

***Arizona Corrections Officer  
Retirement Plan***

*Actuarial Valuation as of June 30, 2004*

October 19, 2004

The Fund Manager  
Arizona Corrections Officer Retirement Plan  
Phoenix, Arizona

Re: Arizona Corrections Officer Retirement Plan

This report contains the consolidated results of the June 30, 2004 actuarial valuation of the Arizona Corrections Officer Retirement Plan. The valuations determine the 2005-2006 Fiscal Year employer contribution requirements and the June 30, 2004 actuarial present values associated with the Plan.

Participant data was provided by your Administrator. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. Financial information was taken from the June 30, 2004 information submitted by your Administrator.

The valuations were made in accordance with generally accepted actuarial principles and practices. The demographic valuation assumptions are the same as those used for the June 30, 2003 valuations. The assumed rates of investment return and inflation have been decreased 0.25%, as adopted by the Fund Manager. The actuarial assumptions used in the valuations are reasonably related to the past experience of the Plan and represent reasonable expectations of long-term future experience under the Plan.

Respectfully submitted,



Sandra W. Rodwan  
Member, American Academy of Actuaries

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***Section One:***  
***Valuation Summary***



### **Purpose of Valuation**

The purpose of the annual actuarial valuation of the Arizona Corrections Officer Retirement Plan as of June 30, 2004 is to:

- ❖ Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members. This information is contained on page 9.
- ❖ Compare accrued assets with accrued liabilities to assess the funded condition. This information is contained on pages 6 and 11.
- ❖ Compute the employers' recommended contribution rates for the Fiscal Year beginning July 1, 2005. This information is contained on page 4 and 5.

This objective is stated in Article 4, Chapter 5, Title 38, Sections 843B and 848N of the Arizona Revised Statutes.

### **Liabilities and Funded Condition of Retirement Plan**

Accrued liabilities of the Retirement Plan as of June 30, 2004, were computed to be \$795,774,862. The funding value of accrued assets was \$833,620,994. The ratio of the funding value of accrued assets to accrued liabilities was 104.8%.

### **Funding Value of Assets**

A smoothed market value of assets was used for the June 30, 2004 valuation. This method spreads the difference between actual and expected investment return over seven years. Prior to the June 30, 2003 valuation, the difference was spread over four years.

### **Aggregate Computed Contribution Rate**

Contribution rates are computed individually for each participating unit. In the aggregate, the normal cost contribution rate was computed to be 14.55% of member payroll. Deducting member contributions of 8.50% of payroll resulted in an aggregate employer normal cost of 6.05% of payroll.

In the aggregate, the excess of accrued assets over accrued liabilities produced a temporary 20-year amortization credit of 0.58% of payroll.

The aggregate net employer contribution for FY 2005/2006 was therefore computed to be 5.47% of payroll. After the application of the 4.00% minimum contribution required for each unit by Statute, the aggregate net employer contribution is 5.52% of payroll.

**Retirement Plan Experience**

Experience of the Retirement Plan during the year ended June 30, 2004 was less favorable than assumed. Investment income was the primary source of unfavorable experience.

**Benefit Provision Changes**

There were no benefit provision changes in this valuation.

**Assumption and Method Changes**

The assumed rate of investment return was decreased to 8.75% from 9.0%, and the assumed rate of inflation was decreased to 5.25% from 5.5%, as adopted by the Fund Manager. There were no changes in methods.

**Participant Data**

	<u>6/30/2004</u>	<u>6/30/2003</u>
Active Members	11,583	10,964
Active Member Payroll	\$381,942,220	\$358,160,933
Retirees and Beneficiaries	1,536	1,363
Annual Pensions	\$26,261,143	\$21,653,042

**Financial Data**

	<u>6/30/2004</u>	<u>6/30/2003</u>
Smoothed Valuation Assets	\$879,533,619*	\$842,500,476*
Market Value of Assets	\$719,235,235	\$622,938,516

\* The net smoothed value of assets used for the valuation after deducting the Future Benefit Increase Reserve was \$833,620,994 in 2004 and \$811,791,293 in 2003.

## Comments, Recommendations and Conclusion

**Comment 1:** This report contains the consolidated results of the individual actuarial valuations of the 18 units in the Arizona Corrections Officer Retirement Plan as of June 20, 2004. The aggregate results are indicative of the overall condition of the Retirement System. The condition of each unit, however, is dependent upon its particular experience and characteristics.

Of the 18 units, 11 had accrued valuation assets in excess of actuarial accrued liabilities. The amount of this excess was amortized over a period of 20 years and applied as a temporary credit to the employer normal cost contribution rate. In the remaining 7 units, unfunded actuarial accrued liabilities were amortized over a 20-year period and added to the normal cost to produce the total employer contribution rate.

There were 3 new units included in this valuation.

**Comment 2:** The experience of the Retirement Plan during the year ended June 30, 2004, was less favorable than expected based upon the long-term assumptions. The market rate of return was favorable for the year. However, the recognized rate of investment return based on the smoothed market value reflects the unfavorable market conditions over prior years, and was the primary source of negative experience. The increases in the computed employer contribution rates and the decrease in the funded ratio are primarily attributable to this experience.

**Comment 3:** The smoothed market value used for the valuation spreads differences between the assumed and actual investment return over 7 years. In the absence of actual investment return well in excess of the assumed rate or significant favorable experience in other risk areas, the employer contribution rates will continue to increase over the short term.

**Comment 4:** It is important to note that the funding credits are not expected to continue indefinitely and are likely to decrease over the short term. ***For long-term budgeting, the employer normal cost should be viewed as the minimum annual cost.*** The normal cost is computed separately for each unit. In the aggregate, the employer normal cost has been computed to be 6.05% of payroll.

**Comment 5:** The 2004 legislature increased the minimum employer contribution rate to 4% from 2% effective for the fiscal year beginning July 1, 2005.

**Conclusion:** The accrued overall actuarial condition of the Retirement Plan continues to be excellent.

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***Section Two:***  
***Actuarial Calculations –  
Funding***





**Contribution Requirements – 2005/2006 Fiscal Year**

**Member:** 8.50% of covered compensation

**Employer:** The aggregate computed contribution rate before application of the statutory minimum was 5.47% of covered compensation, consisting of 6.05% for normal cost, (0.58)% for amortization of unfunded actuarial accrued liability\*.

**Components of Computed Normal Cost**

	<b>Percents of Covered Compensation</b>
Normal cost requirement	
Service pensions	9.21%
Disability pensions	0.70
Survivors of active members	1.21
Refunds of members' accumulated contributions	2.81
Health insurance	<u>0.62</u>
Total normal cost requirement	14.55%
Less member contribution	<u>8.50</u>
Employer normal cost requirement	6.05%

*\*In the aggregate, actuarial accrued liability, \$795,774,862, was exceeded by the funding value of accrued assets, \$833,620,994. Of the 18 units, 11 had assets in excess of accrued liabilities and 7 had unfunded accrued liabilities. The excess or the unfunded was amortized over 20 years and applied as a credit or an amortization payment, respectively.*

*These contribution rates are prior to the minimum 4.00% rate established for each unit by the State Legislature beginning with the 2005/2006 fiscal year. The total aggregate computed contribution after application of the minimum is 5.52 % of payroll.*

In past years, the experience of the Retirement Plan was significantly more favorable than assumed based on the long-term assumptions. This resulted in the credit which partially offsets the normal cost which otherwise would be payable. The normal cost should be viewed as the minimum long-term ongoing cost.

**Computed Employer Contribution Requirements**

<b>Valuation Date:</b> <b><u>June 30</u></b>	<b><u>Normal Cost</u></b>	<b><u>Unfunded Actuarial Accrued Liability</u></b>	<b><u>Total</u></b>
1990	5.74%	0.42%	6.16%
1995	7.18	(0.25)	6.93
1996	7.23	(0.60)	6.63
1997	6.94	(0.96)	5.98
1998	6.92	(1.78)	5.14
1999	4.92	(3.04)	1.88
2000*	4.90	(3.75)	1.15
2001*	5.79	(4.08)	1.71
2002*	6.79	(2.84)	3.95
2003*	5.74	(1.67)	4.07
<b>2004*</b>	<b>6.05</b>	<b>(0.58)</b>	<b>5.47</b>

\* *Computed contribution rates are before application of the 4.00% minimum employer contribution for each participating unit. Minimum rate established by State Legislature in 2004 for fiscal years beginning 2005/2006.*

**Actuarial Accrued Liability**

The total contribution is made up of two parts, the normal cost and the amortization of the unfunded actuarial accrued liability. For 11 of the participating units, the valuation assets exceed the actuarial accrued liability so they have a credit against the normal cost. The remaining 7 units have a contribution greater than the normal cost to pay for a portion of the past service liability. The Legislature has established a policy of amortizing, or funding, the unfunded actuarial accrued liability over an open period of 20 years.

The aggregate valuation assets exceed the actuarial accrued liability by \$37,846,132.

	<b>June 30, 2004</b>
Actuarial Accrued Liability	
Retired members and survivors	\$278,402,721
Former members with vested benefits	8,662,282
Active members	<u>508,709,859</u>
Total	\$795,774,862
Valuation Assets*	833,620,994
Unfunded Actuarial Accrued Liability	\$(37,846,132)

*\* This amount excludes the \$45,912,625 in investment income reserve held for future pension increases pursuant to state statute.*

**History of Assets and Accrued Liabilities**

<b>Valuation Date <u>June 30</u></b>	<b>Valuation <u>Assets</u></b>	<b>Actuarial Accrued <u>Liabilities</u></b>	<b>Funded <u>Ratio</u></b>	<b>Unfunded Actuarial Accrued <u>Liabilities</u></b>	<b>Financing <u>Period</u></b>
1987	\$47,550	\$68,932	69%	\$21,382	40 yrs
1990	108,973	122,578	88.9	13,605	40
1995	265,006	254,189	104.3	(10,817)	34
1996	319,255	290,518	109.9	(28,737)	33
1997	393,904	355,590	110.8	(38,314)	20
1998	484,956	410,531	118.1	(74,425)	20
1999	592,152	443,676	133.5	(148,476)	20
2000	704,991	501,323	140.6	(203,668)	20
2001	776,177	554,387	140.0	(221,790)	20
2002	782,446	632,238	123.8	(150,208)	20
2003	811,791	709,298	114.4	(102,493)	20
<b>2004</b>	<b>833,621</b>	<b>795,775</b>	<b>104.8</b>	<b>(37,946)</b>	<b>20</b>

*Dollar amounts in \$000.*

**Results shown throughout this report for years prior to 2001 were prepared by the previous actuarial firm.**

**Aggregate Gain/Loss**

	<b><u>Year Ended June 30, 2004</u></b>
(1) UAAL <sup>a</sup> at start of year	\$(102,493,295)
(2) Normal cost	54,609,992
(3) Funding method contributions	(46,717,914)
(4) Interest accrual	(8,869,253)
(5) Expected UAAL before changes	(103,470,470)
(6) Change from assumption and method revisions*	19,400,000
(7) Expected UAAL after changes	(84,070,470)
(8) Actual UAAL	(37,846,132)
(9) Gain(Loss)	(46,224,338)
(10) Percent of AAL <sup>b</sup>	6.5%

\*Estimate

<sup>a</sup> Unfunded Actuarial Accrued Liability

<sup>b</sup> Actuarial Accrued Liability at beginning of year

**Aggregate Actuarial Balance Sheet June 30, 2004****Actuarial Assets**

Accrued Assets	
Member accumulated contributions	\$165,145,474
Employer and benefit payment reserves	496,463,027
Funding value adjustment	<u>217,925,118</u>
Total accrued assets*	\$879,533,619
Prospective assets (computed value)	
Member contributions	251,771,907
Employer normal costs	137,566,705
Employer unfunded actuarial accrued liability	<u>(37,846,132)</u>
Total prospective assets	<u>351,492,480</u>
Total Actuarial Assets	<u><u>\$1,231,026,099</u></u>

\* Includes \$45,912,625 reserve for payment of ad-hoc pension increases. The net funding value of assets is \$833,620,994.

**Actuarial Present Values (Liability)**

Pensions in payment status	
Service pensions	\$186,006,604
Disability pensions	19,709,227
Survivor pensions	49,556,821
Health insurance	<u>23,130,069</u>
Total benefit values	\$278,402,721
Prospective pension payments (future retirements)	810,591,085
Prospective health insurance payments (future retirements)	43,253,565
Prospective refunds of member contributions	52,866,103
Reserve for future pension increases	<u>45,912,625</u>
Total Actuarial Present Values (Liability)	<u><u>\$1,231,026,099</u></u>

**Employer Contribution Requirements**  
**2005/2006 Fiscal Year**  
**Expressed as Percents of Covered Compensation**

<u>Employer</u>	<u>Normal Cost</u>	<u>Amort. of Unf. Act. Accr. Liability</u>	<u>Total Computed Emp. Contrib. Requirement</u>	<u>Total Required Emp. Contrib. Requirement</u>
Apache County Corrections Officers	6.10%	(0.70)%	5.40%	5.40%
Cochise County Corrections Officers	6.88	(1.39)	5.49	5.49
Coconino County Corrections Officers	5.53	(1.80)	3.73	4.00
Department of Corrections	6.09	(0.58)	5.51	5.51
Department of Juvenile Corrections	6.45	(0.89)	5.56	5.56
Gila County Corrections Officers	5.40	2.88	8.28	8.28
Gila County Dispatchers	3.61	7.93	11.54	11.54
Maricopa County Corrections Officers	5.95	(0.75)	5.20	5.20
Mohave County Corrections Officers	5.86	(5.25)	0.61	4.00
Navajo County Corrections Officers	6.26	(2.57)	3.69	4.00
Pima County Corrections Officers	5.76	0.83	6.59	6.59
Pinal County Corrections Officers	4.99	1.19	6.18	6.18
Pinal County Dispatchers	4.10	(0.38)	3.72	4.00
Santa Cruz County Corrections Officers	6.32	(6.32)	0.00	4.00
Town of Marana Dispatchers	2.36	3.67	6.03	6.03
Town of Oro Valley Dispatchers	5.56	2.59	8.15	8.15
Yavapai County Corrections Officers	6.14	0.11	6.25	6.25
Yuma County Corrections Officers	5.22	(2.78)	2.44	4.00
<b>Totals</b>	<b>6.05%</b>	<b>(0.58)%</b>	<b>5.47%</b>	<b>5.52%</b>

\* Twenty years from July 1, 2004.

**Actuarial Accrued Liability – Valuation Assets – Amortization Payment**

	<b>Actuarial Accrued Liability</b>	<b>Valuation Assets</b>		<b>Emp. Unf. Act. Acc. Liability</b>	<b>Amortization Payment*</b>
		<b>Members</b>	<b>Employers</b>		
Apache County Corrections Officers	\$870,326	\$171,389	\$766,191	\$(67,254)	0.00%
Cochise County Corrections Officers	3,643,207	781,777	3,269,527	(408,097)	0.00
Coconino County Corrections Officers	1,903,311	778,260	1,793,470	(668,419)	0.00
Department of Corrections	564,889,224	118,870,843	472,612,605	(26,594,224)	0.00
Department of Juvenile Corrections	53,483,771	11,305,320	46,239,946	(4,061,495)	0.00
Gila County Corrections Officers	709,363	28,829	41,788	638,746	2.88
Gila County Dispatchers	686,994	10,837	21,967	654,190	7.93
Maricopa County Corrections Officers	103,874,650	19,926,432	89,813,767	(5,865,549)	0.00
Mohave County Corrections Officers	2,041,941	516,014	3,236,331	(1,710,404)	0.00
Navajo County Corrections Officers	1,110,061	267,424	1,221,357	(378,720)	0.00
Pima County Corrections Officers	41,741,217	7,636,767	31,899,838	2,204,612	0.83
Pinal County Corrections Officers	5,336,691	1,104,574	3,468,915	763,202	1.19
Pinal County Dispatchers	742,829	180,840	589,669	(27,680)	0.00
Santa Cruz County Corrections Officers	661,943	176,535	1,062,890	(577,482)	0.00
Town of Marana Dispatchers	276,851	27,098	29,482	220,271	3.67
Town of Oro Valley Dispatchers	754,617	382,274	186,549	185,794	2.59
Yavapai County Corrections Officers	6,813,658	1,538,168	5,158,788	116,702	0.11
Yuma County Corrections Officers	6,234,208	1,442,093	7,062,440	(2,270,325)	0.00
<b>Totals</b>	<b>\$795,774,862</b>	<b>\$165,145,474</b>	<b>\$668,475,520</b>	<b>\$(37,846,132)</b>	<b>(0.58)%</b>

\*Twenty years from July 1, 2004.





***Section Three:***

***Retirement Plan  
Benefit Provisions***



## Summary of Plan Provisions Valued and/or Considered

**Normal Retirement (no reduction for age).** A corrections officer may retire upon meeting one of the following age and service requirements:

- a) Any age with 20 (25 for dispatchers) or more years of credited service (effective August 9, 2001);
- b) Age 62 years with 10 or more years of credited service;
- c) A combination of age and credited service equal to 80 (effective July 1, 1995).

The amount of normal pension at 20 years of credited service is 50% of average monthly salary with 2% increments for every year over 20 years of credited service up to 25 years of credited service. With 25 or more years of credited service the accrual rate is 2.5% for each year. Maximum is 80% of average monthly salary.

**Early Retirement: (reduction for age).** No provision.

**Vested Termination (deferred retirement):** A corrections officer may be eligible for deferred retirement after completion of 10 or more years of credited service if member contributions are left on deposit in the plan. The amount of deferred pension is determined in the same manner as a normal retirement pension based on credited service, compensation and benefit provisions at the time of termination.

**Disability Retirement.** A corrections officer who is injured in the performance of his duties which totally and permanently prevent him from performing a reasonable range of duties in his department and was the result of either physical contact with an inmate, responding to a confrontational situation with an inmate or a job-related motor vehicle accident may be retired under accidental disability. A corrections officer who becomes incapacitated for any gainful employment, as the direct and proximate result of performance of duty as a corrections officer, may be retired by the fund manager under a total and permanent disability. The amount of pension for both types of disability is 50 percent of average monthly salary.

**Survivor Pensions:** Payable to the eligible beneficiary of a retired corrections officer or an active corrections officer. An eligible beneficiary is a surviving spouse who was married to the retired or active corrections officer for at least two years. A surviving spouse's pension terminates upon death. The amount of a surviving spouse's pension is 80% of the pension being paid the deceased retired corrections officer and 40% (100% if duty-related) of the average monthly salary of the deceased active corrections officer. Eligible surviving children are paid equal shares of the pension which would have been payable to a surviving spouse if a surviving spouse pension is not being paid. If no pension is payable because of the death of an active member, a refund of twice the member's accumulated contributions is paid to the beneficiary.

**Other Terminations.** The member is paid a refund of accumulated member contributions, plus an additional amount if the member has at least five years of service credit. The additional amount is a percent, based on service credit, of the member contribution amount, ranging from 25% (with five years of service credit) to 100% (with 10 or more years of service credit).

**Post-Retirement Adjustments.** Pensions payable to retirees or beneficiaries who have been on the retirement rolls for at least two years or are age 55 or older and were on the retirement rolls on June 30 of the previous year may receive pension increases up to 4%. Increases are subject to the level of investment income earned.

**Post-Retirement Health Insurance Subsidy:** Payable on behalf of retired members and survivors who elect coverage provided by the state or participating employer. The amounts cannot exceed:

<b>Member Only</b>		<b>With Dependents</b>		
<b>Not Medicare Eligible</b>	<b>Medicare Eligible</b>	<b>All Not Medicare Eligible</b>	<b>All Medicare Eligible</b>	<b>One With Medicare</b>
\$150	\$100	\$260	\$170	\$215

**Member Contributions.** 8.50 % of base salary.

**Employer Contributions.** Level percent of payroll normal cost plus 20 year amortization of unfunded actuarial accrued liability.



***Section Four:***

***Actuarial Assumptions  
And Methods***



**Summary of Valuation Assumptions**

***Economic Assumptions***

***Interest Rate:*** 8.75% (net of expenses)

***Salary Increases:*** 5.25% for inflation and 1% for other across-the-board increases, plus age-related merit and longevity.

**Sample Annual Rates of Salary Increase**

<b>Age</b>	<b>Across-the-Board</b>	<b>Merit and Longevity</b>	<b>Other</b>	<b>Total</b>
20	5.25%	3.0%	1.0%	9.25%
25	5.25	3.0	1.0	9.25
30	5.25	2.6	1.0	8.85
35	5.25	1.1	1.0	7.35
40	5.25	0.2	1.0	6.45
45	5.25	0.2	1.0	6.45
50	5.25	0.2	1.0	6.45
55	5.25	0.1	1.0	6.35
60	5.25	-	1.0	6.25
65	5.25	-	1.0	6.25

**Demographic Assumptions**

**Non-Disability Mortality rates:** 1971 Group Annuity Mortality Table Projected to 2000 (Male), female ages set back six years. (first used for June 30, 1999 valuation.)

**Disability Mortality Rates:** 1971 Group Annuity Mortality Table Projected to 1984 (Male), female ages set back six years.

Sample Ages	Single Life Retirement Values							
	Non-Disability Table		Disability Table		Non-Disability Table		Disability Table	
	Present Value of \$100 Monthly For Life		Present Value of \$100 Monthly For Life		Future Life Expectancy (Years)		Future Life Expectancy (Years)	
	Men	Women	Men	Women	Men	Women	Men	Women
20					56.90	62.76	56.03	61.88
25					52.02	57.88	51.16	57.00
30					47.16	53.00	46.32	52.13
35					42.33	48.13	41.50	47.28
40	\$13,277	13,642	\$13,204	\$13,591	37.55	43.30	36.73	42.46
45	12,845	13,349	12,748	13,280	32.84	38.50	32.06	37.68
50	12,293	12,941	12,170	12,850	28.32	33.77	27.57	32.98
55	11,607	12,413	11,458	12,296	24.02	29.21	23.33	28.45
60	10,744	11,756	10,571	11,612	19.94	24.86	19.32	24.16
65	9,686	10,932	9,498	10,764	16.13	20.74	15.59	20.10
70	8,487	9,912	8,302	9,727	12.73	16.86	12.30	16.31
75	7,255	8,732	7,092	8,545	9.86	13.37	9.54	12.92
80	5,986	7,508	5,854	7,339	7.44	10.40	7.22	10.06
85	4,879	6,231	4,789	6,092	5.61	7.87	5.48	7.64
90	3,939	5,085	3,891	4,986	4.24	5.93	4.18	5.79

**Termination of Employment:** Service-related rates for first five years of employment and age-related rates after first five years of employment. The sample rates are as follows:

Sample Ages	Years of Service	Percent of Active Members	
		Separating Within the Year	Disabled Within the Year
All	0	30.0%	(all years of service)
	1	25.0	
	2	20.0	
	3	15.0	
	4	12.0	
25	5 and over	7.0	0.08%
30		7.0	0.10
35		7.0	0.12
40		6.0	0.25
45		6.0	0.33
50		5.0	0.40
55		5.0	0.47
60	5.0	0.50	

*Rates first used for June 30, 1999 valuation*

**Retirement Rates:** Age-related rates based on the following schedule:

**Percent of Active Members Retiring within Year  
Following Attainment of Indicated Retirement Age**

<b>Age</b>	<b>Percent of Active Members Retiring During Next Year</b>
40-44	25%
45	25
46	25
47	25
48	25
49	25
50	25
51	25
52	25
53	25
54	25
55	25
56	25
57	25
58	25
59	25
60	30
61	30
62	40
63	40
64	40
65	100

Active members are eligible to retire at any age with 20 (25 for dispatchers) years of service, at age 62 with 10 years of service or when the sum of age and service equals at least 80.

These rates, adopted by the Fund Manager, as recommended by the Plan's actuary, were first used for the June 30, 1999 valuations.



### **Actuarial Method Used for the Valuation**

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

- ❖ The annual normal costs for each individual active member, payable from date of hire to date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;
- ❖ Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

**Actuarial Accrued Liability.** The actuarial accrued liability allocated to service rendered prior to the valuation date, including experience gains and losses, was computed using the assumptions summarized in this report. Accrued valuation assets were subtracted from the computed actuarial accrued liability. Any unfunded amount would be amortized as level percent of payroll over an open period of 20 years. If accrued valuation assets exceed the actuarial accrued liability, the excess is amortized over an open period of 20 years and applied as a credit to reduce the normal cost which otherwise would be payable.

Active member payroll was assumed to increase 6.25% annually for the purpose of computing the amortization payment (credit) as a level percent of payroll.



***Section Five:***  
***Valuation Data***



### Derivation of Funding Value of Pension Fund Assets

Values as of June 30

	<u>2000</u>	<u>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>
<b>Beginning of Year</b>					
(1) Book Value	\$519,862,469	\$588,205,472	\$631,938,840	\$646,861,802	\$587,318,350
(2) Market Value	696,231,350	807,765,880	683,192,443	586,328,472	622,938,516
(3) Funding Value	634,606,216	764,775,466	821,997,262	816,897,977	842,500,476
<b>End of Year</b>					
(4) Market Value	807,765,880	683,192,443	586,328,472	622,938,512	719,235,235
(5) Net Addition to Assets, Exc. Inv. Income	18,762,353	13,986,319	4,322,458	(1,298,955)	5,408,517
(6) Total Net Investment Income = (4) - (2) - (5)	92,772,177	(138,559,756)	(101,186,429)	37,908,995	90,888,202
(7) Projected Net Rate of Return	9.00%	9.00%	9.00%	9.00%	9.00%
(8) Projected Investment Income = (7) x [(3) + .5 x (5)]	57,958,865	69,459,176	74,174,264	73,462,365	76,068,426
(9) Investment Income in Excess of Proj.	34,813,312	(208,018,932)	(175,360,693)	(35,553,370)	14,819,776
(9a) Allocation to Future Benefit Increase Reserve (Actual)	14,971,383	-	-	-	-
(9b) Allocation to Funding Value of Assets ((9) - (9a))	19,841,929	(208,018,932)	(175,360,693)	(35,553,370)	14,819,776
(10) Excess Investment Income Recognized *					
(10a) From Current Year = (9b) / 7 in 2003 and after	4,960,482	(52,004,733)	(43,840,173)	(5,079,052)	2,117,111
(10b) From One Year Prior	7,288,417	4,960,482	(52,004,733)	(21,920,087)	(5,079,052)
(10c) From Two Years Prior	13,532,135	7,288,417	4,960,482	(20,801,893)	(21,920,087)
(10d) From Three Years Prior	12,695,615	13,532,135	7,288,417	1,240,121	(20,801,893)
(10e) From Four Years Prior					1,240,121
(10f) From Five Years Prior					
(10g) From Six Years Prior					
(10h) From Seven Years Prior					
(11) Change in Funding Value = (5) + (8) + (9a) + (10) [a..h]	130,169,250	57,221,796	(5,099,285)	25,602,499	37,033,143
<b>End of Year Values</b>					
(12) Book Value	588,205,472	631,618,088	646,861,802	587,318,350	615,695,876
(4) Market Value	807,765,880	683,192,443	586,328,472	622,938,516	719,235,235
(13) Preliminary Funding Value (3) + (11)	764,775,466	821,997,262	816,897,977	842,500,476	879,533,619
(14) Future Benefit Increase Reserve	59,784,889	45,820,054	34,452,064	30,709,183	45,912,625
(15) Funding Value (13) - (14)	704,990,577	776,177,208	782,445,913	811,791,293	833,620,994
(16) Funding Value Adjustment (15) - (12)	116,785,105	144,559,120	135,584,111	224,472,943	217,925,118

\*Four year recognition through June 30, 2002. Beginning with the June 30, 2003 valuation, seven year recognition was used for the current year. The remaining amount from the prior year is recognized over 6 years, from the second prior year over 5 years, from the third prior year over 4 years, from the fourth prior year over 3 years, from the fifth prior year over 2 years, and from the sixth prior year over 1 year.

**Participant Summary**

<b><u>Pensions Being Paid</u></b>	<b><u>Number</u></b>	<b><u>Annual Pensions</u></b>	<b><u>Average Pensions</u></b>
Retired Members			
Service Pensions	1,138	\$20,744,701	\$18,229
Disabilitiy Pensions	107	2,028,683	18,960
Totals	1,245	22,773,384	18,292
Survivors			
Spouses	273	3,305,880	12,109
Children with Guardians*	18	181,879	10,104
Totals	291	3,487,759	11,985
<b>Total Pensions Being Paid</b>	<b>1,536</b>	<b>\$26,261,143</b>	<b>\$17,097</b>

**Averages**

	<b><u>Average Age</u></b>	<b><u>Average Service</u></b>	<b><u>Average Retirement Age</u></b>
	<b>(Years)</b>	<b>(Years)</b>	<b>(Years)</b>
Service Retired Members	63.7	17.6	58.5
Disability Retired Members	53.1	13.3	47.3
Spouse Beneficiaries	59.7	10.5	51.0

**Summaries of Retired Members and Survivors  
June 30, 2004  
Tabulated by Attained Age of Recipient**

Attained Age	No.	Service Annual Pensions	No.	Disability Annual Pensions	No.	Survivors Annual Pensions	No.	Totals Annual Pensions
Children w/ Guardians		\$ -		\$ -	18	\$181,879	18	\$181,879
20-24	1	19,344	1	12,203	2	20,803	4	52,350
25-29					4	42,546	4	42,546
30-34			5	75,402	6	66,759	11	142,161
35-39			6	90,959	9	98,489	15	189,448
40-44	26	623,818	9	146,733	13	160,640	48	931,191
45-49	61	1,631,122	19	352,021	17	212,717	97	2,195,860
50-54	96	2,831,041	21	434,773	30	395,390	147	3,661,204
55-59	141	3,921,401	17	380,213	39	529,819	197	4,831,433
60-64	211	3,935,495	11	259,554	49	623,426	271	4,818,475
65-69	305	4,307,785	10	174,319	47	543,801	362	5,025,905
70-74	198	2,372,150	4	52,137	29	324,429	231	2,748,716
75-79	80	920,408	3	43,410	21	217,845	104	1,181,663
80 and Over	19	182,137	1	6,959	7	69,216	27	258,312
<b>Totals</b>	<b>1,138</b>	<b>\$20,744,701</b>	<b>107</b>	<b>\$2,028,683</b>	<b>291</b>	<b>\$3,487,759</b>	<b>1,536</b>	<b>\$26,261,143</b>

## Pensions Being Paid

<b>Valuation Date June 30</b>	<b>No.</b>	<b>Annual Pensions</b>	<b>% Incr. in Annual Pensions</b>	<b>Average Pension</b>	<b>Present Value of Pensions</b>	
					<b>Total</b>	<b>Average</b>
1987	15	\$ 103,522	- %	\$6,901	\$982,116	\$65,474
1990	115	765,738	34.0	6,659	7,150,080	62,175
1995	435	3,456,705	27.5	7,946	34,140,660	78,484
1996	504	4,274,602	23.7	8,481	41,777,424	82,892
1997	598	5,305,705	24.1	8,872	52,028,400	87,004
1998	708	6,884,614	29.8	9,724	66,342,827	93,705
1999	825	9,642,797	40.1	11,688	89,514,713	108,503
2000	925	11,042,151	14.5	11,937	107,650,253	116,379
2001	1,040	13,446,069	21.8	12,929	124,247,094	119,468
2002	1,218	17,660,064	31.3	14,499	166,073,532	136,349
2003	1,363	21,653,042	22.6	15,886	201,489,450	147,828
<b>2004</b>	<b>1,536</b>	<b>26,261,143</b>	<b>21.3</b>	<b>17,097</b>	<b>255,272,652</b>	<b>166,193</b>

## Retired Members and Survivors – By Employer

	<u>Retired Members</u>				<u>Survivors</u>		<u>Totals</u>		
	<u>Service</u>		<u>Disability</u>		<u>No.</u>		<u>No.</u>		
	<u>No.</u>	<u>Annual Pensions</u>	<u>No.</u>	<u>Annual Pensions</u>	<u>Spouse</u>	<u>Child with Guardian</u>	<u>Annual Pensions</u>	<u>No.</u>	<u>Annual Pensions</u>
Apache County Corrections Officers	1	\$24,496	1	\$12,683			\$ -	2	\$37,179
Cochise County Corrections Officers	12	117,948			3		20,906	15	138,854
Coconino County Corrections Officers			1	15,171				1	15,171
Department of Corrections	824	14,821,239	59	1,160,226	201	17	2,609,415	1,101	18,590,880
Department of Juvenile Corrections	71	1,546,069	4	87,002	19	1	229,470	95	1,862,541
Gila County Corrections Officers									
Gila County Dispatchers									
Maricopa County Corrections Officers	153	2,906,967	22	430,857	29		365,180	204	3,703,003
Mohave County Corrections Officers	4	37,328	2	26,064	1		10,622	7	74,014
Navajo County Corrections Officers	2	26,160			1		8,914	3	35,074
Pima County Corrections Officers	47	903,154	15	247,151	12		153,156	74	1,303,460
Pinal County Corrections Officers	1	27,867	1	17,852	1		11,374	3	57,092
Pinal County Dispatchers									
Santa Cruz County Corrections Officers	1	16,345						1	16,345
Town of Marana Dispatchers									
Town of Oro Valley Dispatchers									
Yavapai County Corrections Officers	15	188,495	1	15,702	5		69,292	21	273,489
Yuma County Corrections Officers	7	128,634	1	15,974	1		9,431	9	154,039
<b>Totals</b>	<b>1,138</b>	<b>\$20,744,701</b>	<b>107</b>	<b>\$2,028,683</b>	<b>273</b>	<b>18</b>	<b>\$3,487,759</b>	<b>1,536</b>	<b>\$26,261,143</b>

## Active Members Included in Valuation

## Historical Schedule

Valuation Date	Partic. Units	Active Members	Valuation Payroll (+000)	Average			
				Age (Yrs.)	Service (Yrs.)	Pay	% Increase in Avg. Pay
6-30-87		4,936	\$102,910	38.0	3.5	\$ 20,849	- %
6-30-90	11	6,478	136,693	37.8	4.4	21,101	(2.0)
6-30-95	12	8,365	198,603	38.2	5.3	23,742	4.6
6-30-96	12	8,945	224,686	38.0	5.2	25,119	5.8
6-30-97	12	9,728	249,203	38.1	5.3	25,617	2.0
6-30-98	12	9,571	261,700	38.2	5.5	27,343	6.7
6-30-99	12	10,901	305,478	37.8	5.2	28,023	2.5
6-30-00	12	11,290	339,440	38.1	5.3	30,066	7.3
6-30-01	12	11,047	339,783	38.1	5.6	30,758	2.3
6-30-02	12	10,464	330,428	38.7	6.0	31,578	2.7
6-30-03	15	10,964	358,161	38.8	6.0	32,667	3.4
<b>6-30-04</b>	<b>18</b>	<b>11,583</b>	<b>381,942</b>	<b>38.7</b>	<b>6.0</b>	<b>32,974</b>	<b>0.9</b>



**Active Members – June 30, 2004  
Age and Service Distribution**

Attained Age	Service							No.	Valuation Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	Over 30		
Under 20	54							54	\$1,583,242
20-24	1,063	9						1,072	29,892,447
25-29	1,445	310						1,755	52,137,819
30-34	1,212	661	134	3				2,010	63,333,811
35-39	824	435	259	88				1,606	53,048,582
40-44	634	372	246	226	27			1,505	51,929,286
45-49	551	284	179	199	63	11		1,287	45,259,120
50-54	386	257	158	157	62	21	2	1,043	37,978,679
55-59	259	185	135	157	47	11		794	29,605,973
60-64	109	102	60	75	18	4	2	370	13,753,904
65-69	21	20	16	10	7			74	2,940,308
70-74	6	2	2		1			11	411,034
75-79	1							1	25,074
80-84							1	1	42,941
<b>Totals</b>	<b>6,565</b>	<b>2,637</b>	<b>1,189</b>	<b>915</b>	<b>225</b>	<b>47</b>	<b>5</b>	<b>11,583</b>	<b>\$381,942,220</b>

**Group Averages:**

Age: 38.7 years  
Service: 6.0 years  
Annual Pay: \$32,974

**Inactive Members as of June 30, 2004**

<b>Attained Age</b>	<b>Service</b>						<b>Total</b>
	<b>0-4</b>	<b>5-9</b>	<b>10-14</b>	<b>15-19</b>	<b>20-24</b>	<b>25-29</b>	
Under 20	1						1
20-24	62						62
25-29	102	3					105
30-34	77	16	2				95
35-39	58	9	9	1			77
40-44	39	10	9	1			59
45-49	34	2	15	7			58
50-54	27	7	10	14	1		59
55-59	37	8	21	7	2		75
60-64	13	2	18		8	2	43
65-69	5	1					6
70-74	2						2
<b>Totals</b>	<b>457</b>	<b>58</b>	<b>84</b>	<b>38</b>	<b>5</b>		<b>642</b>

## Active Members – By Employer

	No.	Annual Compensation	Average Compensation Amount	% Change	Average Age (Yrs.)	Average Service (Yrs.)
Apache County Corrections Officers	21	\$ 554,066	\$ 26,384	1.2	36.2	4.4
Cochise County Corrections Officers	66	1,701,777	25,785	(0.9)	39.4	5.8
Coconino County Corrections Officers	70	2,143,914	30,627	(0.6)	32.0	3.8
Department of Corrections	8,192	269,359,760	32,881	1.1	39.1	6.1
Department of Juvenile Corrections	812	26,668,739	32,843	(0.3)	41.4	5.6
Gila County Corrections Officers	45	1,290,104	11,417		42.6	3.0
Gila County Dispatchers	19	482,740	48,274		43.9	6.9
Maricopa County Corrections Officers	1,317	45,405,179	34,476	3.1	36.6	6.1
Mohave County Corrections Officers	74	1,925,091	26,015	(1.5)	36.9	3.2
Navajo County Corrections Officers	35	859,061	24,545	3.7	37.7	3.6
Pima County Corrections Officers	427	15,401,176	36,068	(6.5)	36.6	7.0
Pinal County Corrections Officers	113	3,753,018	33,213	5.3	35.3	6.0
Pinal County Dispatchers	18	423,051	23,503	5.8	39.0	8.5
Santa Cruz County Corrections Officers	16	456,666	28,542	8.3	31.6	4.9
Town of Marana Dispatchers	8	350,549	35,055		36.8	5.1
Town of Oro Valley Dispatchers	10	418,377	41,838	(0.4)	40.4	8.5
Yavapai County Corrections Officers	190	6,030,637	31,740	1.3	38.1	3.1
Yuma County Corrections Officers	150	4,718,315	31,455	(2.1)	31.4	4.1
<b>Totals</b>	<b>11,583</b>	<b>\$381,942,220</b>	<b>\$32,802</b>			

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***Section Six:***  
***Accounting Disclosures***



**GASB Statement No. 25 Supplementary Information**

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

Valuation Date:	June 30, 2004
Actuarial Cost Method:	Individual Entry Age
Amortization method:	Level percent open
Remaining amortization period:	20 years
Asset valuation method:	Smoothed market value
Actuarial assumptions:	
Investment rate of return	8.75%
Projected salary increases	6.25-9.25%
Includes inflation at	5.25%

Membership data as of June 30, 2004, is indicated in Section Five of this report.

**Analysis of Funding Progress**

<b>Valuation Date June 30</b>	<b>(1) Valuation Value of Assets</b>	<b>(2) Actuarial Accrued Liability</b>	<b>(3) Percent Funded (1)/(2)</b>	<b>(4) Unfunded AAL (2)-(1)</b>	<b>(5) Annual Covered Payroll</b>	<b>(6) UAAL As a % Of Covered Payroll</b>
1998	\$484,955,951	\$410,530,787	118.1%	\$(74,425,164)	\$261,700,318	-
1999	592,151,804	443,675,999	133.5	(148,475,805)	305,477,946	-
2000	704,990,577	501,322,987	140.6	(203,667,590)	339,439,892	-
2001	776,177,208	554,386,854	140.0	(221,790,354)	339,782,697	-
2002	782,445,913	632,237,814	123.8	(150,208,099)	330,427,800	-
2003	811,791,293	709,297,998	114.4	(102,493,295)	358,160,933	-
<b>2004</b>	<b>833,620,994</b>	<b>795,774,862</b>	<b>104.8</b>	<b>(37,846,132)</b>	<b>381,942,220</b>	<b>-</b>

**Required Supplementary Information****Schedule of Employer Contributions**

<b>Year Ended June 30</b>	<b>Annual Required Contribution</b>	<b>Percent Contributed</b>
1992	\$ 9,492,656	100.0%
1993	10,099,143	100.0%
1994	10,032,668	100.0%
1995	10,565,831	100.0%
1996	14,371,254	100.0%
1997	16,704,445	100.0%
1998	17,063,015	100.0%
1999	17,109,704	100.0%
2000	16,876,163	100.0%
2001	14,927,396	100.0%
2002	7,101,111	100.0%
2003	7,397,596	100.0%
2004	14,555,335	100.0%
<b>2005</b>	<b>15,545,048</b>	

*Actual required contribution dollar amount will be based on the recommended contribution rate and the actual pensionable payroll for the period.*

**Trend Information**

<b>Year Ended June 30</b>	<b>Annual Pension Cost</b>	<b>Percent Contributed</b>	<b>Net Pension Obligation</b>
1995	\$10,565,831	100.0%	\$0
1996	14,371,254	100.0%	\$0
1997	16,704,445	100.0%	\$0
1998	17,063,015	100.0%	\$0
1999	17,109,704	100.0%	\$0
2000	16,897,163	100.0%	\$0
2001	14,927,396	100.0%	\$0
2002	7,101,111	100.0%	\$0
2003	7,397,596	100.0%	\$0
<b>2004</b>	<b>14,555,335</b>	<b>100.0%</b>	<b>\$0</b>

**Actuarial Accrued Liability – Valuation Assets – Amortization Payment**

<b><u>Employer</u></b>	<b>(1) Actuarial Value of Assets</b>	<b>(2) Actuarial Acc. Liability Entry Age</b>	<b>(3) Percent Funded (1)/(2)</b>	<b>(4) Unfunded AAL (2) - (1)</b>	<b>(5) Annual Covered Payroll</b>	<b>(4)/(5)</b>
Apache County Corrections Officers	\$937,580	\$870,326	107.7%	\$(67,254)	\$554,066	0.0%
Cochise County Corrections Officers	4,051,304	3,643,207	111.2%	(408,097)	1,701,777	0.0%
Coconino County Corrections Officers	2,571,730	1,903,311	135.1%	(668,419)	2,143,914	0.0%
Department of Corrections	591,483,448	564,889,225	104.7%	(26,594,223)	269,359,760	0.0%
Department of Juvenile Corrections	57,545,266	53,483,771	107.6%	(4,061,495)	26,668,739	0.0%
Gila County Corrections Officers	70,617	709,363	10.0%	638,746	1,290,104	49.5%
Gila County Dispatchers	32,804	686,994	4.8%	654,190	482,740	135.5%
Maricopa County Corrections Officers	109,740,199	103,874,650	105.6%	(5,865,549)	45,405,179	0.0%
Mohave County Corrections Officers	3,752,345	2,041,941	183.8%	(1,710,404)	1,925,091	0.0%
Navajo County Corrections Officers	1,488,781	1,110,061	134.1%	(378,720)	859,061	0.0%
Pima County Corrections Officers	39,536,605	41,741,217	94.7%	2,204,612	15,401,176	14.3%
Pinal County Corrections Officers	4,573,489	5,336,691	85.7%	763,202	3,753,018	20.3%
Pinal County Dispatchers	770,509	742,829	103.7%	(27,680)	423,051	0.0%
Santa Cruz County Corrections Officers	1,239,425	661,943	187.2%	(577,482)	456,666	0.0%
Town of Marana Dispatchers	56,580	276,851	20.4%	220,271	350,549	62.8%
Town of Oro Valley Dispatchers	568,823	754,617	75.4%	185,794	418,377	44.4%
Yavapai County Corrections Officers	6,696,956	6,813,658	98.3%	116,702	6,030,637	1.9%
Yuma County Corrections Officers	8,504,533	6,234,208	136.4%	(2,270,325)	4,718,315	0.0%
<b>Totals</b>	<b>\$833,620,994</b>	<b>\$795,774,862</b>	<b>104.8%</b>	<b>\$(37,846,132)</b>	<b>\$381,942,220</b>	<b>0.0%</b>