

September 10, 2002

The Fund Manager  
Arizona Public Safety Personnel Retirement System  
Phoenix, Arizona

Re: Arizona Corrections Officer Retirement Plan

This report contains the consolidated results of the June 30, 2002 actuarial valuation of the Arizona Corrections Officer Retirement Plan. The valuations determine the 2003-2004 Fiscal Year employer contribution requirements and the June 30, 2002 actuarial present values associated with the Plan.

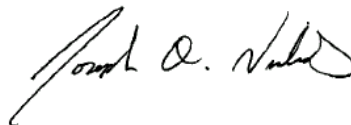
Participant data was provided by your Administrator. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. Financial information was taken from the June 30, 2002 information submitted by your Administrator.

The valuations were made in accordance with generally accepted actuarial principles and practices. The valuation assumptions are the same as those used for the June 30, 2001 valuations. 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



Joseph A. Nichols

Members, American Academy of Actuaries

***Arizona Corrections Officer  
Retirement Plan***

*Actuarial Valuation as of June 30, 2002*

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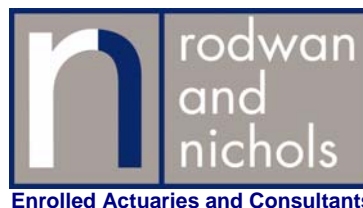
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***Section One:***  
***Valuation Summary***



Enrolled Actuaries and Consultants

## **Purpose of Valuation**

The purpose of the annual actuarial valuation of the Arizona Corrections Officer Retirement Plan as of June 30, 2002 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, 2003. 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, 2002, were computed to be \$632,237,814. The funding value of accrued assets was \$782,445,913. The ratio of the funding value of accrued assets to accrued liabilities was 123.8%.

## **Funding Value of Assets**

A smoothed market value of assets was used for the June 30, 2002 valuation. This method, which spreads the difference between actual and expected investment return over four years, is unchanged from prior 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 15.29% of member payroll. Deducting member contributions of 8.50% of payroll resulted in an aggregate employer normal cost of 6.79% of payroll.

In the aggregate, the excess of accrued assets over accrued liabilities produced a temporary 20-year amortization credit of 2.84% of payroll.

The aggregate net employer contribution for FY 2003/2004 was therefore computed to be 3.95% of payroll. After the application of the 2.00% minimum contribution required for each unit by Statute, the aggregate net employer contribution is 3.98% of payroll.

**Retirement Plan Experience**

Experience of the Retirement Plan during the year ended June 30, 2002 was significantly less favorable than assumed. Investment income was the primary source of unfavorable experience.

**Benefit Provision Changes**

The following benefit provision changes were effective for this valuation pursuant to legislation enacted in 2002.

- ❖ Post-retirement pensions for surviving spouses were increased to 80% of the member’s monthly pension from 75%.
- ❖ Pre-retirement surviving spouses pensions were increased to 40% of the member’s monthly compensation from 37½%, or 100% of member’s monthly compensation if death is duty-related.

**Assumption and Method Changes**

There were no changes in assumptions or methods used for the valuation.

**Participant Data**

	<u>6/30/2002</u>	<u>6/30/2001</u>
Active Members	10,464	11,047
Active Member Payroll	\$ 330,427,800	\$ 339,782,697
Retirees and Beneficiaries	1,218	1,040
Annual Pensions	\$ 17,660,064	\$ 13,446,069

**Financial Data**

	<u>6/30/2002</u>	<u>6/30/2001</u>
Smoothed Valuation Assets	\$816,897,977*	\$821,997,262*
Market Value of Assets	\$586,328,472	\$683,192,443

\* The net smoothed value of assets used for the valuation after deducting the Future Benefit Increase Reserve was \$782,445,913 in 2002 and \$776,177,208 in 2001.

## Comments, Recommendations and Conclusion

**Comment 1:** This report contains the consolidated results of the individual actuarial valuations of the 12 units in the Arizona Corrections Officer Retirement Plan as of June 20, 2002. 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.

Accrued valuation assets exceeded actuarial accrued liabilities in each of the 12 units. 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.

**Comment 2:** The increase in the computed contribution rates and the decrease in the funded ratio are attributable primarily to recognized investment income, which was significantly less than assumed, and benefit provision changes.

**Comment 3:** The funding of the Corrections Officer Retirement Plan continues to be ahead of schedule, largely as a result of favorable investment returns from past years. 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 6.79% of payroll.

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



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





**Contribution Requirements – 2003/2004 Fiscal Year**

**Member:** 8.50% of covered compensation

**Employer:** The aggregate computed contribution rate before application of the statutory minimum was 3.95% of covered compensation, consisting of 6.79% for normal cost, (2.84)% for amortization of unfunded actuarial accrued liability\*.

**Components of Computed Normal Cost**

	<b>Percents of Covered Compensation</b>
Normal cost requirement	
Service pensions	9.86%
Disability pensions	0.71
Survivors of active members	1.24
Refunds of members' accumulated contributions	2.81
Health insurance	<u>0.67</u>
Total normal cost requirement	15.29%
Less member contribution	<u>8.50</u>
Employer normal cost requirement	6.79%

*\*In the aggregate, actuarial accrued liability, \$632,237,814, was exceeded by the funding value of accrued assets, \$782,445,913. All 12 units had assets in excess of accrued liabilities. The excess or the unfunded was amortized over 20 years and applied as a credit to the computed employer normal cost.*

*These contribution rates are prior to the minimum 2.00% rate established for each unit by the State Legislature beginning with the 2001/2002 fiscal year. The total aggregate computed contribution after application of the minimum is 3.98 % 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
<b>2002*</b>	<b>6.79</b>	<b>(2.84)</b>	<b>3.95</b>

\* Computed contribution rates are before application of the 2.00% minimum employer contribution for each participating unit. Minimum rate established by State Legislature in 2000 for fiscal years beginning 2001/2002.

**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 all 12 of the participating units, the valuation assets exceed the actuarial accrued liability so they have a credit against the normal cost. 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 \$150,208,099.

	<b>June 30, 2002</b>
Actuarial Accrued Liability	
Retired members and survivors	\$185,594,176
Former members with vested benefits	4,366,829
Active members	<u>442,276,809</u>
Total	\$632,237,814
Valuation Assets*	782,445,913
Unfunded Actuarial Accrued Liability	\$(150,208,099)

*\* This amount excludes the \$34,452,064 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
<b>2002</b>	<b>782,446</b>	<b>632,238</b>	<b>123.8</b>	<b>(150,208)</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, 2002</u></b>
(1) UAAL <sup>a</sup> at start of year	\$(221,790,354)
(2) Normal cost	48,554,947
(3) Funding method contributions	36,633,478
(4) Interest accrual	(19,424,666)
(5) Expected UAAL before changes	(229,293,551)
(6) Change from amendments	11,677,000
(7) Change from assumption revision	None
(8) Expected UAAL after changes	(217,616,551)
(9) Actual UAAL	(150,208,099)
(10) Gain(Loss)	(67,408,452)
(11) Percent of AAL <sup>b</sup>	12.2%

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

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

**Aggregate Actuarial Balance Sheet June 30, 2002****Actuarial Assets**

Accrued Assets	
Member accumulated contributions	\$ 142,887,877
Employer and benefit payment reserves	538,425,989
Funding value adjustment	<u>135,584,111</u>
Total accrued assets*	\$ 816,897,977
Prospective assets (computed value)	
Member contributions	219,366,408
Employer normal costs	105,984,783
Employer unfunded actuarial accrued liability	<u>(150,208,099)</u>
Total prospective assets	<u>175,143,092</u>
Total Actuarial Assets	<u>\$ 992,041,069</u>

\* Includes \$34,452,064 reserve for payment of ad-hoc pension increases. The net funding value of assets is \$782,445,913.

**Actuarial Present Values (Liability)**

Pensions in payment status	
Service pensions	\$ 132,492,939
Disability pensions	10,407,000
Survivor pensions	23,173,593
Health insurance	<u>19,520,644</u>
Total benefit values	\$ 185,594,176
Prospective pension payments (future retirements)	687,690,045
Prospective health insurance payments (future retirements)	37,703,638
Prospective refunds of member contributions	46,601,146
Reserve for future pension increases	<u>34,452,064</u>
Total Actuarial Present Values (Liability)	<u>\$ 992,041,069</u>

**Employer Contribution Requirements  
2003/2004 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. Requirements</u>	<u>Total Required Emp. Contrib. Requirements</u>
Apache County Corrections Officers	6.77%	(3.10)%	3.67%	3.67%
Cochise County Corrections Officers	7.23	(3.64)	3.59	3.59
Coconino County Corrections Officers	5.70	(1.70)	4.00	4.00
Department of Corrections	6.81	(2.80)	4.01	4.01
Department of Juvenile Corrections	7.59	(2.51)	5.08	5.08
Maricopa County Corrections Officers	6.40	(3.44)	2.96	2.96
Mohave County Corrections Officers	7.54	(7.54)	0.00	2.00
Navajo County Corrections Officers	6.97	(4.43)	2.54	2.54
Pima County Corrections Officers	6.28	(1.90)	4.38	4.38
Santa Cruz County Corrections Officers	6.66	(6.66)	0.00	2.00
Yavapai County Corrections Officers	6.99	(1.18)	5.81	5.81
Yuma County Corrections Officers	5.68	(4.32)	1.36	2.00
<b>Totals</b>	<b>6.79%</b>	<b>(2.84)%</b>	<b>3.95%</b>	<b>3.98%</b>

\* Twenty years from July 1, 2002.

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

<u>Employer</u>	<u>Actuarial Accrued Liability</u>	<u>Valuation Assets</u>		<u>Emp. Unf Act. Acc. Liability</u>	<u>Amortization Payment*</u>
		<u>Members</u>	<u>Employers</u>		
Apache County Corrections Officers	\$ 567,155	\$ 186,411	\$ 667,369	\$ (286,625)	0.00%
Cochise County Corrections Officers	2,975,558	632,792	3,297,155	(954,389)	0.00
Coconino County Corrections Officers	1,373,215	610,468	1,460,807	(698,060)	0.00
Department of Corrections	450,904,616	101,898,727	456,423,115	(107,417,226)	0.00
Department of Juvenile Corrections	44,219,273	11,307,698	43,617,032	(10,705,457)	0.00
Maricopa County Corrections Officers	85,735,562	17,807,610	86,820,524	(18,892,572)	0.00
Mohave County Corrections Officers	1,793,433	547,206	3,248,049	(2,001,822)	0.00
Navajo County Corrections Officers	820,753	258,429	1,232,348	(670,024)	0.00
Pima County Corrections Officers	32,703,938	6,738,110	30,193,658	(4,227,830)	0.00
Santa Cruz County Corrections Officers	556,382	190,575	995,932	(630,125)	0.00
Yavapai County Corrections Officers	5,274,883	1,187,111	4,835,428	(747,656)	0.00
Yuma County Corrections Officers	5,313,046	1,522,740	6,766,619	(2,976,313)	0.00
<b>Totals</b>	<b>\$632,237,814</b>	<b>\$142,887,877</b>	<b>\$639,558,036</b>	<b>\$(150,208,099)</b>	<b>0.00%</b>

\*Twenty years from July 1, 2002.





***Section Three:***

***Retirement Plan  
Benefit Provisions***



Enrolled Actuaries and Consultants

## 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 and 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***



**Enrolled Actuaries and Consultants**

**Summary of Valuation Assumptions**

***Economic Assumptions***

***Interest Rate:*** 9.0% (net of expenses)

***Salary Increases:*** 5.5% for inflation and 1% for other across-the-board increased, 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	5.5%	3.0%	1.0%	9.5%
25	5.5	3.0	1.0	9.5
30	5.5	2.6	1.0	9.1
35	5.5	1.1	1.0	7.6
40	5.5	0.2	1.0	6.7
45	5.5	0.2	1.0	6.7
50	5.5	0.2	1.0	6.7
55	5.5	0.1	1.0	6.6
60	5.5	-	1.0	6.5
65	5.5	-	1.0	6.5

**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					56.86	62.72	55.98	61.84
25					51.98	57.83	51.12	56.96
30					47.12	52.95	46.27	52.09
35					42.29	48.09	41.46	47.24
40	\$12,930	\$13,272	\$12,861	\$13,225	37.51	43.25	36.69	42.42
45	12,522	12,997	12,430	12,933	32.80	38.46	32.01	37.64
50	11,997	12,613	11,879	12,526	28.28	33.73	27.53	32.93
55	11,342	12,112	11,199	11,999	23.98	29.17	23.28	28.40
60	10,513	11,485	10,346	11,347	19.90	24.82	19.27	24.11
65	9,490	10,694	9,308	10,532	16.09	20.70	15.55	20.05
70	8,326	9,710	8,145	9,530	12.69	16.82	12.25	16.27
75	7,124	8,564	6,963	8,382	9.82	13.32	9.49	12.87
80	5,879	7,371	5,748	7,206	7.39	10.36	7.17	10.02
85	4,791	6,120	4,696	5,983	5.57	7.83	5.43	7.59
90	3,864	4,994	3,796	4,893	4.19	5.89	4.10	5.74

**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 was 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 6.5% annually for the purpose of computing the amortization payment (credit) as a level percent of payroll.



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



Enrolled Actuaries and Consultants

## 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	\$
(2) Market Value	696,231,350	807,765,880	683,192,443	586,328,472	
(3) Funding Value	634,606,216	764,775,466	821,997,262	816,897,977	
<b>End of Year</b>					
(4) Market Value	807,765,880	683,192,443	586,328,472		
(5) Net Addition to Assets, Exc. Inv. Income	18,762,353	13,986,319	4,322,458		
(6) Total Net Investment Income = (4) - (2) - (5)	92,772,177	(138,559,756)	(101,186,429)	-	-
(7) Projected Net Rate of Return	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		
(9) Investment Income in Excess of Proj.	34,813,312	(208,018,932)	(175,360,693)		
(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)	-	-
(10) Excess Investment Income Recognized (4 Yr. Recog.)					
(10a) From Current Year = .25 x (9b)	4,960,482	(52,004,733)	(43,840,173)	-	-
(10b) From One Year Prior	7,288,417	4,960,482	(52,004,733)	(43,840,173)	-
(10c) From Two Years Prior	13,532,135	7,288,417	4,960,482	(52,004,733)	(43,840,173)
(10d) From Three Years Prior	12,695,615	13,532,135	7,288,417	4,960,482	(52,004,733)
(11) Change in Funding Value =(5) + (8) + (9a) + (10) [a..d]	130,169,250	57,221,796	(5,099,285)		
<b>End of Year Values</b>					
(12) Book Value	588,205,472	631,618,088	646,861,802		
(4) Market Value	807,765,880	683,192,443	586,328,472		
(13) Preliminary Funding Value (3) + (11)	764,775,466	821,997,262	816,897,977		
(14) Future Benefit Increase Reserve	59,784,889	45,820,054	34,452,064		
(15) Funding Value (13) - (14)	704,990,577	776,177,208	782,445,913		
(16) Funding Value Adjustment (15) - (12)	116,785,105	144,559,120	135,584,111		

## Participant Summary

**Summary of Retired Members and Survivors  
June 30, 2002**

<u>Pensions Being Paid</u>	<u>Number</u>	<u>Annual Pensions</u>	<u>Average Pensions</u>
Retired Members			
Service Pensions	903	\$14,103,900	\$15,619
Disability Pensions	<u>68</u>	<u>1,010,628</u>	14,862
Totals	971	15,114,528	15,566
Survivors			
Spouses	228	2,369,700	10,393
Children with Guardians*	<u>19</u>	<u>175,836</u>	9,255
Totals	247	2,545,536	10,306
<b>Total Pensions Being Paid</b>	<b>1,218</b>	<b>\$17,660,064</b>	<b>\$14,499</b>

\* Does not include pensions payable to children whose parent is being paid a survivor pension.

**Averages**

	<u>Average Age</u> (Years)	<u>Average Service</u> (Years)	<u>Average Retirement Age</u> (Years)
Service Retired Members	65.2	17.9	60.4
Disability Retired Members	50.7	10.2	45.6
Spouse Beneficiaries	58.9	11.0	51.2

**Summaries of Retired Members and Survivors  
June 30, 2002  
Tabulated by Attained Age of Recipient**

<b>Attained Age</b>	<b>Service</b>		<b>Disability</b>		<b>Survivors</b>		<b>Totals</b>	
<b>No.</b>	<b>Annual Pensions</b>	<b>No.</b>	<b>Annual Pensions</b>	<b>No.</b>	<b>Annual Pensions</b>	<b>No.</b>	<b>Annual Pensions</b>	
Children w/ Guardians	\$		\$		19	\$ 175,836	19	\$ 175,836
20-24			1	11,736			1	11,736
25-29					4	37,584	4	37,584
30-34			6	83,592	8	78,036	14	161,628
35-39			5	72,204	10	100,620	15	172,824
40-44	11	259,608	7	104,088	11	98,172	29	461,868
45-49	38	1,059,444	15	222,432	14	144,036	67	1,425,912
50-54	80	2,161,212	13	209,400	30	351,216	123	2,721,828
55-59	89	2,227,980	8	120,468	38	418,596	135	2,767,044
60-64	190	2,761,548	2	31,092	33	340,404	225	3,133,044
65-69	263	3,256,848	9	130,452	39	410,316	311	3,797,616
70-74	161	1,690,272			30	293,256	191	1,983,528
75-79	62	612,180	1	18,732	10	93,684	73	724,596
80 and Over	9	74,808	1	6,432	1	3,780	11	85,020
<b>Totals</b>	<b>903</b>	<b>\$ 14,103,900</b>	<b>68</b>	<b>\$ 1,010,628</b>	<b>247</b>	<b>\$ 2,545,536</b>	<b>1,218</b>	<b>\$ 17,660,064</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
<b>2002</b>	<b>1,218</b>	<b>17,660,064</b>	<b>31.3</b>	<b>14,499</b>	<b>166,073,532</b>	<b>136,349</b>

## Retired Members and Survivors – By Employer

<u>Employer</u>	<u>Retired Members</u>				<u>Survivors</u>		<u>Totals</u>		
	<u>No.</u>	<u>Annual Pensions</u>	<u>No.</u>	<u>Annual Pensions</u>	<u>No. Spouse</u>	<u>Child with Guardian</u>	<u>Annual Pensions</u>	<u>No.</u>	<u>Annual Pensions</u>
Apache County		\$		\$			\$		\$
Cochise County	11	103,236			3		18,120	14	121,356
Coconino County			1	14,028				1	14,028
Department of Corrections	673	10,610,784	32	470,004	174	18	1,970,472	897	13,051,260
Juvenile Corrections	48	865,680	2	20,808	14	1	145,752	65	1,032,240
Maricopa County	116	1,768,656	17	287,484	24		269,364	157	2,325,504
Mohave County	3	20,124	3	36,372				6	56,496
Navajo County	2	24,180						2	24,180
Pima County	31	483,564	11	152,640	10		105,504	52	741,708
Santa Cruz County	1	15,108						1	15,108
Yavapai County	16	183,360	1	14,520	2		28,152	19	226,032
Yuma County	2	29,208	1	14,772	1		8,172	4	52,152
<b>Totals</b>	<b>903</b>	<b>\$14,103,900</b>	<b>68</b>	<b>\$1,010,628</b>	<b>228</b>	<b>19</b>	<b>\$2,545,536</b>	<b>1,218</b>	<b>\$17,660,064</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
<b>6-30-02</b>	<b>12</b>	<b>10,464</b>	<b>330,428</b>	<b>38.7</b>	<b>6.0</b>	<b>31,578</b>	<b>2.7</b>



**Active Members - June 30, 2002**  
**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	28							28	\$ 726,462
20-24	791	3						794	20,877,851
25-29	1,495	242						1,737	48,449,300
30-34	1,176	528	114	1				1,819	54,115,828
35-39	740	404	274	76				1,494	47,214,259
40-44	652	330	238	166	29	4		1,419	46,961,035
45-49	455	253	178	168	61	5		1,120	38,035,192
50-54	340	221	157	179	67	13	1	978	34,912,740
55-59	223	168	137	126	33	11	2	700	25,325,346
60-64	88	80	60	57	15	3		303	11,110,146
65-69	20	17	10	15	2	1		65	2,469,253
70-74	4	1	1					6	188,842
75-79							1	1	41,546
<b>Totals</b>	<b>6,012</b>	<b>2,247</b>	<b>1,169</b>	<b>788</b>	<b>207</b>	<b>37</b>	<b>4</b>	<b>10,464</b>	<b>\$ 330,427,800</b>

**Group Averages:**

Age: 38.7 years  
Service: 6.0 years  
Annual Pay: \$31,578.

## Inactive Members as of June 30, 2002

Attained Age	Service						Total
	0-4	5-9	10-14	15-19	20-24	25-29	
Under 20	3						3
20-24	88						88
25-29	199	13					212
30-34	167	15	5				187
35-39	97	6	6				109
40-44	82	20	5	5	1		113
45-49	70	13	11	7			101
50-54	57	19	19	8			103
55-59	59	9	16	9	4		97
60-64	16	5	19	7	2		49
65-69	12	1	1				14
70-74	3						3
<b>Totals</b>	<b>853</b>	<b>101</b>	<b>82</b>	<b>36</b>	<b>7</b>		<b>1,079</b>

## Active Members – By Employer

Employer	No.	Annual Compensation	Average Compensation		Average	
			Amount	% Change	Age (Yrs.)	Service (Yrs.)
Apache County	23	\$ 577,210	\$25,096	8.0%	36.2	4.2
Cochise County	65	1,638,829	25,213	5.1	39.2	5.2
Coconino County	81	2,570,540	31,735	4.8	30.3	2.7
Department of Corrections	7,682	239,579,128	31,187	2.2	38.8	6.0
Juvenile Corrections	831	26,609,397	32,021	4.2	41.0	5.6
Maricopa County	995	34,323,904	34,496	3.1	38.0	7.6
Mohave County	69	1,601,298	23,207	-4.0	41.2	3.8
Navajo County	40	944,164	23,604	2.3	37.6	2.9
Pima County	387	13,936,634	36,012	4.8	38.1	7.4
Santa Cruz County	15	382,580	25,505	6.7	30.2	4.5
Yavapai County	130	3,954,989	30,423	1.7	39.9	3.8
Yuma County	146	4,309,127	29,515	3.7	32.6	4.7
<b>Totals</b>	<b>10,464</b>	<b>\$30,427,800</b>	<b>\$31,578</b>	<b>2.7%</b>	<b>38.7</b>	<b>6.0</b>

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



Enrolled Actuaries and Consultants

**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, 2002
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	9.0%
Projected salary increases*	5.5-9.5%
* Includes inflation at	5.5%

Membership data as of June 30, 2002, 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>
1997	\$393,904,298	\$355,590,127	110.8%	\$(38,314,171)	\$249,203,373	- %
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	-
<b>2002</b>	<b>\$782,445,913</b>	<b>\$632,237,814</b>	<b>123.8%</b>	<b>\$(150,208,099)</b>	<b>\$330,427,800</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%
<b>2003</b>	<b>\$ 7,271,350</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
<b>2002</b>	<b>\$ 7,101,111</b>	<b>100.0%</b>	<b>\$0</b>

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

<u>Employer</u>	<u>(1) Actuarial Value of Assets</u>	<u>(2) Actuarial Acc Liability Entry Age</u>	<u>(3) Percent Funded (1)/(2)</u>	<u>(4) Unfunded AAL (2)-(1)</u>	<u>(5) Annual Covered Payroll</u>	<u>(4)/(5)</u>
Apache County	\$ 853,780	\$ 567,155	150.5%	\$ (286,625)	\$ 577,210	0.0%
Cochise County	3,929,947	2,975,558	132.1	(954,389)	1,638,829	0.0
Coconino County	2,071,275	1,373,215	150.8	(698,060)	2,570,540	0.0
Dept. of Corrections	558,321,842	450,904,616	123.8	(107,417,226)	239,579,128	0.0
Juvenile Corrections	54,924,730	44,219,273	124.2	(10,705,457)	26,609,397	0.0
Maricopa County	104,628,134	85,735,562	122.0	(18,892,572)	34,323,904	0.0
Mohave County	3,795,255	1,793,433	211.6	(2,001,822)	1,601,298	0.0
Navajo County	1,490,777	820,753	181.6	(670,024)	944,164	0.0
Pima County	36,931,768	32,703,938	112.9	(4,227,830)	13,936,634	0.0
Santa Cruz County	1,186,507	556,382	213.3	(630,125)	382,580	0.0
Yavapai County	6,022,539	5,274,883	114.2	(747,656)	3,954,989	0.0
Yuma County	8,289,359	5,313,046	156.0	(2,976,313)	4,309,127	0.0
<b>Totals</b>	<b>\$782,445,913</b>	<b>\$632,237,814</b>	<b>123.8%</b>	<b>\$(150,208,099)</b>	<b>\$330,427,800</b>	<b>0.0%</b>