | 29.2 | 789                                 |
| 5 Year Totals            | 271                            | 233 | 84                   | 45   | 6                        | 8   | 3                   | 6   | 129                   | 142  |                                     |

A represents actual number.

E represents expected number based on assumptions outlined in Section C.

**GENERAL/MANAGEMENT ACTIVE MEMBERS - DECEMBER 31, 2001**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Age  | Years of Service to Valuation Date |            |            |           |           |           |           | Totals     |                     |
|---------------|------------------------------------|------------|------------|-----------|-----------|-----------|-----------|------------|---------------------|
|               | 0-4                                | 5-9        | 10-14      | 15-19     | 20-24     | 25-29     | 30 Plus   | No.        | Valuation Payroll   |
| 20-24         | 13                                 |            |            |           |           |           |           | 13         | \$ 367,042          |
| 25-29         | 38                                 | 6          |            |           |           |           |           | 44         | 1,368,536           |
| 30-34         | 39                                 | 14         | 4          |           |           |           |           | 57         | 1,941,834           |
| 35-39         | 20                                 | 16         | 22         | 12        | 1         |           |           | 71         | 2,697,618           |
| 40-44         | 36                                 | 12         | 28         | 22        | 18        | 1         |           | 117        | 4,449,424           |
| 45-49         | 15                                 | 21         | 21         | 25        | 28        | 11        |           | 121        | 4,957,402           |
| 50-54         | 13                                 | 21         | 17         | 12        | 20        | 17        | 6         | 106        | 4,592,918           |
| 55-59         | 8                                  | 11         | 9          | 3         | 5         | 13        | 9         | 58         | 2,461,437           |
| 60            | 2                                  |            | 1          | 1         | 2         | 2         | 1         | 9          | 357,432             |
| 61            |                                    |            | 1          |           | 2         | 1         |           | 4          | 163,143             |
| 62            |                                    |            |            | 1         |           |           |           | 1          | 29,684              |
| 63            | 1                                  | 1          |            |           | 1         | 1         |           | 4          | 176,242             |
| 64            |                                    |            | 1          | 2         |           |           |           | 3          | 94,734              |
| 65            |                                    | 1          |            |           |           |           |           | 1          | 26,170              |
| 68            |                                    |            |            | 1         |           |           |           | 1          | 41,228              |
| 70            |                                    | 1          |            |           |           |           |           | 1          | 16,596              |
| <b>Totals</b> | <b>185</b>                         | <b>104</b> | <b>104</b> | <b>79</b> | <b>77</b> | <b>46</b> | <b>16</b> | <b>611</b> | <b>\$23,741,440</b> |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 44.0 years.  
 Service: 12.0 years.  
 Annual Pay: \$38,857

**POLICE ACTIVE MEMBERS - DECEMBER 31, 2001**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

| Attained Age  | Years of Service to Valuation Date |           |           |           |           |           |          | Totals     |                    |
|---------------|------------------------------------|-----------|-----------|-----------|-----------|-----------|----------|------------|--------------------|
|               | 0-4                                | 5-9       | 10-14     | 15-19     | 20-24     | 25-29     | 30 Plus  | No.        | Valuation Payroll  |
| 20-24         | 6                                  |           |           |           |           |           |          | 6          | \$ 204,529         |
| 25-29         | 18                                 | 3         |           |           |           |           |          | 21         | 781,284            |
| 30-34         | 17                                 | 25        | 4         |           |           |           |          | 46         | 1,878,002          |
| 35-39         | 3                                  | 7         | 20        | 5         |           |           |          | 35         | 1,611,464          |
| 40-44         |                                    | 8         | 9         | 9         | 1         | 1         |          | 28         | 1,307,657          |
| 45-49         |                                    | 1         | 7         | 5         | 6         | 6         |          | 25         | 1,348,423          |
| 50-54         |                                    | 1         | 2         | 3         | 3         | 5         | 1        | 15         | 784,295            |
| 55-59         |                                    |           |           | 1         | 1         |           |          | 2          | 94,262             |
| <b>Totals</b> | <b>44</b>                          | <b>45</b> | <b>42</b> | <b>23</b> | <b>11</b> | <b>12</b> | <b>1</b> | <b>178</b> | <b>\$8,009,916</b> |

While not used in the financial computations, the following group averages are computed and shown because of their general interest.

Age: 38.0 years.  
 Service: 10.8 years.  
 Annual Pay: \$45,000



## **Section C**



# **Financial Principles and Actuarial Valuation Process**

## ACTUARIAL COST METHODS USED FOR THE VALUATION

Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- (i) the annual normal costs for each individual active member, payable from the member's actual date of employment to projected date of retirement, are sufficient to accumulate the actuarial present value of the member's benefit at the time of retirement;
- (ii) each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

**Amortization of Unfunded Actuarial Accrued Liabilities.** Unfunded actuarial accrued liabilities were amortized as a level percent of active member payroll over a period of 22 years.

Active payroll was assumed to increase 4.5% a year for the purpose of determining the level percent contributions.

## ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The actuary calculates contribution requirements and actuarial present values of a retirement system by applying actuarial assumptions to the benefit provisions and people information of the system, using the actuarial cost methods described on page C-1.

The principal areas of risk which require assumptions about future experience are:

- (i) long-term rates of investment return to be generated by the assets of the system
- (ii) patterns of pay increases to members
- (iii) rates of mortality among members, retirees and beneficiaries
- (iv) rates of withdrawal of active members
- (v) rates of disability among active members
- (vi) the age patterns of actual retirements.

In making a valuation, the actuary calculates the monetary effect of each assumption for as long as a present covered person survives - - - a period of time which can be as long as a century.

---

The employer contribution rate has been computed to remain level from year-to-year so long as benefits and the basic experience and make-up of members do not change. Examples of favorable experience which would tend to reduce the employer contribution rate are:

- (1) Investment returns in excess of 8% per year.
- (2) Member non-vested terminations at a higher rate than outlined on page C-6.
- (3) Mortality among retirees and beneficiaries at a higher rate than indicated by the 1983 Group Annuity Mortality Table.
- (4) Increases in the number of active members.

## ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

Examples of unfavorable experience which would tend to increase the employer contribution rate are:

- (1) Pay increases in excess of the rates outlined on page C-4.
  - (2) An acceleration in the rate of retirement from the rates outlined on page C-7.
  - (3) A pattern of hiring employees at older ages than in the past.
- 

Actual experience of the system will not coincide exactly with assumed experience, regardless of the choice of the assumptions, or the skill of the actuary and the precision of the calculations. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time-to-time one or more of the assumptions are modified to reflect experience trends (but not random or temporary year-to-year fluctuations).

Valuation assets are equal to reported market value of assets, except that all realized and unrealized gains and losses are spread over a period of years, with 20% recognition the first year. Such spreading reduces the fluctuation in the City's computed contribution rate which might otherwise be caused by market value fluctuations. The details of the spreading technique are shown on page B-4. The pension valuation assets as of December 31, 2001 total \$0.62%.

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

### Investment Return (net of administrative expenses).

8.0% per year, compounded annually. This rate consists of a net real rate of return of 3.5% a year plus a long-term rate of wage inflation of 4.5% a year.

This assumption is used to equate the value of payments due at different points in time and was first used for the December 31, 1997 valuation. Approximate rates of investment return, for the purpose of comparisons with assumed rates, are shown below. Actual average increases in active member pay are also shown for comparative purposes.

|                           | Year Ended December 31, |        |        |        |        |
|---------------------------|-------------------------|--------|--------|--------|--------|
|                           | 2001                    | 2000   | 1999   | 1998   | 1997   |
| Rate of Investment Return | 9.4 %                   | 11.6 % | 13.9 % | 12.4 % | 12.6 % |
| Average increase in Pay   | 5.4                     | 3.7    | (1.0)  | 5.0    | 2.0    |

The nominal rate of return was computed using the approximate formula  $i = I$  divided by  $1/2(A + B - I)$ , where  $I$  is actual investment income net of expenses,  $A$  is the beginning of year asset value, and  $B$  is the end of year asset value.

These rates of return should not be used for measurement of an investment advisor's performance or for comparisons with other systems -- *to do so will mislead.*

**Pay Projections.** These assumptions are used to project current pays to those upon which benefits will be based.

| Sample<br>Ages | Annual Rate of Pay Increase for Sample Ages |                     |         |
|----------------|---|---------------------|---------|
|                | Base<br>(Economic)                          | Merit and Longevity | Totals  |
|                |   | General             | General |
| 20             | 4.5 %                                       | 1.7 %               | 6.2 %   |
| 25             | 4.5   | 1.6                 | 6.1     |
| 30             | 4.5   | 1.2                 | 5.7     |
| 35             | 4.5   | 0.9                 | 5.4     |
| 40             | 4.5   | 0.4                 | 4.9     |
| 45             | 4.5   | 0.3                 | 4.8     |
| 50             | 4.5   | 0.2                 | 4.7     |
| 55             | 4.5   | 0.2                 | 4.7     |
| 60             | 4.5   | 0                   | 4.5     |
| 65             | 4.5   | 0                   | 4.5     |

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

If the number of active members remains constant, the total active member payroll will increase 4.5% annually, the base portion of the individual pay increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Changes actually experienced in average pay and total payroll have been as follows:

| Increase in   | Year Ended December 31, |      |        |      |      | December 31, 2001 |                |
|---------------|-------------------------|------|--------|------|------|-------------------|----------------|
|               | 2001                    | 2000 | 1999   | 1998 | 1997 | 3 Year Average    | 5 Year Average |
| Average pay   | 5.4%                    | 3.7% | (1.0)% | 5.0% | 2.0% | 2.7%              | 3.0%           |
| Total payroll | 9.2                     | 5.2  | 1.2    | 5.7  | 1.2  | 5.2               | 4.5            |

**Mortality Table.** The 1983 Group Annuity Mortality Table, set back 0 years for men and 5 years for women. This table was first used for the December 31, 1997 valuation. Sample values follow:

| Sample Ages | Actuarial Present Value of |          | Future Life        |       |
|-------------|----------------------------|----------|--------------------|-------|
|             | \$1 Monthly for Life       |          | Expectancy (Years) |       |
|             | Men                        | Women    | Men                | Women |
| 55          | \$124.57                   | \$134.74 | 24.82              | 30.23 |
| 60          | 115.04                     | 127.23   | 20.64              | 25.67 |
| 65          | 103.26                     | 117.61   | 16.69              | 21.28 |
| 70          | 90.18                      | 105.53   | 13.18              | 17.13 |
| 75          | 76.40                      | 91.57    | 10.15              | 13.37 |
| 80          | 62.65                      | 77.15    | 7.64               | 10.20 |

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement.

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

**Rates of separation from active membership.** The rates do not apply to members eligible to retire and do not include separation on account of death or disability. This assumption measures the probabilities of members remaining in employment.

| Sample<br>Ages | Years of<br>Service | Percent Separating<br>Within Next Year |         |
|----------------|---------------------|--|---------|
|                |                     | General                                | Police  |
| ALL            | 0                   | 18.00 %                                | 15.00 % |
|                | 1                   | 12.00                                  | 10.00   |
|                | 2                   | 10.00                                  | 8.00    |
|                | 3                   | 9.00                                   | 7.00    |
|                | 4                   | 8.00                                   | 6.00    |
| 25             | 5 & Over            | 5.00                                   | 3.50    |
| 30             |                     | 4.50                                   | 2.90    |
| 35             |                     | 3.55                                   | 1.50    |
| 40             |                     | 1.45                                   | 0.60    |
| 45             |                     | 0.75                                   | 0.50    |
| 50             |                     | 0.75                                   | 0.50    |
| 55             |                     | 0.75                                   | 0.50    |
| 60             |                     | 0.75                                   | 0.50    |
| 65             |                     | --                                     | 0.50    |

These rates were first used for the December 31, 1997 valuation.

**Rates of Disability.** These assumptions represent the probabilities of active members becoming disabled.

| Sample<br>Ages | Percent Becoming Disabled<br>within Next Year |
|----------------|---|
| 20             | 0.08 %  |
| 25             | 0.08  |
| 30             | 0.08  |
| 35             | 0.08  |
| 40             | 0.20  |
| 45             | 0.26  |
| 50             | 0.49  |
| 55             | 0.89  |

These rates were first used for the December 31, 1976 valuation.

## ACTUARIAL ASSUMPTIONS USED FOR THE VALUATION

**Rates of Retirement.** These rates are used to measure the probabilities of an eligible member retiring during the next year.

| Retirement<br>Ages | Regular Retirement                                  |        | Early Retirement |        |
|--------------------|---|--------|------------------|--------|
|                    | Percent of Active Members Retiring within Next Year |        |                  |        |
|                    | General   | Police | General          | Police |
| 50                 |   | 40%    | 5%               | 5%     |
| 51                 |   | 20     | 5                | 5      |
| 52                 |   | 20     | 5                | 5      |
| 53                 |   | 20     | 5                | 5      |
| 54                 |   | 20     | 5                | 5      |
| 55                 | 25%   | 20     | 5                | 5      |
| 56                 | 25  | 20     | 5                | 5      |
| 57                 | 20  | 20     | 5                | 5      |
| 58                 | 20  | 20     | 5                | 5      |
| 59                 | 20  | 20     | 5                | 5      |
| 60                 | 25  | 100    |                  |        |
| 61                 | 25  | 100    |                  |        |
| 62                 | 30  | 100    |                  |        |
| 63                 | 20  | 100    |                  |        |
| 64                 | 20  | 100    |                  |        |
| 65                 | 40  | 100    |                  |        |
| 66                 | 30  | 100    |                  |        |
| 67                 | 30  | 100    |                  |        |
| 68                 | 30  | 100    |                  |        |
| 69                 | 30  | 100    |                  |        |
| 70                 | 100   | 100    |                  |        |

A General member was assumed to be eligible for regular retirement after attaining age 55 with 30 years of service, or age 60 with 5 years of service. General members were assumed to be eligible for early reduced retirement after completing 20 years of service and attaining age 50.

A Police member was assumed eligible for retirement after attaining age 50 with 25 years of service, or, after attaining age 60 with 15 or more years of service. Police members were assumed to be eligible for early reduced retirement after completing 20 years of service and attaining age 50.

**Unused sick-leave redemption factor:** 10%.

**Active Member Group Size.** The number of active members was assumed to remain constant. This assumption is unchanged from previous valuations.



## POST-RETIREMENT HEALTH INSURANCE

The City supplied a current schedule of City-paid premiums and a list of current retirees indicating the type of coverage for each person. The premiums used in the valuation of the Retiree Health Plan are shown below:

| Type                       | City Paid Monthly Premium |           |           |
|----------------------------|---------------------------|-----------|-----------|
|                            | 12/99                     | 12/00     | 12/01     |
| Retiree Only - General     | \$ 86.52                  | \$ 112.48 | \$ 148.09 |
| Retiree Only - Police      | 86.52                     | 112.48    | 138.39    |
| Retiree & Spouse - General | 173.04                    | 236.09    | 310.85    |
| Retiree & Spouse - Police  | 173.04                    | 236.09    | 290.48    |

The above rates represent 50% of the total premium cost. Retired members pay the remaining portion (50%). Health insurance coverage terminates upon attainment of age 65.

Eighty percent of future retired members were assumed to be married.

Premiums shown above which represent coverage in the indemnity plan were assumed to increase in future years as follows:

| Year | Rate (%) |
|------|----------|
| 1    | 11       |
| 2    | 10       |
| 3    | 9        |
| 4    | 8        |
| 5    | 7        |
| 6    | 6        |
| 7    | 5        |
| 8    | 4.5      |
| 9    | 4.5      |
| 10   | 4.5      |
| 11   | 4.5      |
| 12+  | 4.5      |

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

|                                |  |
|--------------------------------|--|
| Marriage Assumption:           | 80% of participants are assumed to be married for purposes of death and retiree health benefits. In each case the male was assumed to be 3 years older than the female.  |
| Pay Increase Timing:           | Beginning of year.   |
| Decrement Timing:              | Decrements of all types are assumed to occur mid-year.   |
| Eligibility Testing:           | Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.   |
| Benefit Service:               | Exact fractional service is used to determine the amount of benefit payable.   |
| Other:                         | Disability and turnover decrements do not operate during retirement eligibility.   |
| Miscellaneous Loading Factors: | The calculated normal retirement benefits were increased by 10% to account for the inclusion of unused sick leave, vacation time, and comp. time in the calculation of Average Compensation.   |
| Disability Assumption:         | Fifty percent of disabilities were assumed to be duty related. Fifty percent were assumed to be unrelated to duty. The recovery rate from disability was assumed to be 0 (i.e. no disabled individual was assumed to recover and return to work. |
| Death Assumption:              | Fifty percent of deaths were assumed to be duty related. Fifty percent were assumed to be unrelated to duty.   |
| Non-forfeiture Assumption:     | All vested terminated members were assumed to elect a deferred retirement benefit.   |

## DEFINITIONS OF TECHNICAL TERMS

**Accrued Service.** Service credited under the system which was rendered before the date of the actuarial valuation.

**Actuarial Accrued Liability.** The difference between the actuarial present value of system benefits and the actuarial present value of future normal costs. Also referred to as "past service liability."

**Actuarial Assumptions.** Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

**Actuarial Cost Method.** A mathematical budgeting procedure for allocating the dollar amount of the "actuarial present value of future benefit" between future normal costs and actuarial accrued liability. Sometimes referred to as the "actuarial funding method."

**Actuarial Equivalent.** One series of payments is said to be actuarially equivalent to another series of payments if the two series have the same actuarial present value.

**Actuarial Gain (Loss).** The difference between actual unfunded actuarial accrued liabilities and anticipated unfunded actuarial accrued liabilities -- during the period between two valuation dates. It is a measurement of the difference between actual and expected experience.

## DEFINITIONS OF TECHNICAL TERMS

***Actuarial Present Value.*** The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest, and by probabilities of payment.

***Amortization.*** Paying off an interest-discounted amount with periodic payments of interest and (generally) principal -- as opposed to paying it off with a lump sum payment.

***Normal Cost.*** The portion of the actuarial present value of future benefits that is assigned to the current year by the actuarial cost method. Sometimes referred to as "current service cost."

***Unfunded Actuarial Accrued Liabilities.*** The difference between actuarial accrued liabilities and valuation assets. Sometimes referred to as "unfunded past service liability" or "unfunded supplemental present value."

Most retirement systems have unfunded actuarial accrued liabilities. They arise each time new benefits are added and each time an actuarial loss occurs. The existence of unfunded actuarial accrued liabilities is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liabilities do not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liabilities and the trend in their amount (after due allowance for devaluation of the dollar).

**BENEFITS WITH AND WITHOUT LUMP SUM PAYMENT  
FOR NEW RETIRANTS**

**General/Management Comparative Schedule**

| Year<br>Ending | One Year Ratio                   |                     |       | Three Year Ratio  |                     |       |
|----------------|----------------------------------|---------------------|-------|-------------------|---------------------|-------|
|                | Final Average Compensation (FAC) |                     |       | 3 Year sum of FAC |                     |       |
|                | With<br>Lump Sum                 | Without<br>Lump Sum | Ratio | With<br>Lump Sum  | Without<br>Lump Sum | Ratio |
| 12/31/99       | \$1,116,794                      | \$998,747           | 1.118 |                   |                     |       |
| 12/31/00       | 895,556                          | 821,708             | 1.090 |                   |                     |       |
| 12/31/01       | 551,092                          | 497,044             | 1.109 | \$2,563,442       | \$2,317,499         | 1.106 |

**Police Comparative Schedule**

| Year<br>Ending | One Year Ratio                   |                     |       | Three Year Ratio  |                     |       |
|----------------|----------------------------------|---------------------|-------|-------------------|---------------------|-------|
|                | Final Average Compensation (FAC) |                     |       | 3 Year Sum of FAC |                     |       |
|                | With<br>Lump Sum                 | Without<br>Lump Sum | Ratio | With<br>Lump Sum  | Without<br>Lump Sum | Ratio |
| 12/31/99       | \$ 38,022                        | \$ 38,022           | 1.000 |                   |                     |       |
| 12/31/00       | 221,649                          | 196,220             | 1.130 |                   |                     |       |
| 12/31/01       | 165,238                          | 147,946             | 1.117 | \$424,908         | \$382,188           | 1.112 |

**Lump Sum Load.** Retirement liabilities are increased by a factor of 10% to compensate for the use of unused sick leave, unused vacation time, and comp. time.

## **Section D**



### **Certain Disclosures Required By Statements Nos. 25, 26, and 27 of the Governmental Accounting Standards Board**

**GASB STATEMENT NO. 25**  
**REQUIRED SUPPLEMENTARY INFORMATION**

*Schedule of Pension Funding Progress (Police & General Combined)*

| Actuarial<br>Valuation<br>Date | Actuarial<br>Value of<br>Assets<br>(a) | Actuarial                                 |         | Unfunded<br>AAL<br>(UAAL)<br>(b-a) | Funded<br>Ratio<br>(a/b) | Covered<br>Payroll<br>(\$ millions)<br>(c) | UAAL as a<br>% of<br>Covered<br>Payroll<br>((b-a)/c) |
|--------------------------------|--|---|---------|------------------------------------|--------------------------|--|--|
|                                |  | Liability (AAL)<br>-- Entry-Age --<br>(b) | Accrued |                                    |                          |  |  |
| 1992                           | \$ 63,944,706                          | \$ 70,743,706                             |         | \$ 6,799,000                       | 90.4 %                   | \$21,155,752                               | 32.1 %   |
| 1993                           | 73,353,430                             | 82,721,244                                |         | 9,367,814                          | 88.7                     | 22,272,331                                 | 42.1   |
| 1994                           | 80,712,283                             | 93,026,776                                |         | 12,314,493                         | 86.8                     | 23,186,822                                 | 53.1   |
| 1995                           | 89,428,548                             | 99,726,478                                |         | 10,297,930                         | 89.7                     | 24,295,495                                 | 42.4   |
| 1996                           | 96,807,905                             | 107,879,698                               |         | 11,071,793                         | 89.7                     | 25,525,258                                 | 43.4   |
| 1997                           | 109,200,617                            | 124,303,639                               |         | 15,103,022                         | 87.8                     | 25,830,779                                 | 58.5   |
| 1998                           | 122,549,700                            | 134,514,381                               |         | 11,964,681                         | 91.1                     | 27,295,184                                 | 43.8   |
| 1999                           | 138,462,917                            | 142,638,847                               |         | 4,175,930                          | 97.1                     | 27,623,182                                 | 15.2   |
| 2000                           | 152,796,352                            | 156,540,695                               |         | 3,744,343                          | 97.6                     | 29,068,666                                 | 12.9   |
| 2001                           | 164,995,804                            | 167,764,361                               |         | 2,768,557                          | 98.3                     | 31,751,356                                 | 8.7  |

*Schedule of Employer Pension Contributions*

| Valuation<br>Year<br>Ended<br>Dec. 31 | Fiscal<br>Year<br>Ended<br>Dec. 31 | Contribution<br>Rates as %<br>of Valuation Payroll |         |          | Computed Dollar<br>Contribution<br>Based<br>on Valuation<br>Payroll | Annual<br>Required<br>Contribution<br>Based on<br>Actual Payroll* | %<br>Contributed |
|---------------------------------------|------------------------------------|--|---------|----------|---|---|------------------|
|                                       |                                    | General  | Police  | Wt. Avg. |   |   |                  |
| 1991                                  | 1993                               | 9.37 %   | 11.03 % | 9.75 %   | \$1,955,461   | \$2,171,552   | 100 %            |
| 1992                                  | 1994                               | 10.26  | 17.20   | 11.85    | 2,632,304   | 2,747,638   | 100              |
| 1993                                  | 1995                               | 9.50   | 17.36   | 11.20    | 2,619,226   | 2,721,095   | 100              |
| 1994                                  | 1996                               | 9.69   | 17.57   | 11.37    | 2,768,159   | 2,902,222   | 100              |
| 1995                                  | 1997                               | 9.25   | 16.92   | 11.09    | 2,829,089   | 2,864,633   | 100              |
| 1996                                  | 1998                               | 9.29   | 17.27   | 11.19    | 3,001,770   | 3,054,331   | 100              |
| 1997                                  | 1999                               | 10.33  | 18.09   | 12.14    | 3,276,970   | 3,353,454   | 100              |
| 1998                                  | 2000                               | 9.68   | 16.85   | 11.42    | 3,257,380   | 3,319,642   | 100              |
| 1999                                  | 2001                               | 8.47   | 13.90   | 9.80     | 2,827,978   | 3,111,633   | 100              |
| 2000#                                 | 2002                               | 7.60   | 15.60   | 9.67     | 2,936,546   |   |                  |
| 2001#                                 | 2003                               | 7.77   | 14.42   | 9.45     | 3,134,728   |   |                  |

\* Employer contributions are based on computed percent and actual payroll as of December 31.

# General contribution rate reflects the funding credit.

## GASB STATEMENT NO. 25 REQUIRED SUPPLEMENTARY INFORMATION

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

|                               |   |
|-------------------------------|---|
| Valuation date                | December 31, 2001   |
| Actuarial Cost Method         | Entry-Age   |
| Amortization Method           | Level percent closed  |
| Remaining amortization period | 22 years  |
| Asset valuation method        | 5 year smoothed market  |
| Actuarial assumption:         |   |
| Investment rate of return     | 8.0%  |
| Projected salary increases*   | 4.5% - 6.2%   |
| * Includes inflation at       | 4.5%  |
| Cost-of-living adjustments    | Annual increase equal to CPI<br>with a cap of 3% beginning 36<br>months after retirement. |

Membership of the plan consisted of the following at December 31, 2001, the date of the latest actuarial valuation:

|   |            |
|---|------------|
| Retirees and Beneficiaries receiving benefits                         | 368        |
| Terminated plan members entitled<br>to but not yet receiving benefits | 35         |
| Active plan members   | <u>789</u> |
| Total   | 1,192      |



**GASB STATEMENT NO. 26  
 REQUIRED SUPPLEMENTARY INFORMATION  
 STATEMENT OF PLAN NET ASSETS  
 (INCLUDES RETIREE HEALTH)  
 AS OF DECEMBER 31, 2001**

|  |                    |
|--|--------------------|
| Assets:  |                    |
| Cash and equivalents                                     | \$ 783,965         |
| Accruals and Receivables                                 | 434,732            |
| Total  | <u>1,218,697</u>   |
| Investments, at market value:                            |                    |
| Mutual Funds   | 72,067,815         |
| STW  | 22,253,582         |
| Northern Trust   | 59,078,732         |
| Total Investments  | <u>153,400,129</u> |
| Total Assets   | <u>154,618,826</u> |
| Less accounts payable                                    | <u>66,907</u>      |
| Net assets held in trust for pension and health benefits | \$154,551,919      |

**GASB STATEMENT NO. 26**  
**REQUIRED SUPPLEMENTARY INFORMATION**  
**STATEMENT OF PLAN NET ASSETS**  
**(INCLUDES RETIREE HEALTH)**  
**AS OF DECEMBER 31, 2001**

|                                | <u>Pension</u>   | <u>Retiree<br/>Health</u> | <u>Total</u>     |
|--------------------------------|------------------|---------------------------|------------------|
| Additions:                     |                  |                           |                  |
| Contributions                  |                  |                           |                  |
| Employer                       | \$3,179,279      | \$357,912                 | \$ 3,537,191     |
| Plan members                   | 1,359,825        |                           | 1,359,825        |
| Total                          | <u>4,539,104</u> | <u>357,912</u>            | <u>4,897,016</u> |
| Investment income              |                  |                           | (1,535,524)      |
| Miscellaneous                  |                  |                           | 0                |
| Total Additions                |                  |                           | <u>3,361,492</u> |
| Deductions:                    |                  |                           |                  |
| Pension Benefits Paid          | 6,190,412        |                           | 6,190,412        |
| Refunds of Contributions       | 237,070          |                           | 237,070          |
| Health Premiums                |                  | 309,197                   | 309,197          |
| Administrative Expenses        | 232,321          |                           | 232,321          |
| Total Deductions               | <u>6,659,803</u> | <u>309,197</u>            | <u>6,969,000</u> |
| Net Increase (Decrease)        |                  |                           | \$ (3,607,508)   |
| Net assets held in Trust Fund: |                  |                           |                  |
| Beginning of year              |                  |                           | \$158,159,427    |
| End of year                    |                  |                           | \$154,551,919    |