

***Arizona Corrections Officer  
Retirement Plan***

*Actuarial Valuation as of June 30, 2005*

October 26, 2005

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, 2005 actuarial valuation of the Arizona Corrections Officer Retirement Plan. The valuations determine the 2006/2007 Fiscal Year employer contribution requirements and the June 30, 2005 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, 2005 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, 2004 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 produce results that we believe are reasonable.

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, 2005 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, 2006. 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, 2005, were computed to be \$906,025,039. The funding value of accrued assets was \$872,980,916. The ratio of the funding value of accrued assets to accrued liabilities was 96.4%.

## **Funding Value of Assets**

A smoothed market value of assets was used for the June 30, 2005 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 15.03% of member payroll. Deducting member contributions of 8.50% of payroll resulted in an aggregate employer normal cost of 6.53% of payroll.

The excess of accrued liabilities over accrued assets produced a 20-year amortization payment of 0.48% of payroll.

The aggregate net employer contribution for FY 2006/2007 was therefore computed to be 7.01% of payroll. After the application of the 5.00% minimum contribution required for each unit by Statute, the aggregate net employer contribution is 7.06% of payroll.

### Retirement Plan Experience

Experience of the Retirement Plan during the year ended June 30, 2005 was less favorable than assumed. The primary source of unfavorable experience was the recognized rate of investment return (based on the smoothed market value of assets), which was less than assumed.

### Benefit Provision Changes

There were no benefit provision changes in this valuation. The minimum employer contribution rate was increased to 5% from 4% beginning with fiscal year 2006/2007, pursuant to 2005 legislation.

### Assumption and Method Changes

The assumed rate of investment return was decreased to 8.50% from 8.75%, and the assumed rate of inflation was decreased to 5.00% from 5.25%, as adopted by the Fund Manager. There were no changes in methods.

### Participant Data

	<u>6/30/2005</u>	<u>6/30/2004</u>
Active Members	11,752	11,583
Active Member Payroll	\$404,155,903	\$381,942,220
Retirees and Beneficiaries	1,733	1,536
Annual Pensions	\$31,329,225	\$26,261,143

### Financial Data

	<u>6/30/2005</u>	<u>6/30/2004</u>
Smoothed Valuation Assets	\$914,396,008*	\$879,533,619*
Market Value of Assets	\$788,873,785	\$719,235,235

\* The net smoothed value of assets used for the valuation after deducting the Future Benefit Increase Reserve was \$872,980,916 in 2005 and \$833,620,994 in 2004.

## Comments, Recommendations and Conclusion

**Comment 1:** This report contains the consolidated results of the individual actuarial valuations of the 19 units in the Arizona Corrections Officer Retirement Plan as of June 20, 2005. The aggregate results are indicative of the overall condition of the Retirement Plan. The condition of each unit, however, is dependent upon its particular experience and characteristics.

Of the 19 units, 8 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 11 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 was one new unit included in this valuation.

**Comment 2:** The experience of the Retirement Plan during the year ended June 30, 2005, 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. This method is unchanged from last year.

**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 6.53% of payroll.

**Comment 5:** The 2005 legislature increased the minimum employer contribution rate to 5% from 4% effective for the fiscal year beginning July 1, 2006.

**Conclusion:** The annual actuarial valuation as of June 30, 2005 reflects the effect of market conditions over the past 4 years. The recognized rate of return, which includes the carry-forwards of experience gains (losses) from prior years, has been less than the long-term assumption. This experience and a reduced investment return assumption have increased the computed employer contribution rates. 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.

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





**Contribution Requirements – 2006/2007 Fiscal Year**

**Member:** 8.50% of covered compensation

**Employer:** The aggregate computed contribution rate before application of the statutory minimum was 7.01% of covered compensation, consisting of 6.53% for normal cost, 0.48% for amortization of unfunded actuarial accrued liability\*.

**Components of Computed Normal Cost**

	<b>Percents of Covered Compensation</b>
Normal cost requirement	
Service pensions	9.53%
Disability pensions	0.73
Survivors of active members	1.27
Refunds of members' accumulated contributions	2.87
Health insurance	<u>0.63</u>
Total normal cost requirement	15.03%
Less member contribution	<u>8.50</u>
Employer normal cost requirement	6.53%

*\*In the aggregate, actuarial accrued liability, \$906,025,039, exceeded the funding value of accrued assets, \$872,980,916. Of the 19 units, 8 had assets in excess of accrued liabilities and 11 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 5.00% rate established for each unit by the State Legislature beginning with the 2006/2007 fiscal year. The total aggregate computed contribution after application of the minimum is 7.06 % 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 for 8 of the units. The normal cost should be viewed as the minimum long-term ongoing cost.

**Computed Employer Contribution Requirements**

<b>Valuation Date: <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
2004*	6.05	(0.58)	5.47
<b>2005*</b>	<b>6.53</b>	<b>0.48</b>	<b>7.01</b>

\* *The computed contribution rates are before application of the minimum rates established by the Legislature.*

*The minimum rate is 2% for fiscal years beginning with 2001/2002, 4% for the 2005/2006 fiscal year and 5% for fiscal years beginning with 2006/2007.*

**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 8 of the participating units, the valuation assets exceed the actuarial accrued liability so they have a credit against the normal cost. The remaining 11 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 actuarial accrued liability exceeds the valuation assets by \$33,044,123.

	<b>June 30, 2005</b>
Actuarial Accrued Liability	
Retired members and survivors	\$332,199,210
Former members with vested benefits	10,027,891
Active members	<u>563,797,938</u>
Total	\$906,025,039
 Valuation Assets*	 872,980,916
 Unfunded Actuarial Accrued Liability	 \$33,044,123

*\* This amount excludes the \$41,415,092 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
2004	833,621	795,775	104.8	(37,946)	20
<b>2005</b>	<b>872,981</b>	<b>906,025</b>	<b>96.4</b>	<b>33,044</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, 2005</u></b>
(1) UAAL <sup>a</sup> at start of year	\$(37,846,132)
(2) Normal cost	59,402,954
(3) Funding method contributions	51,952,396
(4) Interest accrual	(2,985,575)
(5) Expected UAAL before changes	(33,381,149)
(6) Change from assumption and method revisions	25,725,258
(7) Expected UAAL after changes	(7,655,891)
(8) Actual UAAL	33,044,123
(9) Gain(Loss)	(40,700,014)
(10) Percent of AAL <sup>b</sup>	5.2%

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

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

**Aggregate Actuarial Balance Sheet June 30, 2005****Actuarial Assets**

Accrued Assets		
Member accumulated contributions	\$178,352,894	
Employer and benefit payment reserves	525,320,524	
Funding value adjustment	<u>210,722,590</u>	
Total accrued assets*		\$914,396,008
Prospective assets (computed value)		
Member contributions	263,168,594	
Employer normal costs	156,187,711	
Employer unfunded actuarial accrued liability	<u>33,044,123</u>	
Total prospective assets		<u>452,400,428</u>
Total Actuarial Assets		<u><u>\$1,366,796,436</u></u>

\* Includes \$41,415,092 reserve for payment of ad-hoc pension increases. The net funding value of assets is \$872,980,916.

**Actuarial Present Values (Liability)**

Pensions in payment status		
Service pensions	\$259,129,406	
Disability pensions	14,539,540	
Survivor pensions	35,537,752	
Health insurance	<u>22,992,512</u>	
Total benefit values		\$332,199,210
Prospective pension payments (future retirements)		889,707,212
Prospective health insurance payments (future retirements)		46,497,735
Prospective refunds of member contributions		56,977,187
Reserve for future pension increases		<u>41,415,092</u>
Total Actuarial Present Values (Liability)		<u><u>\$1,366,796,436</u></u>

**Employer Contribution Requirements  
2006/2007 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	6.32%	(0.11)%	6.21%	6.21%
Cochise County Corrections Officers	7.41	(0.37)	7.04	7.04
Coconino County Corrections Officers	5.88	(1.12)	4.76	4.76
Department of Corrections	6.70	0.47	7.17	7.17
Department of Juvenile Corrections	6.84	0.04	6.88	6.88
Gila County Corrections Officers	6.86	(0.26)	6.60	6.60
Gila County Dispatchers	6.46	0.95	7.41	7.41
Maricopa County Corrections Officers	6.01	0.65	6.66	6.66
Mohave County Corrections Officers	5.98	(4.25)	1.73	2.00
Navajo County Corrections Officers	6.13	(1.38)	4.75	4.75
Pima County Corrections Officers	6.35	2.11	8.46	8.46
Pinal County Corrections Officers	5.40	1.92	7.32	7.32
Pinal County Dispatchers	4.18	2.84	7.02	7.02
Santa Cruz County Corrections Officers	6.55	(5.70)	0.85	2.00
Town of Marana Dispatchers	4.55	3.83	8.38	8.38
Town of Oro Valley Dispatchers	7.25	2.93	10.18	10.18
Yavapai County Corrections Officers	6.56	0.75	7.31	7.31
Yuma County Corrections Officers	5.46	(1.89)	3.57	3.57
<b>Totals</b>	<b>6.53%</b>	<b>0.48%</b>	<b>7.01%</b>	<b>7.06%</b>

\* *Twenty years from July 1, 2005.*

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

<b><u>Employer</u></b>	<b><u>Actuarial Accrued Liability</u></b>	<b><u>Valuation Assets</u></b>		<b><u>Emp. Unf. Act. Acc. Liability</u></b>	<b><u>Amortization Payment*</u></b>
		<b><u>Members</u></b>	<b><u>Employers</u></b>		
Apache County Corrections Officers	\$970,897	\$196,499	\$785,907	\$(11,509)	0.00
Cochise County Corrections Officers	4,195,375	936,460	3,365,385	(106,470)	0.00
Coconino County Corrections Officers	2,394,094	891,549	1,997,245	(494,700)	0.00
Department of Corrections	636,249,861	125,852,660	488,948,462	21,448,739	0.47
Department of Juvenile Corrections	60,146,603	12,119,214	47,828,735	198,654	0.04
Gila County Corrections Officers	893,247	238,427	719,561	(64,741)	0.00
Gila County Dispatchers	879,529	179,846	596,158	103,525	0.95
Maricopa County Corrections Officers	123,077,303	22,868,400	93,036,013	7,172,890	0.65
Mohave County Corrections Officers	2,299,418	570,521	3,275,741	(1,546,844)	0.00
Navajo County Corrections Officers	1,298,458	336,120	1,275,789	(313,451)	0.00
Pima County Corrections Officers	47,382,742	8,263,282	33,465,344	5,654,116	2.11
Pinal County Corrections Officers	6,877,901	1,457,622	3,998,506	1,421,773	1.92
Pinal County Dispatchers	1,108,722	195,620	642,197	270,905	2.84
Santa Cruz County Corrections Officers	810,987	220,518	1,097,394	(506,925)	0.00
Town of Marana Dispatchers	358,476	56,756	62,202	239,518	3.83
Town of Oro Valley Dispatchers	1,047,685	487,939	300,528	259,218	2.93
Wickenburg Dispatchers	223,872	45,024	155,371	23,477	0.63
Yavapai County Corrections Officers	8,305,724	1,822,373	5,650,549	832,802	0.75
Yuma County Corrections Officers	7,504,145	1,614,064	7,426,935	(1,536,854)	0.00
<b>Totals</b>	<b>\$906,025,039</b>	<b>\$178,352,894</b>	<b>\$694,628,022</b>	<b>\$33,044,123</b>	<b>0.48%</b>

\*Twenty years from July 1, 2005.





***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.

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***Section Four:***

***Actuarial Assumptions  
And Methods***



**Summary of Valuation Assumptions**

***Economic Assumptions***

***Interest Rate:*** 8.50% (net of expenses)

***Salary Increases:*** 5.00% 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	5.00%	3.0%	1.0%	9.00%
25	5.00	3.0	1.0	9.00
30	5.00	2.6	1.0	8.60
35	5.00	1.1	1.0	7.10
40	5.00	0.2	1.0	6.20
45	5.00	0.2	1.0	6.20
50	5.00	0.2	1.0	6.20
55	5.00	0.1	1.0	6.10
60	5.00	-	1.0	6.00
65	5.00	-	1.0	6.00

**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	\$13,588	13,977	\$13,510	\$13,923	37.55	43.30	36.73	42.46
45	13,130	13,664	13,028	13,591	32.84	38.50	32.06	37.68
50	12,549	13,232	12,420	13,135	28.32	33.77	27.57	32.98
55	11,829	12,675	11,674	12,552	24.02	29.21	23.33	28.45
60	10,930	11,986	10,752	11,836	19.94	24.86	19.32	24.16
65	9,835	11,127	9,643	10,952	16.13	20.74	15.59	20.10
70	8,601	10,069	8,412	9,878	12.73	16.86	12.30	16.31
75	7,338	8,853	7,172	8,661	9.86	13.37	9.54	12.92
80	6,043	7,597	5,909	7,425	7.44	10.40	7.22	10.06
85	4,917	6,293	4,826	6,152	5.61	7.87	5.48	7.64
90	3,964	5,126	3,915	5,026	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 6.00% 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>2001</u>	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>
<b>Beginning of Year</b>					
(1) Book Value	\$588,205,472	\$631,938,840	\$646,861,802	\$587,318,350	\$615,695,876
(2) Market Value	807,765,880	683,192,443	586,328,472	622,938,516	719,235,235
(3) Funding Value	764,775,466	821,997,262	816,897,977	842,500,476	879,533,619
<b>End of Year</b>					
(4) Market Value	683,192,443	586,328,472	622,938,512	719,235,235	788,873,785
(5) Net Addition to Assets, Exc. Inv. Income	13,986,319	4,322,458	(1,298,955)	5,408,517	3,792,355
(6) Total Net Investment Income = (4) - (2) - (5)	(138,559,756)	(101,186,429)	37,908,995	90,888,202	65,846,195
(7) Projected Net Rate of Return	9.00%	9.00%	9.00%	9.00%	8.75%
(8) Projected Investment Income = (7) x [(3) + .5 x (5)]	69,459,176	74,174,264	73,462,365	76,068,426	77,125,107
(9) Investment Income in Excess of Proj.	(208,018,932)	(175,360,693)	(35,553,370)	14,819,776	(11,278,912)
(10) Excess Investment Income Recognized *					
(10a) From Current Year = (9) / 7 in 2003 and after	(52,004,733)	(43,840,173)	(5,079,052)	2,117,111	(1,611,273)
(10b) From One Year Prior	4,960,482	(52,004,733)	(21,920,087)	(5,079,052)	2,117,111
(10c) From Two Years Prior	7,288,417	4,960,482	(20,801,893)	(21,920,087)	(5,079,052)
(10d) From Three Years Prior	13,532,135	7,288,417	1,240,121	(20,801,893)	(21,920,087)
(10e) From Four Years Prior				1,240,121	(20,801,893)
(10f) From Five Years Prior					1,240,121
(10g) From Six Years Prior					
(11) Change in Funding Value =(5) + (8) + (9a) + (10) [a..g]	57,221,796	(5,099,285)	25,602,499	37,033,143	34,862,389
<b>End of Year Values</b>					
(12) Book Value	631,618,088	646,861,802	587,318,350	615,695,876	662,258,326
(4) Market Value	683,192,443	586,328,472	622,938,516	719,235,235	788,873,785
(13) Preliminary Funding Value (3) + (11)	821,997,262	816,897,977	842,500,476	879,533,619	914,396,008
(14) Future Benefit Increase Reserve	45,820,054	34,452,064	30,709,183	45,912,625	41,415,092
(15) Funding Value (13) - (14)	776,177,208	782,445,913	811,791,293	833,620,994	872,980,916
(16) Funding Value Adjustment (15) - (12)	144,559,120	135,584,111	224,472,943	217,925,118	210,722,590

*\*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**

<u>Pensions Being Paid</u>	<u>Number</u>	<u>Annual Pensions</u>	<u>Average Pensions</u>
Retired Members			
Service Pensions	1,339	\$26,072,704	\$19,472
Disability Pensions	80	1,364,396	17,055
Totals	1,419	27,437,100	19,336
Survivors			
Spouses	288	3,599,125	12,497
Children with Guardians*	26	293,000	11,269
Totals	314	3,892,125	12,395
<b>Total Pensions Being Paid</b>	<b>1,733</b>	<b>\$31,329,225</b>	<b>\$18,078</b>

**Averages**

	<u>Average Age</u>	<u>Average Service</u>	<u>Average Retirement Age</u>
	<u>(Years)</u>	<u>(Years)</u>	<u>(Years)</u>
Service Retired Members	63.6	18.1	58.3
Disability Retired Members	51.8	9.7	45.0
Spouse Beneficiaries	60.6	10.4	51.1

**Summaries of Retired Members and Survivors  
June 30, 2005  
Tabulated by Attained Age of Recipient**

Attained Age	Service		Disability		Survivors		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
Children w/ Guardians		\$ -		\$ -	26	\$293,000	26	\$293,000
20-24			1	12,691	1	9,985	2	22,676
25-29					3	34,314	3	34,314
30-34			2	37,155	8	101,785	10	138,940
35-39	1	12,938	9	132,708	8	90,440	18	236,086
40-44	32	732,532	11	176,408	12	153,773	55	1,062,713
45-49	93	2,486,009	11	190,094	22	263,775	126	2,939,878
50-54	133	3,704,311	16	291,975	26	371,702	175	4,367,988
55-59	171	4,953,233	14	250,104	48	673,438	233	5,876,775
60-64	251	5,071,714	7	113,569	48	647,267	306	5,832,550
65-69	331	5,040,003	5	95,734	44	527,332	380	5,663,069
70-74	207	2,650,834	3	42,881	37	405,288	247	3,099,003
75-79	94	1,129,726	1	21,077	22	238,336	117	1,389,139
80 and Over	26	291,404			9	81,690	35	373,094
<b>Totals</b>	<b>1,339</b>	<b>\$26,072,704</b>	<b>80</b>	<b>\$1,364,396</b>	<b>314</b>	<b>\$3,892,125</b>	<b>1,733</b>	<b>\$31,329,225</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
2004	1,536	26,261,143	21.3	17,097	255,272,652	166,193
<b>2005</b>	<b>1,733</b>	<b>31,329,225</b>	<b>19.3</b>	<b>18,078</b>	<b>332,199,210</b>	<b>191,690</b>

## Retired Members and Survivors – By Employer

<u>Employer</u>	<u>Retired Members</u>				<u>Survivors</u>			<u>Totals</u>	
	<u>Service</u>		<u>Disability</u>		<u>No.</u>		<u>Annual</u>	<u>No.</u>	<u>Annual</u>
	<u>No.</u>	<u>Annual Pensions</u>	<u>No.</u>	<u>Annual Pensions</u>	<u>Spouse</u>	<u>Child with Guardian</u>	<u>Pensions</u>	<u>No.</u>	<u>Pensions</u>
Apache County Corrections Officers	1	\$25,476	1	\$12,684	-	-	\$ -	2	\$38,160
Cochise County Corrections Officers	11	117,456			4		26,964	15	144,420
Coconino County Corrections Officers			1	15,780				1	15,780
Department of Corrections	982	18,854,049	38	637,836	213	24	2,940,036	1,257	22,431,921
Department of Juvenile Corrections	82	1,907,412	2	20,724	20	1	260,292	105	2,188,428
Gila County Corrections Officers									
Gila County Dispatchers									
Maricopa County Corrections Officers	171	3,473,016	20	370,248	30		379,812	221	4,223,076
Mohave County Corrections Officers	4	38,820	2	27,108	1		11,052	7	76,980
Navajo County Dispatchers	2	27,204			1		9,276	3	36,480
Pima County Corrections Officers	57	1,165,404	14	247,080	12		159,264	83	1,571,748
Pinal County Corrections Officers	2	47,448			1		11,832	3	59,280
Pinal County Dispatchers									
Santa Cruz County Corrections Officers	1	17,004						1	17,004
Town of Marana Dispatchers									
Town of Oro Valley Dispatchers									
Wickenburg Dispatchers									
Yavapai County Corrections	17	227,040	1	16,332	5	1	83,760	24	327,132
Yuma County Corrections Officers	9	172,404	1	16,608	1		9,804	11	198,816
<b>Totals</b>	<b>1,339</b>	<b>\$26,072,733</b>	<b>80</b>	<b>\$1,364,400</b>	<b>288</b>	<b>26</b>	<b>\$3,892,092</b>	<b>1,733</b>	<b>\$31,329,225</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
6-30-04	18	11,583	381,942	38.7	6.0	32,974	0.9
<b>6-30-05</b>	<b>19</b>	<b>11,752</b>	<b>404,156</b>	<b>39.6</b>	<b>6.0</b>	<b>34,390</b>	<b>4.3</b>



**Active Members – June 30, 2005**  
**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	41							41	\$1,259,846
20-24	997	3						1,000	29,080,942
25-29	1,481	268						1,749	53,712,431
30-34	1,135	646	119	1				1,901	62,306,626
35-39	854	456	297	80	1			1,688	57,846,264
40-44	633	382	269	231	30			1,545	55,362,706
45-49	532	344	210	185	75	8		1,354	49,756,320
50-54	372	270	160	164	68	21	3	1,058	39,756,143
55-59	293	196	155	153	70	11	1	879	34,226,596
60-64	121	132	72	79	24	2	3	433	16,552,195
65-69	16	30	14	8	9	2		79	3,296,249
70-74	9	4	4	1	3			21	859,681
75-79	3							3	95,998
80-84							1	1	43,906
<b>Totals</b>	<b>6,487</b>	<b>2,731</b>	<b>1,300</b>	<b>902</b>	<b>280</b>	<b>44</b>	<b>8</b>	<b>11,752</b>	<b>\$404,155,903</b>

**Group Averages:**

Age: 39.6 years  
Service: 6.0 years  
Annual Pay: \$34,390

### Inactive Members as of June 30, 2005

Attained Age	Service						Total
	0-4	5-9	10-14	15-19	20-24	25-29	
Under 20	3						3
20-24	109						109
25-29	161	7					168
30-34	113	20	2				135
35-39	79	20	7	1			107
40-44	52	9	7	1			69
45-49	50	5	10	5	1		71
50-54	55	10	13	6	1		85
55-59	31	9	18	11	2		71
60-64	17	9	13	6	1		46
65-69	6	1	1				8
70-74	2						2
<b>Totals</b>	<b>678</b>	<b>90</b>	<b>71</b>	<b>30</b>	<b>5</b>		<b>874</b>

## Active Members – By Employer

<b>Employer</b>	<b>No.</b>	<b>Annual Compensation</b>	<b>Average Compensation</b>		<b>Age (Yrs.)</b>	<b>Service (Yrs.)</b>
			<b>Amount</b>	<b>% Change</b>		
Apache County Corrections Officers	23	\$ 625,868	\$27,212	3.14	35.2	4.3
Cochise County Corrections Officers	64	1,718,623	27,280	5.80	42.0	7.0
Coconino County Corrections Officers	80	2,563,971	32,050	4.65	34.3	3.7
Department of Corrections	7,790	268,013,530	34,405	4.63	40.1	6.5
Department of Juvenile Corrections	820	27,758,748	33,852	3.07	42.0	5.6
Gila County Corrections Officers	49	1,466,915	29,937	4.42	42.1	3.0
Gila County Dispatchers	24	639,899	26,662	4.94	43.3	5.6
Maricopa County Corrections Officers	1,825	64,454,423	35,317	2.44	35.8	4.8
Mohave County Corrections Officers	79	2,143,213	27,129	4.28	34.8	3.3
Navajo County Dispatchers	51	1,323,877	25,958	5.76	37.5	3.2
Pima County Corrections Officers	429	15,680,645	36,552	1.34	37.1	7.3
Pinal County Corrections Officers	118	4,351,626	36,878	11.03	37.3	6.6
Pinal County Dispatchers	16	558,712	34,920	48.58	41.7	9.1
Santa Cruz County Corrections Officers	17	516,689	30,393	6.49	33.1	5.4
Town of Marana Dispatchers	9	368,077	40,897	(6.67)	42.1	5.3
Town of Oro Valley Dispatchers	12	518,393	43,199	3.25	40.3	8.4
Wickenburg Dispatchers	6	218,713	36,452		45.8	5.1
Yavapai County Corrections	193	6,519,542	33,780	6.43	38.7	3.5
Yuma County Corrections Officers	147	4,714,438	32,071	1.96	31.4	4.5
<b>Totals</b>	<b>11,752</b>	<b>\$404,155,903</b>	<b>\$34,390</b>	<b>4.3</b>	<b>39.6</b>	<b>6.0</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, 2005
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	8.50%
Projected salary increases	6.00-9.00%
Includes inflation at	5.00%

Membership data as of June 30, 2005, is indicated in Section Five of this report.

**Analysis of Funding Progress**

<b>Valuation Date</b> <b>June 30</b>	<b>(1)</b> <b>Valuation Value of Assets</b>	<b>(2)</b> <b>Actuarial Accrued Liability</b>	<b>(3)</b> <b>Percent Funded (1)/(2)</b>	<b>(4)</b> <b>Unfunded AAL (2)-(1)</b>	<b>(5)</b> <b>Annual Covered Payroll</b>	<b>(6)</b> <b>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	-
2004	833,620,994	795,774,862	104.8	(37,846,132)	381,942,220	-
<b>2005</b>	<b>872,980,916</b>	<b>906,025,039</b>	<b>96.4</b>	<b>33,044,123</b>	<b>404,155,903</b>	<b>8.18</b>

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

<b><u>Year Ended June 30</u></b>	<b><u>Annual Required Contribution</u></b>	<b><u>Percent Contributed</u></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
2005	16,291,914	100.0
<b>2006</b>	<b>22,309,405</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><u>Year Ended June 30</u></b>	<b><u>Annual Pension Cost</u></b>	<b><u>Percent Contributed</u></b>	<b><u>Net Pension Obligation</u></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
2004	14,555,335	100.0	0
<b>2005</b>	<b>16,291,914</b>	<b>100.0</b>	<b>0</b>

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

<u>Employer</u>	(1) <u>Actuarial</u> <u>Value of Assets</u>	(2) <u>Actuarial</u> <u>Acc. Liability</u> <u>Entry Age</u>	(3) <u>Percent</u> <u>Funded</u> <u>(1)/(2)</u>	(4) <u>Unfunded</u> <u>AAL (2) - (1)</u>	(5) <u>Annual</u> <u>Covered</u> <u>Payroll</u>	<u>(4)/(5)</u>
Apache County Corrections Officers	\$982,406	\$970,897	101.2%	\$(11,509)	\$625,868	0.0%
Cochise County Corrections Officers	4,301,845	4,195,375	102.5%	(106,470)	1,718,623	0.0%
Coconino County Corrections Officers	2,888,794	2,394,094	120.7%	(494,700)	2,563,971	0.0%
Department of Corrections	614,801,122	636,249,861	96.6%	21,448,739	268,013,530	8.0%
Department of Juvenile Corrections	59,947,949	60,146,603	99.7%	198,654	27,758,748	0.7%
Gila County Corrections Officers	957,988	893,247	107.2%	(64,741)	1,466,915	0.0%
Gila County Dispatchers	776,004	879,529	88.2%	103,525	639,899	16.2%
Maricopa County Corrections Officers	115,904,413	123,077,303	94.2%	7,172,890	64,454,423	11.1%
Mohave County Corrections Officers	3,846,262	2,299,418	167.3%	(1,546,844)	2,143,213	0.0%
Navajo County Corrections Officers	1,611,909	1,298,458	124.1%	(313,451)	1,323,877	0.0%
Pima County Corrections Officers	41,728,626	47,382,742	88.1%	5,654,116	15,680,645	36.1%
Pinal County Corrections Officers	5,456,128	6,877,901	79.3%	1,421,773	4,351,626	32.7%
Pinal County Dispatchers	837,817	1,108,722	75.6%	270,905	558,712	48.5%
Santa Cruz County Corrections Officers	1,317,912	810,987	162.5%	(506,925)	516,689	0.0%
Town of Marana Dispatchers	118,958	358,476	33.2%	239,518	368,077	65.1%
Town of Oro Valley Dispatchers	788,467	1,047,685	75.3%	259,218	518,393	50.0%
Wickenburg Dispatchers	200,395	223,872	89.5%	23,477	218,713	10.7%
Yavapai County Corrections Officers	7,472,922	8,305,724	90.0%	832,802	6,519,542	12.8%
Yuma County Corrections Officers	9,040,999	7,504,145	120.5%	(1,536,854)	4,714,438	0.0%
<b>Totals</b>	<b>\$872,980,916</b>	<b>\$906,025,039</b>	<b>96.4%</b>	<b>\$33,044,123</b>	<b>\$404,155,903</b>	<b>8.8%</b>