

**STATE OF WYOMING
RETIREMENT SYSTEM**

**REPORT ON ACTUARIAL VALUATION
AS OF JANUARY 1, 2001**

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STATE OF WYOMING RETIREMENT SYSTEM

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STATE OF WYOMING RETIREMENT SYSTEM

I. INTRODUCTION

This report summarizes the results of our actuarial valuation of the State of Wyoming Retirement System (the Retirement System) as of January 1, 2001. The contribution requirements presented in Section VI of the report are based on the following:

1. The benefit provisions of the Retirement System as of January 1, 2001.
2. The characteristics of covered active employees, inactive nonretired participants, and pensioners and beneficiaries as of December 31, 2000.
3. The assets of the Retirement System as of December 31, 2000.
4. Economic actuarial assumptions regarding future salary increases and investment earnings.
5. Other actuarial assumptions regarding employee termination, retirement disability, death, etc.

One purpose of the actuarial valuation is to determine the contribution sufficient to meet the long-term obligations to the participants covered by the Retirement System in accordance with the benefit provisions of the Wyoming Retirement Act.

If each of the actuarial assumptions were to be exactly fulfilled, the true actuarial cost of the Retirement System would equal the cost projected by the actuarial calculations. However, because of the length of time for which projections are made, and because of the great number of variables which can affect the emerging costs, the actual experience of the Retirement System will not match the assumptions. The costs, expressed as a percentage of payroll, will increase if the Retirement System experiences net actuarial losses and will decrease if the Retirement System experiences net actuarial gains.

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II. SUMMARY OF VALUATION RESULTS

This section summarizes financial results for the Retirement System Plan based upon actuarial valuations as of January 1, 2001 and January 1, 2000.

	January 1, 2001	January 1, 2000
Contribution Requirements (as % of pay)		
Total Normal Cost	10.47%	10.22%
Employee Contributions	<u>5.72</u>	<u>5.71</u>
Employer Share	4.75	4.51
Amortization of Unfunded Liability	(3.59)	(1.44)
Administrative Expenses	<u>0.14</u>	<u>0.15</u>
Total Employer Cost	1.30%*	3.22%
Total Cost (Employee + Employer)	7.02%	8.92%
Funded Status		
Actuarial Value of Assets (AV)	\$4,190,440,000	\$ 3,641,370,000
Actuarial Accrued Liability (AAL)	3,683,174,000	3,440,152,000
AAL Funded Percentage (AV ÷ AAL)	113.8%	105.8%

*Effective July 1, 2001, certain benefit improvements will be effective as discussed in Exhibit IV. These improvements will increase the total employer cost percentage from 1.30% to 5.43%.

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III. MEMBERSHIP CHARACTERISTICS

As of December 31, 2000, there were 31,492 employees in active service covered under the provisions of the Retirement System. The significant age, service, salary and accumulated contribution information for the active employees are summarized below along with comparative figures from the previous year.

	2000	1999
Number of active employees	31,492	32,574
Average age	44.8	44.4
Average years of service	10.1	9.8
Total annual salary	\$ 897,641,161	\$ 843,532,012
Average annual salary	\$ 28,504	\$ 25,896
Total accumulated contributions	\$ 710,209,150	\$ 675,181,747
Average accumulated contributions	\$ 22,552	\$ 20,728

During 2000, the average age increased slightly, average service increased slightly, and the number of active employees decreased slightly. The active employee count decreased because employees are being moved to inactive more timely than in previous years.

* * * * *

In addition to the data received on active employees, data were provided on 4,420 vested inactive nonretired members who did not elect to receive their accumulated contributions when they left covered employment. The significant age, service (on date of termination) and accumulated contribution information for these inactive members are summarized below with comparative figures from the previous year.

	2000	1999
Number of inactive employees	4,420	3,925
Average age	50.0	49.9
Average years of service	9.6	9.1
Total accumulated contributions	\$ 94,362,973	\$ 76,006,602
Average accumulated contributions	\$ 21,349	\$ 19,365

The average age and service both increased slightly from last year. The number of inactive members increased by 12.6% since last year, again because inactive members are being identified sooner than in previous years.

* * * * *

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Of the 31,492 employees in active service on December 31, 2000, 1,096 were law enforcement officers who are eligible for special benefits from the Retirement System. A comparison of the law enforcement officers and the other employees (hereafter referred to as "general members") is summarized below:

	Law Enforcement Officers	General Members
Average age	40.3	45.0
Average years of service	8.2	10.2
Average age at hire	32.1	34.8

On the average, the law enforcement officers are younger than the general members and have fewer years of service. In addition, the average age at hire for law enforcement officers is approximately three years less than that for general members.

* * * * *

Detailed summaries of the census data for active and inactive participants are shown in the tables contained in the Appendix to this report. The first page of the Appendix contains the index of the tables contained therein.

For these tables, the salaries shown for active employees are the actual 2000 salaries reported increased by 2.25% (one half of the 4.5% overall salary scale) to approximate a pay rate. For calculating active employee liabilities, the same salaries were used.

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IV. BENEFIT EXPERIENCE

During the year ended December 31, 2000, the Board approved 721 pension awards. Of that total, approximately 31% commenced before becoming eligible for unreduced benefits. 34% of new retirees have unreduced benefits due solely to reaching age 60 while 17% of new retirees have attained the rule of 85 without reaching age 60. The remaining 18% of new retirees have both age 60 and rule of 85.

On December 31, 2000, a total of 12,758 pensioners were receiving retirement benefits from the Plan. The average monthly benefit for the pensioners was \$815 compared to \$775 as of the end of 1999. In addition, 1,261 beneficiaries were receiving monthly payments at December 31, 2000.

Detailed summaries of the census data for pensioners and beneficiaries are shown in the tables contained in the Appendix to this report. The information presented may be summarized as follows:

- ◆ Total annual benefits in force as of December 31, 2000 for the 14,019 pensioners and beneficiaries were \$134.6 million.
- ◆ Of the 14,019 pensioners and beneficiaries, approximately 32% are under age 65, 39% are 65 through 74 and 29% are 75 or older.
- ◆ Approximately 40% of the 12,758 pensioners are receiving benefits in either a 50% or 100% joint and survivor annuity, including those with a pop-up feature (options 2, 3, 6 or 7).
- ◆ Approximately 14% of the 14,019 pensioners and beneficiaries were receiving monthly benefits of less than \$200 and 65% were receiving at least \$400 per month.
- ◆ For members retiring from active service during 2000, the average age of early and normal retirements was 60.0.
- ◆ Benefit payments from Plan assets in 2000 totaled \$144,620,949, including refund payments of \$12,886,541. In 1999, benefit payments were \$132,428,572, including refund payments of \$11,360,095.

The actuarial accrued liability for pension benefits to the 14,019 pensioners and beneficiaries amounted to over \$1,487 million as of January 1, 2001. This liability is the actuarially estimated amount necessary to pay benefits to the pensioners and beneficiaries assuming that the amounts set aside would earn 8.0% interest per year until they are expended in benefit payments. This amount includes the 2.5% annual cost-of-living increases.

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V. ASSETS

As shown in the auditor's report as of December 31, 2000, net assets totaled \$4,412,034,881 at market value, compared to a value of \$4,509,577,499 as of December 31, 1999. However, assets are taken at a somewhat different value for the actuarial valuation. Effective January 1, 2001, we are using a method that adjusts to market value gradually as follows:

Appreciation and depreciation in excess of the expected appreciation, whether realized or unrealized, is spread over five years beginning with the year of occurrence. Interest and dividends are recognized immediately. The procedure results in recognition of all changes in market value after five years.

The procedure is applied to all investments. The determination of the actuarial value of investments is shown in Table A that follows. There was approximately \$222 million of deferred depreciation that will be recognized in future years. A statement of the actuarial assets for the years ended December 31, 2000 and 1999 is provided in Table B. The asset value on this basis is \$4,190,440,152 and \$3,641,370,374, respectively.

The amount of write-up or write-down (which reflects changing market values) is considered part of the investment income for the year. This procedure treats realized and unrealized capital gains or losses equally. In other words, the sale of a security – either at a gain or loss – has no effect on the value of assets for actuarial purposes. If the market value has gone up, the increase is gradually reflected in the value of the fund's assets; it does not have to be sold for the appreciation to be *realized*. This *automatic* reflection of market value appreciation or depreciation should eliminate any need for making investment decisions for the explicit purpose of meeting the investment return assumption.

Chart 1 is a graph showing the historical asset values on both actuarial and market value bases. This graph illustrates that the growth of the market value of assets has also been reflected in the actuarial value of assets.

The investment portfolio is summarized in Table C. On December 31, 2000, 58% of the assets at market value consisted of equities.

Income and disbursements for 2000 and 1999 on the actuarial value basis are given in Table D. The progress of the fund for the last fifteen years is provided in Table E. It shows that assets have increased consistently from year to year, although the amount of the increase has varied with fluctuations in investment income. Benefit payments have consistently increased, confirming the growth in assets needed to finance lifetime benefits for current pensioners and those participants who will retire in the future.

Table F shows the components of investment earnings over the last fifteen years. Over the full period, the earnings of \$3,467,311,000 on an actuarial value basis represented an average annual return of 11.5%.

A picture of the financial development of the fund over the last fourteen years is provided in Chart 2. Investment income is increasing the assets of the fund.

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These investment results are used to determine whether investment experience is meeting the Retirement System's actuarially assumed return. They do not, however, necessarily indicate the relative success of the Retirement System's investment program. Comparisons of performance with other funds, investment institutions and market indices are generally based on rates of return that reflect market changes in full, rather than on this smoothed actuarial value of assets.

The estimated investment returns for the last twelve years on a market value basis as reported by your investment advisors are as follows:

<u>Year</u>	<u>Rate of Return</u>	<u>Year</u>	<u>Rate of Return</u>
1989	18.00%	1995	25.90%
1990	5.30%	1996	11.73%
1991	20.30%	1997	20.92%
1992	8.57%	1998	19.02%
1993	10.24%	1999	13.88%
1994	(2.78%)	2000	(0.99%)

These values can be used to illustrate the smoothing effect that results from using an actuarial value of assets. Chart 3 illustrates that the volatility of market values is reduced by using an actuarial value of assets. By using an actuarial value that reduces the year-to-year fluctuations in return, the year-to-year fluctuations in cost are reduced.

The difference between the investment return rates at market value, when compared to similar return rates on the actuarial valuation basis, stems from the inclusion in the market value figures of all capital appreciation or depreciation whereas the results based on the actuarial valuation basis reflect only the write-up/down in accordance with the adopted valuation procedure.

The rates of return, based on full market value changes as presented herein, should not be taken as a truly adequate measure of the Retirement System's investment performance. There are many reasons for differences among portfolios in return rates based on market value and among managers during a given time period. While a manager's investment choices are an important factor, consideration must also be given to the effects of established policy guidelines and any special characteristics of the Plan that influence investment decisions. Those other factors, commonly dealt with in an investment performance study, are beyond the scope of this report.

TABLE A

DETERMINATION OF WRITE-UP (DOWN) AMOUNT AND ACTUARIAL VALUE OF INVESTMENTS AS OF DECEMBER 31, 2000 AND 1999

Year Ending	Total Appreciation (Depreciation)	Expected Appreciation	Difference From Expected	OF TOTAL APPRECIATION December 31, 2000		OF TOTAL APPRECIATION December 31, 1999	
				% Deferred	\$ Deferred	% Deferred	\$ Deferred
12/31/96	168,664,829	-	168,664,829	0%	0	20%	33,732,966
12/31/97	460,692,092	-	460,692,092	20%	92,138,418	40%	184,276,837
12/31/98	536,509,994	-	536,509,994	40%	214,603,998	60%	321,905,996
12/31/99	410,364,157	-	410,364,157	60%	246,218,494	80%	328,291,326
12/31/00	(178,515,645)	235,692,081	(414,207,726)	80%	<u>(331,366,181)</u>	0%	<u>0</u>
(a) Total Deferred as of Valuation Date					\$ 221,594,729		\$ 868,207,125
(b) Total Appreciation (Depreciation) for Last Five Plan Years					1,162,023,346		1,990,312,985
(C) Write-Up/(Down) Amount for the Year-- Equals 20% of (b) Plus Rounding Adjustment					232,404,669		398,062,598
Market Value of Investments					January 1, 2001		January 1, 2000
Less: Deferred Appreciation (Depreciation)					\$ 4,508,422,179		\$ 4,598,907,916
Preliminary Actuarial Value of Investments					<u>221,594,729</u>		<u>868,207,125</u>
Adjustment for 20% Corridor					\$ 4,286,827,450		\$ 3,730,700,791
Actuarial Value of Investments*					0		0
					\$ 4,286,827,450		\$ 3,730,700,791

* See Table B for actuarial value of assets.

TABLE B

**ASSETS OF THE FUND AS OF DECEMBER 31, 2000 AND 1999
(ACTUARIAL VALUE BASIS)**

	<u>2000</u>	<u>1999</u>
Accounts Receivable		
Employer Contributions	\$ 2,793,439	\$ 2,379,568
Employee Contributions	2,825,889	2,448,244
Investment Income	20,572,415	17,064,294
Other	298,212,476	314,956,379
Total Receivables	<u>\$ 324,404,219</u>	<u>\$ 336,848,485</u>
Preliminary Actuarial Value of Investments	4,286,827,450	3,730,700,791
Total Assets	<u>\$ 4,611,231,669</u>	<u>\$ 4,067,549,276</u>
Accounts Payable		
Benefits and Refunds	\$ (503,597)	\$ (316,589)
Other	(420,287,920)	(425,862,313)
Total Payables	<u>(420,791,517)</u>	<u>(426,178,902)</u>
Net Assets	\$ 4,190,440,152	\$ 3,641,370,374
Market Value of Assets	\$ 4,412,034,881	\$ 4,509,577,499
80% Minimum Actuarial Value	\$ 3,529,627,905	\$ 3,607,661,999
120% Maximum Actuarial Value	\$ 5,294,441,857	\$ 5,411,492,995
Adjustment for 20% Corridor	\$ 0	\$ 0
Actuarial Value of Assets	\$ 4,190,440,152	\$ 3,641,370,374

CHART 1

Value of Assets

■ Actuarial □ Market



Year Ended December 31

TABLE C

INVESTMENT PORTFOLIO

Type of Investment	December 31, 2000		December 31, 1999	
	Market Value	Percentage Distribution	Market Value	Percentage Distribution
Cash Investments	\$ 138,969,892	3.1%	\$ 146,325,020	3.2%
Fixed Income Investments	\$ 1,743,453,983	38.7%	\$ 1,616,842,031	35.2%
Equity Investments	\$ 2,625,998,304	58.2%	\$ 2,835,740,865	61.6%
Total Investments*	\$ 4,508,422,179	100.0%	\$ 4,598,907,916	100.0%

* Total market value of assets (after adjusting for accruals) is \$4,412,034,881 and \$4,509,577,499 as of December 31, 2000 and 1999.

TABLE D

**SUMMARY STATEMENT OF INCOME AND DISBURSEMENTS
FOR THE YEARS ENDED DECEMBER 31, 2000 AND 1999
(ACTUARIAL VALUE BASIS)**

	2000	1999
Contribution Income:		
Employer Contributions	\$ 50,489,314	\$ 48,577,053
Employee Contributions	51,868,059	50,106,535
Other	50,361	104,156
Total Contribution Income	<u>\$ 102,407,734</u>	<u>\$ 98,787,744</u>
Less: Administrative Expenses	(1,096,747)	(1,182,899)
Net Contribution Income	<u>\$ 101,310,987</u>	<u>\$ 97,604,845</u>
Investment Income:		
Interest and Dividends	\$ 133,718,867	\$ 139,729,897
Less: Investment Expenses	(10,289,407)	(6,704,702)
Net Interest and Dividends	<u>\$ 123,429,460</u>	<u>\$ 133,025,195</u>
Gross Write-Up of Assets	232,404,669	398,062,598
Expected Appreciation	235,692,081	-
Net Adjustment for 20% Corridor Around Market Value	<u>0</u>	<u>(55,796,696)</u>
Net Investment Income	<u>591,526,210</u>	<u>475,291,097</u>
Net Income from Securities Lending	<u>853,529</u>	<u>467,530</u>
Total Income Available for Benefit Payments and Reserves	<u>\$ 693,690,726</u>	<u>\$ 573,363,472</u>
Benefit Payments:		
Pension Benefits	\$ (131,734,408)	\$ (121,068,477)
Refunds	(12,886,541)	(11,360,095)
Total Benefit Payments	<u>\$ (144,620,949)</u>	<u>\$ (132,428,572)</u>
Addition to Reserve for Future Benefit Payments	<u>\$ 549,069,777</u>	<u>\$ 440,934,900</u>
Actuarial Value of Assets, Beginning of Year	<u>3,641,370,374</u>	<u>3,200,435,474</u>
Actuarial Value of Assets, End of Year	<u>\$ 4,190,440,151</u>	<u>\$ 3,641,370,374</u>

TABLE E

**PROGRESS OF THE FUND THROUGH DECEMBER 31, 2000
(ACTUARIAL VALUE BASIS)**

Plan Year	Employer Contributions*	Employee Contributions	Administrative Expenses	Net Investment Income	Benefit Payments	Fund at Year End
15 Years Through December 31, 2000	\$ 637,707,201	\$ 633,364,045	\$ (13,238,817)	\$ 3,467,311,522	\$ (1,300,937,797)	\$ 4,190,440,151
As of						
12/31/85	--	--	--	--	--	766,233,997**
12/31/86	41,364,465	36,365,804	(782,000)	98,998,090	(42,082,765)	900,097,591
12/31/87	39,901,834	36,039,418	(808,023)	91,374,783	(50,604,364)	1,016,001,239
12/31/88	38,414,939	33,222,264	(444,343)	103,025,282	(48,627,479)	1,141,591,902
12/31/89	36,139,394	36,231,108	(424,136)	128,370,680	(55,459,353)	1,286,449,595
12/31/90	38,668,634	38,960,372	(850,148)	114,218,588	(61,154,261)	1,416,292,780
12/31/91	38,903,350	39,288,267	(863,301)	148,064,188	(69,348,501)	1,572,336,783
12/31/92	42,354,843	42,883,874	(909,653)	175,246,400	(75,211,430)	1,756,700,817
12/31/93	41,596,571	42,266,219	(801,026)	189,281,426	(82,480,713)	1,946,563,294
12/31/94	42,791,243	43,415,880	(888,518)	136,210,578	(89,707,717)	2,078,384,760
12/31/95	43,714,263	44,435,762	(937,480)	230,731,781	(99,689,985)	2,296,639,101
12/31/96	43,495,146	44,761,611	(1,028,163)	233,212,720	(108,536,621)	2,508,543,794
12/31/97	44,958,544	46,152,691	(1,147,818)	314,340,179	(117,126,096)	2,795,721,294
12/31/98	46,183,091	47,366,181	(1,074,562)	436,098,461	(123,858,991)	3,200,435,474
12/31/99	48,681,209	50,106,535	(1,182,899)	475,758,627	(132,428,572)	3,641,370,374
12/31/2000	50,539,675	51,868,059	(1,096,747)	592,379,739	(144,620,949)	4,190,440,151***

* Includes other state funding sources.

** Includes contributions and investment income net of expenses and benefit payments through December 31, 1985.

*** Includes the effect of the change in actuarial asset method.

**SUMMARY OF INVESTMENT RESULTS
(ACTUARIAL VALUE BASIS)**

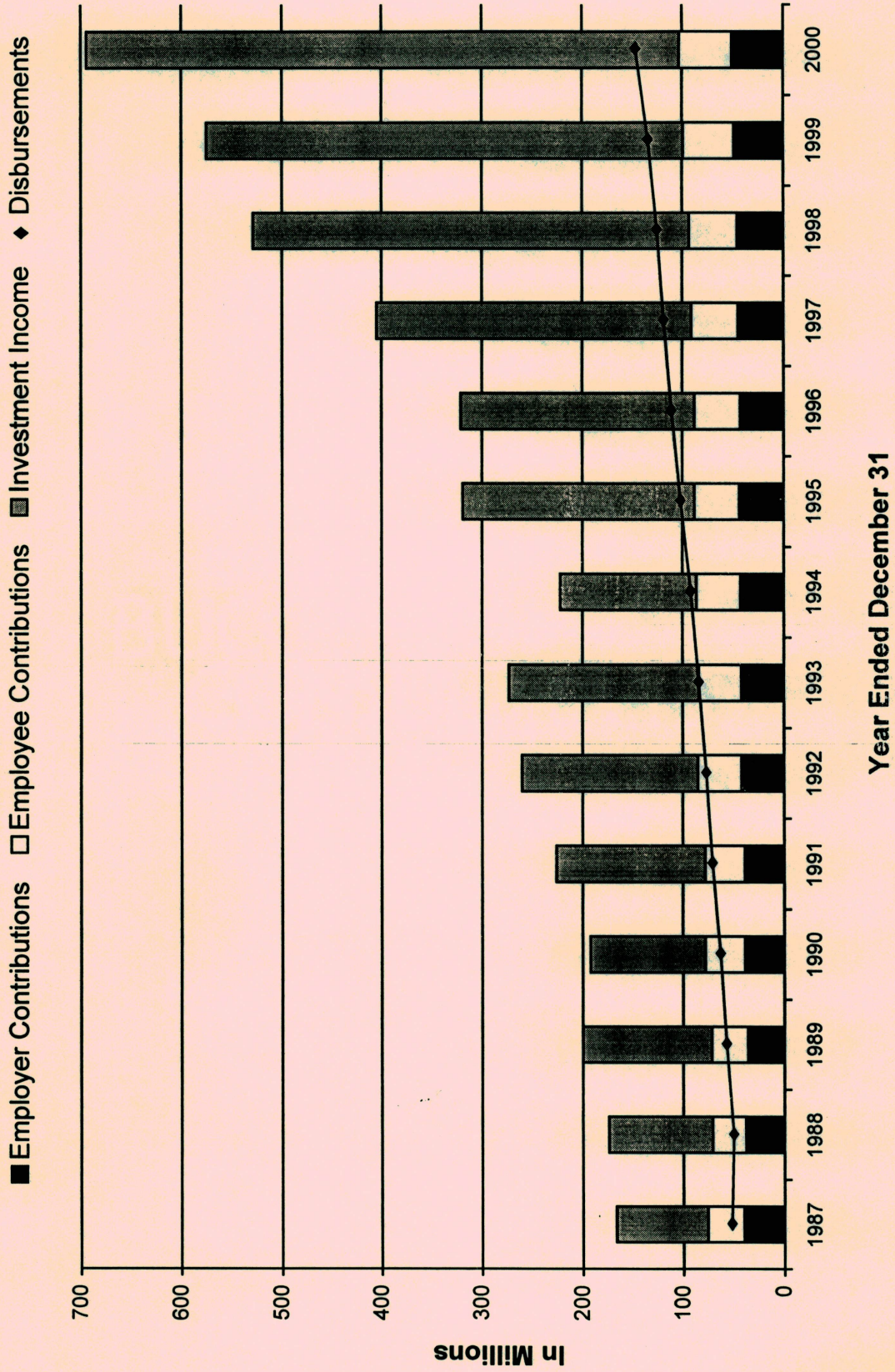
Plan Year	Average Amount of Assets in Fund	Assumed Investment Income		Net Dividends & Interest Income*	Appreciation Recognized**	Total Investment Income		Investment Gain (Loss)
		Amount	%			Amount	%	
1986	\$ 783,667,000	\$ 58,775,000	7.50%	\$ 75,380,000	\$ 23,618,000	\$ 98,998,000	12.6%	\$ 40,223,000
1987	912,362,000	68,427,000	7.50	76,183,000	15,192,000	91,375,000	10.0	22,948,000
1988	1,027,284,000	77,046,000	7.50	86,933,000	16,092,000	103,025,000	10.0	25,979,000
1989	1,149,835,000	86,238,000	7.50	88,865,000	39,506,000	128,371,000	11.7	42,133,000
1990	1,294,112,000	103,529,000	8.00	94,715,000	19,504,000	114,219,000	8.9	10,690,000
1991	1,420,283,000	113,623,000	8.00	99,550,000	48,514,000	148,064,000	10.4	34,441,000
1992	1,576,896,000	126,152,000	8.00	104,559,000	70,687,000	175,246,000	11.2	49,094,000
1993	1,757,392,000	140,591,000	8.00	106,022,000	83,259,000	189,281,000	10.8	48,690,000
1994	1,944,813,000	155,585,000	8.00	110,883,000	25,327,000	136,210,000	7.0	(19,375,000)
1995	2,072,615,000	165,809,000	8.00	117,721,000	113,011,000	230,732,000	11.1	64,923,000
1996	2,286,237,500	182,899,000	8.00	125,022,000	108,191,000	233,213,000	10.2	50,314,000
1997	2,495,225,000	199,618,000	8.00	123,671,000	190,669,000	314,340,000	12.6	114,722,000
1998	2,780,566,000	222,445,000	8.00	98,831,000	337,268,000	436,098,000	15.7	213,654,000
1999	3,183,615,000	254,689,000	8.00	133,493,000	342,266,000	475,759,000	14.9	221,070,000
2000	3,620,264,000	289,621,000	8.00	124,283,000	468,097,000	592,380,000	16.4%	302,759,000***
Total Amount		\$ 2,245,047,000		\$ 1,566,111,000	\$ 1,901,200,000	\$ 3,467,311,000		\$ 1,222,264,000
Average Rate of Investment Income Over Period							11.5%	

* Includes net effect of securities lending income, rebates and fees.

** Recognizes write-up of assets on an actuarial value basis and any adjustments necessary to bring the actuarial value within the 80% to 120% of market value corridor.

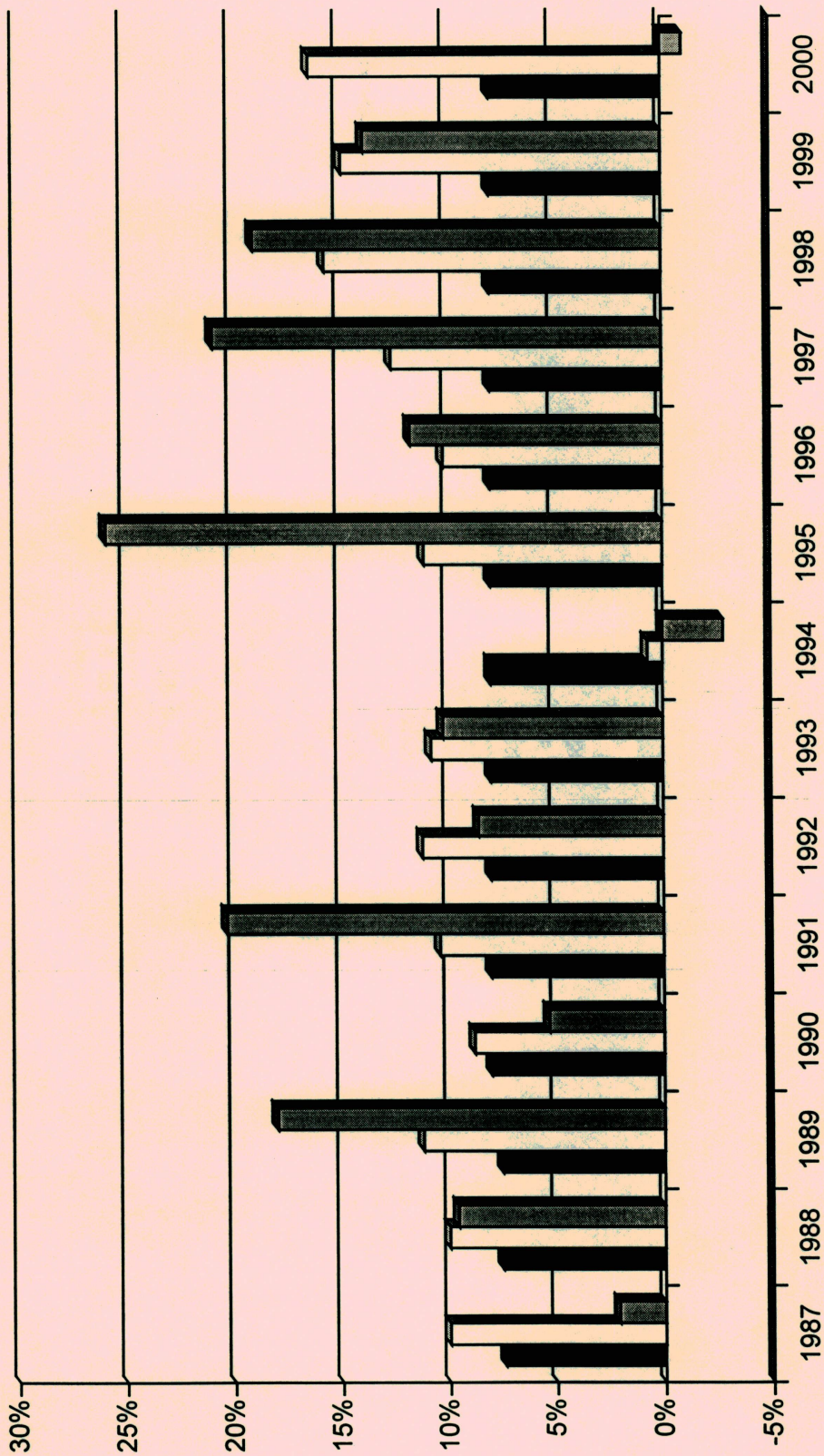
*** Includes effect of change in actuarial asset method

Income and Disbursements



Investment Return

■ Actuarial Assumption □ Actuarial Value ■ Market Value



Year Ended December 31

STATE OF WYOMING RETIREMENT SYSTEM

VI. RESULTS OF ACTUARIAL VALUATION

We have utilized an actuarial cost procedure known as the entry age normal cost method for funding all benefits. This method is used in situations where a cost is desired that will relatively remain level as a percentage of the participating payroll.

Under the entry age normal method, the total contribution requirement has three components: an annual normal cost, an allowance for expenses and a payment with respect to the unfunded actuarial accrued liability (UAAL).

The annual normal cost is calculated as the level percentage of pay required over each employee's period of covered employment to fund the total expected benefits. If the average entry age remains stable, the total normal cost rate should remain a level percentage of payroll.

The normal cost payments are not sufficient to finance the benefit program because credit is given for periods of prior service during which the normal cost contributions were not paid. Additional actuarial liability was also created by changes in the benefits, actuarial assumptions, funding method and by experience which differed from that projected by the actuarial assumptions.

We have calculated the cost of funding (or amortizing) this unfunded actuarial accrued liability over a period of 23 years as of January 1, 2001. The amortization method uses payments that are assumed to increase at 4.5% per annum, the rate at which the covered payroll is assumed to increase.

The use of a level percentage of payroll for amortization results in contributions in the early years that are not sufficient to cover the interest on the UAAL. The UAAL will therefore increase for years before declining in dollars, if experience matches assumptions.

Also, the use of a level percentage of payroll amortization can result in an increase in cost on a percentage of payroll basis if the growth in aggregate payroll is less than assumed. This is because, in this situation, the amortization payment would be spread over a lower-than-expected aggregate payroll.

The contribution requirements are shown below.

Contribution Requirements

	2001 Cost as a % of Salaries	2001 Dollar Cost*	2000 Cost as a % of Salaries
1. Entry Age Normal Cost			
a. Total employee and employer	10.46%	\$ 93,952,000	10.22%
b. Employee share**	5.71%	51,299,000	5.71%
c. Employer share equals (a) - (b)	4.75%	\$ 42,653,000	4.51%
2. Cost to Amortize Unfunded Actuarial Accrued Liability	(3.59)%	(32,181,000)	(1.44)%
3. Administrative Expenses	0.14%	1,228,000	0.15%
4. Total Employer Cost	1.30%	\$ 11,700,000	3.22%
5. Total Cost (Employee + Employer)	7.02%	\$ 62,999,000	8.92%

* Dollar costs based on 2001 estimated payroll of \$897,641,000.

** Represents 5.57% of salaries for general members and 9.30% of salaries for law enforcement officers.

STATE OF WYOMING RETIREMENT SYSTEM

VI. RESULTS OF ACTUARIAL VALUATION (continued)

The total employer cost of \$11,700,000 is 1.30% of payroll. This is less than the statutory contribution rate of 5.68% covered payroll. Hence, the current contribution rate more than meets the contribution requirements based upon the actuarial assumptions, actuarial method and financing objectives accepted by the Board.

As of January 1, 2000, the employer cost rate was 3.22%. An explanation of the change since the previous actuarial valuation is as follows:

Employer Cost Rate as of January 1, 2000	3.22%
Decrease due to actuarial investment return more than 8%	(.79)%
Contributions in excess of actuarially determined rate	(.18)%
Decrease due to change in actuarial asset method	(1.34)%
Increase due to other experience factors	<u>.39%</u>
Employer Cost Rate as of January 1, 2001	1.30%

Law Enforcement Officers

Law enforcement officers can receive their pension without an actuarial reduction as early as age 50. The following table illustrates their normal costs and liabilities based on the plan designs applied to the law enforcement officer population.

	Cost as a Percentage of Salaries	Dollar Cost
1. Total Entry Age Normal Cost		
a. Enhanced benefits	13.74%	\$ 4,790,300
b. Regular benefit formula	<u>10.47%</u>	<u>3,649,800</u>
c. Cost of benefit improvement (a) - (b)	3.27%	\$ 1,140,000
d. Benefit improvement amortization*	<u>1.47%</u>	<u>512,900</u>
e. Total cost of benefit improvement (c) + (d)	4.74%	\$ 1,653,400

* Amortized over 14-year average future work life from January 1, 1994.

STATE OF WYOMING RETIREMENT SYSTEM

VII. FUNDING STATUS

One measure of the progress of funding a retirement Plan is by benefit security ratios. The benefit security ratio is the ratio of Plan assets to Plan liabilities. The greater the ratio, the better funded the retirement Plan. This ratio can be calculated using different measures of the retirement Plan's liabilities.

Funding Basis -- Actuarial Accrued Liability

This measure of liabilities is used in calculating pension costs. It uses the Entry Age Normal Actuarial Cost method that spreads costs as a level percentage of payroll over a participant's working career.

For determining Plan costs, a smoothed value of assets (called actuarial value) is used. Hence, for this ratio, the actuarial value of assets is used.

Historical Results

The benefit security ratios for the last fourteen years are graphed in Chart 4. These ratios are developed in Table G. The graphs show that on a funding basis, the benefit security ratio has steadily improved.

Funding ratios change over time due to several factors. These factors include the level of contributions, actual experience (including investment returns), Plan amendments and changes in assumptions.

Actuarial Accrued Liability vs Actuarial Value of Assets

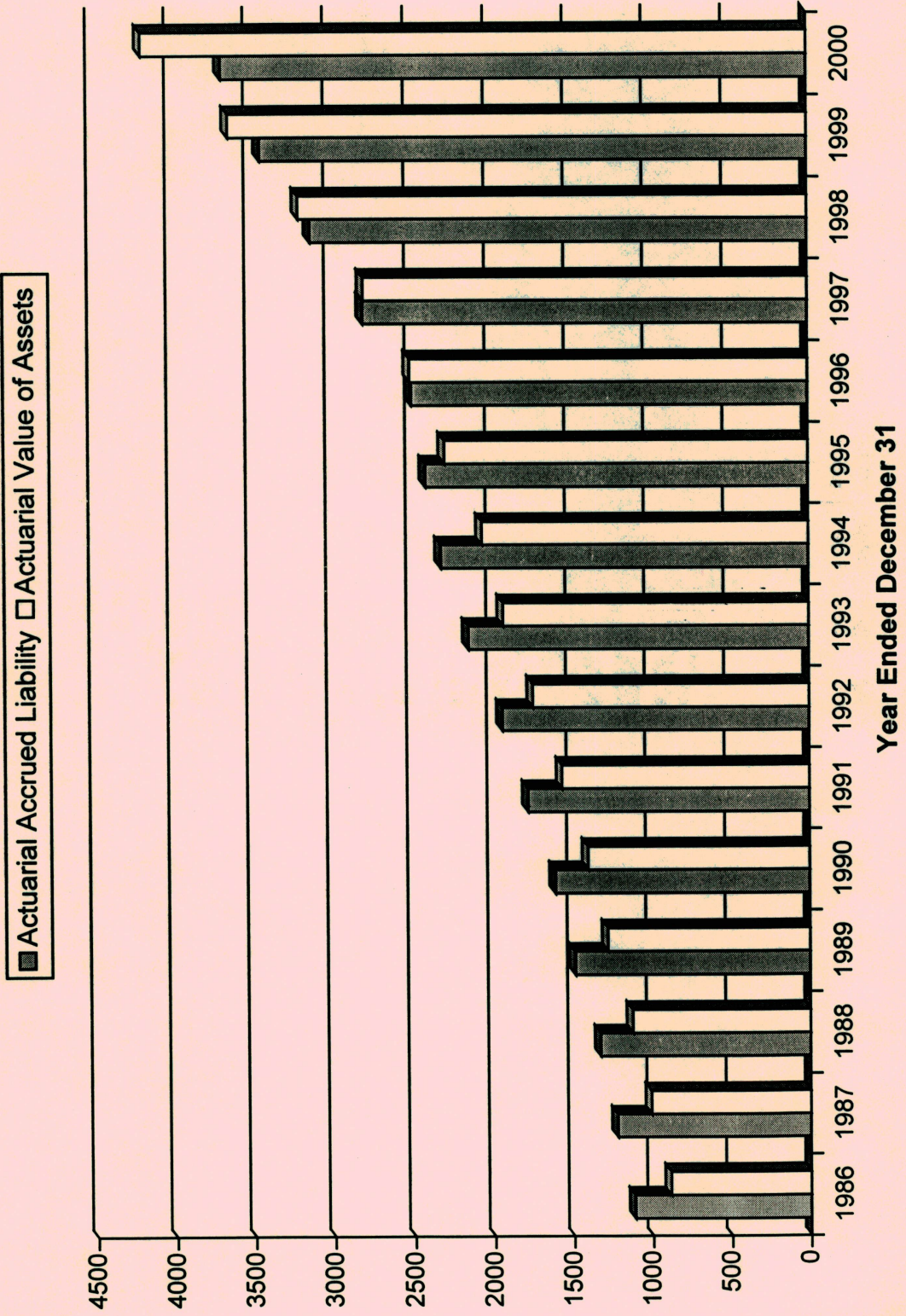


TABLE G

BENEFIT SECURITY RATIOS

As of Jan. 1	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Actuarial Accrued Liability (UAAL)	Benefit Security Ratio	Covered Payroll	UAAL as % of Covered Payroll
1987	\$ 1,119,666,000	\$ 900,098,000	\$ 219,568,000	80.4%	\$ 700,527,000	31.3%
1988	1,225,515,000	1,016,001,000	209,514,000	82.9	679,401,000	30.8
1989	1,334,110,000	1,141,592,000	192,518,000	85.6	681,101,000	28.3
1990	1,482,235,000	1,286,450,000	195,785,000	86.8	712,693,000	27.5
1991	1,627,934,000	1,416,293,000	211,641,000	87.0	712,860,000	29.7
1992	1,777,417,000	1,572,337,000	205,080,000	88.5	743,632,000	27.6
1993	1,944,477,000	1,756,701,000	187,776,000	90.3	756,248,000	24.8
1994	2,151,784,000	1,946,563,000	205,221,000	90.5	760,859,000	27.0
1995	2,310,624,000	2,078,385,000	232,239,000	90.0	793,782,000	29.3
1996	2,408,980,000	2,296,639,000	112,341,000	95.3	789,639,000	14.2
1997	2,500,667,000	2,508,544,000	(7,877,000)	100.3	803,239,000	(1.0)
1998	2,799,891,000	2,795,721,000	4,170,000	99.9	827,991,000	0.5
1999	3,125,121,000	3,200,435,000	(75,314,000)	102.4	873,530,000	(8.6)
2000	3,440,152,000	3,641,370,000	(201,218,000)	105.8	862,512,000	(23.3)
2001	3,683,174,000	4,190,440,000	(507,266,000)	113.8	897,641,000	(56.5)

STATE OF WYOMING RETIREMENT SYSTEM

VIII. ACTUARIAL ASSUMPTIONS AND COST METHOD

The cost method used in this actuarial valuation is the same as that used in the previous valuation. The assumptions have changed to reflect the results of the most recent experience study. The assumptions and cost method applied in the valuation are described below.

Investment Return

The actuarial calculations are based on the assumption that the effective return on the assets of the Retirement System will be 8.0% per annum net of investment expenses. This includes 4.0% for inflation and 4.0% real rate of return.

Salary Increases and Inflation

A salary scale is used in an actuarial valuation to estimate the salary progression of employees in the future.

The long-term salary increase assumption is 5.0% per year. It includes 4.0% for inflation, as assumed in the investment yield. There is an allowance for 0.5% for standard-of-living growth per year and 0.5% annually for merit, promotion and longevity.

The salary scale used in this actuarial valuation does not necessarily take full account of general across-the-board increases in salaries resulting from inflation and other factors under short-term current conditions. This is because actuarial assumptions are meant to be reasonable over the long-term and should not be unduly influenced by short-term economic conditions.

The following is a summary of the long-term economic assumptions applied in this valuation:

Investment yield	8.00%
Salary increases	5.00%
Inflation	4.00%

Demographic Assumptions

Assumptions as to retirement incidence, withdrawal, disability and mortality are specified in Exhibit III of the actuarial certification.

Funding Method

For purposes of determining pension costs, the entry age normal actuarial cost method has been used. It is used in situations where a cost is desired that will remain relatively level as a percentage of the participating payroll.

Under the entry age normal actuarial cost method, the total contribution requirement has three components: an annual normal cost, an operating expense component and a payment with respect to the unfunded actuarial accrued liability.

The annual normal cost is calculated for each employee as the level percentage of pay required over the employee's period of covered employment to pay the total expected benefits. If the actuarial assumptions remain unchanged and actuarial experience matches them, the normal cost rate for each employee will remain a level percentage of payroll.

STATE OF WYOMING RETIREMENT SYSTEM

VIII. ACTUARIAL ASSUMPTIONS AND COST METHOD (continued)

Unfunded actuarial accrued liability amounts are created by actuarial losses, changes in the actuarial assumptions and liberalizations in the benefit provisions. The unfunded liability is amortized over 23 years from January 1, 2001, using payments that rise 4.5% per annum. Such payments should remain a level percentage of aggregate salaries, since covered payroll is assumed to increase at the combined inflation and standard-of-living growth of 4.5% annually.

Assets

The assets are valued on a moving market-related basis for actuarial purposes. Interest and dividends are recognized immediately. The actuarial value includes the difference between expected appreciation and actual appreciation and depreciation, whether realized or not, spread over five years beginning with the year of occurrence. This procedure results in recognition of all changes in market value after five years. If the actuarial asset value is less than 80% of market (or more than 120%) an adjustment will be made to bring it within that range.

Beginning January 1, 2001, the amount smoothed is the difference between the actual appreciation or depreciation and the expected appreciation, based on the market value of assets and on 8% total investment return.

April 12, 2001

STATE OF WYOMING RETIREMENT SYSTEM

Actuarial Valuation Certificate

This is to certify that we have prepared an Actuarial Valuation of the Plan as of January 1, 2001, in accordance with generally accepted actuarial principles and practices.

The certificate contains the following attached exhibits:

- I. Actuarial Valuation Results
- II. Actuarial Assumptions and Cost Method
- III. Plan Amendments
- IV. Summary of Plan Provisions

The valuation is based on information supplied by the Retirement Office with respect to participants and by Porter, Muirhead, Cornia & Howard for financial data. We have not verified, and customarily would not verify, such information, but we have had no reason to doubt its substantial accuracy.

In my opinion, the assumptions used in the aggregate: (a) are reasonably related to the experience of the Plan and to reasonable expectations; and (b) represent my best estimate of anticipated experience under the Plan.



William B. Forna, FSA, MAAA, EA
Principal and Consulting Actuary

ACTUARIAL VALUATION RESULTS

1. Actuarial Accrued Liability on January 1, 2001:

a. Active employees	\$	2,091,203,000
b. Retired members and beneficiaries		1,487,187,000
c. Inactive nonretired members		104,784,000
d. Total.....	\$	<u>3,683,174,000</u>
2. Assets of the Fund on December 31, 2000 at actuarial value*	\$	4,190,440,000
3. Unfunded actuarial accrued liability -- equals (1) - (2)	\$	(507,266,000)
4. Employee and employer normal cost for ensuing year	\$	93,952,000
5. Estimated annual salaries of covered employees.....	\$	897,641,000
6. Employee normal cost	\$	51,299,000
7. Employer normal cost for ensuing year equals (4) - (6).....	\$	42,653,000
8. Amortization payment -- equals 23-year amortization of item (3) as a level percent of aggregate salary	\$	(32,181,000)
9. Expected Administrative expenses.....	\$	1,228,000
10. Total employer cost for ensuing year -- equals (7) + (8) + (9).....	\$	11,700,000
11. Total employer cost as percentage of payroll -- equals (10) ÷ (5)		1.30%**

* \$4,412,034,881 at market value.

** Effective July 1, 2001, certain benefit improvements will be effective as discussed in Exhibit IV. Such improvements will increase the total employer cost percentage from 1.30% to 5.43%

CHANGES IN ACTUARIAL ASSUMPTIONS & METHODS

Effective January 1, 2001 the actuarial asset method was changed from smoothing all capital appreciation and depreciation to smoothing only investment gains and losses in excess of the expected return on assets.

ACTUARIAL ASSUMPTIONS AND COST METHOD

Mortality Rates:

- Healthy Lives: 1994 Group Annuity Mortality Table (with margins)
- Disabled Lives: 1979 PBGC Disabled Lives Receiving Social Security

Termination Rates before retirement:

Sample Rates:

Age	RATE					
	Death			Withdrawal		
	Male	Female	Disability	General Members		Law Enforcement Officers
			Male	Female		
25	.07%	.03%	--	21.27%	24.37%	9.33%
30	.08%	.04%	.01%	14.70%	18.00%	5.54%
35	.09%	.05%	.01%	10.03%	13.10%	3.21%
40	.11%	.07%	.01%	7.25%	10.21%	2.45%
45	.16%	.10%	.04%	5.61%	7.94%	1.85%
50	.26%	.14%	.08%	4.21%	5.62%	1.38%
55	.44%	.23%	.20%	3.08%	4.13%	--
60	.80%	.44%	--	--	--	--

Retirement Rates: General Members

<u>Age</u>	<u>Rate of Retirement (Examples Shown)</u>
50	2%
55	6%
60	15%
62	25%
65	33%
70	100%

ACTUARIAL ASSUMPTIONS AND COST METHOD

Retirement Rates: Law Enforcement Officers

<u>Age</u>	<u>Rate of Retirement (Examples Shown)</u>	
	<u>Under 25 Years of Service</u>	<u>25 or More Years of Service</u>
50	2%	10%
55	6%	25%
60	15%	50%
62	25%	100%
65	33%	100%
70	100%	100%

Interest Rate: 8.0% per annum, net of investment expenses

Salary Scale: 5.0% per annum

Cost Method: Entry Age Normal Actuarial Cost Method

Actuarial Value of Assets:

Adjusted market value that immediately recognizes interest and dividends. The procedure recognizes 20% of each plan year's total appreciation (depreciation) in excess of the expected return on a market value basis beginning with the year of occurrence. After five years, the appreciation (depreciation) is fully recognized. If the adjusted market value is less than 80% of market (or more than 120%), an adjustment will be made to bring it within that range.

Administrative Expenses:

Annual administrative expenses are assumed to increase 5% per year. Expenses for the valuation year are projected at this rate based on the prior two years' average adjusted expenses.

PLAN AMENDMENTS

Effective July 1, 2001, the 2.5% annual cost-of-living adjustment will increase to 3.0% annually.

Effective July 1, 2001, the 2.0% multiplier for all service will increase to 2.125% for the first 15 years of service and 2.25% for service beyond 15 years.

Effective July 1, 2001, all retirees and beneficiaries will be given an ad-hoc benefit increase of \$3.00 per month for each year of service.

SUMMARY OF PLAN PROVISIONS

Following are the major benefit provisions of the State of Wyoming Retirement System. This summary is not intended to be a complete statement of all provisions of the Retirement System.

1. Service Retirement

Eligibility Age 50 with at least four years of service, or any age with at least 25 years of service, reduced by 5.0% per year for retirement prior to age 60. Those retiring from active service with combined age plus service of 85 or more points do not have their benefits reduced on account of early retirement. Law enforcement officers receive unreduced benefits at age 50 with 25 years of service. Effective July 1, 1997, Law enforcement officers may also retire with unreduced benefits at age 55 with combined age plus service of 75 or more points.

Benefit Calculated in two parts, (A) plus (B)

- A. **Pre-1975 Benefits.** The larger of the monthly benefits calculated under the following two formulas (1) and (2)
1. The amount of employee and matching employer contributions, with interest (currently 5.5%), is used to *purchase* an annuity based upon a unisex actuarial factor. The monthly benefit thus obtained is increased as approved by the 1967, 1973 and 1975 legislature as follows:
 - 1967 increase -- 25% (but not more than \$25 per month)
 - 1973 increase -- 40%
 - 1975 increase -- 20%
 2. Calculate pre-1975 benefits as 2.0% of the average earnings for the three highest years of service, times years of service prior to July 1, 1975, reduced by 5.0% per year for retirement prior to age 60. However, members retiring with a combined age and service of 85 receive an unreduced benefit prior to age 60.
- B. **Post-1975 Benefits.** the larger of the monthly benefits calculated under the following two formulas (1) and (2):
1. The same formula as for 1953-1975 benefits, except that the 20% increase does not apply.
 2. 2.0% of the average earnings for the three highest years of service, times years of service after July 1, 1975, reduced by 5.0% per year for retirement prior to age 60. However, members retiring with a combined age and service of 85 receive an unreduced benefit prior to age 60.

NOTE: Employees hired on and after July 1, 1981 will only be entitled to the benefit described under B.2. above.

2. Options

- Option 1 Monthly benefit for life, with a lump-sum death benefit equal to the excess (if any) of the employee contributions with interest over the total monthly benefits received. A choice of any option other than Option 1 changes the monthly benefit payable.
- Option 2 Monthly benefit for life, with 100% of the benefit continuing for the life of the beneficiary.
- Option 3 Monthly benefit for life, with 50% of the benefit continuing for the life of the beneficiary.
- Option 4 Monthly benefit for life, with a guarantee of 120 monthly payments.
- Option 5 Monthly benefit for life, with no death benefit. The choice of this option increases the monthly benefit slightly.
- Option 6 Monthly benefit for life, with 100% of the benefit continuing for the life of the beneficiary. Benefit reverts to Option 1 amount but without cash refund feature at beneficiary's death.
- Option 7 Monthly benefit for life, with 50% of the benefit continuing for the life of the beneficiary. Benefit reverts to Option 1 amount but without cash refund feature at beneficiary's death.

3. Disability Retirement

- Eligibility Disability prior to age 60, after 10 or more years of service (no service requirement for law enforcement officers). Disability must be duty-related for law enforcement officers.
- Benefit 100% of the service retirement benefit, calculated using Option 1 as if the employee were 60 years of age and service as of date of disability.

4. Vesting

An employee who terminates after at least 48 months of service can elect either to leave his contributions in the Retirement System and receive a service retirement benefit as described above, or to receive a lump-sum return of his contributions (including employer subsidies) with interest. An employee who terminates with less than 48 months of service is eligible only for the lump-sum benefit.

5. Preretirement Death Benefit

The beneficiary of a vested employee can elect either to receive a monthly benefit based on the beneficiary's age and the calculation method described above for service retirement, or to receive a lump-sum payment of two times the employee contributions, with interest. The beneficiary of an employee who dies prior to achieving vested status is eligible for the lump-sum benefit only.

6. Contributions

Currently 5.57% of salary by employee (9.30% for law enforcement officers) and 5.68% of salary by employer. The employer may subsidize all or part of the employee contributions. Interest is currently being credited at the rate of 5.50% on accumulated contributions.

7. Ad Hoc Benefit Increases to Retirees

Ad hoc adjustments have been made to benefit payments. The most recent one was effective July 1994, for those retiring prior to July 1, 1980. This increased pensions by \$2 monthly per year of service.

8. Cost-of-Living Adjustments

Benefits will increase by the lesser of 2.5% per year, or the increase in the Consumer Price Index. The first increase for a retiree is on the July 1 following two years of retirement. The first adjustments occurred in 1991.

CENSUS TABLES

Table Designation

I. <u>Active Employees</u>		
A. Number of active employees grouped by five-year age and service cells		
Males	1-A	
Females	1-B	
Males and Females, combined	1-C	
B. Salaries of active employees grouped by five-year age and service cells		2
II. <u>Inactive Participants</u>		
A. Number of inactive participants grouped by five-year age and service cells		
Males	3-A	
Females	3-B	
Males and Females, combined	3-C	
III. <u>Retired Participants</u>		
A. Summary of all retired participants by benefit option and sex		4
B. Distribution of pensions in force by amount of benefit and benefit option		5
C. Distribution of pensions in force by age and benefit option		
Males	6-A	
Females	6-B	
Males and Females, combined	6-C	
D. Distribution of pensions awarded during 1998 by amount of benefit and benefit option		7
E. Distribution of pensions awarded during 1998 by age and benefit option		8
F. Average monthly benefit by years elapsed since retirement and years of service at retirement		9
G. Distribution of retired participants by date of retirement		10

NOTE: See page 30 for description of benefit options by Code number.

CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000

MALES

Age Last Birthday	Years of Service										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34			
15-19	42										42
20-24	305	4									309
25-29	697	110	3								810
30-34	647	373	101	2							1,123
35-39	504	394	336	156	21						1,411
40-44	514	358	367	420	178	7					1,844
45-49	477	329	365	449	468	120					2,208
50-54	384	294	319	374	381	345	80				2,177
55-59	251	168	174	254	187	184	127	29			1,374
60-64	124	106	96	96	77	51	38	21			609
Over 64	65	55	31	23	15	5	6	3			203
Total	4,010	2,191	1,792	1,774	1,327	712	251	53			12,110

Average Age = 45.2 Average Service = 11.5

CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000

FEMALES

Age Last Birthday	Years of Service										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34			
15-19	59	1									60
20-24	529	2									531
25-29	1,092	158	3								1,253
30-34	1,042	452	109	3							1,606
35-39	1,314	570	343	166	15						2,408
40-44	1,356	777	589	490	256	7					3,475
45-49	1,114	842	685	627	589	143	2				4,002
50-54	693	599	577	626	537	304	77	1			3,414
55-59	328	240	291	367	340	175	62	10			1,813
60-64	112	99	113	124	108	61	23	9			649
Over 64	52	27	34	23	21	9	3	2			171
Total	7,691	3,767	2,744	2,426	1,866	699	167	22			19,382

Average Age = 44.5 Average Service = 9.9

CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000

MALES AND FEMALES COMBINED

Age Last Birthday	Years of Service										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34			
15-19	101	1									102
20-24	834	6									840
25-29	1,789	268	6								2,063
30-34	1,689	825	210	5							2,729
35-39	1,818	964	679	322	36						3,819
40-44	1,870	1,135	956	910	434	14					5,319
45-49	1,591	1,171	1,050	1,076	1,057	263	2				6,210
50-54	1,077	893	896	1,000	918	649	157	1			5,591
55-59	579	408	465	621	527	359	189	39			3,187
60-64	236	205	209	220	185	112	61	30			1,258
Over 64	117	82	65	46	36	14	9	5			374
Total	11,701	5,958	4,536	4,200	3,193	1,411	418	75			31,492

Average Age = 44.8 Average Service = 10.1

TABLE 2A

CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000
MEMBERS EXCLUDING LAW ENFORCEMENT

Age Last Birthday	Years of Service										Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19	Number 485,591	1 38,242										101 523,833
	Avg. Salary 4,856	38,242										5,186
20-24	Number 9,056,708	6 144,064										790 9,200,772
	Avg. Salary 11,552	24,011										11,647
25-29	Number 28,933,553	252 6,524,985	5 142,362									1,894 35,600,900
	Avg. Salary 17,675	25,893	28,472									18,797
30-34	Number 28,801,884	776 23,495,266	200 6,287,510	5 133,851								2,577 58,718,511
	Avg. Salary 18,046	30,277	31,438	26,770								22,786
35-39	Number 28,079,429	920 25,576,773	641 21,749,367	305 10,531,287	35 1,101,183							3,662 87,038,039
	Avg. Salary 15,945	27,801	33,930	34,529	31,462							23,768
40-44	Number 29,586,372	1,088 28,179,103	909 28,386,167	889 33,056,458	422 15,862,600	14 448,812						5,137 135,519,512
	Avg. Salary 16,301	25,900	31,228	37,184	37,589	32,058						26,381
45-49	Number 26,111,728	1,144 28,798,124	1,018 31,284,648	1,032 36,691,567	1,031 42,154,491	262 11,106,070	2 89,438					6,042 176,236,066
	Avg. Salary 16,814	25,173	30,731	35,554	40,887	42,390	44,719					29,168
50-54	Number 19,515,669	871 22,228,641	867 25,945,030	967 33,228,653	890 34,227,705	640 27,998,333	157 7,018,951	1 36,383				5,445 170,199,365
	Avg. Salary 18,551	25,521	29,925	34,363	38,458	43,747	44,707	36,383				31,258
55-59	Number 10,072,005	396 10,119,993	458 13,128,571	607 20,227,007	518 18,825,958	358 15,564,394	189 8,678,884	39 1,904,612				3,134 98,521,424
	Avg. Salary 17,701	25,556	28,665	33,323	36,344	43,476	45,920	48,836				31,436
60-64	Number 3,731,293	202 5,056,056	203 5,667,768	217 6,506,914	183 6,273,842	111 4,387,492	61 2,949,786	30 1,458,822				1,243 36,031,973
	Avg. Salary 15,811	25,030	27,920	29,986	34,283	39,527	48,357	48,627				28,988
Over 64	Number 1,309,084	82 1,859,270	64 1,548,648	45 1,190,598	35 985,806	14 521,914	9 399,901	5 209,277				371 8,024,498
	Avg. Salary 11,189	22,674	24,198	26,458	28,166	37,280	44,433	41,855				21,629
Total	Number 185,683,316	5,738 152,020,517	4,365 134,140,071	4,067 141,566,335	3,114 119,431,585	1,399 60,027,015	418 19,136,960	75 3,609,094				30,396 815,614,893
	Avg. Salary 16,549	26,494	30,731	34,809	38,353	42,907	45,782	48,121				26,833

Average Age = 45.0 Average Service = 10.2

TABLE 2B

**CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000
LAW ENFORCEMENT MEMBERS ONLY**

Age Last Birthday	Years of Service										Total				
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34							
15-19	Number 13,384 Tot. Salary 13,384 Avg. Salary	1													13,384 13,384
20-24	Number 779,532 Tot. Salary 15,591 Avg. Salary	50													779,532 15,591
25-29	Number 3,469,618 Tot. Salary 22,826 Avg. Salary	152	16	1											4,014,315 23,753
30-34	Number 2,397,069 Tot. Salary 25,775 Avg. Salary	93	49	10											4,365,868 28,723
35-39	Number 1,392,306 Tot. Salary 24,426 Avg. Salary	57	44	38	17	1									4,838,117 30,816
40-44	Number 1,067,825 Tot. Salary 19,415 Avg. Salary	55	47	47	21	12									5,485,113 30,138
45-49	Number 856,786 Tot. Salary 22,547 Avg. Salary	38	27	32	44	26									5,585,755 33,249
50-54	Number 613,733 Tot. Salary 24,549 Avg. Salary	25	22	29	33	28									5,189,598 35,545
55-59	Number 254,745 Tot. Salary 25,475 Avg. Salary	10	12	7	14	9									1,817,256 34,288
60-64	Number 80,252 Tot. Salary 26,751 Avg. Salary	3	6	3	2	1									474,668 31,645
Over 64	Number 36,916 Tot. Salary 36,916 Avg. Salary	1	1	1											103,455 34,485
Total	Number 10,962,166 Tot. Salary 22,602 Avg. Salary	485	224	168	131	77	11	11	11	11	11	11	11	11	32,667,061 29,806

Average Age = 40.3 Average Service = 8.2

TABLE 2C

CENSUS OF EMPLOYEES IN ACTIVE SERVICE ON DECEMBER 31, 2000

ALL MEMBERS

Age Last Birthday	Years of Service										Total			
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34						
15-19	Number	101	1											102
	Tot. Salary	498,975	38,242											537,217
	Avg. Salary	4,940	38,242											5,267
20-24	Number	834	6											840
	Tot. Salary	9,836,240	144,064											9,980,304
	Avg. Salary	11,794	24,011											11,881
25-29	Number	1,789	268	6										2,063
	Tot. Salary	32,403,171	7,041,549	170,494										39,615,214
	Avg. Salary	18,112	26,274	28,416										19,203
30-34	Number	1,689	825	210	5									2,729
	Tot. Salary	31,198,953	25,126,699	6,624,875	133,851									63,084,378
	Avg. Salary	18,472	30,457	31,547	26,770									23,116
35-39	Number	1,818	964	679	322	36								3,819
	Tot. Salary	29,471,735	27,005,986	23,137,569	11,119,479	1,141,386								91,876,155
	Avg. Salary	16,211	28,015	34,076	34,533	31,705								24,058
40-44	Number	1,870	1,135	956	910	434	14							5,319
	Tot. Salary	30,654,197	29,642,557	30,052,710	33,854,387	16,351,964	448,812							141,004,627
	Avg. Salary	16,393	26,117	31,436	37,203	37,677	32,058							26,510
45-49	Number	1,591	1,171	1,050	1,076	1,057	263	2						6,210
	Tot. Salary	26,968,514	29,660,449	32,400,743	38,294,320	43,256,268	11,152,090	89,438						181,821,822
	Avg. Salary	16,951	25,329	30,858	35,590	40,924	42,403	44,719						29,279
50-54	Number	1,077	893	896	1,000	918	649	157	1					5,591
	Tot. Salary	20,129,402	22,943,433	26,890,429	34,562,255	35,383,341	28,424,769	7,018,951	36,383					175,388,963
	Avg. Salary	18,690	25,693	30,012	34,562	38,544	43,798	44,707	36,383					31,370
55-59	Number	579	408	465	621	527	359	189	39					3,187
	Tot. Salary	10,326,750	10,516,738	13,371,950	20,772,711	19,166,518	15,600,518	8,678,884	1,904,612					100,338,681
	Avg. Salary	17,835	25,776	28,757	33,450	36,369	43,455	45,920	48,836					31,484
60-64	Number	236	205	209	220	185	112	61	30					1,258
	Tot. Salary	3,731,293	5,136,307	5,857,715	6,605,337	6,336,167	4,431,214	2,949,786	1,458,822					36,506,641
	Avg. Salary	15,811	25,055	28,027	30,024	34,250	39,564	48,357	48,627					29,020
Over 64	Number	117	82	65	46	36	14	9	5					374
	Tot. Salary	1,309,084	1,859,270	1,585,565	1,217,246	1,025,696	521,914	399,901	209,277					8,127,953
	Avg. Salary	11,189	22,674	24,393	26,462	28,492	37,280	44,433	41,855					21,732
Total	Number	11,701	5,958	4,536	4,200	3,193	1,411	418	75					31,492
	Tot. Salary	196,528,314	159,115,294	140,092,050	146,559,586	122,661,340	60,579,317	19,136,960	3,609,094					848,281,955
	Avg. Salary	16,796	26,706	30,884	34,895	38,416	42,934	45,782	48,121					26,936

Average Age = 44.8 Average Service = 10.1

CENSUS OF DEFERRED VESTED PARTICIPANTS ON DECEMBER 31, 2000

MALES

Age Last Birthday	Years of Service										Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19												
20-24												
25-29		6										6
30-34	12	29	4									45
35-39	33	73	22	4	1							133
40-44	25	109	53	29	2							218
45-49	37	157	107	54	22	3						380
50-54	46	154	95	50	19	11						375
55-59	44	133	68	38	12	8	2					305
60-64	18	40	20	5	4							87
Over 64	14	22	8	1	2							47
Total	229	723	377	181	62	22	2					1,596

Average Age = 49.7

Average Service = 9.58

CENSUS OF DEFERRED VESTED PARTICIPANTS ON DECEMBER 31, 2000

FEMALES

Age Last Birthday	Years of Service										Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19												
20-24	1	1										2
25-29	14	5										19
30-34	24	72	4									100
35-39	46	123	43	7								219
40-44	84	200	101	27	6							418
45-49	81	308	159	69	23	1						641
50-54	87	297	170	88	35	9	2					688
55-59	64	213	112	56	15	13						473
60-64	29	88	27	12	4							160
Over 64	31	50	17	6								104
Total	461	1,357	633	265	83	23	2	0	2	23	2	2,824

Average Age = 51.5

Average Service = 8.94

CENSUS OF DEFERRED VESTED PARTICIPANTS ON DECEMBER 31, 2000

MALES AND FEMALES COMBINED

Age Last Birthday	Years of Service										Total	
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34				
15-19												
20-24	1	1										2
25-29	14	11										25
30-34	36	101	8									145
35-39	79	196	65	11	1							352
40-44	109	309	154	56	8							636
45-49	118	465	266	123	45	4						1,021
50-54	133	451	265	138	54	20	2					1,063
55-59	108	346	180	94	27	21	2					778
60-64	47	128	47	17	8							247
Over 64	45	72	25	7	2							151
Total	690	2,080	1,010	446	145	45	4					4,420

Average Age = 50.9

Average Service = 9.17

RETIRES AS OF DECEMBER 31, 2000

	NUMBER			MONTHLY AMOUNT		
	Male	Female	Total	Male	Female	Total
<u>Pensioners</u>						
Option 1	1,581	4,311	5,892	\$ 1,391,957	\$ 2,784,690	\$ 4,176,647
Option 2	2,556	1,098	3,654	\$ 2,661,181	\$ 680,147	\$ 3,341,328
Option 3	475	246	721	\$ 687,081	\$ 205,116	\$ 892,197
Option 4	258	320	578	\$ 225,828	\$ 197,081	\$ 422,909
Option 5	266	923	1,189	\$ 239,470	\$ 559,135	\$ 798,605
Option 6	291	231	522	\$ 315,284	\$ 178,308	\$ 493,592
Option 7	94	108	202	\$ 149,226	\$ 114,865	\$ 264,091
Total	5,521	7,237	12,758	\$ 5,670,027	\$ 4,719,342	\$ 10,389,369
<u>Beneficiaries</u>						
	189	1,072	1,261	\$ 102,819	\$ 728,661	\$ 831,480
Grand Total	5,710	8,309	14,019	\$ 5,772,846	\$ 5,448,003	\$ 11,220,849

RETIREE BENEFITS IN FORCE BY AMOUNT AND OPTION TYPE

	PENSION OPTION						
	1	2	3	4	5	6	7
Males							
Under \$200	591	249	14	38	48	32	1
\$200-\$399	933	448	31	40	43	49	7
\$400-\$599	797	345	58	46	50	40	6
\$600-\$799	641	290	47	29	29	32	9
\$800-\$999	477	209	45	27	26	15	9
\$1,000-\$1,499	849	408	109	42	20	32	15
\$1,500-\$1,999	645	338	77	19	22	49	12
\$2,000-\$2,499	450	224	62	20	21	21	20
\$2,500 & Over	327	131	59	7	16	24	15
Total	5,710	2,642	502	268	275	294	94
Females							
Under \$200	1,422	305	24	69	225	32	4
\$200-\$399	2,004	454	76	79	225	48	10
\$400-\$599	1,506	306	67	70	164	42	17
\$600-\$799	1,017	212	52	41	87	31	13
\$800-\$999	657	145	22	29	64	14	15
\$1,000-\$1,499	954	216	69	35	92	34	19
\$1,500-\$1,999	448	105	29	17	48	26	22
\$2,000-\$2,499	220	42	3	9	28	21	8
\$2,500 & Over	81	10	4	2	11	1	2
Total	8,309	1,805	346	351	944	240	110
Males & Females							
Under \$200	2,013	554	38	107	273	64	5
\$200-\$399	2,937	902	107	119	268	97	17
\$400-\$599	2,303	661	125	116	214	82	23
\$600-\$799	1,658	502	99	70	116	63	22
\$800-\$999	1,134	354	67	56	90	29	24
\$1,000-\$1,499	1,803	624	178	77	112	66	34
\$1,500-\$1,999	1,093	443	106	36	70	75	34
\$2,000-\$2,499	670	266	65	29	49	33	28
\$2,500 & Over	408	141	63	9	27	25	17
Total	14,019	4,447	848	619	1,219	534	204

PENSIONS IN FORCE ON DECEMBER 31, 2000
BY OPTION AND NEAREST AGE ON THAT DATE

MALES

Age Last Birthday	Pension Option							Total
	1	2	3	4	5	6	7	
0-49	9	10	3	2		1		25
50-54	54	67	7	15	7	25	3	178
55-59	166	254	31	38	21	67	18	595
60-64	274	525	94	46	62	87	30	1,118
65-69	317	604	120	48	59	82	27	1,257
70-74	310	496	110	67	55	28	13	1,079
75-79	247	382	85	31	36	3	3	787
80-84	132	199	35	11	22	1		400
Over 84	126	105	17	10	13			271
Total	1,635	2,642	502	268	275	294	94	5,710

**PENSIONS IN FORCE ON DECEMBER 31, 2000
BY OPTION AND NEAREST AGE ON THAT DATE**

FEMALES

Age Last Birthday	Pension Option							Total
	1	2	3	4	5	6	7	
0-49	35	12	2	6	1			56
50-54	102	61	12	24	20	20	5	244
55-59	343	161	22	56	59	71	26	738
60-64	757	291	69	72	158	70	42	1,459
65-69	838	369	72	81	205	57	24	1,646
70-74	824	327	67	57	192	18	10	1,495
75-79	624	264	61	39	148	3	3	1,142
80-84	496	201	23	9	78	1		808
Over 84	494	119	18	7	83			721
Total	4,513	1,805	346	351	944	240	110	8,309

PENSIONS IN FORCE ON DECEMBER 31, 2000
BY OPTION AND NEAREST AGE ON THAT DATE

MALES & FEMALES COMBINED

Age Last Birthday	Pension Option							Total
	1	2	3	4	5	6	7	
0-49	44	22	5	8	1	1	0	81
50-54	156	128	19	39	27	45	8	422
55-59	509	415	53	94	80	138	44	1,333
60-64	1,031	816	163	118	220	157	72	2,577
65-69	1,155	973	192	129	264	139	51	2,903
70-74	1,134	823	177	124	247	46	23	2,574
75-79	871	646	146	70	184	6	6	1,929
80-84	628	400	58	20	100	2	0	1,208
Over 84	620	224	35	17	96	0	0	992
Total	6,148	4,447	848	619	1,219	534	204	14,019

PENSIONS AWARDED IN 2000 BY OPTION AND MONTHLY AMOUNT

MALES & FEMALES COMBINED

Monthly Amount	Pension Option							Total
	1	2	3	4	5	6	7	
0-199	26	17		3	7	7	1	61
200-399	44	26		3	11	12	2	98
400-599	27	29	2	4	11	11	5	89
600-799	26	21	3	4	8	8	4	74
800-999	16	25	2	6	7	7	4	67
1000-1499	39	45	11	5	4	16	5	125
1500-1999	29	38	6	1	9	19	4	106
2000-2499	14	22	3	1	5	8	6	59
Over 2499	17	12	2	1	2	5	3	42
Total	238	235	29	28	64	93	34	721

**PENSIONS AWARDED IN 2000
BY OPTION AND NEAREST AGE ON THAT DATE**

MALES & FEMALES COMBINED

Nearest Age	Pension Option							Total
	1	2	3	4	5	6	7	
0-49	11	3						14
50-54	29	39	2	10	4	13	4	101
55-59	78	67	9	8	12	39	18	231
60-64	81	91	15	8	33	29	10	267
65-69	31	28	3	2	13	9	1	87
70-74	7	5			1	2		15
75-79	1	2			1		1	5
80-84						1		1
Over 84								0
Total	238	235	29	28	64	93	34	721

AVERAGE MONTHLY BENEFIT OF RETIREES AS OF DECEMBER 31, 2000, BY YEARS ELAPSED SINCE RETIREMENT AND BY YEARS OF SERVICE AT RETIREMENT (EACH CELL INCLUDES NUMBER OF RETIREES AND AVERAGE BENEFIT)

Service at Retirement	Years Elapsed Since Retirement										Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34			
0-4	Number 217	179	209	152	83	30	4	2			876
	Avg. Benefit 290.97	138.51	142.29	168.00	146.65	187.82	464.44	366.15			186.78
5-9	Number 518	615	665	419	266	156	13	5			2,657
	Avg. Benefit 269.28	245.23	276.84	234.44	223.24	219.08	231.44	127.30			252.10
10-14	Number 717	731	667	335	257	124	25	2			2,858
	Avg. Benefit 501.54	476.62	465.14	395.60	373.22	335.11	317.45	312.39			453.75
15-19	Number 764	701	489	301	153	122	9	3			2,542
	Avg. Benefit 768.90	731.76	726.86	595.13	506.99	475.47	483.48	536.88			698.89
20-24	Number 550	524	402	227	165	75	7				1,950
	Avg. Benefit 1,113.28	1,031.30	1,028.82	810.75	683.15	635.68	564.84				981.89
25-29	Number 544	417	295	203	72	20	8	3			1,562
	Avg. Benefit 1,591.68	1,529.40	1,338.57	1,072.23	809.30	768.19	705.84	689.07			1,406.87
30-34	Number 390	409	246	111	30	16	2	3			1,207
	Avg. Benefit 2,143.67	2,147.57	1,816.00	1,502.01	919.49	819.17	792.94	742.67			1,965.49
35-39	Number 62	156	43	25	11	10	6	1			314
	Avg. Benefit 2,529.70	2,590.55	2,146.02	1,725.35	958.88	998.35	933.05	1,012.26			2,304.21
40 and over	Number 10	13	8	4	8	7	3				53
	Avg. Benefit 3,119.78	2,447.72	1,947.36	1,831.17	1,126.47	1,077.98	1,143.10				1,995.28
Total	Number 3,772	3,745	3,024	1,777	1,045	560	77	19			14,019
	Avg. Benefit 968.17	942.44	741.59	593.31	443.23	416.16	485.30	469.04			800.40

Average Service at Retirement = 16.76

Average Years Since Retirement = 9.97

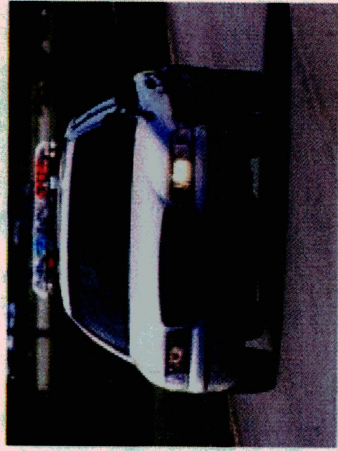
DISTRIBUTION OF RETIRED PARTICIPANTS BY DATE OF RETIREMENT

<u>Date of Retirement</u>	<u>Counts</u>	<u>Date of Retirement</u>	<u>Counts</u>
07/01/55 - 06/30/56	1	07/01/79 - 06/30/80	203
07/01/56 - 06/30/57	1	07/01/80 - 06/30/81	301
07/01/58 - 06/30/59	1	07/01/81 - 06/30/82	279
07/01/60 - 06/30/61	1	07/01/82 - 06/30/83	314
07/01/61 - 06/30/62	3	07/01/83 - 06/30/84	229
07/01/62 - 06/30/63	3	07/01/84 - 06/30/85	596
07/01/63 - 06/30/64	4	07/01/85 - 06/30/86	486
07/01/64 - 06/30/65	4	07/01/86 - 06/30/87	612
07/01/65 - 06/30/66	7	07/01/87 - 06/30/88	714
07/01/66 - 06/30/67	7	07/01/88 - 06/30/89	620
07/01/67 - 06/30/68	14	07/01/89 - 06/30/90	378
07/01/68 - 06/30/69	18	07/01/90 - 06/30/91	736
07/01/69 - 06/30/70	25	07/01/91 - 06/30/92	543
07/01/70 - 06/30/71	26	07/01/92 - 06/30/93	780
07/01/71 - 06/30/72	134	07/01/93 - 06/30/94	710
07/01/72 - 06/30/73	98	07/01/94 - 06/30/95	802
07/01/73 - 06/30/74	131	07/01/95 - 06/30/96	995
07/01/74 - 06/30/75	120	07/01/96 - 06/30/97	729
07/01/75 - 06/30/76	163	07/01/97 - 06/30/98	760
07/01/76 - 06/30/77	185	07/01/98 - 06/30/99	743
07/01/77 - 06/30/78	207	07/01/99 - 06/30/00	759
07/01/78 - 06/30/79	246	07/01/00 - 01/01/01	331

Total: 14,019

Wyoming Retirement System

Presentation of the
Actuarial Valuation Results



**BUCK
CONSULTANTS**

April 20, 2001



Agenda

- ◆ What is actuarial funding?
- ◆ What about asset smoothing?
- ◆ Actuarial valuation results

What is Actuarial Funding?

- ◆ **Recognition of cost in advance of payment**
- ◆ **Based on actuarial assumptions of future experience**
- ◆ **Annual actuarial valuations**

Actuarial Gains and Losses

- ◆ Caused by experience different from expected, e.g.:
 - Investment return of 8%
 - Salary growth of 5%
 - Retirement rates
 - Termination rates
 - Mortality
 - Other actuarial assumptions

Investment return might not be 8.0%

- ◆ This results in assets more or less than expected
- ◆ Asset smoothing accommodates this somewhat

Investment return might not be 8.0%

◆ Components of investment return:

- Dividends
- Interest
- Appreciation
- Depreciation

What investment return do we expect?

- ◆ Dividends -- 1% on equities
- ◆ Interest -- 5%
- ◆ Appreciation -- 9% on equities
- ◆ Depreciation -- We don't make investments for depreciation

Old Asset Smoothing Method

- ◆ Dividends -- Don't smooth
- ◆ Interest -- Don't smooth
- ◆ Appreciation -- Smooth over 5 years
- ◆ Depreciation -- Smooth over 5 years
- ◆ Any appreciation/depreciation is smoothed, even if less than expected

New Asset Smoothing Method

- ◆ Smooth over 5 years
- ◆ But only smooth if more or less than 8%
- ◆ Will not smooth if equals 8%

Highlights of Actuarial Valuation

- ◆ Investments Returned -0.99%
- ◆ All Plans Continue to be Well Funded
- ◆ Wyoming Retirement System Funding Margin increased to 4.38%
- ◆ Several benefit improvements
- ◆ Positive funding margin would continue

Wyoming Retirement System Plans

Summary of Funding Position

	Actuarial Value of Assets	Actuarial Accrued Liability	Funded Percentage
As of January 1, 2001			
- Wyoming Retirement System	\$4,190	\$3,683	114%
- Paid Fire Plan A	195	132	147%
- Paid Fire Plan B	32	19	167%
- Warden and Patrol	73	66	111%
- Judges	2	5	31%
As of January 1, 2000			
- Wyoming Retirement System	\$3,641	\$3,440	106%
- Paid Fire Plan A	172	109	157%
- Paid Fire Plan B	26	15	175%
- Warden and Patrol	63	59	106%
- Judges	0	5	3%

All \$ figures are in millions

Wyoming Retirement System

Comparative Summary of Key Demographic Information

	Valuation Date		Change
	01/01/01	01/01/00	
Number of Members			
- Active	31,492	32,574	- 1,082
- Retirees, Disableds and Beneficiaries	14,009	13,578	+ 431
- Inactive Members	4,420	3,925	+ 495
Total	<u>49,921</u>	<u>50,077</u>	- 156
Projected Payroll (\$ millions)	\$ 898	\$ 862	+ 36
Active Averages			
- Age (years)	44.8	44.4	+ 0.4 years
- Service (years)	10.1	9.8	+ 0.3 years
Annual Disbursements			
- Pensions (\$millions)	\$ 131.7	\$ 121.1	+ \$10.6
- Refunds (\$millions)	\$ 12.9	\$ 11.4	+ \$1.5

Wyoming Retirement System

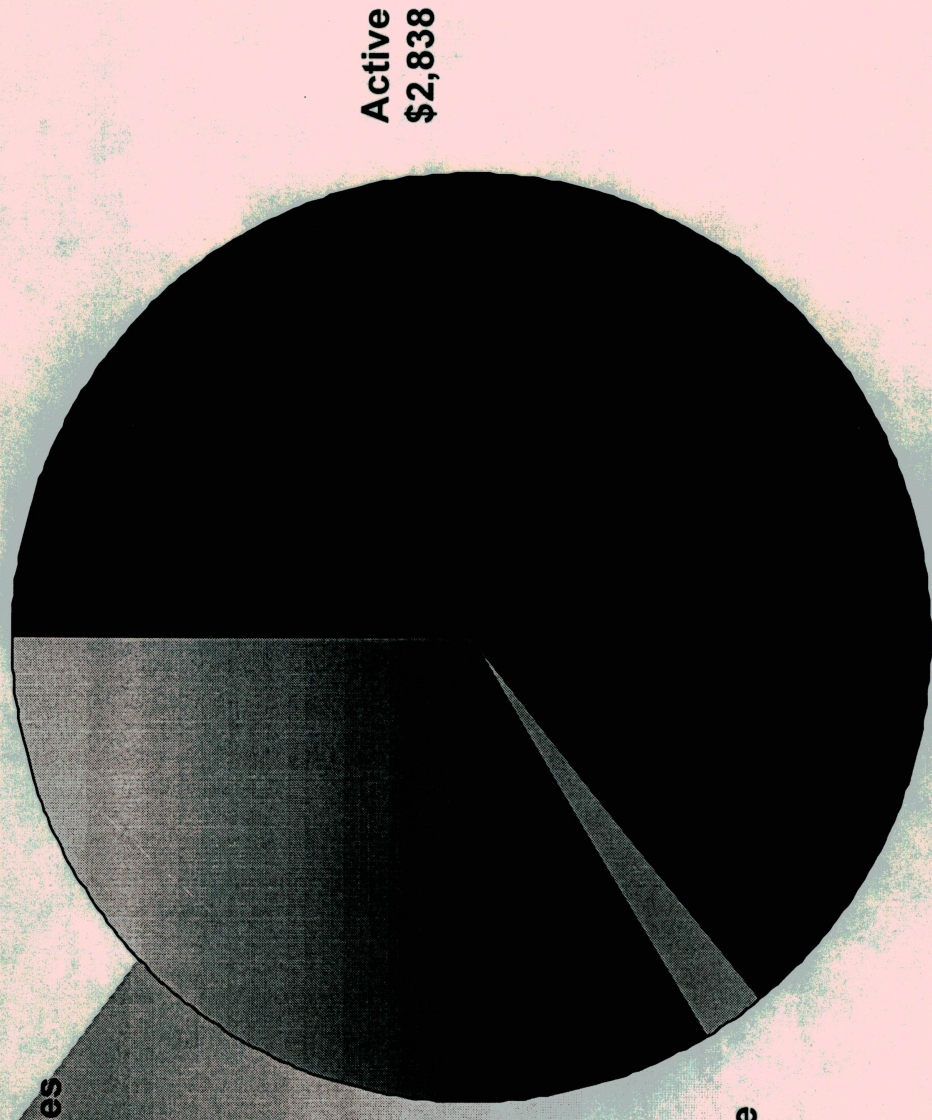
Development of Funding Margin

◆ Normal Cost	10.47%
◆ Member Contributions	<u>5.72%</u>
◆ Employer Share of Normal Cost	4.75%
◆ Amortization of Unfunded Liability	(3.59%)
◆ Administrative Expenses	<u>0.14%</u>
◆ Total Employer Cost	<u>1.30%</u>
◆ Statutory Employer Contribution	<u>5.68%</u>
◆ Funding Margin	<u>4.38%</u>

~~0.25%~~
0.25%

after the
09-1-01
enhance-
ment

Wyoming Retirement System Total Projected Actuarial Liability



Retirees and Beneficiaries
\$1,487

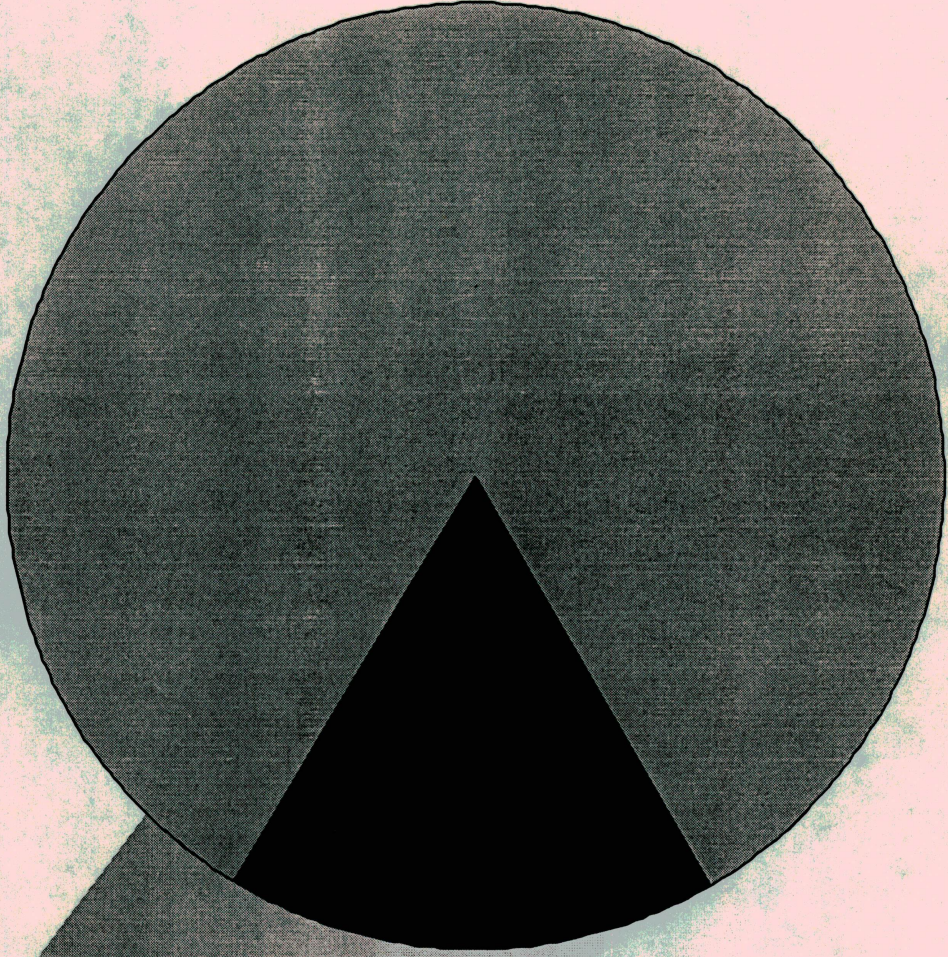
Active
\$2,838

Inactive
\$105

TOTAL VALUE: \$4.430 billion

Wyoming Retirement System

Total Projected Actuarial Liability



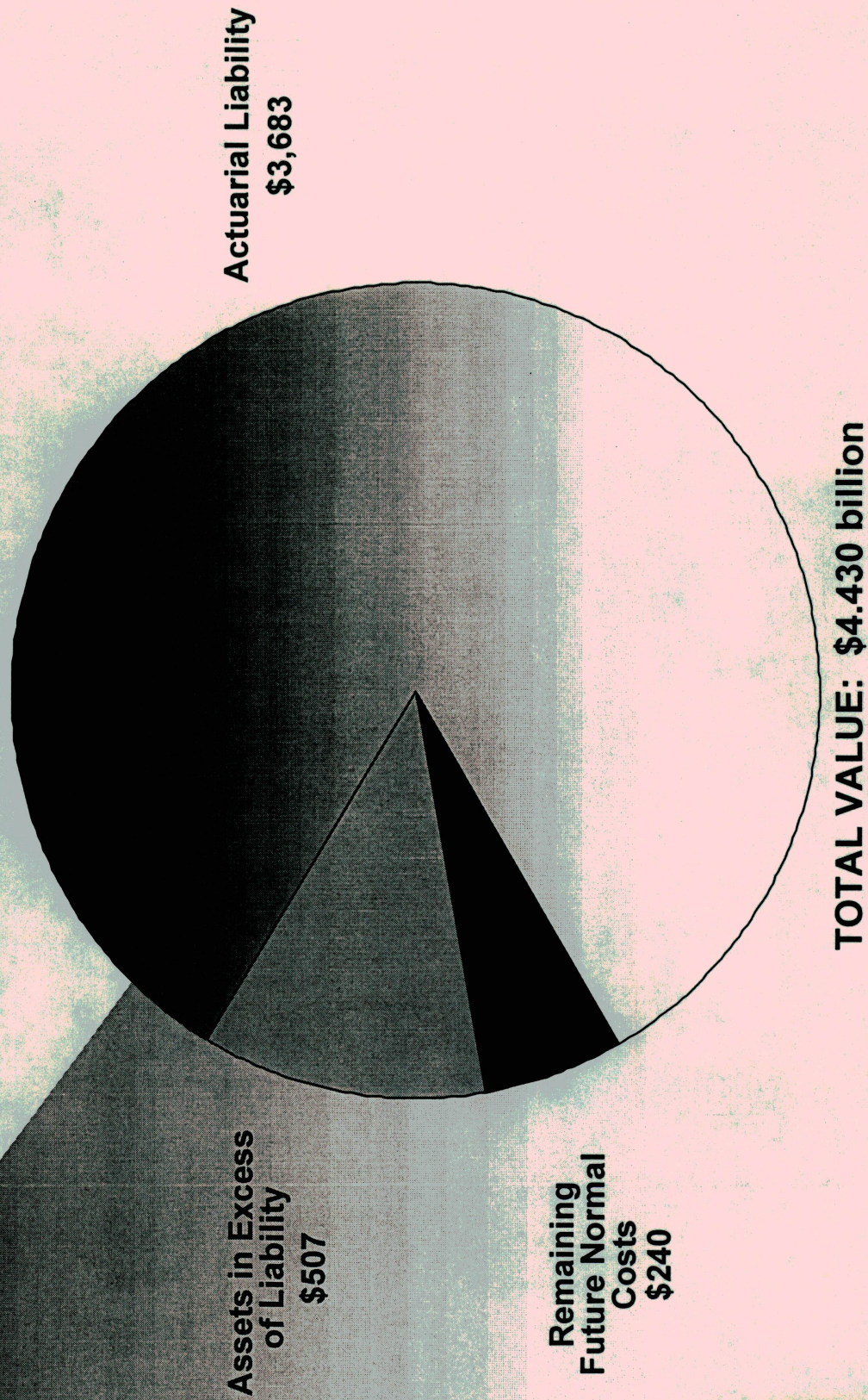
PV Future Normal
Costs
\$747

Actuarial Liability
\$3,683

TOTAL VALUE: \$4.430 billion

Wyoming Retirement System

Total Projected Actuarial Assets



Wyoming Retirement System History of Funding Percentage

