

**FIRE AND POLICE PENSION ASSOCIATION**  
STATEWIDE DEATH AND DISABILITY FUND  
ACTUARIAL VALUATION REPORT  
FOR THE YEAR BEGINNING JANUARY 1, 2011

June 30, 2011

Board of Directors  
Fire and Police Pension Association  
5290 DTC Parkway, #100  
Greenwood Village, Colorado 80111

**Re: Actuarial Valuation of the FPPA Death & Disability Fund (the Plan) as of January 1, 2011**

Dear Members of the Board:

We are pleased to present our Report on the actuarial valuation of the Statewide Death & Disability Fund for the Fire and Police Pension Association (FPPA) as of January 1, 2011.

In addition to the actuarial valuation results, various accounting and statistical tables are also included which compare the results with prior years. Census data and all other information for retirees and beneficiaries, and active and vested terminated members were provided by the Fire and Police Pension Association's staff.

We certify that the information included herein and contained in our 2011 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the FPPA Death & Disability Fund as of January 1, 2011.

Our Report presents the results of the January 1, 2011 actuarial valuation of the FPPA Statewide Death & Disability Fund (D&D). The report describes the current actuarial condition of the D&D, determines the appropriateness of the contribution rate for certain members, and analyzes changes since the last valuation. In addition, the report provides information required in connection with Governmental Accounting Standards Board Statement No. 25 (GASB 25) and No. 27 (GASB 27), and it provides various summaries of the data.

Valuations are prepared annually, as of January 1<sup>st</sup>, the first day of the FPPA plan year.

### ***Financing Objectives***

Contribution rates are established by law that, over time, are intended to remain level as a percentage of payroll. The contributions are intended to finance the future benefits payable from the Plan using a modified version of the aggregate actuarial cost method.

***Progress toward Realization of Financing Objectives***

The unfunded actuarial accrued liability and the funded ratio (ratio of the actuarial value of assets to the net present value of benefits) illustrate the progress toward the realization of certain financing objectives. Based on our actuarial valuation as of January 1, 2011, the Plan has a surplus of \$21 million assuming no allowance for future discretionary benefit adjustments for non-totally disabled benefit recipients.

The annual contribution rate for members hired on or after January 1, 1997 is 2.6%. The contribution rate for these members can only be adjusted every two (2) years. The cost of providing benefits is 2.23%, therefore, the current 2.60% contribution rate is adequate to provide some level of future discretionary benefit adjustments. We recommend the Board to take a conservative policy towards providing discretionary benefit adjustments over the short term.

***Benefit provisions***

All of the benefit provisions reflected in this valuation are those which were in effect on January 1, 2011. There were no changes adopted since the previous actuarial valuation. The benefit provisions are summarized in Appendix B of our Report.

***Assumptions and methods***

There are no changes in actuarial methods and assumptions since the prior report. The methods and assumptions have been selected by the Board of Directors of FPPA based upon the actuary's analysis and recommendations from the 2008 Experience Study. These assumptions and methods are detailed in Appendix A of our Report. The Board of Directors has sole authority to determine the actuarial assumptions used for the Plan. The assumptions that are based upon the actuary's recommendations are internally consistent and are reasonably based on the actual past experience of the Plan. These assumptions are also in full compliance with all of the parameters established by GASB No. 25 and No. 27.

The results of any actuarial valuation are dependent upon the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution rates and funding periods. The actuarial calculations presented in this Report are intended to provide information for rational decision making.

***Data***

FPPA supplied data for active and disabled members as of January 1, 2011. We did not audit this data, but we did apply a number of tests to the data, and we have concluded that the data is reasonable and consistent with the prior year's data. FPPA also supplied asset data as of January 1, 2011.

***Certification***

All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Colorado state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board.

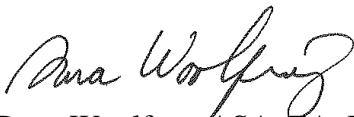
The undersigned are independent actuaries and consultants. Joseph Newton and Dana Woolfrey are Enrolled Actuaries and all are Members of the American Academy of Actuaries, and meet the Qualification Standards of the American Academy of Actuaries. Finally, all of the undersigned are experienced in performing valuations for large public retirement systems.

Respectfully submitted,

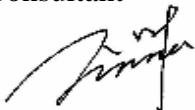
**Gabriel, Roeder, Smith & Company**



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## **SECTION I**

### **EXECUTIVE SUMMARY**

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### Executive Summary

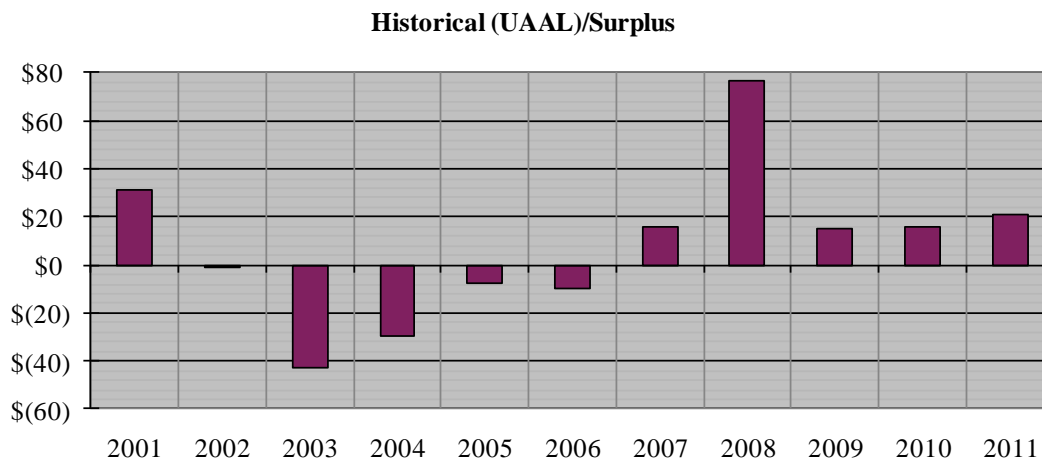
Item	January 1, 2011 (1)	January 1, 2010 (2)
<b>Membership</b> <ul style="list-style-type: none"> <li>• Number of:                             <ul style="list-style-type: none"> <li>- Active members</li> <li>- Total disabled members &amp; beneficiaries</li> <li>- Occupational disabled members &amp; beneficiaries</li> <li>- Survivors of deceased active members</li> <li>- Total</li> </ul> </li> <li>• Annualized payroll supplied by FPPA</li> </ul>	10,903 102 645 <u>106</u> 11,756 \$ 750,497	11,077 96 610 <u>106</u> 11,889 \$ 751,781
Recommended contribution rates for members hired on or after January 1, 1997 and members covered by Social Security	2.60%	2.60%
<b>Assets</b> <ul style="list-style-type: none"> <li>• Market value</li> <li>• Actuarial value</li> <li>• Rate of return on market value</li> <li>• Rate of return on actuarial value</li> <li>• Contribution for prior year</li> <li>• Ratio of actuarial value to market value</li> </ul>	\$ 279,882 281,577 13.3% 7.7% \$ 12,259 100.6%	\$ 251,923 266,478 19.6% 5.2% \$ 11,957 105.8%
<b>Actuarial Information</b> <ul style="list-style-type: none"> <li>• Unfunded actuarial accrued liability/(surplus)</li> <li>• GASB funded ratio</li> </ul>	\$ (20,889) 108.0%	\$ (15,768) 106.3%

Note: Dollar amounts in \$000, unless otherwise noted

### Executive Summary

1. The annual contribution rate for members hired on or after January 1, 1997 and for members covered by Social Security is 2.6% as of January 1, 2011.
2. This rate was last increased from 2.5% to 2.6% as of January 1, 2007. Based on the January 1, 2010 valuation, the Board elected to leave the contribution rate unchanged at 2.60% for the two year period beginning January 1, 2011.
3. The number of total members decreased from 11,889 in 2010 to 11,756 in 2011, a decrease of 1.12%.
4. Current plan benefits provide an automatic benefit adjustment to totally disabled members and their beneficiaries but assume no future benefit adjustments for other members. Based on actuarial estimations, the current 2.6% contribution rate could sustain a 0.5% permanent annual benefit adjustment. We recommend the Board take a conservative policy towards providing discretionary benefit adjustments over the short term.
5. The plan assets at the valuation date are in excess of the net present value of benefits by \$21 million. This surplus position compares to the \$16 million surplus position last year. The Plan is “fully funded”.
6. Assets earned 13.3% on a market basis and 7.7% on an actuarial basis in 2010, producing an actuarial loss of \$0.8 million.
7. The funded ratio increased from 106.3% to 108.0% as of January 1, 2011.

The following chart shows the history of the (Unfunded Actuarial Accrued Liability)/Surplus as of past historical valuation dates. The dollar values are in millions.



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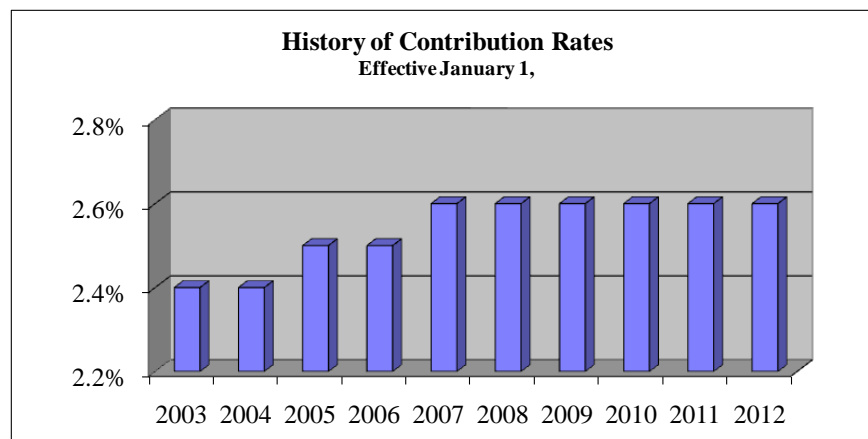
**SECTION II**  
DISCUSSION

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## Contribution Requirements

The valuation of the Fire and Police Pension Association Statewide Death & Disability Fund (D&D) as of January 1, 2011, reflects a current employee contribution rate of 2.6% for members hired on or after January 1, 1997. By statute, this rate can change only every two years.

The following graph shows the historical contribution rates for employees hired on or after January 1, 1997 and for members covered by Social Security.



The cost of providing benefits is 2.23%, therefore, the current 2.60% contribution rate is adequate to provide some level of future benefit adjustments. We recommend the Board to take a conservative policy towards providing discretionary benefit adjustments over the short term.

## Discretionary Benefit Adjustments

On October 1<sup>st</sup> of each year, annuitants may receive a benefit increase at the discretion of the Board of Directors. Totally disabled members and their beneficiaries receive an automatic increase each year of 3%. For other annuitants, the increase may reflect CPI, but in no case may be higher than 3%. Because the increases are purely discretionary, the valuation results in the report are shown assuming no discretionary benefit adjustments are granted to annuitants other than total disability retirees. The current 2.60% contribution could sustain a 0.50% permanent annual benefit adjustment. The cost of a one-year 0.50% benefit adjustment for current annuitants (excluding totally disabled) is \$0.8 million.

### Financial Data and Experience

This section provides an analysis of the change in Plan Net Assets during the year and an estimate of the yield on mean assets of D&D. FPPA provided GRS with a summary of plan assets as of January 1, 2011. The market value of assets reported was \$279.9 million as of January 1, 2011, as compared to \$251.9 million as of January 1, 2010. Table 6 shows data from some of the tables included in the annual financial statements of the Plan. Table 8 shows the estimated yield on a market value basis and on the actuarial asset valuation method.

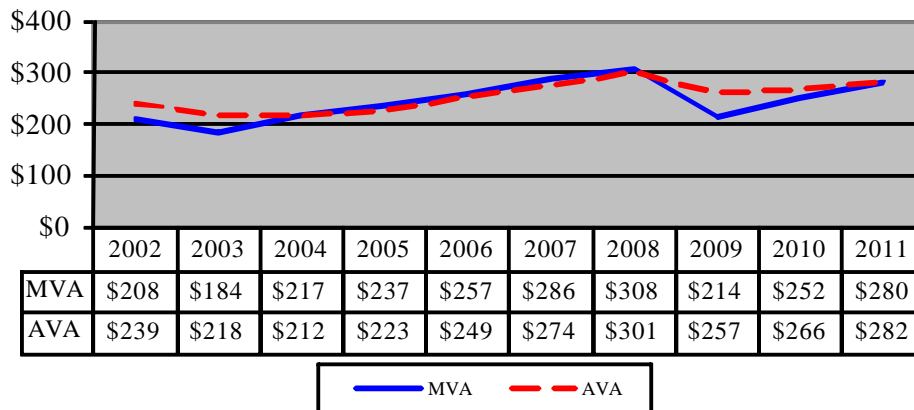
The asset valuation method approximates smoothing over a three-year period by recognizing 33% of the difference between the projected actuarial value and the market value at the valuation date. Expected earnings used to project the actuarial value are determined using the assumed investment return rate and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

Table 8 shows the development of the actuarial value of assets. The actuarial value of assets increased from \$266.5 million to \$281.6 million since the prior valuation. This increase was less than expected and produced a loss of approximately \$0.8 million.

The valuation assumes investment returns of 8.0% each year. As indicated by item 6b of Table 8, the estimated return on mean market value was 13.29% in 2010; higher than the assumed 8.0% return. The actuarial asset value returned 7.68%, compared to 5.19% in 2009. This difference in the estimated return on market value and actuarial value illustrates the smoothing effect of the asset valuation method.

#### History of MVA vs AVA

As of the valuation date January 1,



Note: FPPA adopted policy to smooth assets effective 1/1/2000.

### Member Data

FPPA supplied member data as of January 1, 2011. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year’s data, and was reasonable overall. Information provided for active members includes: name, member ID, sex, a code indicating whether the member was active or inactive, date of birth, service, salary, accumulated member contribution, and the accumulated stabilization reserve account. For retired members, data includes: name, member ID, sex, date of birth, date of retirement, amount of benefit, a code indicating the option elected and the type of retiree (total disability retirees, occupational disability retirees, beneficiary), and if applicable, the joint pensioner’s date of birth and sex.

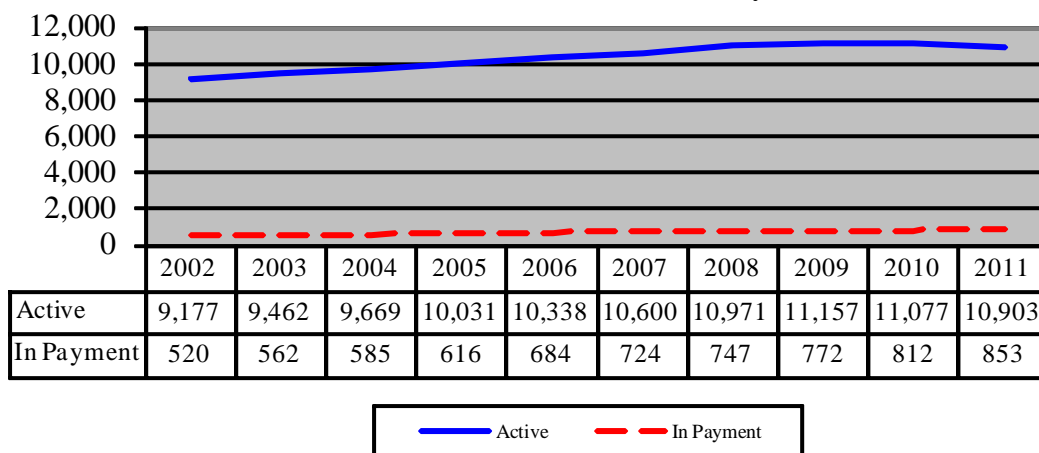
For local Money Purchase members, an array based on service was used to estimate each member’s Money Purchase balance. For missing salary in the data, an array of salaries based on service was used to estimate the salary.

Table 17 shows the number of members by category (active, inactive, retired, etc.). Table 18 shows a historical summary of active member statistics, and Table 19 shows the distribution of active members by age and service.

The total payroll shown on the statistical tables is the amount that was supplied by FPPA. For the cost calculations, the pays were adjusted in accordance with the actuarial assumptions to reflect one year’s salary increase.

#### History of Counts: Active vs In Payment

As of the valuation date January 1,



## Benefit Provisions

Appendix B in Section IV includes a summary of the benefit provisions for FPPA. There were no changes in the benefit provisions since the preceding valuation. Highlights include:

- Pre-Retirement Death Benefits:
  - o Off-duty: 40% of the base salary paid to the member prior to death, with an additional 10% of base salary if a surviving spouse has two or more dependent children.
  - o On-duty: 70% of the base salary paid to the member prior to death.
- Disability Benefits:
  - o Total Disability: 70% of the base salary preceding disability.
  - o Permanent Occupational Disability: 50% of the base salary preceding disability.
  - o Temporary Occupational Disability: 40% of the base salary preceding disability for up to 5 years.
- Contributions: Members hired after January 1, 1997 and members covered by Social Security currently contribute 2.6% of pay.
- Benefit adjustments are granted periodically at the discretion of the FPPA Board. Total disability retirees receive an automatic increase of 3%. For other annuitants, the increase may reflect CPI, but in no case may be higher than 3%.

There are no ancillary benefits—e.g., cost of living benefits—that are currently provided by a source independent of FPPA but that might be deemed an FPPA liability if continued beyond the availability of funding by the current funding source.

### Actuarial Methods and Assumptions

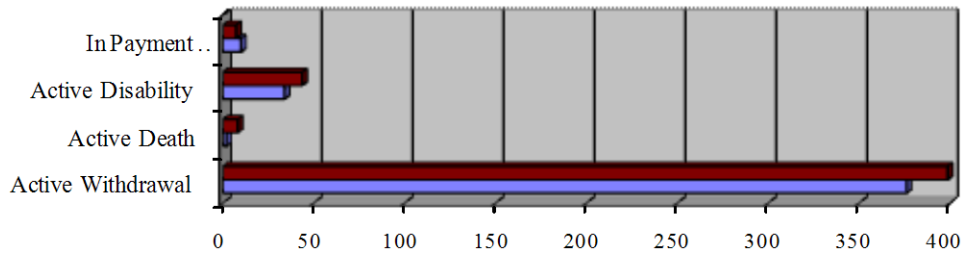
The valuation was prepared using the Aggregate Method. This is the same funding method that has been used in prior years. The asset valuation method is an actuarial value based on a three-year weighted moving average of expected and actual market value of assets. See Appendix A in Section IV for a complete description of this method.

The actuarial value of future benefits from the Plan is based on several economic and non-economic assumptions. These are summarized in Appendix A as well. The economic assumptions include investment return and salary increases. Non-economic assumptions include rates of mortality, disability, and separation. There have been no changes to the actuarial assumptions since the prior valuation.

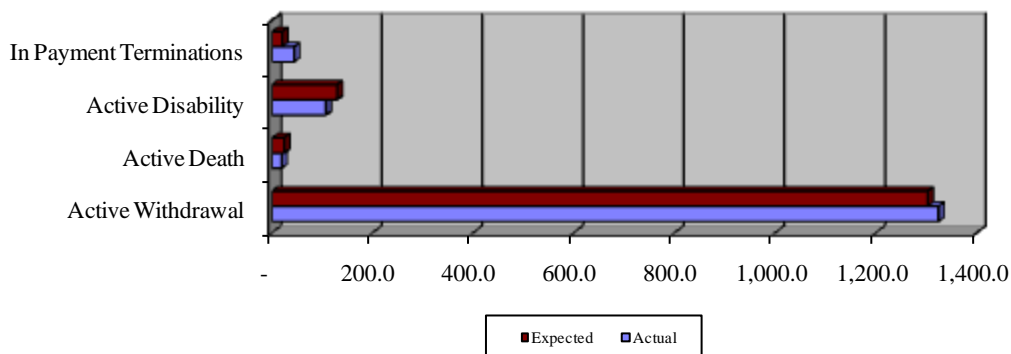
The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

For FY2010, the actual salary increases were 95.6% of expected. The following charts provide a comparison of the actual experience versus the expected experience for selected assumptions.

**Demographic Experience - FY2010**



**Demographic Experience - FY2008 - FY2010**



The In Payment Terminations above include deaths and benefits that were canceled for other reasons such as recovery.

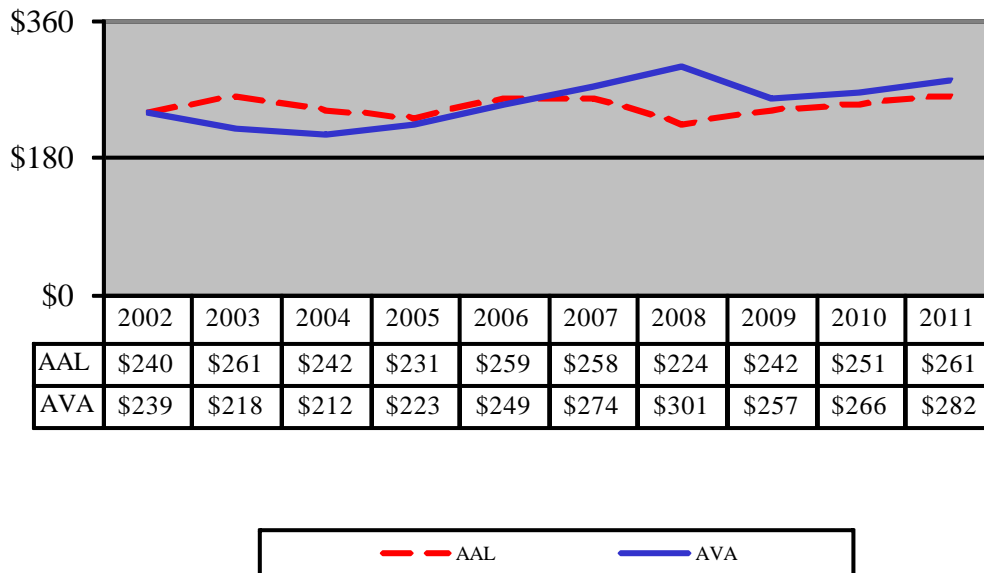
### GASB 25, GASB 27, and Funding Progress

Accounting requirements for FPPA are set by Governmental Accounting Standards Board Statement No. 25 (GASB 25) and No. 27 (GASB 27). Table 11a shows a historical summary of the funded ratios and other information for FPPA. In addition, we have included a Schedule of Funding Progress in Table 11b based on the Entry Age Normal cost method as required under GASB No. 50. Table 16 shows other information needed in connection with disclosure under GASB 25. GASB Statement No. 27 governs reporting by the employers of government-sponsored retirement plans. Table 15 shows the development of the net pension obligation.

For FPPA, the employer Annual Required Contribution for 2010 is 0%. For members hired on or after 1/1/97 and for members covered by Social Security the member contribution rate is 2.6% of pay. The 2.60% became effective January 1, 2007, was extended for the two year period beginning January 1, 2009, and has again been extended for the two year period beginning January 1, 2011.

#### History of AAL vs AVA

As of the valuation date January 1,



The AAL referenced in the chart is the Actuarial Accrued Liability as referenced throughout the report.

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## **SECTION III**

### **TABLES**

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**Development of Unfunded Actuarial Accrued Liability**

	<u>January 1, 2011</u>	<u>January 1, 2010</u>
	(1)	(2)
1. Covered payroll (prior year)	\$ 750,497,200	\$ 751,781,464
2. Covered payroll adjusted for one-year's pay increase	\$ 802,802,297	\$ 806,605,401
3. Present value of future pay	\$ 6,962,720,556	\$ 7,152,866,908
4. Present value of benefits for active members		
a. Future occupational disabilities	\$ 150,261,064	\$ 152,661,071
b. Future total disabilities	32,286,843	32,844,165
c. Future active deaths	32,160,479	32,840,856
d. Total for actives	<u>\$ 214,708,386</u>	<u>\$ 218,346,092</u>
5. Total present value of benefits		
a. Current disabled members	\$ 169,062,677	\$ 155,625,454
b. Current beneficiaries of deceased members	22,180,468	22,413,181
c. Active members (Item 4d)	214,708,386	218,346,092
d. Total	<u>\$ 405,951,531</u>	<u>\$ 396,384,727</u>
6. Unfunded actuarial accrued liability (UAAL)/(surplus)		
a. Present value of benefits	\$ 405,951,531	\$ 396,384,727
b. Less present value of future contributions	(145,263,059)	(145,675,291)
c. Less actuarial value of assets	(281,577,454)	(266,477,875)
d. UAAL/(surplus)	<u>\$ (20,888,982)</u>	<u>\$ (15,768,439)</u>
7. a. Current Contribution	2.60%	2.60%
b. Calculated Contribution (Aggregate Funding)	<u>2.23%</u>	<u>2.32%</u>
c. Difference (a. - b.)	0.37%	0.28%

**Actuarial Present Value of Future Benefits**

	<u>1/1/2011</u>	<u>1/1/2010</u>
	(1)	(2)
1. Active members		
a. Total disability	\$ 32,286,843	\$ 32,844,165
b. Occupational disability	150,261,064	152,661,071
c. Off-duty death	21,776,143	22,115,132
d. On-duty death	10,384,336	10,725,724
e. Total	<u>\$ 214,708,386</u>	<u>\$ 218,346,092</u>
2. Members in pay status		
a. Total disabled	\$ 36,446,557	\$ 32,753,143
b. Occupationally disabled	132,616,120	122,872,311
c. Survivors	22,180,468	22,413,181
d. Total	<u>\$ 191,243,145</u>	<u>\$ 178,038,635</u>
3. Total actuarial present value of future benefits	\$ 405,951,531	\$ 396,384,727

**Actuarial Gain/(Loss) on UAAL**

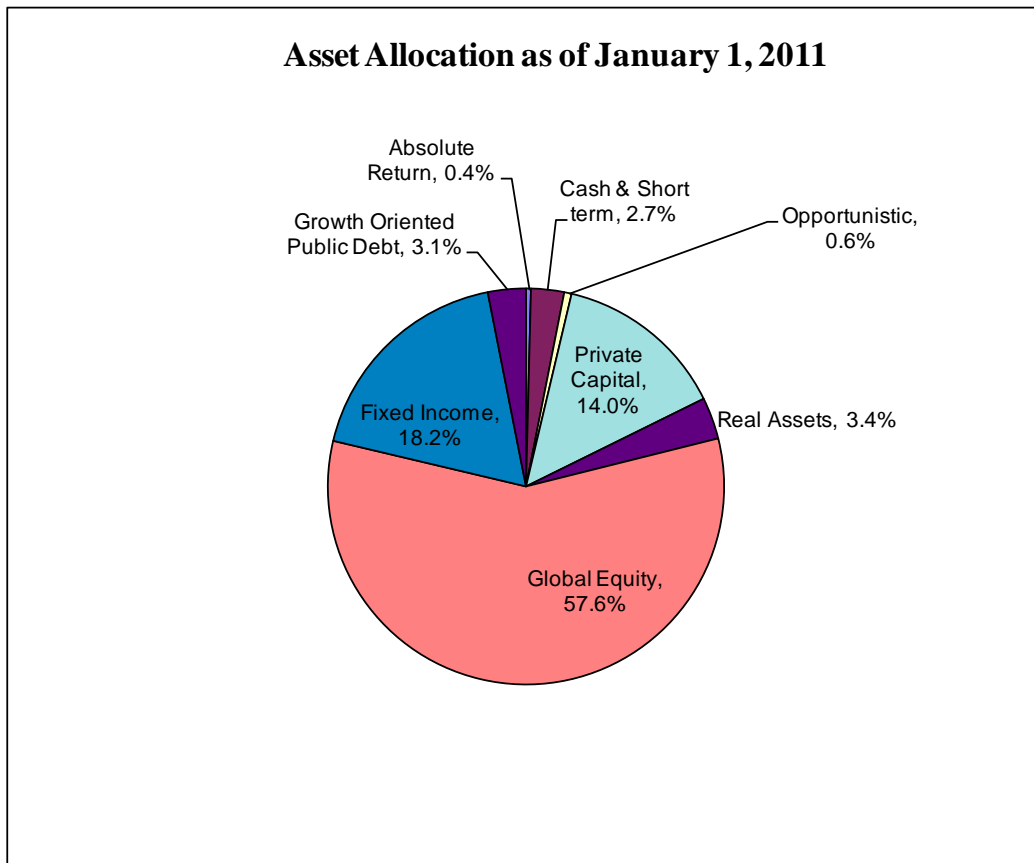
	Year Ending December 31,	
	2011	2010
	(1)	(2)
1. Unfunded actuarial accrued liability (UAAL) as of January 1 of prior year	\$ (15,768,439)	\$ (15,466,085)
2. Interest on UAAL for one year	(1,261,475)	(1,237,287)
3. Expected UAAL as of January 1 (1 + 2)	(17,029,914)	(16,703,371)
4. Actual UAAL at end of year	(20,888,982)	(15,768,439)
5. Actuarial gain/(loss) for the period (3 - 4)	3,859,068	(934,933)
<u>SOURCE OF GAINS/(LOSSES)</u>		
6. Asset gain/(loss) (See Table 9)	(835,093)	(7,171,930)
7. Gain due to assumption changes	0	0
8. Salary liability gain/(loss) for the period	4,155,450	1,676,765
9. Benefit adjustment granted as of October 1 (0% in 2010, 0.40% in 2009)	-	(541,710)
10. Net liability gain/(loss) for the period (5 - 6 - 7 - 8 - 9)	538,711	5,101,943

**Summary of Historical Valuation Results  
As of the Valuation Date January 1,**

	<u>2011</u>	<u>2010</u>	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2003</u>	<u>2002</u>
1. Number of members										
a. Active	10,903	11,077	11,157	10,971	10,600	10,338	10,031	9,669	9,462	9,177
b. Disabled	747	706	673	647	619	584	554	523	499	472
c. Survivor	106	106	99	100	105	105	103	93	86	90
d. Total	<u>11,756</u>	<u>11,889</u>	<u>11,929</u>	<u>11,718</u>	<u>11,324</u>	<u>11,027</u>	<u>10,688</u>	<u>10,285</u>	<u>10,047</u>	<u>9,739</u>
2. Covered payroll (prior year)	\$ 750,497	\$ 751,781	\$ 729,724	\$ 668,502	\$ 623,700	\$ 596,231	\$ 560,173	\$ 528,557	\$ 499,043	\$ 468,169
3. Average compensation	\$ 68,834	\$ 67,869	\$ 65,405	\$ 60,934	\$ 58,840	\$ 57,674	\$ 55,844	\$ 54,665	\$ 52,742	\$ 51,015
4. Covered payroll adjusted for one-year's pay increase	\$ 802,802	\$ 806,605	\$ 785,321	\$ 719,402	\$ 667,059	\$ 638,076	\$ 599,616	\$ 547,190	\$ 515,529	\$ 484,329
5. Actuarial value of assets	\$ 281,577	\$ 266,478	\$ 257,279	\$ 300,643	\$ 274,092	\$ 249,299	\$ 223,389	\$ 212,273	\$ 218,152	\$ 239,456
6. Market value of assets	\$ 279,882	\$ 251,923	\$ 214,400	\$ 308,170	\$ 286,240	\$ 254,275	\$ 236,899	\$ 216,840	\$ 183,979	\$ 207,926
7. Present value of benefits										
a. Actives	\$ 214,708	\$ 218,346	\$ 217,161	\$ 192,594	\$ 217,408	\$ 214,877	\$ 182,734	\$ 187,475	\$ 205,025	\$ 181,598
b. Disabled	169,063	155,625	144,846	134,985	124,076	116,241	105,975	100,940	95,902	87,526
c. Survivors	22,180	22,413	20,894	19,629	19,630	18,918	19,766	17,770	17,574	16,905
d. Total	<u>\$ 405,952</u>	<u>\$ 396,385</u>	<u>\$ 382,901</u>	<u>\$ 347,208</u>	<u>\$ 361,114</u>	<u>\$ 350,036</u>	<u>\$ 308,475</u>	<u>\$ 306,185</u>	<u>\$ 318,501</u>	<u>\$ 286,029</u>
8. Calculated Contribution	2.23%	2.32%	2.31%	0.98%	2.20%	2.76%	N/A	N/A	N/A	N/A

**Allocation of Plan Assets  
 at Market Fair Value**

	<u>Actual Allocation</u> January 1, 2011	<u>Target</u> <u>Allocation</u>
	(1)	(3)
1. Absolute Return	0.4%	10.0%
2. Cash & Short term	2.7%	1.0%
3. Opportunistic	0.6%	5.0%
4. Private Capital	14.0%	14.0%
5. Real Assets	3.4%	5.0%
6. Global Equity	57.6%	45.0%
7. Fixed Income	18.2%	20.0%
8. Growth Oriented Public Debt	<u>3.1%</u>	<u>0.0%</u>
Total	100.0%	100.0%



**Reconciliation of Plan Net Assets**

	Year Beginning	
	January 1, 2011 (1)	January 1, 2010 (2)
1. Market value of assets at beginning of year	\$ 251,923,015	\$ 214,399,580
2. Revenue for the year		
a. Contributions	\$ 12,258,588	\$ 11,956,606
b. Net investment income		
i. Interest	\$ 2,658,356	\$ 1,136,114
ii. Dividends	3,275,616	3,071,611
iii. Earnings from real estate	188	327
iv. Net change in accrued income	(215,668)	(224,123)
v. Unrealized gain/(loss)	21,283,794	38,693,595
vi. Realized gain/(loss)	7,777,267	3,127,686
vii. Other Income	318,869	(2,472,724)
c. Total revenue	\$ 47,357,010	\$ 55,289,092
3. Expenditures for the year		
a. Benefit payments	\$ (17,435,085)	\$ (16,009,654)
b. Administrative and miscellaneous expenses	(1,962,978)	(1,756,003)
c. Total expenditures	\$ (19,398,063)	\$ (17,765,657)
4. Increase in net assets (Item 2c + Item 3c)	\$ 27,958,947	\$ 37,523,435
5. Market value of assets at end of year (Item 1 + Item 4)	\$ 279,881,962	\$ 251,923,015

**Development of Actuarial Value of Assets**

For the year ending December 31,	<u>2010</u> (1)	<u>2009</u> (2)
1. Actuarial value as of January 1	\$ 266,477,875	\$ 257,279,496
a. Contributions	\$ 12,258,588	\$ 11,956,606
b. Benefits paid	(17,435,085)	(16,009,654)
c. Net cash flow	<u>\$ (5,176,497)</u>	<u>\$ (4,053,048)</u>
2. Expected actuarial value of assets as of December 31	\$ 282,412,547	\$ 273,646,686
3. Actual market value of assets as of December 31	\$ 279,881,962	\$ 251,923,015
4. Excess earnings/(shortfall)	\$ (2,530,585)	\$ (21,723,671)
5. Excess earnings/(shortfall) recognized (33% x Item 4)	\$ (835,093)	\$ (7,168,811)
6. Preliminary actuarial value of assets as of December 31 (Item 2 + Item 5)	\$ 281,577,454	\$ 266,477,875
7. a. 80% of market value of assets	\$ 223,905,570	\$ 201,538,412
b. 120% of market value of assets	335,858,354	302,307,618
8. Final actuarial value of assets as of December 31 (Item 6 limited by Item 7)	\$ 281,577,454	\$ 266,477,875

**Investment Yields**

Item (1)	Market Value (2)	Actuarial Value (3)
1. Assets as of January 1, 2010 (A)	\$ 251,923,015	\$ 266,477,875
2. Contributions during FY10	12,258,588	12,258,588
3. Benefit payments made during FY10	(17,435,085)	(17,435,085)
4. Investment return during FY10	33,135,444	20,276,077
5. Assets as of January 1, 2011 (B): (1 + 2 - 3 + 4)	279,881,962	281,577,454
6. Approximate rate of return on average invested assets		
a. Net investment income (I)	33,135,444	20,276,077
b. Estimated return based on $(2I / (A + B - I))$	13.29%	7.68%

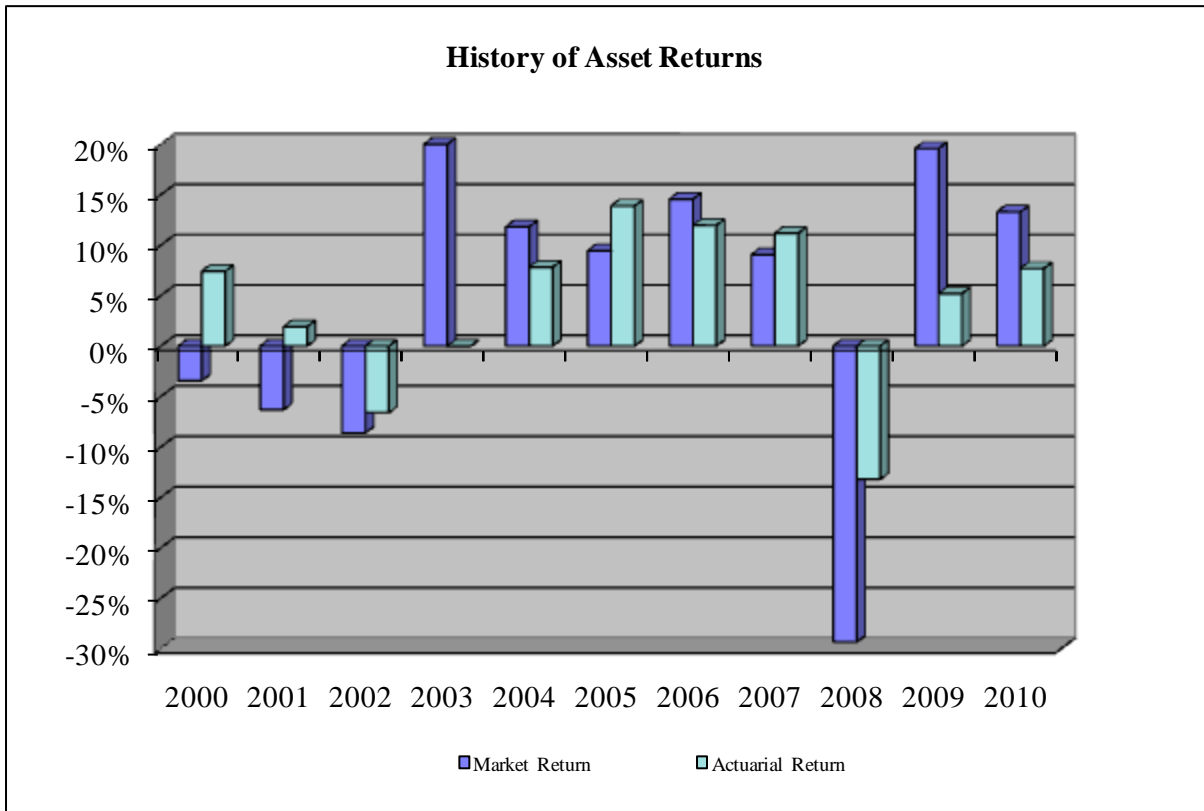
**Gain/(Loss) on Actuarial Value of Assets**

Item (1)	Valuation as of January 1, 2011 (2)	Valuation as of January 1, 2010 (3)
1. Actuarial assets, prior valuation	\$ 266,477,875	\$ 257,279,496
2. Total contributions since prior valuation	\$ 12,258,588	\$ 11,956,606
3. Benefits since prior valuation	\$ (17,435,085)	\$ (16,009,654)
4. Assumed net investment income at 8.0%		
a. Beginning assets	\$ 21,318,230	\$ 20,582,360
b. Contributions	490,343	469,063
c. Benefits paid	(697,404)	(628,066)
d. Total	<u>\$ 21,111,169</u>	<u>\$ 20,423,357</u>
5. Expected actuarial assets (1 + 2 + 3 + 4d)	\$ 282,412,547	\$ 273,649,805
6. Actual actuarial assets, this valuation	\$ 281,577,454	\$ 266,477,875
7. Asset gain (loss) since prior valuation (6 - 5)	\$ (835,093) Loss	\$ (7,171,930) Loss

### History of Investment Return Rates

For Fiscal Year Ending	Market Value	Actuarial Value
(1)	(2)	(3)
December 31, 2000	(3.44%)	7.40%
December 31, 2001	(6.31%)	1.90%
December 31, 2002	(8.61%)	(6.60%)
December 31, 2003	21.92%	(0.03%)
December 31, 2004	11.81%	7.81%
December 31, 2005	9.44%	13.88%
December 31, 2006	14.56%	11.95%
December 31, 2007	9.06%	11.17%
December 31, 2008	(29.34%)	(13.20%)
December 31, 2009	19.58%	5.19%
December 31, 2010	13.29%	7.68%

\* Actuarial value of assets equaled the market value of assets



**Schedule of Funding Progress**  
**Based on the Aggregate Funding Method**  
**(As required by GASB #25)**

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2001	\$ 240,575,733	\$ 209,233,639	\$ (31,342,094)	115.0%	\$ 441,924,703	(7.1%)
January 1, 2002	239,456,347	239,793,687	337,340	99.9%	484,328,830	0.1%
January 1, 2003	218,151,921	261,133,007	42,981,086	83.5%	515,529,441	8.3%
January 1, 2004	212,273,124	241,966,436	29,693,312	87.7%	547,190,145	5.4%
January 1, 2005	223,389,097	231,252,507	7,863,410	96.6%	567,949,536	1.4%
January 1, 2006	249,299,172	258,726,894	9,427,721	96.4%	610,620,208	1.5%
January 1, 2007	274,091,581	258,243,478	(15,848,104)	106.1%	631,667,107	(2.5%)
January 1, 2008	300,642,721	223,999,678	(76,643,044)	134.2%	679,223,009	(11.3%)
January 1, 2009	257,279,496	241,813,411	(15,466,086)	106.4%	740,172,854	(2.1%)
January 1, 2010	266,477,875	250,709,436	(15,768,440)	106.3%	758,113,476	(2.1%)
January 1, 2011	281,577,454	260,688,472	(20,888,983)	108.0%	750,497,200	(2.8%)

**Schedule of Funding Progress**  
**Based on the Entry Age Normal Funding Method**  
**(As required by GASB #50)**

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2007	274,091,581	194,159,323	(79,932,258)	141.2%	631,667,107	(12.7%)
January 1, 2008	300,642,721	182,814,659	(117,828,062)	164.5%	679,223,009	(17.3%)
January 1, 2009	257,279,496	203,673,786	(53,605,710)	126.3%	740,172,854	(7.2%)
January 1, 2010	266,477,875	216,103,895	(50,373,980)	123.3%	758,113,476	(6.6%)
January 1, 2011	281,577,454	229,959,016	(51,618,438)	122.4%	750,497,200	(6.9%)

The single equivalent amortization period as of January 1, 2011 based on the current contribution policy is 7.3 years.

### History of Employer Contributions

<u>Valuation Date</u>	<u>Annual Required Contribution Rate</u>	<u>Actual Contribution Made *</u>	<u>Percentage Contributed</u>
(1)	(2)	(3)	(4)
January 1, 2000	0%	0%	100%
January 1, 2001	0%	0%	100%
January 1, 2002	0%	0%	100%
January 1, 2003	0%	0%	100%
January 1, 2004	0%	0%	100%
January 1, 2005	0%	0%	100%
January 1, 2006	0%	0%	100%
January 1, 2007	0%	0%	100%
January 1, 2008	0%	0%	100%
January 1, 2009	0%	0%	100%
January 1, 2010	0%	0%	100%
January 1, 2011	0%	0%	100%

\* All contributions are made by employees or on behalf of employees

**Solvency Test**

Valuation Date	Aggregated Accrued Liabilities for			Actuarial Value of Assets	Portion of Accrued Liabilities Covered by Reported Assets		
	Active Members Contributions	Retirees Beneficiaries and Vested Terminations	Members (Employer Financed Portion)		(5)/(2)	[(5)-(2)]/(3)	[(5)-(2)-(3)]/ (4)
	(2)	(3)	(4)		(6)	(7)	(8)
January 1, 2000	\$ 0	\$ 80,439	\$ 101,830	\$ 229,537	100%	100%	100%
January 1, 2001	0	94,161	115,073	240,576	100%	100%	100%
January 1, 2002	0	104,431	135,363	239,456	100%	100%	100%
January 1, 2003	0	113,476	147,657	218,152	100%	100%	71%
January 1, 2004	0	118,710	123,256	212,273	100%	100%	76%
January 1, 2005	0	125,741	105,512	223,389	100%	100%	93%
January 1, 2006	0	135,159	123,568	249,299	100%	100%	92%
January 1, 2007	0	143,706	114,537	274,092	100%	100%	100%
January 1, 2008	0	154,614	69,386	300,643	100%	100%	100%
January 1, 2009	0	165,740	76,074	257,279	100%	100%	100%
January 1, 2010	0	178,039	72,671	266,478	100%	100%	100%
January 1, 2011	0	191,243	69,445	281,577	100%	100%	100%

**Cash Flow Analysis**

Year Ending December 31, (1)	Contributions for the Year (2)	Expenditures During the Year				External Cash Flow for the Year (7)	Market Value of Assets (8)	External Cash Flow as Percent of Market Value (9)
		Benefit Payments (3)	Refund of Contributions (4)	Expenses (5)	Total (6)			
2000	\$ 2,058	\$ (7,855)	\$ 0	\$ (784)	\$ (8,640)	\$ (6,582)	\$ 228,742	(2.9%)
2001	3,019	(8,737)	0	(746)	(9,483)	(6,465)	207,926	(3.1%)
2002	4,071	(9,750)	0	(794)	(10,544)	(6,473)	183,979	(3.5%)
2003	4,983	(10,796)	0	(821)	(11,617)	(6,634)	216,840	(3.1%)
2004	5,866	(11,116)	0	(856)	(11,972)	(6,105)	236,899	(2.6%)
2005	7,093	(11,856)	0	(1,584)	(13,440)	(6,347)	254,275	(2.5%)
2006	8,285	(13,007)	0	(1,796)	(14,803)	(6,518)	286,240	(2.3%)
2007	9,902	(13,742)	0	(2,102)	(15,844)	(5,942)	308,170	(1.9%)
2008	10,963	(14,887)	0	(2,192)	(17,079)	(6,116)	214,400	(2.9%)
2009	11,957	(16,010)	0	(1,756)	(17,766)	(5,809)	251,923	(2.3%)
2010	12,259	(17,435)	0	(1,963)	(19,398)	(7,139)	279,882	(2.6%)
2011*	15,085	(18,367)	0	(2,046)	(20,413)	(5,328)	296,732	(1.8%)
2012*	15,993	(19,920)	0	(2,133)	(22,053)	(6,060)	314,168	(1.9%)
2013*	16,955	(21,606)	0	(2,224)	(23,830)	(6,875)	332,151	(2.1%)

Results for 2011, 2012, & 2013 are based on expected contributions, expected benefit payments, and assumed investment return of 8%  
 Expected contributions are based on applicable employee rate of 2.6% and 4.25% annual payroll growth  
 Expected benefit payments are based on the current plan benefits and expected retirements, terminations, and mortality  
 Assets are assumed to increase at the annual return of 8% with all cash flow occurring in the middle of the year  
 \$ amounts in '000s

**Annual Required Contribution  
GASB #27**

<b>Estimated Employer Annual Required Contribution (ARC)</b>	\$	0
<b>Net Pension Obligation</b>		
1. Net pension obligation as of January 1, 2011	\$	0
2. Estimated employer annual required contribution		0
3. Estimated employer contribution for 2011 plan year		0
4. Estimated net pension obligation as of December 31, 2011	\$	0

**Notes to Required Supplementary Information  
 (As required by GASB #25)**

Valuation date	January 1, 2011
Actuarial cost method	Aggregate
Amortization method	N/A
Remaining amortization period <sup>1</sup>	N/A
Asset valuation method	3-year smoothed fair market value
Actuarial assumptions:	
Investment rate of return	8.00%
Projected salary increase	4.75% - 16.75%
Includes inflation at:	3.50%
Post-retirement benefit adjustments	0.00% - 3.00%

<sup>1</sup> Per GASB #25, Plans using the aggregate method must disclose a funding schedule and an equivalent single amortization period using the Entry Age Normal cost method. Per the Entry Age Normal method, the single amortization period as of January 1, 2011 is 7.3 years

**Membership Data**

	January 1, 2011 (1)	January 1, 2010 (2)	January 1, 2009 (3)
1. Active members			
a. Number	10,903	11,077	11,157
b. Total payroll	\$ 750,497	\$ 751,781	\$ 729,724
c. Average annual salary	68,834	67,869	65,405
d. Average age	41.4	40.8	40.3
e. Average service	11.3	10.9	10.4
2. Disabled members and beneficiaries			
a. Number	747	706	673
b. Total annual benefits	\$ 15,276,592	\$ 14,100,183	\$ 13,068,916
c. Average annual benefit	20,451	19,972	19,419
d. Average age	55.8	55.4	54.7
3. Survivors of deceased active members			
a. Number	106	106	99
b. Total annual benefits	\$ 2,329,597	\$ 2,325,607	\$ 2,132,015
c. Average annual benefit	21,977	21,940	21,536
d. Average age	52.6	51.7	52.2

**Historical Summary of Active Member Data**

<u>Valuation Date</u>	<u>Active Count</u>	<u>Average Age</u>	<u>Average Service</u>	<u>Covered Payroll</u>	<u>Average Annual Salary</u>	<u>Percent Change in Average Salary</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)
January 1, 2000	8,629	39.4	10.9	\$ 392,478,975	\$45,484	3.44%
January 1, 2001	8,949	39.2	10.4	427,649,172	47,787	5.06%
January 1, 2002	9,177	39.2	10.2	468,168,518	51,015	6.76%
January 1, 2003	9,462	39.3	10.1	499,042,897	52,742	3.38%
January 1, 2004	9,669	39.5	10.2	528,556,615	54,665	3.65%
January 1, 2005	10,031	39.6	10.1	560,172,994	55,844	2.16%
January 1, 2006	10,338	39.7	10.1	596,231,150	57,674	3.28%
January 1, 2007	10,600	39.9	10.2	623,699,534	58,840	2.02%
January 1, 2008	10,971	40.0	10.1	668,502,284	60,934	3.56%
January 1, 2009	11,157	40.3	10.4	729,723,656	65,405	7.34%
January 1, 2010	11,077	40.8	10.9	751,781,464	67,869	3.77%
January 1, 2011	10,903	41.4	11.3	750,497,200	68,834	1.42%

**Distribution of Active Members by Age and by Years of Service  
 As of December 31, 2010**

Attained Age	Years of Credited Service												Total Count & Avg. Comp.
	Less than 1 Count & Avg. Comp.	1-2 Count & Avg. Comp.	2-3 Count & Avg. Comp.	3-4 Count & Avg. Comp.	4-5 Count & Avg. Comp.	5-9 Count & Avg. Comp.	10-14 Count & Avg. Comp.	15-19 Count & Avg. Comp.	20-24 Count & Avg. Comp.	25-29 Count & Avg. Comp.	30-34 Count & Avg. Comp.	35 & Over Count & Avg. Comp.	
Under 25	45 \$36,956	32 \$41,922	19 \$44,165	8 \$45,969	1 \$55,400								105 \$40,636
25-29	135 \$40,630	149 \$48,220	200 \$52,283	208 \$54,219	125 \$61,666	169 \$62,104	1 \$54,613						987 \$53,356
30-34	100 \$44,046	84 \$50,246	213 \$52,039	202 \$57,448	200 \$62,904	728 \$66,281	119 \$72,069						1,646 \$61,193
35-39	71 \$42,652	77 \$49,762	117 \$51,796	150 \$59,367	145 \$64,299	816 \$67,016	635 \$73,191	65 \$79,668					2,076 \$66,227
40-44	33 \$48,061	49 \$49,429	71 \$52,195	85 \$57,592	105 \$62,542	613 \$67,430	742 \$73,386	419 \$80,071	62 \$82,787				2,179 \$70,512
45-49	24 \$48,760	26 \$55,502	42 \$53,152	41 \$58,867	46 \$62,651	256 \$67,491	343 \$73,770	435 \$78,729	333 \$83,208	67 \$89,314			1,613 \$74,806
50-54	23 \$52,428	8 \$49,065	16 \$48,837	30 \$63,015	18 \$65,275	129 \$69,626	155 \$73,339	203 \$77,401	310 \$81,233	308 \$84,662	105 \$87,016	2 \$85,732	1,307 \$78,097
55-59	4 \$75,057	9 \$66,108	19 \$67,437	15 \$72,241	11 \$70,340	60 \$68,530	55 \$74,710	87 \$76,485	120 \$79,619	159 \$81,506	190 \$86,837	22 \$91,576	751 \$79,809
60-64	2 \$61,506	1 \$51,647	8 \$57,161	7 \$54,506	6 \$71,695	27 \$74,989	11 \$81,228	23 \$80,373	24 \$76,069	31 \$84,754	53 \$83,582	20 \$98,457	213 \$80,105
65 & Over	2 \$61,880			1 \$43,000	1 \$24,254	4 \$73,537	3 \$81,401	3 \$60,163	3 \$107,547	2 \$80,388	6 \$83,916	1 \$81,102	26 \$76,072
Total	439 \$43,485	435 \$49,386	705 \$52,338	747 \$57,379	658 \$63,100	2,802 \$66,901	2,064 \$73,390	1,235 \$78,843	852 \$81,838	567 \$84,317	354 \$86,353	45 \$94,141	10,903 \$68,834
Average:		Age: Service:	41.4 11.3				Number of participants:				Males: Females:	9,902 1,001	

**Schedule of Retirants & Annuitants Added to & Removed from Rolls**

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Benefit	Average Annual Benefit
	Number	Annual Benefit	Number	Annual Benefit	Number	Annual Benefit		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
December 31, 1999	42	\$ 732,000	16	\$ 62,000	484	\$ 6,836,274	10.13%	\$ 14,125
December 31, 2000	52	788,000	16	118,000	520	7,855,192	14.90%	15,106
December 31, 2001	57	980,000	15	200,000	562	9,175,755	16.81%	16,327
December 31, 2002	36	736,302	13	182,056	585	10,200,028	11.16%	17,436
December 31, 2003	45	837,778	14	204,551	616	10,807,344	5.95%	17,544
December 31, 2004	50	752,870	9	123,720	657	11,436,494	5.82%	17,407
December 31, 2005	49	1,349,934	17	270,411	689	12,516,017	9.44%	18,165
December 31, 2006	78	2,061,528	11	223,439	724	13,274,583	6.06%	18,335
December 31, 2007	39	1,264,925	16	258,356	747	14,281,152	7.58%	19,118
December 31, 2008	45	1,259,221	20	339,442	772	15,200,931	6.44%	19,690
December 31, 2009	54	1,537,193	14	312,334	812	16,425,790	8.06%	20,229
December 31, 2010	50	1,366,173	9	185,774	853	17,606,189	7.19%	20,640

**Summary of Members and Adjusted Payroll by Employer**

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
3	ALAMOSA	22	\$ 1,051,385	0	\$ 0	22	\$ 1,051,385
5	ANTONITO	3	79,277	0	0	3	79,277
7	ARVADA	150	11,175,976	0	0	150	11,175,976
501	ARVADA FPD	0	0	95	6,594,180	95	6,594,180
8	ASPEN	23	1,397,147	0	0	23	1,397,147
9	AULT	6	228,680	0	0	6	228,680
10	AURORA	631	48,246,499	301	23,126,970	932	71,373,469
11	AVON	17	1,125,241	0	0	17	1,125,241
12	BASALT	7	400,175	0	0	7	400,175
719	BASALT & RURAL FPD	0	0	6	385,854	6	385,854
13	BAYFIELD	5	242,541	0	0	5	242,541
718	BENNETT FPD #7	0	0	5	185,931	5	185,931
503	BERTHOUD FPD	0	0	15	803,643	15	803,643
7331	BIG SANDY FPD	0	0	1	30,600	1	30,600
580	BLACK FOREST RESCUE	0	0	10	469,050	10	469,050
723	BLACK HAWK	0	0	18	1,416,725	18	1,416,725
18	BLANCA	1	30,868	0	0	1	30,868
22	BOULDER	165	12,275,166	105	8,251,901	270	20,527,067
726	BOULDER MOUNTAIN AUTH	0	0	4	188,376	4	188,376
730	BOULDER RURAL FPD	0	0	15	1,040,161	15	1,040,161
326	BRIGHTON	53	3,128,637	0	0	53	3,128,637
26	BRIGHTON (GREATER) FPD	0	0	56	3,345,606	56	3,345,606
504	BROADMOOR FPD	0	0	5	231,349	5	231,349
27	BROOMFIELD	141	10,543,299	0	0	141	10,543,299
28	BRUSH	11	424,832	0	0	11	424,832
29	BUENA VISTA	7	335,408	0	0	7	335,408
7247	BURNING MOUNTAINS FPD	0	0	2	175,301	2	175,301
33	CANON CITY	34	1,710,114	0	0	34	1,710,114
533	CANON CITY AREA FPD	0	0	28	1,651,416	28	1,651,416
740	CARBONDALE AND RURAL FPD	0	0	13	849,066	13	849,066

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
35	CASTLE ROCK	0	\$ 0	65	\$ 4,302,730	65	\$ 4,302,730
36	CEDAREdge	6	277,579	0	0	6	277,579
37	CENTER	4	127,288	0	0	4	127,288
38	CENTRAL CITY	4	249,514	1	68,706	5	318,220
749	CHAFFEE COUNTY FPD	0	0	3	149,432	3	149,432
505	CHERRY HILLS FPD	0	0	7	572,473	7	572,473
40	CHERRY HILLS VILLAGE	22	1,634,812	0	0	22	1,634,812
754	CIMARRON HILLS FPD	0	0	12	516,377	12	516,377
7125	CLEAR CREEK AUTHORITY	0	0	2	111,728	2	111,728
509	CLIFTON FPD	0	0	13	718,939	13	718,939
44	COLLBRAN MARSHALS	1	48,667	0	0	1	48,667
530	COLORADO CENTRE METRO DISTRICT	0	0	1	26,400	1	26,400
45	COLORADO SPRINGS	571	39,521,480	352	25,747,881	923	65,269,361
46	COLUMBINE VALLEY	6	312,603	0	0	6	312,603
47	COMMERCE CITY	93	7,121,124	0	0	93	7,121,124
764	COPPER MOUNTAIN	0	0	15	812,178	15	812,178
48	CORTEZ	28	1,338,145	0	0	28	1,338,145
765	CORTEZ FPD	0	0	2	90,008	2	90,008
774	CRIPPLE CREEK	0	0	13	535,004	13	535,004
506	CUNNINGHAM FPD	0	0	71	5,385,900	71	5,385,900
269	CUSTER COUNTY SHERIFFS	9	301,812	0	0	9	301,812
57	DACONO	8	413,438	0	0	8	413,438
779	DEBEQUE FPD	0	0	6	335,612	6	335,612
58	DEBEQUE POLICE	2	105,040	0	0	2	105,040
60	DEL NORTE	3	101,269	0	0	3	101,269
61	DELTA	17	847,103	0	0	17	847,103
62	DENVER	1,384	105,017,105	814	59,996,334	2,198	165,013,439
63	DILLON	9	587,993	0	0	9	587,993
566	DONALD WESCOTT FPD	0	0	14	636,763	14	636,763
67	DURANGO	50	3,012,089	0	0	50	3,012,089

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
567	DURANGO & RESCUE AUTH	0	\$ 0	60	\$ 3,559,695	60	\$ 3,559,695
522	EAGLE RIVER FPD	0	0	54	3,095,291	54	3,095,291
507	EAST GRAND FPD #4	0	0	3	161,661	3	161,661
795	EATON FPD	0	0	14	407,459	14	407,459
73	EDGEWATER	14	768,909	1	60,000	15	828,909
74	ELIZABETH	5	284,239	0	0	5	284,239
515	ELIZABETH FPD	0	0	15	835,244	15	835,244
7102	ELK CREEK FPD	0	0	8	377,756	8	377,756
75	EMPIRE	1	45,316	0	0	1	45,316
76	ENGLEWOOD	69	4,959,350	47	3,590,862	116	8,550,212
77	ERIE	21	1,361,021	0	0	21	1,361,021
78	ESTES PARK	24	1,523,354	0	0	24	1,523,354
523	ESTES VALLEY FPD	0	0	2	158,031	2	158,031
79	EVANS	30	1,898,535	15	769,102	45	2,667,637
510	FAIRMOUNT FPD	0	0	21	1,171,095	21	1,171,095
80	FAIRPLAY MARSHALLS	2	98,722	0	0	2	98,722
7112	FALCON FPD	0	0	19	873,794	19	873,794
81	FEDERAL HEIGHTS	23	1,286,894	15	803,220	38	2,090,114
85	FLORENCE	8	286,224	0	0	8	286,224
7118	FLORISSANT FPD	0	0	2	58,720	2	58,720
7222	FOOTHILLS & RESCUE	0	0	2	79,591	2	79,591
86	FORT COLLINS	188	13,623,218	4	382,351	192	14,005,569
7122	FORT LEWIS-MESA FPD	0	0	1	62,340	1	62,340
87	FORT LUPTON	15	823,927	0	0	15	823,927
7123	FORT LUPTON FPD	0	0	10	494,038	10	494,038
88	FORT MORGAN	25	1,397,347	0	0	25	1,397,347
89	FOUNTAIN	36	2,025,080	27	1,420,780	63	3,445,860
90	FOWLER	2	67,141	0	0	2	67,141
511	FRANKTOWN FPD	0	0	20	1,056,918	20	1,056,918
592	FREDERICK STONE FPD	0	0	31	1,734,415	31	1,734,415

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
93	FRISCO	12	\$ 701,445	0	\$ 0	12	\$ 701,445
94	FRUITA	17	900,755	0	0	17	900,755
7136	GENESEE	0	0	2	111,778	2	111,778
97	GEORGETOWN	3	171,169	0	0	3	171,169
98	GILCREST	3	122,793	0	0	3	122,793
99	GLENDALE	29	1,701,429	0	0	29	1,701,429
100	GLENWOOD SPRINGS	22	1,449,612	23	1,504,690	45	2,954,302
101	GOLDEN	43	2,964,052	6	421,112	49	3,385,164
102	GRANADA	2	57,600	0	0	2	57,600
7147	GRAND FPD #1	0	0	2	123,240	2	123,240
104	GRAND JUNCTION	97	6,647,406	101	6,570,687	198	13,218,093
7149	GRAND LAKE FPD	0	0	5	257,795	5	257,795
7150	GRAND VALLEY FPD	0	0	15	899,793	15	899,793
7153	GREATER EAGLE FPD	0	0	16	867,591	16	867,591
107	GREELEY	142	9,859,967	89	6,412,564	231	16,272,531
109	GREENWOOD VILLAGE	63	4,094,405	0	0	63	4,094,405
7156	GYPSUM FPD	0	0	4	256,538	4	256,538
7158	HARTSEL FPD	0	0	1	59,739	1	59,739
115	HAXTUN POLICE	3	98,245	0	0	3	98,245
119	HOLYOKE	4	151,693	0	0	4	151,693
7176	HUDSON FPD	0	0	1	53,538	1	53,538
124	HUGO	3	127,500	0	0	3	127,500
125	IDAHO SPRINGS	7	325,648	0	0	7	325,648
126	IGNACIO	6	308,524	0	0	6	308,524
7191	JEFFERSON-COMO FPD	0	0	2	98,217	2	98,217
129	JOHNSTOWN	12	663,797	0	0	12	663,797
7193	JOHNSTOWN FPD	0	0	6	251,921	6	251,921
7198	KIOWA FPD	0	0	3	132,398	3	132,398
5136	KREMMLING FPD	0	0	1	53,700	1	53,700
138	LA JARA	4	122,177	0	0	4	122,177

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
139	LA JUNTA	12	\$ 521,632	6	\$ 239,262	18	\$ 760,894
144	LA SALLE	6	307,060	0	0	6	307,060
7211	LA SALLE FPD	0	0	2	98,262	2	98,262
146	LA VETA	3	94,261	0	0	3	94,261
137	LAFAYETTE	39	2,580,157	17	993,209	56	3,573,366
593	LAKE DILLON FPD	0	0	45	2,811,446	45	2,811,446
7206	LAKE GEORGE FPD	0	0	1	46,680	1	46,680
263	LAKESIDE	5	209,448	0	0	5	209,448
143	LAMAR	19	746,022	7	296,309	26	1,042,331
141	LARKSPUR FPD	0	0	23	1,204,937	23	1,204,937
145	LAS ANIMAS	4	142,705	0	0	4	142,705
147	LEADVILLE	7	252,763	10	376,852	17	629,615
574	LEFTHAND FPD	0	0	3	151,759	3	151,759
149	LITTLETON	67	5,059,520	131	10,202,275	198	15,261,795
150	LOCHBUIE	4	187,132	0	0	4	187,132
214	LOG LANE VILLAGE	1	29,539	0	0	1	29,539
268	LONE TREE	43	2,952,848	0	0	43	2,952,848
151	LONGMONT	138	9,910,722	88	6,243,819	226	16,154,541
578	LOS PINOS FPD	0	0	21	1,111,368	21	1,111,368
153	LOVELAND	92	6,979,441	64	4,444,662	156	11,424,103
7226	LOWER VALLEY FPD	0	0	6	347,646	6	347,646
7227	LYONS FPD	0	0	1	52,983	1	52,983
157	MANITOU SPRINGS	14	560,255	6	248,948	20	809,203
163	MILLIKEN	9	437,306	0	0	9	437,306
7237	MILLIKEN FPD	0	0	5	280,494	5	280,494
164	MINTURN	3	157,334	0	0	3	157,334
166	MONTE VISTA	12	444,351	0	0	12	444,351
167	MONTROSE	38	2,021,790	0	0	38	2,021,790
537	MONTROSE FPD	0	0	30	2,168,967	30	2,168,967
168	MONUMENT	13	687,737	0	0	13	687,737

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
170	MOUNTAIN VIEW	2	\$ 79,040	0	\$ 0	2	\$ 79,040
516	MOUNTAIN VIEW FPD	0	0	65	4,433,838	65	4,433,838
266	MOUNTAIN VILLAGE	6	355,251	0	0	6	355,251
7246	NEDERLAND FPD	0	0	4	197,923	4	197,923
7251	NORTH FORK FPD	0	0	1	53,776	1	53,776
532	NORTH METRO RESCUE	0	0	101	7,316,581	101	7,316,581
7253	NORTH ROUTT COUNTY	0	0	1	53,580	1	53,580
517	NORTH WASHINGTON FPD	0	0	54	3,921,858	54	3,921,858
7255	NORTHEAST TELLER COUNTY	0	0	13	603,699	13	603,699
175	NORTHGLENN	61	3,949,781	0	0	61	3,949,781
7259	NORTH-WEST FPD	0	0	6	320,092	6	320,092
179	OAK CREEK	1	57,215	0	0	1	57,215
7263	OAK CREEK FPD	0	0	5	216,771	5	216,771
180	OLATHE	3	105,278	0	0	3	105,278
184	ORDWAY	1	26,877	0	0	1	26,877
588	PAGOSA FPD	0	0	7	351,913	7	351,913
188	PAGOSA SPRINGS	7	290,892	0	0	7	290,892
189	PALISADE	7	346,482	2	110,350	9	456,832
190	PALMER LAKE	5	187,403	0	0	5	187,403
192	PAONIA	5	329,453	0	0	5	329,453
106	PARACHUTE	5	258,216	0	0	5	258,216
191	PARKER	58	4,067,342	0	0	58	4,067,342
7281	PEYTON FPD	0	0	1	43,942	1	43,942
7481	PLATEAU VALLEY FPD	0	0	2	179,142	2	179,142
7285	PLATTE CANYON FPD	0	0	17	760,607	17	760,607
7287	PLATTE VALLEY FPD	0	0	5	268,151	5	268,151
196	PLATTEVILLE	8	315,550	0	0	8	315,550
513	PLATTEVILLE/GILCREST FPD	0	0	9	418,566	9	418,566
7289	PLEASANT VIEW METRO	0	0	5	207,343	5	207,343
518	POUDRE AUTHORITY	0	0	148	11,642,208	148	11,642,208

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
199	PUEBLO	195	\$ 13,118,437	132	\$ 7,943,780	327	\$ 21,062,217
519	PUEBLO RURAL FPD	0	0	29	1,320,902	29	1,320,902
7294	PUEBLO W. METRO	0	0	17	710,646	17	710,646
201	RANGELY	4	221,480	0	0	4	221,480
7298	RATTLESNAKE FPD	0	0	2	81,161	2	81,161
521	RED WHITE & BLUE FPD	0	0	52	3,485,398	52	3,485,398
206	RIFLE	18	1,118,335	0	0	18	1,118,335
7306	RIFLE FPD	0	0	46	2,078,742	46	2,078,742
208	ROCKY FORD	8	226,261	5	129,062	13	355,323
752	ROCKY MOUNTAIN FPD	0	0	32	2,034,218	32	2,034,218
7314	RYE FPD	0	0	6	341,360	6	341,360
542	SABLE-ALTURA FPD	0	0	12	273,983	12	273,983
213	SALIDA	13	604,917	10	430,720	23	1,035,637
215	SANFORD	1	28,840	0	0	1	28,840
543	SECURITY FPD	0	0	14	594,413	14	594,413
220	SHERIDAN	25	1,433,514	3	154,398	28	1,587,912
222	SILT	6	296,400	0	0	6	296,400
228	SNOWMASS VILLAGE	9	597,977	0	0	9	597,977
524	SNOWMASS WILDCAT FPD	0	0	18	1,084,765	18	1,084,765
525	SOUTH ADAMS COUNTY FPD	0	0	7	358,239	7	358,239
7339	SOUTH FORK	1	43,916	0	0	1	43,916
540	SOUTH METRO RESCUE	0	0	312	24,363,072	312	24,363,072
7340	SOUTHEAST WELD FPD	0	0	4	129,215	4	129,215
548	SOUTHERN PARK COUNTY FPD	0	0	2	62,760	2	62,760
527	SOUTHWEST ADAMS COUNTY FPD	0	0	38	2,482,114	38	2,482,114
229	SPRINGFIELD	4	131,529	0	0	4	131,529
231	STEAMBOAT SPRINGS	22	1,280,342	26	1,194,593	48	2,474,935
232	STERLING	19	780,006	16	637,413	35	1,417,419
82	STONE MARSHALLS	18	1,115,653	0	0	18	1,115,653
7349	STRATMOOR HILLS FPD	0	0	7	229,365	7	229,365

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
233	STRATTON	1	\$ 36,299	0	\$ 0	1	\$ 36,299
237	TELLURIDE	9	510156	0	0	9	510,156
545	TELLURIDE FPD	0	0	7	410,053	7	410,053
238	THORNTON	0	0	85	6,361,438	85	6,361,438
338	THORNTON	160	11419633	0	0	160	11,419,633
2557	TRI-LAKES MONUMENT FPD	0	0	38	1,947,067	38	1,947,067
240	TRINIDAD	19	816630	16	727,381	35	1,544,011
595	UPPER PINE RIVER FPD	0	0	22	938,234	22	938,234
242	VAIL	29	1980203	22	1,378,791	51	3,358,994
247	WALSENBURG	11	432693	0	0	11	432,693
534	WEST METRO FPD	0	0	329	26,020,580	329	26,020,580
7375	WEST ROUTT FPD	0	0	4	192,433	4	192,433
252	WESTMINSTER	0	0	126	8,706,482	126	8,706,482
253	WHEAT RIDGE	72	5086077	0	0	72	5,086,077
7381	WHEAT RIDGE FPD	0	0	4	270,498	4	270,498
254	WIGGINS	2	66464	0	0	2	66,464
7384	WINDSOR SEVERANCE FPD	0	0	26	1,222,264	26	1,222,264
259	WOODLAND PARK	18	879805	0	0	18	879,805
260	WRAY	7	291028	0	0	7	291,028
262	YUMA	7	303986	0	0	7	303,986
Totals		5,804	\$ 401,801,184	5,099	\$ 348,696,016	10,903	\$ 750,497,200

**Summary of Inactive Members**

	<u>Count</u>	<u>Average Age</u>	<u>Average Monthly Benefit</u>
Totally Disabled Members*	102	56.3	\$2,366
Occupationally Disabled Members*	645	55.7	\$1,600
Beneficiaries of Deceased Active Members	106	52.6	\$1,831

\* including beneficiaries of deceased retirees

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**SECTION IV**  
APPENDICES

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## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

### I. Valuation Date

The valuation date is January 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

### II. Actuarial Cost Method

The actuarial valuation uses the Aggregate Funding Method. Under this method, the contribution rate is calculated to fully fund the present value of all benefits over the remaining working career of the active employees. The contribution rate is determined as a percentage of increasing payroll.

1. The valuation is prepared on the projected benefit basis. The present value of each participant's expected benefit payable at retirement or termination is determined, based on age, service, sex, compensation, and the interest rate assumed to be earned in the future (8%). The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.
2. The actuarial value of assets is subtracted from the present value of all expected benefits to determine the present value of future normal costs. The future normal costs are spread across the future value of salaries to be paid to the current active population to determine a contribution rate.

### III. Actuarial Value of Assets

The asset valuation method approximates smoothing over a three-year period by recognizing 33% of the difference between the projected actuarial value and the market value at the valuation date. Expected earnings used to project the actuarial value are determined using the assumed investment return rate and the beginning of year actuarial value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

IV. Actuarial Assumptions

A. Economic Assumptions

1. Investment return: 8.00% per annum, compounded annually, composed of an assumed 3.50% inflation rate and a 4.50% real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.
2. Salary rate: Inflation rate of 3.50%, plus productivity component of 1.25%, plus step-rate/ promotional component as shown:

Years of Service	Annual Step-rate/ Promotional Rate	Total Annual Rate of Increase Including 3.50% Inflation Component and 1.25% Productivity Component
(1)	(2)	(4)
1	12.00%	16.75%
2	10.00%	14.75%
3	8.00%	12.75%
4	7.00%	11.75%
5	2.50%	7.25%
6	2.00%	6.75%
7	1.50%	6.25%
8	1.25%	6.00%
9	1.00%	5.75%
10	0.75%	5.50%
11	0.75%	5.50%
12	0.50%	5.25%
13	0.50%	5.25%
14	0.25%	5.00%
15	0.00%	4.75%

Salary increases are assumed to occur once a year, on January 1. Therefore the pay used for the period between the valuation date and the first anniversary of the valuation date is equal to the reported pay for the prior year, annualized if necessary, and then increased by the salary increase assumption.

3. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 4.25% per year. This increase rate is primarily due to the effect of inflation on salaries, with no allowance for future membership growth.

B. Demographic Assumptions

1. Mortality rates (members in payment status) or occupationally disabled and surviving spouses of deceased members – 1994 Group Annuity Mortality Table

Annual Rate per 1,000 Members					
Age	Males	Females	Age (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
50	2.58	1.43	70	23.73	13.73
55	4.43	2.29	75	37.21	22.67
60	7.98	4.44	80	62.03	39.40
65	14.54	8.64	85	97.24	67.74

Members in payment status- Totally disabled 1983 Railroad Board Disabled Mortality Table

Annual Rate per 1,000 Members			
Age	Rates	Age (cont.)	Rates
(1)	(2)	(4)	(5)
50	31.64	70	67.47
55	37.81	75	82.79
60	42.46	80	107.68
65	51.20	85	143.80

2. Mortality rates (active members) – 1994 Group Annuity Mortality Table, 50% multiplier for off-duty mortality. Increased by .00025 for on-duty related Fire and Police experience. Sample rates are shown below:

Annual Rate per 1,000 Members					
Age	Males	Females	Age (cont.)	Males	Females
(1)	(2)	(3)	(4)	(5)	(6)
20	0.50	0.39	40	0.79	0.60
25	0.58	0.40	45	1.04	0.74
30	0.65	0.43	50	1.54	0.96
35	0.68	0.49	55	2.46	1.40

3. Disability rates: Sample rates are shown below.

Annual Rate per 1,000 Members			
Age	Money Purchase Occupational	Defined Benefit Occupational	Total Disability
(1)	(2)	(3)	(4)
25	0.17	0.12	0.02
35	2.72	1.92	0.34
45	5.79	4.10	0.72
55	9.38	6.64	1.17
65	13.49	9.55	1.69

4. Termination rates (for causes other than death, disability or retirement): Termination rates are based on service. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates at selected ages are shown:

Police – Annual Rate per 1,000 Members					
Service	Rates	Service (cont.)	Rates	Service (cont.)	Rates
0	180.0	8	32.5	16	17.6
1	130.0	9	29.3	17	16.6
2	111.8	10	26.7	18	15.8
3	77.9	11	24.5	19	15.1
4	60.3	12	22.7	20	14.4
5	49.5	13	21.1	21	13.8
6	42.0	14	19.8	22	13.2
7	36.7	15	18.6	23	12.7

4. Termination rates (continued):

Fire– Annual Rate per 1,000 Members					
Service	Rates	Service (cont.)	Rates	Service (cont.)	Rates
0	90.0	8	25.6	16	10.8
1	70.1	9	23.1	17	9.5
2	55.3	10	20.8	18	8.2
3	46.6	11	18.8	19	7.1
4	40.4	12	16.9	20	6.0
5	35.7	13	15.2	21	4.9
6	31.8	14	13.6	22	4.0
7	28.5	15	12.1	23	3.0

5. Retirement rates: Members are assumed to retire at the time of attaining:

- A. Statewide Defined Benefit Plan Members and other New Hire Plan Members: Age 55 with 5 years of service or current age, if greater.
- B. Money Purchase Plan Members: The earliest of Age 65 or Age 55 with 25 years of service; or current age, if greater.
- C. Denver Police Old Hire Plan Members: Age after 25 years of service, or current age, if greater.
- D. Denver Fire Old Hire Plan Members: Age 50 and 25 years of service, or current age, if greater.
- E. All Other Plan members: Age 52 or current age, if greater.

C. Other Assumptions

- 1. Percent married: 80% of employees are assumed to be married.
- 2. Age difference: Male members are assumed to be two years older than their spouses, and female members are assumed to be two years younger than their spouses.
- 3. Post-retirement benefit adjustments: Totally disabled 3.0%; All others 0.0%.

4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
5. There will be no recoveries once disabled.
6. No surviving spouse will remarry.
7. Earned income: It is assumed that there are no offsets for Worker's Compensation or other current income.
8. Dependent children: Dependency status assumed to terminate at age 21.
9. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
10. SRA Offset: 0.0% contributions to SRA accounts are assumed to be made each year to all participants in the Statewide Defined Benefit Plan. An additional 2.5% SRA contribution is assumed to be made each year for all members in the additional contribution group in the Statewide Defined Benefit Plan. The accounts increase with 8.0% interest. The balances are converted to annuities using disabled mortality for totally disabled and 1994 GAM for occupationally disabled with a 3% benefit adjustment assumption.
11. Money Purchase and DROP Offset: The accounts are converted to annuities using the same methodology as indicated above for the SRA. The accounts are projected forward assuming 16% contribution rate and 8% investment return per year.
12. Decrement timing: Decrements of all types are assumed to occur mid-year.
13. 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.
14. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
15. Incidence of Contributions: Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.
16. For local Money Purchase members, an array based on service was used to estimate each member's Money Purchase balance. For missing salary in the data, an array of salaries based on service was used to estimate the salary.

D. Participant Data

Participant data was supplied on electronic files in the form of spreadsheets. There were separate tabs for (i) active and non-vested inactive members, and (ii) members and beneficiaries receiving benefits or vested inactives.

The data for an active members included birthdate, sex, service, salary and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, spouse's date of birth (where applicable), amount of monthly benefit, date of retirement, and a form of payment code.

Salary supplied for the current year was based on the earnings for the year preceding the valuation date. This salary was adjusted by the salary increase rate for one year.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

E. Changes to the assumptions:

There were no changes in assumptions since the prior valuation.

## SUMMARY OF BENEFIT PROVISIONS

1. **Members Included:** Members included are active employees who are full-time salaried employees of a participating municipality or fire protection district normally serving at least 1,600 hours in a calendar year and whose duties are directly involved with the provision of police or fire protection. As of August 1, 2003, the Plan may include part-time police and fire employees. Former members and beneficiaries of former members who have died or become disabled are also included.
2. **Compensation Considered:** Base salary means the total base rate of pay including Member Contributions to the Statewide Defined Benefit Plan or Statewide Money Purchase Plan (or contributions to any alternate retirement plan) which are “picked up” by the employer, and shall also include longevity pay, sick leave pay taken in the normal course of employment, vacation leave pay taken in the normal course of employment, shift differential, and mandatory overtime that is part of the Member’s fixed, periodic compensation. Accumulated vacation leave pay will also be included if a Member completes his/her service requirement for purposes of Normal retirement while exhausting accumulated vacation leave. Base salary shall not include overtime pay (except as noted in the preceding sentence), step-up pay or other pay for temporarily acting in a higher rank, uniform allowances, accumulated sick leave pay, accumulated vacation leave pay (except as noted in the preceding sentence), and other forms of extra pay (including Member Contributions which are paid by the employer and not deducted from the Member's salary). In the event an employer has established or does establish a Deferred Compensation Plan, the amount of the Member's salary that is deferred shall be included in the Member's base salary. Any amounts voluntarily contributed to an Internal Revenue Code Section 125 “Cafeteria Plan” shall be included in the Member's base salary. A Member is deemed temporarily acting in a higher rank if the appointment to the rank is anticipated to last less than six months.

The base salary under the Statewide Death & Disability Plan for each Member of the Colorado Springs New Hire Pension Plan shall be the same as the base salary as defined in the Colorado Springs New Hire Pension Plan.

3. **Pre-Retirement Death Benefits:** If a member dies prior to normal retirement eligibility while off-duty, the surviving spouse shall receive a benefit (including payments made from local defined contribution plans) equal to 40% of the monthly base salary paid to the member prior to death. An additional 10% of base salary is payable if a surviving spouse has two or more dependent children. If there is no surviving spouse, but the member had one or two dependent children, the benefit payable is 40% of the member’s monthly base salary. If there is no spouse but three or more dependent children, the benefit equals 50% of the member’s monthly base salary.

As of October 15, 2002, if a member dies prior to retirement while on-duty; the surviving spouse shall receive a benefit equal to 70% of the member's monthly base salary regardless of the number of dependent children. If there is no spouse but one or more dependent children living in the member's household the benefit equals 70% of the member's monthly base salary. If there are dependent children without a surviving spouse, and they do not live in the household, the benefit is 40% for the first child and 15% for each additional child, but not greater than 70% in total. Benefits will be paid to the spouse until death and to dependent children until, death, marriage or other termination of dependency. These benefits are offset by Money Purchase account balances, SRA and DROP accounts, converted to annuities.

4. Disability Benefits: A member who becomes disabled prior to normal retirement eligibility shall be eligible for disability benefits.

If the member is totally disabled, he shall receive 70% of his base salary preceding disability.

If the member is occupationally disabled and his disability is determined to be a permanent occupational disability, he shall receive 50% of his base salary preceding disability regardless of his family status. If the member is occupationally disabled and his disability is determined to be a temporary occupational disability, he shall receive 40% of his base salary preceding disability regardless of his family status for up to five years.

Total disability and permanent occupational disability benefits are offset by the Money Purchase, DROP or SRA balances, converted to annuities. For member's who also participate in Social Security, disability benefits are reduced by Social Security disability benefits derived from employment as a member, if applicable. Further offset may apply based on the member's earned income.

Temporary Occupational Disability benefits are payable for a maximum of five years. Permanent Occupational and Total Disability benefits are payable as long as the member remains disabled.

5. Benefit Adjustments for Benefits in Pay Status: Benefits to members and spouses are increased to reflect increases in the consumer price index annually if approved by the Board, but in no case may benefits be increased by more than 3% for any one year. Totally disabled members and their beneficiaries receive an automatic benefit adjustment each year of 3%.
6. Contribution: Members hired after January 1, 1997 and members covered by Social Security currently contribute 2.6% of base salary. This 2.6% contribution may be paid entirely by the employer or member, or it may be split between the employer and the member.

7. Offsets for SRA, DROP, Money Purchase Balances, and DROP: Death & Disability benefits are reduced by the actuarially equivalent annuities of the SRA, Money Purchase, and DROP account balances. A maximum of 16% of the annual Money Purchase contributions apply for this purpose. Benefits provided by the Statewide Death and Disability Plan are also offset by any defined benefit that the member may have received due to work as a Colorado firefighter or police officer.
8. Optional Forms of Payment: In addition to a life annuity, FPPA offers disabled members these optional forms of payment on an actuarially equivalent basis:
  - a. Option 1 - A life annuity payable while either the participant or his beneficiary is alive.
  - b. Option 2 - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if the member predeceases the beneficiary.
  - c. Option 3 - A life annuity payable to the member while both the member and beneficiary are alive. If the member dies, the survivor annuity will continue until the surviving spouse dies, until the youngest child reaches 23, or until death of any incapacitated child, whichever is later.

Actuarial equivalence is based on tables adopted by the Board.