

**PUBLIC EMPLOYEES'  
RETIREMENT ASSOCIATION  
OF COLORADO**

*Actuarial Report  
As of December 31, 2003  
May 2004*

Submitted By:  
Mellon  
Human Resources & Investor Solutions  
1200 Seventeenth Street, Suite 1200  
Denver, CO 80202

May 20, 2004

The Board of Trustees  
Public Employees' Retirement Association of Colorado  
1300 Logan Street  
Denver, Colorado 80203-2386

Dear Trustees:

**Subject: Actuarial Valuation for the Public Employees' Retirement Association of Colorado (PERA) as of December 31, 2003**

This report summarizes the results of the December 31, 2003 actuarial valuation for the Public Employees' Retirement Association of Colorado (PERA) as well as the results of the December 31, 2003 actuarial valuation of the postretirement health care program.

These valuations are based on the financial and member data provided by PERA and the plan provisions, actuarial assumptions and methods in effect on the valuation date.

No material changes in the PERA pension plan provisions were made during 2003. No material changes in the Health Care Program plan provisions for PERA were made in 2003. Please see page 14 for a summary of the PERA plan provisions. There was a change made to the economic assumptions since the last actuarial valuation was performed. In July 2003, the Board approved the following changes:

- A reduction in the investment return assumption from 8.75% to 8.50% annually
- An inflation assumption of 3.75% annually
- A payroll growth assumption of 4.50% annually

All other actuarial assumptions used in last year's actuarial valuation remain unchanged. Please see page 23 for a summary of these assumptions.

The valuations were completed in accordance with generally accepted actuarial methods. Our analysis indicates the funded position for both plans remains sound, but without strong investment returns, future contribution increases will be necessary to maintain the long-term viability of the pension system.

Respectfully submitted,

David H. Slishinsky, A.S.A.  
Principal and Consulting Actuary

William B. Fornia, F.S.A.  
Principal and Consulting Actuary

Enclosure

PUBLIC EMPLOYEES' RETIREMENT  
ASSOCIATION OF COLORADO

---

Actuarial Report as of December 31, 2003

submitted to  
The Board of Trustees  
Public Employees' Retirement Association of Colorado

---

Mellon  
Human Resources & Investor Solutions

May 2004

**TABLE OF CONTENTS**

---

Management Summary of Valuation Results .....1  
Supplemental Information .....13  
Postretirement Health Care Program .....58

# MANAGEMENT SUMMARY OF VALUATION RESULTS

---

Valuation Highlights.....	2
Summary of Retired and Inactive Data Included in Valuation.....	9
Retirement System Totals.....	10
Analysis of Change in Unfunded Actuarial Accrued Liability During 2003 .....	11
Gain/(Loss) Analysis .....	12

## VALUATION HIGHLIGHTS

The December 31, 2003 actuarial valuation indicates the following:

1. Due to recognition of investment losses experienced in prior years, the unfunded liability has increased in all Divisions.
2. Due to the high incidence of members purchasing service in 2003 at a subsidized cost, the unfunded liability increased in all Divisions. In addition, service purchased before 2003 is included this year.
3. The decrease in the investment return assumption from 8.75% to 8.50% increased the normal cost and the unfunded liability in all Divisions, including the Health Care Trust Fund.
4. For the State and School Division, the Judicial Division, and the Municipal Division, the combined employer and member contribution rates are not sufficient to fully fund the costs of the benefit commitments being made to members for their service currently being rendered and amortize the unfunded actuarial accrued liability over 40 years.
5. For the Health Care Trust Fund, the employer contribution rate is sufficient to fully fund the costs of the benefit commitments being made to members for their service currently being rendered and amortize the unfunded actuarial accrued liability over 40 years.
6. Although there are no surpluses to fund any Gain Sharing, all of the Divisions continue to allocate part of their employer contributions to the MatchMaker program. This allocation is due to the statutory requirement that the MatchMaker contribution rate may not decrease by more than 1.0% of pay per year. Legislation to remove this limitation was adopted during the 2004 legislative session.

Key valuation results are summarized below.

	Active Members		Unfunded/(Overfunded) Actuarial Accrued Liabilities (\$ Millions)
	Number	Annual Payroll (\$Millions)	
State and School	158,150	\$5,140.9	\$9,392.3
Municipal	12,571	479.1	471.4
Judicial	270	25.5	31.7
Totals	170,991	\$5,645.5	\$9,895.4

*Overall Condition:* Based upon this December 31, 2003 valuation, the Public Employees' Retirement Association of Colorado funded ratio has declined to 76% (based on the actuarial value of assets). Although the current funding is sufficient to pay expected benefit payments for decades, the contribution rates are not currently sufficient to support all the current benefit structures of the System. If there is not a significant recovery in the investment markets in the near future, the long-term ability of the System to support the benefits will be challenged in the absence of a significant increase in the contribution rates. Employer contribution rate increases as well as changes to certain benefit provisions were proposed during the 2004 legislative session.

# VALUATION HIGHLIGHTS

## Allocation of Statutory Contribution Rates (State and School Division)

	Percent of Covered Payroll	
	2005 Rates	2004 Rates
1. Statutory Employer Contribution Rate <sup>1</sup>	10.17%	10.42%
2. Less: Total HCTF Allocation		
a) Statutory HCTF Contribution	(1.02)	(1.06)
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total HCTF Allocation	(1.02)	(1.06)
3. Less: Contribution Available for MatchMaker		
a) Statutory Contribution	(0.00)	(0.25) <sup>2</sup>
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total Contribution Available for MatchMaker	(0.00)	(0.25)
4. Less: Employer Contribution Reduction		
a) Statutory Reduction	N/A	(0.25)
b) Allocation of Overfunding	(0.00)	(0.00)
c) Greater Reduction of (a) and (b)	<u>(0.00)</u>	<u>(0.25)</u>
5. Contribution Available for PERA Pre-Funded Benefits 1 + 2.c. + 3.c. + 4.c.	9.15%	8.86%
6. Normal Cost of Pre-Funded Benefits		
a) Service Retirement Benefits	11.85%	11.34%
b) Disability Retirement Benefits	0.96%	0.89%
c) Survivor Benefits	0.49%	0.53%
d) Separation Benefits	<u>3.20%</u>	<u>3.06%</u>
e) Total Normal Cost	16.50%	15.82%
7. Member Contributions <sup>1</sup>	<u>8.02%</u>	<u>8.02%</u>
8. Employer Normal Cost	8.48%	7.80%
9. Percent Available to Amortize UAAL	0.67%	1.06%
10. Number of Years to Amortize UAAL	Infinite	Infinite

<sup>1</sup>Weighted average of more than one statutory rate.

<sup>2</sup>MatchMaker contribution reduced to 0% effective June 1, 2004 under SB 04-132.

## VALUATION HIGHLIGHTS

---

### Determination of Employer Contribution Rates (State and School Division) (\\$ in Thousands)

<b><u>December 31, Valuation Results:</u></b>	<b>2003</b>	<b>2002</b>
Actuarial Accrued Liability	\$37,914,502	\$32,463,918
Actuarial Value of Assets	<u>\$28,552,222</u>	<u>\$28,551,607</u>
Unfunded/(Overfunded) Actuarial Accrued Liability	\$9,392,280	\$3,912,311
Ten-Year Amortization of Overfunding	N/A	N/A
Valuation Payroll	\$5,140,918	\$5,278,586
Amortization of Overfunding as a Percent of Payroll	N/A	N/A
 <b><u>Allocation of Overfunding</u></b>		
Employer Contribution Reduction	0.00%	0.00%
Effective Date	7/1/2005	7/1/2004
Additional Contribution Allocated to the Health Care Trust Fund	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004
Additional Amount Available for MatchMaker	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004



## VALUATION HIGHLIGHTS

### Allocation of Statutory Contribution Rates (Municipal Division)

	Percent of Covered Payroll	
	2005 Rates	2004 Rates
1. Statutory Employer Contribution Rate	10.00%	10.00%
2. Less: Total HCTF Allocation		
a) Statutory HCTF Contribution	(1.02)	(1.06)
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total HCTF Allocation	(1.02)	(1.06)
3. Less: Contribution Available for MatchMaker		
a) Statutory Contribution	(0.00)	(0.26)
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total Contribution Available for MatchMaker	(0.00)	(0.26) <sup>1</sup>
4. Less: Employer Contribution Reduction		
a) Statutory Reduction	N/A	(0.00)
b) Allocation of Overfunding	(0.00)	(0.00)
c) Greater Reduction of (a) and (b)	<u>(0.00)</u>	<u>(0.00)</u>
5. Contribution Available for PERA Pre-Funded Benefits 1 + 2.c. + 3.c. + 4.c.	8.98%	8.68%
6. Normal Cost of Pre-Funded Benefits		
a) Service Retirement Benefits	11.07%	10.90%
b) Disability Retirement Benefits	1.64%	1.45%
c) Survivor Benefits	0.59%	0.64%
d) Separation Benefits	<u>3.93%</u>	<u>3.35%</u>
e) Total Normal Cost	17.23%	16.34%
7. Member Contributions	<u>8.00%</u>	<u>8.00%</u>
8. Employer Normal Cost	9.23%	8.34%
9. Percent Available to Amortize UAAL	(0.25%)	0.34%
10. Number of Years to Amortize UAAL	Infinite	Infinite

<sup>1</sup>MatchMaker contribution reduced to 0% effective June 1, 2004 under SB 04-132.

## VALUATION HIGHLIGHTS

---

### Determination of Employer Contribution Rates (Municipal Division) (\$ in Thousands)

<b><u>December 31, Valuation Results:</u></b>	<b><u>2003</u></b>	<b><u>2002</u></b>
Actuarial Accrued Liability	\$2,379,229	\$1,966,143
Actuarial Value of Assets	<u>\$1,907,786</u>	<u>\$1,839,632</u>
Unfunded/(Overfunded) Actuarial Accrued Liability	\$471,443	\$126,511
Ten-Year Amortization of Overfunding	N/A	N/A
Valuation Payroll	\$479,098	\$474,760
Amortization of Overfunding as a Percent of Payroll	N/A	N/A
<b><u>Allocation of Overfunding</u></b>		
Employer Contribution Reduction	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004
Additional Contribution Allocated to the Health Care Trust Fund	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004
Additional Amount Available for MatchMaker	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004

## VALUATION HIGHLIGHTS

### Allocation of Statutory Contribution Rates (Judicial Division)

	<u>Percent of Covered Payroll</u>	
	<u>2005</u> <u>Rates</u>	<u>2004</u> <u>Rates</u>
1. Statutory Employer Contribution Rate	13.66%	14.00%
2. Less: Total HCTF Allocation		
a) Statutory HCTF Contribution	(1.02)	(1.06)
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total HCTF Allocation	(1.02)	(1.06)
3. Less: Contribution Available for MatchMaker		
a) Statutory Contribution	(0.00)	(1.80)
b) Allocation of Overfunding	<u>(0.00)</u>	<u>(0.00)</u>
c) Total Contribution Available for MatchMaker	(0.00)	(1.80) <sup>1</sup>
4. Less: Employer Contribution Reduction		
a) Statutory Reduction	N/A	(0.25)
b) Allocation of Overfunding	(0.00)	(0.00)
c) Greater Reduction of (a) and (b)	<u>(0.00)</u>	<u>(0.25)</u>
5. Contribution Available for PERA Pre-Funded Benefits 1 + 2.c. + 3.c. + 4.c.	12.64%	10.89%
6. Normal Cost of Pre-Funded Benefits		
a) Service Retirement Benefits	13.14%	13.22%
b) Disability Retirement Benefits	2.32%	1.92%
c) Survivor Benefits	1.25%	1.29%
d) Separation Benefits	<u>1.48%</u>	<u>1.53%</u>
e) Total Normal Cost	18.19%	17.96%
7. Member Contributions	<u>8.00%</u>	<u>8.00%</u>
8. Employer Normal Cost	10.19%	9.96%
9. Percent Available to Amortize UAAL	2.45%	0.93%
10. Number of Years to Amortize UAAL	Infinite	13

<sup>1</sup>MatchMaker contribution reduced to 0% effective June 1, 2004 under SB 04-132.

## VALUATION HIGHLIGHTS

---

### Determination Of Employer Contribution Rates (Judicial Division) (\$ in Thousands)

<b><u>December 31, Valuation Results:</u></b>	<b><u>2003</u></b>	<b><u>2002</u></b>
Actuarial Accrued Liability	\$198,377	\$165,672
Actuarial Value of Assets	<u>\$166,654</u>	<u>\$162,901</u>
Unfunded/(Overfunded) Actuarial Accrued Liability	\$31,723	\$2,771
Ten-Year Amortization of Overfunding	N/A	N/A
Valuation Payroll	\$25,452	\$26,357
Amortization of Overfunding as a Percent of Payroll	N/A	N/A
<b><u>Allocation of Overfunding</u></b>		
Employer Contribution Reduction	0.00%	0.00%
Effective Date	7/1/2005	7/1/2004
Additional Contribution Allocated to the Health Care Trust Fund	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004
Additional Amount Available for MatchMaker	0.00%	0.00%
Effective Date	1/1/2005	1/1/2004

## SUMMARY OF RETIRED AND INACTIVE DATA INCLUDED IN VALUATION

---

Benefit recipients on rolls included in the December 31, 2003 valuation totaled 63,988 with annual benefits of \$1,620,754,488 distributed as follows (\$ in thousands):

<u>Divisions</u>	<u>Retirement Benefits</u>		<u>Survivor Benefits</u>		<u>Total</u>	
	<u>Number</u>	<u>Annual Benefits</u>	<u>Number</u>	<u>Annual Benefits</u>	<u>Number</u>	<u>Annual Benefits</u>
State and School	58,843	\$1,516,802	1,801	\$25,625	60,644	\$1,542,427
Municipal	2,960	68,077	144	1,871	3,104	69,948
Judicial	<u>226</u>	<u>8,060</u>	<u>14</u>	<u>320</u>	<u>240</u>	<u>8,380</u>
Totals	62,029	\$1,592,939	1,959	\$27,816	63,988	\$1,620,755

Inactive members and deferred survivor beneficiaries totaled 11,951 as follows:

<u>Divisions</u>	<u>Inactive Members</u>	<u>Deferred Survivors</u>	<u>Total</u>
State and School	10,847	278	11,125
Municipal	795	16	811
Judicial	<u>14</u>	<u>1</u>	<u>15</u>
Totals	11,656	295	11,951

## RETIREMENT SYSTEM TOTALS

(\$ in Millions)

Division	Actuarial Accrued Liabilities			Actuarial Value of Assets	Unfunded (Overfunded) Accrued Liabilities	Ratio of Assets/Liabilities
	Active Members	Retired Lives*	Totals			
State and School	\$17,131.6	\$20,782.9	\$37,914.5	\$28,522.2	\$9,392.3	0.75
Municipal	1,367.9	1,011.3	2,379.2	1,907.8	471.4	0.80
Judicial	96.7	101.7	198.4	166.7	31.7	0.84
Totals	\$18,596.2	\$21,895.9	\$40,492.1	\$30,596.7	\$9,895.4	0.76

\*Includes deferred benefits for inactive members and survivors.

Divisions	UAAL/Active Member Payroll December 31									
	2003	2002	2001	2000	1999	1998	1997	1996	1995	1994
State and School	1.83	.74	.11	*	*	.21	.44	.19	.49	.61
State	N/A	N/A	N/A	N/A	N/A	N/A	N/A	.42	.72	.81
School	N/A	N/A	N/A	N/A	N/A	N/A	N/A	.02	.33	.46
Municipal	.98	.27	*	*	*	.003	.07	*	.05	.12
Judicial	1.25	.11	*	*	*	*	.10	*	.26	.39

\*Division was in surplus this year.

## ANALYSIS OF CHANGES IN THE UNFUNDED ACTUARIAL ACCRUED LIABILITIES DURING 2003

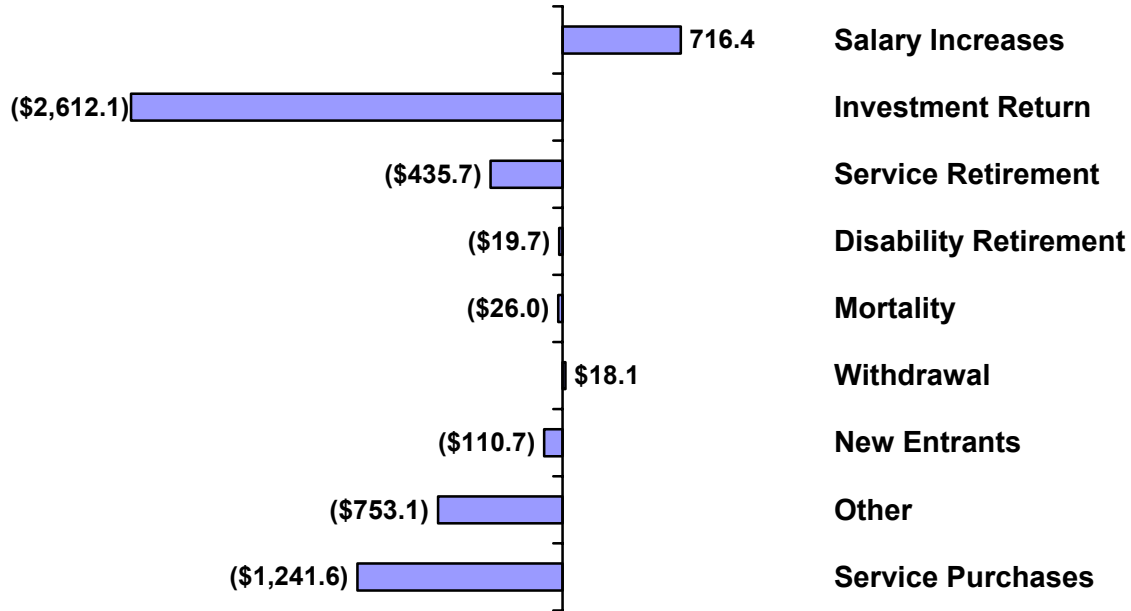
(\$ in Millions)

	State and School	Municipal	Judicial	Total
1. Beginning of Year:				
a) Unfunded actuarial accrued liabilities (UAAL)	\$ 3,912.3	\$ 126.5	\$ 2.8	\$ 4,041.6
b) Normal Cost	835.1	77.6	4.7	917.4
c) Total contribution required to pay Normal Cost and amortize the UAAL over 40 years	1,013.2	83.4	4.8	1,101.4
d) Actual Total Contribution (excluding service purchases)	793.6	68.6	3.0	865.2
2. Unfunded actuarial accrued liabilities, end of year:				
a) Expected UAAL, from last year's valuation: (1a) x 1.0875 + (1b) x 1.04375 - (1c) x 1.04375	\$ 4,068.7	\$ 131.5	\$ 2.9	\$ 4,203.1
b) Expected UAAL based on actual contribution (1a) x 1.0875 + (1b) x 1.04375 - (1d) x 1.04375	4,297.9	147.0	4.8	4,449.7
c) Increase in UAAL due to contribution deficiency (2b)-(2a)	229.2	15.5	1.9	246.6
3. Gains (Losses) on year's activities:				
a) From differences between assumed and actual experience on liabilities	\$ (574.9)	\$ (32.1)	\$ (3.7)	\$ (610.7)
b) From differences between assumed and actual experience on assets	(2,445.0)	(154.1)	(13.0)	(2,612.1)
c) From service purchases	(1,155.7)	(79.3)	(6.6)	(1,241.6)
d) From change in assumptions	<u>(918.8)</u>	<u>(58.9)</u>	<u>(3.6)</u>	<u>(981.3)</u>
e) Total (a) + (b) + (c) + (d)	\$ (5,094.4)	\$ (324.4)	\$ (26.9)	\$ (5,445.7)
4. Actual UAAL at end of year (2a) + (2c) - (3e)	\$ 9,392.3	\$ 471.4	\$ 31.7	\$ 9,895.4

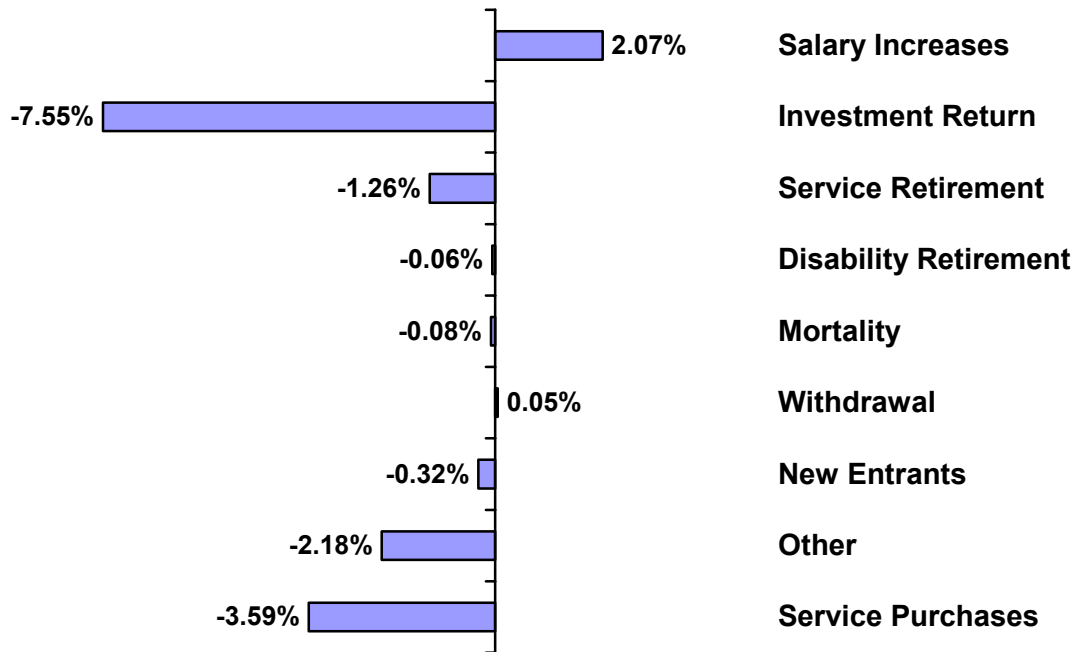
# GAIN/(LOSS) ANALYSIS

## 2003 Experience: Divisions Combined

(\$ in Millions)



## % of Beginning of Year Accrued Liabilities





## SUPPLEMENTAL INFORMATION

---

Benefit Provisions Evaluated.....	14
Actuarial Methods and Assumptions.....	23
Summary of State and School Division Results.....	31
Summary of Municipal Division Results.....	40
Summary of Judicial Division Results.....	49
Summary of Postretirement Health Care Program Results.....	58

## **BENEFIT PROVISIONS EVALUATED**

# BENEFIT PROVISIONS EVALUATED

## PENSION PLAN

---

<b>Effective Date</b>	Established in 1931, most recently amended during 2000.
<b>Definitions</b>	
Affiliated Employers	State agencies, political subdivisions of the state, school districts, courts, cities and municipalities and any other public entities which affiliate with PERA.
Covered Members	Employees of Affiliated Employers who work in a position subject to membership and for whom contributions are made.
Division	One of three separate divisions which include: State and School, Municipal, and Judicial. Upon affiliation, employers are assigned to one of these divisions. The financial activities of each division are accounted for in separate trust funds.
Highest Average Salary (HAS)	For members not in the Judicial Division, one-twelfth of the average of the highest annual salaries upon which contributions were made during three periods of twelve consecutive months of Service Credit; or for a member with less than three years of Service Credit, one-twelfth of the average of the annual salaries upon which contributions were made. Annual salary increases recognized in the determination of HAS are limited to 15% a year. For Judicial Division members, one-twelfth of the highest annual salary upon which contributions were made during one period of twelve consecutive months of Service Credit.
Service Credit	The total of all earned, purchased, (disability) projected, and military service credit.

### **Contributions**

Member Contributions	Members, except for State Troopers, contribute 8.0% of salary. State Troopers contribute 10.0% of salary.				
Employer Contributions	<p>State and School Division (except State Troopers): 10.04% of salary, through 6/30/2003, 10.15% after 7/1/2003</p> <p>State Troopers: 12.74% of salary through 6/30/2003, 12.85% after 7/1/2003</p> <p>Municipal Division: 9.60% of salary through 12/31/2003, 10.00% on and after 1/1/2004</p> <p>Judicial Division: 11.82% of salary through 6/30/2003, 12.66% from 7/1/2003 to 6/30/2004, 13.66% after 7/1/2004</p> <p>These contribution rates include the contributions allocated to the Health Care Trust Fund for all divisions as follows:</p> <table border="0" style="margin-left: 40px;"> <tr> <td>Before 7/1/2004</td> <td style="text-align: right;">1.10%</td> </tr> <tr> <td>On and after 7/1/2004</td> <td style="text-align: right;">1.02%</td> </tr> </table>	Before 7/1/2004	1.10%	On and after 7/1/2004	1.02%
Before 7/1/2004	1.10%				
On and after 7/1/2004	1.02%				

## BENEFIT PROVISIONS EVALUATED PENSION PLAN

---

**Matching Employer Contributions**

A percentage of the member contribution account less:

1. Any amount paid for the purchase of service credit,
2. Any payments in lieu of member contributions, and
3. Any interest accrued on 1 and 2.

For members who meet the requirements for a service or reduced service retirement at the time the refund is paid, or for payments made to survivors or beneficiaries of members who die before retirement, the percentage is 100%.

For members who receive a refund prior to meeting the requirements for a service or reduced service retirement, the percentage is 50%.

**Eligibility for Benefits or Other Payments**

**Service Retirement**

Retire with one of the following age and Service Credit requirements:

**-- Members except State Troopers**

<u>Age</u>	<u>Service Credit</u>
50	30
55	Age and Service = 80 years or more
65	5

**-- State Troopers**

<u>Age</u>	<u>Service Credit</u>
Any Age	30
50	25
55	20
65	5

**Reduced Service Retirement**

Retire with one of the following age and Service Credit requirements:

**-- Members except State Troopers**

<u>Age</u>	<u>Service Credit</u>
50	25
55	20
60	5

**-- State Troopers**

<u>Age</u>	<u>Service Credit</u>
50	20
60	5

## BENEFIT PROVISIONS EVALUATED PENSION PLAN

---

Vested Benefit	Terminate with five or more years of Service Credit and leave member contributions in the plan.
Disability Retirement	Become permanently disabled prior to being eligible for service retirement with five or more years of Service Credit (at least 6 months being earned during the last period of membership). The five-year service requirement is waived for State Troopers disabled because of job-related injuries and for members of the Judicial Division who are found to be permanently disabled by the Colorado Supreme Court.
Survivor Benefits	Die prior to retirement with at least one year of Service Credit. (The one-year Service Credit requirement is waived if death is job-related.)

### Monthly Benefit Amounts

#### Service Retirement

- The greater of a or b
- State and School and Municipal Divisions and Members of the Judicial Division with no Service Credit prior to July 1, 1973
    - a) 2.5% of HAS times years of Service Credit up to 40
    - b) The money purchase benefit which is actuarially determined based on the value of the member contribution account and matching employer contributions on the effective date of retirement.
- The greater of c or d
- Members of the Judicial Division with Service Credit prior to July 1, 1973
    - c) The greater of a or b above
    - d)
      1. 4% of HAS times years of Service Credit up to 10, plus
      2. 1 2/3% of HAS times years of Service Credit in excess of 10 up to 16, plus
      3. 1.5% of HAS times years of Service Credit in excess of 16 up to 20, plus
      4. 2.5% of HAS times years of Service Credit in excess of 20, the total not to exceed 100% of HAS.

## BENEFIT PROVISIONS EVALUATED PENSION PLAN

---

### Reduced Service Retirement

For members except State Troopers:

The service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 55 to age 60, 6% for each year prior to 55, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

For State Troopers:

The service retirement benefit calculated above reduced 4% for each year after age 60, 3% for each year from age 50 to age 60, and proportionately for fractions of a year, from the effective date of reduced service retirement to the date the member would have been eligible for a service retirement benefit.

### Vested Benefit

The greater of the benefit calculated based on Service Credit and HAS at the date of termination or the money purchase benefit based on the value of the member contribution account and the matching employer contribution account on the date payments begin. The vested benefit is payable upon reaching the age required for a reduced service retirement benefit. If the member elects to begin receiving payments prior to reaching the age required for a service retirement benefit, the benefit calculated based on Service Credit and HAS will be reduced in accordance with the reduced service retirement provisions.

### Disability Retirement

If years of Service Credit at disability are greater than 20, the disability retirement benefit is calculated based on actual Service Credit at disability; otherwise, the disability retirement benefit is calculated based on actual Service Credit at disability plus Service Credit projected to age 65, but not to exceed a total of 20 years of Service Credit.

Benefits for disability retirees with an effective disability retirement date on or after July 1, 1988 and before January 1, 1999, who work after retirement will be reduced by 1/3 of the amount, if any, by which the initial annual PERA benefit plus earned income exceeds the annualized HAS.

## BENEFIT PROVISIONS EVALUATED PENSION PLAN

---

### Survivor Benefits

- Not Eligible for Reduced Service Retirement

Benefits are payable in the following order:

- (a) Qualified Children Under Age 23: 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.
- (b) Spouse: If no qualified children in (a) exist: i) less than 10 years of Service Credit, 25% of HAS, benefits begin at age 60; ii) 10 or more years of Service Credit, the greater of 25% of HAS or the benefit which would have been payable as a 100% joint and survivor option if the deceased member had been eligible for service retirement and retired on the date of death, benefits begin immediately.
- (c) Qualified Children Age 23 or Over: If no persons in (a) or (b) exist, 40% of HAS for one child, an equal share of 50% of HAS if there are two or more children.
- (d) Dependent Parents: If no persons in (a) to (c) exist, 25% of HAS for one dependent parent or 40% of HAS for two dependent parents (minimum of \$100 per month for each dependent parent). Benefits begin immediately and continue until the death of the parent(s).
- (e) Named Beneficiary: If no persons in (a) to (d) exist, single payment equal to the member contribution account plus the matching employer contribution, plus interest.
- (f) Estate of Deceased Member: If no persons in (a) to (e) exist, single payment equal to the member contribution account plus the matching employer contribution, plus interest.

- Eligible for Reduced or Service Retirement

The benefit that would have been payable had the member retired on the date of death and elected the 100% joint and survivor option. If there is no designated co-beneficiary or surviving spouse, then qualified children, dependent parents, named beneficiary or estate are eligible for the same benefits payable on behalf of a deceased member who was not eligible for reduced service retirement.

### Refund of Member Contributions

In the event a member leaves service for a reason other than death or retirement, member contribution accounts including interest plus matching employer contributions with interest are refunded upon request.

## **BENEFIT PROVISIONS EVALUATED PENSION PLAN**

---

### **Benefit Options**

Benefits are payable for the life of the retired member. Optional reduced benefits may be elected at the time of retirement to provide for continuation of 50% or 100% of a reduced benefit amount to a designated co-beneficiary. If the member retires any time after the date on which service retirement eligibility is first met, the reduction for 50% or 100% continuation option will be actuarially determined as of the date the member first became eligible for service retirement.

### **Post-Retirement Benefit Increases**

Each year on March 1, benefits which have been paid for at least three months preceding March 1 are increased. The increase is 3.5% compounded annually for each year of retirement.

### **Changes in Plan Provisions Since Prior Year**

No material changes.



## BENEFIT PROVISIONS EVALUATED POSTRETIREMENT HEALTH CARE PROGRAM

---

Effective Date	On July 1, 1985, employer contributions to the Program commenced. Premium subsidy payments began July 1, 1986.	
Type of Program	Partially pre-funded postretirement health care plan covering PERA benefit recipients and other eligible persons.	
Eligibility for Health Care Program Coverage	<p>Anyone receiving a monthly PERA benefit, spouses, and unmarried, dependent children under age 19 (under age 24 if enrolled in school full-time).</p> <p>Members receiving short-term disability payments.</p> <p>Guardians of children receiving PERA survivor benefits if children are enrolled in Program.</p> <p>Retirees temporarily not receiving PERA benefits.</p> <p>Surviving spouses of deceased retirees who are not receiving PERA benefits but were enrolled in the Program when death occurred.</p> <p>Divorced spouses of retirees who are not receiving PERA benefits, but were enrolled in the Program when the divorce occurred.</p>	
Employer Contributions to Health Care Trust Fund (HCTF)	Before 7/1/2004	1.10%
	On and after 7/1/2004	1.02%
Enrollment	Enrollment in the Program is voluntary. Open enrollment is held annually for coverage effective January 1.	
Program Premium Subsidy	The Program pays a portion or all of the monthly premium for health care coverage up to \$5.75 times the benefit recipient's years of service credit, with a maximum subsidy of \$115 per month if the benefit recipient is over age 65, or \$11.50 times the service credit, with a maximum of \$230 per month, if the benefit recipient is under age 65. The subsidy, if any, is paid from the HCTF. Any additional cost of the health insurance coverage is paid by the benefit recipient. Eligible persons not receiving a monthly benefit from PERA pay the entire cost of the health insurance coverage.	

## **BENEFIT PROVISIONS EVALUATED POSTRETIREMENT HEALTH CARE PROGRAM**

---

Health Care Plans Offered      Eligible persons are offered a choice among two Preferred Provider Organizations, one Point of Service plan, three Health Maintenance Organizations, and two Medicare Supplement plans. An integrated retail and mail-order prescription drug program is also offered. Premiums are established annually for each plan and different rates apply for those under and over age 65.

Note: Valuation results presented herein are based solely on the premium subsidy described above and do not reflect premiums actually charged for each health care plan offered. All actuarial calculations and analyses made in this report assume no future subsidy increases.

### **Changes in Plan Provisions Since Prior Year**

No material changes.

## **ACTUARIAL METHODS AND ASSUMPTIONS**

# SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

---

## ACTUARIAL METHODS

The ultimate cost of a retirement plan (such as PERA) is equal to the benefits paid plus the expenses resulting from the administration and financing of the plan. These plan costs are paid for through contributions to the plan as well as through investment earnings on the plan's assets.

Using the plan's schedule of benefits, the member data and a carefully selected set of actuarial assumptions, the plan's actuary estimates the cost of the benefits which will be paid from the plan. Then using a particular actuarial funding method, the actuary will allocate these costs and determine a systematic manner to fund for future plan benefits.

In the case of PERA (as well as most other public sector plans), the objective is to fund in a manner which keeps contribution rates approximately level from generation to generation. The funding method best designed to keep annual costs level (as a percentage of pay) is the Entry Age Actuarial Cost Method. This method is described briefly below.

### Entry Age Actuarial Cost Method

Under the Entry Age Actuarial Cost Method, projected pension, termination, disability and death benefits are determined for all active members. Cost factors, which are developed to produce level annual costs in each year from the age at hire (entry age) to the assumed retirement age are applied to the projected benefits to determine the "normal cost." The normal cost is the portion of the total cost of the plan allocated to the current year. The "actuarial accrued liability" for active members is then calculated as the portion of the total cost of the plan allocated to prior years, i.e., the value of the prior years' normal cost amounts.

The actuarial accrued liability for members currently receiving benefits, for active members beyond the assumed retirement age, and for members entitled to deferred benefits, is equal to the present value of the benefits expected to be paid. No normal costs are now payable for these participants.

The excess of the total actuarial accrued liability over the value of the plan assets is called the "unfunded actuarial accrued liability." Funding requirements under the Entry Age Actuarial Cost Method are determined as the sum of a) the normal cost and b) an amortization of the unfunded liability.

## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

---

The actuarial assumptions discussed below are used in determining the projected benefits and cost factors. The effect of differences between these assumptions and the actual experience of the plan is calculated each year when the annual actuarial valuation is performed. These differences produce either actuarial gains or losses which result in adjusting the unfunded liability discussed above.

### Asset Valuation Method

The method for valuing assets is intended to recognize a “smoothed” market value of assets. Under this method, the difference between actual market value actuarial gains from investment experience and the expected actuarial gains from investment experience is recognized over a four-year period.

### ACTUARIAL ASSUMPTIONS

The following economic actuarial assumptions were adopted in 2003 by the Board of Trustees based on advice from the actuary. The non-economic assumptions were adopted in 2001 on the advice of the actuary based on the results of an experience analysis. The assumptions, which are reviewed in depth every five years, are used to project the Plan’s future experience.

### Economic Assumptions

The investment return rate used in the valuations is 8.50 percent per year compounded annually (net of administrative expenses). The inflation assumption is 3.75 percent per year.

The overall member payroll is assumed to increase 4.50 percent annually. Pay increase assumptions for individual members are shown for sample ages in Exhibits A, B, and C. Judicial Division pay increases are determined by the State Legislature.

### Non-Economic Assumptions

The mortality table is based on PERA experience. The table is used to estimate the value of benefits expected to be paid. Related values are shown in Exhibit E. For disability retirement, impaired longevity is recognized by basing benefit values on an adjusted age midway between attained age and normal retirement age.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages in Exhibits A, B, C, and D. It was assumed that 35 percent of the vested members who terminate elect to withdraw their contributions and matching employer contributions while the remaining 65 percent elect to leave their contributions in the plan in order to be eligible for a benefit at their retirement date.

## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

---

### Other Assumptions for the Postretirement Health Care Program

Percent of Members electing to participate in Health Care Program:

Member	Assumption	
Current PERA benefit recipients under age 65	Current participants to age 65 plus 75% of all PERA benefit recipients at age 65.	
Current PERA benefit recipients over age 65	Current participants	
Active Members under age 65.	55% of eligible to age 65, and 75% over age 65	
Vested Deferred Members:	<u>Under Age 65</u>	<u>Over Age 65</u>
- 5-10 years service	30%	30%
- 10-20 years service	30%	30%
- Over 20 years service	30%	30%

Percent of Active Members electing Option 2 or Option 3: 44%

# SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

## Exhibit A – State and School Division

### Separations from Employment Before Retirement and Individual Pay Increase Assumptions

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Ultimate Withdrawal <sup>1</sup>		Death		Disability		Merit & Seniority	Inflation & Productivity (Economy)	Increase (Next Year)
	Men	Women	Men	Women	Men	Women			
<b>STATE MEMBERS CONTRIBUTING 8%</b>									
20	21.00	18.00	0.025	0.015	0.01	0.01	4.95%	4.50%	9.45%
25	8.50	10.25	0.030	0.015	0.04	0.03	4.45	4.50	8.95
30	5.00	6.70	0.040	0.025	0.05	0.05	3.60	4.50	8.10
35	3.52	4.93	0.055	0.035	0.18	0.16	2.80	4.50	7.30
40	2.81	3.63	0.095	0.058	0.24	0.22	2.10	4.50	6.60
45	2.49	3.12	0.210	0.102	0.39	0.34	1.40	4.50	5.90
50	2.39	2.97	0.425	0.176	0.75	0.66	0.75	4.50	5.25
55	2.39	2.89	0.598	0.252	1.01	0.90	0.35	4.50	4.85
60	2.39	2.84	0.755	0.383	1.08	0.96	0.00	4.50	4.50
65	2.39	2.84	1.179	0.670	1.08	0.96	0.00	4.50	4.50
<b>STATE MEMBERS CONTRIBUTING 10.0% (STATE TROOPERS)</b>									
20	6.00	6.00	0.025	0.015	0.02	0.02	5.50%	4.50%	10.00%
25	6.00	6.00	0.030	0.015	0.08	0.08	4.20	4.50	8.70
30	5.10	5.10	0.040	0.025	0.12	0.12	3.20	4.50	7.70
35	2.70	2.70	0.055	0.035	0.40	0.40	2.50	4.50	7.00
40	1.60	1.60	0.095	0.058	0.54	0.54	1.90	4.50	6.40
45	1.10	1.10	0.210	0.102	0.86	0.86	1.50	4.50	6.00
50	1.00	1.00	0.425	0.176	1.66	1.66	1.30	4.50	5.80
55	1.00	1.00	0.598	0.252	2.24	2.24	1.10	4.50	5.60
60	1.00	1.00	0.755	0.383	2.40	2.40	0.90	4.50	5.40
65	1.00	1.00	1.179	0.670	2.40	2.40	0.50	4.50	5.00
<b>SCHOOL MEMBERS</b>									
20	21.00	18.00	0.025	0.015	0.01	0.01	4.95%	4.50%	9.45%
25	8.50	10.25	0.030	0.015	0.01	0.02	4.45	4.50	8.95
30	5.00	6.70	0.040	0.025	0.01	0.03	3.60	4.50	8.10
35	3.52	4.93	0.055	0.035	0.04	0.05	2.80	4.50	7.30
40	2.81	3.63	0.095	0.058	0.11	0.08	2.10	4.50	6.60
45	2.49	3.12	0.210	0.102	0.18	0.10	1.40	4.50	5.90
50	2.39	2.97	0.425	0.176	0.40	0.30	0.75	4.50	5.25
55	2.39	2.89	0.598	0.252	0.65	0.50	0.35	4.50	4.85
60	2.39	2.84	0.755	0.383	0.80	0.50	0.00	4.50	4.50
65	2.39	2.84	1.179	0.670	0.80	0.50	0.00	4.50	4.50

<sup>1</sup>For State (excluding Troopers) and School members, the assumed rate is the greater of the select rates as shown in Exhibit D or the ultimate rate shown above at the appropriate age. There are no select withdrawal assumptions for the State Troopers.

# SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

## Exhibit B – Municipal Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Ultimate Withdrawal <sup>1</sup>		Death		Disability		Merit & Seniority	Inflation & Productivity (Economy)	Increase (Next Year)
	Men	Women	Men	Women	Men	Women			
20	12.00	15.00	0.025	0.015	0.01	0.01	8.40%	4.50%	12.90%
25	7.00	10.30	0.030	0.015	0.04	0.04	6.00	4.50	10.50
30	5.06	7.63	0.040	0.025	0.07	0.05	4.40	4.50	8.90
35	3.77	6.29	0.055	0.035	0.22	0.18	3.20	4.50	7.70
40	2.97	4.80	0.095	0.058	0.30	0.24	2.40	4.50	6.90
45	2.62	4.12	0.210	0.102	0.47	0.39	1.90	4.50	6.40
50	2.56	3.92	0.425	0.176	0.91	0.75	1.60	4.50	6.10
55	2.56	3.72	0.598	0.252	1.23	1.01	1.50	4.50	6.00
60	2.56	3.60	0.755	0.383	1.32	1.08	1.30	4.50	5.80
65	2.56	3.60	1.179	0.670	1.32	1.08	1.00	4.50	5.50

## Exhibit C – Judicial Division

Sample Ages	Percent of Members Separating Within the Next Year						Pay Increase Assumptions for an Individual Member		
	Withdrawal		Death		Disability		Seniority <sup>2</sup>	Inflation & Productivity (Economy)	Increase (Next Year)
	Men	Women	Men	Women	Men	Women			
30	2.00	2.00	0.040	0.025	0.06	0.06	1.51%	4.50%	6.01%
35	2.00	2.00	0.055	0.035	0.07	0.07	1.20	4.50	5.70
40	2.00	2.00	0.095	0.058	0.10	0.10	0.70	4.50	5.20
45	2.00	2.00	0.210	0.102	0.17	0.17	0.50	4.50	5.00
50	2.00	2.00	0.425	0.176	0.31	0.31	0.50	4.50	5.00
55	2.00	2.00	0.598	0.252	0.56	0.56	0.50	4.50	5.00
60	2.00	2.00	0.755	0.383	1.19	1.19	0.50	4.50	5.00
65	2.00	2.00	1.179	0.670	1.65	1.65	0.50	4.50	5.00

## Exhibit D

Completed Years of Service	Percent of Members With Less Than Five Years of Service Withdrawing from Employment Next Year <sup>1</sup>					
	State and School Division				Municipal Division	
	State Members		School Members		Men	Women
	Men	Women	Men	Women		
0	40.0	40.0	40.0	40.0	40.0	40.0
1	15.0	16.0	15.0	16.0	14.0	16.0
2	12.0	12.5	12.0	12.5	11.0	14.0
3	9.0	9.5	9.0	9.5	9.0	13.0
4	7.5	7.5	7.5	7.5	7.0	11.0

<sup>1</sup>For Municipal employees, the assumed rate is the greater of the select rates as shown in Exhibit D or the ultimate rate shown above at the appropriate age. There are no select withdrawal assumptions for the Judicial Division.

<sup>2</sup>Pay raises are subject to legislative approval. Percentages shown are based on prior experience.



# SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

## Exhibit E – State and School, Municipal, and Judicial Divisions

### Single Life Retirement Values

Sample Attained Ages	Present Value of \$1.00 Monthly for Life		Present Value of \$1.00 Monthly Increasing 3.5% Annually		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women
40	\$137.77	\$141.42	\$206.51	\$217.02	40.79	46.04
45	133.88	138.90	196.16	208.84	36.05	41.20
50	129.19	135.54	184.57	199.07	31.53	36.45
55	123.79	131.14	171.94	187.52	27.27	31.81
60	116.53	125.05	156.88	173.51	23.09	27.23
65	106.81	117.21	139.09	157.35	19.01	22.84
70	95.62	107.39	120.36	139.12	15.32	18.68
75	83.48	95.38	101.61	119.03	12.09	14.80
80	70.97	81.84	83.66	98.31	9.36	11.35
85	58.90	66.53	67.42	77.00	7.13	8.29

## Exhibit F

### Percent of Eligible Members Retiring Next Year

Retirement Ages	State and School Division								Judicial Division
	State Members		State Troopers	School Members		Municipal Division			
	Men	Women		Men	Women	Men	Women		
50	12	14	20	14	14	10	11	10	
51	12	14	20	14	14	10	11	10	
52	12	14	20	14	14	10	11	10	
53	12	14	20	14	14	10	11	10	
54	18	20	20	24	23	15	16	10	
55	18	20	20	24	23	15	16	10	
56	18	20	20	24	23	15	16	10	
57	18	20	20	24	23	15	16	10	
58	18	20	20	24	23	15	16	10	
59	18	20	20	24	23	15	16	10	
60	14	14	20	16	16	15	12	10	
61	14	14	36	16	16	15	12	10	
62	14	14	52	16	16	15	12	10	
63	14	14	68	16	16	15	12	10	
64	14	14	84	16	16	15	12	10	
65	23	22	100	21	21	22	19	25	
66	23	22	100	21	21	22	19	15	
67	23	22	100	21	21	22	19	15	
68	23	22	100	21	21	22	19	15	
69	23	22	100	21	21	22	19	15	
70	100	100	100	100	100	100	100	40	
71	100	100	100	100	100	100	100	40	
72	100	100	100	100	100	100	100	100	
73	100	100	100	100	100	100	100	100	
74	100	100	100	100	100	100	100	100	
75	100	100	100	100	100	100	100	100	

## SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

---

### Notes to Required Supplementary Information Under GASB No. 25 and 26

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

	<b>State and School Division Trust Fund</b>	<b>Municipal Division Trust Fund</b>	<b>Judicial Division Trust Fund</b>	<b>Health Care Trust Fund</b>
Valuation date	12/31/03	12/31/03	12/31/03	12/31/03
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Amortization method	Level percent, Open	Level percent, Open	Level percent, Open	Level percent, Open
Remaining amortization period	40	40	40	34
Asset valuation method	4-year smoothed market	4-year smoothed market	4-year smoothed market	4-year smoothed market
Actuarial assumptions				
Investment rate of return <sup>1</sup>	8.50%	8.50%	8.50%	8.50%
Projected salary increases <sup>1</sup>	4.5-10.0%	5.5-12.9%	5.0-6.01%	Not applicable
Cost-of-living adjustments	3.5%	3.5%	3.5%	None
	compounded annually	compounded annually	compounded annually	
Health care inflation factor	Not applicable	Not applicable	Not applicable	Zero

---

<sup>1</sup> Includes inflation at 3.75 percent.

**SUMMARY OF STATE AND SCHOOL DIVISION RESULTS**

# SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

---

## Summary of Data Used in Valuation

<u>Group</u>	<u>Number</u>	<u>Annual Payroll/Benefits</u>	
		<u>Total</u> <u>(\$ in Thousands)</u>	<u>Average</u>
Active Members			
Other Than State Troopers	157,380	\$ 5,096,306	\$32,382
State Troopers	<u>770</u>	<u>44,612</u>	\$57,938
Total	158,150	\$ 5,140,918	\$32,507
Retirees and Beneficiaries	60,644	\$ 1,542,427	\$25,434
Inactive Deferred	11,125		
Nonvested Inactive Due Refunds	<u>87,395</u>		
Total	317,314		

## SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

---

### Development of Actuarial Value of Assets

	<u>(\$ Thousands)</u>
1. Actuarial Value December 31, 2002	\$ 28,551,607
2. Market Value December 31, 2003	27,123,835
3. Market Value December 31, 2002	22,023,781
4. Cash Flow During 2003	(103,023)
5. Expected Return During 2003: (1) x .0875 + (4) x .04375	2,493,758
6. Expected Actuarial Value of Assets: (1)+(4)+(5)	30,942,342
7. 2003 Phase-In Amount: (2)-(3)-(4)-(5)	2,709,319
8. Prior Years Phase-In	
- 2002	(5,616,365)
- 2001	(4,694,113)
- 2000	<u>(2,201,844)</u>
- Total	(12,512,322)
9. Recognition of Transition Difference Between Book and Market Value that existed on December 31, 1992 (18 years remaining)	30,630
10. Actuarial Value of Assets, December 31, 2003: (6) + .25 x [(7)+(8)]+(9)	\$ 28,522,222

## SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

### Allocation of Actuarial Present Values

(\$ in Thousands)

Actuarial Present Value, December 31, of	Actuarial Present Value of Future Benefits	Portion Covered by Future Normal Cost Contributions	Actuarial Accrued Liabilities (2)-(3)
(1)	(2)	(3)	(4)
Active Members			
Service Retirement Benefits	\$20,140,063	\$5,048,309	\$15,091,754
Disability Benefits	830,360	401,184	429,176
Survivor Benefits	640,740	207,873	432,867
Separation Benefits	2,585,780	1,408,017	1,177,763
Active Member Totals	\$24,196,943	\$7,065,383	\$17,131,560
Retirees and Beneficiaries on Rolls	\$19,857,079	\$ 0	\$19,857,079
Inactive Deferred Benefits			
Member Portion	408,710	0	408,710
Employer Portion	347,403	0	347,403
Nonvested Inactives—Refunds Due	169,750	0	169,750
Total	\$44,979,885	\$7,065,383	\$37,914,502
Assets Used in Valuation			\$28,522,222
Unfunded/(Overfunded) Actuarial Accrued Liabilities			\$9,392,280

# SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

---

## Employer Contribution Rate

### Expressed as Percent of Active Member Payroll

<u>Contribution For</u>	<u>Contributions Expressed as Percents of Payroll</u>
Normal Cost	
Service Retirement Benefits	11.85%
Disability Benefits	0.96
Survivor Benefits	0.49
Separation Benefits	<u>3.20</u>
Total	16.50%
Member Current Contributions <sup>1</sup>	<u>8.02</u>
Employer Normal Cost	8.48%
Employer Contribution Rate <sup>1</sup>	9.15%
Percent Available to Amortize Unfunded Actuarial Accrued Liabilities (UAAL)	0.67%
Number of Years to Amortize UAAL	Infinite
Actuarially Required Employer Contribution Rate to pay Normal Cost and amortize UAAL over 40 years	17.31%

---

<sup>1</sup>Weighted average of more than one statutory rate.

## SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

---

### Actuarial Present Value of Accumulated Plan Benefits

	<u>\$ in Thousands</u>
Vested Benefits	
For retired lives	\$19,857,079
For others	11,617,799
Non-Vested Benefits	<u>2,591,646</u>
Actuarial Present Value of Accumulated Plan Benefits	\$34,066,524

The actuarial present value of accumulated plan benefits as of December 31, 2002, was \$28,734 million. During the year, the plan experienced a net increase of \$5,333 million in the actuarial present value of accumulated plan benefits.

The actuarial present values presented above were determined using the following assumptions:

- a) Future salary increases were not considered.
- b) Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
- c) Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability and investment return.

### Active Member Counts

Vested	
Other Than State Troopers	86,109
State Troopers	575
Non-Vested	
Other Than State Troopers	71,271
State Troopers	<u>195</u>
Total	158,150



## SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

### **GASB-25** **Schedule of Funding Progress** (in thousands)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL/ Covered Payroll
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12-31-03	\$28,522,222	\$37,914,502	\$9,392,280	75.2%	\$5,140,918	182.7%
12-31-02	\$28,551,607	\$32,463,918	\$3,912,311	87.9%	\$5,278,586	74.1%
12-31-01	\$28,947,935	\$29,469,608	\$521,673	98.2%	\$4,954,605	10.5%
12-31-00	\$27,749,435	\$26,492,574	(\$1,256,861)	104.7%	\$4,561,133	(27.6%)
12-31-99	\$24,976,228	\$24,311,246	(\$664,982)	102.7%	\$4,309,573	(15.4%)
12-31-98	\$21,644,949	\$22,498,963	\$854,014	96.2%	\$4,098,423	20.8%

### **Schedule of Employer Contributions**

Fiscal Year	Annual Required Contribution * (ARC)	% ARC Contributed
(1)	(2)	(3)
2003	11.11%	69%
2002	6.37%	100%
2001	6.84%	100%
2000	9.82%	100%
1999	10.46%	100%
1998	10.61%	100%

\*As a percent of covered payroll. The amortization period for 2003 is 40 years.

#### Notes to Schedules

For these schedules, the State and School Divisions have been combined in prior years.

Actuarial Method: Individual Entry Age Normal.

Actuarial Assumptions: Please see pages 25 through 29 for a description of the current assumptions.

Trend Factors: There was no significant change in the population size during 2003. There were no material plan changes since the last valuation.

# SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

---

## Changes in Unfunded Actuarial Accrued Liabilities

During Calendar 2003

\$ in Millions

1. Beginning of Year:	
a) Unfunded Actuarial Accrued Liabilities (UAAL)	\$3,912.3
b) Normal Cost	835.1
c) Total Contribution required to pay Normal Cost and amortize the UAAL over 40 years	1,013.2
d) Actual Total Contribution (excluding service purchases)	793.6
2. End of Year:	
a) Expected UAAL, from last year's valuation: (1a) x 1.0875 + (1b) x 1.04375 - (1c) x 1.04375	\$4,068.7
b) Expected UAAL based on actual contribution (1a) x 1.0875 + (1b) x 1.04375 - (1d) x 1.04375	4,297.9
c) Increase in UAAL due to Contribution Deficiency (2b)-(2a)	229.2
3. Gains (Losses) on year's activities:	
a) From differences between assumed and actual experience on liabilities	(\$574.9)
b) From differences between assumed and actual experience on assets	(2,445.0)
c) From service purchases	(1,155.7)
d) From change in assumptions	<u>(918.8)</u>
e) Total (a) + (b) + (c) + (d)	(\$5,094.4)
4. Actual UAAL at end of year (2a) + (2c) - (3e)	\$9,392.3

## SUMMARY OF STATE AND SCHOOL DIVISION RESULTS

### Gains & Losses in Actuarial Accrued Liabilities During Calendar Year 2003

<u>Type of Activity</u>	Gain (Loss) For Year	
	<u>\$ in Millions</u>	<u>% of Beginning of Year Accrued Liabilities</u>
<b>Decrement Risk Areas</b>		
<u>Service Retirements.</u> If members retire at older ages than assumed, there is a gain. If younger ages, a loss. Service purchases at less than full actuarial cost also produce a loss.	(\$406.3)	(1.25%)
<u>Disability Retirements.</u> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(17.4)	(0.05)
<u>Deaths.</u> If survivor claims are less than assumed, there is a gain. If more claims, a loss. If retirees live longer than assumed, there is a loss; if they die sooner than assumed, there is a gain.	(28.6)	(0.09)
<u>Withdrawal.</u> If more actuarial liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	20.2	0.06
<u>New Entrants.</u> New members enter the plan with some service, causing a loss.	(99.1)	(0.31)
<u>Other.</u> Change in group size, service credit reinstatements, actuarial systems, data adjustments and miscellaneous unidentified changes in the UAAL.	(702.6)	(2.16)
<b>Economic Risk Areas</b>		
<u>Salary Increases.</u> If there are smaller salary increases than assumed, there is a gain. If greater increases, a loss.	658.9	2.03
<u>Investment Income.</u> If there is greater investment income than assumed, there is a gain. If less income, a loss.	(2,445.0)	(7.53)
Experience Gain (or Loss) During Year	(\$3,019.9)	(9.30%)

## **SUMMARY OF MUNICIPAL DIVISION RESULTS**

# SUMMARY OF MUNICIPAL DIVISION RESULTS

---

## Summary of Data Used in Valuation

<u>Group</u>	<u>Number</u>	<u>Annual Payroll/Benefits</u>	
		<u>Total</u> <u>(\$ in Thousands)</u>	<u>Average</u>
Active Members	12,571	\$479,098	\$38,111
Retirees and Beneficiaries	3,104	\$69,948	\$22,535
Inactive Deferred	811		
Nonvested Inactives Due Refunds	<u>8,796</u>		
Total	25,282		

# SUMMARY OF MUNICIPAL DIVISION RESULTS

---

## Development of Actuarial Value of Assets

	<u>(\$ Thousands)</u>
1. Actuarial Value December 31, 2002	\$1,839,632
2. Market Value December 31, 2003	1,819,240
3. Market Value December 31, 2002	1,422,948
4. Cash Flow During 2003	54,748
5. Expected Return During 2003: (1) x .0875 + (4) x .04375	163,363
6. Expected Actuarial Value of Assets: (1)+(4)+(5)	2,057,743
7. 2003 Phase-In Amount: (2)-(3)-(4)-(5)	178,181
8. Prior Years Phase-In	
- 2002	(356,890)
- 2001	(291,830)
- 2000	<u>(135,783)</u>
- Total	(784,503)
9. Recognition of Transition Difference Between Book and Market Value that existed on December 31, 1992 (18 years remaining)	1,624
10. Actuarial Value of Assets, December 31, 2003 (6) + .25 x [(7)+(8)]+(9)	\$1,907,786

## SUMMARY OF MUNICIPAL DIVISION RESULTS

### Allocation of Actuarial Present Values

(\$ in Thousands)

Actuarial Present Value, December 31, of (1)	Actuarial Present Value of Future Benefits (2)	Portion Covered by Future Normal Cost Contributions (3)	Actuarial Accrued Liabilities (2)-(3) (4)
Active Members			
Service Retirement Benefits	\$1,586,617	\$471,126	\$1,115,491
Disability Benefits	133,151	69,636	63,515
Survivor Benefits	71,402	25,129	46,273
Separation Benefits	<u>315,443</u>	<u>172,857</u>	<u>142,586</u>
Active Member Totals	\$2,106,613	\$738,748	\$1,367,865
Retirees and Beneficiaries on Rolls	\$ 928,160	\$ 0	\$928,160
Inactive Deferred Benefits			
Member Portion	35,268	0	35,268
Employer Portion	29,977	0	29,977
Nonvested Inactives – Refunds Due	<u>17,959</u>	<u>0</u>	<u>17,959</u>
Total	\$3,117,977	\$738,748	\$2,379,229
Assets Used in Valuation			1,907,786
Unfunded/(Overfunded) Actuarial Accrued Liabilities			\$471,443

# SUMMARY OF MUNICIPAL DIVISION RESULTS

---

## Employer Contribution Rate

### Expressed as Percent of Active Member Payroll

<u>Contribution For</u>	<u>Contributions Expressed as Percents of Payroll</u>
Normal Cost	
Service Retirement Benefits	11.07%
Disability Benefits	1.64
Survivor Benefits	0.59
Separation Benefits	<u>3.93</u>
Total	17.23%
Member Current Contributions	<u>8.00</u>
Employer Normal Cost	9.23%
Employer Contribution Rate	8.98%
Percent Available to Amortize Unfunded Actuarial Accrued Liabilities (UAAL)	(0.25%)
Number of Years to Amortize UAAL	Infinite
Actuarially Required Employer Contribution Rate to pay Normal Cost and amortize UAAL over 40 years	13.98%



## SUMMARY OF MUNICIPAL DIVISION RESULTS

---

### Actuarial Present Value of Accumulated Plan Benefits

	<u>\$ in Thousands</u>
Vested Benefits	
For retired lives	\$928,160
For others	912,154
Non-Vested Benefits	<u>187,506</u>
Actuarial Present Value of Accumulated Plan Benefits	\$2,027,820

The actuarial present value of accumulated plan benefits as of December 31, 2002, was \$1,629 million. During the year, the plan experienced a net increase of \$399 million in the actuarial present value of accumulated plan benefits.

The actuarial present values presented above were determined using the following assumptions:

- a) Future salary increases were not considered.
- b) Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
- c) Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability and investment return.

### Active Member Counts

Vested	6,549
Non-Vested	<u>6,022</u>
Total	12,571

## SUMMARY OF MUNICIPAL DIVISION RESULTS

### GASB-25 Schedule of Funding Progress (in thousands)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL/ Covered Payroll
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12-31-03	\$1,907,786	\$2,379,229	\$471,443	80.2%	\$479,098	98.4%
12-31-02	\$1,839,632	\$1,966,143	\$126,511	93.6%	\$474,760	26.6%
12-31-01	\$1,822,413	\$1,746,761	(\$75,652)	104.3%	\$436,582	(17.3%)
12-31-00	\$1,717,017	\$1,541,014	(\$176,003)	111.4%	\$399,737	(44.0%)
12-31-99	\$1,524,667	\$1,413,208	(\$111,459)	107.9%	\$380,064	(29.3%)
12-31-98	\$1,300,574	\$1,301,869	\$1,295	99.9%	\$359,025	0.4%

### Schedule of Employer Contributions

Fiscal Year	Annual Required Contribution * (ARC)	% ARC Contributed
(1)	(2)	(3)
2003	9.53%	69%
2002	5.02%	100%
2001	6.26%	100%
2000	8.90%	100%
1999	9.05%	100%
1998	9.20%	100%

\*As a percent of covered payroll. The amortization period for 2003 is 40 years.

#### Notes to Schedules

Actuarial Method: Individual Entry Age Normal.

Actuarial Assumptions: Please see Pages 25 through 29 for a description of the current assumptions.

Trend Factors: There was no significant change in the population size during 2003. There were no significant plan changes since the last valuation.

# SUMMARY OF MUNICIPAL DIVISION RESULTS

---

## Changes in Unfunded Actuarial Accrued Liabilities

During Calendar 2003

\$ in Millions

1. Beginning of Year:	
a) Unfunded Actuarial Accrued Liabilities (UAAL)	\$126.5
b) Normal Cost	77.6
c) Total Contribution required to pay Normal Cost and amortize the UAAL over 40 years	83.4
d) Actual Total Contribution (excluding service purchases)	68.6
2. End of Year:	
a) Expected UAAL, from last year's valuation: (1a) x 1.0875 + (1b) x 1.04375 - (1c) x 1.04375	\$131.5
b) Expected UAAL based on actual contribution (1a) x 1.0875 + (1b) x 1.04375 - (1d) x 1.04375	<u>147.0</u>
c) Increase in UAAL due to Contribution Deficiency (2b)-(2a)	\$15.5
3. Gains (Losses) on year's activities:	
a) From differences between assumed and actual experience on liabilities	(\$32.1)
b) From differences between assumed and actual experience on assets	(154.1)
c) From service purchases	(79.3)
d) From change in assumptions	<u>(58.9)</u>
e) Total (a) + (b) + (c) + (d)	(\$324.4)
4. Actual UAAL at end of year (2a) + (2c) - (3e)	\$471.4

## SUMMARY OF MUNICIPAL DIVISION RESULTS

### Gains & Losses in Actuarial Accrued Liabilities During Calendar Year 2003

<u>Type of Activity</u>	Gain (Loss) For Year	
	<u>\$ in Millions</u>	<u>% of Beginning of Year Accrued Liabilities</u>
<b>Decrement Risk Areas</b>		
<u>Service Retirements</u> . If members retire at older ages than assumed, there is a gain. If younger ages, a loss. Service purchases at less than full actuarial cost also produce a loss.	(\$24.2)	(1.23%)
<u>Disability Retirements</u> . If disability claims are less than assumed, there is a gain. If more claims, a loss.	(2.3)	(0.12)
<u>Deaths</u> . If survivor claims are less than assumed, there is a gain. If more claims, a loss. If retirees live longer than assumed, there is a loss; if they die sooner than assumed, there is a gain.	1.4	0.07
<u>Withdrawals</u> . If more actuarial liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	(2.5)	(0.13)
<u>New Entrants</u> . New members enter the plan with some service, causing a loss.	(9.5)	(0.48)
<u>Other</u> . Change in group size, service credit reinstatements, actuarial systems, data adjustments and miscellaneous unidentified changes in the UAAL.	(51.1)	(2.60)
<b>Economic Risk Areas</b>		
<u>Salary Increases</u> . If there are smaller salary increases than assumed, there is a gain. If greater increases, a loss.	56.1	2.85
<u>Investment Income</u> . If there is greater investment income than assumed, there is a gain. If less income, a loss.	(154.1)	(7.83)
Experience Gain (or Loss) During Year	(\$186.2)	(9.47%)

## **SUMMARY OF JUDICIAL DIVISION RESULTS**

# SUMMARY OF JUDICIAL DIVISION RESULTS

---

## Summary of Data Used in Valuation

<u>Group</u>	<u>Number</u>	<u>Annual Payroll/Benefits</u>	
		<u>Total</u> <u>(\$ in Thousands)</u>	<u>Average</u>
Active Members	270	\$25,452	\$94,267
Retirees and Beneficiaries	240	\$8,380	\$34,917
Inactive Deferred	15		
Nonvested Inactives Due Refunds	<u>3</u>		
Total	528		

## SUMMARY OF JUDICIAL DIVISION RESULTS

---

### Development of Actuarial Value of Assets

	<u>(\$ Thousands)</u>
1. Actuarial Value December 31, 2002	\$162,901
2. Market Value December 31, 2003	158,609
3. Market Value December 31, 2002	125,605
4. Cash Flow During 2003	3,179
5. Expected Return During 2003: (1) x .0875 + (4) x .04375	14,393
6. Expected Actuarial Value of Assets: (1)+(4)+(5)	180,473
7. 2003 Phase-In Amount: (2)-(3)-(4)-(5)	15,432
8. Prior Years Phase-In	
- 2002	(31,879)
- 2001	(26,870)
- 2000	<u>(12,637)</u>
- Total	(71,386)
9. Recognition of Transition Difference Between Book and Market Value that existed on December 31, 1992 (18 years remaining)	169
10. Actuarial Value of Assets, December 31, 2003: (6) + .25 x [(7)+(8)]+(9)	\$166,654

## SUMMARY OF JUDICIAL DIVISION RESULTS

---

### Allocation of Actuarial Present Values

(\$ in Thousands)

<u>Actuarial Present Value, December 31, of</u> (1)	<u>Actuarial Present Value of Future Benefits</u> (2)	<u>Portion Covered by Future Normal Cost Contributions</u> (3)	<u>Actuarial Accrued Liabilities (2)-(3)</u> (4)
Active Members			
Service Retirement Benefits	\$107,385	\$24,353	\$83,032
Disability Benefits	11,120	4,330	6,790
Survivor Benefits	8,070	2,276	5,794
Separation Benefits	<u>3,854</u>	<u>2,746</u>	<u>1,108</u>
Active Member Totals	\$130,429	\$33,705	\$96,724
Retirees and Beneficiaries on Rolls	\$ 98,819	\$ 0	\$98,819
Inactive Deferred Benefits			
Member Portion	1,452	0	1,452
Employer Portion	1,234	0	1,234
Nonvested Inactives-Refunds Due	<u>148</u>	<u>0</u>	<u>148</u>
Total	\$232,082	\$33,705	\$198,377
Assets Used in Valuation			\$166,654
Unfunded/(Overfunded) Actuarial Accrued Liabilities			\$31,723



# SUMMARY OF JUDICIAL DIVISION RESULTS

---

## Employer Contribution Rate

### Expressed as Percent of Active Member Payroll

<u>Contribution For</u>	<u>Contributions Expressed as Percents of Payroll</u>
Normal Cost	
Service Retirement Benefits	13.14%
Disability Benefits	2.32
Survivor Benefits	1.25
Separation Benefits	<u>1.48</u>
Total	18.19%
Member Current Contributions	<u>8.00</u>
Employer Normal Cost	10.19%
Employer Contribution Rate	12.64%
Percent Available to Amortize Unfunded Actuarial Accrued Liabilities (UAAL)	2.45%
Number of Years to Amortize UAAL	Infinite
Actuarially Required Employer Contribution Rate to pay Normal Cost and amortize UAAL over 40 years	16.22%

## SUMMARY OF JUDICIAL DIVISION RESULTS

---

### Actuarial Present Value of Accumulated Plan Benefits

	<u>\$ in Thousands</u>
Vested Benefits	
For retired lives	\$98,819
For others	78,556
Non-vested Benefits	<u>3,903</u>
Actuarial Present Value of Accumulated Plan Benefits	\$181,278

The actuarial present value of accumulated plan benefits as of December 31, 2002 was \$152.9 million. During the year, the plan experienced a net increase of \$28.4 million in the actuarial present value of accumulated plan benefits.

The actuarial present values presented above were determined using the following assumptions:

- a) Future salary increases were not considered.
- b) Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
- c) Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability and investment return.

### Active Member Counts

Vested	213
Non-Vested	<u>57</u>
Total	270

## SUMMARY OF JUDICIAL DIVISION RESULTS

### GASB-25 Schedule of Funding Progress (in thousands)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL/ Covered Payroll
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12-31-03	\$166,654	\$198,377	\$31,723	84.0%	\$25,452	124.6%
12-31-02	\$162,901	\$165,672	\$2,771	98.3%	\$26,357	10.5%
12-31-01	\$165,130	\$150,943	(\$14,187)	109.4%	\$24,140	(58.8%)
12-31-00	\$159,426	\$132,653	(\$26,773)	120.2%	\$21,673	(123.5%)
12-31-99	\$142,499	\$122,237	(\$20,262)	116.6%	\$20,123	(100.7)%
12-31-98	\$124,059	\$115,228	(\$8,831)	107.7%	\$19,854	(44.5%)

### Schedule of Employer Contributions

Fiscal Year	Annual Required Contribution * (ARC)	% ARC Contributed
(1)	(2)	(3)
2003	3.98%	100%
2002	1.55%	100%
2001	1.79%	100%
2000	13.40%	100%
1999	14.05%	100%
1998	14.20%	100%

\*As a percent of covered payroll. The amortization period for 2003 is 13 years.

#### Notes to Schedules

Actuarial Method: Individual Entry Age Normal.

Actuarial Assumptions: Please see pages 25 through 29 for a description of the current assumptions.

Trend Factors: There was no significant change in the population size during 2003. There were no significant plan changes since the last valuation.

# SUMMARY OF JUDICIAL DIVISION RESULTS

---

## Changes in Unfunded Actuarial Accrued Liabilities During Calendar 2003

	<u>\$ in Millions</u>
1. Beginning of Year:	
a) Unfunded Actuarial Accrued Liabilities (UAAL)	\$ 2.8
b) Normal Cost	4.7
c) Total Contribution required to pay Normal Cost and amortize the UAAL over 40 years	4.8
d) Actual Total Contribution (excluding service purchases)	3.0
2. End of Year:	
a) Expected UAAL, from last year's valuation: (1a) x 1.0875 + (1b) x 1.04375 - (1c) x 1.04375	\$ 2.9
b) Expected UAAL based on actual contribution (1a) x 1.0875 + (1b) x 1.04375 - (1d) x 1.04375	4.8
c) Increase in UAAL due to Contribution Deficiency (2b)-(2a)	1.9
3. Gains (Losses) on year's activities:	
a) From differences between assumed and actual experience on liabilities	\$ (3.7)
b) From differences between assumed and actual experience on assets	(13.0)
c) From service purchases	(6.6)
d) From change in assumptions	<u>(3.6)</u>
e) Total (a) + (b) + (c) + (d)	\$ (26.9)
4. Actual UAAL at end of year (2a) + (2c) - (3e)	\$ 31.7

## SUMMARY OF JUDICIAL DIVISION RESULTS

### Gains & Losses in Actuarial Accrued Liabilities During Calendar Year 2003

<u>Type of Activity</u>	Gain (Loss) For Year	
	<u>\$ in Millions</u>	<u>% of Beginning of Year Accrued Liabilities</u>
<b>-----Decrement Risk Areas-----</b>		
<u>Service Retirements.</u> If members retire at older ages than assumed, there is a gain. If younger ages, a loss. Service purchases at less than full actuarial cost also produce a loss.	(\$5.2)	(3.14%)
<u>Disability Retirements.</u> If disability claims are less than assumed, there is a gain. If more claims, a loss.	0.0	0.00
<u>Deaths.</u> If survivor claims are less than assumed, there is a gain. If more claims, a loss. If retirees live longer than assumed, there is a loss; if they die sooner than assumed, there is a gain.	1.2	0.72
<u>Withdrawals.</u> If more actuarial liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	0.4	0.24
<u>New Entrants.</u> New members enter the plan with some service, causing a loss.	(2.1)	(1.27)
<u>Other.</u> Change in group size, service credit reinstatements, actuarial systems, data adjustments and miscellaneous unidentified changes in the UAAL.	0.6	0.36
<b>-----Economic Risk Areas-----</b>		
<u>Salary Increases.</u> If there are smaller salary increases than assumed, there is a gain. If greater increases, a loss.	1.4	0.85
<u>Investment Income.</u> If there is greater investment income than assumed, there is a gain. If less income, a loss.	<u>(13.0)</u>	<u>(7.85)</u>
Experience Gain (or Loss) During Year	(\$16.7)	(10.09%)

## **POSTRETIREMENT HEALTH CARE PROGRAM**

# SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

## Valuation Highlights

The December 31, 2003 actuarial valuation indicates that the contribution rate is sufficient to fully fund the costs of benefit commitments being made to members and benefit recipients. After satisfying normal cost requirements, the remainder of the employer rate is sufficient to fund the unfunded portion of the actuarial accrued liabilities over 34 years. During the 2004 legislative session, SB 04-132 was passed, reducing the employer contribution rate from 1.10% to 1.02%.

# SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

## Summary of Data Used in Valuation

<u>Group</u>	<u>Number</u>
Active Members	170,991
Inactive Members	11,951
Benefit Recipients	<u>36,670</u>
Total	218,508
Average Age – Active Members	44.0 years
Average Service – Active Members	8.6 years
Average Age – Benefit Recipients	70.2 years



## SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

### Development of Actuarial Value of Assets

	<u>(\$ Thousands)</u>
1. Actuarial Value December 31, 2002	\$161,700
2. Market Value December 31, 2003	159,959
3. Market Value December 31, 2002	131,256
4. Cash Flow During 2003	(4,741)
5. Expected Return During 2003: (1) x .0875 + (4) x .04375	13,941
6. Expected Actuarial Value of Assets: (1)+(4)+(5)	170,900
7. 2003 Phase-In Amount: (2)-(3)-(4)-(5)	19,503
8. Prior Years Phase-In	
- 2002	(30,846)
- 2001	(21,606)
- 2000	<u>(8,988)</u>
- Total	(61,440)
9. Actuarial Value of Assets, December 31, 2003: (6) + .25 x [(7)+(8)]	\$160,416

## SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

### Allocation of Actuarial Present Values (\$ in Thousands)

Actuarial Present Value, December 31, of (1)	Actuarial Present Value of Future Benefits (2)	Portion Covered by Future Normal Cost Contributions (3)	Actuarial Accrued Liabilities (2)-(3) (4)
Active Members	\$544,598	\$115,111	\$429,487
Benefit Recipients	450,935	0	450,935
Inactive Members	<u>17,039</u>	<u>0</u>	<u>17,039</u>
Total	\$ 1,012,572	\$115,111	\$897,461
Assets Used in Valuation			\$160,416
Unfunded Actuarial Accrued Liabilities			\$737,045
Ratio of Assets to Liabilities			17.9%

# SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

## Changes in Unfunded Actuarial Accrued Liabilities

### During Calendar Year 2003

	<u>\$ in Millions</u>
1. Beginning of Year:	
a) Unfunded Actuarial Accrued Liabilities (UAAL)	\$ 651.5
b) Normal Cost	20.2
c) Total Contribution required to pay Normal Cost and amortize the UAAL over 40 years	49.9
d) Actual Total Contribution (excluding service purchases)	65.7
2. End of Year:	
a) Expected UAAL, from last year's valuation: (1a) x 1.0875 + (1b) x 1.04375 - (1c) x 1.04375	\$ 677.5
b) Expected UAAL based on actual contribution (1a) x 1.0875 + (1b) x 1.04375 - (1d) x 1.04375	661.0
c) (Decrease) in UAAL due to Excess Contribution (2b)-(2a)	(16.5)
3. Gains (Losses) on year's activities:	
a) From differences between assumed and actual experience on liabilities	\$ (8.0)
b) From differences between assumed and actual experience on assets	(11.8)
c) From service purchases	(35.9)
d) From change in assumptions	<u>(20.3)</u>
e) Total (a) + (b) + (c) + (d)	\$ (76.0)
4. Actual UAAL at end of year (2a) + (2c) - (3e)	\$ 737.0

## SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

### Gains & Losses in Actuarial Accrued Liabilities During Calendar Year 2003

<u>Type of Activity</u>	Gain (Loss) For Year	
	<u>\$ in Millions</u>	<u>% of Beginning of Year Accrued Liabilities</u>
<b>-----Decrement Risk Areas-----</b>		
<u>Service Retirements.</u> If members retire at older ages than assumed, there is a gain. If younger ages, a loss.	(\$10.9)	(1.34%)
<u>Disability Retirements.</u> If disability claims are less than assumed, there is a gain. If more claims, a loss.	(0.7)	(0.08)
<u>Deaths.</u> If survivor claims are less than assumed, there is a gain. If more claims, a loss. If retirees live longer than assumed, there is a loss; if they die sooner than assumed, there is a gain.	(0.9)	(0.11)
<u>Withdrawal.</u> If more actuarial liabilities are released by terminations than assumed, there is a gain. If smaller releases, a loss.	3.0	0.37
<u>New Entrants.</u> New members enter the plan with some service, causing a loss.	(1.1)	(0.13)
<u>Other.</u> Change in group size, participation changes, change in actuarial systems, data adjustments and miscellaneous unidentified changes in the UAAL.	2.6	0.32
<b>-----Economic Risk Areas-----</b>		
<u>Investment Income.</u> If there is greater investment income than assumed, there is a gain. If less income, a loss.	<u>(11.8)</u>	<u>(1.45)</u>
Experience Gain (or Loss) During Year	(\$19.8)	(2.41%)

# SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

## Employer Contribution Rate

### Expressed as Percent of Active Member Payroll

<u>Contribution For</u>	<u>Contributions Expressed as Percents of Payroll</u>
Normal Cost	0.35%
Member Current Contributions	0.00
Employer Normal Cost	0.35%
Employer Contribution Rate	
Statutory Rate	1.02%
Additional from Overfunding	<u>0.00%</u>
Total	1.02%
Percent Available to Amortize Unfunded Actuarial Accrued Liabilities (UAAL)	0.67%
Number of Years to Amortize UAAL	34

## SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

### Actuarial Present Value of Accumulated Plan Benefits

	<u>\$ in Thousands</u>
Vested Benefits	
For retired lives	\$450,935
For others	236,424
Non-vested Benefits	<u>185,993</u>
Actuarial Present Value of Accumulated Plan Benefits	\$873,352

The actuarial present value of accumulated plan benefits as of December 31, 2002, was \$768.3 million. During the year, the plan experienced a net increase of \$105 million in the actuarial present value of accumulated plan benefits.

The actuarial present values presented above were determined using the following assumptions:

- a) Future salary increases were not considered.
- b) Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
- c) Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability and investment return.

### Active Member Counts

Vested	93,446
Non-Vested	<u>77,545</u>
Total	170,991

# SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

## GASB 26

### Schedule of Funding Progress

(in thousands)

Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Funded Ratio	Covered Payroll	UAAL/ Covered Payroll
(1)	(2)	(3)	(4)	(5)	(6)	(7)
12-31-03	\$160,416	\$897,461	\$737,045	17.9%	\$5,645,468	13.1%
12-31-02	\$161,700	\$813,211	\$651,511	19.9%	\$5,779,703	11.3%
12-31-01	\$138,198	\$782,961	\$644,763	17.7%	\$5,415,327	11.9%
12-31-00	\$116,034	\$809,709	\$693,675	14.3%	\$4,982,543	13.9%
12-31-99	\$100,825	\$782,698	\$681,873	12.9%	\$4,709,760	14.5%
12-31-98	\$82,929	\$591,222	\$508,293	14.0%	\$4,477,302	11.4%

### Schedule of Employer Contributions

Fiscal Year	Annual Required Contribution * (ARC)	% ARC Contributed
2003	1.16%	100%
2002	1.16%	100%
2001	1.48%	100%
2000	1.10%	100%
1999	0.95%	100%
1998	0.80%	100%

\*As a percent of covered payroll. The amortization period for 2003 is 20 years.

#### Notes to Schedules

Actuarial Method: Individual Entry Age Normal.

Actuarial Assumptions: Please see pages 25 through 29 for a description of the assumptions.

Trend Factors: There was no significant change in the population size during 2003. There were no significant plan changes since the last valuation.

## SUMMARY OF POSTRETIREMENT HEALTH CARE PROGRAM

---

### Subsidy Analysis

Year	Administration Expenses	Claims & HMO Premiums	Total Costs (2+3)	PERA Subsidy	
				Amount	Percentage (5 ÷ 4)
(1)	(2)	(3)	(4)	(5)	(6)
2003	\$4,872,077	\$120,813,632	\$125,685,709	\$67,275,292	54%
2002	\$4,571,820	\$113,897,967	\$118,469,787	\$62,727,337	53%
2001	\$4,564,519	\$98,907,833	\$103,472,352	\$58,476,718	57%
2000	\$3,530,456	\$73,800,252	\$77,330,708	\$47,101,648	61%
1999	\$3,317,163	\$61,661,514	\$64,978,677	\$38,532,513	59%
1998	\$3,191,006	\$59,203,630	\$62,394,636	\$37,406,245	60%
1997	\$3,153,438	\$56,497,909	\$59,651,347	\$36,532,399	61%
1996	\$3,318,988	\$53,783,023	\$57,102,011	\$35,514,502	62%