

**FIRE AND POLICE PENSION ASSOCIATION**  
STATEWIDE DEFINED BENEFIT PLAN  
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 Statewide Defined Benefit Plan (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 Defined Benefit Plan 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 was 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 Statewide Defined Benefit Plan as of January 1, 2011.

Our Report presents the results of the January 1, 2011 actuarial valuation of the FPPA Statewide Defined Benefit Plan (SWDB). The Report describes the current actuarial condition of the SWDB, determines required annual employer contribution rates, and analyzes changes in these required rates. 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 employer contributions, when combined with the contributions made by members, are intended to provide for the Normal Cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over a period not to exceed 30 years.

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

The UAAL/(surplus) and the funded ratio (ratio of the actuarial value of assets to the actuarial accrued liability) illustrate the progress toward the realization of certain financing objectives. Based on our actuarial valuation as of January 1, 2011, the Plan's surplus status has increased over the prior year and the surplus is now (\$30.7) million, assuming no allowance for future discretionary benefit adjustments.

As listed in the Executive Summary under Section I of our Report, the normal cost rate of the Plan is 12.73% of payroll as of January 1, 2011. Since the employer contribution rate plus the member contribution rate totals 16.00% of payroll, an additional amount of 3.27% of payroll is available to amortize the UAAL and to provide some level of future discretionary benefit adjustments. However, because the Plan is currently in a surplus position, contribution amounts above the normal cost are applied towards increasing this existing surplus.

The contribution rate required to fund the benefits (assuming no future discretionary benefit adjustments) is 12.28%. This rate is the normal cost plus the amortization of the UAAL/(surplus) over 30 years. This amortization is a credit when the Plan is in a surplus position, and, therefore, because of the surplus, the annual required contribution is less than the normal cost. This also means that the ultimate cost of the Plan is the normal cost (e.g. when no surplus exists), or 12.73% of payroll.

For the valuation as of January 1, 2011, the cost of the Plan if it included a permanent 3% annual benefit adjustments is 20.60% of payroll. This is greater than the current combined employer/member contribution rate of 16.00%. Therefore, based on the Board's practice to advance fund future benefit adjustments before providing a Stabilization Reserve Account contribution, the recommended annual Stabilization Reserve Account contribution is 0.00% effective July 1, 2011.

***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 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 retired, active and inactive 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***

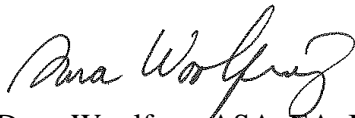
All of our work conforms with generally accepted actuarial principles and practices, and to the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of Colorado state law and, where applicable, the Internal Revenue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

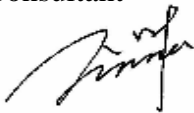
Respectfully submitted,  
**Gabriel, Roeder, Smith & Company**



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## **SECTION I**

### **EXECUTIVE SUMMARY**

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### Executive Summary

Item	January 1, 2011	January 1, 2010
	(1)	(2)
Membership		
• Number of:		
- Active members	5,314	5,331
- Retirees and beneficiaries	513	424
- Inactive members	<u>499</u>	<u>507</u>
- Total	6,326	6,262
• Annualized payroll supplied by FPPA	\$ 353,485	\$ 348,254
Assets		
• Market value	\$ 1,079,348	\$ 914,227
• Actuarial value	1,080,284	963,501
• Rate of return on market value	13.5%	19.9%
• Rate of return on actuarial value	8.0%	6.1%
• Contribution for prior year	\$ 64,648	\$ 64,648
• Ratio of actuarial value to market value	100.1%	105.4%
Actuarial Information		
• Total normal cost %	12.73%	12.66%
• Unfunded actuarial accrued liability/(surplus)	\$ (30,662)	\$ (200)
• Amortization rate	(0.45%)	0.00%
• Total required contribution %	12.28%	12.66%
• GASB funded ratio	102.9%	100.0%

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

## **Executive Summary**

1. The annual required contribution rate decreased from 12.66% to 12.28% as of January 1, 2011. This is mainly due to salary increases that were less than expected during 2010 which created liability gains.
2. Assets earned 13.5% on a market basis and 8.0% on an actuarial basis in 2010, producing an actuarial loss of \$0.5 million.
3. The funded ratio increased from 100.0% to 102.9% as of January 1, 2011.
4. The cost of the Plan if it included permanent 3% annual benefit adjustments decreased from 20.65% to 20.60% as of January 1, 2011. This amount is above the current combined employer and member contribution rate of 16.00%. Therefore, based on the current objective of funding for future benefit adjustments, we recommend a Stabilization Reserve Account contribution of 0.00% for the year beginning July 1, 2011.

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**SECTION II**  
DISCUSSION

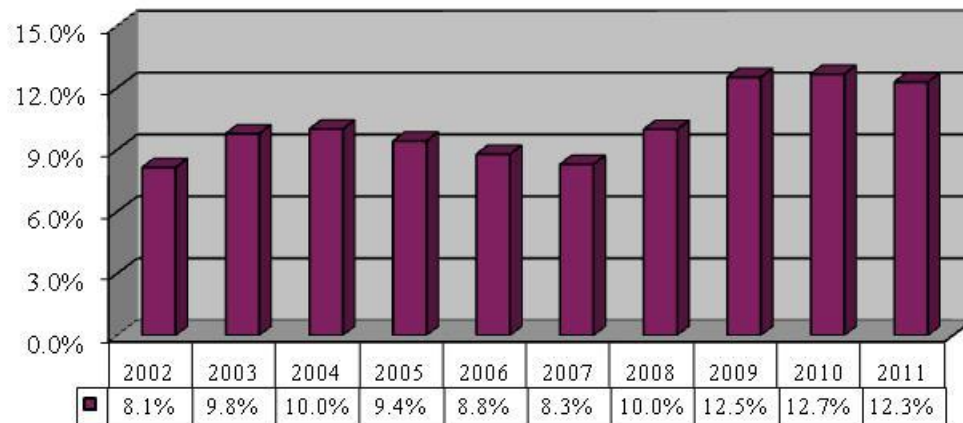
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### Contribution Requirements

The valuation of the Fire and Police Pension Association Statewide Defined Benefit Plan (SWDB) as of January 1, 2011, reflects a combined employer and member contribution rate of 16.00%. The annual required contribution rate decreased from 12.66% to 12.28% as of January 1, 2011. This is mainly due to salary increases that were less than expected during 2010, which created liability gains.

The following graph shows the historical costs of providing benefits.

**Cost of Plan as stated in the  
 Valuation as of January 1,**



Effective January 1, 2007, members currently covered under social security were transferred into the new FPPA supplemental social security program. The new plan is designed to give half the benefit when compared to the SWDB for half the cost.

The plan membership also includes a group of employers whose contribution rates differ from the main section of the populations. This valuation calculates what the contribution rate for those members needs to be for next fiscal year. The number of members in this group has increased significantly since the prior valuation.

These employers joined FPPA as a whole after the membership had matured. No prior service was granted for benefit purposes but prior service was granted for eligibility purposes. The membership does have the opportunity to purchase their prior service at an actuarially equivalent price. This group has a higher average entry age than the rest of the population and therefore a higher normal cost even though this difference has been decreasing over time. This normal cost was calculated assuming permanent 3% annual benefit adjustments. The appropriate contribution rate for this group is the 16% plus the difference in the normal cost when compared to the

general population. Therefore, the cost of benefits for this group is 16.26%. Because the combined employer/member contribution rate of this group is 20%, the recommended additional SRA contribution for this group is 3.74%. This amount would be in addition to any SRA approved by the Board for all participants. This amount is necessary in order to properly reflect that the full cost of benefits for this group is not 20.00%, but 16.26%.

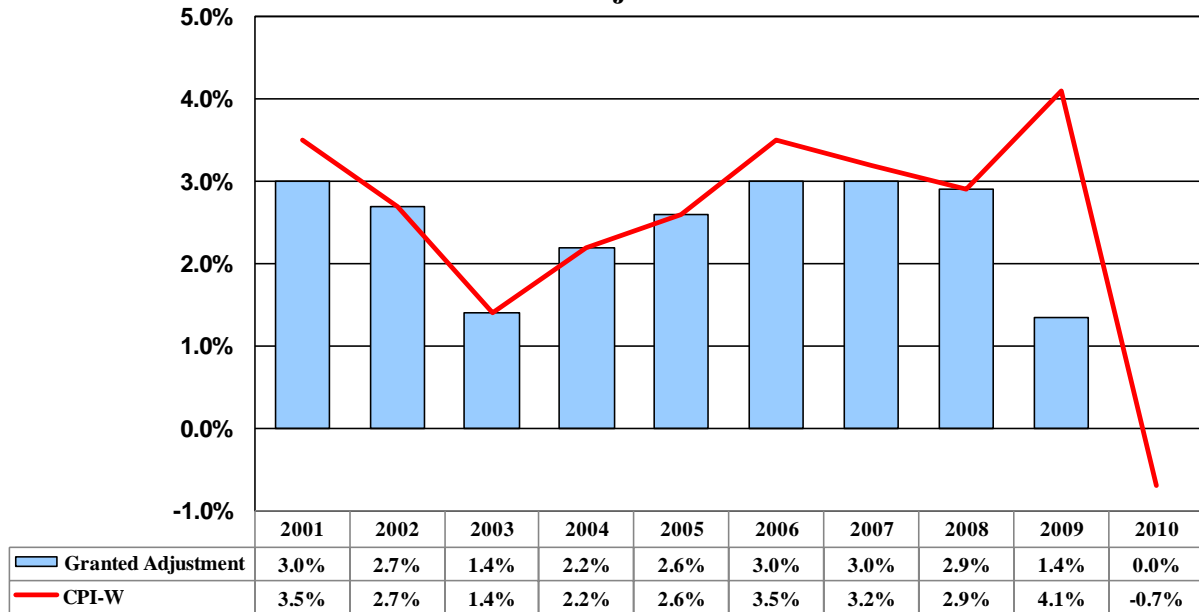
The following table presents the various costs for the two groups of SWDB participants:

	Ordinary Members	Members whose departments reentered
Normal Cost assuming no future benefit adjustments	12.73%	13.03%
Normal Cost assuming permanent 3% annual benefit adjustments	16.58%	16.84%
Total Contribution assuming permanent 3% annual benefit adjustments	16.00%	16.26%

### **Discretionary Benefit Adjustments**

On October 1st of each year, annuitants may receive a benefit increase at the discretion of the Board of Directors. The increase can range from 0% to the higher of 3% or the change in CPI. Because the increases are purely discretionary, the valuation results in the report are shown assuming no further benefit adjustments are granted. Historically, the Board has granted benefit adjustments that reflected an increase similar to the change in CPI-W. The average benefit adjustment granted by the Board since 1981 has been 2.55%. The chart below shows the benefit adjustments granted by the Board during the last 10 years and the change in CPI-W during that period. The cost of providing a one-time increase of the historical average of 2.55% at October 1, 2011 is \$4.7 million, which translates to an actuarial contribution rate increase of 0.07% of payroll. The current 16% contribution could sustain a 1.34% permanent annual benefit adjustment. The cost of a one-year 1.34% benefit adjustment for current retirees is \$2.5 million.

**Historical Benefit Adjustments Granted**

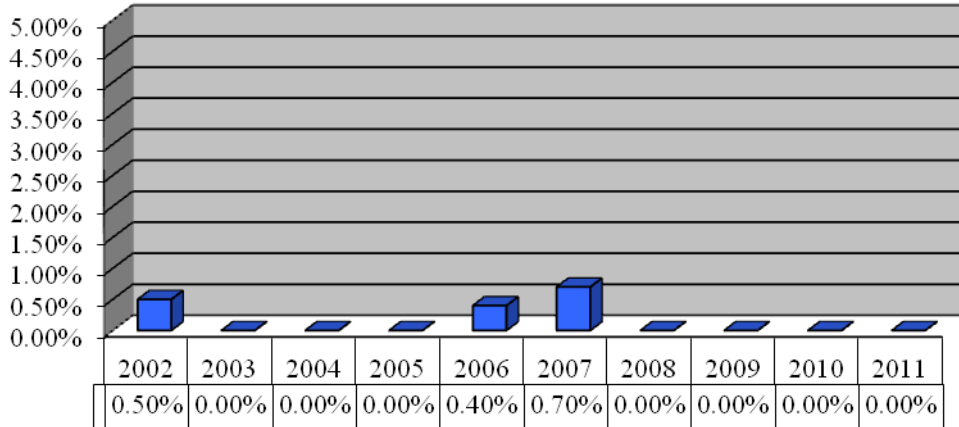


**Stabilization Reserve Account (SRA)**

In setting the discretionary SRA contribution, the Board has looked at what the combined employee and employer contribution requirement would be with a permanent 3% annual benefit adjustment. For the valuation as of January 1, 2011, the contribution requirement for a permanent 3% annual benefit adjustment would be 20.60%. Amounts set aside in the SRA are allocated to individual accounts for each active plan member. A member may receive the amounts in the individual account only upon death or the election of normal, early, disability or vested retirement. If the cost of the defined benefit plan exceeds the combined member/employer contribution rate, funds from the SRA can be used to make up the shortfall. The contribution requirement, if a 3% permanent annual benefit adjustment were provided, of 20.60% is greater than the current combined member/employer contribution rate of 16.00%. Therefore, based on the Board’s practice to advance fund future benefit adjustments before providing a Stabilization Reserve Account contribution, the recommended annual Stabilization Reserve Account contribution is 0.00% effective July 1, 2011.

The following graph illustrates the SRA contribution percentages for the last nine years and the recommended percentage for 2011.

**Recommended SRA Contribution Rates**  
 as recommended in the Valuation as of January 1,



**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 the SWDB. FPPA provided GRS with a summary of Plan assets as of January 1, 2011. The market value of assets (MVA) reported was \$1,079.3 million as of January 1, 2011, as compared to \$914.2 million as of January 1, 2010. Table 7 shows data from some of the tables included in the annual financial statements of the Plan. Table 9 shows the estimated yield on a market value basis and on the actuarial asset valuation method.

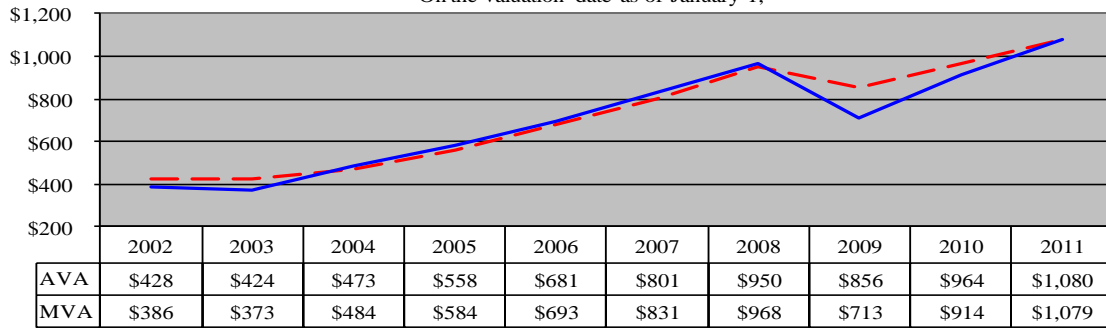
The asset valuation method approximates smoothing over a three-year period by recognizing 33% of the difference between the projected actuarial value and the market value at the valuation date. Expected earnings used to project the actuarial value are determined using the assumed investment return rate 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 \$963.5 million to \$1,080.3 million since the prior valuation. This increase was slightly less than expected and produced a loss of approximately \$0.5 million.

The valuation assumes investment returns of 8.0% each year. As indicated by item 7b of Table 9, the estimated return on mean market value was 13.54% in 2010, higher than the 8.0% assumption. The return on the actuarial value of assets was 7.95%, slightly lower than the 8.0% assumption. This difference in the estimated return on market value and actuarial value illustrates the smoothing effect of the asset valuation method.

**History of AVA vs MVA**

On the valuation date as of January 1,



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

### Member Data

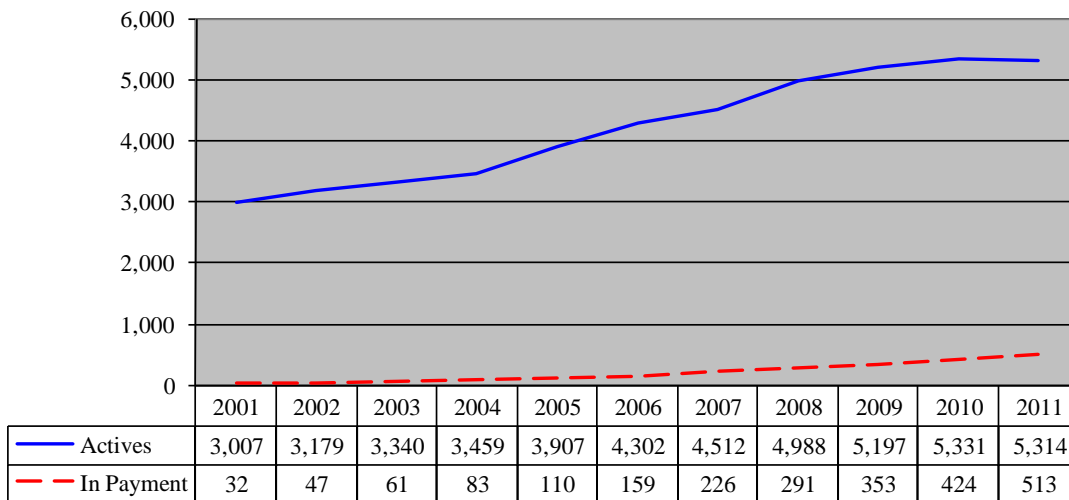
FPPA supplied member data as of January 1, 2011. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year’s data, and was reasonable overall. Information provided for active members includes: name, member ID, sex, a code 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 (normal retiree, vested retiree, beneficiary), and if applicable, the joint pensioner’s date of birth and sex.

Table 18 shows the number of members by category (active, inactive, retired, etc.). Table 19 shows a historical summary of active member statistics, and Table 20 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

On the valuation date as of January 1,



## Benefit Provisions

Appendix B in Section IV includes a summary of the benefit provisions for the SWDB Plan. Highlights include:

- Normal Retirement
  - o Eligibility: Age 55 and 25 years of service
  - o Annual Benefit: 2% of average of the member's highest three years base salary for first 10 years of service credit and 2.5% for each year after 10.
  - o Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available.
- Contributions: Members of this fund and their employers are currently each contributing at the rate of 8% of base salary.
- Benefit adjustments are granted periodically at the discretion of the FPPA Board.

There are no ancillary benefits—e.g., benefit adjustments—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

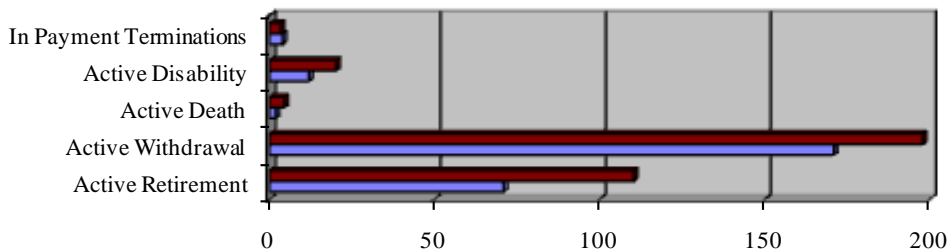
The valuation was prepared using the Entry Age Normal Method. This is the same funding method that has been used in prior years. The asset valuation method is an actuarial value based on a three-year weighted moving average of expected and actual market value of assets. See Appendix A for a complete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

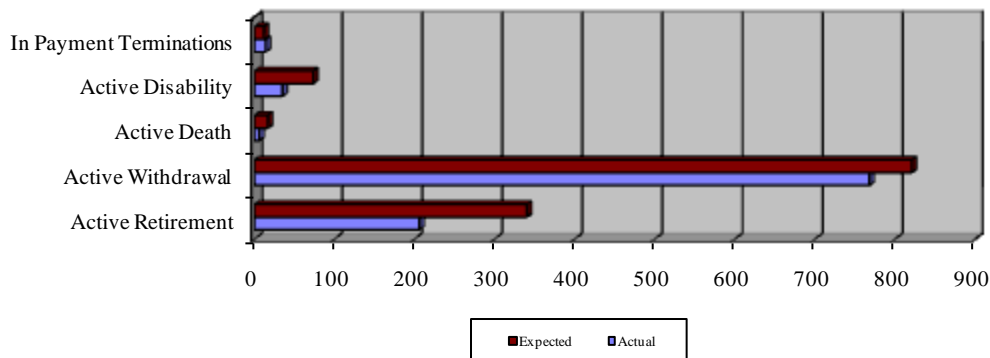
The results of the actuarial valuation are dependent on the actuarial assumptions used. Actual results can and almost certainly will differ, as actual experience deviates from the assumptions.

For FY2010, the actual salary increases were 96.1% of expected. The following charts provide a comparison of the actual experience versus the expected experience for selected demographic assumptions.

Demographic Experience - 2010



Demographic Experience - 2007 - 2010



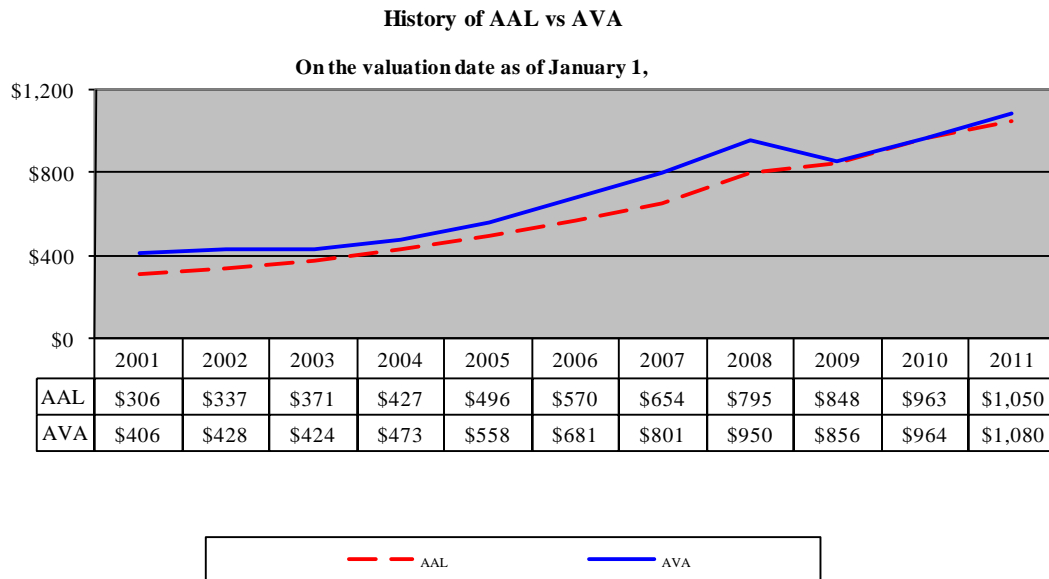
The In Payment Terminations above include deaths and benefits that were canceled for other reasons.

### 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 12 shows a historical summary of the funded ratios and other information for FPPA. Table 17 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 16 shows the development of the net pension obligation.

GASB 25 requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. The ARC is calculated in accordance with certain parameters. In particular, it includes a payment to amortize the UAAL. This amortization payment eventually will have to be computed using a funding period no greater than 30 years. Further, the amortization payment included in the ARC may be computed as a level amount, or it may be computed as an amount that increases with payroll. The payroll growth assumption may not anticipate future membership growth.

Employers that participate in cost-sharing multiple-employer defined benefit pension plans are required to recognize pension expenditures/expense equal to the employer's contractually required contributions and a liability for unpaid contributions. For FPPA, the required employer contribution for 2011 is 8% of pay, estimated to be \$30,310,175 for the plan year ending December 31, 2011. (This is computed as 8% of pay times the estimated payroll of \$378,877,193).



The AAL referenced above is the actuarial accrued liability and the AVA is the actuarial value of assets.

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## **SECTION III**

### **TABLES**

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**Development of Contribution Rate**

	January 1, 2011 (1)	January 1, 2010 (2)
1. Covered payroll (prior year)	\$ 353,484,986	\$ 348,253,545
2. Covered payroll adjusted for one-year's pay increase	\$ 378,877,193	\$ 374,678,328
3. Present value of future pay	\$ 3,718,737,683	\$ 3,740,559,101
4. Total normal cost rate	12.73%	12.66%
5. Actuarial accrued liability for active members		
a. Present value of future benefits for active members	\$ 1,203,989,626	\$ 1,164,735,702
b. Less: present value of future normal costs	(470,154,315)	(470,341,482)
c. Actuarial accrued liability (a - b)	\$ 733,835,311	\$ 694,394,220
6. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 184,826,720	\$ 145,688,264
b. Inactive members (terminated vested and nonvested)	25,972,054	19,702,062
c. Active members (Item 5c)	733,835,311	694,394,220
d. Stabilization reserve account	104,987,948	103,516,306
e. Total	\$ 1,049,622,033	\$ 963,300,852
7. Actuarial value of assets	\$ 1,080,284,447	\$ 963,500,681
8. Unfunded actuarial accrued liability (UAAL)/(surplus) (Item 6e - Item 7)	\$ (30,662,414)	\$ (199,829)
9. Contribution requirement		
a. UAAL amortization payment as % of pay	(0.45%)	0.00%
b. Normal cost	12.73%	12.66%
c. Contribution requirement (a + b)	12.28%	12.66%

**Actuarial Present Value of Future Benefits**

	<u>1/1/2011</u>	<u>1/1/2010</u>
	(1)	(2)
1. Active members		
a. Retirement benefits	\$ 1,138,106,961	\$ 1,099,943,048
b. Deferred termination benefits	45,329,319	47,695,289
c. Refunds	17,054,955	13,713,051
d. Death benefits	3,498,391	3,384,314
e. Total	<u>\$ 1,203,989,626</u>	<u>\$ 1,164,735,702</u>
2. Members in pay status		
a. Service retirements	\$ 180,304,558	\$ 143,998,652
b. Beneficiaries	4,522,162	1,689,612
c. Total	<u>\$ 184,826,720</u>	<u>\$ 145,688,264</u>
4. Inactive members		
a. Vested terminations	\$ 19,550,503	\$ 14,861,621
b. Nonvested terminations	6,421,551	4,840,441
c. Total	<u>\$ 25,972,054</u>	<u>\$ 19,702,062</u>
5. Stabilization Reserve Account	\$ 104,987,948	\$ 103,516,306
6. Total actuarial present value of future benefits	\$ 1,519,776,348	\$ 1,433,642,334

**Analysis of Normal Cost by Component**

	<u>1/1/2011</u>	<u>1/1/2010</u>
	(1)	(2)
1. Retirement benefits	11.07%	11.06%
2. Deferred termination benefits	0.77%	0.88%
3. Refunds	0.86%	0.69%
4. Death benefits	0.03%	0.03%
5. Total normal cost	<u>12.73%</u>	<u>12.66%</u>

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

	1/1/2011	1/1/2010
	(1)	(2)
1. Unfunded actuarial accrued liability (UAAL) as of January 1 of prior year	\$ (199,829)	\$ (8,268,892)
2. Total normal cost for year (Normal Cost % x actual payroll paid during year)	46,317,996	44,917,404
3. Non service purchase contributions during year ending December 31	(58,304,879)	(56,265,718)
4. Interest on UAAL for one year	(15,986)	(661,511)
5. Interest on Item 2 and Item 3 for one-half year	(470,251)	(445,200)
6. Expected UAAL as of January 1 (1 + 2 + 3 + 4 + 5)	\$ (12,672,950)	\$ (20,723,917)
7. Actual UAAL at end of year	\$ (30,662,414)	\$ (199,829)
8. Actuarial gain/(loss) for the period (6 - 7)	\$ 17,989,464	\$ (20,524,088)
<u>SOURCE OF GAINS/(LOSSES)</u>		
9. Asset gain/(loss) (See Table 10)	\$ (461,001)	\$ (24,227,970)
10. Salary liability gain/(loss) for the period	\$ 23,032,018	\$ 2,856,572
11. Benefit Adjustment Granted as of October 1 (0.00% in 2010, 1.35% in 2009)	\$ -	\$ (1,551,407)
12. Net liability gain/(loss) for the period (8 - 9 - 10 - 11)	\$ (4,581,553)	\$ 2,398,717

**Analysis of Change in Calculated Contribution Rate**

	<u>1/1/2011</u>	<u>1/1/2010</u>
1. Recommended contribution rate as of last valuation	12.66%	12.51%
2. Change in contribution rate during year		
a. Change in normal cost	0.07%	0.02%
b. Change in assumptions	0.00%	0.00%
c. Change in benefit provisions	0.00%	0.00%
d. Impact of contributing less/(more) than calculated rate	(0.19%)	(0.20%)
e. Recognition of prior asset losses (gains)	0.00%	0.45%
f. Actuarial (gain) loss from current year asset performance	0.01%	(0.07%)
g. Effect of payroll growth	(0.02%)	0.00%
h. Benefit adjustment granted October 1, (year preceding valuation)	0.00%	0.02%
i. Resetting Funding Period to 30 Years	0.01%	0.00%
j. Actuarial (gain) loss from other liability sources	<u>(0.26%)</u>	<u>(0.07%)</u>
k. Total change	(0.38%)	0.15%
3. Recommended contribution rate as of this valuation	12.28%	12.66%

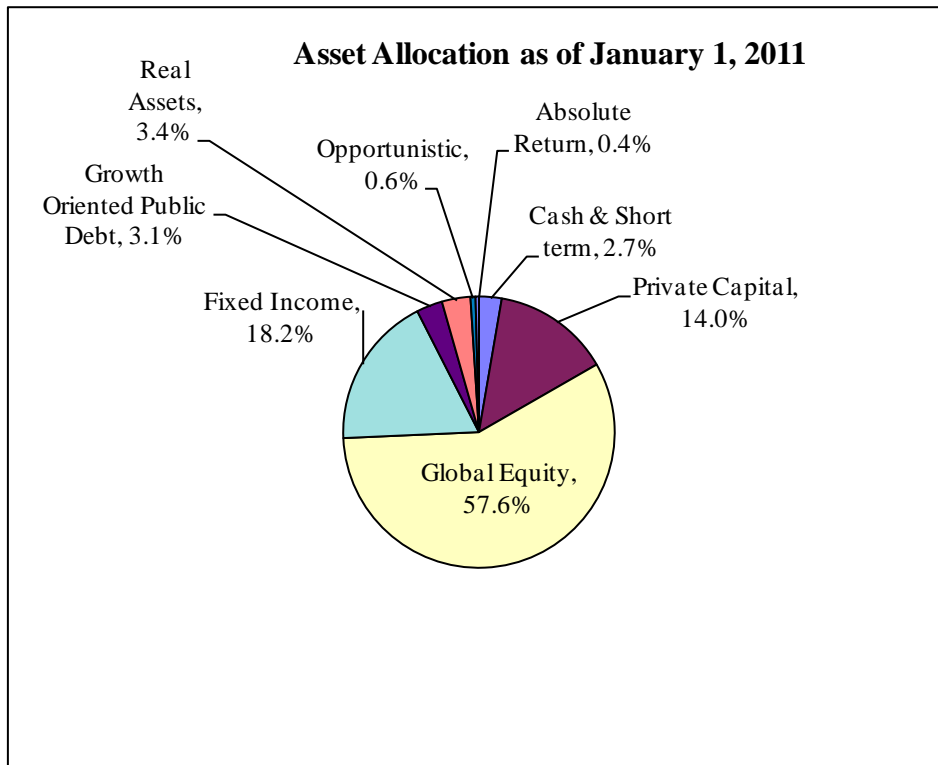
**Summary of Historical Valuation Results  
As of the Valuation Date January 1,**

	<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>
1. Number of Members									
a. Active	5,314	5,331	5,197	4,988	4,512	4,302	3,907	3,459	3,340
b. Retired/DROP/Beneficiaries	513	424	353	291	226	159	110	83	61
c. Inactive members	499	507	530	524	282	274	237	126	108
d. Total	<u>6,326</u>	<u>6,262</u>	<u>6,080</u>	<u>5,803</u>	<u>5,020</u>	<u>4,735</u>	<u>4,254</u>	<u>3,668</u>	<u>3,509</u>
2. Covered payroll (prior year)	\$ 353,485	\$ 348,254	\$ 322,971	\$ 298,314	\$ 264,560	\$ 239,643	\$ 209,765	\$ 182,826	\$ 166,735
3. Average Compensation	\$ 66.5	\$ 65.3	\$ 62.1	\$ 59.8	\$ 58.6	\$ 55.7	\$ 53.7	\$ 52.9	\$ 49.9
4. Covered payroll adjusted for one-year's pay increase	\$ 378,877	\$ 374,678	\$ 348,486	\$ 322,441	\$ 283,518	\$ 257,072	\$ 224,988	\$ 189,359	\$ 172,626
5. Actuarial Value of Assets	\$ 1,080,284	\$ 963,501	\$ 856,090	\$ 950,114	\$ 801,427	\$ 681,193	\$ 557,950	\$ 473,007	\$ 424,089
6. Market Value of Assets	\$ 1,079,348	\$ 914,227	\$ 713,408	\$ 967,883	\$ 831,477	\$ 692,649	\$ 583,615	\$ 483,967	\$ 373,284
7. Present Value of Benefits									
a. Retired/Beneficiaries	\$ 184,827	\$ 145,688	\$ 114,919	\$ 90,339	\$ 66,989	\$ 42,895	\$ 26,390	\$ 18,062	\$ 11,443
b. Terminations	25,972	19,702	20,084	19,962	15,238	14,886	13,638	10,516	8,482
c. Actives	1,203,990	1,164,736	1,065,738	973,106	732,919	662,020	577,708	498,021	459,431
d. Reserve Account	104,988	103,516	91,297	128,736	120,394	108,484	101,664	87,469	73,374
Total	<u>\$ 1,519,776</u>	<u>\$ 1,433,642</u>	<u>\$ 1,292,039</u>	<u>\$ 1,212,143</u>	<u>\$ 935,539</u>	<u>\$ 828,284</u>	<u>\$ 719,401</u>	<u>\$ 614,068</u>	<u>\$ 552,730</u>
8. Total Contribution									
a. Amount	\$ 46,515	\$ 47,426	\$ 43,590	\$ 32,165	\$ 23,492	\$ 22,569	\$ 21,173	\$ 18,925	\$ 16,871
b. Percent of Pay	12.28%	12.66%	12.51%	9.98%	8.29%	8.78%	9.41%	9.99%	9.77%
c. SRA Allocation	0.00%	0.00%	0.00%	0.00%	0.70%	0.40%	0.00%	0.00%	0.00%
8. Net Pension Obligation	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

\$ amounts in '000s

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

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



**Reconciliation of Plan Net Assets**

	Year Ending	
	December 31, 2010 (1)	December 31, 2009 (2)
1. Market value of assets at beginning of year	\$ 914,227,208	\$ 713,408,345
a. Market value adjustment	87,303	-
b. Adjusted market value at beginning of year	<u>\$ 914,314,511</u>	<u>\$ 713,408,345</u>
2. Revenue for the year		
a. Contributions	\$ 64,648,361	\$ 68,550,470
b. Net investment income		
i. Interest	\$ 9,962,405	\$ (7,089,413)
ii. Dividends	12,399,260	15,503,682
iii. Real estate	688	203,725
iv. Net change in accrued income	(811,497)	1,698,609
v. Unrealized gain/(loss)	81,714,835	(257,416,367)
vi. Realized gain/(loss)	29,340,220	404,084,696
vii. Deferred contribution earnings	(16,877)	324,189
viii. Fees and expenses	(7,399,401)	(7,118,274)
ix. Other income	1,224,414	(2,723,112)
c. Total revenue	<u>\$ 191,062,410</u>	<u>\$ 216,018,205</u>
3. Expenditures for the year		
a. Refunds	\$ (1,751,469)	\$ (1,926,954)
b. Benefit payments	(24,276,976)	(13,271,623)
c. Identified Receipts	0	(765)
d. Total expenditures	<u>\$ (26,028,445)</u>	<u>\$ (15,199,342)</u>
4. Increase in net assets (Item 2c + Item 3d)	\$ 165,033,965	\$ 200,818,863
5. Market value of assets at end of year (Item 1b + Item 4)	\$ 1,079,348,476	\$ 914,227,208

**Development of Actuarial Value of Assets**

	<u>2011</u> (1)	<u>2010</u> (2)
1. Actuarial value as of January 1	\$ 963,500,681	\$ 856,090,014
a. Contributions	\$ 64,648,361	\$ 68,550,470
b. Identified receipts	0	(765)
c. Benefits paid	(24,276,976)	(13,271,623)
d. Refunds	(1,751,469)	(1,926,954)
e. Net cash flow	<u>38,619,916</u>	<u>53,351,128</u>
2. Expected actuarial value of assets as of December 31	\$ 1,080,745,448	\$ 980,062,388
3. Actual market value of assets as of December 31	\$ 1,079,348,476	\$ 914,227,208
4. Excess earnings/(shortfall)	\$ (1,396,972)	\$ (65,835,180)
5. Gain/(loss) on SRA assets	0	7,707,318
6. Net asset gain/(loss) (Item 4 - Item 5)	<u>\$ (1,396,972)</u>	<u>\$ (73,542,498)</u>
7. Excess earnings/(shortfall) recognized (33% x Item 6)	\$ (461,001)	\$ (24,269,024)
8. Actuarial value of assets as of December 31 (Item 2 + Item 5 + Item 7)	\$ 1,080,284,447	\$ 963,500,681

**Investment Yields**

Item (1)	Market Value (2)	Actuarial Value (3)
1. Assets as of January 1, 2010 (A)	\$ 914,314,511 *	\$ 963,500,681
2. Contributions during FY10	64,648,361	64,648,361
3. Benefit payments made during FY10	(24,276,976)	(24,276,976)
4. Refunds of contributions during FY10	(1,751,469)	(1,751,469)
5. Investment return during FY10	<u>126,414,049</u>	<u>78,163,850</u>
6. Assets as of January 1, 2011 (B): (1 + 2 + 3 + 4 + 5)	1,079,348,476	1,080,284,447
7. Approximate rate of return on average invested assets		
a. Net investment income (I)	126,414,049	78,163,850
b. Estimated return based on $(2I / (A + B - I))$	13.54%	7.95%

\*Market value adjustment at January 1, 2010

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

Item (1)	Valuation as of 1/1/2011 (2)	Valuation as of 1/1/2010 (3)
1. Actuarial assets, prior valuation	\$ 963,500,681	\$ 856,090,014
2. Total contributions since prior valuation	\$ 64,648,361	\$ 68,550,470
3. Benefits and refunds since prior valuation	\$ (26,028,445)	\$ (15,199,342)
4. Assumed net investment income at 8.0%		
a. Beginning assets	\$ 77,080,055	\$ 68,487,201
b. Contributions	2,585,934	2,689,268
c. Benefits and refunds paid	(1,041,138)	(596,278)
d. Total	\$ 78,624,851	\$ 70,580,191
5. Expected actuarial assets (1 + 2 + 3 + 4)	\$ 1,080,745,448	\$ 980,021,333
6. Actual actuarial assets, this valuation	\$ 1,080,284,447	\$ 963,500,681
7. Preliminary asset gain/(loss) (6 - 5)	\$ (461,001)	\$ (16,520,652)
8. Excess return on SRA*	\$ -	\$ 7,707,318
9. Net asset gain (loss) since prior valuation (7 - 8)	\$ (461,001)	\$ (24,227,970)

Loss

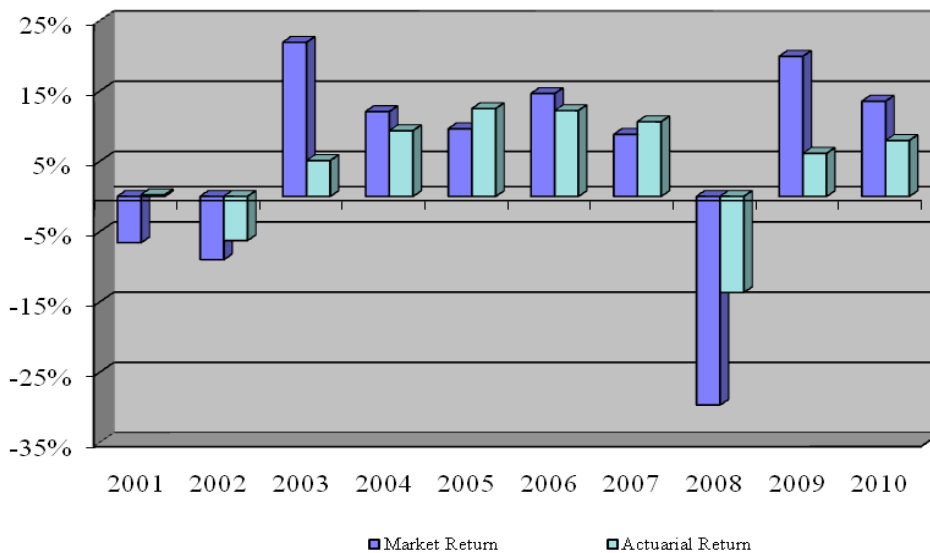
Loss

\*Not used in AVA calculation at 12/31/2010

**History of Investment Return Rates**

For Fiscal Year Ending (1)	Market Value (2)	Actuarial Value (3)
December 31, 2001	(6.58%)	0.24%
December 31, 2002	(8.99%)	(6.28%)
December 31, 2003	21.92%	5.10%
December 31, 2004	12.06%	9.34%
December 31, 2005	9.62%	12.49%
December 31, 2006	14.63%	12.20%
December 31, 2007	8.82%	10.62%
December 31, 2008	(29.67%)	(13.67%)
December 31, 2009	19.93%	6.12%
December 31, 2010	13.54%	7.95%
Average Returns:		
Last 5 Years	3.62%	4.19%
Last 10 Years	4.28%	4.07%

**History of Asset Returns**



**Schedule of Funding Progress**  
 (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	\$ 405,598,652	\$ 305,500,209	\$ (100,098,443)	132.8%	\$ 141,154,007	(70.9%)
January 1, 2002	428,388,591	337,391,594	(90,996,997)	127.0%	156,808,953	(58.0%)
January 1, 2003	424,088,589	371,056,405	(53,032,184)	114.3%	172,625,858	(30.7%)
January 1, 2004	473,006,658	426,673,675	(46,332,983)	110.9%	189,359,234	(24.5%)
January 1, 2005	557,949,693	495,915,617	(62,034,076)	112.5%	217,752,582	(28.5%)
January 1, 2006	681,193,087	569,819,934	(111,373,153)	119.5%	246,693,626	(45.1%)
January 1, 2007	801,426,848	654,097,657	(147,329,192)	122.5%	271,906,902	(54.2%)
January 1, 2008	950,114,346	795,499,983	(154,614,363)	119.4%	312,857,166	(49.4%)
January 1, 2009	856,090,014	847,821,122	(8,268,892)	101.0%	337,918,774	(2.4%)
January 1, 2010	963,500,681	963,300,852	(199,829)	100.0%	363,265,902	(0.1%)
January 1, 2011	1,080,284,447	1,049,622,033	(30,662,414)	102.9%	353,484,986	(8.7%)

### History of Employer Contributions

<u>Valuation Date</u> (1)	<u>Annual Required Contribution Rate</u> (2)	<u>Actual Contribution Rate</u> (3)	<u>Percent</u> (4)
January 1, 2001	8.00%	8.00%	100%
January 1, 2002	8.00%	8.00%	100%
January 1, 2003	8.00%	8.00%	100%
January 1, 2004	8.00%	8.00%	100%
January 1, 2005	8.00%	8.00%	100%
January 1, 2006	8.00%	8.00%	100%
January 1, 2007	8.00%	8.00%	100%
January 1, 2008	8.00%	8.00%	100%
January 1, 2009	8.00%	8.00%	100%
January 1, 2010	8.00%	8.00%	100%
January 1, 2011	8.00%	8.00%	100%

**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, 2001	\$ 75,909	\$ 9,134	\$ 220,457	\$ 405,599	100.0%	100.0%	100.0%
January 1, 2002	85,368	15,946	236,078	428,389	100.0%	100.0%	100.0%
January 1, 2003	95,830	19,925	255,301	424,089	100.0%	100.0%	100.0%
January 1, 2004	106,332	28,578	291,764	473,007	100.0%	100.0%	100.0%
January 1, 2005	130,910	40,029	324,977	557,950	100.0%	100.0%	100.0%
January 1, 2006	161,665	57,780	350,375	681,193	100.0%	100.0%	100.0%
January 1, 2007	177,180	82,227	394,691	801,427	100.0%	100.0%	100.0%
January 1, 2008	211,285	110,301	473,914	950,114	100.0%	100.0%	100.0%
January 1, 2009	232,742	135,004	480,075	856,090	100.0%	100.0%	100.0%
January 1, 2010	259,369	165,390	538,542	963,501	100.0%	100.0%	100.0%
January 1, 2011	276,908	210,799	561,915	1,080,284	100.0%	100.0%	100.0%

\$ amounts in '000s

**Cash Flow Analysis**

Year Ending December 31, (1)	Contributions for the Year (2)	Expenditures During the Year					External Cash Flow for the Year (8)	Market Value of Assets (9)	External Cash Flow as Percent of Market Value (10)
		Benefit Payments (3)	Refund of Contributions (4)	Identified Receipts (5)	Expenses (6)	Total (7)			
2000	\$ 22,182	\$ (345)	\$ (1,301)	\$ (362)	\$ (1,666)	\$ (3,673)	\$ 18,509	\$ 390,254	4.7%
2001	24,378	(565)	(1,838)	(167)	(1,507)	(4,076)	20,302	385,670	5.3%
2002	26,080	(865)	(1,720)	(170)	(1,730)	(4,484)	21,596	373,284	5.8%
2003	29,729	(1,304)	(1,862)	(117)	(1,896)	(5,180)	24,548	483,967	5.1%
2004	42,708	(2,005)	(1,694)	(83)	(2,113)	(5,895)	36,813	583,615	6.3%
2005	56,453	(3,129)	(2,889)	-	(4,152)	(10,171)	46,282	692,649	6.7%
2006	44,137	(5,114)	(4,061)	-	(5,089)	(14,264)	29,873	831,477	3.6%
2007	72,338	(7,261)	(4,698)	(51)	(6,428)	(18,438)	53,900	967,883	5.6%
2008	52,585	(10,525)	(3,621)	0	(7,118)	(21,265)	31,321	713,408	4.4%
2009	68,550	(13,272)	(1,927)	(1)	(7,119)	(22,318)	46,232	914,227	5.1%
2010	64,648	(24,277)	(1,751)	0	(7,399)	(33,428)	31,221	1,079,348	2.9%
2011*	60,620	(20,546)	(2,776)	0	(7,714)	(31,036)	29,584	1,196,464	2.5%
2012*	63,197	(26,216)	(2,894)	0	(8,042)	(37,152)	26,045	1,319,268	2.0%
2013*	65,883	(31,748)	(3,017)	0	(8,383)	(43,149)	22,734	1,448,453	1.6%

\* Results for 2011, 2012, & 2013 are based on expected contributions, expected benefit payments, and assumed investment return of 8%  
 Expected contributions are based on combined employee and employer rate of 16% and 4.25% annual payroll growth  
 Expected benefit payments are based on current plan benefits and expected retirements, terminations, and mortality

\$ amounts in '000s

**Net Pension Obligation**  
**GASB #27**

<b>Estimated Employer Required Contribution</b> (8% of projected payroll)	\$ 30,310,175
<b>Net Pension Obligation</b>	
1. Net Pension Obligation as of January 1, 2011	\$ 0
2. Estimated Employer Required Contribution (8% x pay)	30,310,175
3. Estimated Employer Contribution for 2011 plan year (8% x pay)	<u>30,310,175</u>
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	Entry Age Normal
Amortization method	Level percentage of payroll, open
Remaining amortization period	30 years
Asset valuation method	3-Yr 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%

**Membership Data**

	<u>January 1, 2011</u>	<u>January 1, 2010</u>	<u>January 1, 2009</u>
	(1)	(2)	(3)
1. Active members			
a. Number	5,314	5,331	5,197
b. Total payroll	\$ 353,484,986	\$ 348,253,545	\$ 322,971,268
c. Average annual salary	66,520	65,326	62,146
d. Average age	40.7	40.1	39.6
e. Average service	10.5	9.9	9.5
2. Inactive members			
a. Vested	167	165	166
b. NonVested *	332	342	364
3. Service retirees			
a. Number	492	412	344
b. Total annual benefits	\$ 16,849,853	\$ 13,368,816	\$ 10,461,685
c. Average annual benefit	34,248	32,449	30,412
d. Average age	60.4	60.1	59.8
4. Beneficiaries and spouses			
a. Number	21	12	9
b. Total annual benefits	\$ 421,027	\$ 170,571	\$ 139,803
c. Average annual benefit	20,049	14,214	15,534
d. Average age	54.8	52.9	57.7

\* Includes members who have terminated and could elect a deferred benefit, but have not yet been processed

**Historical Summary of Active Member Data**

Valuation Date	Active Count	Average Age	Average Svc	Covered Payroll	Average Annual Salary	Percent Change in Average Salary
(1)	(2)	(3)	(4)	(5)	(6)	(7)
2000	2,768	37.5	8.6	\$ 114,579,015	\$ 41,394	1.59%
2001	3,007	37.7	8.6	136,306,027	45,330	9.51%
2002	3,179	38.0	8.8	151,369,850	47,616	5.04%
2003	3,340	38.4	9.1	166,734,883	49,921	4.84%
2004	3,459	38.9	9.4	182,825,786	52,855	5.88%
2005	3,907	39.0	9.1	209,765,329	53,690	1.58%
2006	4,302	39.1	9.1	239,642,543	55,705	3.75%
2007	4,512	39.3	9.2	264,560,282	58,635	5.26%
2008	4,988	39.3	9.2	298,313,990	59,806	2.00%
2009	5,197	39.6	9.5	322,971,268	62,146	3.91%
2010	5,331	40.1	9.9	348,253,545	65,326	5.12%
2011	5,314	40.7	10.5	353,484,986	66,520	1.83%

**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	15	20	12	4	1									52
		\$41,931	\$41,178	\$43,944	\$55,400									\$42,025
25-29	60	73	122	108	91	108								562
	\$39,872	\$44,789	\$48,955	\$49,953	\$60,448	\$62,922								\$52,181
30-34	37	50	106	112	107	360	66							838
	\$39,327	\$46,485	\$51,961	\$52,973	\$59,356	\$63,403	\$71,973							\$58,648
35-39	36	50	69	55	76	386	310	49						1,031
	\$40,456	\$49,656	\$50,071	\$54,735	\$63,442	\$65,287	\$72,528	\$79,669						\$64,805
40-44	18	33	43	58	61	266	332	209	39					1,059
	\$41,303	\$56,473	\$50,060	\$53,246	\$63,437	\$64,436	\$73,305	\$80,103	\$81,405					\$69,038
45-49	15	24	22	26	21	115	161	213	162	29				788
	\$45,976	\$61,116	\$49,649	\$55,287	\$59,874	\$65,563	\$71,151	\$78,489	\$85,016	\$85,388				\$73,484
50-54	10	10	6	10	10	67	63	94	146	151	42	1		610
	\$45,196	\$68,611	\$44,874	\$53,197	\$67,817	\$65,967	\$73,108	\$76,387	\$80,606	\$84,601	\$84,718	\$78,817		\$77,055
55-59	3	12	7	4	11	33	29	31	70	59	41			300
	\$62,346	\$75,020	\$54,374	\$53,621	\$58,568	\$68,603	\$72,481	\$74,205	\$78,895	\$79,673	\$82,626			\$75,346
60-64	2		2	4	1	20	8	8	7	4	7			63
	\$54,995		\$44,512	\$62,058	\$66,237	\$69,303	\$74,033	\$82,260	\$77,377	\$86,387	\$74,384			\$72,345
65 & Over				1	1	2	1	3	1	1	1			11
				43,000	\$92,071	\$86,163	\$70,999	87,422	76,922	69,730	43,718			\$75,548
Total	196	272	389	382	380	1,357	970	607	425	244	91	1		5,314
	\$41,363	\$50,853	\$49,905	\$52,559	\$61,412	\$64,660	\$72,575	\$78,690	\$82,016	\$83,471	\$82,530	\$78,817		\$66,520
Average:	Age:	Age:	40.7										Males:	4,838
	Service:	Service:	10.5										Females:	476

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

Year Ended	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Benefits	Average Annual Benefits
	Number	Annual Benefits	Number	Annual Benefits	Number	Annual Benefits		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
December 31, 1994	3	\$ 22,458	1	\$ 4,740	10	\$ 78,559	17.56%	\$ 7,856
December 31, 1995	3	21,759	1	5,071	12	89,605	14.06%	7,467
December 31, 1996	8	54,955	1	568	19	137,627	53.59%	7,244
December 31, 1997	2	22,218	1	568	20	156,512	13.72%	7,826
December 31, 1998	5	61,039	0	0	25	253,185	61.77%	10,127
December 31, 1999	4	56,252	1	6592	28	311,906	23.19%	11,140
December 31, 2000	5	50,774	1	15,482	32	353,534	13.35%	11,048
December 31, 2001	16	374,072	1	3,697	47	735,257	107.97%	15,644
December 31, 2002	14	301,795	0	0	61	1,054,842	43.47%	17,292
December 31, 2003	24	606,147	2	21898	83	1,648,771	56.31%	19,865
December 31, 2004	27	825,955	0	0	110	2,506,161	52.00%	22,783
December 31, 2005	51	1,458,446	2	22713	159	3,941,893	57.29%	24,792
December 31, 2006	69	2,284,964	2	97,352	226	6,129,506	55.50%	27,122
December 31, 2007	66	2,201,387	1	29,009	291	8,301,884	35.44%	28,529
December 31, 2008	65	2,375,478	3	75,874	353	10,601,488	27.70%	30,033
December 31, 2009	75	2,981,664	4	43,765	424	13,539,387	27.71%	31,933
December 31, 2010	94	3,862,662	5	131,169	513	17,270,880	27.56%	33,666

Includes beneficiaries of deceased members with a deferred benefit.

Summary of Members and Adjusted Payroll by Employer

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
5	ANTONITO	2	\$ 49,500	0	\$ 0	2	\$ 49,500
501	ARVADA FPD	0	0	95	6,601,484	95	6,601,484
9	AULT	6	347,623	0	0	6	347,623
12	BASALT	7	407,091	0	0	7	407,091
719	BASALT & RURAL FPD	0	0	5	275,990	5	275,990
13	BAYFIELD	5	244,345	0	0	5	244,345
718	BENNETT FPD #7	0	0	5	185,933	5	185,933
503	BERTHOUD FPD	0	0	15	803,647	15	803,647
7331	BIG SANDY FPD	0	0	1	30,600	1	30,600
580	BLACK FOREST RESCUE	0	0	10	464,156	10	464,156
723	BLACK HAWK	0	0	18	1,416,733	18	1,416,733
18	BLANCA	1	30,868	0	0	1	30,868
726	BOULDER MOUNTAIN AUTH	0	0	4	188,084	4	188,084
730	BOULDER RURAL FPD	0	0	15	1,022,822	15	1,022,822
326	BRIGHTON	49	2,806,304	0	0	49	2,806,304
26	BRIGHTON (GREATER) FPD	0	0	55	3,239,895	55	3,239,895
504	BROADMOOR FPD	0	0	5	231,351	5	231,351
28	BRUSH	11	424,836	0	0	11	424,836
7247	BURNING MOUNTAINS FPD ADMIN	0	0	3	215,059	3	215,059
33	CANON CITY	17	743,419	0	0	17	743,419
740	CARBONDALE AND RURAL FPD ADMIN	0	0	17	1,014,139	17	1,014,139
35	CASTLE ROCK	0	0	65	4,307,990	65	4,307,990
37	CENTER	4	120,015	0	0	4	120,015
749	CHAFFEE COUNTY FPD	0	0	2	70,146	2	70,146
754	CIMARRON HILLS FPD	0	0	12	518,735	12	518,735
7125	CLEAR CREEK AUTHORITY	0	0	1	50,769	1	50,769
509	CLIFTON FPD ADMIN	0	0	14	766,341	14	766,341
45	COLORADO SPRINGS	97	5,816,708	86	5,856,000	183	11,672,708
46	COLUMBINE VALLEY	6	311,206	0	0	6	311,206
764	COPPER MOUNTAIN	0	0	15	818,286	15	818,286
765	CORTEZ FPD	0	0	2	90,009	2	90,009
774	CRIPPLE CREEK	0	0	13	529,750	13	529,750

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
506	CUNNINGHAM FPD	0	\$ 0	71	\$ 5,396,845	71	\$ 5,396,845
57	DACONO	8	413,441	0	0	8	413,441
58	DEBEQUE	2	105,040	0	0	2	105,040
779	DEBEQUE FPD	0	0	5	263,515	5	263,515
62	DENVER	1,383	105,833,010	811	59,896,851	2,194	165,729,860
566	DONALD WESCOTT FPD	0	0	14	636,269	14	636,269
567	DURANGO & RESCUE AUTH	0	0	46	2,689,498	46	2,689,498
507	EAST GRAND FPD #4 ADMIN	0	0	4	204,712	4	204,712
795	EATON FPD ADMIN	0	0	7	284,800	7	284,800
74	ELIZABETH	4	214,249	0	0	4	214,249
7102	ELK CREEK FPD	0	0	8	377,759	8	377,759
75	EMPIRE	1	45,316	0	0	1	45,316
76	ENGLEWOOD	0	0	46	3,519,990	46	3,519,990
77	ERIE	20	1,227,166	0	0	20	1,227,166
523	ESTES VALLEY	0	0	2	158,032	2	158,032
79	EVANS	7	534,904	15	784,525	22	1,319,429
510	FAIRMOUNT FPD	0	0	20	1,068,035	20	1,068,035
80	FAIRPLAY MARSHALLS	2	98,722	0	0	2	98,722
7112	FALCON FPD	0	0	18	800,967	18	800,967
81	FEDERAL HEIGHTS	21	1,159,990	15	782,168	36	1,942,158
85	FLORENCE	8	286,550	0	0	8	286,550
7118	FLORISSANT FPD	0	0	2	58,856	2	58,856
7222	FOOTHILLS & RESCUE	0	0	2	79,592	2	79,592
7123	FORT LUPTON FPD	0	0	10	494,043	10	494,043
90	FOWLER	2	67,982	0	0	2	67,982
511	FRANKTOWN FPD	0	0	20	1,088,764	20	1,088,764
92	FREDERICK	16	863,515	0	0	16	863,515
592	FREDERICK STONE FPD ADMIN	0	0	33	1,800,682	33	1,800,682
93	FRISCO	12	702,381	0	0	12	702,381
7136	GENESEE	0	0	2	111,778	2	111,778
97	GEORGETOWN	3	171,171	0	0	3	171,171

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
98	GILCREST	2	\$ 72,793	0	\$ 0	2	\$ 72,793
102	GRANADA	1	28,800	0	0	1	28,800
7147	GRAND FPD #1	0	0	1	48,432	1	48,432
7149	GRAND LAKE FPD	0	0	5	257,799	5	257,799
7150	GRAND VALLEY FPD	0	0	14	770,493	14	770,493
7153	GREATER EAGLE FPD	0	0	17	923,373	17	923,373
107	GREELEY	0	0	89	5,998,348	89	5,998,348
7156	GYPSUM FPD	0	0	4	256,539	4	256,539
7158	HARTSEL FPD	0	0	1	59,740	1	59,740
115	HAXTUN	3	96,561	0	0	3	96,561
119	HOLYOKE	4	151,696	0	0	4	151,696
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	328,355	0	0	7	328,355
126	IGNACIO	6	308,525	0	0	6	308,525
7191	JEFFERSON-COMO FPD	0	0	3	129,650	3	129,650
129	JOHNSTOWN	12	663,802	0	0	12	663,802
7193	JOHNSTOWN FPD	0	0	6	249,225	6	249,225
7198	KIOWA FPD	0	0	3	132,398	3	132,398
136	KREMMLING	4	228,814	0	0	4	228,814
138	LA JARA	4	122,047	0	0	4	122,047
144	LA SALLE	5	239,616	0	0	5	239,616
7211	LA SALLE FPD	0	0	2	98,262	2	98,262
146	LA VETA	3	95,665	0	0	3	95,665
137	LAFAYETTE	30	1,982,570	17	991,883	47	2,974,453
593	LAKE DILLON FPD	0	0	37	2,236,891	37	2,236,891
263	LAKESIDE	4	164,551	0	0	4	164,551
141	LARKSPUR FPD ADMIN	0	0	23	1,191,471	23	1,191,471
145	LAS ANIMAS	4	142,707	0	0	4	142,707
147	LEADVILLE	7	255,982	10	380,719	17	636,702
574	LEFTHAND FPD	0	0	2	106,000	2	106,000

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
149	LITTLETON	0	\$ 0	102	\$ 7,760,968	102	\$ 7,760,968
214	LOG LANE VILLAGE	1	29,539	0	0	1	29,539
150	LOCHBUIE	4	160,135	0	0	4	160,135
268	LONE TREE	42	2,915,352	0	0	42	2,915,352
578	LOS PINOS FPD ADMIN	0	0	26	1,319,509	26	1,319,509
7226	LOWER VALLEY FPD	0	0	5	259,864	5	259,864
7227	LYONS FPD	0	0	1	52,983	1	52,983
157	MANITOU SPRINGS	14	561,210	6	248,950	20	810,161
163	MILLIKEN	7	305,517	0	0	7	305,517
7237	MILLIKEN FPD	0	0	5	280,497	5	280,497
537	MONTROSE FPD	0	0	28	1,967,403	28	1,967,403
170	MOUNTAIN VIEW	1	37,440	0	0	1	37,440
516	MOUNTAIN VIEW FPD	0	0	65	4,431,012	65	4,431,012
7246	NEDERLAND FPD	0	0	3	118,546	3	118,546
7251	NORTH FORK FPD	0	0	1	53,776	1	53,776
532	NORTH METRO RESCUE ADMIN	0	0	99	6,897,612	99	6,897,612
7253	NORTH ROUTT COUNTY	0	0	1	53,580	1	53,580
517	NORTH WASHINGTON FPD	0	0	54	3,922,339	54	3,922,339
7255	NORTHEAST TELLER COUNTY	0	0	14	644,517	14	644,517
7259	NORTH-WEST FPD ADMIN	0	0	7	349,285	7	349,285
179	OAK CREEK	1	57,215	0	0	1	57,215
7263	OAK CREEK FPD	0	0	5	216,772	5	216,772
180	OLATHE	3	105,280	0	0	3	105,280
184	ORDWAY	1	26,877	0	0	1	26,877
588	PAGOSA FPD	0	0	7	351,914	7	351,914
188	PAGOSA SPRINGS	7	296,270	0	0	7	296,270
189	PALISADE	6	274,868	2	110,351	8	385,219
190	PALMER LAKE	5	187,405	0	0	5	187,405
192	PAONIA	5	329,455	0	0	5	329,455
106	PARACHUTE	5	258,218	0	0	5	258,218

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
191	PARKER	58	4,071,319	0	0	58	4,071,319
7281	PEYTON FPD	0	0	1	43,943	1	43,943
7481	PLATEAU VALLEY FPD	0	\$ 0	3	\$ 199,928	3	\$ 199,928
7285	PLATTE CANYON FPD	0		17	754,430	17	754,430
7287	PLATTE VALLEY FPD	0		6	307,798	6	307,798
196	PLATTEVILLE	7	296,840	0		7	296,840
513	PLATTEVILLE/GILCREST FPD ADMIN	0		10	452,812	10	452,812
7289	PLEASANT VIEW METRO	0		5	207,344	5	207,344
199	PUEBLO	190	12,724,919	131	7,864,535	321	20,589,454
519	PUEBLO RURAL FPD	0		29	1,323,182	29	1,323,182
7294	PUEBLO W. METRO	0		17	722,609	17	722,609
7298	RATTLESNAKE FPD	0		2	88,616	2	88,616
521	RED WHITE & BLUE FPD	0		51	3,458,938	51	3,458,938
7306	RIFLE FPD	0		31	1,756,396	31	1,756,396
752	ROCKY MOUNTAIN FPD	0		32	1,980,372	32	1,980,372
7314	RYE FPD ADMIN	0		6	341,364	6	341,364
542	SABLE-ALTURA FPD	0		3	130,879	3	130,879
213	SALIDA	13	607,441	9	374,590	22	982,030
215	SANFORD	1	28,840	0		1	28,840
543	SECURITY FPD	0		13	530,669	13	530,669
222	SILT	6	297,464	0		6	297,464
524	SNOWMASS-WILDCAT FPD ADMIN	0		12	696,690	12	696,690
525	SOUTH ADAMS COUNTY FPD ADMIN	0		8	401,193	8	401,193
7339	SOUTH FORK	1	43,417	0		1	43,417
7340	SOUTHEAST WELD FPD	0		4	124,456	4	124,456
548	SOUTHERN PARK COUNTY FPD	0		1	43,000	1	43,000
229	SPRINGFIELD	4	126,307	0		4	126,307
231	STEAMBOAT SPRINGS	0		26	1,200,881	26	1,200,881
232	STERLING	19	780,014	15	580,770	34	1,360,784
82	STONE MARSHALLS	18	1,096,148	0		18	1,096,148

**Fire and Police Pension Association  
Statewide Defined Benefit Plan  
Actuarial Valuation – January 1, 2011**

*Section III  
Table 22*

City Code	City Name	Police		Fire		Total	
		No.	Earnings	No.	Earnings	No.	Earnings
7349	STRATMOOR HILLS FPD	0		7	222,725	7	222,725
233	STRATTON	1	36,299	0		1	36,299
545	TELLURIDE FPD ADMIN	0		8	483,745	8	483,745
238	THORNTON	0		14	1,216,959	14	1,216,959
2557	TRI-LAKES MONUMENT FPD ADMIN	0	\$ 0	39	\$ 1,985,455	39	\$ 1,985,455
240	TRINIDAD	0	0	12	548,789	12	548,789
595	UPPER PINE RIVER FPD ADMIN	0	0	25	1,014,429	25	1,014,429
534	WEST METRO FPD ADMIN	0	0	115	7,862,736	115	7,862,736
7375	WEST ROUTT FPD	0	0	2	159,992	2	159,992
252	WESTMINSTER	0	0	107	7,279,643	107	7,279,643
7381	WHEAT RIDGE FPD	0	0	4	270,500	4	270,500
254	WIGGINS	2	66,464	0	0	2	66,464
257	WINDSOR	19	1,166,603	0	0	19	1,166,603
7384	WINDSOR SEVERANCE FPD	0	0	26	1,224,174	26	1,224,174
260	WRAY	7	284,821	0	0	7	284,821
262	YUMA	7	303,201	0	0	7	303,201
Totals		2,248	\$ 155,510,211	3,066	\$ 197,974,776	5,314	\$ 353,484,987

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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 Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability.

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 employer contributions required to support the benefits of the Plan are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the Entry Age Normal method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on their behalf.
4. The unfunded accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 30 years from the valuation date. It is assumed that payments are made monthly throughout the year.

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 increase 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) – 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

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: 15% of disabilities are assumed to be total and 85% are assumed to be occupational. Sample rates are shown below.

Annual Rate per 1,000 Members			
Age	Rates	Age (cont.)	Rates
(1)	(2)	(3)	(4)
20	0.14	40	3.49
25	0.14	45	4.82
30	1.15	50	6.26
35	2.26	55	7.81

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:

Age-Based Retirement rates, for members with more than 25 years of service

Age	Annual Rate per 100 Members
55-59	50
60	100

Service-Based Retirement rates\*

Service	Annual Rate per 100 Members
5-9	5
10-19	12
20-24	25

\*100 percent retirement assumed at age 70.

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: 0%.

4. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.
5. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.
6. There will be no recoveries once disabled.
7. No surviving spouse will remarry and there will be no children's benefit.
8. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.
9. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.
10. Pay increase timing: Beginning of (fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
11. Decrement timing: Decrements of all types are assumed to occur mid-year.
12. 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.
13. Decrement relativity: Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
14. 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.
15. Benefit Service: All members are assumed to accrue 1 year of service each year. Exact fractional service is used to determine the amount of benefit payable.

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 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 adjusted for service accrued during the year. In cases where the earnings for the year two years prior to the valuation date was higher, this higher amount was used. 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. Allocation to SRA

The SRA contribution rate is determined annually based on the normal cost plus amortization of unfunded liability (surplus). The excess of sixteen percent contributions over the actuarial requirement is available as the SRA contribution rate. The Board has the authority and responsibility to choose the SRA rate. Other considerations may be evaluated such as:

1. Investment performance subsequent to the actuarial valuation
2. Potential future plan changes under consideration
3. Stability of SRA
4. Projections of future SRA contributions

F. Changes to the assumptions:

There were no changes in assumptions since the prior valuation.

## SUMMARY OF BENEFIT PROVISIONS

1. Effective Date and Authority: The Fire and Police Pension Association Plan (FPPA) was established January 1, 1980. The SWDB is a defined benefit plan for Colorado Fire and Police employees hired on or after April 8, 1978.
2. Plan Year: A twelve-month period ending December 31st.
3. Administration: FPPA administers this statewide multiple employer public employee retirement plan. FPPA is responsible for the investment of the trust assets, including the establishment of the asset allocation policy.
4. Type of Plan: The Statewide Defined Benefit Plan is a qualified governmental defined benefit retirement plan. For Governmental Accounting Standards Board purposes, it is a cost-sharing multiple employer plan.
5. Eligibility: Members included are active employees who are full-time salaried employees of a participating municipality, fire protection district, fire authority, or county improvement 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 [C.R.S. 31-31-102]. As of August 1, 2003, the Plan may include clerical and other personnel from fire districts whose services are auxiliary to fire protection.

Also included are employees of any employer that covers members under the federal Social Security Act or any county that chooses to affiliate with FPPA and that covers salaried employees whose duties are directly involved with the provision of law enforcement or fire protection as certified by the county under the federal Social Security Act [C.R.S. 31-31-704]. This supplemental plan provides one half the benefits provided by the full SWDB plan.

6. Contributions: Members of this fund and their employers are currently each contributing at the rate of 8% of base salary [C.R.S. 31-31-402]. Contributions from members and employers of affiliated social security employers are 4% of base salary for a total contribution rate of 8% [C.R.S. 31-31-704.6].

Contributions from members and employers of plans re-entering the system are established by resolution and approved by the FPPA Board of Directors.

7. Salary: Base salary means the total base rate of pay including Member Contributions to the Statewide Defined Benefit Plan or Statewide Money Purchase 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. [Rule 101.05].
8. Highest Average Salaries (HAS): The average of the member's highest three calendar years’ annual base salaries.
9. Normal Retirement
  - a. Eligibility: A member’s Normal Retirement shall be the date on which the member has completed at least twenty-five years of credited service and has attained the age of 55 [C.R.S. 31-31-403].
  - b. Annual Benefit: The annual Normal Retirement Benefit shall be 2% of the average of the member’s highest three years base salary for each year of credited service up to ten years plus 2.5% for each year thereafter [C.R.S. 31-31-403 and Resolution 2000-4; Amendment One]. The benefit for members of affiliated social security employers will be reduced by the amount of social security income the member receives annually, calculated as if the social security benefit started as of age 62 for benefits prior to 2007 [C.R.S. 31-31-704]. Beginning January 1, 2007, members of affiliated social security employers will participate in the FPPA supplemental social security program which will provide benefits equal to 1% of the average of the member’s highest three years base salary for each year of credited service up to ten years plus 1.25% for each year thereafter [C.R.S. 31-31-704.6].
  - c. Payment Form: Benefits are paid as a monthly life annuity. Optional forms of payment are available; see below.

10. Early Retirement

- a. Eligibility: A member shall be eligible for an Early Retirement Benefit after completion of thirty years of service or attainment of age 50 with at least five years of credited service.
- b. Annual Benefit: The Early Retirement Benefit shall be the Normal Retirement Benefit reduced on an actuarially equivalent basis [C.R.S. 31-31-403].

11. Deferred Retirement

- a. Annual Benefit: Members who qualify for a Normal or Vested Retirement may defer the receipt of their defined benefit pension to as late as age 65 and receive the actuarial equivalent of the benefit [C.R.S. 31-31-403].

12. Terminated Vested Benefit

- a. Eligibility: A member who terminates with at least five years of service is vested. A vested member who does not withdraw their contributions from the fund is eligible for a vested benefit, payable at age 55. [C.R.S. 31-31-404]
- b. Monthly Benefit: The monthly benefit is based on the retirement formula described above. Both the HAS and service are determined at the time the member leaves active employment or enters the Deferred Retirement Option Plan (DROP). Benefits may commence at age 55 [C.R.S. 31-31-404]. The benefit for members of affiliated social security employers earned prior to January 1, 2007 will be reduced by the amount of social security income the member receives annually [C.R.S. 31-31-704].
- c. Payment Form: The same as for Retirement above.
- d. Death Benefit before Retirement: Survivors of an active member who dies prior to retirement eligibility is entitled to receive the benefit described below in item 14. Survivors of an active or inactive member who is eligible for a Normal or Early retirement and who dies after leaving active service but before electing a payment option or receiving the first pension payment is entitled to receive a benefit according to payment Option 1, (100% survivor benefits). See item 15 below [C.R.S. 31-31-403].
- e. Death Benefit after Retirement: Survivor benefits are paid according to the payment option elected by the member at the time of retirement [C.R.S. 31-31-403].

13. Withdrawal (Refund) Benefit

- a. Eligibility: All members leaving covered employment with less than five years of service are eligible. Optionally, vested members (those with five or more years of service) may withdraw their accumulated contributions in lieu of the future vested benefits otherwise due.
- b. Benefit: The member receives a lump-sum payment equal to the sum of his/her employee contributions. 5% as interest is credited on these contributions [C.R.S. 31-31-404].

14. Death Benefit of Active Members

- a. Eligibility: Death must have occurred while an active or an inactive, non-retired member.
- b. Basic Benefit: Upon the death of a non-vested active, unmarried member with no spouse no dependent children, and no beneficiary, a refund of the member's contributions is paid to the member's estate. If the member was vested, single and had no dependent children and was not eligible for a Normal or Early retirement, a joint and survivor annuity may be paid to the beneficiary if greater than the refund [C.R.S. 31-31-403]. The benefit for members of affiliated social security employers earned prior to January 1, 2007 will be reduced by the amount of social security income the member receives annually [C.R.S. 31-31-704].
- c. Survivors (spouse or dependent children) of active members who die prior to retirement eligibility are covered by the benefits provided by the Statewide Death and Disability Plan.

15. Optional Forms of Payment: In addition to a life annuity, FPPA offers members these optional forms of payment on an actuarially equivalent:

- a. Option 1 (Joint and 100% Survivor) - A life annuity payable while either the member or his beneficiary is alive.
- b. Option 2 (Joint and 50% Survivor) - 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 (Joint and 50% Last Survivor) - A life annuity payable to the member while both the member and beneficiary are alive, reducing to 50% of this amount if either the member or the beneficiary dies.
- d. Option 4 (Joint and 100% Survivor with "Pop Up") - 100% of the reduced retirement income payable for the life of the beneficiary upon the death of the retiring member, with the provision that, should the beneficiary predecease the member, the monthly annuity will revert to the amount that would have been payable under the normal form of payment.
- e. Option 5 (Joint and 50% Survivor with "Pop Up") - 50% of the reduced retirement income payable for the life of the beneficiary upon the death of the retiring member, with the

provision that, should the beneficiary predecease the member, the monthly annuity will revert to the amount that would have been payable under the normal form of payment.

Actuarial equivalence is based on tables adopted by the Board.

16. Benefit Adjustments: Benefits to members and beneficiaries may be increased annually on October 1. The amount is based on the Board's discretion and can range from 0% to the higher of 3% or the CPI.
17. Stabilization Reserve Account: Annually, at the discretion of the Board of Directors, the difference between the combined member/employer contribution and the actuarially determined contribution rate may be allocated to the stabilization reserve account. Amounts set aside in the SRA are allocated to individual accounts for each new hire member. A member may receive the amounts in this individual account only upon election of normal, early, disability or vested retirement. If the cost of the defined benefit plan exceeds the combined member/employer contribution rate, funds from the SRA may be used to make up the shortfall [C.R.S. 31-31-405, C.R.S. 31-31-406]. If a member leaves with less than five years of service, the SRA account is forfeited. Likewise, if a vested member elects to take a refund of member contributions instead of a retirement, the SRA is forfeited. The SRA may be payable in the event of the active member's death if the member was vested at the time of death, or if the member's survivors receive benefits from the Statewide Death & Disability Plan, the applicable SRA offset applies.
18. Deferred Retirement Option Plan: A member may elect to participate in the DROP after reaching eligibility for normal retirement, early retirement, or vested retirement and age 55. A member can continue to work while participating in the DROP, but must terminate employment within 5 years of entry into the DROP. The member's percentage of retirement benefit is frozen at the time of entry into the DROP. The monthly payments that begin at entry into the DROP are accumulated until the member terminates service, at which time the DROP accumulated benefits can be paid as periodic installments, a lump sum, or if desired a member may elect to convert the DROP to a lifetime monthly benefit with survivor benefits. The member continues to make contributions, which are credited to the DROP.

Effective January 1, 2003, the member shall self-direct the investments of their DROP funds.