

**Arizona Corrections Officer
Retirement Plan**

Experience Study

July 1, 1998 through June 30, 2003

May 14, 2004

The Fund Manager
Arizona Corrections Officer Retirement Plan
Phoenix, Arizona

This report contains the results of an Experience Study for the Arizona Corrections Officer Retirement Plan covering the period from July 1, 1998 through June 30, 2003.

The Experience Study was based upon the data submitted by the Retirement Plan for the annual actuarial valuations as of June 30, 1998, 1999, 2000, 2001, 2002 and 2003.

The results of the Experience Study are used in the process of selecting the actuarial assumptions to be used in the annual actuarial valuations of the Retirement Plan.

Respectfully submitted,



Sandra W. Rodwan
Member, American Academy of
Actuaries

CC: Mr Jack Cross, Administrator
Arizona Corrections Officer
Retirement Plan

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Section One:

Introduction and Summary of Experience

Purpose of the Experience Study

The purpose of this Experience Study is to compile and analyze the actual demographic experience of the Arizona Corrections Officer Retirement Plan. This information is then used in the process of determining the actuarial assumptions for the annual actuarial valuations of the Retirement Plan.

Period Covered by the Study

This Experience Study covers the 5 year period from July 1, 1998 through June 30, 2003.

The demographic experience includes the following:

- Withdrawal rates
- Retirement rates
- Disability rates
- Mortality rates

Summary of Results

Withdrawal Rates

Rates of withdrawal of active members (other than for retirement, disability or death) were less than currently assumed in the first 2 years of employment, then greater than currently assumed for the next 3 years of employment. For members with at least 5 years of service, actual rates were higher than assumed for ages between 25 and 35.

Retirement) Rates

The current assumed rates of retirement are aged based. With retirement eligibility at any age with 20 years of service (25 years for dispatchers), we recommend use of a service related table in addition to an age based table. The service related rates are generally lower than currently assumed for retirement with less than 25 years of service and greater for service in excess of 25 years.

Disability Rates

Disability rates were less than the currently assumed rates.

Mortality Rates

The currently assumed mortality tables represent reasonable expectations of future mortality rates at this time based upon experience to date.



Section Two:
Withdrawal Rates

Withdrawal Rates

CORP Withdrawal

Ages	Service	Exposure	Withdrawals	Rate
ALL	0<1	5,892	481	0.08164
	1<2	9,136	2,107	0.23063
	2<3	6,831	1,574	0.23042
	3<4	5,286	1,081	0.20450
	4<5	4,041	718	0.17768
25-29	5 and up	1,642	226	0.13764
30-34		3,317	368	0.11094
35-39		3,828	290	0.07576
40-44		3,816	233	0.06106
45-49		3,449	188	0.05451
50-54		3,154	134	0.04249
55-59		2,260	79	0.03496
60-64		1,070	44	0.04112

Current and Recommended Assumptions

Ages	Service	Current	Recommended
ALL	0<1	30.00%	25.00%
	1<2	25.00%	23.00%
	2<3	20.00%	23.00%
	3<4	15.00%	20.00%
	4<5	12.00%	18.00%
25	5 and up	7.00%	10.00%
30		7.00%	10.00%
35		7.00%	7.00%
40		6.00%	6.00%
45		6.00%	6.00%
50		5.00%	5.00%
55		5.00%	4.00%



Section Three:
Retirement Rates

Retirement Rates

CORP Retirement Rates

Service	Exposure	Retirements	Rate
20	363	77	0.21212
21	281	41	0.14591
22	228	41	0.17982
23	185	40	0.21622
24	152	27	0.17763
25	109	60	0.55046
26	59	29	0.49153
27	31	14	0.45161
28	25	9	0.36000
29	17	5	0.29412
30	10	5	0.50000
31	10	2	0.20000
32	6	3	0.50000
33	2	2	1.00000
34	1	0	0.00000
35	1	1	1.00000
36	1		0.00000
37	0		
38	0		
39	0		
40	1	1	1.00000
< 20 yrs.			
Ages 60-64	646	235	.36378
65-69	85	70	.82353

Current and Recommended Retirement Rates

<u>Current</u>		<u>Recommended</u>			
<u>Age</u>	<u>Current</u>	<u>Age</u>	<u>Rate</u>	<u>Service</u>	<u>Rate</u>
40-44	25%			20 yrs.	25%
				21	15
45	25			22	15
46	25			23	20
47	25			24	20
48	25				
49	25			25	50
				26	45
50	25			27	45
51	25			28	35
52	25			29	30
53	25				
54	25			30	40
				31	40
55	25			32	50
56	25			33	50
57	25			34	50
58	25				
59	25			35	100
60	30	60	30%		
61	30	61	30		
62	40	62	40		
63	40	63	40		
64	40	64	40		
65	100	65	40		
66		66	40		
67		67	40		
68		68	40		
69		69	40		
70		70	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.



Section Four:
Disability Rates

Disability Rates

CORP Disability

Ages	Exposure	Disability	Rate
20-24	4,966	1	0.00010
25-29	9,804	1	0.00010
30-34	8,888	6	0.00068
35-39	7,665	4	0.00052
40-44	6,881	7	0.00102
45-49	5,720	8	0.00140
50-54	4,863	5	0.00103
55-59	3,278	1	0.00031
60-64	1,423	3	0.00211

Current and Recommended Assumptions

Ages	Current	Recommended
25	0.08%	0.05%
30	0.10%	0.08%
35	0.12%	0.10%
40	0.25%	0.12%
45	0.33%	0.15%
50	0.40%	0.20%
55	0.47%	0.30%
60	0.50%	0.40%



Section Five
Mortality Rates

Active Member Mortality Rates

CORP Active Member Deaths

Ages	Exposure	Deaths	Rate
20-24	4,966	5	0.00051
25-29	9,804	12	0.00122
30-34	8,888	16	0.00180
35-39	7,665	10	0.00130
40-44	6,881	6	0.00087
45-49	5,720	6	0.00105
50-54	4,863	7	0.00144
55-59	3,278	9	0.00275
60-64	1,423	16	0.01124

Retiree Mortality

Deaths 1999 - 2003

	<u>No.</u>
20-24	5
25-29	12
30-34	16
35-39	10
40-44	6
45-49	6
50-54	7
55-59	9
60-64	16
65-69	45
70-74	32
75-79	18
80-84	<u>8</u>
Totals	190

Recommendation:

The current mortality table for non-disabilities is the 1971 Group Annuity Mortality Table Projected to 2000 (Male), female ages set back six years.

The current mortality table for disability is the 1971 Group Annuity Mortality Table Projected to 1984 (Male), female ages set back six years.

We believe these tables continue to provide a reasonable measure of expected mortality and recommend no change at this time.



Section Six:

Summary of Recommended Rates

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.

No change.

Sample Ages	Non-Disability Table		Disability Table	
	Future Life Expectancy (Years)		Future Life Expectancy (Years)	
	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	37.51	43.25	36.69	42.42
45	32.80	38.46	32.01	37.64
50	28.28	33.73	27.53	32.93
55	23.98	29.17	23.28	28.40
60	19.90	24.82	19.27	24.11
65	16.09	20.70	15.55	20.05
70	12.69	16.82	12.25	16.27
75	9.82	13.32	9.49	12.87
80	7.39	10.36	7.17	10.02
85	5.57	7.83	5.43	7.59
90	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	25.0%	(all years of service)
	1	23.0	
	2	23.0	
	3	20.0	
	4	18.0	
25	5 and over	10.0	0.05%
30		10.0	0.08
35		7.0	0.10
40		6.0	0.12
45		6.0	0.15
50		5.0	0.20
55		4.0	0.30
60	4.0	0.40	

Retirement Rates: Age based and service based rates:

Percent of Active Members Retiring During Next Year

Age	Rate	Service	Rate
60	30%	20 yrs.	25%
61	30	21	15
62	40	22	15
63	40	23	20
64	40	24	20
65	40	25	50
66	40	26	45
67	40	27	45
68	40	28	35
69	40	29	30
70	100	30	40
		31	40
		32	50
		33	50
		34	50
		35	100

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

Economic Assumptions:

The assumed rate of investment return (net of expenses) adopted by the Fund Manager for the June 30, 2004 annual actuarial valuation is 8.75% per annum, compounded annually.

The assumed rate of across-the-board salary increases adopted by the Fund Manager for the June 30, 2004 annual actuarial valuation is 6.25%, including 5.25% for inflation.