

**State of Alaska
Teachers' Retirement System**

**Actuarial Valuation Report
as of June 30, 1999**

March 9, 2000

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, 1999 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, 1999;
- (2) a determination of the appropriate contribution rate for all employers in the System;
- (3) the provision of reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The following schedules that we have prepared are included in this report:

- (1) Summary of actuarial assumptions and methods (Section 2.3)
- (2) Schedule of active member valuation data (Section 2.2(c))
- (3) Schedule of retirants and beneficiaries added to and removed from rolls (Section 2.2(i))
- (4) Solvency test (Section 3.3)
- (5) Analysis of financial experience (Section 3.1)

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, LLP, 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.

Teachers' Retirement Board
March 9, 2000
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The contribution requirements are determined as a percentage of payroll, and reflect the cost of benefits accruing in FY00 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. Over time, the contribution rate is expected to remain constant as a percentage of payroll. The ratio of assets to liabilities increased from 97.7% to 102.5% during the year, primarily due to continued favorable investment experience. Over the years, progress has been made toward achieving the funding objectives of the System.

There were no significant changes in the actuarial assumptions or actuarial methods used in the determination of system liabilities this year. 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:

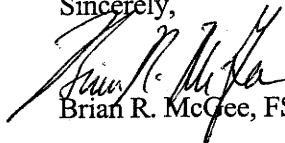
- (1) differences between actual experience and anticipated experience based on the assumptions;
- (2) changes in actuarial assumptions or methods;
- (3) changes in statutory provisions; or
- (4) differences between the contribution rates determined by the valuation and those adopted by the Board.


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

We believe that the assumptions and methods used for funding purposes and for the disclosures presented in this report satisfy the parameter requirements set forth in the Government Accounting Standards Board (GASB) Statement Nos. 25 and 27.

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

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Highlights

This report has been prepared by William M. Mercer, Incorporated for the State of Alaska Teachers' Retirement System to:

- (1) present the results of a valuation of the Alaska Teachers' Retirement System as of June 30, 1999;
- (2) review experience under the plan for the year ended June 30, 1999;
- (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 1999 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.

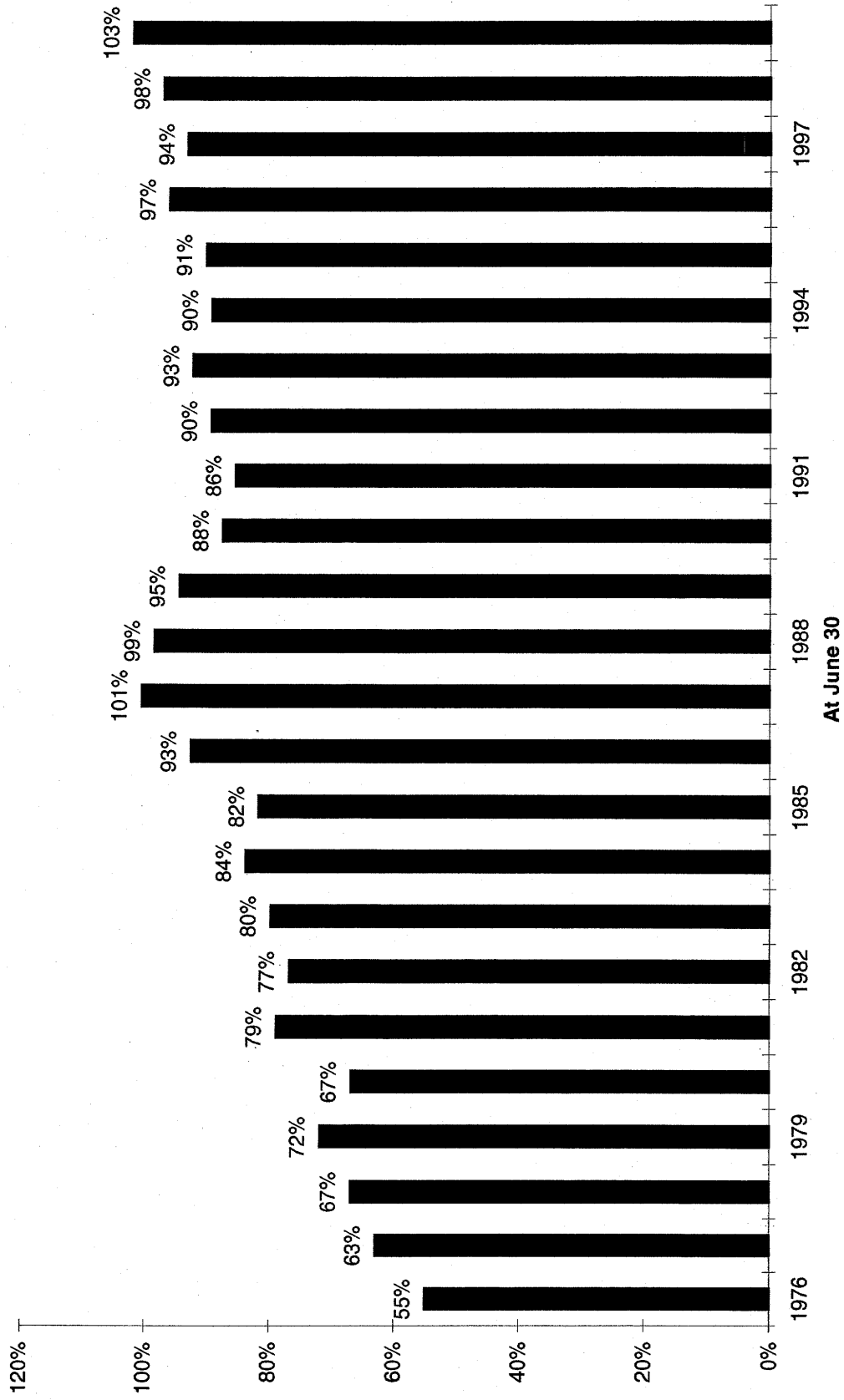
Section 3 contains additional exhibits showing historical information on system experience and unfunded liabilities.

The principle results are as follows:

	<u>1998</u>	<u>1999</u>
Funding Status as of June 30:		
(a) Valuation Assets*	\$ 3,446,070	3,815,633
(b) Accrued Liability*		
i) Non-Medical Benefits	2,893,325	3,043,509
ii) Total Benefits (including medical)	3,528,757	3,720,954
(c) Funding Ratio, (a) / (b)		
i) Non-Medical Benefits	119.1%	125.4%
ii) Total Benefits (including medical)	97.7%	102.5%

* In thousands.

State of Alaska - TRS Funding Ratio History



Employer Contribution Rates
for Fiscal Year:

	<u>2001</u>	<u>2002</u>
(a) Normal Cost Rate	8.99%	8.88%
(b) Past Service Rate	1.56%	(1.79%)
(c) Total Contribution Rate	10.55%	7.09%
(d) Actuarial Projection Rate	12.00%	11.00%

Analysis of the Valuation

As shown in the Highlights section of the report, the funding ratio as of June 30, 1999 has increased from 97.7% to 102.5%, an increase of 4.8%. The total employer contribution rate has decreased from 10.55% of payroll for FY01 to 7.09% for FY02, a decrease of 3.46% 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>Time Period</u>	<u>Monthly Premium Per Retiree For Health Coverage</u>	<u>Annual Percentage Increase</u>	<u>Average Annual Increase Since 1978</u>
2/1/76-1/31/77	\$ 34.75	--	--
2/1/77-1/31/78	57.64	66%	--
2/1/78-1/31/79	69.10	20%	20%
2/1/79-1/31/80	64.70	- 6%	6%
2/1/80-1/31/81	96.34	49%	19%
2/1/81-1/31/82	96.34	0%	14%
2/1/82-1/31/83	115.61	20%	15%
2/1/83-1/31/84	156.07	35%	18%
2/1/84-1/31/85	191.85	23%	19%
2/1/85-1/31/86	168.25	-12%	14%
2/1/86-1/31/87	165.00	- 2%	12%
2/1/87-1/31/88	140.25	-15%	9%
2/1/88-1/31/89	211.22	51%	13%
2/1/89-1/31/90	252.83	20%	13%
2/1/90-1/31/91	243.98	- 4%	12%
2/1/91-1/31/92	243.98	0%	11%
2/1/92-1/31/93	226.90	- 7%	10%
2/1/93-1/31/94	309.72	37%	11%
2/1/94-1/31/95	336.05	9%	11%
2/1/95-1/31/96	350.50	4%	11%
2/1/96-1/31/97	350.50	0%	10%
2/1/97-1/31/98	368.00	5%	10%
2/1/98-12/31/98	368.00	0%	9%
1/1/99-12/31/99	442.00	22%	10%
1/1/00-12/31/00	530.00	20%	10%

As you can see from the above table, the monthly retiree medical premium for the January 1, 2000 to December 31, 2000 time period has increased to \$530.00. Since FY87, annual premium rate changes have ranged from 51% up to 15% down, but the average compound annual increase has been about 9%.

Five 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.

Analysis of the Valuation (continued)

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 FY99 investment return based on market values was 10.25%. The Asset Valuation Method was changed five 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 FY99 based on valuation assets, after applying the smoothing technique, was 14.05%, 5.80% higher than the 8.25% investment return assumption. This produced a gain of approximately \$196,670,000 to the System from investment performance, which increased the funding ratio by 5.2% and lowered the total employer contribution rate by 3.73% of total payroll.

(3) Salary Increases

Last year, salary increases were slightly less than anticipated in the valuation assumptions. Salary experience resulted in an actuarial gain which increased the funding ratio by 0.6% and lowered the total employer contribution rate by 0.64% of total payroll.

(4) Employee Data

Section 2.2 provides statistics on active and inactive participants. The number of active participants increased 1.4% from 9,262 at June 30, 1998 to 9,396 at June 30, 1999. The average age of active participants decreased from 43.69 to 43.56 and average credited service decreased from 10.62 to 10.34 years.

The number of retirees and beneficiaries increased 8.5% from 5,979 to 6,486, and their average age increased from 62.67 to 62.74. There was a 8.1% increase in the number of vested terminated participants from 1,064 to 1,150. Their average age increased from 49.59 to 49.89.

The overall effect of these participant data changes was an actuarial loss to the System, resulting in an increase in the total employer contribution rate equal to 0.80% of total payroll.

(5) Ad hoc PRPA

An ad hoc Post Retirement Pension Adjustment (PRPA) was granted during FY99. This increased benefit payments to many Tier I (hired before July 1, 1990) retirees.

Analysis of the Valuation (continued)

The overall effect of the ad hoc PRPA was an actuarial loss to the System of approximately \$5,681,000 which lowered the funding ratio by 0.2% and increased the average employer contribution rate by 0.11% of total payroll.

(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. 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 1.5, 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 second tier, so that the ultimate effect of the second tier on plan liabilities can be anticipated. As you can see in Section 1.5, based on the actuarial assumption and cost method, future contribution rates are expected to decline, and then level out in about three years.

Consistent with the Board's long term strategy, sound actuarial principles would support leveling out this contribution pattern. In this way, a more stable contribution pattern could be adopted to help the employers budget retirement expenses. This enhanced projection technique will be used annually so that a continuous tracking of the contribution rate to the requirements will be made. Appropriate adjustments to the rate will 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 FY02 be 11.00% under this approach. This is a 1% reduction from last year, reflecting continued strong investment performance and projected contribution patterns. However, this rate still 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 two-tier phenomenon, plus the deferred asset gains, intergenerational inequities could occur. 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.
- (c) The large asset gains over the last five years are being partially deferred under the asset smoothing method. As these deferred gains become recognized over the next 5 years the funded status is expected to improve. However, if the long-term investment return assumption remains valid, investment losses can be anticipated which would offset these gains.
- (d) The 1% change is incremental, reflecting the long-term horizon for system funding. Further reductions in the rate can occur in the future if system experience continues to warrant it.

Analysis of the Valuation (continued)

Summary

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

Last year's total employer contribution rate.....	10.55%
Change due to:	
Retiree medical insurance.....	0.00%
Investment performance	(3.73)%
Salary increases.....	(0.64)%
Demographic experience	0.80%
Ad hoc PRPA.....	0.11%
Total employer contribution rate this year.....	7.09%
Effect of enhanced Actuarial Projection system.....	3.91%
Proposed employer contribution rate	11.00%

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, 1999.

Section 1.1(b) shows the transactions of the plan's fund during FY99.

Section 1.1(c) develops the expected valuation assets and investment return as of June 30, 1999.

Section 1.1(d) develops the actual valuation assets as of June 30, 1999.

Section 1.2 shows the actuarial present values as of June 30, 1999.

Section 1.3 calculates the total contribution rate for F

Section 1.4 calculates the actuarial gain or loss for FY

Section 1.5 contains the financial projections.

B

1.1(a) Statement of Net Assets as of June 30, 1999
(in thousands)

	<u>Pension</u>	<u>Postemployment Health</u>	<u>Total Market Value</u>
Cash and Cash Equivalents	\$ 227	\$ 50	\$ 277
Fixed Income Pool	991,787	219,265	1,211,052
External Domestic Fixed Income Pool	34,738	7,680	42,418
United States Common Stocks	1,434,738	368,002	1,802,740
International Stocks	554,822	122,660	677,482
International Fixed Income Pool	178,585	39,482	218,067
Emerging Markets Stocks	36,026	7,965	43,991
Real Estate Equities	135,038	29,853	164,891
Private Equity Pool	18,408	4,070	22,478
Mortgages (net of reserves)	1,074	237	1,311
Net Accrued Receivables	<u>15,815</u>	<u>3,497</u>	<u>19,312</u>
Total Assets	\$ 3,401,258	\$ 802,761	\$ 4,204,019

**1.1(b) Changes in Net Assets During Fiscal Year 1999
(in thousands)**

	<u>Pension</u>	<u>Postemployment Health</u>	<u>Total Market Value</u>
(1) Net Assets, June 30, 1998, (market value)	\$ 3,173,255	\$ 741,980	\$ 3,915,235
(2) Additions:			
(a) Employee Contributions	39,096	8,643	47,739
(b) Employer Contributions	50,352	11,132	61,484
(c) Retirement Incentive Program - Employee	461	102	563
(d) Retirement Incentive Program - Employer	3,916	866	4,782
(e) Interest and Dividend Income	121,437	26,848	148,285
(f) Net Appreciation on Investments	210,928	46,632	257,560
(g) Net Recognized Mortgage Loan Recovery	615	136	751
(h) Other	<u>1</u>	<u>0</u>	<u>1</u>
(i) Total Additions	426,806	94,359	521,165
(3) Deductions:			
(a) Medical Benefits	0	30,987	30,987
(b) Retirement Benefits	187,085	0	187,085
(c) Refunds of Contributions	2,858	632	3,490
(d) Investment Expenses	7,450	1,647	9,097
(e) Administrative Expenses	<u>1,410</u>	<u>312</u>	<u>1,722</u>
(f) Total Deductions	198,803	33,578	232,381
(4) Net Assets, June 30, 1999, (market value)	\$ 3,401,258	\$ 802,761	\$ 4,204,019

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

10.25%

**1.1(c) Development of Expected Valuation Assets as of
June 30, 1999 (in thousands)**

(1)	June 30, 1998 Valuation Assets	\$ 3,446,070
(2)	Total Contributions for FY99, (Item (2a) + (2b) + (2c) + (2d) from 1.1(b))	114,568
(3)	Total Benefit Payments for FY99, (Item (3a) + (3b) + (3c) from 1.1(b))	221,562
(4)	Expected Investment Return, Net of Expenses, for the period July 1, 1998 through June 30, 1999 ((1) + .5 x [(2) - (3)]) x 8.25%	279,887
(5)	Actual Investment Return, Net of Expenses, for the period July 1, 1998 through June 30, 1999 [Item (2e) + (2f) + (2g) + (2h) - (3d) - (3e) from 1.1(b)]	395,778
(6)	Total Investment Gain/(Loss) (5) - (4)	115,891
(7)	Expected Valuation Assets, (1) + (2) - (3) + (4)	\$ 3,618,963

**1.1(d) Development of Valuation Assets as of June 30, 1999
(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, 1999	\$ 115,891	\$ 0	\$ 23,178
(2) Fiscal Year Ending June 30, 1998	240,319	48,064	48,064
(3) Fiscal Year Ending June 30, 1997	295,258	118,104	59,052
(4) Fiscal Year ending June 30, 1996	166,896	100,137	33,379
(5) Fiscal Year ending June 30, 1995	164,985	131,988	32,997
(6) Total Gain/(Loss) Recognized this Fiscal Year			196,670
(7) Expected Valuation Assets, June 30, 1999, (Item (7) from 1.1(c))			\$ 3,618,963
(8) Valuation Assets at June 30, 1999, (6) + (7), but not outside a corridor of 80% to 120% of the market value of assets			\$ 3,815,633
Approximate Valuation Assets Investment Return Rate During the Year, Net of Expenses			14.05%

**1.2 Actuarial Present Values as of June 30, 1999
(in thousands)**

	<u>Normal Cost</u>	<u>Accrued Liabilities</u>
<u>Active Members</u>		
Retirement Benefits	\$ 53,226	\$ 836,406
Termination Benefits	4,486	54,401
Disability Benefits	733	17,493
Death Benefits	1,368	22,645
Return of Contributions	3,488	17,478
Medical Benefits	18,784	249,535
Indebtedness	0	(34,658)
Retirement Incentive Program Receivable	<u>0</u>	<u>(13,691)</u>
Subtotal	82,085	1,149,609
<u>Inactive Members</u>		
Not Vested	0	17,001
Vested Terminations	- Retirement Benefits	0
	- Medical Benefits	167,923
	0	76,946
Retirees & Beneficiaries	- Retirement Benefits	0
	- Medical Benefits	1,958,511
	<u>0</u>	<u>350,964</u>
Subtotal	0	2,571,345
<u>Totals</u>	\$ 82,085	\$ 3,720,954

**1.3 Development of Total Employer Contribution Rate - FY02
(in thousands)**

Normal Cost Rate

(1)	Total Normal Cost	\$ 82,085
(2)	Total Salaries	466,414
(3)	Normal Cost Rate, (1) ÷ (2)	17.60%
(4)	Average Member Contribution Rate	8.72%
(5)	Employer Normal Cost Rate, (3) - (4)	8.88%

Past Service Rate

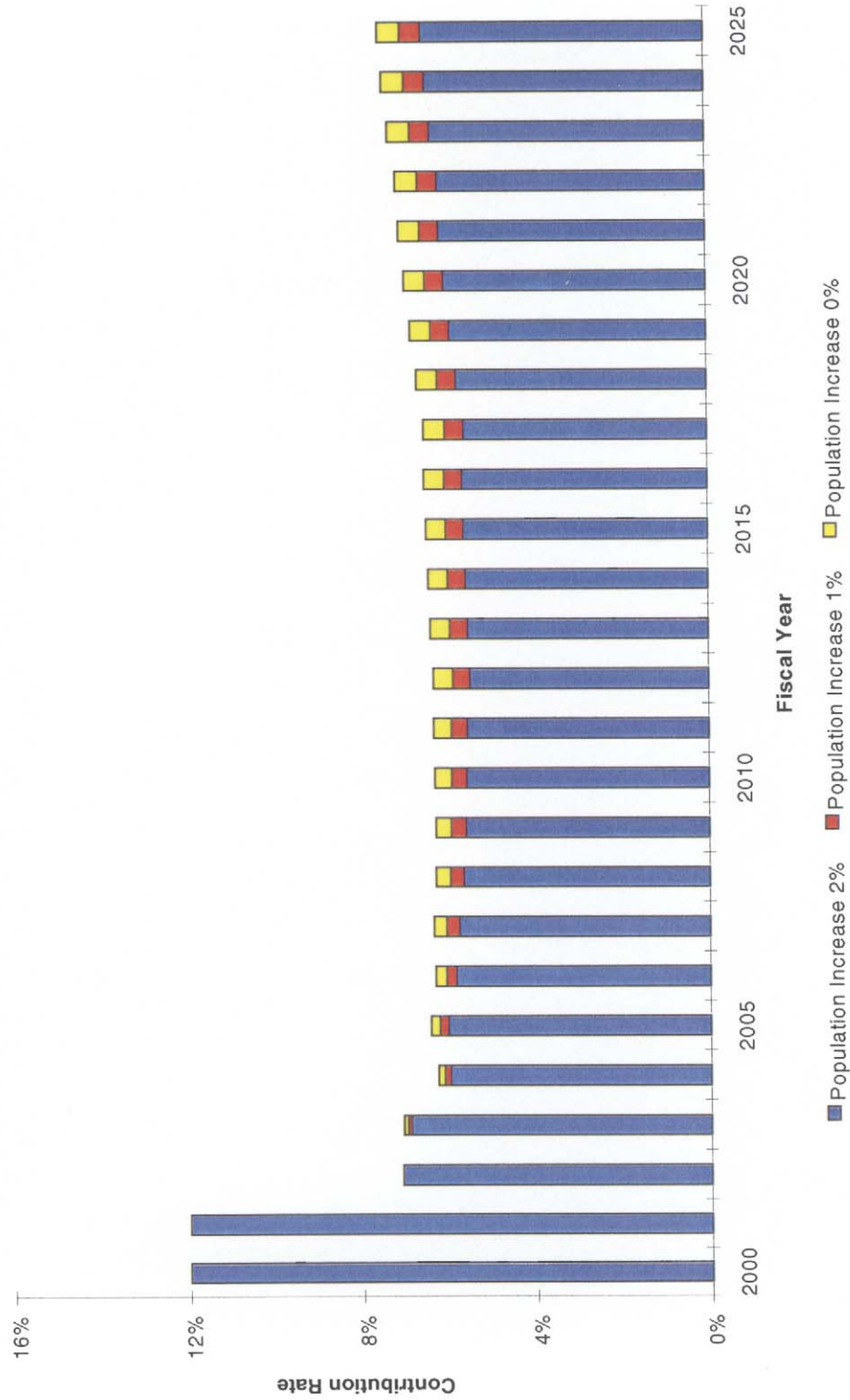
(1)	Accrued Liability	\$ 3,720,954
(2)	Valuation Assets	3,815,633
(3)	Total Unfunded Liability, (1) - (2)	(94,679)
(4)	Amortization Factor (25 year)	11.312888
(5)	Past Service Cost, (3) ÷ (4)	(8,369)
(6)	Total Salaries	466,414
(7)	Past Service Rate, (5) ÷ (6)	(1.79%)
	Total Employer Contribution Rate	7.09%

**1.4 Development of Actuarial Gain/(Loss) for FY99
(in thousands)**

(1) Unfunded Liability, June 30, 1998	\$ 82,687
(2) Normal Cost for FY99	83,130
(3) Interest on (1) and (2) at 8.25%	13,680
(4) Employee Contributions for FY99	48,302
(5) Employer Contributions for FY99	66,266
(6) Interest on (4) and (5) at 8.25% for one-half year	4,726
(7) Expected Unfunded Liability, June 30, 1999, (1) + (2) + (3) - (4) - (5) - (6)	60,203
(8) Actual Unfunded Liability, June 30, 1999	(94,679)
(9) Actuarial Gain/(Loss) for the Year, (7) - (8)	\$ 154,882

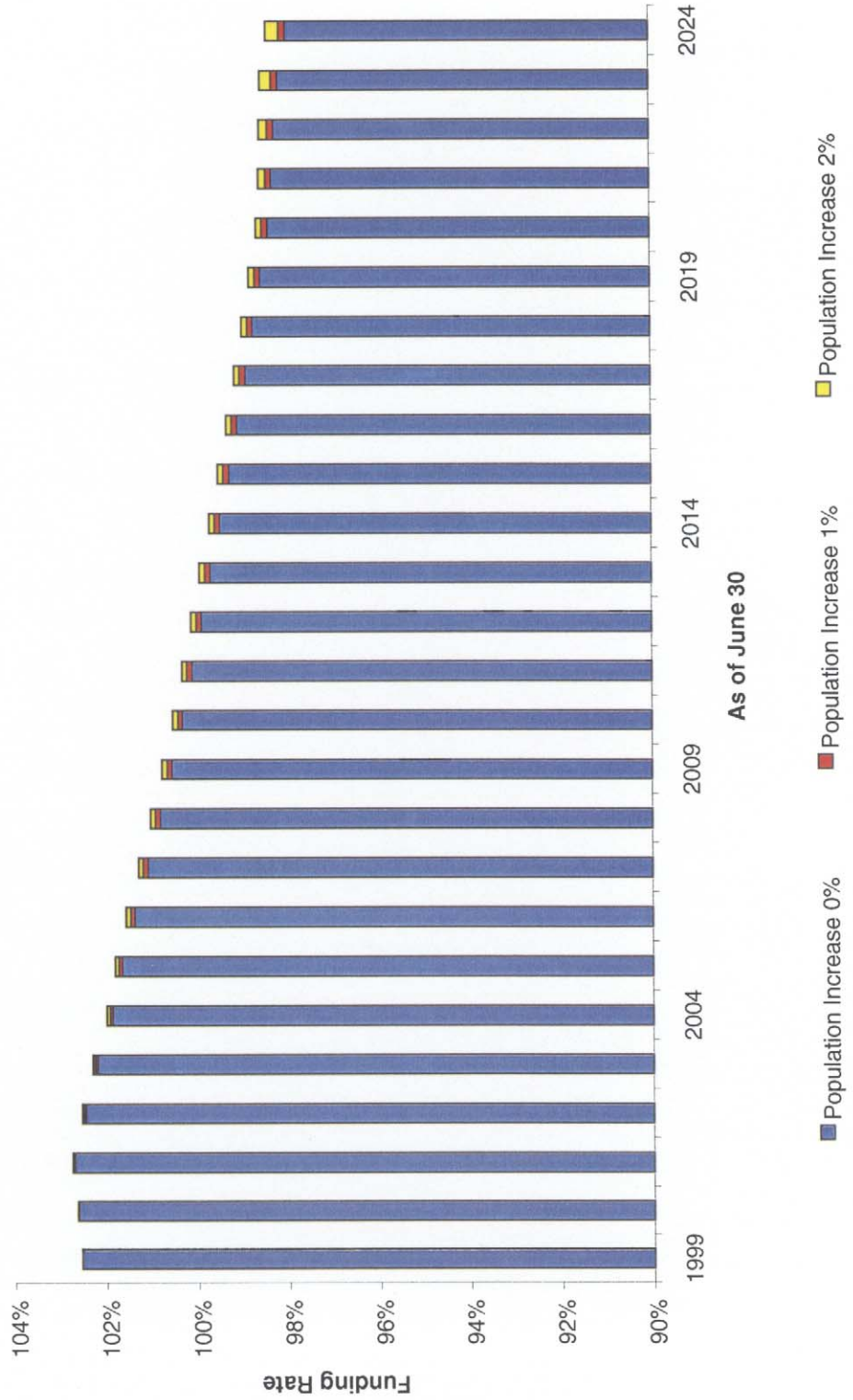
1.5 Actuarial Projections

State of Alaska TRS Projected Contribution Rates



1.5 Actuarial Projections (continued)

State of Alaska TRS Projected Funding Ratios



1.5 Actuarial Projections (continued)

Table 1

State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Investment Return	Valuation Amounts on July 1										Annual Population Increase				Ending Asset Value
		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			
1999		3,815,633	3,720,954	102.5%	94,679	466,414	12.00%	56,689	41,194	97,883	244,889	(147,006)	308,726	3,977,353		
2000		3,977,353	3,875,827	102.6%	101,527	478,402	12.00%	58,146	42,204	100,350	251,403	(151,053)	321,901	4,148,201		
2001		4,148,201	4,039,141	102.7%	109,060	490,698	7.09%	35,036	42,992	78,029	268,814	(190,785)	334,357	4,291,772		
2002		4,291,772	4,189,273	102.4%	102,499	497,633	7.07%	35,568	43,714	79,282	282,380	(203,098)	345,693	4,434,368		
2003		4,434,368	4,339,563	102.2%	94,805	508,431	6.26%	32,169	44,587	76,756	298,295	(221,539)	356,697	4,569,526		
2004		4,569,526	4,486,237	101.9%	83,288	518,912	6.43%	33,770	45,534	79,304	314,197	(234,893)	367,297	4,701,929		
2005		4,701,929	4,626,006	101.6%	75,923	531,473	6.32%	33,973	46,569	80,542	331,054	(250,512)	377,576	4,828,993		
2006		4,828,993	4,763,460	101.4%	65,533	544,034	6.35%	34,950	47,602	82,552	348,183	(265,631)	387,435	4,950,797		
2007		4,950,797	4,897,505	101.1%	53,292	556,594	6.29%	35,404	48,632	84,036	363,591	(279,555)	396,909	5,068,151		
2008		5,068,151	5,027,261	100.8%	40,890	569,155	6.28%	36,144	49,660	85,804	379,439	(293,635)	406,010	5,180,525		
2009		5,180,525	5,152,067	100.6%	28,458	581,716	6.30%	37,193	50,868	88,060	395,396	(307,336)	414,716	5,287,905		
2010		5,287,905	5,271,481	100.3%	16,424	598,506	6.33%	38,394	52,254	90,648	410,961	(320,313)	423,039	5,390,631		
2011		5,390,631	5,385,275	100.1%	5,356	615,296	6.32%	39,406	53,637	93,044	427,147	(334,103)	430,945	5,487,474		
2012		5,487,474	5,493,442	99.9%	(5,968)	632,086	6.38%	40,880	55,081	95,961	442,902	(346,941)	438,405	5,578,938		
2013		5,578,938	5,596,190	99.7%	(17,252)	648,877	6.43%	42,264	56,525	98,790	458,689	(359,899)	445,417	5,664,456		
2014		5,664,456	5,693,945	99.5%	(29,489)	665,667	6.47%	43,818	58,250	102,068	472,813	(370,745)	452,024	5,745,735		
2015		5,745,735	5,787,351	99.3%	(41,616)	688,982	6.51%	45,582	60,255	105,837	486,159	(380,322)	458,335	5,823,748		
2016		5,823,748	5,877,270	99.1%	(53,522)	712,297	6.51%	47,136	62,260	109,396	498,254	(388,857)	464,419	5,899,309		
2017		5,899,309	5,964,780	98.9%	(65,471)	735,611	6.66%	49,799	64,265	114,064	509,232	(395,168)	470,392	5,974,534		
2018		5,974,534	6,051,177	98.7%	(76,644)	758,926	6.80%	52,435	66,270	118,705	519,613	(400,908)	476,362	6,049,987		
2019		6,049,987	6,137,975	98.6%	(87,988)	782,241	6.94%	55,370	68,648	124,018	529,275	(405,257)	482,407	6,127,137		
2020		6,127,137	6,226,905	98.4%	(99,768)	814,218	7.05%	58,542	71,398	129,940	533,106	(403,166)	488,858	6,212,829		
2021		6,212,829	6,319,915	98.3%	(107,086)	846,194	7.11%	61,335	74,148	135,483	537,412	(401,930)	495,979	6,306,878		
2022		6,306,878	6,419,171	98.3%	(112,293)	878,171	7.29%	65,211	76,898	142,109	545,460	(403,351)	503,679	6,407,206		
2023		6,407,206	6,527,057	98.2%	(119,851)	910,147	7.41%	68,645	79,648	148,293	555,026	(406,733)	511,817	6,512,290		
2024		6,512,290	6,646,174	98.0%	(133,884)	942,124	7.50%	71,910	82,446	154,356	566,568	(412,212)	520,260	6,620,338		

* Surpluses reduce employer contributions over 25 years

* Deficits increase employer contributions over 25 years

1.5 Actuarial Projections (continued)

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

As of June 30	Investment Return	Valuation Amounts on July-1				Flow Amounts During Following 12 Months				Annual Population Increase				Ending Asset Value
		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	
1999		3,815,633	3,720,954	102.5%	94,679	466,414	12.00%	56,902	41,349	98,251	244,889	(146,638)	308,741	3,977,736
2000		3,977,736	3,875,872	102.6%	101,864	481,951	12.00%	58,797	42,677	101,474	251,403	(149,929)	321,979	4,149,786
2001		4,149,786	4,039,576	102.7%	110,209	498,005	7.09%	35,701	43,808	79,508	268,853	(189,344)	334,547	4,294,988
2002		4,294,988	4,190,483	102.5%	104,505	509,069	6.98%	36,061	44,904	80,965	282,486	(201,522)	346,024	4,439,490
2003		4,439,490	4,341,992	102.2%	97,498	524,393	6.12%	32,561	46,187	78,748	298,499	(219,751)	357,193	4,576,933
2004		4,576,933	4,490,401	101.9%	86,532	539,822	6.23%	34,206	47,624	81,831	314,515	(232,685)	367,999	4,712,247
2005		4,712,247	4,632,452	101.7%	79,796	558,775	6.07%	34,488	49,211	83,699	331,509	(247,810)	378,538	4,842,975
2006		4,842,975	4,772,947	101.5%	70,028	577,728	6.05%	35,533	50,793	86,326	348,797	(262,470)	388,719	4,969,223
2007		4,969,223	4,910,916	101.2%	58,307	596,680	5.96%	36,149	52,372	88,521	364,394	(275,873)	398,581	5,091,931
2008		5,091,931	5,045,625	100.9%	46,306	615,633	5.93%	37,062	53,947	91,009	380,375	(289,366)	408,148	5,210,713
2009		5,210,713	5,176,581	100.7%	34,132	634,585	5.93%	38,380	55,830	94,210	396,480	(302,270)	417,415	5,325,858
2010		5,325,858	5,303,529	100.4%	22,329	660,772	5.93%	39,944	58,020	97,964	412,209	(314,245)	426,421	5,438,034
2011		5,438,034	5,426,455	100.2%	11,579	686,959	5.88%	41,186	60,204	101,390	428,581	(327,191)	435,141	5,545,984
2012		5,545,984	5,545,583	100.0%	401	713,145	5.94%	43,151	62,457	105,608	444,553	(338,946)	443,562	5,650,600
2013		5,650,600	5,661,377	99.8%	(10,776)	739,332	5.98%	45,018	64,709	109,726	460,598	(350,872)	451,701	5,751,429
2014		5,751,429	5,774,538	99.6%	(23,109)	765,519	6.02%	47,168	67,416	114,585	475,022	(360,437)	459,625	5,850,617
2015		5,850,617	5,886,010	99.4%	(35,393)	802,303	6.05%	49,642	70,580	120,221	488,713	(368,492)	467,476	5,949,601
2016		5,949,601	5,996,973	99.2%	(47,372)	839,087	6.03%	51,723	73,743	125,466	501,204	(375,738)	475,343	6,049,206
2017		6,049,206	6,108,847	99.0%	(59,642)	875,871	6.19%	55,320	76,907	132,227	512,660	(380,433)	483,367	6,152,139
2018		6,152,139	6,223,294	98.9%	(71,155)	912,655	6.32%	58,875	80,070	138,945	523,640	(384,695)	491,683	6,259,127
2019		6,259,127	6,342,210	98.7%	(83,083)	949,439	6.45%	62,903	83,841	146,744	533,998	(387,254)	500,404	6,372,277
2020		6,372,277	6,467,736	98.5%	(95,458)	1,000,350	6.56%	67,328	88,219	155,547	538,635	(383,087)	509,911	6,499,100
2021		6,499,100	6,602,247	98.4%	(103,147)	1,051,262	6.61%	71,125	92,598	163,723	543,869	(380,146)	520,495	6,639,449
2022		6,639,449	6,748,361	98.4%	(108,912)	1,102,173	6.77%	76,397	96,976	173,373	553,378	(380,005)	532,079	6,791,523
2023		6,791,523	6,908,934	98.3%	(117,411)	1,153,085	6.89%	81,183	101,355	182,538	564,739	(382,202)	544,535	6,953,856
2024		6,953,856	7,087,061	98.1%	(133,205)	1,203,997	6.98%	85,845	105,830	191,674	578,377	(386,702)	557,742	7,124,895

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

1.5 Actuarial Projections (continued)

Table 3

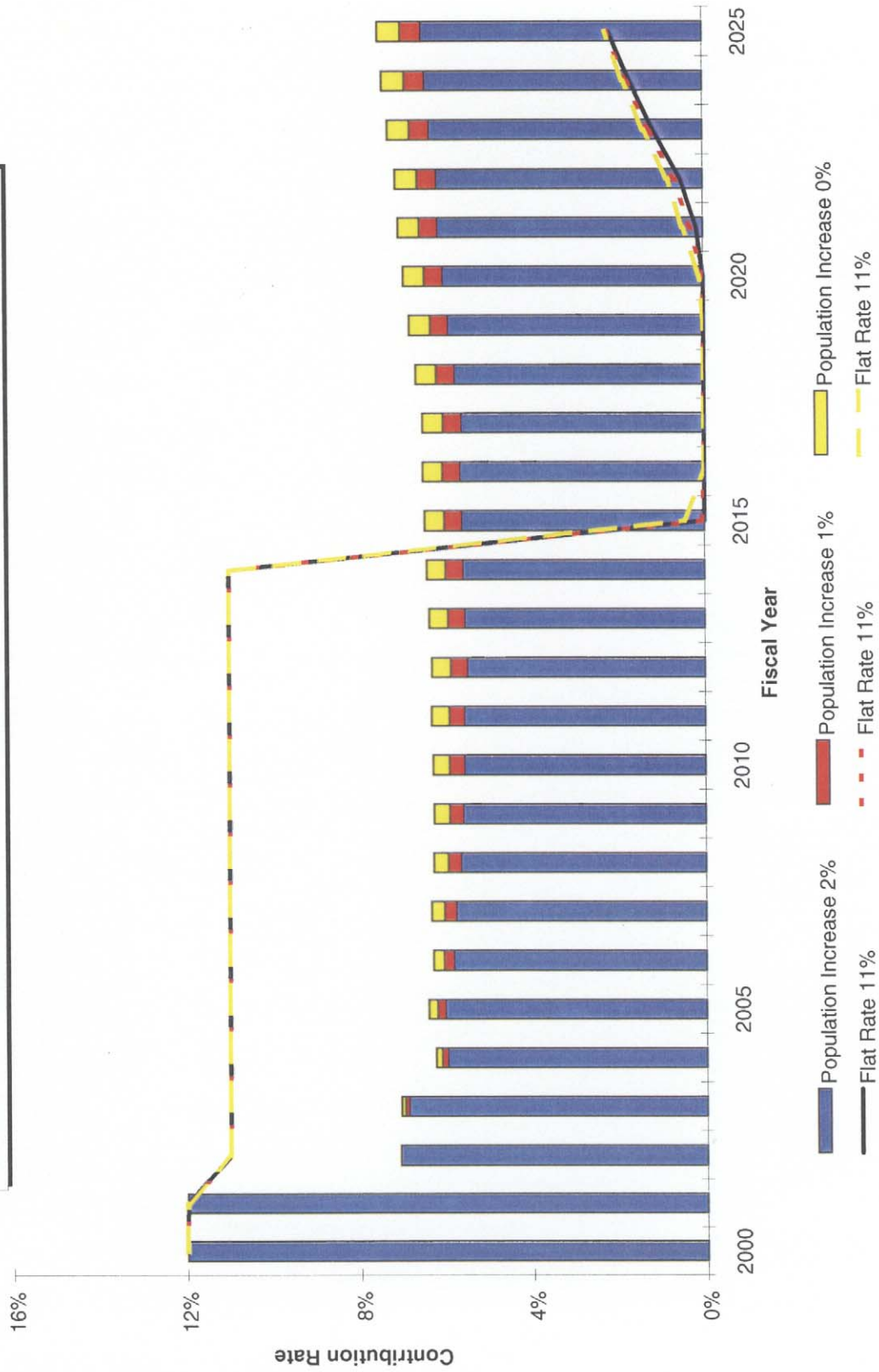
State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Total Assets	Accrued Liability	Valuation Amounts on July 1			Flow Amounts During Following 12 Months			Annual Population Increase				Ending Asset Value
			Funding Ratio	Surplus* (Deficit)	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings		
1999	3,815,633	3,720,954	102.5%	94,679	466,414	12.00%	57,116	41,504	98,620	244,889	(146,269)	308,756	3,978,121
2000	3,978,121	3,875,917	102.6%	102,204	485,517	12.00%	59,455	43,155	102,610	251,403	(148,794)	322,057	4,151,384
2001	4,151,384	4,040,015	102.8%	111,369	505,402	7.09%	36,377	44,638	81,015	268,891	(187,876)	334,739	4,298,247
2002	4,298,247	4,191,703	102.5%	106,545	520,750	6.89%	36,552	46,127	82,678	282,593	(199,915)	346,359	4,444,691
2003	4,444,691	4,344,455	102.3%	100,237	540,853	5.98%	32,948	47,846	80,794	298,705	(217,910)	357,698	4,584,479
2004	4,584,479	4,494,653	102.0%	89,826	561,591	6.03%	34,641	49,824	84,465	314,841	(230,377)	368,716	4,722,819
2005	4,722,819	4,638,995	101.8%	83,824	587,744	5.83%	35,009	52,031	87,040	331,979	(244,939)	379,529	4,857,409
2006	4,857,409	4,782,664	101.6%	74,745	613,897	5.76%	36,107	54,233	90,340	349,435	(259,095)	390,049	4,988,363
2007	4,988,363	4,924,800	101.3%	63,563	640,050	5.65%	36,884	56,430	93,314	365,237	(271,924)	400,323	5,116,762
2008	5,116,762	5,064,818	101.0%	51,945	666,204	5.59%	37,973	58,622	96,595	381,370	(284,774)	410,386	5,242,374
2009	5,242,374	5,202,402	100.8%	39,972	692,357	5.57%	39,594	61,299	100,893	397,646	(296,753)	420,255	5,365,876
2010	5,365,876	5,337,511	100.5%	28,364	729,901	5.55%	41,579	64,461	106,039	413,568	(307,528)	429,999	5,488,347
2011	5,488,347	5,470,376	100.3%	17,971	767,446	5.47%	43,045	67,615	110,660	430,156	(319,497)	439,609	5,608,459
2012	5,608,459	5,601,499	100.1%	6,960	804,990	5.53%	45,577	70,844	116,420	446,385	(329,964)	449,087	5,727,582
2013	5,727,582	5,731,656	99.9%	(4,074)	842,535	5.57%	47,991	74,072	122,064	462,732	(340,668)	458,473	5,845,387
2014	5,845,387	5,861,895	99.7%	(16,508)	880,079	5.60%	50,846	78,016	128,861	477,510	(348,649)	467,863	5,964,601
2015	5,964,601	5,993,536	99.5%	(28,935)	934,240	5.64%	54,173	82,674	136,846	491,608	(354,762)	477,446	6,087,285
2016	6,087,285	6,128,173	99.3%	(40,888)	988,400	5.60%	56,824	87,331	144,156	504,571	(360,415)	487,334	6,214,203
2017	6,214,203	6,267,670	99.1%	(53,467)	1,042,561	5.75%	61,547	91,989	153,536	516,591	(363,055)	497,696	6,348,844
2018	6,348,844	6,414,165	99.0%	(65,322)	1,096,721	5.89%	66,198	96,647	162,845	528,269	(365,424)	508,706	6,492,126
2019	6,492,126	6,570,070	98.8%	(77,943)	1,150,881	6.02%	71,577	102,283	173,860	539,446	(365,586)	520,520	6,647,061
2020	6,647,061	6,738,065	98.6%	(91,004)	1,227,787	6.13%	77,589	108,897	186,485	543,352	(356,866)	533,662	6,823,856
2021	6,823,856	6,921,107	98.6%	(97,251)	1,304,693	6.15%	82,568	115,511	198,079	549,437	(351,358)	548,475	7,020,973
2022	7,020,973	7,122,423	98.6%	(101,450)	1,381,599	6.31%	89,644	122,124	211,768	559,696	(347,928)	564,878	7,237,923
2023	7,237,923	7,345,513	98.5%	(107,590)	1,458,504	6.41%	95,990	128,738	224,729	572,441	(347,712)	582,786	7,472,997
2024	7,472,997	7,594,149	98.4%	(121,153)	1,535,410	6.49%	102,241	135,527	237,768	587,786	(350,019)	602,084	7,725,062

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

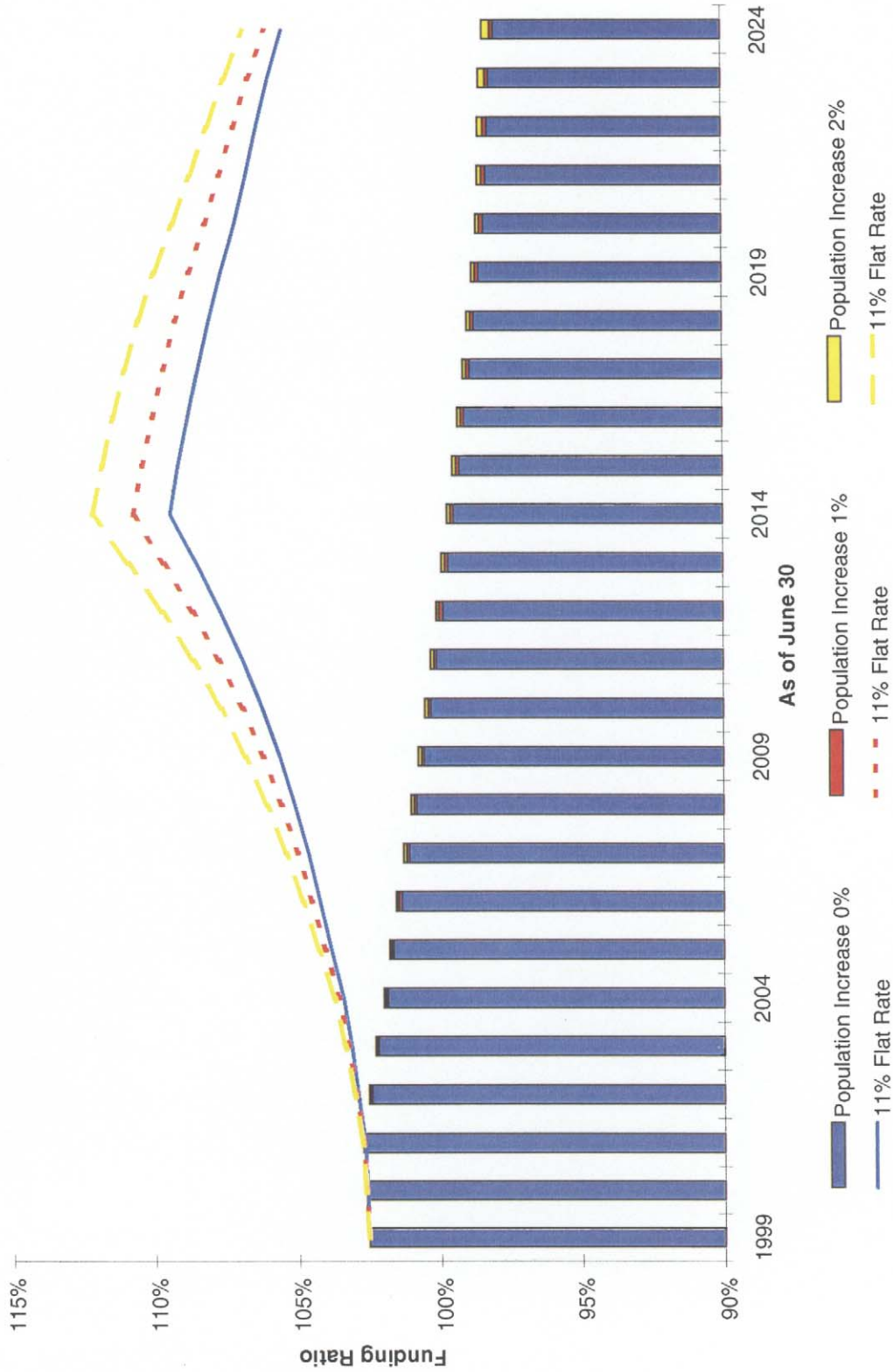
1.5 Actuarial Projections (continued)

State of Alaska TRS Projected Contribution Rates



1.5 Actuarial Projections (continued)

State of Alaska TRS Projected Funding Ratios



1.5 Actuarial Projections (continued)

Table 4
State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Total Assets	Investment Return		Valuation Amounts on July 1		Flow Amounts During Following 12 Months		Annual Population Increase		Ending Asset Value				
		8.25%	Funding Ratio	Accrued Liability	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs		Total Contribs	Benefit Payments	Net Contribs	Investment Earnings
1999	3,815,633		102.5%	3,720,954	94,679	466,414	12.00%	56,689	41,194	97,883	244,889	(147,006)	308,726	3,977,353
2000	3,977,353		102.6%	3,875,827	101,527	478,402	12.00%	58,146	42,204	100,350	251,403	(151,053)	321,901	4,148,201
2001	4,148,201		102.7%	4,039,141	109,060	490,698	11.00%	54,358	42,992	97,351	268,814	(171,463)	335,154	4,311,891
2002	4,311,891		102.9%	4,189,273	122,618	497,633	11.00%	55,334	43,714	99,047	282,380	(183,333)	348,169	4,476,727
2003	4,476,727		103.2%	4,339,563	137,164	508,431	11.00%	56,504	44,587	101,091	298,295	(197,204)	361,195	4,640,718
2004	4,640,718		103.4%	4,486,237	154,481	518,912	11.00%	57,771	45,534	103,305	314,197	(210,892)	374,160	4,803,986
2005	4,803,986		103.8%	4,626,006	177,980	531,473	11.00%	59,153	46,569	105,722	331,054	(225,332)	387,034	4,965,689
2006	4,965,689		104.2%	4,763,460	202,228	544,034	11.00%	60,535	47,602	108,137	348,183	(240,046)	399,767	5,125,410
2007	5,125,410		104.7%	4,897,505	227,905	556,594	11.00%	61,916	48,632	110,549	363,591	(253,043)	412,408	5,284,775
2008	5,284,775		105.1%	5,027,261	257,515	569,155	11.00%	63,298	49,660	112,958	379,439	(266,481)	425,002	5,443,296
2009	5,443,296		105.7%	5,152,067	291,228	581,716	11.00%	64,912	50,868	115,780	395,396	(279,616)	437,538	5,601,217
2010	5,601,217		106.3%	5,271,481	329,736	598,506	11.00%	66,759	52,254	119,013	410,961	(291,948)	450,058	5,759,327
2011	5,759,327		106.9%	5,385,275	374,052	615,296	11.00%	68,606	53,637	122,243	427,147	(304,903)	462,567	5,916,991
2012	5,916,991		107.7%	5,493,442	423,549	632,086	11.00%	70,453	55,081	125,534	442,902	(317,368)	475,060	6,074,684
2013	6,074,684		108.6%	5,596,190	478,494	648,877	11.00%	72,300	56,525	128,825	458,689	(329,864)	487,555	6,232,375
2014	6,232,375		109.5%	5,693,945	538,430	665,667	0.46%	3,134	58,250	61,384	472,813	(411,429)	497,199	6,318,145
2015	6,318,145		109.2%	5,787,351	530,794	688,982	0.00%	0	60,255	60,255	486,159	(425,904)	503,678	6,395,919
2016	6,395,919		108.8%	5,877,270	518,649	712,297	0.00%	0	62,260	62,260	498,254	(435,994)	509,679	6,469,604
2017	6,469,604		108.5%	5,964,780	504,824	735,611	0.00%	0	64,265	64,265	509,232	(444,967)	515,387	6,540,025
2018	6,540,025		108.1%	6,051,177	488,848	758,926	0.00%	0	66,270	66,270	519,613	(453,343)	520,852	6,607,534
2019	6,607,534		107.7%	6,137,975	469,558	782,241	0.08%	668	68,648	69,316	529,275	(459,959)	526,148	6,673,722
2020	6,673,722		107.2%	6,226,905	446,817	814,218	0.47%	3,861	71,398	75,259	533,106	(457,848)	531,696	6,747,571
2021	6,747,571		106.8%	6,319,915	427,656	846,194	0.81%	7,014	74,148	81,162	537,412	(456,250)	537,854	6,829,174
2022	6,829,174		106.4%	6,419,171	410,003	878,171	1.36%	12,152	76,898	89,050	545,460	(456,410)	544,580	6,917,344
2023	6,917,344		106.0%	6,527,057	390,287	910,147	1.83%	16,911	79,648	96,559	555,026	(458,467)	551,769	7,010,646
2024	7,010,646		105.5%	6,646,174	364,473	942,124	2.24%	21,510	82,446	103,956	566,568	(462,612)	559,296	7,107,329

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

1.5 Actuarial Projections (continued)

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

As of June 30	Total Assets	Accrued Liability	Funding Ratio	Valuation Amounts on July 1				Flow Amounts During Following 12 Months				Annual Population Increase				Ending Asset Value
				Total	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contrs	Employee Contrs	Total Contrs	Benefit Payments	Net Contrs	Investment Earnings			
1999	3,815,633	3,720,954	102.5%	94,679	466,414	56,902	12.00%	41,349	98,251	244,889	(146,638)	308,741	3,977,736			
2000	3,977,736	3,875,872	102.6%	101,864	481,951	58,797	12.00%	42,677	101,474	251,403	(149,929)	321,979	4,149,786			
2001	4,149,786	4,039,576	102.7%	110,209	498,005	55,389	11.00%	43,808	99,197	268,853	(169,656)	335,359	4,315,489			
2002	4,315,489	4,190,483	103.0%	125,006	509,069	56,840	11.00%	44,904	101,744	282,486	(180,742)	348,572	4,483,319			
2003	4,483,319	4,341,992	103.3%	141,327	524,393	58,532	11.00%	46,187	104,719	298,499	(193,780)	361,880	4,651,420			
2004	4,651,420	4,490,401	103.6%	161,019	539,822	60,423	11.00%	47,624	108,047	314,515	(206,468)	375,225	4,820,177			
2005	4,820,177	4,632,452	104.1%	187,725	558,775	62,508	11.00%	49,211	111,718	331,509	(219,791)	388,598	4,988,985			
2006	4,988,985	4,772,947	104.5%	216,037	577,728	64,592	11.00%	50,793	115,386	348,797	(233,411)	401,963	5,157,536			
2007	5,157,536	4,910,916	105.0%	246,621	596,680	66,677	11.00%	52,372	119,049	364,394	(245,345)	415,376	5,327,567			
2008	5,327,567	5,045,625	105.6%	281,943	615,633	68,762	11.00%	53,947	122,709	380,375	(257,666)	428,896	5,498,797			
2009	5,498,797	5,176,581	106.2%	322,216	634,585	71,245	11.00%	55,830	127,075	396,480	(269,406)	442,538	5,671,929			
2010	5,671,929	5,303,529	106.9%	368,400	660,772	74,125	11.00%	58,020	132,145	412,209	(280,064)	456,381	5,848,246			
2011	5,848,246	5,426,455	107.8%	421,791	686,959	77,006	11.00%	60,204	137,210	428,581	(291,371)	470,461	6,027,337			
2012	6,027,337	5,545,583	108.7%	481,753	713,145	79,886	11.00%	62,457	142,343	444,553	(302,211)	484,789	6,209,915			
2013	6,209,915	5,661,377	109.7%	548,538	739,332	82,767	11.00%	64,709	147,475	460,598	(313,122)	499,402	6,396,194			
2014	6,396,194	5,774,538	110.8%	621,656	765,519	397	0.05%	67,416	67,814	475,022	(407,209)	510,889	6,499,874			
2015	6,499,874	5,886,010	110.4%	613,865	802,303	0	0.00%	70,580	70,580	488,713	(418,133)	518,992	6,600,733			
2016	6,600,733	5,996,973	110.1%	603,760	839,087	0	0.00%	73,743	73,743	501,204	(427,461)	526,928	6,700,199			
2017	6,700,199	6,108,847	109.7%	591,352	875,871	0	0.00%	76,907	76,907	512,660	(435,754)	534,792	6,799,237			
2018	6,799,237	6,223,294	109.3%	575,943	912,655	0	0.00%	80,070	80,070	523,640	(443,570)	542,640	6,898,307			
2019	6,898,307	6,342,210	108.8%	556,097	949,439	0	0.00%	83,841	83,841	533,998	(450,157)	550,541	6,998,691			
2020	6,998,691	6,467,736	108.2%	530,956	1,000,350	3,036	0.30%	88,219	91,255	538,635	(447,379)	558,938	7,110,250			
2021	7,110,250	6,602,247	107.7%	508,003	1,051,262	7,051	0.65%	92,598	99,649	543,869	(444,220)	568,272	7,234,301			
2022	7,234,301	6,748,361	107.2%	485,939	1,102,173	13,980	1.24%	96,976	110,956	553,378	(442,422)	578,580	7,370,458			
2023	7,370,458	6,908,934	106.7%	461,524	1,153,085	20,620	1.75%	101,355	121,975	564,739	(442,765)	589,799	7,517,492			
2024	7,517,492	7,087,061	106.1%	430,431	1,203,997	27,137	2.21%	105,830	132,967	578,377	(445,410)	601,820	7,675,902			

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

1.5 Actuarial Projections (continued)

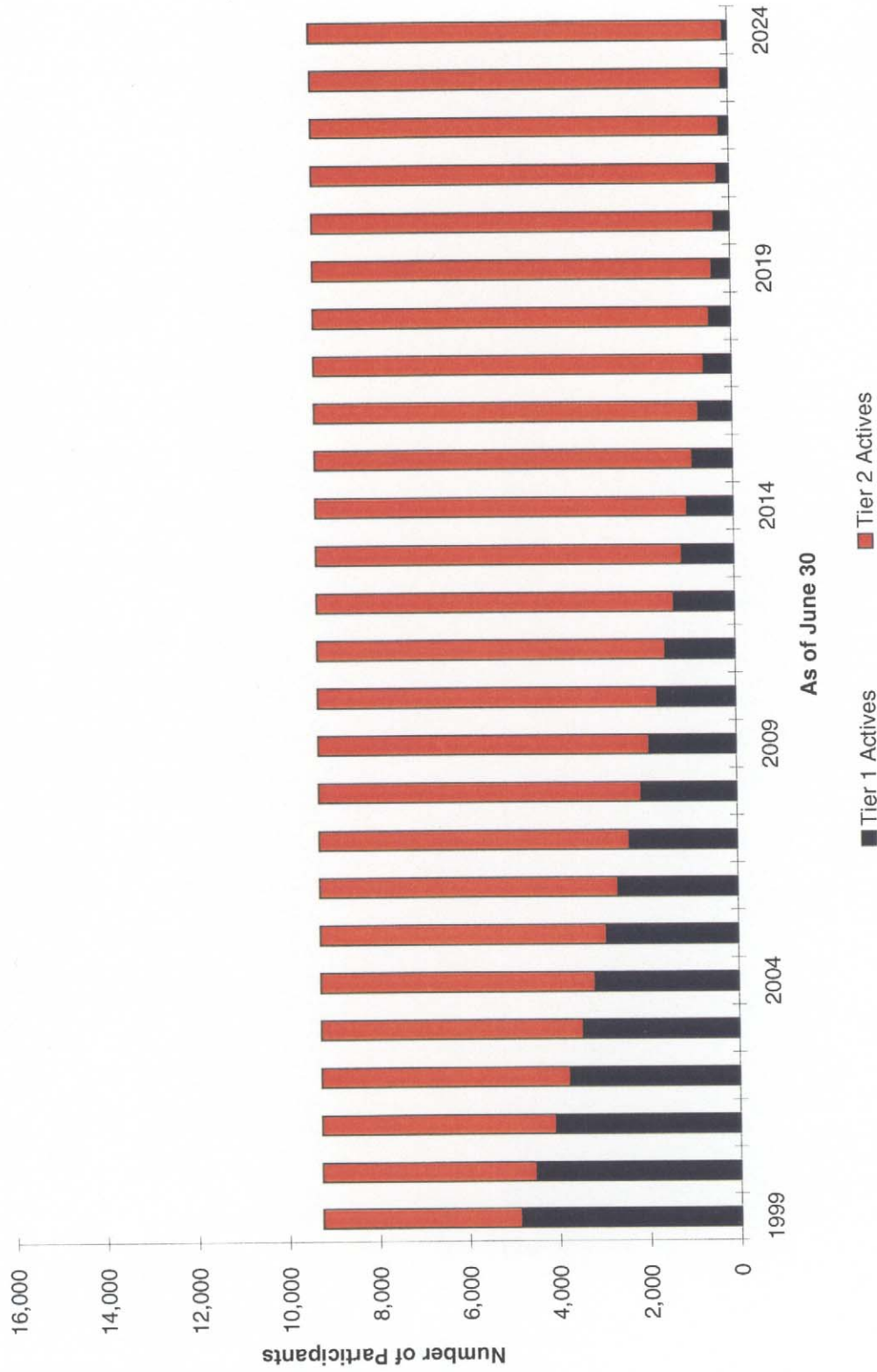
Table 6
State of Alaska TRS
Financial Projections ('000 omitted)

As of June 30	Total Assets	Investment Return	Valuation Amounts on July 1		Flow Amounts During Following 12 Months				Annual Population Increase				Ending Asset Value	
			Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs		Investment Earnings
1999	3,815,633	8.25%	3,720,954	102.5%	94,679	466,414	12.00%	57,116	41,504	98,620	244,889	(146,269)	308,756	3,978,121
2000	3,978,121		3,875,917	102.6%	102,204	485,517	12.00%	59,455	43,155	102,610	251,403	(148,794)	322,057	4,151,384
2001	4,151,384		4,040,015	102.8%	111,369	505,402	11.00%	56,438	44,638	101,076	268,891	(167,815)	335,567	4,319,136
2002	4,319,136		4,191,703	103.0%	127,433	520,750	11.00%	58,388	46,127	104,515	282,593	(178,078)	348,983	4,490,041
2003	4,490,041		4,344,455	103.4%	145,586	540,853	11.00%	60,634	47,846	108,480	298,705	(190,224)	362,582	4,662,398
2004	4,662,398		4,494,653	103.7%	167,745	561,591	11.00%	63,213	49,824	113,037	314,841	(201,804)	376,323	4,836,918
2005	4,836,918		4,638,995	104.3%	197,923	587,744	11.00%	66,090	52,031	118,121	331,979	(213,857)	390,224	5,013,284
2006	5,013,284		4,782,664	104.8%	230,621	613,897	11.00%	68,967	54,233	123,200	349,435	(226,234)	404,264	5,191,314
2007	5,191,314		4,924,800	105.4%	266,514	640,050	11.00%	71,844	56,430	128,274	365,237	(236,963)	418,509	5,372,859
2008	5,372,859		5,064,818	106.1%	308,041	666,204	11.00%	74,721	58,622	133,343	381,370	(248,027)	433,030	5,557,862
2009	5,557,862		5,202,402	106.8%	355,460	692,357	11.00%	78,224	61,299	139,523	397,646	(258,123)	447,876	5,747,615
2010	5,747,615		5,337,511	107.7%	410,104	729,901	11.00%	82,354	64,461	146,815	413,568	(266,753)	463,175	5,944,037
2011	5,944,037		5,470,376	108.7%	473,661	767,446	11.00%	86,484	67,615	154,099	430,156	(276,058)	478,996	6,146,975
2012	6,146,975		5,601,499	109.7%	545,476	804,990	11.00%	90,614	70,844	161,457	446,385	(284,927)	495,372	6,357,420
2013	6,357,420		5,731,656	110.9%	625,764	842,535	11.00%	94,744	74,072	168,816	462,732	(293,915)	512,363	6,575,867
2014	6,575,867		5,861,895	112.2%	713,972	880,079	0.00%	0	78,016	78,016	477,510	(399,495)	526,030	6,702,403
2015	6,702,403		5,993,536	111.8%	708,866	934,240	0.00%	0	82,674	82,674	491,608	(408,935)	536,080	6,829,548
2016	6,829,548		6,128,173	111.4%	701,375	988,400	0.00%	0	87,331	87,331	504,571	(417,240)	546,227	6,958,534
2017	6,958,534		6,267,670	111.0%	690,864	1,042,561	0.00%	0	91,989	91,989	516,591	(424,602)	556,564	7,090,497
2018	7,090,497		6,414,165	110.5%	676,332	1,096,721	0.00%	0	96,647	96,647	528,269	(431,622)	567,162	7,226,037
2019	7,226,037		6,570,070	110.0%	655,967	1,150,881	0.00%	0	102,283	102,283	539,446	(437,163)	578,115	7,366,989
2020	7,366,989		6,738,065	109.3%	628,924	1,227,787	0.15%	1,897	108,897	110,794	543,352	(432,558)	589,934	7,524,365
2021	7,524,365		6,921,107	108.7%	603,258	1,304,693	0.51%	6,857	115,511	122,367	549,437	(427,069)	603,143	7,700,439
2022	7,700,439		7,122,423	108.1%	578,016	1,381,599	1.13%	16,040	122,124	138,165	559,696	(421,531)	617,898	7,896,806
2023	7,896,806		7,345,513	107.5%	551,293	1,458,504	1.67%	24,944	128,738	153,682	572,441	(418,758)	634,213	8,112,260
2024	8,112,260		7,594,149	106.8%	518,111	1,535,410	2.14%	33,734	135,527	169,260	587,786	(418,526)	651,997	8,345,731

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

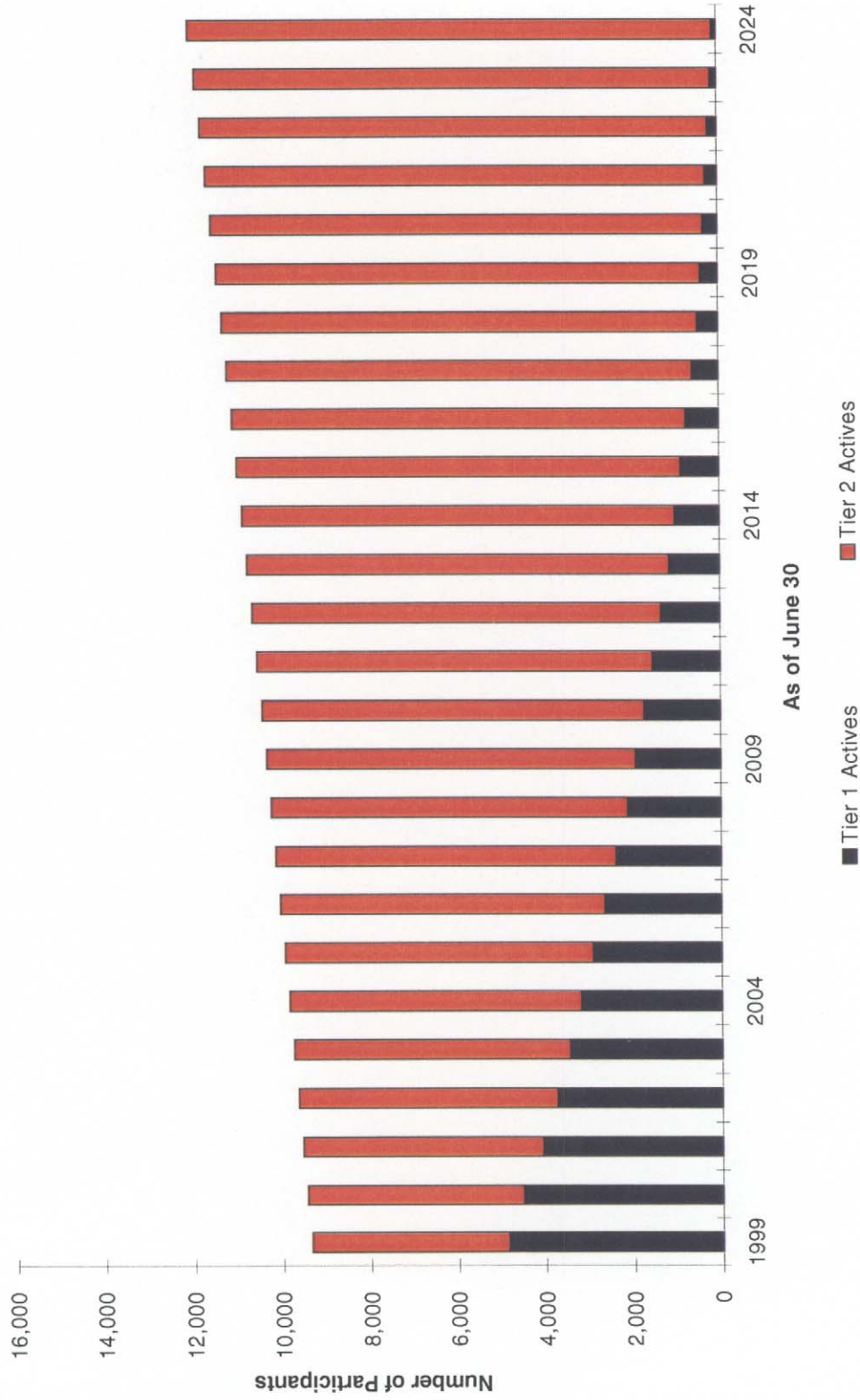
1.5 Actuarial Projections (continued)

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



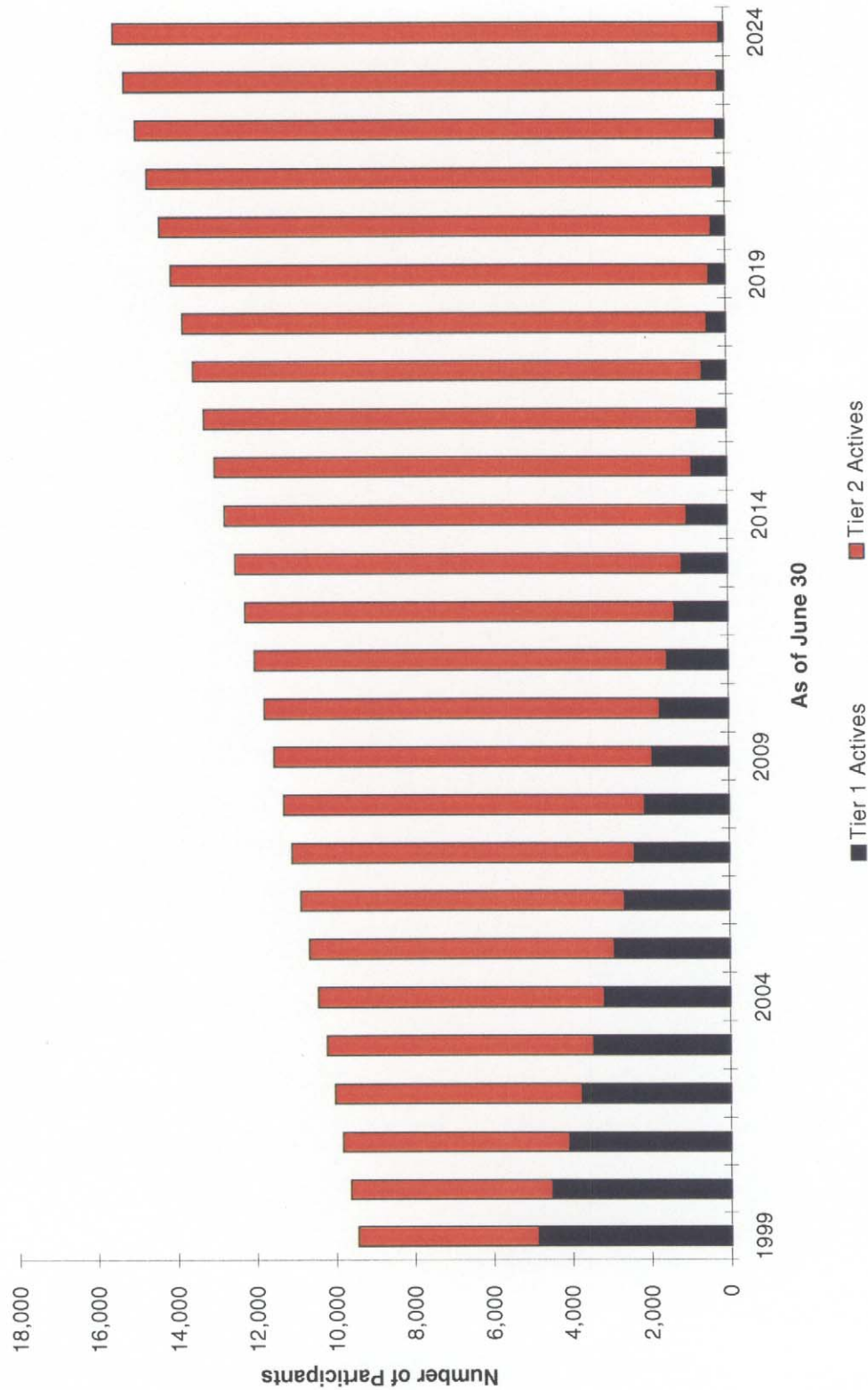
1.5 Actuarial Projections (continued)

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



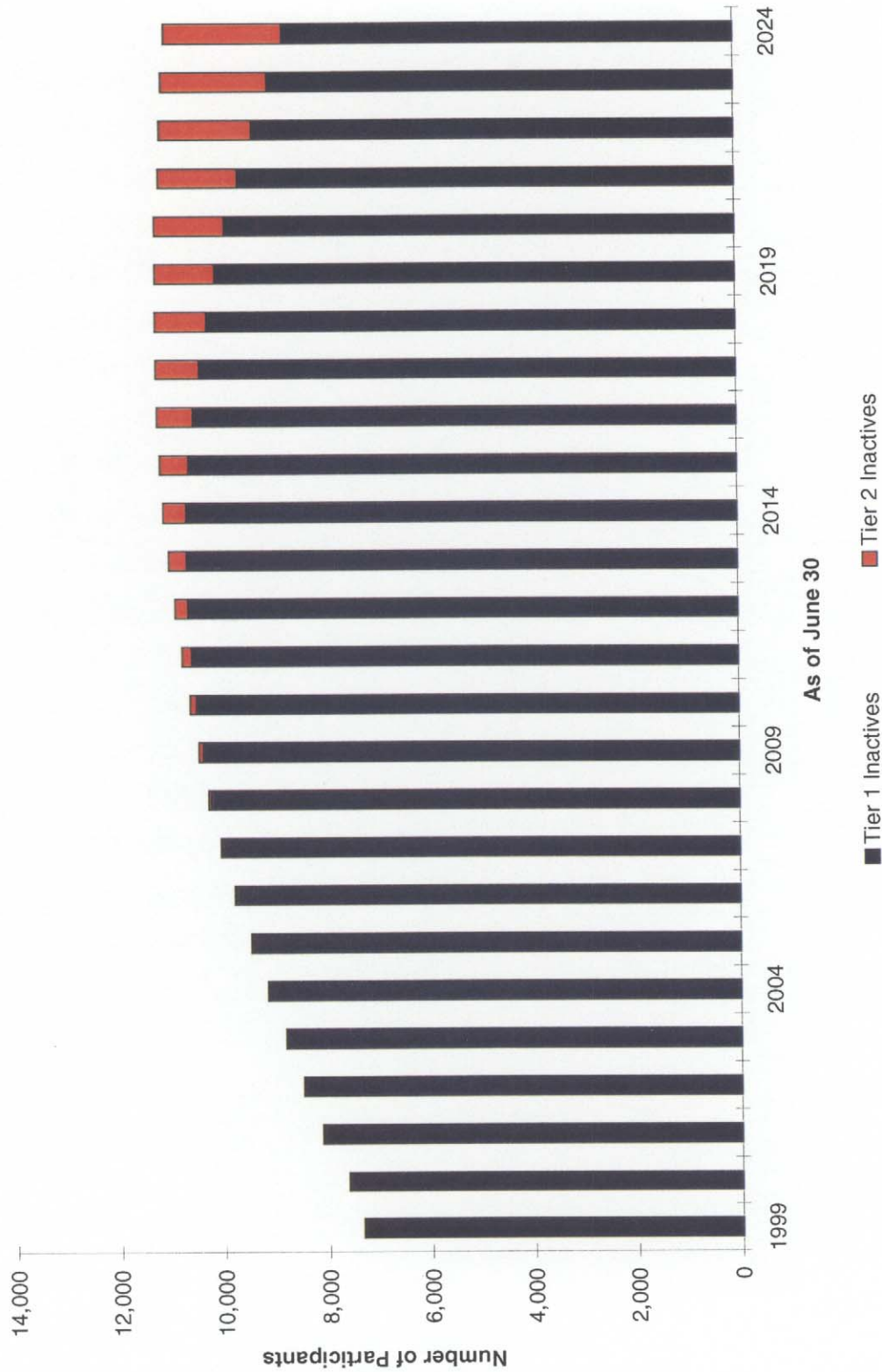
1.5 Actuarial Projections (continued)

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



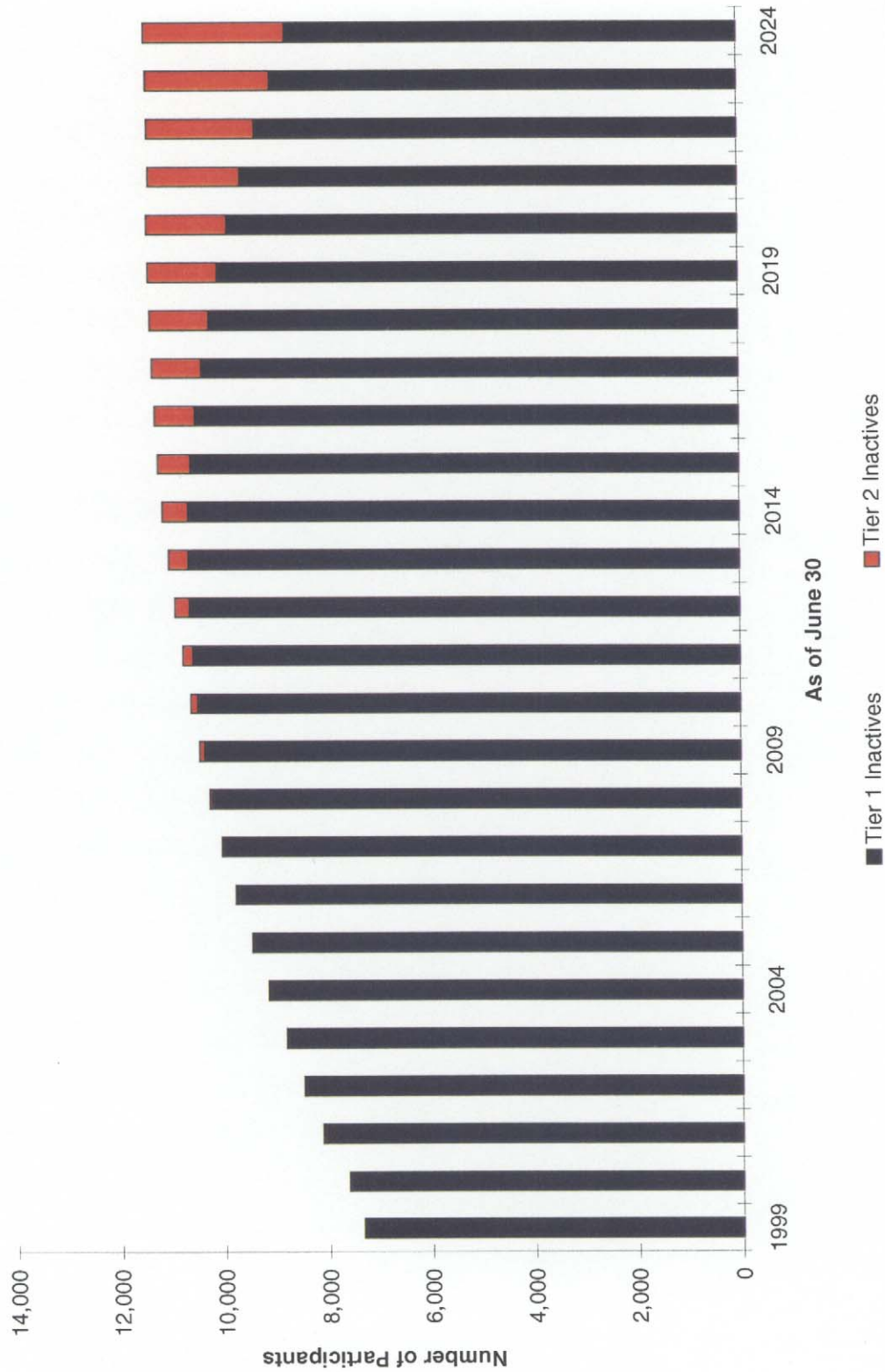
1.5 Actuarial Projections (continued)

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



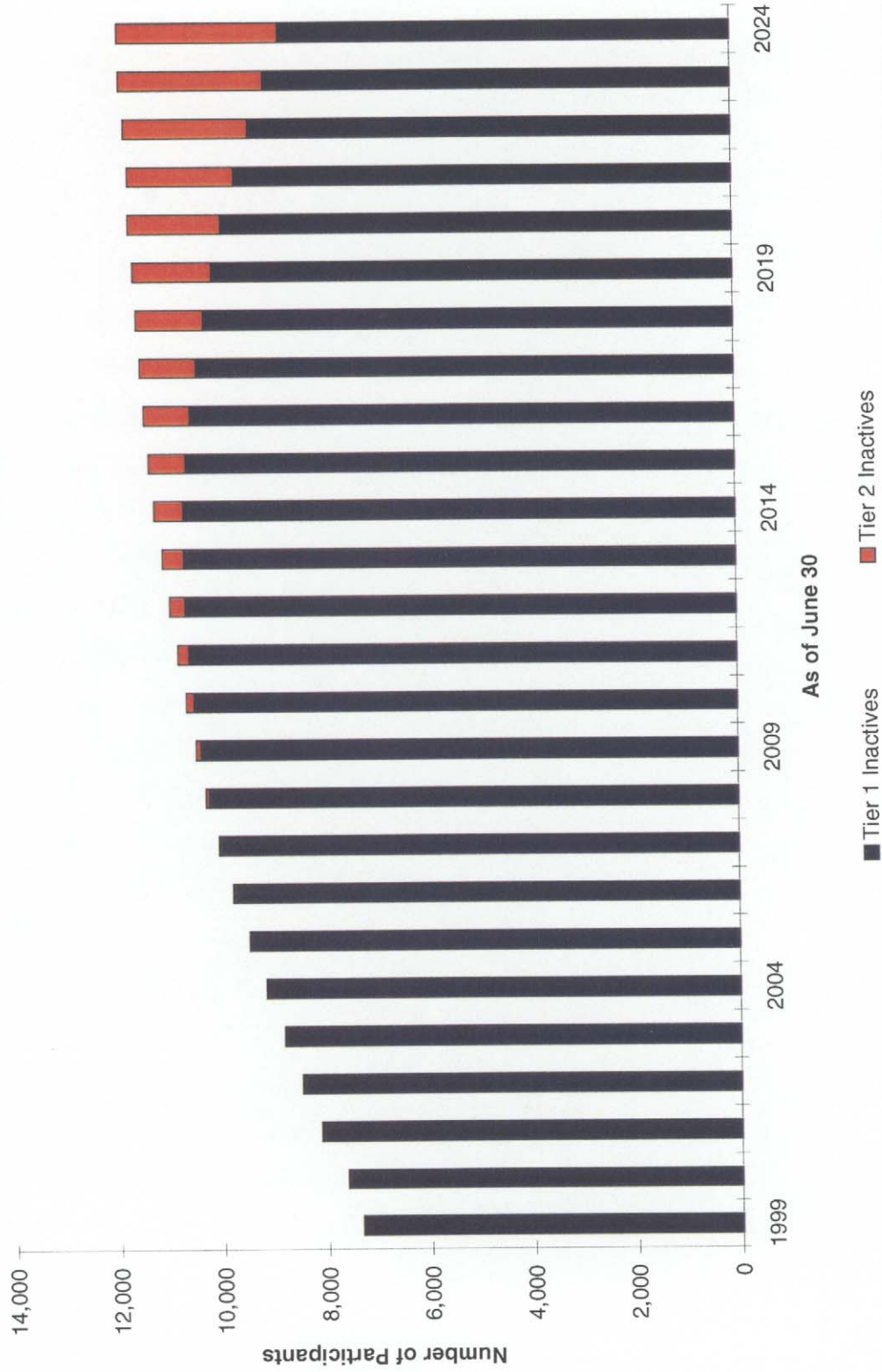
1.5 Actuarial Projections (continued)

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



1.5 Actuarial Projections (continued)

**State of Alaska TRS Projected Inactive Participant Count
Annual Population Increase 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.

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2.1 Summary of the Alaska Teachers' Retirement System

(1) Effective Date

July 1, 1955, with amendments through June 30, 1999. 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.

(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.

2.1 Summary of the Alaska Teachers' Retirement System *(continued)*

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 (11) 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.

2.1 Summary of the Alaska Teachers' Retirement System *(continued)*

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 60¹, 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 of 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).

- (b) Members may retire at any age when they have:
 - (i) 25 years of paid-up creditable service, the last five years of 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 of 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.

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

2.1 Summary of the Alaska Teachers' Retirement System *(continued)*

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) Postemployment Healthcare Benefits

When pension benefits begin, major medical benefits are provided without cost to (1) all employees first hired before July 1, 1990, and (2) employees who are disabled or age sixty-five or older, regardless of their initial hire dates. Employees first hired after June 30, 1990, may receive major medical benefits prior to age sixty-five by paying premiums.

(10) 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.

2.1 Summary of the Alaska Teachers' Retirement System *(continued)*

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.

(11) 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 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.

2.1 Summary of the Alaska Teachers' Retirement System *(continued)*

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.

(12) 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.

(13) Alaska Cost of Living Allowance

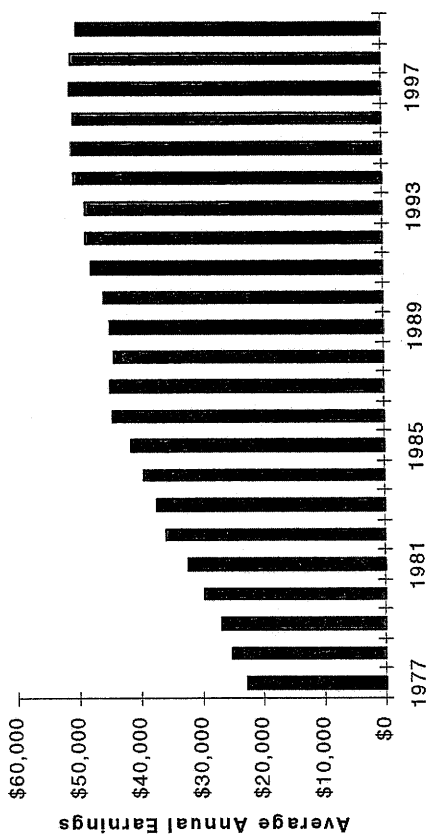
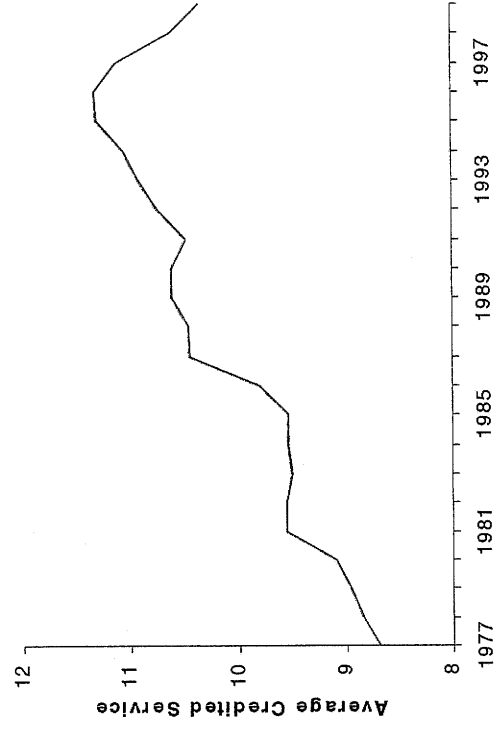
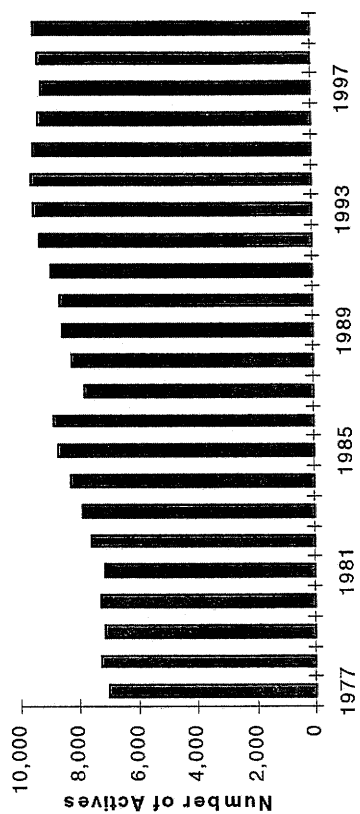
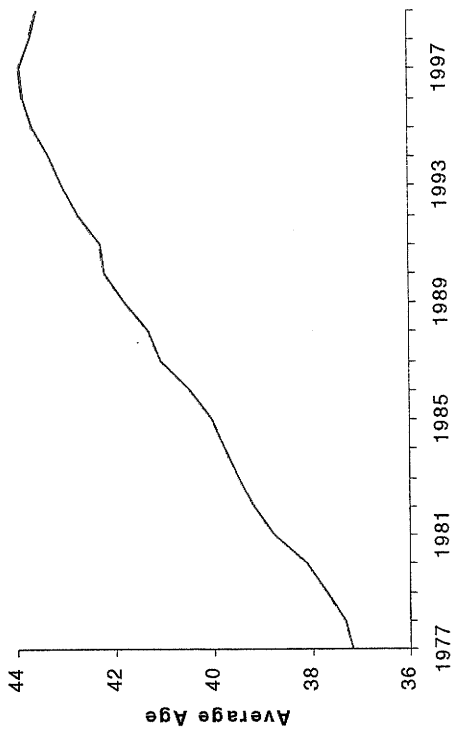
Eligible benefit recipients who reside in Alaska receive an Alaska cost of living allowance (COLA) equal to 10% of their base benefits. The following benefit recipients are eligible:

- (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>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Active Members					
(1) Number	9,452	9,259	9,164	9,262	9,396
(2) Average Age	43.68	43.87	43.93	43.69	43.56
(3) Average Credited Service	11.30	11.33	11.12	10.62	10.34
(4) Average Annual Salary	\$ 50,487	\$ 50,241	\$ 50,901	\$ 50,684	\$ 49,640
(5) Number Vested	5,578	5,491	5,366	5,285	5,256
(6) Percent Who Are Vested	59.0%	59.3%	58.6%	57.1%	55.9%
Retirees and Beneficiaries					
(1) Number	4,459	4,803	5,343	5,979	6,486
(2) Average Age	62.83	62.94	62.87	62.67	62.74
(3) Average Monthly Benefit:					
Base	\$ 1,694	\$ 1,703	\$ 1,750	\$ 1,819	\$ 1,859
C.O.L.A.	105	105	110	115	118
P.R.P.A.	274	258	441	431	411
Adjustment	-1	-4	-15	1	0
Total	2,072	2,062	2,286	2,366	2,388
Vested Terminations					
(1) Number	859	1,116	1,279	1,064	1,150
(2) Average Age	48.08	49.31	49.62	49.59	49.89
(3) Average Monthly Benefit	\$ 1,233	\$ 1,431	\$ 1,471	\$ 1,397	\$ 1,447
Non-Vested Terminations With Account Balances					
(1) Number	1,140	1,195	1,310	1,285	1,297
(2) Average Account Balance	\$ 12,165	\$ 12,782	\$ 14,387	\$ 12,437	\$ 13,108

State of Alaska - TRS Actives



2.2(b) Distribution of Active Participants

----- Annual Earnings By Age -----				----- Annual Earnings By Credited Service -----			
Age Groups	Number of People	Total Annual Earnings	Average Annual Earnings	Years of Service	Number of People	Total Annual Earnings	Average Annual Earnings
0-19	0	\$ 0	\$ 0	0	198	\$ 7,273,916	\$ 36,737
20-24	94	3,192,091	33,958	1	888	31,499,003	35,472
25-29	729	26,520,202	36,379	2	712	27,425,276	38,519
30-34	1,075	43,108,787	40,101	3	517	20,570,587	39,788
35-39	1,213	54,388,994	44,838	4	461	19,925,121	43,222
40-44	1,717	83,950,637	48,894	0-4	2,776	106,693,903	38,434
45-49	2,200	117,611,320	53,460	5-9	2,264	106,083,920	46,857
50-54	1,593	90,253,239	56,656	10-14	1,640	88,150,041	53,750
55-59	602	36,661,328	60,899	15-19	1,561	91,948,636	58,904
60-64	140	8,542,585	61,018	20-24	736	45,719,474	62,119
65-69	29	1,926,405	66,428	25-29	325	21,072,421	64,838
70-74	3	207,049	69,016	30-34	80	5,624,945	70,312
75+	1	51,161	51,161	35-39	12	975,609	81,301
				40+	2	144,849	72,425
Total	9,396	\$ 466,413,798	\$ 49,640	Total	9,396	\$ 466,413,798	\$ 49,640

Years of Credited Service By Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	0	0	0	0	0	0	0	0	0	0
20-24	94	0	0	0	0	0	0	0	0	94
25-29	671	58	0	0	0	0	0	0	0	729
30-34	594	436	45	0	0	0	0	0	0	1,075
35-39	379	459	308	67	0	0	0	0	0	1,213
40-44	407	425	425	402	58	0	0	0	0	1,717
45-49	338	463	449	542	340	67	1	0	0	2,200
50-54	196	276	291	375	242	181	31	1	0	1,593
55-59	75	113	97	136	81	60	35	5	0	602
60-64	17	26	22	33	14	13	10	3	2	140
65-69	4	7	3	6	0	3	3	3	0	29
70-74	1	0	0	0	1	1	0	0	0	3
75+	0	1	0	0	0	0	0	0	0	1
Total	2,776	2,264	1,640	1,561	736	325	80	12	2	9,396

2.2(c) Schedule of Active Member Valuation Data

Valuation Date	Number	Annual Payroll (000's)	Annual Average Pay	Percent Increase/(Decrease) In Average Pay	Number of Participating Employers
June 30, 1999	9,396	\$ 466,414	\$ 49,640	(2.1%)	61
June 30, 1998	9,262	469,433	50,684	(0.4%)	61
June 30, 1997	9,164	466,455	50,901	1.3%	61
June 30, 1996	9,259	465,182	50,241	(0.5%)	61
June 30, 1995	9,452	477,205	50,487	0.6%	61
June 30, 1994	9,489	476,098	50,174	3.2%	61
June 30, 1993	9,459	459,746	48,604	0.2%	61
June 30, 1992	9,238	448,186	48,515	2.2%	62
June 30, 1991	8,903	422,655	47,473	4.6%	62
June 30, 1990	8,586	389,702	45,388	1.8%	60

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

	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Service					
(1) Number	359	308	510	657	525
(2) Average Age At Retirement	53.88	53.77	53.68	53.09	53.85
(3) Average Monthly Benefit	\$ 2,358	\$ 2,349	\$ 2,488	\$ 2,551	\$ 2,521
Disability					
(1) Number	3	13	8	9	17
(2) Average Age At Retirement	48.58	52.98	44.02	44.96	48.51
(3) Average Monthly Benefit	\$ 3,353	\$ 2,542	\$ 2,409	\$ 2,065	\$ 2,577
Survivor (including surviving spouse and QDROs)					
(1) Number	6	20	47	47	56
(2) Average Age At Retirement	52.86	53.14	60.37	61.39	58.11
(3) Average Monthly Benefit	\$ 1,522	\$ 1,038	\$ 1,226	\$ 1,128	\$ 1,095
Total					
(1) Number	368	341	565	713	598
(2) Average Age At Retirement	53.82	53.70	54.10	53.52	54.10
(3) Average Monthly Benefit	\$ 2,352	\$ 2,279	\$ 2,382	\$ 2,451	\$ 2,389

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

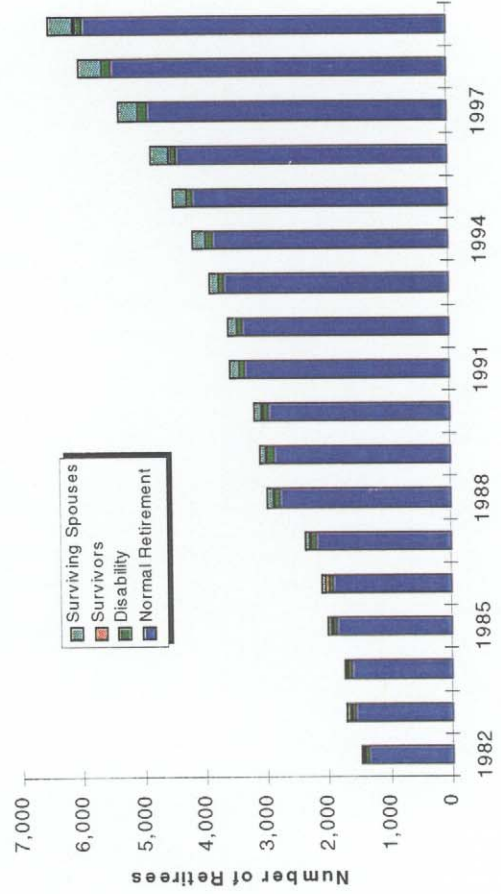
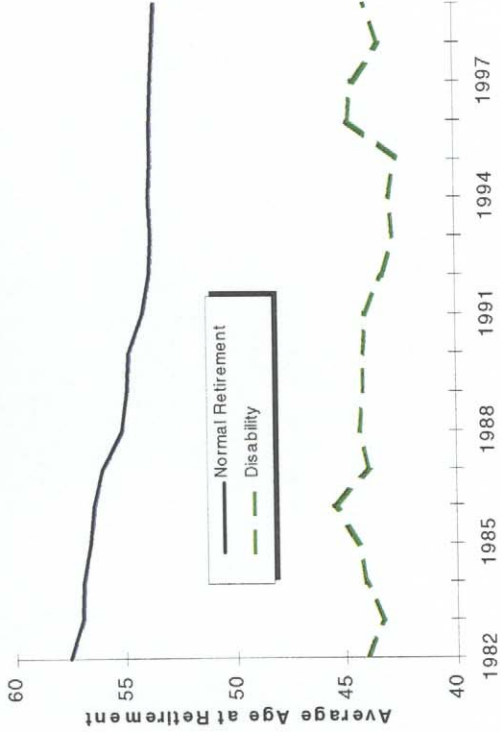
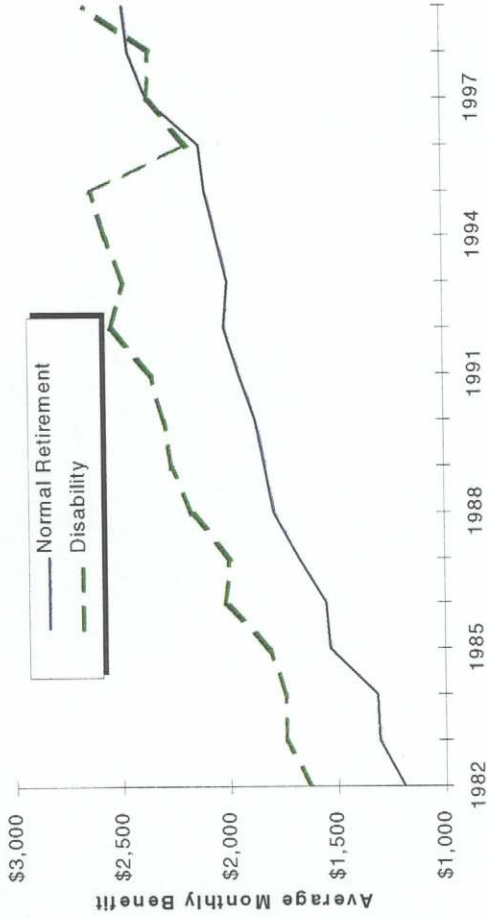
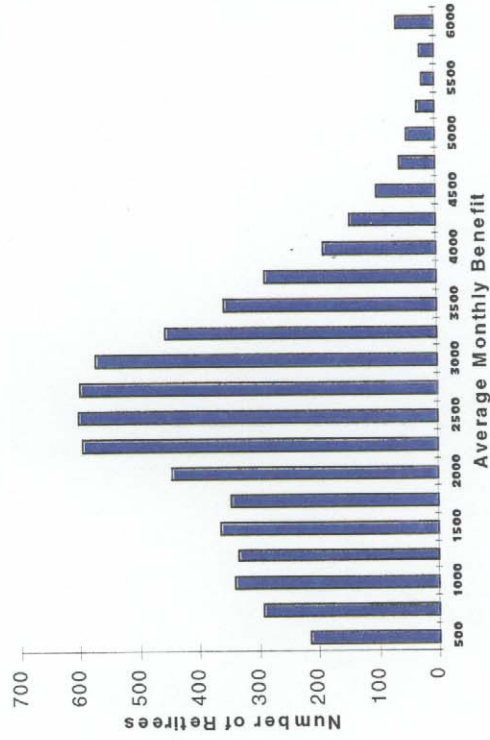
	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/98 - 6/30/99:							
Average Monthly Benefit	\$ 1,230	\$ 820	\$ 1,152	\$ 1,691	\$ 2,510	\$ 3,285	\$ 3,756
Number of Active Retireants	23	43	67	81	176	153	55
Period 7/1/97 - 6/30/98:							
Average Monthly Benefit	\$ 1,051	\$ 850	\$ 1,095	\$ 1,842	\$ 2,590	\$ 3,443	\$ 4,280
Number of Active Retireants	26	51	80	105	240	154	57
Period 7/1/96 - 6/30/97:							
Average Monthly Benefit	\$ 996	\$ 828	\$ 1,042	\$ 1,692	\$ 2,493	\$ 3,353	\$ 3,812
Number of Active Retireants	19	42	71	77	151	153	52
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

"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>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>
Service Retirements					
(1) Number, Fiscal Year Start	3,831	4,130	4,395	4,873	5,467
(2) Net Change During FY	299	265	478	594	457
(3) Number, Fiscal Year End	4,130	4,395	4,873	5,467	5,924
(4) Average Age At Retirement	53.78	53.78	53.70	53.57	53.55
(5) Average Age Now	63.04	63.20	63.07	62.69	62.73
(6) Average Monthly Benefit	\$ 2,099	\$ 2,126	\$ 2,365	\$ 2,451	\$ 2,479
Surviving Spouse's Benefits					
(1) Number, Fiscal Year Start	200	229	279	334	382
(2) Net Change During FY	29	50	55	48	32
(3) Number, Fiscal Year End	229	279	334	382	414
(4) Average Age At Retirement	52.04	54.59	55.37	57.95	58.55
(5) Average Age Now	65.06	64.56	64.61	66.59	67.32
(6) Average Monthly Benefit	\$ 1,373	\$ 1,016	\$ 1,132	\$ 1,173	\$ 1,168
Survivor's Benefits (other than spouses)					
(1) Number, Fiscal Year Start	9	8	3	3	6
(2) Net Change During FY	(1)	(5)	0	3	31
(3) Number, Fiscal Year End	8	3	3	6	37
(4) Average Age At Retirement	28.14	15.12	30.75	33.76	41.55
(5) Average Age Now	36.03	26.08	40.16	47.04	45.48
(6) Average Monthly Benefit	\$ 1,822	\$ 466	\$ 537	\$ 464	\$ 684
Disabilities					
(1) Number, Fiscal Year Start	94	92	126	133	124
(2) Net Change During FY	(2)	34	7	(9)	(13)
(3) Number, Fiscal Year End	92	126	133	124	111
(4) Average Age At Retirement	42.71	44.74	44.60	43.44	44.03
(5) Average Age Now	50.36	51.31	51.66	50.81	51.56
(6) Average Monthly Benefit	\$ 2,637	\$ 2,185	\$ 2,370	\$ 2,361	\$ 2,644
Total Number of Retirees	4,459	4,803	5,343	5,979	6,486

State of Alaska - TRS Retirees



2.2(g) Distribution of Annual Benefits for Benefit Recipients

----- Annual Benefit By Age -----				-- Annual Benefit By Years Since Retirement --			
Age Groups	Number of People	Total Annual Benefit	Average Annual Benefit	Years Since Retirement	Number of People	Total Annual Benefit	Average Annual Benefit
0-19	5	\$ 32,748	\$ 6,550	0	598	\$ 17,143,812	\$ 28,668
20-24	2	9,791	4,896	1	714	20,896,428	29,268
25-29	0	0	0	2	571	16,450,920	28,812
30-34	3	66,972	22,324	3	346	9,512,148	27,480
35-39	5	97,068	19,414	4	395	11,337,756	28,704
40-44	45	1,037,904	23,065	0- 4	2,624	75,341,064	28,712
45-49	319	9,143,112	28,662	5- 9	1,390	38,371,310	27,605
50-54	991	29,815,512	30,086	10-14	1,259	41,179,094	32,707
55-59	1,607	47,509,704	29,564	15-19	607	16,054,056	26,448
60-64	1,217	35,887,020	29,488	20-24	470	11,497,994	24,463
65-69	871	25,262,844	29,004	25-29	114	2,832,504	24,847
70-74	601	16,515,780	27,480	30-34	20	506,988	25,349
75+	820	20,469,991	24,963	35-39	2	65,436	32,718
				40+	0	0	0
Total	6,486	\$ 185,848,446	\$ 28,654	Total	6,486	\$ 185,848,446	\$ 28,654

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	4	1	0	0	0	0	0	0	0	5
20-24	1	0	0	1	0	0	0	0	0	2
25-29	0	0	0	0	0	0	0	0	0	0
30-34	3	0	0	0	0	0	0	0	0	3
35-39	4	1	0	0	0	0	0	0	0	5
40-44	44	0	1	0	0	0	0	0	0	45
45-49	289	24	5	0	1	0	0	0	0	319
50-54	741	202	45	2	1	0	0	0	0	991
55-59	914	457	214	15	5	2	0	0	0	1,607
60-64	383	392	360	72	9	1	0	0	0	1,217
65-69	147	176	342	170	34	1	1	0	0	871
70-74	56	82	184	176	96	4	2	1	0	601
75+	38	55	108	171	324	106	17	1	0	820
Total	2,624	1,390	1,259	607	470	114	20	2	0	6,486

2.2(h) Schedule of Retired Members by Type of Retirant and Option Selected - June 30, 1999

Amount of Monthly Benefit	Number of Retirees	Type of Retirement			Option Selected #			
		1	2	3	Opt. 1	Opt. 2	Opt. 3	Opt. 4
\$ 1 - \$ 300	74	58	16	0	49	12	12	1
301 - 600	235	154	81	0	174	26	25	10
601 - 900	398	308	90	0	287	56	39	16
901 - 1,200	414	322	90	2	300	72	33	9
1,201 - 1,500	432	371	60	1	317	62	43	10
1,501 - 1,800	428	376	51	1	340	48	35	5
1,801 - 2,100	590	552	25	13	464	56	60	10
2,101 - 2,400	723	682	18	23	561	90	56	16
2,401 - 2,700	723	692	10	21	554	83	76	10
2,701 - 3,000	696	672	4	20	566	66	54	10
3,001 - 3,300	534	516	2	16	441	40	46	7
3,301 - 3,600	403	395	2	6	337	29	28	9
3,601 - 3,900	268	260	2	6	216	25	23	4
over 3,900	568	566	0	2	485	40	30	13
Totals	6,486	5,924	451	111	5,091	705	560	130

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 - 66 2/3% 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, 1999	598	\$19,014,567	91	\$2,893,521	6,486	\$185,848,446	9.50%	\$28,654
June 30, 1998	674	24,479,595	38	1,380,155	5,979	169,727,400	15.75%	28,387
June 30, 1997	583	29,988,351 ⁽¹⁾	43	2,211,834 ⁽¹⁾	5,343	146,627,960	23.37%	27,443
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

* Numbers are estimated, and include other internal transfers.

⁽¹⁾ Includes additional benefits to current retirees from a one time retroactive ad hoc Post-Retirement Pension Adjustments

2.3 Summary of Actuarial Assumptions and Methods

The demographic and economic assumptions used in this valuation were recommended by William M. Mercer, Incorporated and were adopted at the Fall 1996 TRS Board Meeting. These assumptions were the result of an experience study performed in the Fall of 1996. 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. Any funding surpluses or unfunded accrued liability is amortized over a rolling 25 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 | FY99 and later - 5.5% |

2.3 Summary of Actuarial Assumptions and Methods *(continued)*

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. Post-Retirement Pension Adjustment
50% and 75% of assumed inflation is valued for the automatic Post-Retirement Pension Adjustment (PRPA) as specified in the statute.
16. Expenses
Expenses are covered in the investment return assumption.

2.3 Summary of Actuarial Assumptions and Methods *(continued)*

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, LLP. 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 the June 30, 1999 valuation, the pre-65 monthly premium is \$633.47 and the post-65 premium is \$241.30, based on an assumed total blended premium of \$484.59. For the time period January 1, 2000 to December 31, 2000, the actual blended premium as provided by the State of Alaska Division of Retirement and Benefits is \$530.00.

2.3 Summary of Actuarial Assumptions and Methods (continued)

Table 1
Alaska TRS
Total Turnover Assumptions

<u>Select Rates of Turnover During the First 8 Years of Employment</u>		<u>Ultimate Rates of Turnover After the First 8 Years of Employment</u>	
<u>Year of Employment</u>	<u>Rate</u>	<u>Ages</u>	<u>Rate</u>
1	.15	20+	.04
2	.14		
3	.12		
4	.11		
5	.09		
6	.08		
7	.07		
8	.07		

2.3 Summary of Actuarial Assumptions and Methods *(continued)*

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

2.3 Summary of Actuarial Assumptions and Methods *(continued)*

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.

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3.1 Analysis of Financial Experience

Change in Employer 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 Employer Contribution Rate During Fiscal Year				
	99	98	97	96	95
(1) Health Experience	0.00%	0.00%	0.00%	0.00%	0.00%
(2) Salary Experience	(0.64%)	(0.84%)	(0.05%)	(0.62%)	(0.29%)
(3) Investment Experience	(3.73%)	(2.70%)	(1.80%)	(0.69%)	(0.05%)
(4) Demographic Experience	0.80%	0.54%	1.56%	0.68%	0.32%
(5) Miscellaneous	0.00%	0.00%	0.00%	0.00%	0.00%
(6) Gain (or Loss) During Year From Experience, (1) + (2) + (3) + (4) + (5)	(3.57%)	(3.00%)	(0.29%)	(0.63%)	(0.02%)
Non-recurring Changes					
(7) Contribution Rate Smoothing Method	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Asset Valuation Method	0.00%	0.00%	0.00%	0.00%	0.00%
(9) Assumption Changes	0.00%	0.00%	0.00%	(3.79%)	0.00%
(10) Ad hoc PRPA	0.11%	0.55%	2.77%	0.00%	0.00%
Composite Gain (or Loss) During Year, (6) + (7) + (8) + (9) + (10)	(3.46%)	(2.45%)	2.48%	(4.42%)	(0.02%)
Beginning Total Employer Contribution Rate	10.55%	13.00%	10.52%	14.94%	14.96%
Ending Total Employer Contribution Rate	7.09%	10.55%	13.00%	10.52%	14.94%

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, 1999	\$3,720,954	\$3,815,633	102.5%	N/A	\$466,414	N/A
June 30, 1998	3,528,757	3,446,070	97.7%	82,687	469,433	17.6%
June 30, 1997	3,320,069	3,120,044	94.0%	200,025	466,455	42.9%
June 30, 1996 ⁽²⁾	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%
⁽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, 1999	\$469,068	\$2,571,345	\$680,541	\$3,815,633	100%	100%	100.0%
June 30, 1998	449,383	2,344,263	735,111	3,446,070	100%	100%	88.8%
June 30, 1997	483,735	2,095,843	780,491	3,120,044	100%	100%	69.2%
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%

(1) Change in Asset Valuation Method.

(2) Change of Assumptions.

(3) Change in Plan Provisions.

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