

State of Alaska

Teachers' Retirement System

Actuarial Valuation Report

as of June 30, 1996

Prepared by:

William M. Mercer, Incorporated
One Union Square, Suite 3200
600 University Street
Seattle, WA 98101-3137

March 13, 1997

State of Alaska
Teachers' Retirement Board
Department of Administration
Division of Retirement & Benefits
P.O. Box 110203
Juneau, AK 99811-0203

Dear Members of the Board:

Actuarial Certification

The annual actuarial valuation required for the State of Alaska Teachers' Retirement System has been prepared as of June 30, 1996 by William M. Mercer, Incorporated. The purposes of the report include:

- (1) a review of experience under the Plan for the year ended June 30, 1996;
- (2) a determination of the appropriate contribution rate for each employer in the System;
- (3) the provision of reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data provided to us by the System's staff and financial information provided by the audited report from KPMG Peat Marwick, to determine a sound value for the System liability. This data has not been audited, but it has been reviewed and found to be consistent, both internally and with prior years' data. The actuarial assumptions are based on the results of an experience study presented to the Board in October 1996.

The contribution requirements are determined as a percentage of payroll, and reflect the cost of benefits accruing in FY97 and a rolling amortization of the unfunded accrued liability. The amortization period is set by the Board. Contribution levels are recommended by the Actuary and adopted by the Board each year. The ratio of assets to liabilities increased from 90.9% to 97.2% during the year, primarily due to changes in the actuarial assumptions as indicated by recent System experience and to favorable actuarial experience. Over the years, progress has been made toward achieving the funding objectives of the System.

Teachers' Retirement Board
March 13, 1997
Page 2

There were significant changes in the actuarial assumptions used in the determination of system liabilities this year based on a complete experience study presented to the Board in October 1996. No changes were made to the actuarial methods. The assumptions and methods, when applied in combination, fairly represent past and anticipated future experience of the System.

Future contribution requirements may differ from those determined in the valuation because of:

- (1) differences between actual experience and anticipated experience based on the assumptions;
- (2) changes in actuarial assumptions or methods;
- (3) changes in statutory provisions; or
- (4) differences between the contribution rates determined by the valuation and those adopted by the Board.

The undersigned are members of the American Academy of Actuaries and are fully qualified to provide actuarial services to the State of Alaska.

We believe that this report conforms with the requirements of the Alaska statutes, and where applicable, other federal and accounting laws, regulations and rules, as well as generally accepted actuarial principles and practices.

Sincerely,



Brian R. McGee, FSA, MAAA



James W. Jacobson, ASA, MAAA

Contents of Report

Sections	Page
Highlights	1
Analysis of the Valuation	4
1 Valuation Results	8
1.1(a) Statement of Net Assets as of June 30, 1996 (in thousands)	9
1.1(b) Changes in Net Assets During Fiscal Year 1996 (in thousands)	10
1.1(c) Development of Expected Valuation Assets as of June 30, 1996 (in thousands)	11
1.1(d) Development of Valuation Assets as of June 30, 1996 (in thousands)	12
1.2 Actuarial Present Values as of June 30, 1996 (in thousands)	13
1.3 Development of Total Employer Contribution Rate - FY99 (in thousands)	14
1.4 Development of Actuarial Gain/(Loss) for FY96 (in thousands)	15
1.5 Disclosure for G.A.S.B. Statement No. 5	16
1.6 Actuarial Projections	17
2 Basis of the Valuation	33
2.1 Summary of the Alaska Teachers' Retirement System	34
2.2(a) Participant Census Information as of June 30	41
2.2(b) Distribution of Active Participants	43
2.2(c) Schedule of Active Member Valuation Data	44
2.2(d) Statistics on New Retirees During the Year Ending June 30	45
2.2(e) Schedule of Average Benefit Payments - New Retirees	46
2.2(f) Statistics on All Retirees as of June 30	47
2.2(g) Distribution of Annual Benefits for Benefit Recipients	49
2.2(h) Schedule of Retired Members by Type of Retirant and Option Selected - June 30, 1996	50
2.2(i) Schedule of Retirants and Beneficiaries Added to and Removed from Rolls	51
2.3 Actuarial Basis	52
Table 1 - Alaska TRS - Total Turnover Assumptions	55
Table 2 - Alaska TRS - Disability Rates Annual Rates Per 1,000 Employees	56
Table 3 - Alaska TRS Retirement Rates	57
3 Other Historical Information	58
3.1 Analysis of Financial Experience	59
3.2 Summary of Accrued and Unfunded Accrued Liabilities	60
3.3 Solvency Test	61
3.4 Statement of Actuarial Present Value of Accumulated Plan Benefits	62

Highlights

This report has been prepared by William M. Mercer, Incorporated to:

- (1) present the results of a valuation of the Alaska Teachers' Retirement System as of June 30, 1996;
- (2) review experience under the plan for the year ended June 30, 1996;
- (3) determine the appropriate contribution rate for each employer in the System;
- (4) provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into three sections. Section 1 contains the results of the valuation. It includes the experience of the plan during the 1996 Fiscal Year, the current annual costs, and reporting and disclosure information.

Section 2 describes the basis of the valuation. It summarizes the plan provisions, provides information relating to the plan participants, and describes the funding methods and actuarial assumptions used in determining liabilities and costs.

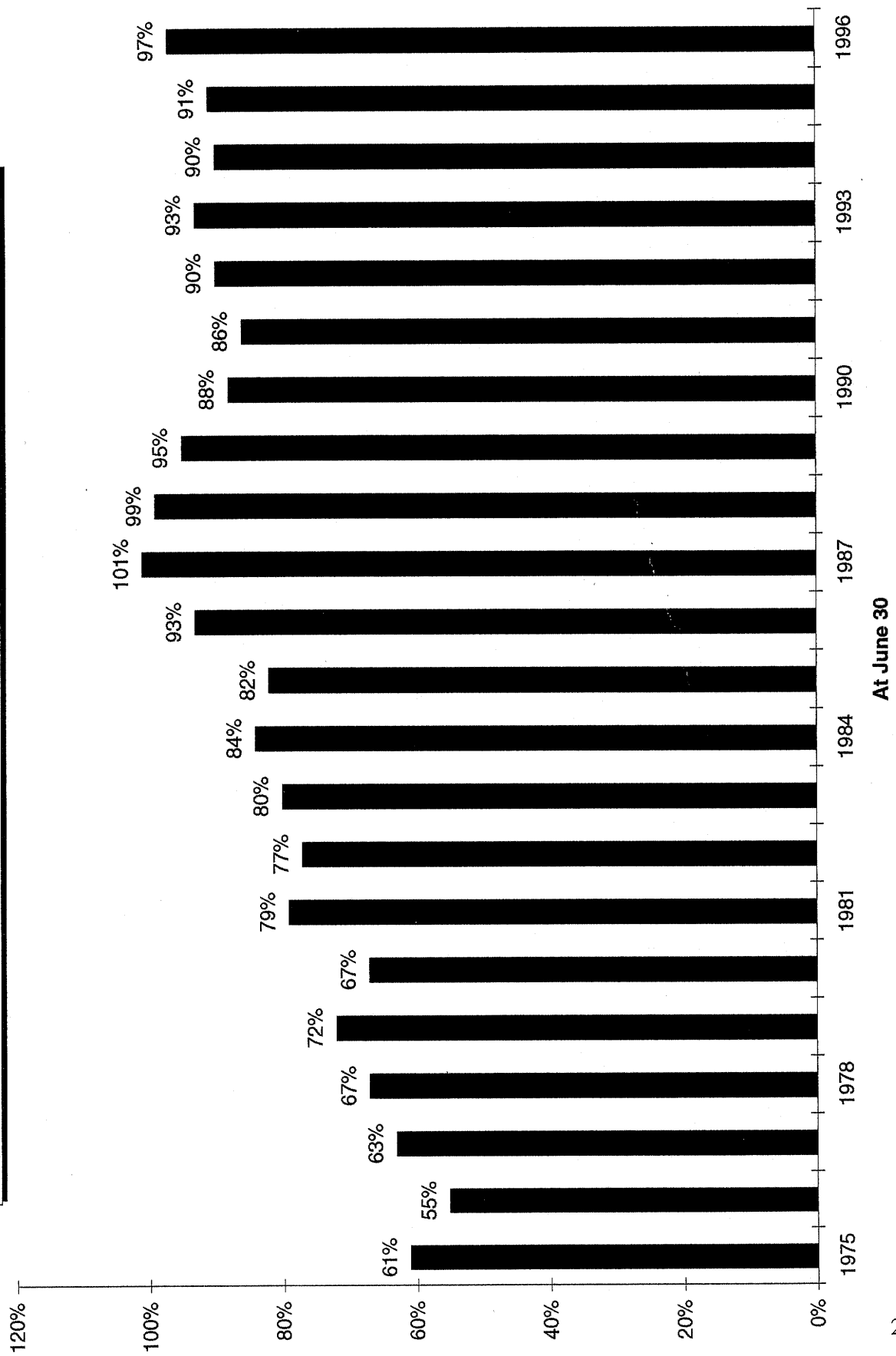
Section 3 contains additional exhibits showing historical information on system experience, unfunded liabilities, and the value of accumulated benefits.

The principle results are as follows:

	<u>1995</u>	<u>1996</u>
Funding Status as of June 30:		
(a) Valuation Assets*	\$ 2,647,392	\$ 2,858,756
(b) Accrued Liability*		
i) Non-Medical Benefits	2,396,911	2,402,020
ii) Total Benefits (including medical)	2,913,467	2,940,437
(c) Funding Ratio, (a) / (b)		
i) Non-Medical Benefits	110.5%	119.0%
ii) Total Benefits (including medical)	90.9%	97.2%

* In thousands.

State of Alaska - TRS Funding Ratio History



Employer Contribution Rates
for Fiscal Year:

	<u>1998</u>	<u>1999</u>
(a) Normal Cost Rate	10.10%	8.97%
(b) Past Service Rate	4.84%	1.55%
(c) Total Contribution Rate	14.94%	10.52%
(d) Actuarial Projection Rate	12.00%	12.00%

Analysis of the Valuation

As shown in the Highlights section of the report, the funding ratio as of June 30, 1996 has increased from 90.9% to 97.2%, an increase of 6.3%. The total employer contribution rate has decreased from 14.94% of payroll for FY98 to 10.52% for FY99, a decrease of 4.42% of payroll. The reasons for the change in the funded status and contribution rate are explained below.

(1) Retiree Medical Insurance

The following table summarizes the monthly premium per benefit recipient since retiree medical benefits have been provided under PERS and TRS.

<u>Fiscal Year</u>	<u>Monthly Premium Per Retiree For Health Coverage</u>	<u>Annual Percentage Increase</u>	<u>Average Annual Increase Since 1978</u>
1977	\$ 34.75	--	--
1978	57.64	66%	--
1979	69.10	20%	20%
1980	64.70	- 6%	6%
1981	96.34	49%	19%
1982	96.34	0%	14%
1983	115.61	20%	15%
1984	156.07	35%	18%
1985	191.85	23%	19%
1986	168.25	-12%	14%
1987	165.00	- 2%	12%
1988	140.25	-15%	9%
1989	211.22	51%	13%
1990	252.83	20%	13%
1991	243.98	- 4%	12%
1992	243.98	0%	11%
1993	226.90	- 7%	10%
1994	309.72	37%	11%
1995	336.05	9%	11%
1996	350.50	4%	11%
1997	350.50	0%	10%
1998	368.00	5%	10%

As you can see from the above table, the monthly retiree medical premium for the 1998 fiscal year has increased to \$368.00. Since FY87, annual premium rate changes have ranged from 51% up to 15% down, but the average annual increase has been about 8%.

Two years ago, in an attempt to better predict the long-term increase in medical premiums, the Board adopted a health cost trend assumption which varies by year, declining to an ultimate rate equal to inflation plus 1.5%, or 5.5% for FY99 and later. If the long-term assumption remains reasonable, short-term gains and losses from the annually-determined medical premium rate will offset each other over time.

To help avoid the volatility in the funding and solvency of the System from bringing large health-related gains and losses into the System every year, we have been using the health cost trend assumption to determine actuarial liabilities for retiree medical benefits. The difference between the assumed rate and the actual rate will be tracked annually and reduced if the gap becomes too wide. Also, adjustments will be made, if necessary, to the assumed medical premium rate every four to five years when a formal experience analysis is performed.

Because no adjustments were made to the assumed medical premium rate this year, the total employer contribution rate was unaffected by medical cost experience.

(2) Investment Performance

The approximate FY96 investment return based on market values was 14.13%. The Asset Valuation Method was changed two years ago to smooth over five years the difference between actual and expected investment return. One purpose of this change was to adopt a method which better accomplished the goal of smoothing volatility in investment returns.

The approximate rate of return in FY96 based on valuation assets, after applying the smoothing technique, was 1.37% higher than the 8.00% investment return assumption. This produced a gain of approximately \$36,067,000 to the System from investment performance, which increased the funding ratio by 1.2% and lowered the total employer contribution rate by 0.69% of total payroll.

(3) Salary Increases

In recent years salary increases have been less than anticipated in the valuation assumptions. This was again true last year. Salary experience resulted in an actuarial gain which generated a reduction in the total employer contribution rate equal to 0.62% of total payroll.

(4) Employee Data

Section 2.2 provides statistics on active and inactive participants. The number of active participants decreased 2.0% from 9,452 at June 30, 1995 to 9,259 at June 30, 1996. This was less than the expected population increase scenario reviewed last year, and produced a loss to the System from fewer Tier 2 and 3 actives entering the System than expected. The average age of active participants increased from 43.68 to 43.87 and average credited service increased from 11.30 to 11.33 years.

The number of retirees and beneficiaries increased 7.7% from 4,459 to 4,803, and their average age increased from 62.83 to 62.94. There was a 29.9% increase in the number of vested terminated participants from 859 to 1,116. Their average age increased from 48.08 to 49.31.

The overall effect of these participant data changes was an actuarial loss to the System, resulting in an increase in the contribution rate equal to 0.68% of total payroll.

(5) Actuarial Assumptions

In the Fall of 1996, the Board adopted a new set of actuarial assumptions derived from the System's actual experience over the past five fiscal years. These changes increased the funding ratio by 4.7% and reduced the total employer contribution rate by 3.79%.

(6) Actuarial Projections

At the Fall 1991 Board Meetings, the TRS Board approved the use of an enhanced actuarial projection system in the valuation report this year. The same actuarial cost method is used, but the enhanced system projects population growth patterns and their associated liabilities 25 years into the future. By also projecting plan assets, this report in effect produces an actuarial valuation for each of the next 25 years. Section 1.6, Actuarial Projections, contains the results of this analysis.

This type of information can be especially useful to multi-tiered systems, such as TRS. All of the projected new entrants will be covered under the cost savings provisions of the third tier, so that the ultimate effect of the second and third tiers on plan liabilities can be anticipated. As you can see in Section 1.6, based on the new actuarial assumptions and cost method, future contribution rates are expected to decline, and then level out in about 10 years.

Provided the Board adopts a long-term strategy consistent with the nature of the System, sound actuarial principles would support leveling out this contribution pattern to anticipate the second tier provisions coming into effect. In this way, a more stable contribution pattern could be adopted to help the employers better budget retirement expenses. This enhanced projection technique would be used annually so that a continuous tracking of the

contribution rate to the requirements could be made. Appropriate adjustments to the rate would still be proposed annually, but they should be much smaller than those seen in the past.

We recommend that the employer contribution rate adopted for FY99 remain 12.00% under this approach.

This rate includes a degree of conservatism for the following reasons:

- (a) Actuarial valuations are based on several assumptions, and the projection technique adds more. Actual system experience will vary from that assumed, so a degree of margin is appropriate when adopting a longer term rate.
- (b) Sound actuarial principles also suggest that retirement systems should fund employees' benefits while they are working. By leveling out the three-tier phenomenon, intergenerational inequities could occur. Since current contribution requirements are higher, the level rate is set higher than it theoretically needs to be, to allocate proportionately more of the cost to current generations and thus reduce the inequities.

Summary

The following table summarizes the sources of change in the total employer contribution rate:

Last year's total employer contribution rate	14.94%
Change due to:	
Retiree medical insurance	0.00%
Investment performance	(0.69%)
Salary increases	(0.62%)
Demographic experience	0.68%
Actuarial assumptions	(3.79%)
Total employer contribution rate this year	10.52%
Effect of enhanced Actuarial Projection system	1.48%
Proposed employer contribution rate	12.00%

Section 1

Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1(a) shows the distribution of the assets as of June 30, 1996.

Section 1.1(b) shows the transactions of the plan's fund during FY96.

Section 1.1(c) develops the expected valuation assets and investment return as of June 30, 1996.

Section 1.1(d) develops the actual valuation assets as of June 30, 1996.

Section 1.2 shows the actuarial present values as of June 30, 1996.

Section 1.3 calculates the total contribution rate for FY99.

Section 1.4 calculates the actuarial gain or loss for FY96.

Section 1.5 provides disclosure information required by G.A.S.B. Statement No. 5.

Section 1.6 contains the financial projections.

1.1(a) Statement of Net Assets as of June 30, 1996 (in thousands)

	<u>Book Value</u>	<u>Market Value</u>
Cash and Cash Equivalents	\$ 18,011	\$ 18,011
Fixed Income Pool	1,284,747	1,250,906
United States Common Stocks	1,047,107	1,368,396
International Stocks	273,891	305,283
Emerging Markets Stocks	23,127	23,563
Real Estate Equities	82,121	60,422
Mortgages (net of reserves)	2,168	2,168
Net Accrued Receivables	<u>1,895</u>	<u>1,895</u>
Total Assets	\$ 2,733,067	\$ 3,030,644

1.1(b) Changes in Net Assets During Fiscal Year 1996 (in thousands)

(1)	Net Assets, June 30, 1995, (market value)		\$ 2,688,451
(2)	Additions:		
(a)	Employee Contributions	\$ 47,980	
(b)	Employer Contributions	61,162	
(c)	Interest and Dividend Income	133,458	
(d)	Realized Gain/(Loss)	224,714	
(e)	Unrealized Gain (Loss) on Investments	27,941	
(f)	Other	<u>27</u>	495,282
(3)	Deductions:		
(a)	Medical Benefits	\$ 21,655	
(b)	Retirement Benefits	119,949	
(c)	Refunds of Contributions	2,629	
(d)	Administrative Expenses	<u>8,856</u>	<u>153,089</u>
(4)	Net Assets, June 30, 1996, (market value)		\$ 3,030,644

Approximate Market Value Investment Return
Rate During the Year, Net of Administrative Expenses

14.13%

**1.1(c) Development of Expected Valuation Assets
as of June 30, 1996 (in thousands)**

(1)	June 30, 1995 Valuation Assets	\$ 2,647,392
(2)	Total Contributions for FY96, (Item (2a) + (2b) from 1.1(b))	109,142
(3)	Total Benefit Payments for FY96, (Item (3a) + (3b) + (3c) from 1.1(b))	144,233
(4)	Expected Investment Return, Net of Expenses, for the period July 1, 1995 through June 30, 1996 $((1) + .5 \times [(2) - (3)]) \times 8.0\%$	210,388
(5)	Actual Investment Return, Net of Expenses, for the period July 1, 1995 through June 30, 1996 [Item (2c) + (2d) + (2e) + (2f) - (3d) from 1.1(b)]	377,284
(6)	Total Investment Gain/(Loss) (5) - (4)	166,896
(7)	Expected Valuation Assets, (1) + (2) - (3) + (4)	2,822,689

**1.1(d) Development of Valuation Assets as of June 30, 1996
(in thousands)**

	A	B	C
	Total Investment Gain/(Loss)	Gain/(Loss) Recognized in Prior Fiscal Years	Gain/(Loss) Recognized this Fiscal Year (A ÷ 5)
(1) Fiscal Year ending June 30, 1996	\$ 166,896	\$ - 0	\$ 33,379
(2) Fiscal Year ending June 30, 1995	164,985	32,997	32,997
(3) Fiscal Year ending June 30, 1994	(151,547)	(60,618)	(30,309)
(4) Total Gain/(Loss) Recognized this Fiscal Year			36,067
(5) Expected Valuation Assets, June 30, 1996, (Item (7) from 1.1(c))			\$ 2,822,689
(6) Valuation Assets at June 30, 1996, (4) + (5), but not outside a corridor of 80% to 120% of the market value of assets			\$ 2,858,756
Approximate Valuation Assets Investment Return Rate During the Year, Net of Administrative Expenses			9.37%

1.2 Actuarial Present Values as of June 30, 1996 (in thousands)

	<u>Normal Cost</u>	<u>Accrued Liabilities</u>
<u>Active Members</u>		
Retirement Benefits	\$ 54,855	\$ 916,886
Termination Benefits	4,666	60,245
Disability Benefits	721	17,384
Death Benefits	1,477	25,057
Return of Contributions	2,828	16,321
Medical Benefits	17,874	249,606
Indebtedness	<u>0</u>	<u>(34,698)</u>
Subtotal	\$ 82,421	\$ 1,250,801
<u>Inactive Members</u>		
Not Vested	\$ 0	\$ 15,275
Vested Terminations - Retirement Benefits	0	166,085
- Medical Benefits	0	61,971
Retirees & Beneficiaries - Retirement Benefits	0	1,219,465
- Medical Benefits	<u>0</u>	<u>226,840</u>
Subtotal	\$ 0	\$ 1,689,636
<u>Totals</u>	\$ 82,421	\$ 2,940,437

1.3 Development of Total Employer Contribution Rate - FY99 (in thousands)

Normal Cost Rate

(1)	Total Normal Cost	\$ 82,421
(2)	Total Salaries	465,182
(3)	Normal Cost Rate, (1) / (2)	17.72%
(4)	Average Member Contribution Rate	8.75%
(5)	Employer Normal Cost Rate, (3) - (4)	8.97%

Past Service Rate

(1)	Accrued Liability	\$ 2,940,437
(2)	Valuation Assets	2,858,756
(3)	Total Unfunded Liability, (1) - (2)	81,681
(4)	Amortization Factor (25 year)	11.312888
(5)	Past Service Cost, (3) / (4)	7,220
(6)	Total Salaries	465,182
(7)	Past Service Rate, (5) / (6)	1.55%

<u>Total Employer Contribution Rate</u>	10.52%
---	--------

1.4 Development of Actuarial Gain/(Loss) for FY96 (in thousands)

(1)	Unfunded Liability, June 30, 1995	\$ 266,075
(2)	Normal Cost for FY96	89,992
(3)	Interest on (1) and (2) at 8%	28,485
(4)	Employee Contributions for FY96	47,980
(5)	Employer Contributions for FY96	61,162
(6)	Interest on (4) and (5) at 8% for one-half year	4,366
(7)	Change due to Assumption Changes	144,229
(8)	Expected Unfunded Liability, June 30, 1996, (1) + (2) + (3) - (4) - (5) - (6) - (7)	126,815
(9)	Actual Unfunded Liability, June 30, 1996	81,681
(10)	Actuarial Gain/(Loss) for the Year, (8) - (9)	\$ 45,134

1.5 Disclosure for G.A.S.B. Statement No. 5

State of Alaska - T.R.S.

Disclosure for G.A.S.B. Statement 5 (000's Omitted)

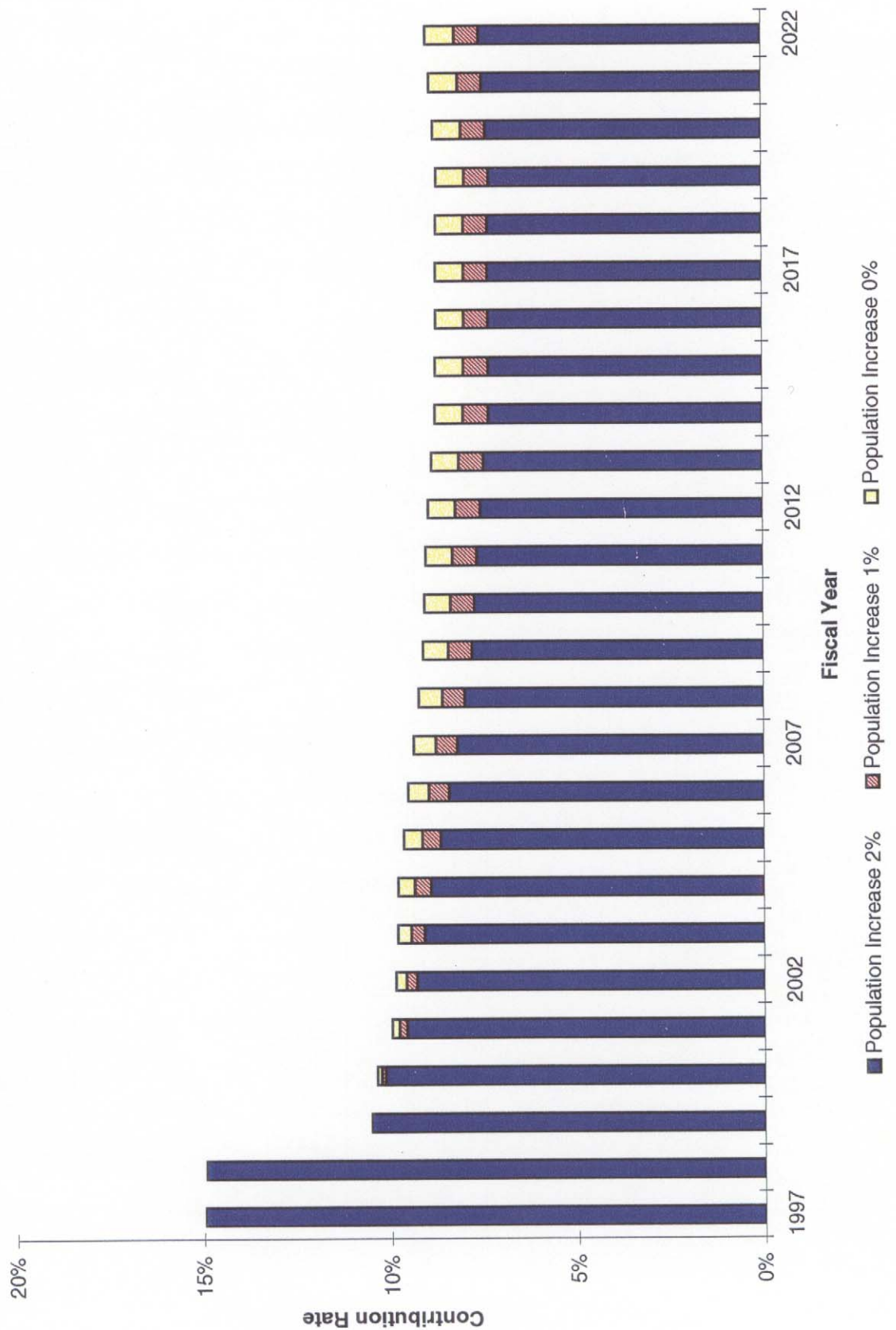
Totals For All Employers

***** Projected Benefit Obligation *****					
Valuation Date	Current	***** Current Employees *****			Total
	Retirees &	Contribs	**** Employer Financed ****		
	Terminated	With Int	Vested	Non-Vested	
June 30, 1987	\$ 578,468	\$ 210,493	\$ 353,326	\$ 68,622	\$ 1,210,909
June 30, 1988	688,090	228,217	381,726	49,826	1,347,859
June 30, 1989	779,296	253,436	436,431	88,480	1,557,643
June 30, 1990	940,475	269,491	587,835	97,229	1,895,030
June 30, 1991	1,056,453	293,136	598,527	127,289	2,075,405
June 30, 1992	1,110,981	341,204	655,821	123,740	2,231,746
June 30, 1993	1,223,220	370,667	746,208	89,361	2,429,456
June 30, 1994	1,419,506	398,990	870,309	72,604	2,761,409
June 30, 1995	1,531,406	437,089	855,506	89,466	2,913,467
June 30, 1996	1,689,636	451,249	729,829	69,723	2,940,437

Valuation Date	***** Valuation Assets *****			***** Market Value Assets *****		
	Net Assets	Unfunded	Assets as	Net Assets	Unfunded	Assets as
	Available			Percent		
	For Benefits	PBO	of PBO	For Benefits	PBO	of PBO
June 30, 1987	\$ 1,225,009	\$ (14,100)	101%	\$ 1,303,464	\$ (92,555)	108%
June 30, 1988	1,331,905	15,954	99%	1,356,575	(8,716)	101%
June 30, 1989	1,480,389	77,254	95%	1,545,877	11,766	99%
June 30, 1990	1,662,242	232,788	88%	1,706,346	188,684	90%
June 30, 1991	1,779,579	295,826	86%	1,824,663	250,742	88%
June 30, 1992	2,001,864	229,882	90%	2,031,938	199,808	91%
June 30, 1993	2,261,082	168,374	93%	2,306,503	122,953	95%
June 30, 1994	2,472,957	288,452	90%	2,351,719	409,690	85%
June 30, 1995	2,647,392	266,075	91%	2,688,451	225,016	92%
June 30, 1996	2,858,756	81,681	97%	3,030,644	(90,207)	103%

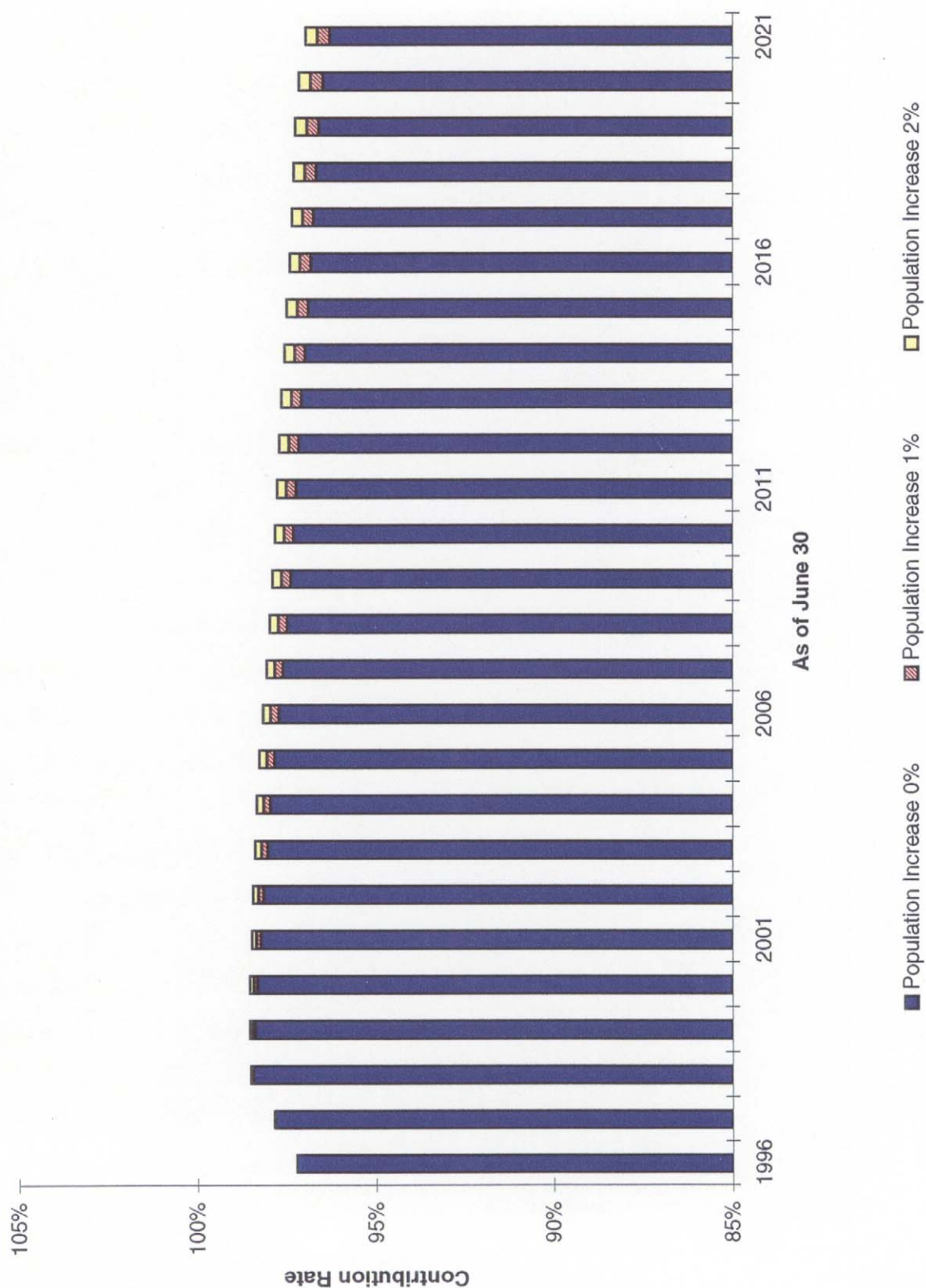
1.6 Actuarial Projections

State of Alaska TRS Projected Contribution Rates



1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Funding Ratios



1.6 Actuarial Projections (continued)

Table 1
State of Alaska TRS
Financial Projections ('000 omitted)

Investment Return		Valuation Amounts on July 1-----				8.25%				Flow Amounts During Following 12 Months-----				Annual Population Increase				0.00%			
As of June 30	Total Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings	Ending Asset Value								
1996	2,858,756	2,940,437	97.2%	(81,681)	465,182	14.96%	70,386	41,168	111,555	169,591	(58,036)	233,453	3,034,173								
1997	3,034,173	3,101,499	97.8%	(67,326)	475,811	14.94%	71,899	42,061	113,960	178,232	(64,272)	247,668	3,217,569								
1998	3,217,569	3,269,075	98.4%	(51,506)	486,688	10.52%	51,734	42,931	94,665	191,000	(96,335)	261,476	3,382,710								
1999	3,382,710	3,438,184	98.4%	(55,473)	496,840	10.12%	50,793	43,750	94,543	206,217	(111,674)	274,467	3,545,504								
2000	3,545,504	3,605,867	98.3%	(60,363)	506,600	9.56%	48,938	44,589	93,527	222,047	(128,520)	287,203	3,704,186								
2001	3,704,186	3,771,216	98.2%	(67,030)	517,260	9.28%	48,586	45,553	94,140	238,263	(144,123)	299,650	3,859,713								
2002	3,859,713	3,932,830	98.1%	(73,117)	529,941	9.07%	48,639	46,603	95,241	255,563	(160,321)	311,813	4,011,205								
2003	4,011,205	4,091,706	98.0%	(80,501)	542,622	8.89%	48,797	47,650	96,447	271,785	(175,339)	323,692	4,159,558								
2004	4,159,558	4,246,531	98.0%	(86,973)	555,303	8.63%	48,476	48,695	97,171	290,385	(193,215)	335,193	4,301,537								
2005	4,301,537	4,396,231	97.8%	(94,694)	567,984	8.41%	48,284	49,737	98,020	309,037	(211,016)	346,172	4,436,693								
2006	4,436,693	4,539,972	97.7%	(103,279)	580,665	8.18%	48,189	50,963	99,153	327,653	(228,500)	356,602	4,564,794								
2007	4,564,794	4,677,158	97.6%	(112,364)	597,677	7.98%	48,381	52,374	100,756	345,634	(244,878)	366,494	4,686,411								
2008	4,686,411	4,807,437	97.5%	(121,026)	614,690	7.77%	48,444	53,782	102,226	362,752	(260,526)	375,882	4,801,767								
2009	4,801,767	4,930,692	97.4%	(128,926)	631,702	7.70%	49,313	55,250	104,563	379,955	(275,392)	384,786	4,911,161								
2010	4,911,161	5,047,051	97.3%	(135,890)	648,715	7.63%	50,148	56,718	106,866	396,865	(289,999)	393,208	5,014,371								
2011	5,014,371	5,156,876	97.2%	(142,506)	665,727	7.54%	51,076	58,447	109,523	413,508	(303,985)	401,146	5,111,531								
2012	5,111,531	5,260,775	97.2%	(149,243)	688,788	7.44%	52,137	60,438	112,574	429,340	(316,766)	408,635	5,203,400								
2013	5,203,400	5,359,590	97.1%	(156,190)	711,850	7.31%	52,872	62,428	115,300	444,197	(328,897)	415,713	5,290,216								
2014	5,290,216	5,454,408	97.0%	(164,191)	734,911	7.30%	54,520	64,418	118,938	456,640	(337,702)	422,513	5,375,027								
2015	5,375,027	5,546,552	96.9%	(171,525)	757,973	7.30%	56,188	66,408	122,596	468,307	(345,711)	429,179	5,458,496								
2016	5,458,496	5,637,587	96.8%	(179,091)	781,034	7.31%	58,275	68,773	127,048	478,364	(351,316)	435,834	5,543,014								
2017	5,543,014	5,729,317	96.7%	(186,303)	812,783	7.31%	60,616	71,513	132,129	487,642	(355,514)	442,634	5,630,134								
2018	5,630,134	5,823,787	96.7%	(193,653)	844,532	7.27%	62,566	74,253	136,819	494,500	(357,681)	449,732	5,722,185								
2019	5,722,185	5,923,280	96.6%	(201,095)	876,281	7.36%	65,682	76,993	142,675	503,551	(360,876)	457,194	5,818,503								
2020	5,818,503	6,030,320	96.5%	(211,817)	908,029	7.45%	68,806	79,733	148,539	512,313	(363,775)	465,021	5,919,749								
2021	5,919,749	6,147,671	96.3%	(227,921)	939,778	7.53%	71,975	82,521	154,496	520,764	(366,268)	473,271	6,026,752								

* Surpluses reduce employer contributions over 5 years
* Deficits increase employer contributions over 25 years

1.6 Actuarial Projections (continued)

Table 2
State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Investment Return	Valuation Amounts on July 1				8.25%				Annual Population Increase					Ending Asset Value
		Total Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Flow Amounts During Following 12 Months								
							Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings		
1996	2,858,756	2,940,437	(81,681)	97.2%	465,182	14.96%	70,654	41,325	111,978	169,591	(57,612)	233,471	3,034,614		
1997	3,034,614	3,101,543	(66,929)	97.8%	479,384	14.94%	72,713	42,538	115,250	178,232	(62,981)	247,758	3,219,391		
1998	3,219,391	3,269,491	(50,100)	98.5%	494,015	10.52%	52,722	43,751	96,473	191,038	(94,565)	261,699	3,386,525		
1999	3,386,525	3,439,327	(52,803)	98.5%	508,293	10.00%	51,555	44,946	96,501	206,323	(109,822)	274,858	3,551,560		
2000	3,551,560	3,608,147	(56,587)	98.4%	522,573	9.35%	49,602	46,196	95,797	222,249	(126,452)	287,788	3,712,896		
2001	3,712,896	3,775,104	(62,208)	98.4%	538,178	8.99%	49,216	47,651	96,867	238,580	(141,713)	300,468	3,871,651		
2002	3,871,651	3,938,836	(67,185)	98.3%	557,244	8.70%	49,290	49,253	98,543	256,016	(157,473)	312,915	4,027,093		
2003	4,027,093	4,100,498	(73,406)	98.2%	576,309	8.43%	49,415	50,851	100,266	272,396	(172,131)	325,135	4,180,097		
2004	4,180,097	4,258,900	(78,803)	98.1%	595,375	8.12%	49,102	52,446	101,548	291,184	(189,637)	337,035	4,327,496		
2005	4,327,496	4,413,107	(85,612)	98.1%	614,441	7.84%	48,923	54,036	102,959	309,967	(207,008)	348,479	4,468,967		
2006	4,468,967	4,562,447	(93,480)	98.0%	633,506	7.57%	48,955	55,940	104,895	328,726	(223,831)	359,457	4,604,593		
2007	4,604,593	4,706,505	(101,912)	97.8%	659,903	7.34%	49,385	58,156	107,541	346,866	(239,325)	370,007	4,735,274		
2008	4,735,274	4,845,125	(109,851)	97.7%	686,300	7.08%	49,548	60,367	109,915	364,164	(254,249)	380,172	4,861,197		
2009	4,861,197	4,978,413	(117,216)	97.6%	712,696	6.99%	50,743	62,645	113,388	381,574	(268,186)	389,986	4,982,997		
2010	4,982,997	5,106,731	(123,735)	97.6%	739,093	6.90%	51,901	64,923	116,823	398,726	(281,903)	399,469	5,100,562		
2011	5,100,562	5,230,703	(130,141)	97.5%	765,490	6.80%	53,277	67,637	120,915	415,653	(294,738)	408,638	5,214,463		
2012	5,214,463	5,351,211	(136,749)	97.4%	801,999	6.69%	54,905	70,788	125,693	431,808	(306,115)	417,566	5,325,913		
2013	5,325,913	5,469,397	(143,483)	97.4%	838,508	6.54%	56,019	73,939	129,958	447,035	(317,077)	426,308	5,435,145		
2014	5,435,145	5,586,660	(151,515)	97.3%	875,017	6.54%	58,395	77,089	135,484	459,927	(324,443)	435,016	5,545,718		
2015	5,545,718	5,704,662	(158,943)	97.2%	911,526	6.54%	60,782	80,240	141,022	472,158	(331,136)	443,862	5,658,445		
2016	5,658,445	5,825,321	(166,876)	97.1%	948,035	6.55%	63,759	84,001	147,760	482,876	(335,116)	452,998	5,776,327		
2017	5,776,327	5,950,816	(174,489)	97.1%	998,686	6.56%	67,142	88,372	155,514	492,921	(337,407)	462,629	5,901,549		
2018	5,901,549	6,083,585	(182,036)	97.0%	1,049,336	6.50%	69,884	92,743	162,627	500,664	(338,037)	472,934	6,036,446		
2019	6,036,446	6,226,326	(189,880)	97.0%	1,099,986	6.59%	74,151	97,114	171,266	511,136	(339,870)	483,987	6,180,563		
2020	6,180,563	6,381,995	(201,432)	96.8%	1,150,636	6.67%	78,402	101,485	179,887	521,642	(341,755)	495,799	6,334,607		
2021	6,334,607	6,553,808	(219,201)	96.7%	1,201,287	6.74%	82,748	105,953	188,700	532,133	(343,432)	508,439	6,499,614		

* Surpluses reduce employer contributions over 5 years
* Deficits increase employer contributions over 25 years

1.6 Actuarial Projections (continued)

Table 3

State of Alaska TRS
Financial Projections ('000 omitted)

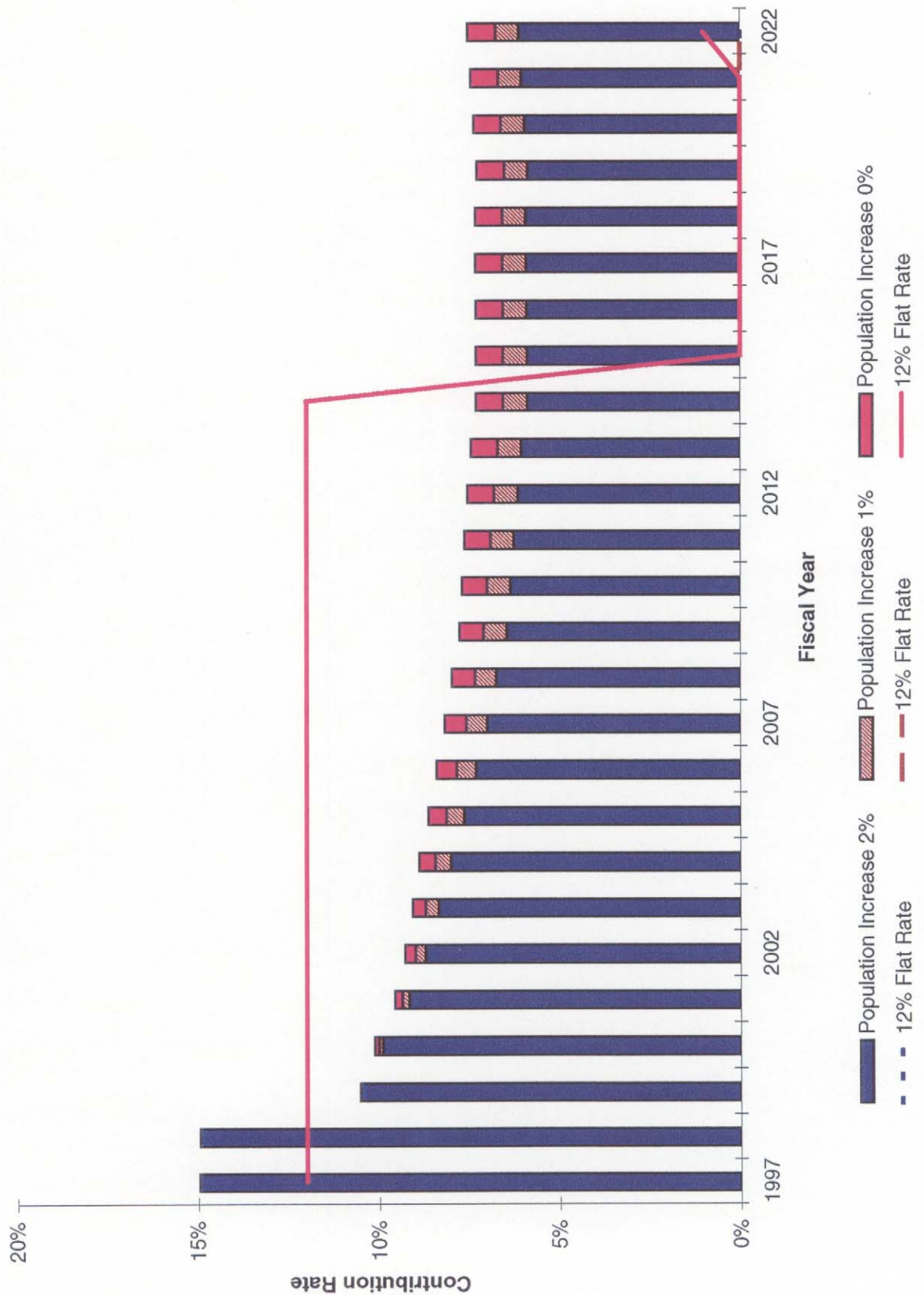
Investment Return		8.25%				Annual Population Increase							2.00%	
As of June 30	Total Assets	Valuation Amounts on July 1				Flow Amounts During Following 12 Months						Net Contribs	Investment Earnings	Ending Asset Value
		Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments				
1996	2,858,756	2,940,437	97.2%	(81,681)	465,182	14.96%	70,921	41,481	112,402	169,591	(57,189)	233,488	3,035,056	
1997	3,035,056	3,101,587	97.9%	(66,531)	482,961	14.94%	73,533	43,017	116,551	178,232	(61,681)	247,848	3,221,222	
1998	3,221,222	3,269,907	98.5%	(48,685)	501,419	10.52%	53,726	44,584	98,310	191,076	(92,766)	261,924	3,390,381	
1999	3,390,381	3,440,479	98.5%	(50,098)	519,978	9.88%	52,323	46,173	98,496	206,429	(107,933)	275,254	3,557,702	
2000	3,557,702	3,610,460	98.5%	(52,757)	539,031	9.15%	50,267	47,860	98,127	222,454	(124,328)	288,382	3,721,756	
2001	3,721,756	3,779,076	98.5%	(57,319)	559,940	8.70%	49,847	49,857	99,704	238,903	(139,199)	301,303	3,883,860	
2002	3,883,860	3,944,937	98.5%	(61,077)	586,198	8.33%	49,948	52,082	102,030	256,484	(154,454)	314,047	4,043,454	
2003	4,043,454	4,109,510	98.4%	(66,057)	612,456	8.00%	50,018	54,301	104,319	273,031	(168,712)	326,626	4,201,367	
2004	4,201,367	4,271,714	98.4%	(70,347)	638,715	7.62%	49,690	56,515	106,205	292,023	(185,818)	338,948	4,354,496	
2005	4,354,496	4,430,755	98.3%	(76,259)	664,973	7.30%	49,509	58,724	108,232	310,955	(202,723)	350,884	4,502,657	
2006	4,502,657	4,586,133	98.2%	(83,476)	691,231	7.00%	49,685	61,424	111,108	329,880	(218,771)	362,445	4,646,331	
2007	4,646,331	4,737,634	98.1%	(91,303)	728,972	6.74%	50,397	64,614	115,011	348,206	(233,196)	373,703	4,786,838	
2008	4,786,838	4,885,333	98.0%	(98,494)	766,713	6.45%	50,641	67,796	118,437	365,714	(247,277)	384,714	4,924,275	
2009	4,924,275	5,029,596	97.9%	(105,320)	804,454	6.34%	52,206	71,053	123,259	383,370	(260,111)	395,523	5,059,688	
2010	5,059,688	5,171,076	97.8%	(111,389)	842,195	6.24%	53,727	74,310	128,036	400,810	(272,774)	406,172	5,193,086	
2011	5,193,086	5,310,719	97.8%	(117,632)	879,935	6.13%	55,631	78,263	133,893	418,073	(284,180)	416,707	5,325,614	
2012	5,325,614	5,449,755	97.7%	(124,141)	933,796	6.03%	57,938	82,911	140,849	434,613	(293,764)	427,245	5,459,095	
2013	5,459,095	5,589,708	97.7%	(130,612)	987,656	5.86%	59,440	87,559	146,999	450,282	(303,283)	437,865	5,593,677	
2014	5,593,677	5,732,388	97.6%	(138,711)	1,041,517	5.87%	62,688	92,207	154,895	463,706	(308,811)	448,740	5,733,607	
2015	5,733,607	5,879,896	97.5%	(146,289)	1,095,377	5.87%	65,931	96,855	162,786	476,599	(313,812)	460,078	5,879,872	
2016	5,879,872	6,034,621	97.4%	(154,749)	1,149,237	5.90%	70,006	102,484	172,490	488,096	(315,605)	472,071	6,036,337	
2017	6,036,337	6,199,242	97.4%	(162,905)	1,225,836	5.91%	74,701	109,095	183,796	499,043	(315,247)	484,994	6,206,084	
2018	6,206,084	6,376,728	97.3%	(170,644)	1,302,436	5.84%	78,347	115,705	194,052	507,834	(313,782)	499,058	6,391,360	
2019	6,391,360	6,570,335	97.3%	(178,975)	1,379,035	5.93%	84,098	122,316	206,414	519,917	(313,503)	514,355	6,592,212	
2020	6,592,212	6,783,609	97.2%	(191,398)	1,455,634	6.01%	89,788	128,927	218,714	532,401	(313,687)	530,918	6,809,443	
2021	6,809,443	7,020,388	97.0%	(210,944)	1,532,234	6.08%	95,643	135,711	231,354	545,214	(313,860)	548,832	7,044,415	

* Surpluses reduce employer contributions over 5 years

* Deficits increase employer contributions over 25 years

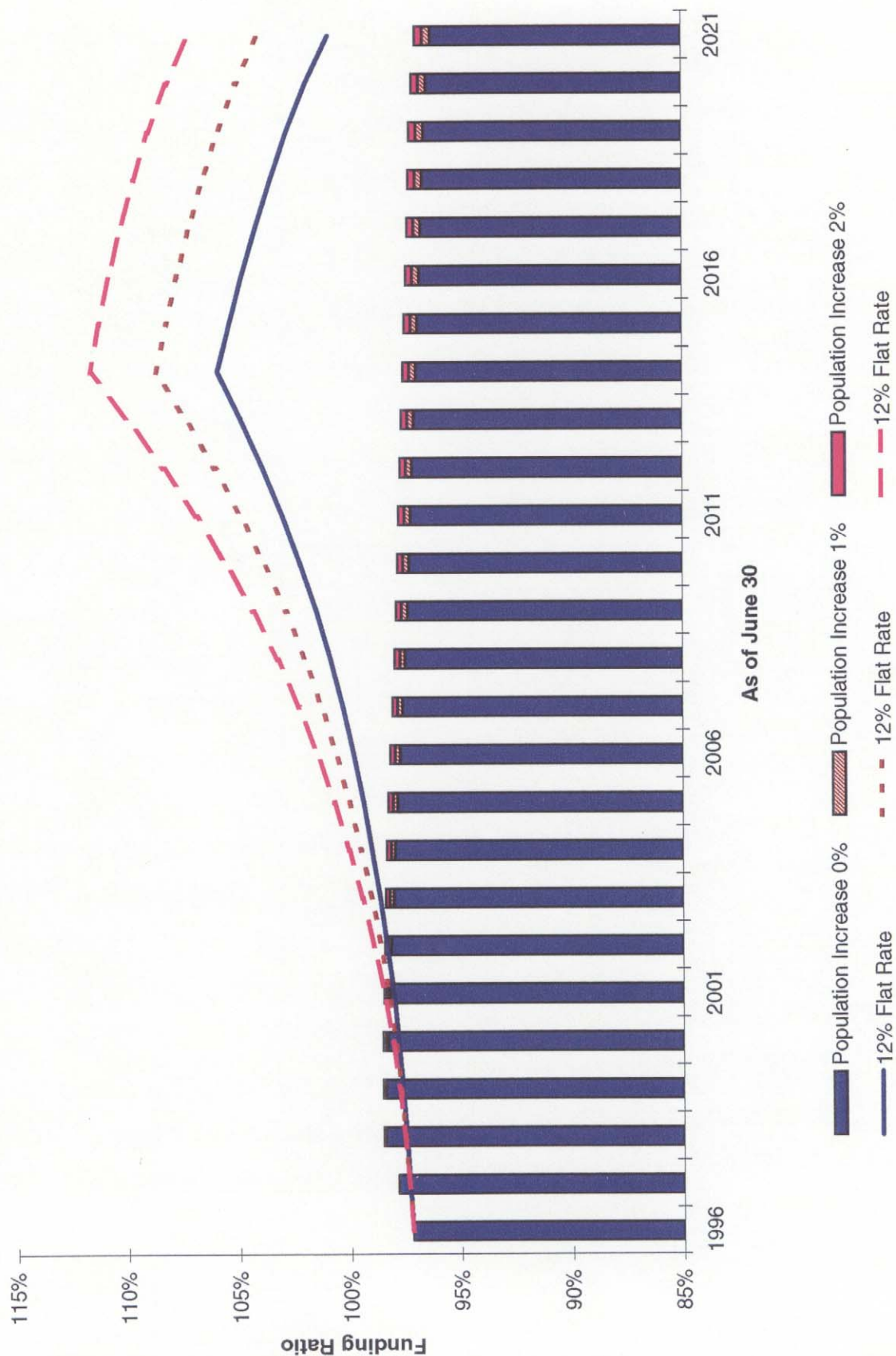
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Contribution Rates



1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Funding Ratios



1.6 Actuarial Projections (continued)

Table 4

State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Investment Return	Valuation Amounts on July 1					8.25%					Annual Population Increase					0.00%		Ending Asset Value
		Total Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Flow Amounts During Following 12 Months			Total Contribs	Benefit Payments	Net Contribs	Investment Earnings					
								Employer Contribs	Employee Contribs	Total Contribs									
1996	2,858,756	2,940,437	97.2%	(81,681)	465,182	12.00%	56,460	41,168	97,628	169,591	(71,963)	232,879	3,019,672						
1997	3,019,672	3,101,499	97.4%	(81,827)	475,811	12.00%	57,750	42,061	99,811	178,232	(78,421)	245,888	3,187,140						
1998	3,187,140	3,269,075	97.5%	(81,935)	486,688	12.00%	59,012	42,931	101,943	191,000	(89,057)	259,265	3,357,347						
1999	3,357,347	3,438,184	97.6%	(80,836)	496,840	12.00%	60,206	43,750	103,956	206,217	(102,261)	272,763	3,527,850						
2000	3,527,850	3,605,867	97.8%	(78,017)	506,600	12.00%	61,432	44,589	106,021	222,047	(116,027)	286,262	3,698,085						
2001	3,698,085	3,771,216	98.1%	(73,132)	517,260	12.00%	62,832	45,553	108,385	238,263	(129,877)	299,735	3,867,942						
2002	3,867,942	3,932,830	98.4%	(64,888)	529,941	12.00%	64,354	46,603	110,957	255,563	(144,606)	313,140	4,036,476						
2003	4,036,476	4,091,706	98.7%	(55,230)	542,622	12.00%	65,876	47,650	113,525	271,785	(158,260)	326,481	4,204,697						
2004	4,204,697	4,246,531	99.0%	(41,834)	555,303	12.00%	67,397	48,695	116,092	290,385	(174,294)	339,698	4,370,101						
2005	4,370,101	4,396,231	99.4%	(26,130)	567,984	12.00%	68,919	49,737	118,655	309,037	(190,381)	352,680	4,532,400						
2006	4,532,400	4,539,972	99.8%	(7,571)	580,665	12.00%	70,701	50,963	121,664	327,653	(205,989)	365,426	4,691,837						
2007	4,691,837	4,677,158	100.3%	14,679	597,677	12.00%	72,742	52,374	125,116	345,634	(220,517)	377,980	4,849,300						
2008	4,849,300	4,807,437	100.9%	41,863	614,690	12.00%	74,784	53,782	128,565	362,752	(234,187)	390,407	5,005,521						
2009	5,005,521	4,930,692	101.5%	74,828	631,702	12.00%	76,825	55,250	132,075	379,955	(247,880)	402,730	5,160,371						
2010	5,160,371	5,047,051	102.2%	113,321	648,715	12.00%	78,866	56,718	135,585	396,865	(261,280)	414,953	5,314,044						
2011	5,314,044	5,156,876	103.0%	157,168	665,727	12.00%	81,271	58,447	139,718	413,508	(273,790)	427,115	5,467,369						
2012	5,467,369	5,260,775	103.9%	206,594	688,788	12.00%	84,038	60,438	144,476	429,340	(284,865)	439,307	5,621,811						
2013	5,621,811	5,359,590	104.9%	262,221	711,850	12.00%	86,806	62,428	149,233	444,197	(294,963)	451,632	5,778,481						
2014	5,778,481	5,454,408	105.9%	324,073	734,911	0.00%	0	64,418	64,418	456,640	(392,222)	460,545	5,846,804						
2015	5,846,804	5,546,552	105.4%	300,252	757,973	0.00%	0	66,408	66,408	468,307	(401,899)	465,783	5,910,688						
2016	5,910,688	5,637,587	104.8%	273,101	781,034	0.00%	0	68,773	68,773	478,364	(409,591)	470,736	5,971,834						
2017	5,971,834	5,729,317	104.2%	242,516	812,783	0.00%	0	71,513	71,513	487,642	(416,129)	475,511	6,031,216						
2018	6,031,216	5,823,787	103.6%	207,428	844,532	0.00%	0	74,253	74,253	494,500	(420,247)	480,240	6,091,209						
2019	6,091,209	5,923,280	102.8%	167,929	876,281	0.00%	0	76,993	76,993	503,551	(426,558)	484,929	6,149,580						
2020	6,149,580	6,030,320	102.0%	119,260	908,029	0.00%	0	79,733	79,733	512,313	(432,580)	489,496	6,206,496						
2021	6,206,496	6,147,671	101.0%	58,825	939,778	1.04%	9,901	82,521	92,421	520,764	(428,342)	494,367	6,272,520						

* Surpluses reduce employer contributions over 5 years
* Deficits increase employer contributions over 25 years

1.6 Actuarial Projections (continued)

Table 5
State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Investment Return	8.25%				Annual Population Increase							Ending Asset Value
		Valuation Amounts on July 1-----				Flow Amounts During Following 12 Months-----							
		Total Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	
1996	2,858,756	2,940,437	97.2%	(81,681)	465,182	12.00%	56,674	41,325	97,999	169,591	(71,592)	232,894	3,020,058
1997	3,020,058	3,101,543	97.4%	(81,485)	479,384	12.00%	58,404	42,538	100,941	178,232	(77,290)	245,967	3,188,734
1998	3,188,734	3,269,491	97.5%	(80,756)	494,015	12.00%	60,138	43,751	103,889	191,038	(87,149)	259,476	3,361,061
1999	3,361,061	3,439,327	97.7%	(78,266)	508,293	12.00%	61,852	44,946	106,798	206,323	(99,525)	273,182	3,534,718
2000	3,534,718	3,608,147	98.0%	(73,429)	522,573	12.00%	63,645	46,196	109,841	222,249	(112,409)	286,977	3,709,287
2001	3,709,287	3,775,104	98.3%	(65,817)	538,178	12.00%	65,725	47,651	113,376	238,580	(125,204)	300,852	3,884,935
2002	3,884,935	3,938,836	98.6%	(53,901)	557,244	12.00%	68,013	49,253	117,266	256,016	(138,750)	314,784	4,060,969
2003	4,060,969	4,100,498	99.0%	(39,530)	576,309	12.00%	70,301	50,851	121,152	272,396	(151,244)	328,791	4,238,515
2004	4,238,515	4,258,900	99.5%	(20,385)	595,375	12.00%	72,589	52,446	125,034	291,184	(166,150)	342,824	4,415,189
2005	4,415,189	4,413,107	100.0%	2,082	614,441	12.00%	74,877	54,036	128,913	309,967	(181,054)	356,785	4,590,920
2006	4,590,920	4,562,447	100.6%	28,473	633,506	12.00%	77,605	55,940	133,544	328,726	(195,181)	370,700	4,766,438
2007	4,766,438	4,706,505	101.3%	59,934	659,903	12.00%	80,772	58,156	138,928	346,866	(207,938)	384,654	4,943,154
2008	4,943,154	4,845,125	102.0%	98,029	686,300	12.00%	83,940	60,367	144,306	364,164	(219,858)	398,741	5,122,037
2009	5,122,037	4,978,413	102.9%	143,625	712,696	12.00%	87,107	62,645	149,752	381,574	(231,822)	413,005	5,303,221
2010	5,303,221	5,106,731	103.8%	196,490	739,093	12.00%	90,275	64,923	155,198	398,726	(243,529)	427,470	5,487,163
2011	5,487,163	5,230,703	104.9%	256,459	765,490	12.00%	94,049	67,637	161,687	415,653	(253,966)	442,215	5,675,411
2012	5,675,411	5,351,211	106.1%	324,200	801,999	12.00%	98,430	70,788	169,218	431,808	(262,590)	457,390	5,870,211
2013	5,870,211	5,469,397	107.3%	400,814	838,508	12.00%	102,812	73,939	176,750	447,035	(270,285)	473,143	6,073,070
2014	6,073,070	5,586,660	108.7%	486,410	875,017	0.00%	0	77,089	77,089	459,927	(382,837)	485,236	6,175,468
2015	6,175,468	5,704,662	108.3%	470,807	911,526	0.00%	0	80,240	80,240	472,158	(391,918)	493,310	6,276,860
2016	6,276,860	5,825,321	107.8%	451,539	948,035	0.00%	0	84,001	84,001	482,876	(398,875)	501,387	6,379,372
2017	6,379,372	5,950,816	107.2%	428,556	998,686	0.00%	0	88,372	88,372	492,921	(404,549)	509,611	6,484,433
2018	6,484,433	6,083,585	106.6%	400,848	1,049,336	0.00%	0	92,743	92,743	500,664	(407,921)	518,139	6,594,652
2019	6,594,652	6,226,326	105.9%	368,326	1,099,986	0.00%	0	97,114	97,114	511,136	(414,021)	526,980	6,707,611
2020	6,707,611	6,381,995	105.1%	325,616	1,150,636	0.00%	0	101,485	101,485	521,642	(420,157)	536,046	6,823,500
2021	6,823,500	6,553,808	104.1%	269,692	1,201,287	0.00%	0	105,953	105,953	532,133	(426,80)	545,359	6,942,679

* Surpluses reduce employer contributions over 5 years
* Deficits increase employer contributions over 25 years

1.6 Actuarial Projections (continued)

Table 6
State of Alaska TRS
Financial Projections ('000 omitted)

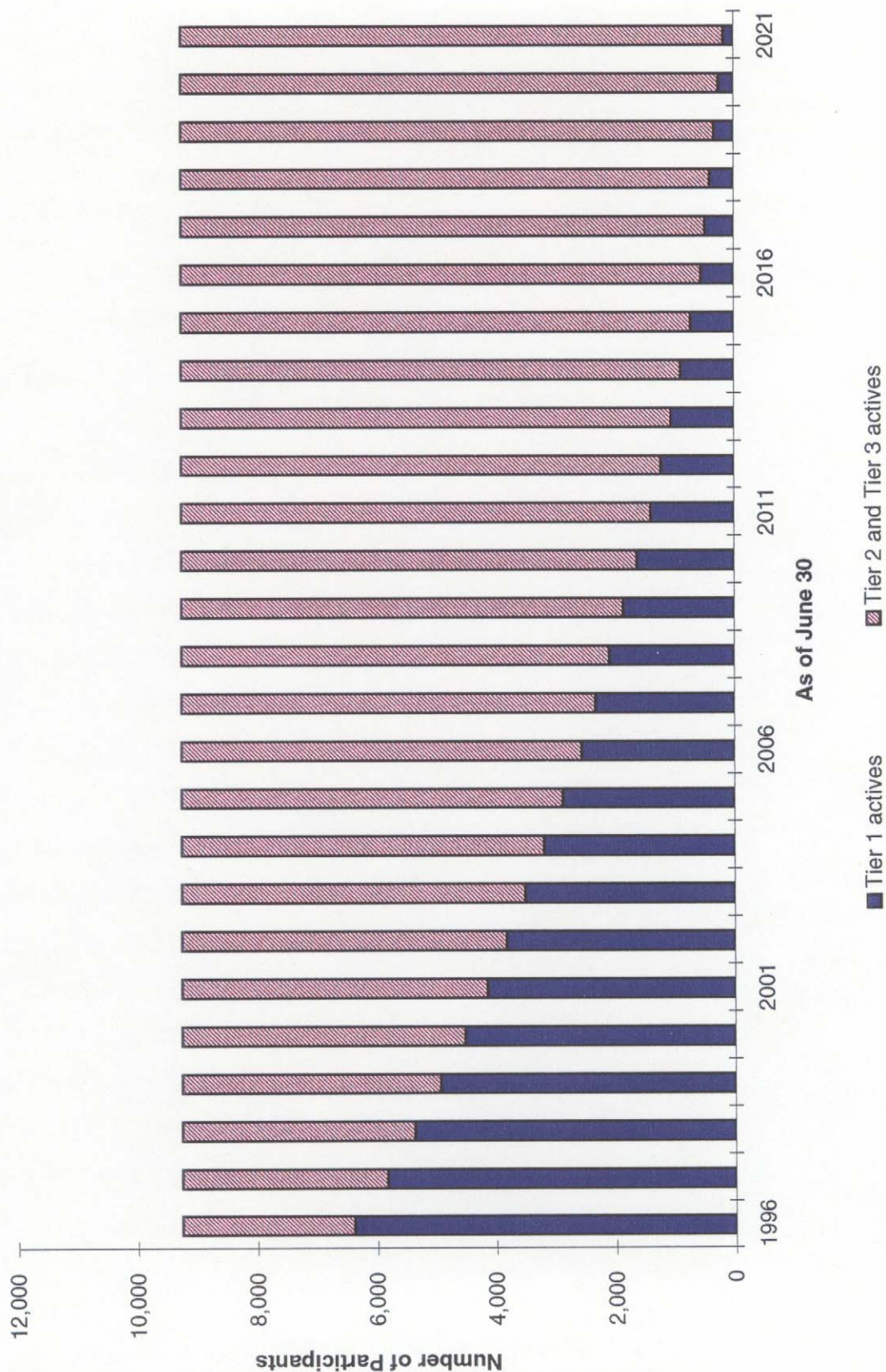
As of June 30	Investment Return	Valuation Amounts on July 1				8.25%					Annual Population Increase					2.00%		Ending Asset Value
		Total Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Flow Amounts During Following 12 Months					Benefit Payments	Net Contribs	Investment Earnings				
							Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs								
1996	2,858,756	2,940,437	97.2%	(81,681)	465,182	12.00%	56,889	41,481	98,370	169,591	(71,221)	232,910	3,020,444					
1997	3,020,444	3,101,587	97.4%	(81,143)	482,961	12.00%	59,063	43,017	102,080	178,232	(76,152)	246,045	3,190,338					
1998	3,190,338	3,269,907	97.6%	(79,569)	501,419	12.00%	61,284	44,584	105,868	191,076	(85,208)	259,688	3,364,818					
1999	3,364,818	3,440,479	97.8%	(75,661)	519,978	12.00%	63,541	46,173	109,713	206,429	(96,716)	273,608	3,541,710					
2000	3,541,710	3,610,460	98.1%	(68,749)	539,031	12.00%	65,938	47,860	113,798	222,454	(108,656)	287,709	3,720,763					
2001	3,720,763	3,779,076	98.5%	(58,312)	559,940	12.00%	68,768	49,857	118,625	238,903	(120,278)	302,002	3,902,487					
2002	3,902,487	3,944,937	98.9%	(42,450)	586,198	12.00%	71,919	52,082	124,001	256,484	(132,483)	316,490	4,086,494					
2003	4,086,494	4,109,510	99.4%	(23,016)	612,456	12.00%	75,070	54,301	129,371	273,031	(143,660)	331,210	4,274,044					
2004	4,274,044	4,271,714	100.1%	2,330	638,715	12.00%	78,221	56,515	134,736	292,023	(157,287)	346,121	4,462,877					
2005	4,462,877	4,430,755	100.7%	32,122	664,973	12.00%	81,372	58,724	140,096	310,955	(170,859)	361,139	4,653,158					
2006	4,653,158	4,586,133	101.5%	67,024	691,231	12.00%	85,212	61,424	146,636	329,880	(183,244)	376,327	4,846,241					
2007	4,846,241	4,737,634	102.3%	108,607	728,972	12.00%	89,741	64,614	154,355	348,206	(193,851)	391,818	5,044,208					
2008	5,044,208	4,885,333	103.3%	158,875	766,713	12.00%	94,270	67,796	162,066	365,714	(203,648)	407,747	5,248,306					
2009	5,248,306	5,029,596	104.3%	218,710	804,454	12.00%	98,799	71,053	169,852	383,370	(213,518)	424,178	5,458,966					
2010	5,458,966	5,171,076	105.6%	287,889	842,195	12.00%	103,328	74,310	177,638	400,810	(223,172)	441,159	5,676,952					
2011	5,676,952	5,310,719	106.9%	366,234	879,935	12.00%	108,824	78,263	187,086	418,073	(230,987)	458,820	5,904,786					
2012	5,904,786	5,449,755	108.3%	455,031	933,796	12.00%	115,287	82,911	198,198	434,613	(236,415)	477,393	6,145,764					
2013	6,145,764	5,589,708	109.9%	556,056	987,656	12.00%	121,750	87,559	209,309	450,282	(240,973)	497,085	6,401,876					
2014	6,401,876	5,732,388	111.7%	669,488	1,041,517	0.00%	0	92,207	92,207	463,706	(371,499)	512,830	6,543,207					
2015	6,543,207	5,879,896	111.3%	663,311	1,095,377	0.00%	0	96,855	96,855	476,599	(379,744)	524,150	6,687,614					
2016	6,687,614	6,034,621	110.8%	652,993	1,149,237	0.00%	0	102,484	102,484	488,096	(385,611)	535,822	6,837,824					
2017	6,837,824	6,199,242	110.3%	638,582	1,225,836	0.00%	0	109,095	109,095	499,043	(389,948)	548,035	6,995,911					
2018	6,995,911	6,376,728	109.7%	619,183	1,302,436	0.00%	0	115,705	115,705	507,834	(392,129)	560,987	7,164,769					
2019	7,164,769	6,570,335	109.0%	594,434	1,379,035	0.00%	0	122,316	122,316	519,917	(397,601)	574,692	7,341,860					
2020	7,341,860	6,783,609	108.2%	558,251	1,455,634	0.00%	0	128,927	128,927	532,401	(403,474)	589,060	7,527,446					
2021	7,527,446	7,020,388	107.2%	507,058	1,532,234	0.00%	0	135,711	135,711	545,214	(409,503)	604,122	7,722,065					

* Surpluses reduce employer contributions over 5 years

* Deficits increase employer contributions over 25 years

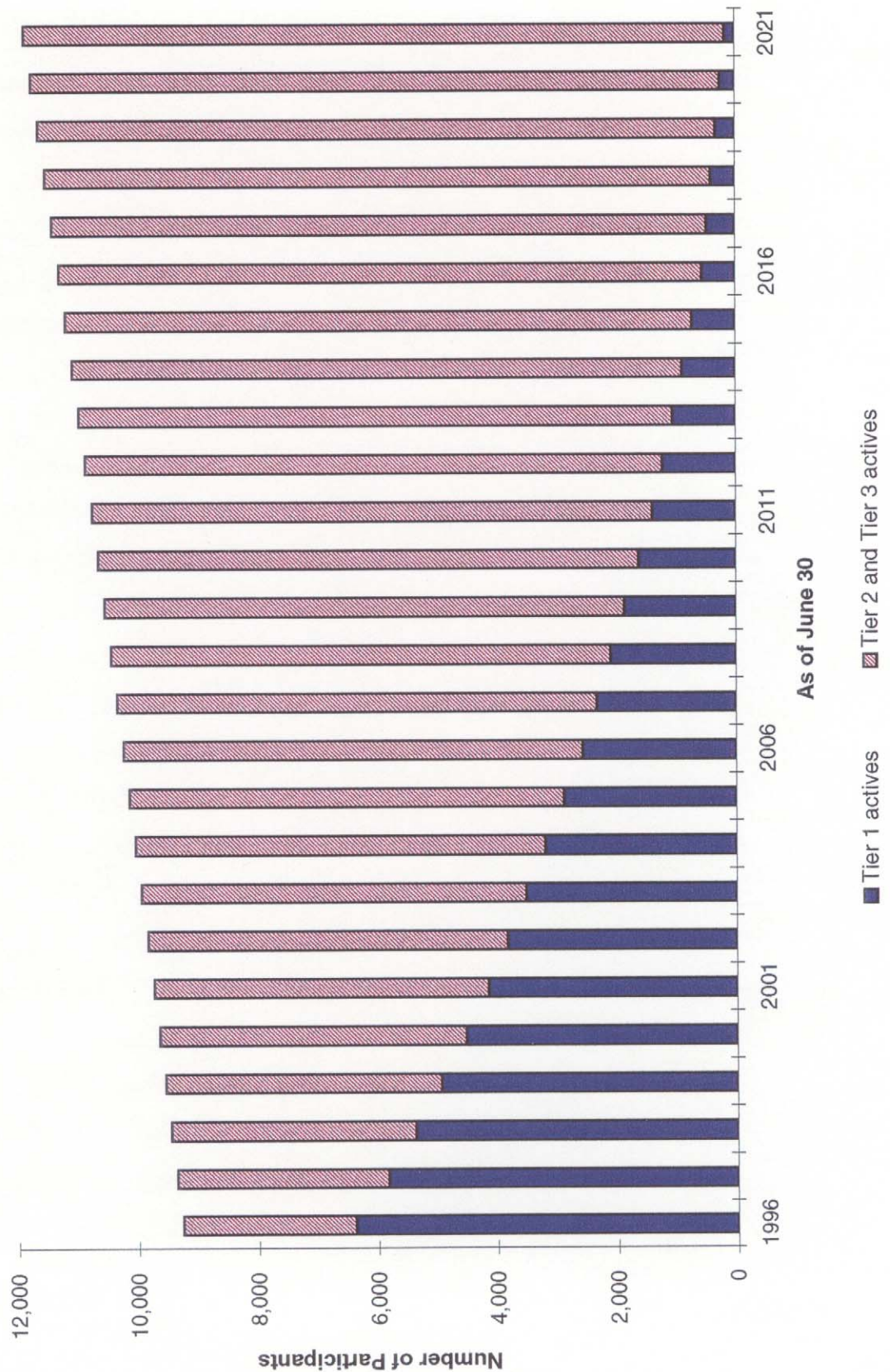
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Active Participant Count Annual Population Increase of 0%



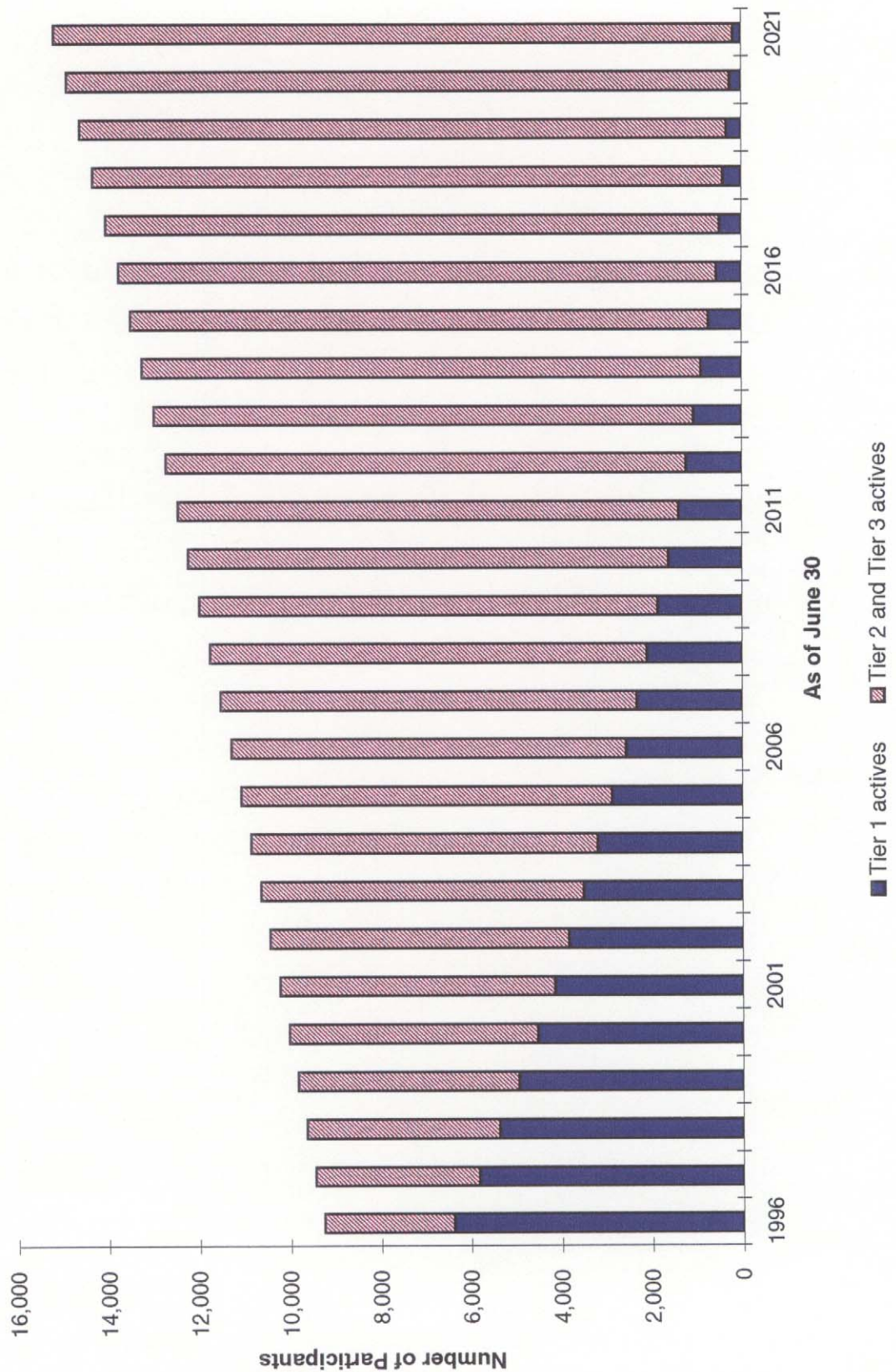
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Active Participant Count Annual Population Increase of 1%



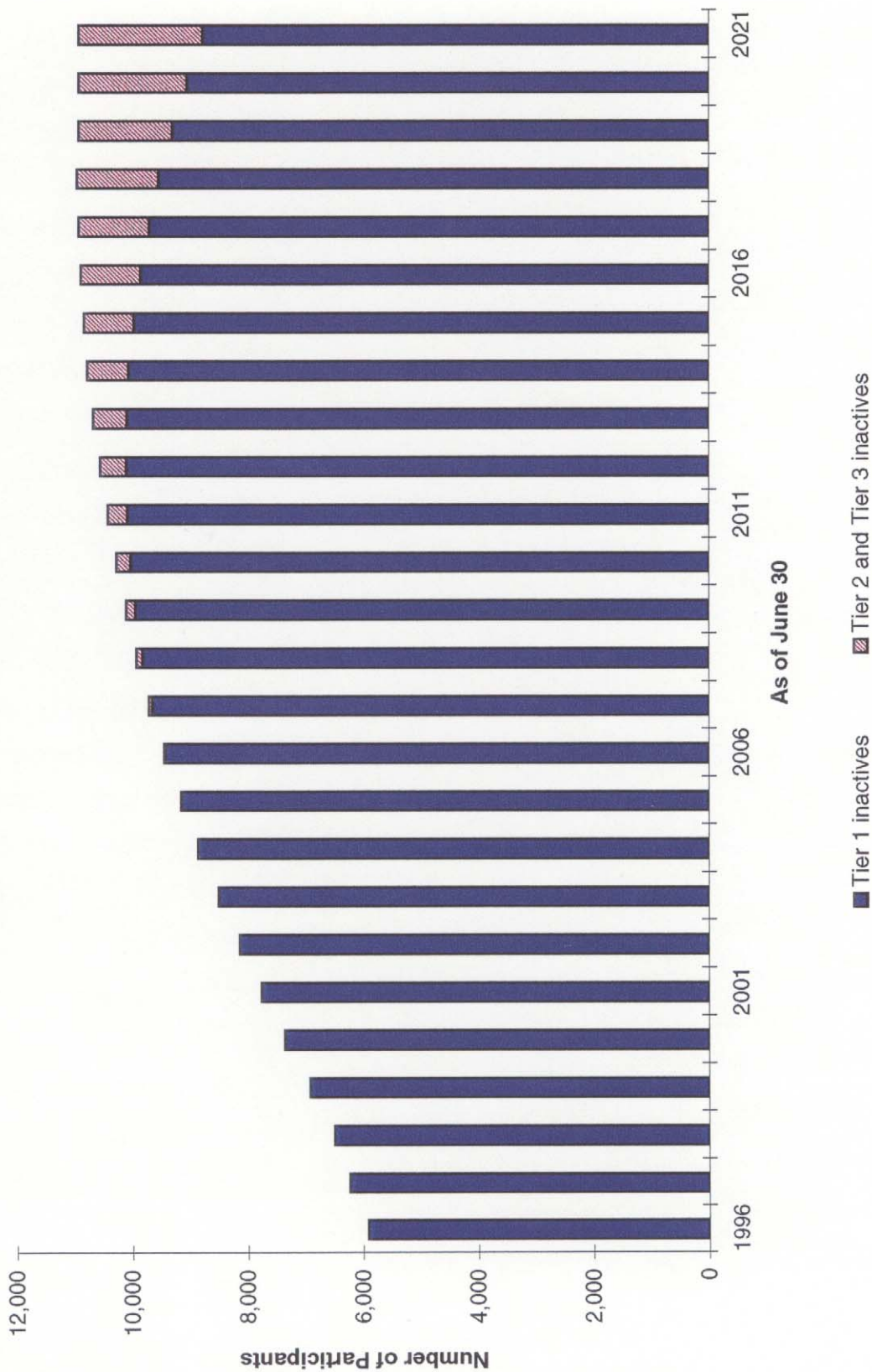
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Active Participant Count Annual Population Increase of 2%



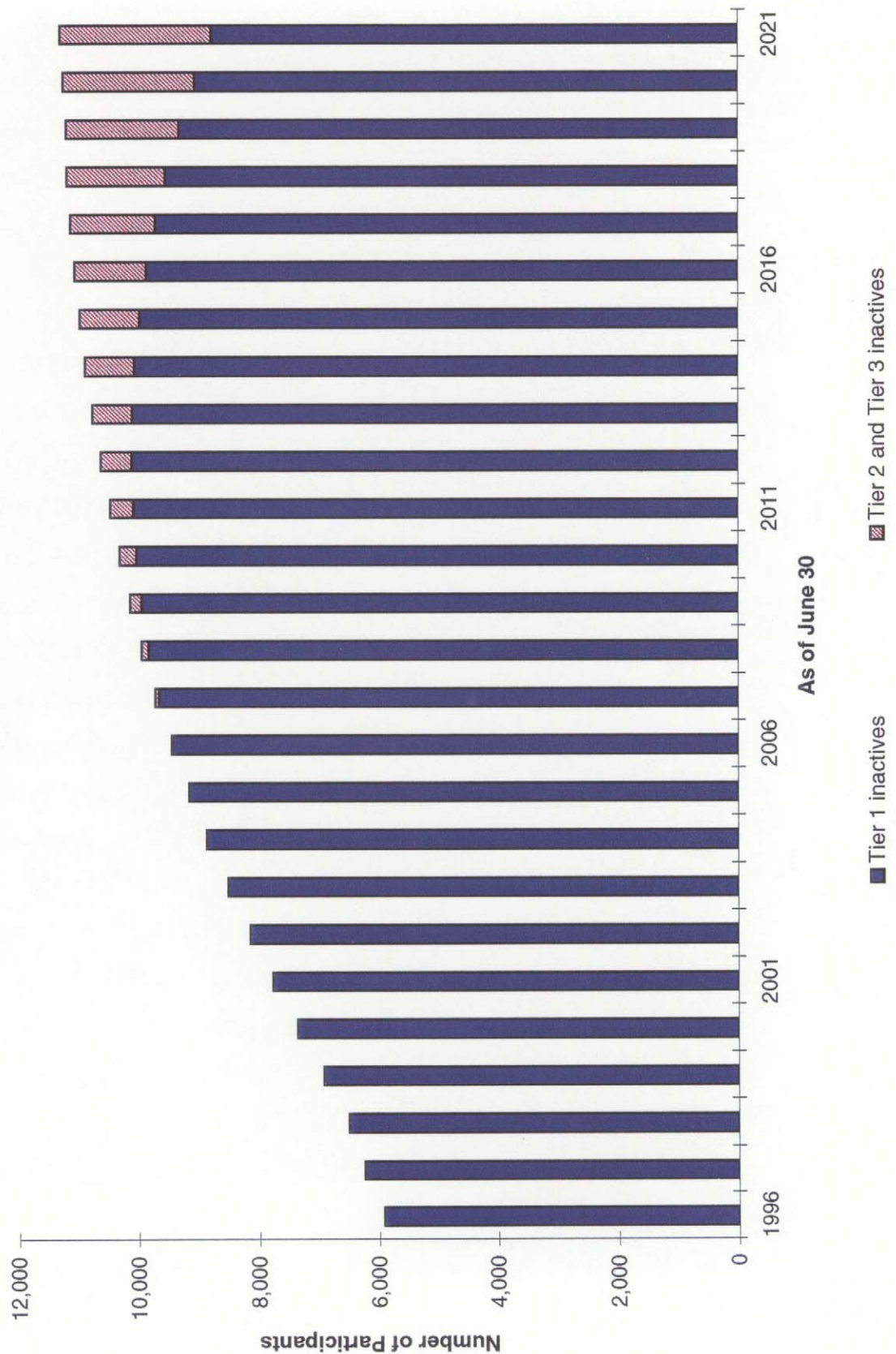
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Inactive Participant Count
Annual Population Increase of 0%



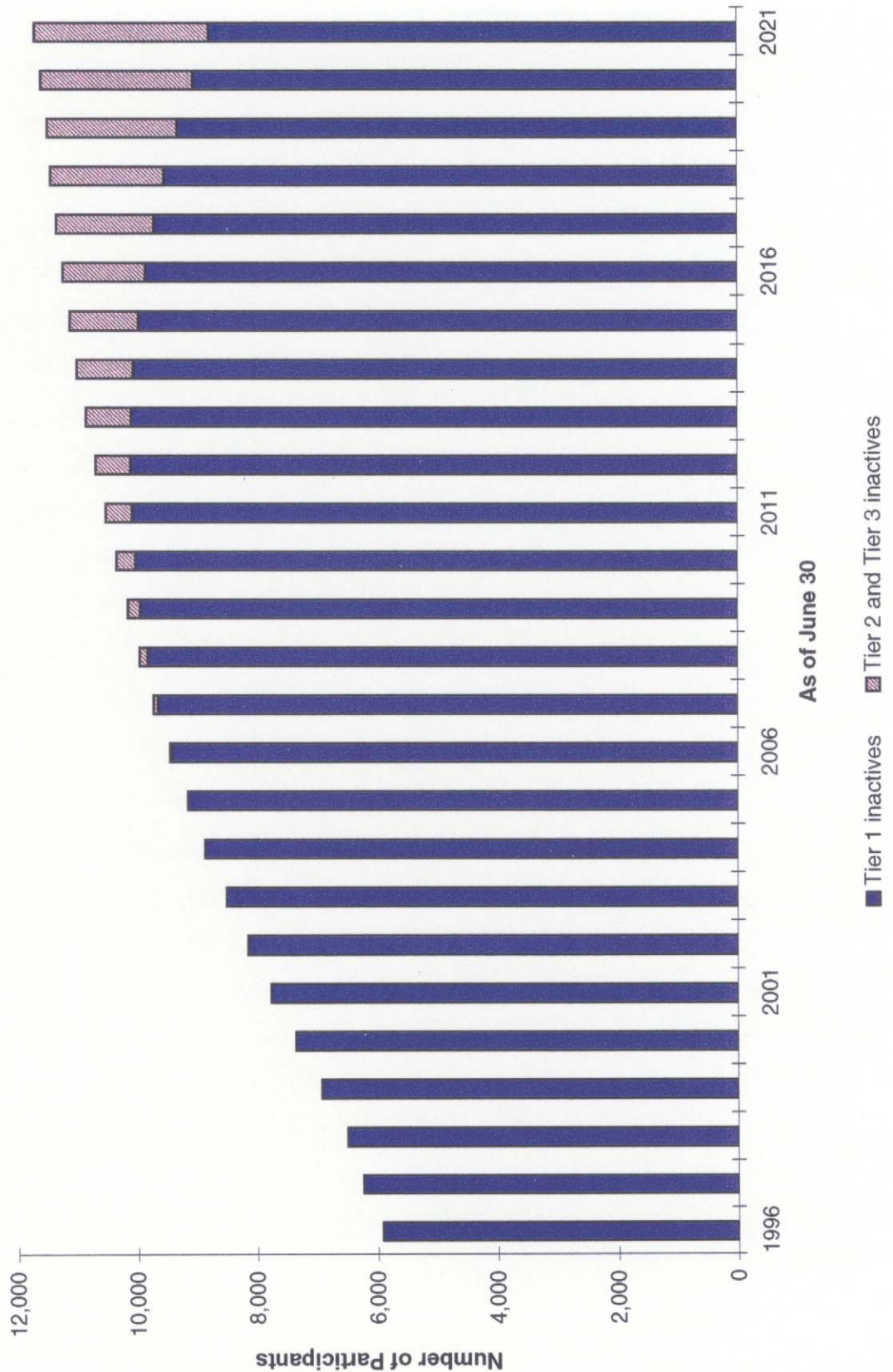
1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Inactive Participant Count Annual Population Increase of 1%



1.6 Actuarial Projections (continued)

State of Alaska TRS Projected Inactive Participant Count Annual Population Increase of 2%



Section 2

Basis of the Valuation

In this section, the basis of the valuation is presented and described. This information--the provisions of the plan and the census of participants--is the foundation of the valuation, since these are the present facts upon which benefit payments will depend.

A summary of plan provisions is provided in Section 2.1 and participant census information is shown in Section 2.2.

The valuation is based upon the premise that the plan will continue in existence, so that future events must also be considered. These future events are assumed to occur in accordance with the actuarial assumptions and concern such events as the earnings of the fund, the number of participants who will retire, die, terminate their services, their ages at such termination and their expected benefits.

The actuarial assumptions and the actuarial cost method, or funding method, which have been adopted to guide the sponsor in funding the plan in a reasonable and acceptable manner, are described in Section 2.3.

2.1 Summary of the Alaska Teachers' Retirement System

(1) Effective Date

July 1, 1955, with amendments through June 30, 1996. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under the TRS before July 1, 1990, are eligible for different benefits than members hired after June 30, 1990. Members who were first hired after June 30, 1996 are eligible for different health benefits than members from the other tiers.

(2) Administration of Plan

The Commissioner of Administration is responsible for administering the system. The Teachers' Retirement Board prescribes policies and regulations and performs other activities necessary to carry out the provisions of the system. The Alaska State Pension Investment Board, Department of Revenue, Treasury Division is responsible for investing TRS funds. The Attorney General represents the system in legal proceedings.

(3) Membership

Membership in the Alaska TRS is mandatory for the following employees:

- certificated full-time and part-time elementary and secondary teachers, certificated school nurses, and certificated employees in positions requiring teaching certificates;
- the Commissioner of the Alaska Department of Education and certificated supervisors employed by the Department of Education in permanent positions requiring teaching certificates;
- University of Alaska full-time and part-time teachers, and full-time administrative employees in positions requiring academic standing if approved by the TRS administrator;
- certain full-time or part-time teachers of Alaska Native language or culture who have elected to be covered under the TRS;
- members on approved sabbatical leave under AS 14.20.310; and
- certain State legislators who have elected to be covered under the TRS.

Employees participating in the University of Alaska's Optional Retirement Plan or other retirement plans funded by the State are not covered by the TRS.

Employees who work half-time in the TRS and Public Employees' Retirement System (PERS) simultaneously are eligible for half-time TRS and PERS credit.

(4) Credited Service

TRS members receive a year of membership credit if they work a minimum of 172 days during the school year (July 1 through June 30 of the following year). Fractional credit is determined based on the number of days worked. Members receive one-half membership credit for each day of part-time service. Credit is granted for all Alaskan public school service.

Members may claim other types of service, including:

- Outside teaching service in out-of-state schools or Alaska private schools (not more than ten years may be claimed);
- Military service (not more than five years of military service or ten years of combined outside and military service may be claimed);
- Alaska Bureau of Indian Affairs (BIA) service;
- Retroactive Alaskan service that was not creditable at the time it occurred, but later became creditable because of legislative change;
- Unused sick leave credit after members retire; and
- Leave of absence without pay.

Except for retroactive Alaska service that occurred before July 1, 1955, and unused sick leave, contributions are required for all claimed service.

Members receiving TRS disability benefits continue to earn TRS credit while disabled.

(5) Employer Contributions

TRS employers contribute the amounts required, in addition to employees' contributions, to fund the benefits of the system.

(6) Member Contributions

Mandatory Contributions: Members are required to contribute 8.65% of their base salaries. Members' contributions are deducted from gross salaries before federal income taxes are withheld.

Contributions for Claimed Service: Member contributions are also required for most of the claimed service described in (4) above.

1% Supplemental Contributions: Members who joined the system before July 1, 1982, and elected to participate in the supplemental contributions provision, are required to contribute an additional 1% of their salaries. Under the supplemental provision, an eligible spouse or dependent child will receive a survivor's allowance or spouse's pension if the member dies (see (10) below).

Interest: Members' contributions earn 4.5% interest, compounded annually on June 30.

Refund of Contributions: Terminated members may receive refunds of their member contribution accounts, which includes their mandatory contributions, indebtedness payments, and interest earned. Terminated members' accounts may be attached to satisfy claims under Alaska Statute 09.38.065, federal income tax levies, and valid qualified domestic relations orders.

Reinstatement of Contributions: Refunded accounts and the corresponding TRS service may be reinstated upon reemployment in the TRS. Accounts attached to satisfy claims under Alaska Statute 09.38.065 or a federal tax levy may be reinstated at any time. Interest accrues on refunds until paid in full or members retire.

(7) Retirement Benefits

Eligibility:

- (a) Members, including deferred vested members, are eligible for normal retirement at age 60*, or early retirement at age 55, if they have at least:
 - (i) eight years of paid-up membership service;
 - (ii) 15 years of paid-up creditable service, the last five years which are membership service, and they were first hired under the TRS before July 1, 1975;
 - (iii) five years of paid-up membership service and three years of paid-up Alaska Bureau of Indian Affairs service;
 - (iv) 12 years of combined part-time and full-time paid-up membership service; or
 - (v) two years of paid-up membership service if they are vested in the Public Employees' Retirement System (PERS).

* Members participating before July 1, 1990, are eligible for normal retirement at age 55 or early retirement at age 50.

(b) Members may retire at any age when they have:

- (i) 25 years of paid-up creditable service, the last five years which are membership service;
- (ii) 20 years of paid-up membership service;
- (iii) 20 years of combined paid-up membership and Alaska Bureau of Indian Affairs service, the last five years which are membership service; or
- (iv) 20 years of combined paid-up part-time and full-time membership service.

Benefit Type: Lifetime benefits are paid to members. Eligible members may receive normal, unreduced benefits when they (1) reach normal retirement age and complete the service required; or (2) satisfy the minimum service requirements to retire at any age under (b) above. Members may receive early, actuarially reduced benefits when they reach early retirement age and complete the service required.

Members may also select joint and survivor options. Under those options and early retirement, benefits are actuarially adjusted so that members receive the actuarial equivalents of their normal benefit amounts.

Benefit Calculation: Retirement benefits are calculated by multiplying the average base salary (ABS) times the total TRS service times the percentage multiplier. The ABS is determined by averaging the salaries earned during the three highest school years. Members must earn at least 115 days of credit in a school year to include it in the ABS calculation. The TRS pays a minimum benefit of \$25.00 per month for each year of service when the calculated benefit is less.

The percentage multipliers are 2% for the first 20 years and 2.5% for all remaining service. Service before July 1, 1990, is calculated at 2%.

Indebtedness: Members who terminate and are refunded their TRS contributions are not eligible to retire, unless they return to TRS employment and pay back their refunds, plus interest, or accrue additional service which qualifies them for retirement. TRS refunds must be paid in full if the corresponding service is to count toward the minimum service requirements for retirement. Refunded TRS service is included in total service for the purpose of calculating retirement benefits. However, when refunds are not completely paid before retirement, benefits are actuarially reduced for life.

(8) Reemployment of Retired Members

Retirement benefits are suspended while retired members are reemployed under the TRS. During reemployment, members earn additional TRS service and contributions are withheld from their wages.

Members retired under the Retirement Incentive Programs (RIPs) who return to employment under the TRS, Public Employees' Retirement System (PERS), or the University of Alaska's Optional Retirement Plan will:

- (a) forfeit the three years of incentive credits that they received;
- (b) owe the TRS 110% of the benefits that they received under the RIP, which may include costs for health insurance, excluding amounts that they paid to participate; and
- (c) be charged 7% interest from the date that they are reemployed until their indebtedness is paid in full or they retire again. If the indebtedness is not completely paid, future benefits will be actuarially reduced for life.

(9) Disability Benefits

Monthly disability benefits are paid to permanently disabled members until they die, recover or become eligible for normal retirement. To be eligible, members must have at least five years of paid-up membership service.

Disability benefits are equal to 50% of the member's base salary at the time of disability. The benefit is increased by 10% of the base salary for each minor child, up to a maximum of 40%. Members continue to earn TRS service until eligible for normal retirement.

Members are appointed to normal retirement on the first of the month after they become eligible.

(10) Death Benefits

Monthly death benefits may be paid to a spouse or dependent children upon the death of a member. If monthly benefits are not payable under the supplemental contributions provision or occupational and nonoccupational death provisions, the designated beneficiary receives the lump sum benefit described below.

Occupational Death: When an active member dies from occupational causes, a monthly survivor's pension may be paid to the spouse, unless benefits are payable under the supplemental contributions provision (below). The pension equals 40% of the member's base salary on the date of death or disability, if earlier. If there is no spouse, the pension may be paid to the member's dependent children. On the member's normal retirement date, the benefit converts to a normal retirement benefit. The normal benefit is based on the member's average base salary as existed on the date of death and service, including service accumulated from the date of the member's death to the normal retirement date.

Nonoccupational Death: When a vested member dies from nonoccupational causes, the surviving spouse may elect to receive a monthly 50% joint and survivor benefit or a lump sum benefit, unless benefits are payable under the supplemental contributions provision (below). The monthly benefit is calculated on the member's average base salary and TRS service accrued at the time of death.

Lump Sum Benefit: Upon the death of an active member who has less than one year of service or an inactive member who is not vested, the designated beneficiary receives the member's contribution account, which includes mandatory contributions, indebtedness payments, and interest earned. Any supplemental contributions will also be refunded. If the member has more than one year of TRS service, the beneficiary also receives \$1,000 and \$100 for each year of TRS service, up to a maximum of \$3,000. An additional \$500 may be payable if the member is survived by dependent children.

Supplemental Contributions Provision: Members are eligible for supplemental coverage if they joined the TRS before July 1, 1982, elected to participate in the supplemental provision, and made the required contributions. A survivor's allowance or spouse's pension (below) may be payable if the member made supplemental contributions for at least one year and dies while in membership service or while disabled under the TRS. In addition, the allowance and pension may be payable if the member dies while retired or in deferred vested status if supplemental contributions were made for at least five years.

- (a) Survivor's Allowance: If the member is survived by dependent children, the surviving spouse and dependent children are entitled to a survivor's allowance. The allowance for the spouse is equal to 35% of the member's base salary at the time of death or disability, plus 10% for each dependent child up to a maximum of 40%. The allowance terminates and a spouse's pension becomes payable when there is no longer an eligible dependent child.
- (b) Spouse's Pension: The spouse's pension is equal to 50% of the retirement benefit that the deceased member was receiving or would have received if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.

Death After Retirement: If a joint and survivor option was selected at retirement, the eligible spouse receives continuing, lifetime monthly benefits after the member dies. A survivor's allowance or spouse's pension may be payable if the member participated in the supplemental contributions provision. If a joint and survivor option was not selected and benefits are not payable under the supplemental contributions provision, the designated beneficiary receives the member's contribution account, less any benefits already paid.

(11) Post Retirement Pension Adjustments

Post retirement pension adjustments (PRPAs) are granted annually to eligible benefit recipients when the consumer price index (CPI) increases during the preceding calendar year. PRPAs are calculated by multiplying the recipient's base benefit, including past PRPAs, times:

- (a) 75% of the CPI increase in the preceding calendar year or 9%, whichever is less, if the recipient is at least age 65 or on TRS disability; or
- (b) 50% of the CPI increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60, or under age 60 if the recipient has been receiving benefits for at least eight years.

Ad hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who were first hired before July 1, 1990, if the CPI increases and the financial condition of the fund will permit an increase.

(12) Alaska Cost of Living Allowance

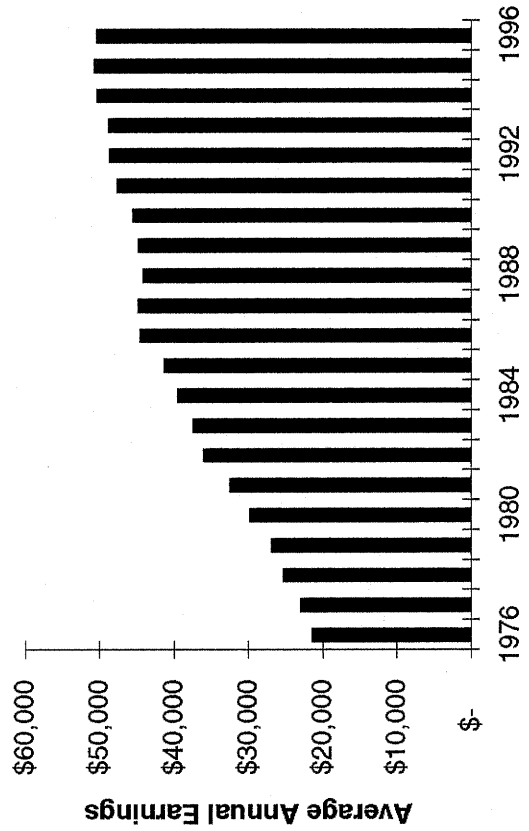
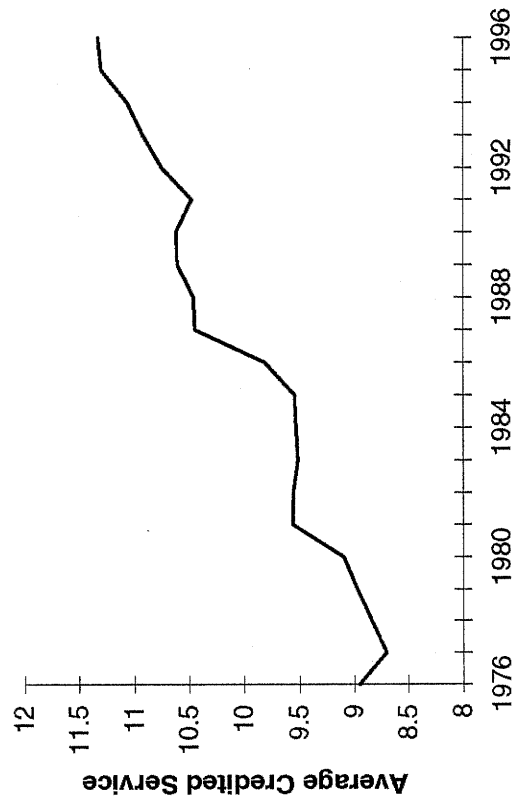
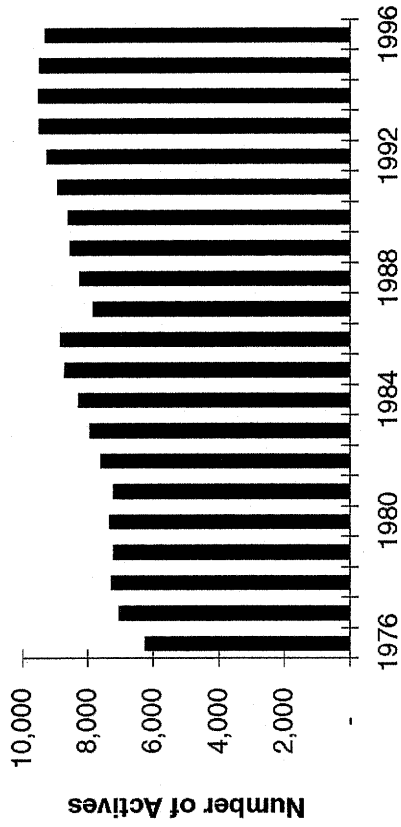
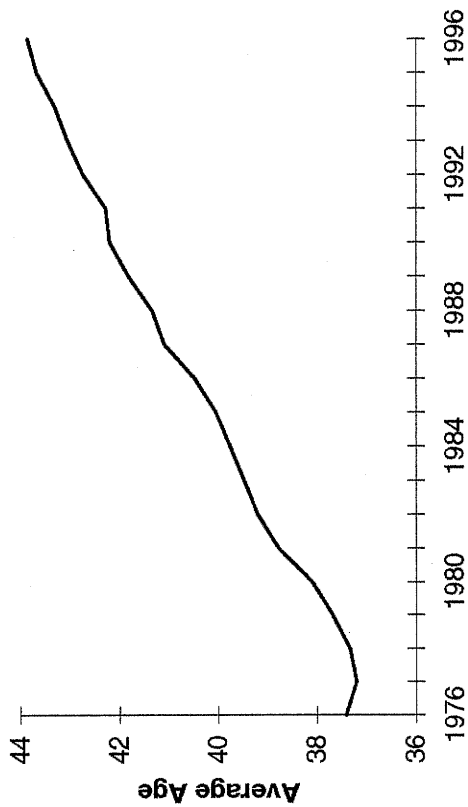
Eligible benefit recipients who reside in Alaska receive an Alaska cost of living allowance (COLA) equal to 10% of their base benefits. The following benefit recipients are eligible:

- (a) members who were first hired under the TRS before July 1, 1990, and their survivors;
- (b) members who were first hired under the TRS after June 30, 1990, and their survivors if they are at least age 65; and
- (c) all disabled members.

2.2(a) Participant Census Information as of June 30

		<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Active Members						
(1)	Number	9,238	9,459	9,489	9,452	9,259
(2)	Average Age	42.74	43.06	43.32	43.68	43.87
(3)	Average Credited Service	10.75	10.92	11.06	11.30	11.33
(4)	Average Annual Salary	\$ 48,515	\$ 48,604	\$ 50,174	\$ 50,487	\$ 50,241
(5)	Number Vested	5,422	5,604	5,562	5,578	5,491
(6)	Percent Who Are Vested	58.7%	59.2%	58.6%	59.0%	59.3%
Retirees and Beneficiaries						
(1)	Number	3,602	3,891	4,134	4,459	4,803
(2)	Average Age	61.97	62.47	62.73	62.83	62.94
(3)	Average Monthly Benefit:					
	Base	\$ 1,601	\$ 1,598	\$ 1,643	\$ 1,694	\$ 1,703
	C.O.L.A.	\$ 102	\$ 98	\$ 102	\$ 105	\$ 105
	P.R.P.A.	\$ 297	\$ 280	\$ 283	\$ 274	\$ 258
	Adjustment	N/A	\$ 0	\$ 0	\$ -1	\$ -4
	Total	\$ 2,000	\$ 1,976	\$ 2,028	\$ 2,072	\$ 2,062
Vested Terminations						
(1)	Number	710	823	930	859	1,116
(2)	Average Age	46.22	47.51	48.10	48.08	49.31
(3)	Average Monthly Benefit	\$ 1,087	\$ 1,236	\$ 1,294	\$ 1,233	\$ 1,431
Non-Vested Terminations With Account Balances						
(1)	Number	1,057	1,013	1,090	1,140	1,195
(2)	Average Account Balance	\$ 10,411	\$ 11,208	\$ 11,807	\$ 12,165	\$ 12,782

State of Alaska - TRS Actives



2.2(b) Distribution of Active Participants

----- Annual Earnings By Age -----			
Age Groups	Number of People	Total Annual Earnings	Average Annual Earnings
0-19	1	\$ 32,781	\$ 32,781
20-24	49	1,540,338	31,435
25-29	559	20,233,884	36,197
30-34	883	35,627,104	40,348
35-39	1,353	60,956,235	45,053
40-44	1,994	99,795,104	50,048
45-49	2,341	126,679,972	54,114
50-54	1,404	79,911,336	56,917
55-59	479	28,423,548	59,339
60-64	160	9,821,724	61,386
65-69	27	1,627,398	60,274
70-74	7	408,030	58,290
75-79	1	78,482	78,482
80+	1	46,486	46,486
Total	9,259	\$ 465,182,422	\$ 50,241

----- Annual Earnings By Credited Service -----			
Years of Service	Number of People	Total Annual Earnings	Average Annual Earnings
0	148	\$ 5,388,865	\$ 36,411
1	547	19,783,064	36,166
2	470	18,606,090	39,587
3	516	20,527,246	39,781
4	509	21,258,807	41,766
0- 4	2,190	85,564,072	39,070
5- 9	2,341	108,952,384	46,541
10-14	2,044	110,483,760	54,053
15-19	1,723	100,100,685	58,097
20-24	696	42,809,832	61,508
25-29	234	14,964,288	63,950
30-34	25	1,797,583	71,903
35-39	6	509,818	84,970
40+	0	0	0
Total	9,259	\$ 465,182,422	\$ 50,241

Years of Credited Service By Age

Age	----- Years of Service -----									
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total
0-19	1	0	0	0	0	0	0	0	0	1
20-24	49	0	0	0	0	0	0	0	0	49
25-29	477	82	0	0	0	0	0	0	0	559
30-34	440	390	53	0	0	0	0	0	0	883
35-39	390	501	381	81	0	0	0	0	0	1,353
40-44	366	538	543	489	58	0	0	0	0	1,994
45-49	272	463	563	654	327	62	0	0	0	2,341
50-54	134	235	352	353	212	107	11	0	0	1,404
55-59	50	77	108	118	72	46	7	1	0	479
60-64	10	45	37	21	22	15	7	3	0	160
65-69	1	7	5	5	4	3	0	2	0	27
70-74	0	1	2	2	1	1	0	0	0	7
75-79	0	1	0	0	0	0	0	0	0	1
80+	0	1	0	0	0	0	0	0	0	1
Total	2,190	2,341	2,044	1,723	696	234	25	6	0	9,259

2.2(c) Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll (000's)	Annual Average Pay	Percent Increase In Average Pay
June 30, 1996	9,259	\$ 465,182	\$ 50,241	-.5%
June 30, 1995	9,452	477,205	50,487	.6%
June 30, 1994	9,489	476,098	50,174	3.2%
June 30, 1993	9,459	459,746	48,604	.2%
June 30, 1992	9,238	448,186	48,515	2.2%
June 30, 1991	8,903	422,655	47,473	4.6%
June 30, 1990	8,586	389,702	45,388	1.8%
June 30, 1989	8,527	380,267	44,596	1.4%
June 30, 1988	8,218	361,310	43,966	-1.7%
June 30, 1987	7,797	348,606	44,710	.6%

2.2(d) Statistics on New Retirees During the Year Ending June 30

		<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Service						
(1)	Number	110	158	267	359	308
(2)	Average Age At Retirement	53.04	52.62	54.14	53.88	53.77
(3)	Average Monthly Benefit	\$ 1,926	\$ 2,086	\$ 2,349	\$ 2,358	\$ 2,349
Disability						
(1)	Number	8	4	6	3	13
(2)	Average Age At Retirement	43.81	48.69	48.31	48.58	52.98
(3)	Average Monthly Benefit	\$ 3,230	\$ 2,431	\$ 2,870	\$ 3,353	\$ 2,542
Survivor (including surviving spouse)						
(1)	Number	2	3	7	6	20
(2)	Average Age At Retirement	49.46	49.37	44.47	52.86	53.14
(3)	Average Monthly Benefit	\$ 620	\$ 930	\$ 2,554	\$ 1,522	\$ 1,038
Total						
(1)	Number	120	165	280	368	341
(2)	Average Age At Retirement	52.37	52.47	53.77	53.82	53.70
(3)	Average Monthly Benefit	\$ 1,991	\$ 2,073	\$ 2,365	\$ 2,352	\$ 2,279

2.2(e) Schedule of Average Benefit Payments - New Retirees

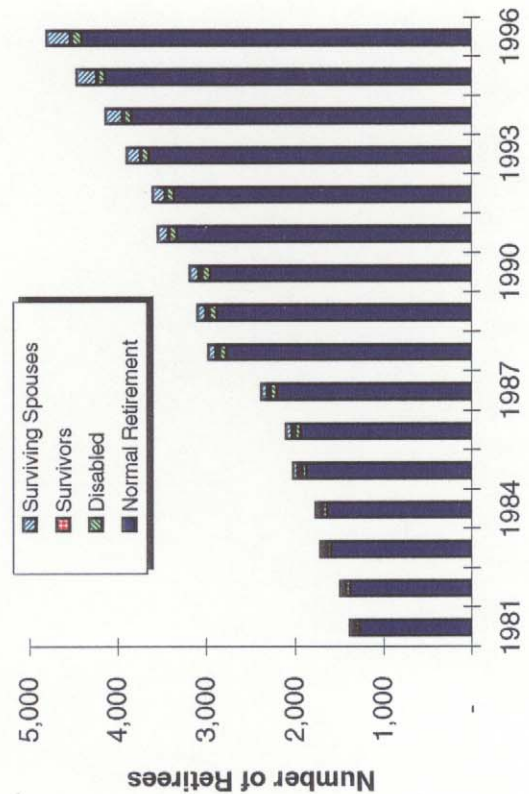
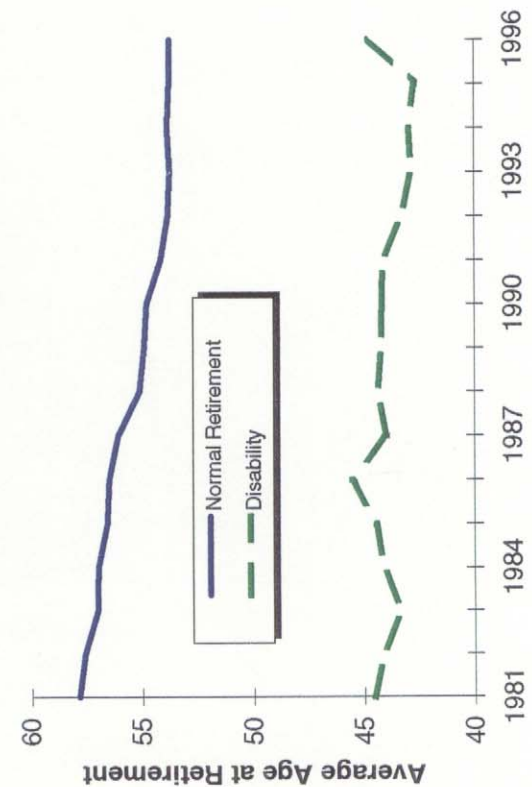
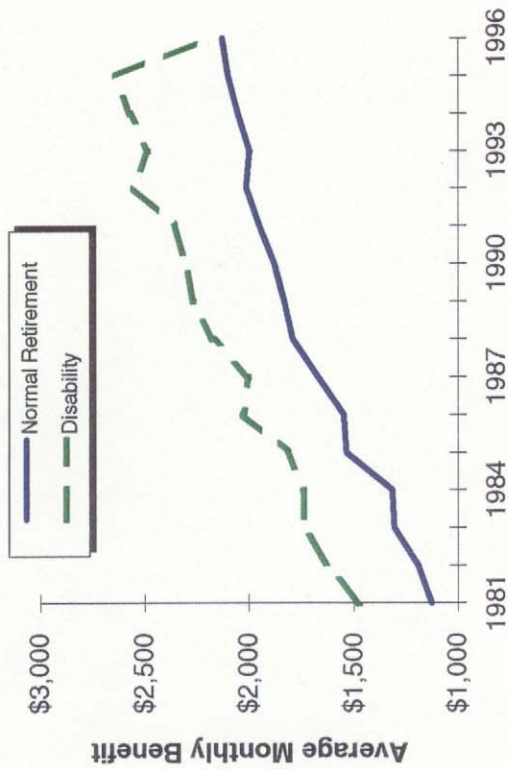
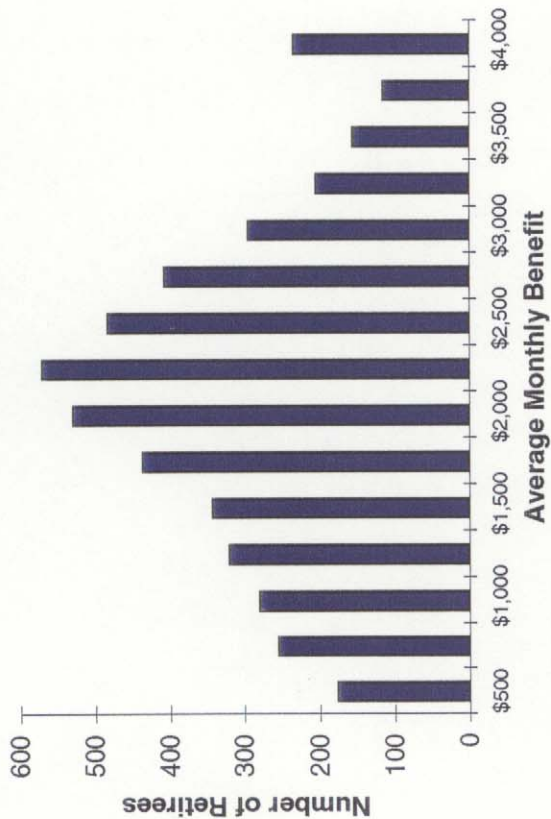
	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30 +
Period 7/1/95 - 6/30/96:							
Average Monthly Benefit	\$ 952	\$ 836	\$ 1,145	\$ 1,731	\$ 2,389	\$ 3,138	\$ 3,317
Number of Active Retireants	15	24	40	31	115	86	30
Period 7/1/94 - 6/30/95:							
Average Monthly Benefit	\$ 1,204	\$ 748	\$ 1,033	\$ 1,716	\$ 2,398	\$ 3,041	\$ 3,958
Number of Active Retireants	7	22	47	36	129	89	38
Period 7/1/93 - 6/30/94:							
Average Monthly Benefit	\$ 1,161	\$ 576	\$ 1,151	\$ 1,605	\$ 2,354	\$ 3,176	\$ 3,685
Number of Active Retireants	7	11	35	24	107	72	24
Period 7/1/92 - 6/30/93:							
Average Monthly Benefit	\$ 408	\$ 1,002	\$ 1,015	\$ 1,561	\$ 2,258	\$ 3,090	\$ 3,043
Number of Active Retireants	7	17	23	9	62	37	10
Period 7/1/91 - 6/30/92:							
Average Monthly Benefit	\$ 819	\$ 1,205	\$ 1,941	\$ 2,256	\$ 2,290	\$ 3,159	\$ 3,930
Number of Active Retireants	4	27	25	17	38	8	1
Period 7/1/90 - 6/30/91:							
Average Monthly Benefit	\$ 949	\$ 1,093	\$ 1,689	\$ 2,085	\$ 2,540	\$ 2,944	\$ 4,173
Number of Active Retireants	14	53	95	155	160	37	5
Period 7/1/89 - 6/30/90:							
Average Monthly Benefit	\$ 1,161	\$ 1,215	\$ 1,551	\$ 2,295	\$ 2,394	\$ 3,852	\$ 3,733
Number of Active Retireants	6	36	33	70	55	6	2

"Average Monthly Benefit" includes post-retirement pension adjustments and cost-of-living increases.

2.2(f) Statistics on All Retirees as of June 30

	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>	<u>1996</u>
Service Retirements					
(1) Number, Fiscal Year Start	3,322	3,352	3,636	3,831	4,130
(2) Net Change During FY	30	284	195	299	265
(3) Number, Fiscal Year End	3,352	3,636	3,831	4,130	4,395
(4) Average Age At Retirement	53.83	53.75	53.85	53.78	53.78
(5) Average Age Now	62.15	62.60	63.00	63.04	63.20
(6) Average Monthly Benefit	\$ 2,013	\$ 1,998	\$ 2,052	\$ 2,099	\$ 2,126
Surviving Spouse's Benefits					
(1) Number, Fiscal Year Start	125	150	161	200	229
(2) Net Change During FY	25	11	39	29	50
(3) Number, Fiscal Year End	150	161	200	229	279
(4) Average Age At Retirement	54.04	53.91	51.51	52.04	54.59
(5) Average Age Now	65.90	66.72	64.25	65.06	64.56
(6) Average Monthly Benefit	\$ 1,339	\$ 1,187	\$ 1,299	\$ 1,373	\$ 1,016
Survivor's Benefits (other than spouses)					
(1) Number, Fiscal Year Start	1	2	0	9	8
(2) Net Change During FY	1	(2)	9	(1)	(5)
(3) Number, Fiscal Year End	2	0	9	8	3
(4) Average Age At Retirement	50.47	--	37.25	28.14	15.12
(5) Average Age Now	59.01	--	42.87	36.03	26.08
(6) Average Monthly Benefit	\$ 3,013	--	\$ 2,166	\$ 1,822	\$ 466
Disabilities					
(1) Number, Fiscal Year Start	96	98	94	94	92
(2) Net Change During FY93	2	(4)	0	(2)	34
(3) Number, Fiscal Year End	98	94	94	92	126
(4) Average Age At Retirement	43.30	42.85	42.98	42.71	44.74
(5) Average Age Now	49.97	49.97	50.28	50.36	51.31
(6) Average Monthly Benefit	\$ 2,552	2,484	\$ 2,569	\$ 2,637	\$ 2,185
Total Number of Retirees	3,602	3,891	4,134	4,459	4,803

State of Alaska - TRS Retirees



2.2(g) Distribution of Annual Benefits for Benefit Recipients

----- Annual Benefit By Age -----

Age Groups	Number of People	Total Annual Benefit	Average Annual Benefit
0-19	2	\$ 9,332	\$ 4,666
20-24	1	4,128	4,128
25-29	0	0	0
30-34	0	0	0
35-39	5	61,332	12,266
40-44	29	663,518	22,880
45-49	276	7,306,363	26,472
50-54	758	20,171,710	26,612
55-59	1,059	26,419,874	24,948
60-64	903	22,452,360	24,864
65-69	685	17,235,400	25,161
70-74	458	11,113,485	24,265
75-79	329	7,250,073	22,037
80+	<u>298</u>	<u>6,163,868</u>	<u>20,684</u>
Total	4,803	\$ 118,851,443	\$ 24,745

--- Annual Benefit By Years Since Retirement ---

Years Since Retirement	Number of People	Total Annual Benefit	Average Annual Benefit
0	341	\$ 9,334,183	\$ 27,373
1	393	10,620,134	27,023
2	294	7,953,876	27,054
3	186	4,268,286	22,948
4	179	3,486,951	19,480
0- 4	1,393	35,663,430	25,602
5- 9	1,694	43,910,583	25,921
10-14	767	19,226,200	25,067
15-19	598	13,150,814	21,991
20-24	290	5,616,431	19,367
25-29	44	917,171	20,845
30-34	17	366,814	21,577
35-39	0	0	0
40+	<u>0</u>	<u>0</u>	<u>0</u>
Total	4,803	\$ 118,851,443	\$ 24,745

Years Since Retirement By Age

Age	Years Since Retirement									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	1	0	0	1	0	0	0	0	0	2
20-24	0	0	0	1	0	0	0	0	0	1
25-29	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0
35-39	4	1	0	0	0	0	0	0	0	5
40-44	22	4	2	0	1	0	0	0	0	29
45-49	189	81	4	1	1	0	0	0	0	276
50-54	406	319	18	11	3	1	0	0	0	758
55-59	429	519	98	10	3	0	0	0	0	1,059
60-64	190	433	232	44	3	1	0	0	0	903
65-69	99	232	196	140	16	1	1	0	0	685
70-74	35	78	141	176	26	2	0	0	0	458
75-79	9	26	60	154	79	1	0	0	0	329
80+	<u>9</u>	<u>1</u>	<u>16</u>	<u>60</u>	<u>158</u>	<u>38</u>	<u>16</u>	<u>0</u>	<u>0</u>	<u>298</u>
Total	1,393	1,694	767	598	290	44	17	0	0	4,803

2.2(h) Schedule of Retired Members by Type of Retirant and Option Selected - June 30, 1996

Amount of Monthly Benefit	Number of Retirees	Type of Retirement			Option Selected #			
		<u>1</u>	<u>2</u>	<u>3</u>	<u>Opt. 1</u>	<u>Opt. 2</u>	<u>Opt. 3</u>	<u>Opt. 4</u>
\$ 1 - \$ 300	59	39	19	1	47	7	5	0
301 - 600	222	156	55	11	182	19	15	6
601 - 900	311	237	69	5	244	35	22	10
901 - 1200	364	302	52	10	299	38	20	7
1201 - 1500	418	379	38	1	351	31	31	5
1501 - 1800	525	499	20	6	458	37	27	3
1801 - 2100	669	640	15	14	568	52	40	9
2101 - 2400	631	609	3	19	549	43	31	8
2401 - 2700	516	495	5	16	451	30	33	2
2701 - 3000	379	353	5	21	324	25	24	6
over 3000	709	686	1	22	637	38	24	10
Totals	4,803	4,395	282	126	4,110	355	272	66

Type of Retirement

- 1 - Normal retirement
- 2 - Survivor payment
- 3 - Disability retirement

- Option 1 - Whole Life Annuity
- Option 2 - 75% Joint and Contingent Annuity
- Option 3 - 50% Joint and Contingent Annuity
- Option 4 - 66⅔% Joint and Survivor Annuity

2.2(i) Schedule of Retirants and Beneficiaries Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls		Rolls - End of Year		Percent Increase in Annual Allowances	Average Annual Allowance
	No.*	Annual Allowances*	No.*	Annual Allowances*	No.	Annual Allowances		
June 30, 1996	376	\$ 8,410,895	32	\$ 441,353	4,803	\$ 118,851,443	7.19%	\$ 24,745
June 30, 1995	368	10,386,432	43	94,443	4,459	110,881,901	10.23%	24,867
June 30, 1994	280	8,923,551	37	616,360	4,134	100,589,912	9.00%	24,332
June 30, 1993	344	6,874,777	55	1,044,709	3,891	92,282,721	6.74%	23,717
June 30, 1992	120	5,799,044	62	1,436,106	3,602	86,452,653	5.31%	24,001
June 30, 1991	519	14,827,829	159	3,535,365	3,544	82,089,715	15.95%	23,163
June 30, 1990	208	6,181,779	122	2,648,864	3,184	70,797,251	5.25%	22,235
June 30, 1989	201	5,730,311	75	1,593,075	3,098	67,264,336	6.55%	21,712
June 30, 1988	639	16,668,442	43	856,302	2,972	63,127,100	33.42%	21,241
June 30, 1987	301	8,922,546	23	425,546	2,376	47,314,960	21.89%	19,914
* Numbers are estimated, and include other internal transfers.								

2.3 Actuarial Basis

The demographic and economic assumptions used in this valuation were adopted at the Fall 1996 TRS Board Meeting. The funding method used in this valuation was adopted June 30, 1985. The five-year smoothing method used to determine valuation assets was changed effective June 30, 1994.

Valuation of Liabilities

- A. **Actuarial Method - Projected Unit Credit (no change).** Liabilities and contributions shown in the report are computed using the Projected Unit Credit method of funding. The unfunded accrued liability is amortized over a rolling 25 years. Any funded surpluses are amortized over five years.

The objective under this method is to fund each participant's benefits under the plan as they accrue. Thus, each participant's total pension projected to retirement with salary scale is broken down into units, each associated with a year of past or future service. The principle underlying the method is that each unit is funded in the year for which it is credited. Typically, when the method is introduced there will be an initial liability for benefits credited for service prior to that date, and to the extent that this liability is not covered by Assets of the Plan there is an Unfunded Liability to be funded over a chosen period in accordance with an amortization schedule.

An Accrued Liability is calculated at the valuation date as the present value of benefits credited with respect to service to that date.

The Unfunded Liability at the valuation date is the excess of the Accrued Liability over the Assets of the Plan. The level annual payment to be made over a stipulated number of years to amortize the Unfunded Liability is the Past Service Cost.

The Normal Cost is the present value of those benefits which are expected to be credited with respect to service during the year beginning on the valuation date.

Under this method, differences between the actual experience and that assumed in the determination of costs and liabilities will emerge as adjustments in the Unfunded Liability, subject to amortization.

B. Actuarial Assumptions -

- | | |
|----------------------|--|
| 1. Investment Return | 8.25% per year, compounded annually, net of expenses. |
| 2. Salary Scale | Inflation - 4.0% per year
Productivity - 0.5% per year
Merit (first 5 years of employment) - 1.0% per year |

3. Total Inflation
Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 4% annually.
4. Health Cost Trend
FY96 - 8.5%
FY97 - 7.5%
FY98 - 6.5%
FY99 and later - 5.5%
5. Mortality
1984 Unisex Pension Mortality Table, set forward one year for male members and set backward four years for female members. All deaths are assumed to result from nonoccupational causes.
6. Turnover
Based upon the 1991-95 actual total turnover experience. (See Table 1).
7. Disability
Incidence rates based upon the 1991-95 actual experience, in accordance with Table 2. Post-disability mortality in accordance with rates published by the Pension Benefit Guaranty Corporation to reflect mortality of those receiving disability benefits under Social Security.
8. Retirement Age
Retirement rates based upon the 1991-95 actual experience in accordance with Table 3.
9. Spouse's Age
Wives are assumed to be four years younger than husbands.
10. Dependent Children
Benefits to dependent children have been valued assuming members who are not single have one dependent child.
11. Contribution Refunds
100% of those terminating after age 35 who are vested will leave their contributions in the fund and thereby retain their deferred vested benefit. All others who terminate are assumed to have their contributions refunded.

12. C.O.L.A. Of those benefit recipients who are eligible for the C.O.L.A., 62% are assumed to remain in Alaska and receive the C.O.L.A.
13. New Entrants Growth projections are made for the active TRS population under three scenarios:
- | | |
|--------------|-------------|
| Pessimistic: | 0% per year |
| Median: | 1% per year |
| Optimistic: | 2% per year |
14. Sick Leave 4.7 days of unused sick leave for each year of service will be available to be credited once the member is retired.
15. Expenses Expenses are covered in the investment return assumption.

Valuation of Assets

Effective June 30, 1994, the asset valuation method recognizes 20% of the investment gain or loss in each of the current and preceding four years. All assets are valued at market value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements provided by KPMG Peat Marwick. Valuation assets cannot be outside a range of 80% to 120% of the market value of assets.

Valuation of Medical Benefits

Medical benefits for retirees are provided by the payment of premiums from the fund. A pre-65 cost and lower post-65 cost (due to Medicare) are assumed such that the total rate for all retirees equals the present premium rate assumption. These medical premiums are then increased with the health inflation assumption. The actuarial cost method used for funding retirement benefits is also used to fund health benefits.

For FY97, the pre-65 monthly premium is \$534.40 and the post-65 premium is \$203.57, based on an assumed total blended premium of \$408.81. For FY97, the actual blended premium is \$368.00. The FY97 blended premium was provided by the State of Alaska Division of Retirement and Benefits.

Table 1

Alaska TRS

Total Turnover Assumptions

Select Rates of Turnover During the First 8 Years of Employment

<u>Year of Employment</u>	<u>Rate</u>
1	.15
2	.14
3	.12
4	.11
5	.09
6	.08
7	.07
8	.07

Ultimate Rates of Turnover After the First 8 Years of Employment

<u>Ages</u>	<u>Rate</u>
20+	.04

Table 2
Alaska TRS
Disability Rates
Annual Rates Per 1,000 Employees

<u>Age</u>	<u>Rate</u>
20	.28
21	.28
22	.29
23	.29
24	.30
25	.30
26	.30
27	.31
28	.32
29	.33
30	.34
31	.34
32	.35
33	.36
34	.37
35	.38
36	.40
37	.41
38	.43
39	.44
40	.46
41	.48
42	.51
43	.54
44	.59
45	.65
46	.70
47	.76
48	.83
49	.89
50	.96
51	1.04
52	1.14
53	1.27
54	1.42
55	1.60
56	1.84
57	2.14
58	2.44
59	2.88
60	3.37
61	3.90
62	4.52
63	5.22
64	5.96

Table 3
Alaska TRS
Retirement Rates

<u>Age at Retirement</u>	<u>Retirement Rate</u>
50	.05
51	.05
52	.05
53	.05
54	.05
55	.15
56	.13
57	.10
58	.10
59	.10
60	.10
61	.10
62	.10
63	.17
64	.17
65	.50
66	1.00

For ages less than 50, teachers are assumed to retire two years after the earliest age they are eligible to retire.

Section 3

Other Historical Information

3.1 shows the analysis of financial experience.

3.2 shows the summary of accrued and unfunded accrued liabilities.

3.3 shows the solvency test.

3.4 shows the statement of actuarial present value of accumulated plan benefits.

3.1 Analysis of Financial Experience

Change in Contribution Rate Due to Gains and Losses in Accrued Liabilities During the Last Five Fiscal Years Resulting From Differences Between Assumed Experience and Actual Experience						
Type of Gain or Loss	Change in Contribution Rate During Fiscal Year					
	96	95	94	93	92	
(1) Health Experience	0%	0%	0.25%	0%	0%	0%
(2) Salary Experience	-0.62%	-0.29%	-0.20%	-0.45%	-0.34%	
(3) Investment Experience	-0.69%	-0.05%	0.55%	-1.66%	0%	
(4) Demographic Experience	0.68%	0.32%	0.47%	1.23%	-0.59%	
(5) Miscellaneous	0%	0%	0%	0%	0%	
(6) Gain (or Loss) During Year From Experience, (1)+(2)+(3)+(4)+(5)	-0.63%	-0.02%	1.07%	-0.88%	-0.93%	
Non-recurring Changes						
(7) Contribution Rate Smoothing Method	0%	0%	0%	0%	0%	
(8) Projection Valuation Method	0%	0%	0%	0%	-1.36%	
(9) Asset Valuation Method	0%	0%	-0.89%	0%	-1.30%	
(10) Assumption Changes	-3.79%	0%	2.30%	0%	0%	
(11) Plan Changes	0%	0%	0%	0%	0%	
Composite Gain (or Loss) During Year, (6)+(7)+(8)+(9)+(10)+(11)	-4.42%	-0.02%	2.48%	-0.88%	-3.59%	

3.2 Summary of Accrued and Unfunded Accrued Liabilities

Valuation Date	Aggregate Accrued Liability (000's)	Valuation Assets (000's)	Assets as a Percent of Accrued Liability	Unfunded Accrued Liabilities (UAL) (000's)	Annual Active Member Payroll (000's)	UAL as a Percent of Annual Active Member Payroll
June 30, 1996 ⁽¹⁾	\$ 2,940,437	\$ 2,858,756	97.2%	\$ 81,681	\$ 465,182	17.6%
June 30, 1995	2,913,467	2,647,392	90.9%	266,075	477,205	55.8%
June 30, 1994 ⁽¹⁾⁽²⁾	2,761,409	2,472,957	89.6%	288,452	476,098	60.6%
June 30, 1993	2,429,456	2,261,082	93.1%	168,374	459,746	36.6%
June 30, 1992 ⁽¹⁾	2,231,746	2,001,864	89.7%	229,882	448,186	51.3%
June 30, 1991 ⁽²⁾	2,075,405	1,779,579	85.7%	295,826	422,655	70.0%
June 30, 1990 ⁽³⁾	1,895,030	1,662,242	87.7%	232,788	389,702	59.7%
June 30, 1989 ⁽¹⁾	1,557,643	1,480,389	95.0%	77,254	380,267	20.3%
June 30, 1988 ⁽²⁾	1,347,859	1,331,905	98.8%	15,954	361,310	4.4%
June 30, 1987	1,210,909	1,225,009	101.2%	0	348,606	0%
⁽¹⁾ Change in Asset Valuation Method.						
⁽²⁾ Change of Assumptions.						
⁽³⁾ Change in Plan Provisions.						

3.3 Solvency Test

Valuation Date	Aggregate Accrued Liability For:			Valuation Assets (000's)	Portion of Accrued Liabilities Covered by Assets		
	(1) Active Member Contributions (000's)	(2) Inactive Members (000's)	(3) Active Members (Employer-Financed Portion) (000's)		(1)	(2)	(3)
June 30, 1996 ⁽²⁾	\$ 451,249	\$ 1,689,636	\$ 799,552	\$ 2,858,756	100%	100%	89.8%
June 30, 1995	437,089	1,531,406	944,972	2,647,392	100%	100%	71.8%
June 30, 1994 ⁽¹⁾⁽²⁾	398,990	1,419,506	942,913	2,472,957	100%	100%	69.4%
June 30, 1993	370,667	1,223,220	835,569	2,261,082	100%	100%	79.8%
June 30, 1992 ⁽¹⁾	341,204	1,110,981	779,561	2,001,864	100%	100%	70.5%
June 30, 1991 ⁽²⁾	293,136	1,056,453	725,816	1,779,579	100%	100%	59.2%
June 30, 1990 ⁽³⁾	269,491	940,475	685,064	1,662,242	100%	100%	66.0%
June 30, 1989 ⁽¹⁾	253,436	779,296	524,911	1,480,389	100%	100%	85.3%
June 30, 1988 ⁽²⁾	228,217	688,090	431,552	1,331,905	100%	100%	96.3%
June 30, 1987	210,493	578,468	421,948	1,225,009	100%	100%	100%
⁽¹⁾ Change in Asset Valuation Method.							
⁽²⁾ Change of Assumptions.							
⁽³⁾ Change in Plan Provisions.							

3.4 Statement of Actuarial Present Value of Accumulated Plan Benefits

Actuarial Present Value of Accumulated Plan Benefits at June 30, 1996 (000's)

Retired participants and beneficiaries of deceased participants	\$ 1,446,305
Terminated participants with deferred benefits	243,331
Active participants - Vested	930,228
Active participants - Non-vested	71,203
Total Actuarial Present Value of Accumulated Plan Benefits	2,691,067

Notes to the Statement of Accumulated Plan Benefits.

1. The actuarial present value of accumulated plan benefits presented in this statement was determined using the following assumptions:
 - a. Future salary was not considered.
 - b. Future service was considered only to the extent that it would permit active plan participants to become eligible for benefits attributable to service rendered prior to the date of determination.
 - c. Regular valuation assumptions were used as to mortality, withdrawal, retirement ages, disability, and investment return.
2. Accumulated employee contributions with interest total \$451,249(000).

3.4 Statement of Actuarial Present Value of Accumulated Plan Benefits (continued)

3. As with many of the comparative plan financial relationships otherwise available, an examination, over periods of time, of the relationship between the *value of accumulated plan benefits* and the *value of plan assets* may give an indication of the progress being made toward the funding of plan benefits. However, in the context of a "going concern" environment, a point in time comparison of these two values *should not be construed to be indicative of the expected ability of the plan to pay future benefits when due*. Furthermore, *that comparison is not valid for assessing a plan termination situation*. Consideration of inflation in the assumed return on plan assets while ignoring inflation's effect on future benefit levels *produces a significant understatement of the value of accumulated plan benefits* when applying going concern concepts. *The accumulated plan benefit value presented in this statement should not be confused with information presented elsewhere regarding funding requirements.*

4. The change in the Present Value of Accumulated Plan Benefits (000's) during the prior fiscal year is as follows:

A.	Actuarial Present Value of Accumulated Plan Benefits at June 30, 1995	\$ 2,601,121
B.	Increase (Decrease) Attributable to:	
i.	Additional Benefits Accumulated, including Actuarial Experience	163,856
ii.	Increase due to Decrease in the Discount Period	202,320
iii.	Benefits Paid to Participants	(144,233)
iv.	Material System Change	0
v.	Change in Assumptions	<u>(131,997)</u>
C.	Actuarial Present Value of Accumulated Plan Benefits at June 30, 1996	\$ 2,691,067