

**FIRE AND POLICE PENSION ASSOCIATION**

COLORADO SPRINGS NEW HIRE PENSION PLAN-POLICE COMPONENT  
ACTUARIAL VALUATION REPORT

FOR THE YEAR BEGINNING JANUARY 1, 2009



To: Board of Trustees for the Fire and Police Pension Association  
CC: Administrative Heads and Finance Officers of the City of Colorado Springs  
Date: June 2009  
Subject: **Actuarial Valuation Results as of January 1, 2009**

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This report contains the actuarial valuation results as of January 1, 2009 for the Colorado Springs New Hire Pension Plan – Police Component as determined by Gabriel, Roeder, Smith & Company (GRS), actuary for the Fire and Police Pension Association (FPPA). Questions about this report should be directed to FPPA, rather than to Gabriel, Roeder, Smith & Company.

### **Financing Objectives**

This valuation was prepared to determine the annual required contribution (ARC) for fiscal year 2010. The ARC for FY2010 is 29.16% of payroll and is shown in Table 1, Item 10.

The calculated employer contribution consists of the sum of two pieces: the normal cost and the amortization of the unfunded actuarial accrued liability (UAAL). The calculated contribution is shown in Table 1, Item 9. The normal cost (shown in Table 1, Item 2) can be viewed as the regular, ongoing cost of the Plan.

The UAAL is the amount by which the actuarial value of assets falls short of, or exceeds, the actuarial accrued liability for this Plan. Under the current funding policy, the UAAL must be amortized under a level dollar method over a period of 29 years. The required payment to amortize the UAAL is shown in Table 1, Item 8.

### **Benefit Provisions**

This actuarial valuation reflects the provisions that were applicable to the Colorado Springs New Hire Pension Plan – Police Component as of the valuation date. The details of the actuarial calculations, based on the current benefit provisions, are described in this report. If alternatives were requested, a summary of the alternative requested and the actuarial results based on those packages is shown in Table 18.

### **SRA Contributions**

As of January 1, 2009, the combined member/employer contribution rate is over 16.00% and therefore we recommend the SRA contribution rate be set to 0.00% as of January 1, 2010.

### **Actuarial 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. A summary of those assumptions and methods can be found in Table 14. Liabilities were determined under the entry age normal actuarial cost method.

Because the plan is closed to new members, the amortization period was closed at 30 years effective January 1, 2008.

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. Even seemingly minor changes in the assumptions can materially change the liabilities, calculated contribution and funding periods. The actuarial calculations are intended to provide information for rational decision making.

The actuarial assumptions and methods used in this report comply with the parameters for disclosure that appear in GASB 25.

### **Assets**

Table 4 shows the market value of assets for this department and Table 5 shows the development of the actuarial value. The actuarial value is an adjusted market value. It reflects only a portion of the excess (or shortfall) between recent investment returns and the corresponding expected returns based on the 8.00% annual investment return assumption. The actuarial value recognizes this excess return (or shortfall) over a three-year period at the rate of 33% per year. This smoothed average approach dampens the year-to-year fluctuations in the calculated contribution.

### **Member Data**

Member data as of January 1, 2009 was supplied by FPPA, as supplied by the department throughout the normal course of business. GRS reviewed the data and tested it for reasonableness and consistency. The member count is shown in Table 3.

### **Experience**

The plan experienced an increase in their calculated contribution between the 2008 actuarial valuation and this valuation. This increase was primarily due to the decline in the financial markets during 2008. However, there were significant salary gains which offset part of this increase. Table 2 shows the detailed calculations of the gains and losses since the prior valuation.

This report includes the following sections:

- The executive summary includes a condensed summary of the demographic, financial, and actuarial data.
- Table 1 provides the details of the development of the required contribution.
- Table 2 shows the sources of change in the calculated contribution since the prior valuation.
- Table 3 shows historical actuarial and demographic data for the department.
- Tables 4, 5, and 6 show the development of the financial information.
- Tables 7, 8, 9, and 10 provide information that is required under the Governmental Accounting Standards Board Statement No. 25 (GASB 25) and No. 27 (GASB 27). Your auditor will need this information in preparing your financial statements.

- Table 11 shows historical cash flow information.
- Tables 12, 13, and 14 show demographic data for the department.
- Table 15 shows the actuarial assumptions and methods used to calculate the liabilities.
- Table 16 is a summary of the benefit provisions for the department.
- Table 17 provides definitions of several terms used throughout the report.
- Table 18 shows a description of and an analysis of any alternative studies requested by the department.

### **Certification**

We certify that the information included herein and contained in the 2009 Actuarial Valuation Report is accurate and fairly presents the actuarial position of the Colorado Springs New Hire Police Pension Fund as of January 1, 2009.

All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the results presented comply with the requirements of the State of Colorado statutes and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries. Ms. Ye and Mr. Newton are members of the Society of Actuaries. Mr. Newton is a member of American Academy of Actuaries, and is also an Enrolled Actuary. Both are experienced in performing valuations for public retirement systems.

Respectfully submitted,  
Gabriel Roeder Smith & Company



Linna Ye, ASA



Joseph Newton, FSA, EA

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2009**

**Executive Summary**

Item	January 1, 2009 (1)	January 1, 2008 (2)
Membership		
• Number of:		
- Active members	525	562
- Terminated vested members	16	20
- Members in DROP	40	40
- Disabled members	0	0
- Retired members	90	73
- Beneficiaries	0	0
- Total	671	695
• Annualized payroll supplied by FPPA	\$ 36,735,114	\$ 39,048,754
• Annualized monthly benefits paid	\$ 4,739,925	\$ 3,892,576
Assets		
• Market value	\$ 130,082,510	\$ 182,745,963
• Actuarial value	156,099,012	178,548,095
• Return on market value	-29.6 %	9.1 %
• Return on actuarial value	-13.4 %	11.0 %
• Contribution	\$ 6,425,431	\$ 8,173,010
• Ratio of actuarial value to market value	120 %	98 %
Actuarial Information		
• Actuarial accrued liability	\$ 198,695,916	\$ 188,263,199
• Unfunded actuarial accrued liability/(surplus)	42,596,904	9,715,104
• Amortization period (years)	29	30
• Calculated annual contribution as % of payroll	29.160 %	20.949 %
• GASB funded ratio	78.6 %	94.8 %
Annual Required Contribution (ARC)		
• For year ending December 31,	2010	2009
• Required Contribution Rate	29.160 %	20.949 %
• Estimated contribution amount	\$ 10,663,733	\$ 8,142,483

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Development of Annual Required Contribution

	January 1, 2009 (1)	January 1, 2008 (2)
1. Valuation payroll	\$ 36,735,114	\$ 39,048,754
2. Normal cost as a % of payroll	18.449 %	18.476 %
3. Actuarial accrued liability for active members		
a. Present value of future benefits for active members	\$ 190,628,859	\$ 197,928,790
b. Less: present value of future normal costs	(61,950,251)	(67,651,602)
c. Actuarial accrued liability (a. + b.)	\$ 128,678,608	\$ 130,277,188
4. Total actuarial accrued liability for:		
a. Retirees and beneficiaries	\$ 39,435,054	\$ 28,607,615
b. Terminated vested members	2,546,564	2,450,912
c. Members in DROP	28,035,690	26,927,489
d. Active members (3c.)	128,678,608	130,277,188
e. Total	\$ 198,695,916	\$ 188,263,204
5. Actuarial value of assets	\$ 156,099,012	\$ 178,548,095
6. Unfunded actuarial accrued liability (UAAL)/(surplus) (4e. - 5.)	\$ 42,596,904	\$ 9,715,109
7. Funded ratio	78.56 %	94.84 %
8. Required payment as a % of payroll to amortize the Over 30 years from January 1, 2009	10.710 %	2.473 %
9. Total calculated annual contribution for Fiscal Year:	<u>2010</u>	<u>2009</u>
a. Total calculated contribution as a % of payroll (2. + 8.)	29.160 %	20.949 %
b. Estimated contribution	\$ 10,663,733	\$ 8,142,483
10. Annual required contribution under GASB #25 (9a., not less than 0)	29.160 %	20.949 %
11. Total present value of benefits (4e. - 3b.)	\$ 260,646,167	\$ 255,914,806

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

1. Unfunded actuarial accrued liability (UAAL) as of January 1 of prior valuation year	\$ 9,715,104
2. Total normal cost for FY2008	7,940,944
3. Contributions during FY2008	(6,425,431)
4. Interest at 8.0%	<u>837,829</u>
5. Expected UAAL as of this valuation (1. + 2. + 3. + 4.)	\$ 12,068,446
6. Actual UAAL at end of period	\$ 42,596,904
7. Actuarial gain/(loss) for the period (5. – 6.)	\$ (30,528,458)

**SOURCE OF GAINS/(LOSSES)**

8. Asset gain/(loss) (See Table 6)	\$ (38,108,499)
9. Benefit change gain/(loss)	\$ 0
10. Assumption change gain/(loss)	\$ 0
11. Salary/rank liability gain/(loss) for the period	\$ 5,805,151
12. Net liability gain/(loss) for the period * (7. - 8. - 9. - 10.- 11.)	\$ 1,774,890

**Change in Calculated Contribution**

1. Calculated contribution 2007		20.949 %
2. Benefit changes	0.000 %	
3. Assumption/method changes	0.000	
4. Investment experience	9.582	
5. Salary/rank experience	(1.460)	
6. Effect of decreasing payroll	0.097	
7. Other liability experience	<u>(0.008)</u>	
8. Total change	8.211 %	
9. Calculated contribution 2008		29.160 %

\* The plan experienced liability gains in 2008 from more termination than expected.

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2009**

**Table 3**

**Actuarial Experience**

	<u>2009</u>	<u>2008</u>	<u>2007</u>	<u>2006</u>	<u>2005</u>	<u>2004</u>	<u>2002</u>	<u>2000</u>
1. Number of members								
a. Active	525	562	631	644	637	610	563	505
b. Retired	90	73	61	54	50	37	22	9
c. DROP	40	40	31	24	16	0	0	0
d. Beneficiaries	0	0	0	0	0	0	0	0
e. Terminated vested	16	20	21	21	17	21	14	9
f. Total	<u>671</u>	<u>695</u>	<u>744</u>	<u>743</u>	<u>720</u>	<u>668</u>	<u>599</u>	<u>523</u>
2. Covered payroll	36,735,114	\$ 39,048,754	\$ 40,438,034	\$ 39,294,072	\$ 34,437,864	\$ 33,432,961	\$ 29,154,383	\$ 22,905,603
3. Average compensation	69,972	\$ 69,482	\$ 64,086	\$ 61,016	\$ 54,063	\$ 54,808	\$ 51,784	\$ 45,358
4. Valuation results								
a. Normal cost	\$ 6,892,733	\$ 7,337,461	\$ 6,810,814	\$ 6,476,527	\$ 5,714,739	\$ 5,017,143	\$ 3,676,092	\$ 2,956,178
b. Accrued liability	198,695,916	188,263,199	161,530,980	139,568,165	122,896,108	117,092,862	91,016,905	72,268,663
c. Actuarial value of assets	156,099,012	178,548,095	159,508,243	137,688,853	117,965,939	105,649,541	97,169,645	86,139,093
d. Unfunded liability	42,596,904	9,715,104	2,022,737	1,879,312	4,930,169	11,443,321	(6,152,740)	(13,870,430)
e. Remaining amortization	29	30	30	30	30	30	N/A	N/A
f. Funded ratio	78.6 %	94.8 %	98.7 %	98.7 %	96.0 %	90.2 %	106.8 %	119.2 %
5. Annual required contribution								
a. Amount	29.2 %	20.9 %	16.9 %	16.3 %	16.1 %	16.3 %	11.1 %	9.1 %
6. Estimated contribution	\$ 10,663,733	\$ 8,142,483	\$ 6,794,010	\$ 7,115,714	\$ 5,984,186	\$ 5,642,551	\$ 3,339,828	\$ 2,198,121
7. Net pension obligation	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0

Item 5 above is the calculated contribution as it is described throughout the report: normal cost plus the amortization of the UAAL under the policy as described in the current statutes.

Reconciliation of Net Plan Assets

	Year Ending	
	12/31/2008 (1)	12/31/2007 (2)
1. Market value of assets at beginning of year	\$ 182,745,963	\$ 166,078,983
2. Revenue for the year		
a. Contributions		
i. Department contributions	\$ 6,425,431	\$ 8,173,010
ii. State contributions	0	0
iii. Affiliation contributions	0	(2,824,545)
iv. Total	\$ 6,425,431	\$ 5,348,465
b. Net investment income		
i. Interest	\$ (1,269,965)	\$ 2,071,643
ii. Dividends	2,881,858	5,343,785
iii. Real estate	38,188	422,053
iv. Net change in accrued income	313,815	(47,764)
v. Unrealized gain/(loss)	(47,786,478)	(583,500)
vi. Realized gain/(loss)	(6,706,043)	9,321,957
vii. Deferred contribution earnings	17,791	(40,243)
viii. Fees and expenses	(1,322,660)	(1,247,252)
ix. Other Income	(498,289)	(44,013)
c. Total revenue	\$ (47,906,355)	\$ 20,545,131
3. Expenditures for the year		
a. Benefit payments	\$ (4,398,486)	\$ (3,426,817)
b. Refunds	(358,612)	(434,495)
c. Administrative and miscellaneous expenses	0	(16,839)
d. Total expenditures	(4,757,098)	(3,878,151)
4. Increase in net assets (2c. + 3d.)	\$ (52,663,453)	\$ 16,666,980
5. Market value of assets at end of year (1. + 4.)	\$ 130,082,510	\$ 182,745,963

Development of Actuarial Value of Assets

	Year Ending	
	12/31/2008	12/31/2007
	(1)	(2)
1. Market value as of January 1	\$ 182,745,963	\$ 166,078,983
a. Contributions	\$ 6,425,431	\$ 8,173,010
b. Benefits paid	(4,398,486)	(3,426,817)
c. Refunds	(358,612)	(434,495)
d. Net cash flow	\$ 1,668,332	\$ 4,311,698
2. Expected market value of assets as of December 31	\$ 199,100,705	\$ 180,894,428
3. Actual market value of assets as of December 31	\$ 130,082,510	\$ 182,745,963
4. Excess earnings/(shortfall)	\$ (69,018,195)	\$ 1,851,535
5. Gain/(loss) on SRA assets	(359,498)	17,323
6. Net asset gain/(loss) (Item 4 - Item 5)	\$ (68,658,697)	\$ 1,834,212
7. Excess earnings/(shortfall) recognized (1/3 x 6.)	\$ (22,886,232)	\$ 611,404
8. a. Deferred excess earnings/(shortfall) for prior year	\$ (45,772,465)	\$ 1,222,808
b. Deferred excess earnings/(shortfall) for prior year - 1	611,404	2,975,060
c. Total deferred excess earnings/(shortfall) at December 31	\$ (45,161,061)	\$ 4,197,868
9. Preliminary actuarial value of assets as of December 31 (3. - 8c.)	\$ 175,243,571	\$ 178,548,095
10. a. 80% of market value of assets	\$ 104,066,008	\$ 146,196,770
b. 120% of market value of assets	156,099,012	219,295,156
11. Final actuarial value of assets as of December 31 (9. limited by 10.)	\$ 156,099,012	\$ 178,548,095

**Colorado Springs New Hire Pension Plan—Police Component**  
**Actuarial Valuation as of January 1, 2009**

**Table 6**

<b>Gain/(Loss) on Assets</b>		
	<u>12/31/2008</u>	<u>12/31/2007</u>
1. Actuarial assets as of January 1	\$ 178,548,095	\$ 159,508,243
2. Total contributions since prior valuation	\$ 6,425,431	\$ 8,173,010
3. Benefits and refunds since prior valuation	\$ (4,757,098)	\$ (6,702,696)
4. Assumed net investment income at 8.0%		
a. Beginning assets	\$ 14,283,848	\$ 12,760,659
b. Contributions	257,017	326,920
c. Benefits and refunds paid	(190,284)	(268,108)
d. Total	\$ <u>14,350,581</u>	\$ <u>12,819,472</u>
5. Expected actuarial assets (1. + 2. + 3. + 4.)	\$ 194,567,009	\$ 173,798,029
6. Actual actuarial assets as of December 31	\$ 156,099,012	\$ 178,548,095
7. Net asset gain/(loss) since prior valuation (6. - 5.)	\$ (38,467,997)	\$ 4,750,066
8. Excess return on SRA	\$ (359,498)	\$ 17,323
9. Net asset gain (loss) since prior valuation (7. - 8.)	\$ (38,108,499)	\$ 4,732,743
	Loss	Gain

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2009**

**Table 7**

**Statement of Funding Progress for GASB No. 25**

Date (1)	Actuarial Value of Assets (AVA) (2)	Actuarial Accrued Liability (AAL) (3)	Unfunded Actuarial Accrued Liability (UAAL (3) - (2)) (4)	Funded Ratio (2)/(3) (5)	Annual Covered Payroll (6)	UAAL as a of payroll (7)
January 1, 1996	\$ 43,387,136	\$ 30,366,685	\$ (13,020,451)	142.9 %	15,641,941	(83) %
January 1, 1998	63,082,332	45,567,059	(17,515,273)	138.4 %	20,386,441	(86) %
January 1, 2000	86,139,093	72,268,663	(13,870,430)	119.2 %	22,905,603	(61) %
January 1, 2002	97,169,645	91,016,905	(6,152,740)	106.8 %	29,154,383	(21) %
January 1, 2004	105,649,541	117,092,862	11,443,321	90.2 %	33,432,961	34 %
January 1, 2005	117,965,939	122,896,108	4,930,169	96.0 %	34,437,864	14 %
January 1, 2006	137,688,853	139,568,165	1,879,312	98.7 %	39,294,072	5 %
January 1, 2007	159,508,243	161,530,980	2,022,737	98.7 %	40,438,034	5 %
January 1, 2008	178,548,095	188,263,199	9,715,104	94.8 %	39,048,754	25 %
January 1, 2009	156,099,012	198,695,916	42,596,904	78.6 %	36,735,114	116 %

**GASB No. 25 and No. 27**

The "Annual Required Contribution" (ARC) is the sum of the normal cost and the amortization of the UAAL. The annual pension cost is the ARC plus interest on the "Net Pension Obligation" (NPO) as of the beginning of the year less an adjustment to the ARC for the amortization of the NPO. The amount shown below as the NPO is a disclosed measure of the difference between the cumulative annual pension costs and employer contributions made to the plan since transition to this reporting standard. Both standardized measures are calculated as of January 1, 2009, in accordance with Statements No. 25 and No. 27 of the Governmental Accounting Standards Board (GASB). There were no changes to the actuarial assumptions since the prior valuation. Additional information on the changes to the assumptions is found in Table 14.

The following exhibit shows a history of the ARC and the actual contributions made to the Plan.

Fiscal Year Ending	Annual Required Contribution	Actual Contribution	Percent
(1)	(2)	(3)	(4)
December 31, 2006	16.106%	16.106%	100 %
December 31, 2007	16.558% *	16.558%	100 %
December 31, 2008	16.864%	16.864%	100 %
December 31, 2008	20.949%	N/A	
December 31, 2009	29.160%	N/A	

\* Revised after transition to FPPA and change of effective date for COLA to October 1<sup>st</sup>.

The following exhibit details the change in the NPO since the prior valuation and estimates the NPO as of the next valuation using the ARC as shown in this report and expected contributions.

	Year Ending		
	12/31/2008 (1)	12/31/2009** (2)	12/31/2010** (3)
1. NPO beginning of year	\$ 0	\$ 0	\$ 0
2. Interest on NPO	0	0	0
3. Adjustment to ARC	0	0	0
4. ARC	6,425,431	8,142,483	10,663,733
5. Contribution	<u>(6,425,431)</u>	<u>(8,142,483)</u>	<u>(10,663,733)</u>
6. NPO end of year	\$ 0	\$ 0	\$ 0
7. Annual Pension Cost (2. + 3. + 4.)	\$ 6,425,431	\$ 8,142,483	\$ 10,663,733

\*\* This estimate is based on the expected contribution for FY2009 and the calculated contribution for FY2010. If the actual contributions were different, this exhibit would need to be adjusted

**Notes for Financial Statements**

Valuation date	January 1, 2009
Actuarial cost method	Entry age normal
Amortization method	Level dollar, closed
Remaining amortization period	29 years, beginning January 1, 2009
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%
Cost-of-living adjustment	3.00%

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2009**

**Table 10**

**Solvency Test**

Valuation Date (1)	Active Members			Retirees		Members (Employer Financed Portion) (4)	Actuarial Value of Assets (5)	Portion of Accrued Liabilities Covered by Reported Assets	
	Contributions (2)	Beneficiaries and Vested Terminations (3)	Members (Employer Financed Portion) (4)	(5)/(2)	[(5)-(2)]/(3) (7)			[(5)-(2)-(3)]/ (4) (8)	
January 1, 2007	25,345	45,637	90,549	159,508	100.0%	100.0%	100.0%	97.8%	
January 1, 2008	26,162	57,986	104,116	178,548	100.0%	100.0%	100.0%	90.7%	
January 1, 2009	26,693	70,017	101,986	156,099	100.0%	100.0%	100.0%	58.2%	

\$ amounts in 000s

**Colorado Springs New Hire Pension Plan—Police Component  
Actuarial Valuation as of January 1, 2009**

**Table 11**

**Cash Flow Analysis**

Year Ending December 31,	Contributions for the Year	Expenditures During the Year			External Cash Flow for the Year	Market Value of Assets	External Cash Flow as Percent of Market Value
		Benefit Payments **	Expenses	Total			
(1)	(2)	(3)	(6)	(7)	(8)	(9)	(10)
2003	\$ 6,504,453	\$(1,290,341)	\$(397,605)	\$(1,687,946)	\$ 4,816,507	\$ 107,866,833	4.5 %
2004	6,156,684	(2,820,944)	(442,282)	(3,263,226)	2,893,458	124,349,090	2.3 %
2005	6,841,155	(2,572,567)	(937,491)	(3,510,058)	3,331,097	140,611,634	2.4 %
2006	7,496,218	(2,952,333)	(1,056,148)	(4,008,481)	3,487,737	166,078,983	2.1 %
2007	8,173,010	(6,702,696)	(1,264,090)	(7,966,786)	206,224	182,745,963	0.1 %
2008	6,425,431	(4,757,098)	(1,322,660)	(6,079,758)	345,672	130,082,510	0.3 %
2009*	7,826,601	(5,405,021)	(1,368,953)	(6,773,974)	1,052,626	141,583,843	0.7 %
2010*	10,663,653	(6,453,638)	(1,416,867)	(7,870,504)	2,793,149	155,815,425	1.8 %

\* Cash flow estimated based on expected contributions and expected benefit payments.

\*\* Expected Benefit Payments for 2009 and beyond include expected retirements, expected mortality and if applicable, future cost of living increases.

**Membership Data**

	<u>January 1, 2009</u>	<u>January 1, 2008</u>	<u>January 1, 2007</u>
	(1)	(2)	(3)
1. Active members			
a. Number	525	562	631
b. Total payroll	\$ 36,735,114	\$ 39,048,754	\$ 40,438,034
c. Average annual salary	69,972	69,482	64,086
d. Average age	40.7	40.1	39.4
e. Average service	12.1	11.3	10.4
2. Terminated vested members			
a. Number	16	20	21
b. Total annual benefits	\$ 243,757	\$ 244,381	\$ 306,180
c. Average annual benefit	15,235	12,219	14,580
d. Average age	46	45	46.5
3. Members In DROP			
a. Number	40	40	31
b. Total annual benefits	\$ 1,970,926	\$ 1,875,399	\$ 1,368,038
c. Average annual benefit	49,273	46,885	44,130
d. Average age	55	54	54.4
4. Service retirees			
a. Number	90	73	61
b. Total annual benefits	\$ 2,769,000	\$ 2,017,177	\$ 1,627,492
c. Average annual benefit	30,767	27,633	26,680
d. Average age	57	56	55.9
5. Beneficiaries			
a. Number	0	0	0
b. Total annual benefits	\$ 0	\$ 0	\$ 0
c. Average annual benefit	N/A	N/A	N/A
d. Average age	N/A	N/A	N/A

Summary of Retirees by Age and Type

Age	Retirees		Disabled Members		Beneficiaries		Members in DROP		All	
	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension	Number	Average Monthly Pension
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Less than 50	1	\$ 1,994	0	\$ 0	0	\$ 0	0	\$ 0	1	\$ 1,994
50-54	31	2,826	0	0	0	0	22	4,456	53	3,503
55-59	31	2,420	0	0	0	0	14	3,681	45	2,813
60-64	26	2,417	0	0	0	0	4	3,670	30	2,584
65-69	1	3,274	0	0	0	0	0	0	1	3,274
70-74	0	0	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0	0	0
Greater than 80	0	0	0	0	0	0	0	0	0	0
All	90	2,564	0	0	0	0	40	4,106	130	3,038

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

Valuation Year	Added to Rolls		Removed from Rolls		Rolls-End of Year		% Increase in Annual Benefits	Average Annual Benefits	Average Age
	Number	Annual Benefits*	Number	Annual Benefits	Number	Annual Benefits			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2005	N/A	N/A	N/A	N/A	66	\$ 1,933,272	N/A	\$ 29,292	N/A
2006	12	\$ 443,028	0	\$ 0	78	\$ 2,376,300	22.9 %	\$ 30,465	55
2007	14	\$ 619,230	0	\$ 0	92	\$ 2,995,530	26.1 %	\$ 32,560	55.4
2008	21	\$ 897,046	0	\$ 0	113	\$ 3,892,576	29.9 %	\$ 34,448	54.5
2009	17	\$ 1,744,396	0	\$ 0	130	\$ 4,739,926	21.8 %	\$ 36,461	55.5

\* Includes cost-of-living adjustments granted since the prior valuation.



**Summary for Actuarial Assumptions, Methods, and Changes  
 (Continued)**

d) Withdrawal (any reason other than retirement, death, or disability)

Termination rates are based on service.  
 Rates at selected ages are shown:

Police – Annual Rate per 1,000 Members						Fire – Annual Rate per 1,000 Members					
Service			Service			Service			Service		
Service	Rates	(cont.)	Rates	(cont.)	Rates	Service	Rates	(cont.)	Rates	(cont.)	Rates
0	198.0	8	35.8	16	19.4	0	99.0	8	28.2	16	11.9
1	143.0	9	32.2	17	18.3	1	77.1	9	25.4	17	10.5
2	123.0	10	29.4	18	17.4	2	60.8	10	22.9	18	9.0
3	85.7	11	27.0	19	16.6	3	51.3	11	20.7	19	7.8
4	66.3	12	25.0	20	15.8	4	44.4	12	18.6	20	6.6
5	54.5	13	23.2	21	15.2	5	39.3	13	16.7	21	5.4
6	46.2	14	21.8	22	14.5	6	35.0	14	15.0	22	4.4
7	40.4	15	20.5	23	14.0	7	31.4	15	13.3	23	3.3

3. Post-Retirement Mortality

a) Healthy Retirees, Beneficiaries, and Disabled Retirees (retired after January 1, 1980)

1994 Group Annuity Mortality Table

Age	Annual Rate Per 1,000	
	Males	Females
50	2.579	1.428
55	4.425	2.294
60	7.976	4.439
65	14.535	8.636
70	23.730	13.730
75	37.211	22.686
80	62.027	39.396

b) Disabled Retirees (retired before January 1, 1980)

1983 Railroad Retirement Board Totally Disabled Annuitants Mortality Table

Age	Annual Rate Per 1,000 Disabled
20	10.60
30	10.60
40	13.50
50	31.64
60	42.46
70	67.47
80	107.68



**Summary for Actuarial Assumptions, Methods, and Changes  
(Continued)**

9. Changes in Actuarial Assumptions

There were no changes to the actuarial assumptions since the prior valuation report.

10. Changes in Actuarial Methods

There were no changes in the actuarial methods since the prior valuation report.

11. Actuarial Cost Method

Under the entry age actuarial cost method, the normal cost is computed as the level percent of pay, which, if paid from the earliest time each member would have been eligible to join the plan if it then existed (thus, entry age) until his retirement or termination, would accumulate with interest at the rate assumed in the valuation to a fund sufficient to pay all benefits under the plan. The normal cost for the plan is determined by summing the normal cost of all members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that should have been accumulated had annual contributions been made in prior years equaling to the normal cost. The unfunded actuarial accrued liability/(surplus) is the excess of the actuarial accrued liability over the actuarial value of the plan assets as of the valuation date.

The contribution requirements determined by this valuation will not be effective until one year later, and the determination of the requirement reflects this deferral. It is assumed that there will be no change in the normal cost due to the deferral, and it is assumed that payments are made monthly throughout the year. The reflection of the one year lag and the timing of the contributions are changes from the methodology of prior valuations.

Under this method, experience gains and losses (i.e. decreases or increases in accrued liabilities), attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

**Summary for Actuarial Assumptions, Methods, and Changes  
(Continued)**

12. Asset Valuation Method

The asset valuation method is based on a three-year moving average of expected and actual market values determined as follows:

- At the beginning of each plan year, an expected market asset value is calculated as the sum of the previous year's market value increased with a year's interest at the Plan valuation rate plus net cash flow (excluding expenses) adjusted for interest (at the same rate) to the end of the previous plan year.
- The difference between the expected market asset value and the actual market value is the investment gain or loss for the previous plan year.
- The final actuarial asset value is the actual market value less the deferred asset gains and losses for each of the three previous plan years, but in no case more than 120% of the actual market value or less than 80% of the actual market value.
- The actuarial value of assets was initialized at market value as of January 1, 1999.

## Summary of Benefit Provisions

A. Eligibility

Members included are active employees hired on or after April 8, 1978 but prior to October 1, 2006. As of October 1, 2006, administration of the plan has been transferred to FPPA and the plan has been closed. All members hired on or after October 1, 2006 will become members of the Statewide Defined Benefit Plan.

B. Compensation

Basic salary, including longevity pay, sick pay taken in the normal course of employment, vacation leave pay taken in the normal course of employment, third-week pay and mandatory overtime that is part of the members annual fixed periodic compensation. Also, all salary amounts deferred for 457 or Section 125 “cafeteria plan” are included.

C. Contribution Rate

Members of this fund are currently contributing at the rate of 8.00% of base salary.

D. Normal Retirement Benefit

A member's Normal Retirement Date shall be the date on which the member has completed at least 25 years of credited service and has attained age of 50. Any member who elects to retire on or after his Normal Retirement Date shall be eligible for a monthly pension equal to 2% of Final Average Salary for each year of service for the first 10 years, plus 2.75% of Final Average Salary for each year of service in excess of 10 years. The maximum monthly pension is 75% of Final Average Salary. The maximum pension is earned upon completing 30 years of service.

E. Early Retirement Benefit

A member shall be eligible for an Early Retirement Benefit payable on or after the attainment of age 45 after completion of 20 years of service. For members hired after April 30, 2001 and before October 1, 2003 who completed 20 years of service before age 45 may elect to retire but the Early Retirement Benefit is 50% of Final Average Salary reduced by one half of one percent for each month that the benefit commences prior to age 50. For members hired after September 30, 2003, the Early Retirement Benefit is 2% of Final Average Salary for each year of service for the first 10 years, plus 2.75% of Final Average Salary for each year of service in excess of 10 years. The maximum monthly pension is 75% of Final Average Salary. The Early Retirement Benefit shall be reduced 7.5% for each year that the benefit commences before age 50.

**Summary of Benefit Provisions  
(Continued)**

F. Termination Benefit

1. Vested Retirement Benefit

A member who terminates with at least ten years of active service may leave the contributions in the fund and when the member attains age 50 be eligible to receive a monthly vested benefit equal to 2% of Final Average Salary for each year of credited service for the first 10 years, plus 2.75% of Final Average Salary for each year of credited service in excess of 10 years. The maximum benefit is 75% of Final Average Salary.

2. Severance Benefit

In lieu of a future pension, a member may upon termination elect to have the accumulated contributions refunded in a lump sum. Interest is credited at 5% per annum.

G. Death and Disability Benefits

1. Pre-Retirement Death and Disability Benefit

None.

2. Post-Retirement Death and Disability Benefit

If a retired member dies, the “qualified surviving spouse” shall receive, until death, a monthly pension equal to 70% of the monthly benefit the member was receiving prior to death, including cost-of-living increases. If there is no “qualified surviving spouse” or if the qualified surviving spouse dies, each qualified surviving child should receive equal shares of the qualified surviving spouses benefit, as long as the child remains a “qualified child.”

3. Post-Withdrawal Death Benefit

If a member who is entitled to a deferred vested benefit dies prior to attaining age 50, the surviving spouse shall receive, until death, a monthly pension equal to 70% of the benefit that would have been payable to the member, including cost-of-living increases as described below.

H. Cost-of-Living Adjustment (COLA)

Benefits are increased to reflect increases in the consumer price index but in no case may benefits be increased by more than 3% for any one year. Cost-of-living adjustments begin on October 1<sup>st</sup> immediately prior to the earlier of attainment of age 60 or ten years after benefit payments commenced.

**Summary of Benefit Provisions  
(Continued)**

I. Deferred Retirement Option Plan (DROP)

A member may elect to participate in the DROP after reaching eligibility for Normal Retirement. 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 a lump sum, if desired. The member continues contributing the member contribution rate which is credited to the DROP. Effective March 1, 2003, the member shall self-direct the investments of their DROP funds.

J. Supplemental Retirement Benefit

None.

K. Final Average Salary

Final Average Salary is the average of monthly compensation (defined in B above), awarded to the member during the eighteen months immediately preceding termination or retirement.

L. Purchase of Service Credit

Active members of this plan may purchase service credit for other employment completed within the United States not covered by this plan. The cost of such service credit purchase shall be determined by the Board and shall be on an actuarially equivalent basis. A member shall not be allowed to purchase service credit to the extent that the additional accrued benefits derived from the purchased service credit would result in the annual amount of the member's benefit exceeding the annual benefit limitation for defined benefit plans as determined under section 415 of the Internal Revenue Code (Ord. 02-114).

M. Stabilization Reserve Account (SRA)

Annually, at the discretion of the Board of Directors, a contribution may be allocated to the SRA. The contribution rate is equal to the lesser of (a) the difference between the combined member/employer contribution rate and the actuarially determined contribution rate, or (b) 8%. Amounts set aside in the SRA are allocated to individual accounts for each member. A member may receive the amounts in this individual account upon election of normal, early vested, disability or deferred retirement, or in the event of the active member's death. 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.

**Summary of Benefit Provisions  
(Continued)**

As of January 1, 2009, the combined member/employer contribution rate is over 16.00% and therefore we recommend the SRA contribution rate be set to 0.00%.

N. Changes since the prior valuation

None.

### Definition of Terms

1. Actuarial Cost Method

A method for determining the actuarial present value of future benefits and allocating such value to time periods in the form of a normal cost and an actuarial accrued liability.

2. Present Value of Future Benefits

This is computed by projecting the total future benefit cash flow from the Plan, using actuarial assumptions, and then discounting the cash flow to the valuation date.

3. Normal Cost

Computed differently under different actuarial cost methods, the normal cost generally represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued during a year.

4. Actuarial Accrued Liability

Computed differently under different actuarial cost methods. Generally actuarial accrued liability represents the value of the portion of the participant's anticipated retirement, termination, and/or death and disability benefits accrued as of the valuation date.

5. Entry Age Actuarial Cost Method

A method under which a participant's actuarial present value of future benefits is allocated on a level basis over the earnings of the participant between his/her entry into the Plan and his/her assumed exit.

6. Unfunded Actuarial Accrued Liability

The difference between total actuarial present value of future benefits over the sum of the tangible assets of the Plan and the actuarial present value of the members' future normal costs. The Plan is underfunded if the difference is positive and overfunded if the difference is negative.

7. Actuarial Value of Assets

The value of cash, investments, and other property belonging to the Plan, as valued by the actuary for purposes of the actuarial valuation.

**Definition of Terms  
(Continued)**

8. Actuarial Gain or Loss

From one valuation to the next, if the experience of the plan differs from that anticipated by the actuarial assumptions, an actuarial gain or loss occurs. For example, an actuarial gain would occur if the assets in the trust had a yield of 12% based on actuarial value, while the assumed yield on the actuarial value of assets was 8%.

**Supplemental Studies**

A. Restating purchased service based on prior methodologies utilized for granting purchased service before the integration with FPPA.

1. Amendment

Members who purchased service prior to the Plan being administered by FPPA had their additional accruals calculated in a manner which was inconsistent with current FPPA methodologies. The study would recalculate the additional accrual with a consistent methodology.

2. Analysis

The recalculation would increase the accrual for 24 members.

The study would increase the UAAL by \$525,000 and the employer contribution rate by 0.124% to 29.284%

3. Comments

None

B. 5-year Deterministic Projection

Because the Plan is closed to new members, the amortization policy has been changed to be level dollar effective January 1, 2008. In addition, the amount of payroll available to collect the amortization payments is expected to decrease as the population of the Plan turns over without being replaced. The net effect will be increases in the required employer contribution rate. The following exhibit provides an illustration of how the current valuation would expect the contribution rate to change over the next few valuations if there are no gains or losses. Please note that this projection does not anticipate the additional \$45 million in deferred asset losses currently not being reflected in the actuarial value of assets.

Year	Amortization cost (\$000)	Expected Salary(\$000)	Amortization Payment%	Employer NC%	Total Rate
2010	\$ 3,917	\$ 36,570	10.71%	18.45%	29.16%
2011	3,917	36,460	10.74%	18.45%	29.19%
2012	3,917	36,485	10.74%	18.45%	29.19%
2013	3,917	36,462	10.74%	18.45%	29.19%
2014	3,917	35,788	10.95%	18.45%	29.39%