

**State of Alaska**  
**Teachers' Retirement System**

Actuarial Valuation Report as of June 30, 2003

**MERCER**

Human Resource Consulting

March 19, 2004

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, 2003 by Mercer Human Resource Consulting. The purposes of the report include:

- (1) a review of experience under the Plan for the year ended June 30, 2003;
- (2) a determination of the appropriate contribution rate for all employers in the System which will be applied for the fiscal year ending June 30, 2006; and
- (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 benefit recipients 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 Division of Retirement and Benefits and financial information provided by the audited report from KPMG 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 2000 and adopted in December 2000. Actuarial methods, medical cost trend, and assumed blended medical premiums were reviewed and revised in January 2003.

The contribution requirements are determined as a percentage of payroll, and reflect the cost of benefits accruing in FY04 and a fixed 25-year amortization as a level percentage of pay of the initial unfunded accrued liability and subsequent gains/losses. 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 decreased from 68.2% to 64.3% during the year primarily due to lower than expected equity market returns. Over the years, progress has been made toward achieving the funding objectives of the System.

A summary of the actuarial assumptions and methods is presented in Section 2.3 of this report. The assumptions, 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,



Robert M. Reynolds, ASA, MAAA



Marcia L. Chapman, FSA, EA, MAAA

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## Report Highlights

This report has been prepared by Mercer Human Resource Consulting 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, 2003;
- (2) Review experience under the plan for the year ended June 30, 2003;
- (3) Determine the appropriate contribution rate for each employer in the System; and
- (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 2003 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 principal results are as follows:

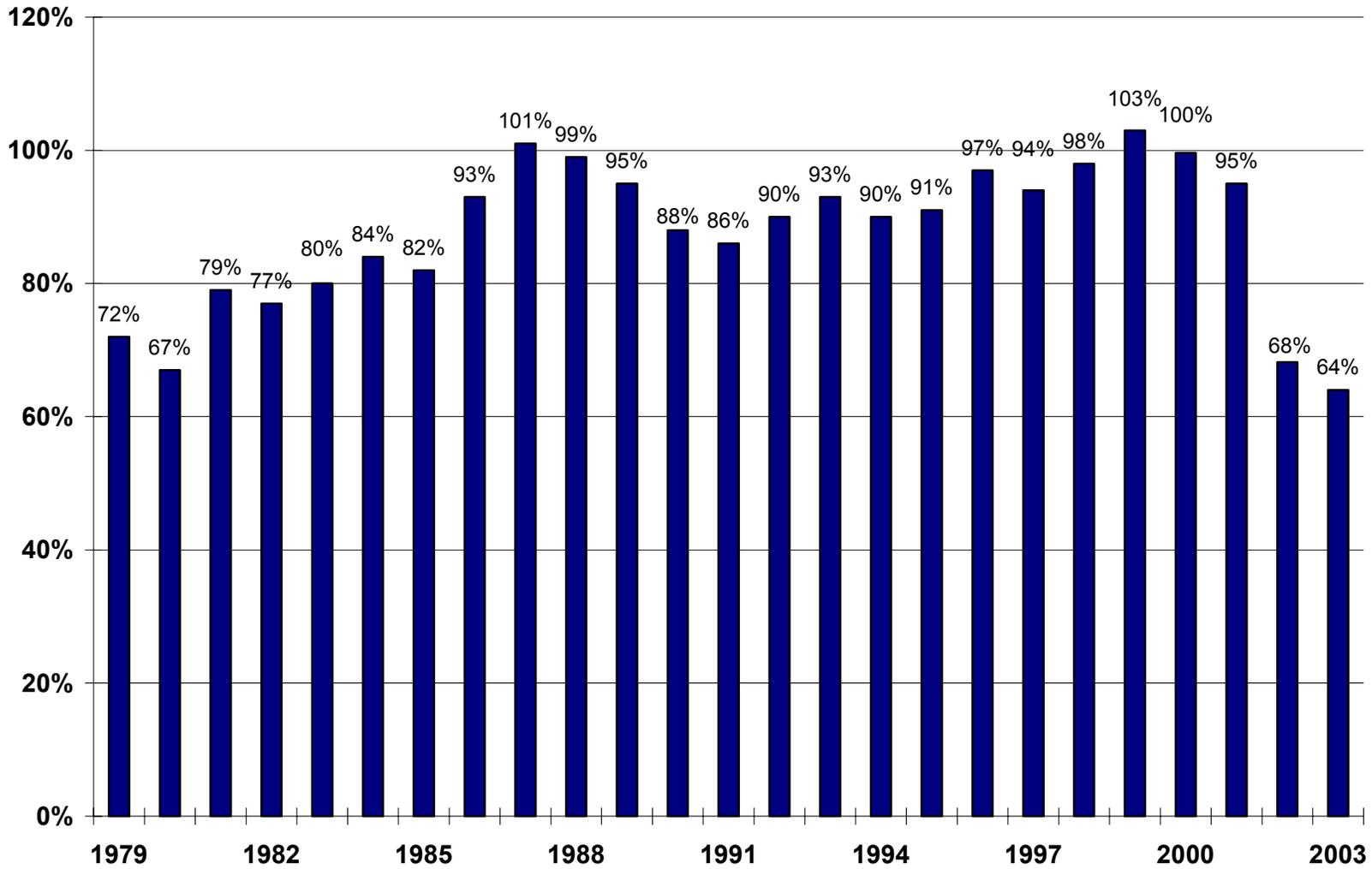
<b>Funding Status as of June 30</b>	<b>2002</b>	<b>2003</b>
(a) Valuation assets <sup>1</sup>	\$ 3,689,036	\$ 3,752,285
(b) Accrued liability <sup>1</sup>		
i) Non-medical benefits	3,959,958	4,190,970
ii) Total benefits (including medical)	5,411,642	5,835,609
(c) Funding Ratio, $(a) \div (b)$		
i) Non-medical benefits	93.2%	89.5%
ii) Total benefits (including medical)	68.2%	64.3%

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<sup>1</sup> In thousands.

Report Highlights (continued)

TRS Funding Ratio History



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**Report Highlights** *(continued)*

<b>Employer Contribution Rates for Fiscal Year:</b>	<b>2005</b>	<b>2006</b>
(a) Normal Cost Rate	14.76%	14.28%
(b) Past Service Rate	20.81%	24.57%
(c) Total Employer Contribution Rate <i>(a) + (b)</i>	35.57%	38.85%
(d) TRS Board Adopted Employer Contribution Rate	16.00%	21.00%

## Analysis of the Valuation

As shown in the Highlights section of the report, the funding ratio as of June 30, 2003 has decreased from 68.2% to 64.3%, a decrease of 3.9%. The total calculated employer contribution rate has increased from 35.57% of payroll for FY05 to 38.85% for FY06, an increase of 3.28%. The reasons for the change in the funded status and calculated 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.

Time Period	Monthly Premium Per Retiree For Health Coverage	Annual Percentage Change	Average Compound Annual Increase Since FY78
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	20%	10%
1/1/00-12/31/00	530.00	20%	10%
1/1/01-12/31/01	610.00	15%	10%
1/1/02-12/31/02	668.00	10%	10%
1/1/03-12/31/03	720.00	8%	10%
1/1/04-12/31/04	806.00	12%	10%

As you can see from the above table, the monthly retiree medical premium for the January 1, 2004 to December 31, 2004 time period has increased to \$806.00. Over the last 10 years, annual premium rate changes have ranged from no change to up 20%. Also, over the last ten years, the increase in the premium rate has been about 9% compounded annually.

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## **Analysis of the Valuation *(continued)***

Effective June 30, 2002, the Board adopted a health cost trend assumption which varies by year, declining to an ultimate rate equal to inflation plus 1.5%, or 5.0% for FY17 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.

On June 30, 2002, the assumed total blended premium was reset to the actual total blended premium for FY03. 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 whenever experience and current trends indicate a change is appropriate.

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

### **(2) Investment Experience**

The approximate FY03 investment return based on market values was 3.04%. The expected investment return was 8.25%. This resulted in a loss of approximately \$187 million to the System from investment experience. The asset valuation method recognizes 20 percent of this loss (\$37.4 million) this year and an additional 20 percent in each of the next 4 years. As a result, the approximate return on the actuarial value of assets was 7.21%, which decreased the funding ratio by 0.7% and increased the employer contribution rate by 0.43%.

### **(3) Salary Increase**

During the period from June 30, 2002, to June 30, 2003, salary increases for continuing active members were more than anticipated in the valuation assumptions. Salary experience resulted in an actuarial loss which decreased the funding ratio by 0.4% and increased the employer contribution rate by 0.10%.

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## Analysis of the Valuation *(continued)*

### **(4) Demographic Experience**

Section 2.2 provides statistics on active and inactive participants. The number of active participants increased 1.9% from 9,690 at June 30, 2002 to 9,873 at June 30, 2003. The average age of active participants increased from 44.15 to 44.28 and average credited service increased from 10.33 to 10.39 years.

The number of retirees and beneficiaries increased 6.5% from 7,804 to 8,312, and their average age increased from 63.30 to 63.60. There was a 9.6% decrease in the number of vested terminated participants from 783 to 708. Their average age decreased from 48.97 to 48.57.

The overall effect of these participant data changes was an actuarial loss to the System, resulting in an increase in the employer contribution rate of 1.35%.

### **(5) Contribution Shortfall Compared to Actuarially Calculated Rate**

As of June 30, 2002 the actuarially calculated rate was 35.57% for FY05 employer contributions. Since employer contribution rates are determined two years prior to the fiscal year, the June 30, 2000 adopted employer rate of 11.00% was contributed during FY03. The difference between the two rates, 11.00% and 35.57%, created a contribution shortfall to the System. This shortfall increased the average employer contribution rate by 1.40%.

### **(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 20 years into the future. By also projecting plan assets, this report in effect produces an actuarial valuation for each of the next 20 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 provisions of the current tier, so that the ultimate effect on plan liabilities can be anticipated. As you can see in Section 1.5, based on the actuarial assumptions and asset valuation method, future contribution rates are expected to increase in the future.

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## Analysis of the Valuation *(continued)*

### Summary

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

1. Last year's total employer contribution rate	35.57%
2. Change due to:	
a. Contribution shortfall compared to actuarially calculated rate	1.40%
b. Investment experience	0.43%
c. Salary increases	0.10%
d. Demographic experience	1.35%
3. Total employer contribution rate this year	38.85%

## **Section 1**

This section sets forth the results of the actuarial valuation.

- Section 1.1(a) Statement of net assets.
- Section 1.1(b) Statement of Changes in net assets during FY03 and the investment return for FY03.
- Section 1.1(c) Actuarial value of assets.
- Section 1.2 Actuarial present values.
- Section 1.3 Total employer contribution rate for FY06.
- Section 1.4 Development of actuarial gain or loss for FY03.
- Section 1.5(a) Actuarial Projections – Projections at Calculated Rate.
- Section 1.5(b) Actuarial Projections – Projections at Current Rate.
- Section 1.5(c) Actuarial Projections – Effect of Economic Scenarios.

**1.1(a) Statement of Net Assets**

<b>As of June 30, 2003 (in thousands)</b>	<b>Pension</b>	<b>Postemployment Healthcare</b>	<b>Total Market Value</b>
Cash and Cash Equivalents	\$ 449	\$ 114	\$ 563
Domestic Equity Pool	1,194,813	248,928	1,443,741
Retirement Fixed Income Pool	549,367	139,093	688,460
International Equity Pool	443,713	112,342	556,055
Real Estate Pool	200,400	50,739	251,139
International Fixed Income Pool	106,615	26,994	133,609
Private Equity Pool	83,703	21,193	104,896
External Domestic Fixed Income Pool	303,580	76,863	380,443
Emerging Markets Equity Pool	32,025	8,108	40,133
Loans and Mortgages (Net of Reserves)	59	15	74
Other Current Assets	12	2	14
Net Accrued Receivables	<u>2,787</u>	<u>705</u>	<u>3,492</u>
Net Assets	\$ 2,917,523	\$ 685,096	\$ 3,602,619

**1.1(b) Statement of Changes in Net Assets**

<b>Fiscal Year 2003 (in thousands)</b>	<b>Pension</b>	<b>Postemployment Healthcare</b>	<b>Total Market Value</b>
(1) Net Assets, June 30, 2002, (market value)	\$ 2,983,297	\$ 705,739	\$ 3,689,036
(2) Additions:			
(a) Plan Member Contributions	44,518	11,271	55,789
(b) Employer Contributions	50,157	12,699	62,856
(c) Interest and Dividend Income	93,833	23,757	117,590
(d) Net Appreciation (Depreciation) in Fair Value of Investments	1,607	407	2,014
(e) Net Recognized Mortgage Loan Recovery	<u>23</u>	<u>6</u>	<u>29</u>
(f) Total Additions	\$ 190,138	\$ 48,140	\$ 238,278
(3) Deductions:			
(a) Medical Benefits	0	65,898	65,898
(b) Retirement Benefits	244,518	0	244,518
(c) Refunds of Contributions	3,064	776	3,840
(d) Investment Expenses	6,419	1,625	8,044
(e) Administrative Expenses	<u>1,911</u>	<u>484</u>	<u>2,395</u>
(f) Total Deductions	\$ 255,912	\$ 68,783	\$ 324,695
(4) Net Assets, June 30, 2003, (market value)	\$ 2,917,523	\$ 685,096	\$ 3,602,619

Approximate Market Value Investment Return Rate During  
FY03, Net of Expenses

3.04%

**1.1(c) Actuarial Value of Assets**

The actuarial value of assets was set equal to the market value at June 30, 2002. Future investment gains and losses will be recognized 20% per year over 5 years. In no event may valuation assets be less than 80% or more than 120% of market value as of the current valuation date.

**(1) Deferral of Investment Return for FY03**

(a) Market Value, June 30, 2002	\$	3,689,036
(b) Contributions for FY03		118,645
- <i>Weighted for timing</i>		59,323
(c) Benefit Payments for FY03		314,256
- <i>Weighted for timing</i>		157,128
(d) Investment Return ( <i>net of expenses</i> )		109,194
(e) Expected Return Rate ( <i>net of expenses</i> )		8.25%
(f) Expected Return-weighted for Timing, $[(a. + b. - c.) \times e.]$		296,277
(g) Investment Gain (Loss) for the Year ( <i>d. - f.</i> )		(187,083)
(h) Deferral Percentage		80%
(i) Deferred Investment Return <sup>2</sup> , ( <i>g. x h.</i> )	\$	(149,666)

**(2) Actuarial Value, June 30, 2003**

(a) Market Value, June 30, 2003	\$	3,602,619
(b) 2003 Deferred Investment Return		(149,666)
(c) Preliminary Actuarial Value, June 30, 2003 ( <i>a. - b.</i> )	\$	3,752,285
(d) Upper Limit: 120% of Market Value, June 30, 2003		4,323,143
(e) Lower Limit: 80% of Market Value, June 30, 2003		2,882,095
(f) Actuarial Value, June 30, 2003, ( <i>c. limited by d. and e.</i> )	\$	3,752,285

<sup>2</sup> The table below shows the development of gain/(loss) to be recognized in the current year.

Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2003	\$ (187,083)	\$ 0	\$ (37,417)	\$ (149,666)
<b>Total</b>	<b>\$ (187,083)</b>	<b>\$ 0</b>	<b>\$ (37,417)</b>	<b>\$ (149,666)</b>

## 1.2 Actuarial Present Values

As of June 30, 2003 (in thousands)	Normal Cost	Accrued Liabilities
<b>Active Members</b>		
Retirement Benefits	\$ 65,476	\$ 1,083,063
Termination Benefits	4,029	45,299
Disability Benefits	464	13,610
Death Benefits	702	11,932
Return of Contributions	3,350	16,171
Medical Benefits	48,325	604,240
Indebtedness	0	(44,151)
Subtotal	122,346	1,730,164
<b>Inactive Members</b>		
Not Vested	\$ 0	\$ 27,730
Vested Terminations		
- Retirement Benefits	0	68,342
- Medical Benefits	0	124,202
- Indebtedness	0	(3,492)
Retirees & Beneficiaries		
- Retirement Benefits	0	2,972,466
- Medical Benefits	0	916,197
Subtotal	0	4,105,445
<b>Totals</b>	<b>\$ 122,346</b>	<b>\$ 5,835,609</b>

### 1.3 Development of Total Employer Contribution Rate – FY06

Normal Cost Rate	In Thousands
(1) Total Normal Cost	\$ 122,346
(2) Total Salaries	532,630
(3) Normal Cost Rate, (1) ÷ (2)	22.97%
(4) Average Member Contribution Rate	8.69%
(5) Employer Normal Cost Rate, (3) – (4)	14.28%
Past Service Rate	
(1) Accrued Liability	\$ 5,835,609
(2) Valuation Assets	3,752,285
(3) Total Unfunded Liability, (1) – (2)	2,083,324
(4) Expected Unfunded Liability	1,749,948
(5) FY03 (Gain)/Loss, (3) – (4)	333,376
(6) Amortization Factor (25 years)	16.246963
(7) FY03 (Gain)/Loss Amortization, (5) ÷ (6)	20,519
(8) Pre-Existing Past Service Cost Amortizations	110,359
(9) Total Amortization Payments, (7) + (8)	130,878
(10) Total Salaries	532,630
(11) Past Service Rate, (9) ÷ (10)	24.57%
<b>Total Employer Contribution Rate</b>	<b>38.85%</b>

### 1.3 Development of Total Employer Contribution Rate – FY06 (continued)

#### Schedule of Past Service Cost Amortizations

Charge	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Left	Initial	Outstanding	
Initial Unfunded Liability	6/30/2002	24	\$ 1,722,606	\$ 1,749,948	\$ 110,359
FY03 Loss	6/30/2003	25	333,376	333,376	20,519
<b>Total</b>				<b>\$ 2,083,324</b>	<b>\$ 130,878</b>

Credit	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Left	Initial	Outstanding	
<b>Total</b>				<b>\$ 0</b>	<b>\$ 0</b>
<b>Total</b>				<b>\$ 2,083,324</b>	<b>\$ 130,878</b>

## 1.4 Development of Actuarial Gain/(Loss) for FY03

	In Thousands
(1) Expected Actuarial Accrued Liability	
(a) Accrued Liability, June 30, 2002	\$ 5,411,642
(b) Normal Cost for FY03	119,567
(c) Interest on (a) and (b) at 8.25%	456,325
(d) Benefit Payments for FY03	310,416
(e) Refund of Contributions for FY03	3,840
(f) Interest on (d) and (e) at 8.25% for one-half year	12,963
(g) Expected Accrued Liability as of June 30, 2003, (a) + (b) + (c) - (d) - (e) - (f)	5,660,315
(2) Actual Accrued Liability, June 30, 2003	5,835,609
<b>(3) Liability Gain/(Loss), (1)(g) - (2)</b>	<b>\$ (175,294)</b>
(4) Expected Actuarial Asset Value	
(a) Actuarial Asset Value, June 30, 2002	3,689,036
(b) Interest on (a) at 8.25%	304,345
(c) Employee Contributions for FY03	55,789
(d) Employer Contributions for FY03	62,856
(e) Interest on (c) and (d) at 8.25% for one-half year	4,895
(f) Benefit Payments for FY03	310,416
(g) Refund of Contributions for FY03	3,840
(h) Interest on (f) and (g) at 8.25% for one-half year	12,963
(i) Expected Actuarial Asset Value, June 30, 2003, (a) + (b) + (c) + (d) + (e) - (f) - (g) - (h)	3,789,702
(5) Actuarial Asset Value, June 30, 2003	3,752,285
<b>(6) Actuarial Asset Gain/(Loss), (5) - (4)(i)</b>	<b>\$ (37,417)</b>
<b>(7) Actuarial Gain/(Loss), (3) + (6)</b>	<b>\$ (212,711)</b>

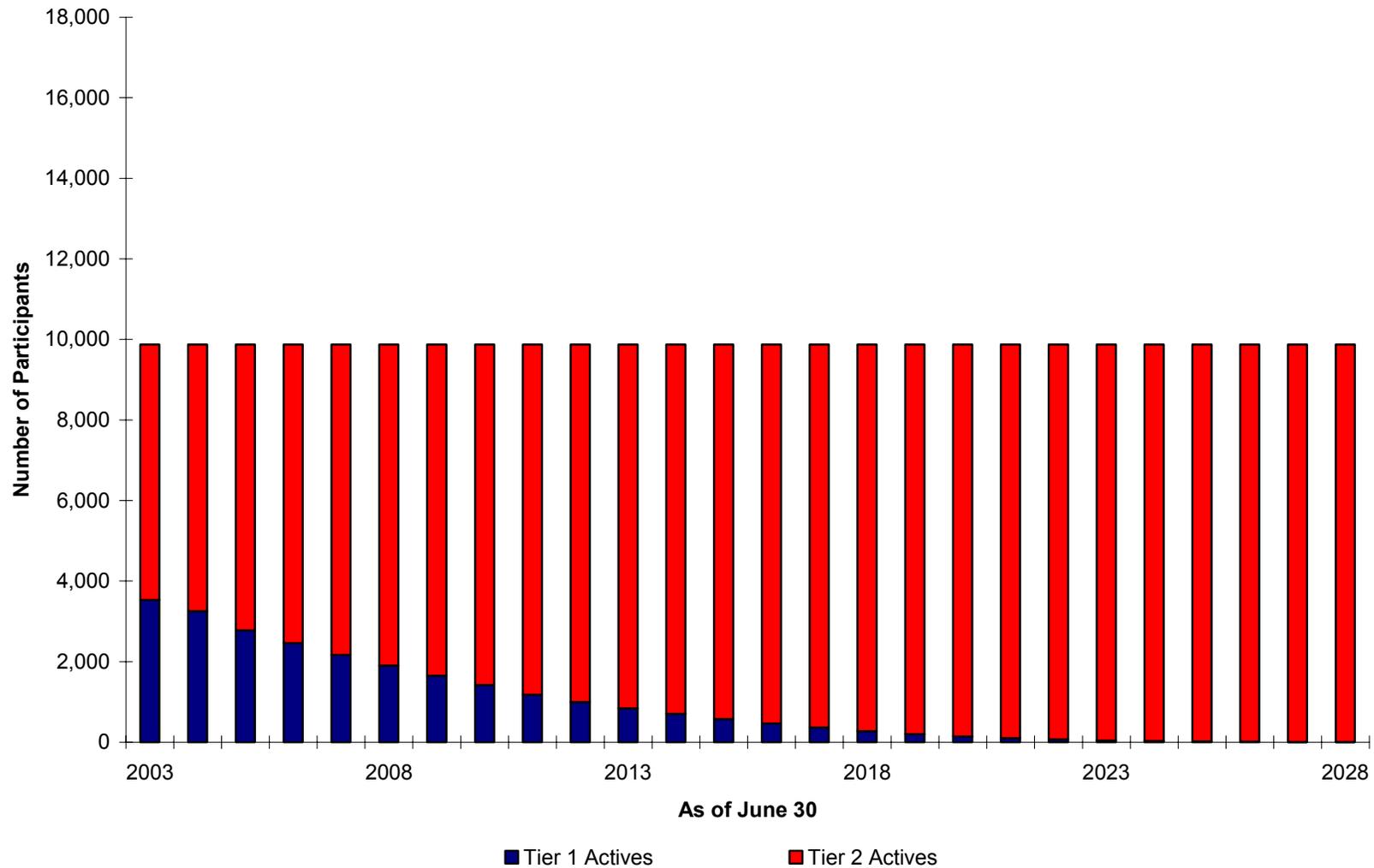
## **1.5(a) Actuarial Projections – Projections at Calculated Rate**

### **Key Assumptions**

- 8.25% investment return in all years, except for Fiscal Year 2004
- 17% investment return for FY04, based on actual return from July 1, 2003 through January 31, 2004
- Actuarial assumptions and methods as described in Section 2.3
- The actuarially calculated contribution rate is adopted each year beginning in FY06
- Annual active population increases of 0%, 1% or 2%
- Profiles of new entrants to System are based on average new entrant profiles from prior 3 years

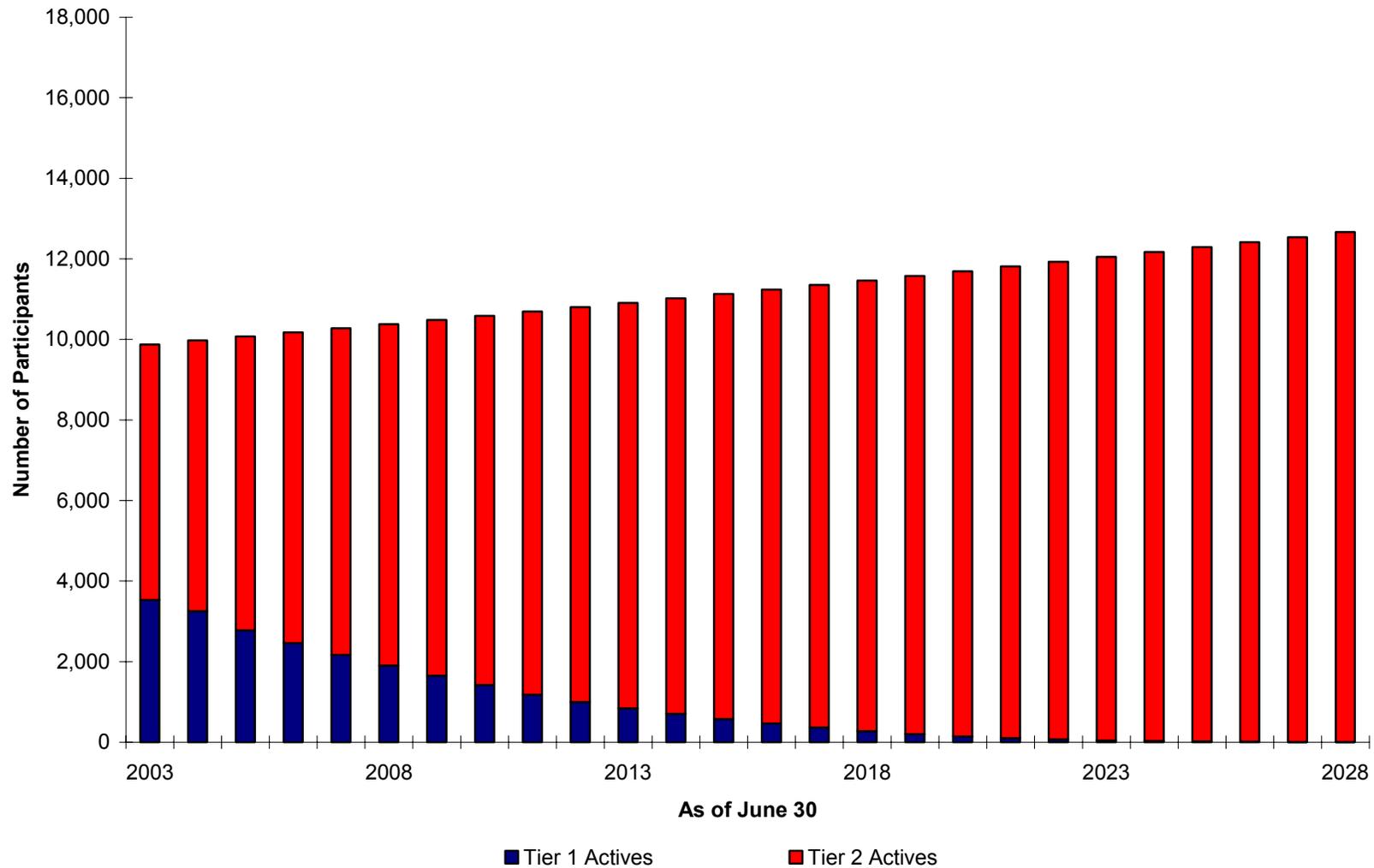
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Active Participant Count  
Annual Population Increase 0%



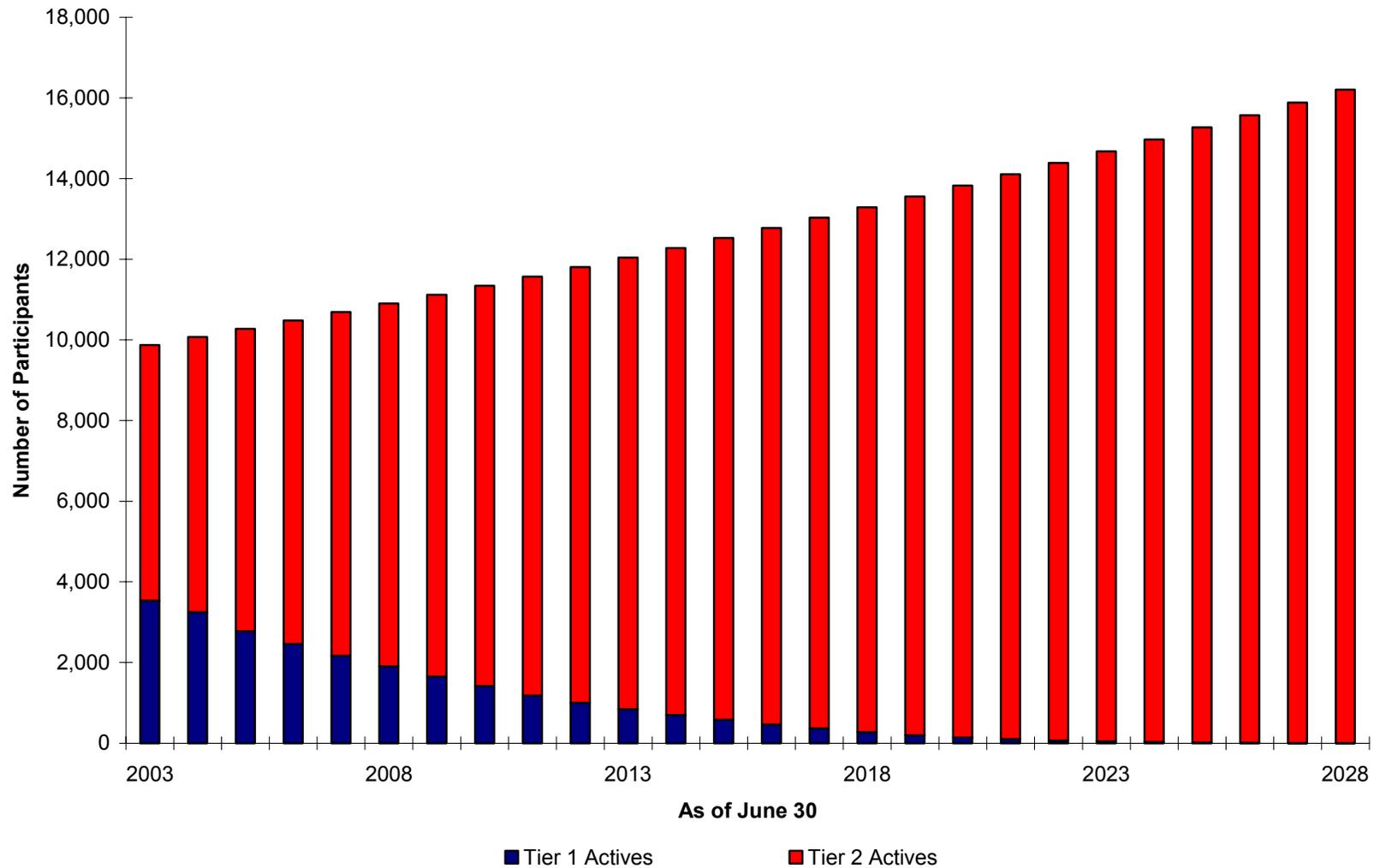
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Active Participant Count  
Annual Population Increase 1%



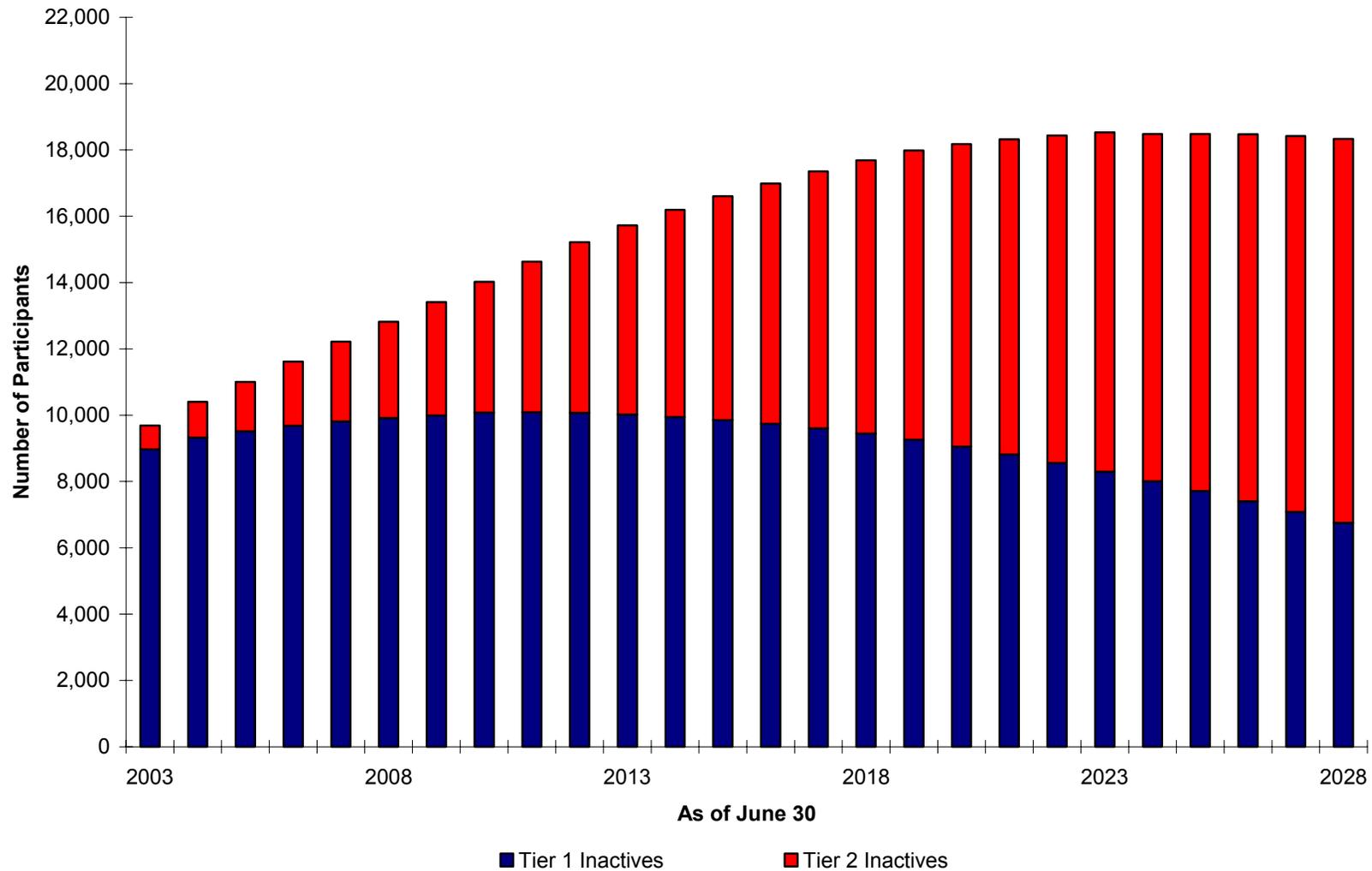
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Active Participant Count  
Annual Population Increase 2%



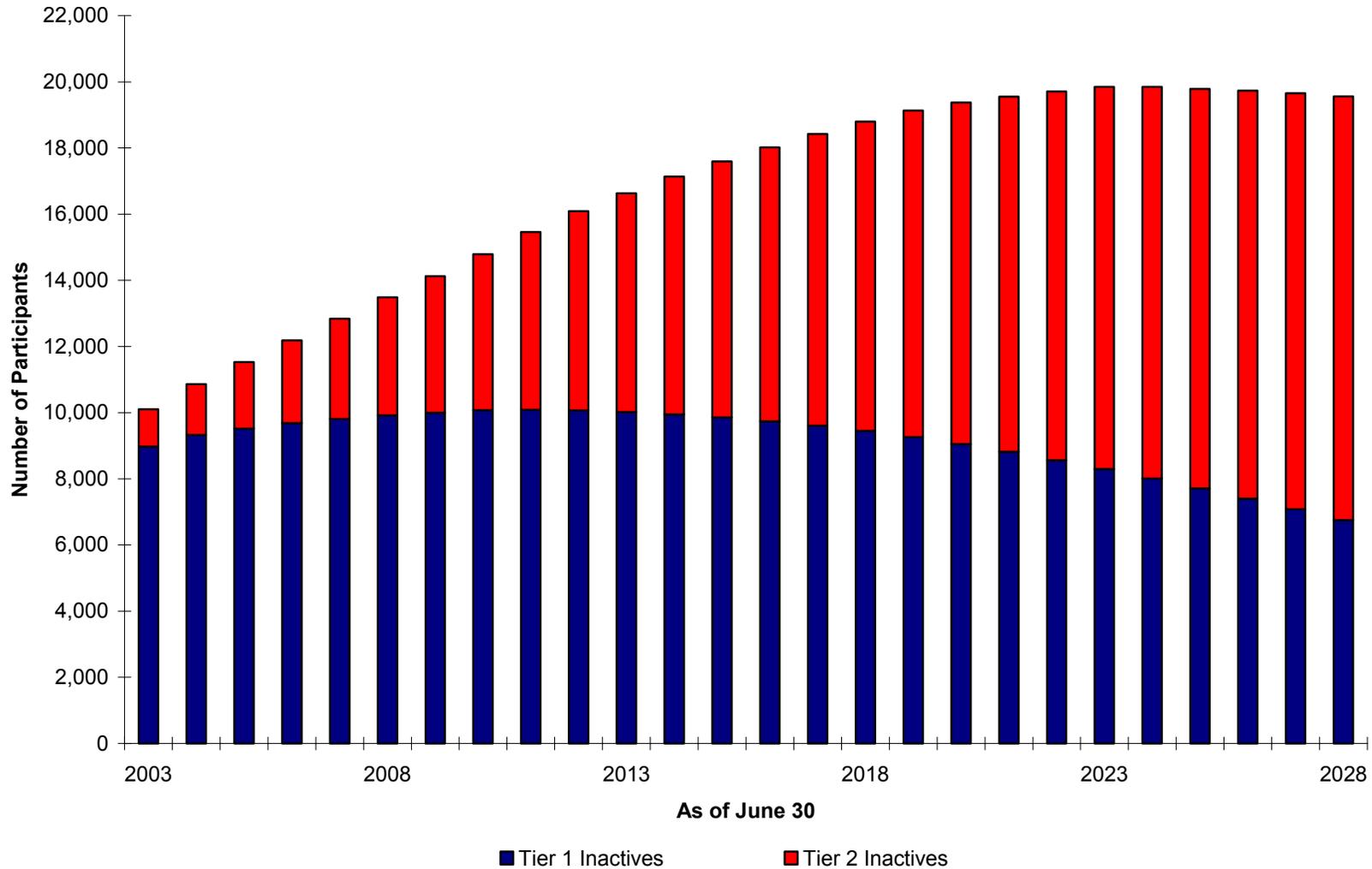
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Inactive Participant Count  
Annual Population Increase 0%



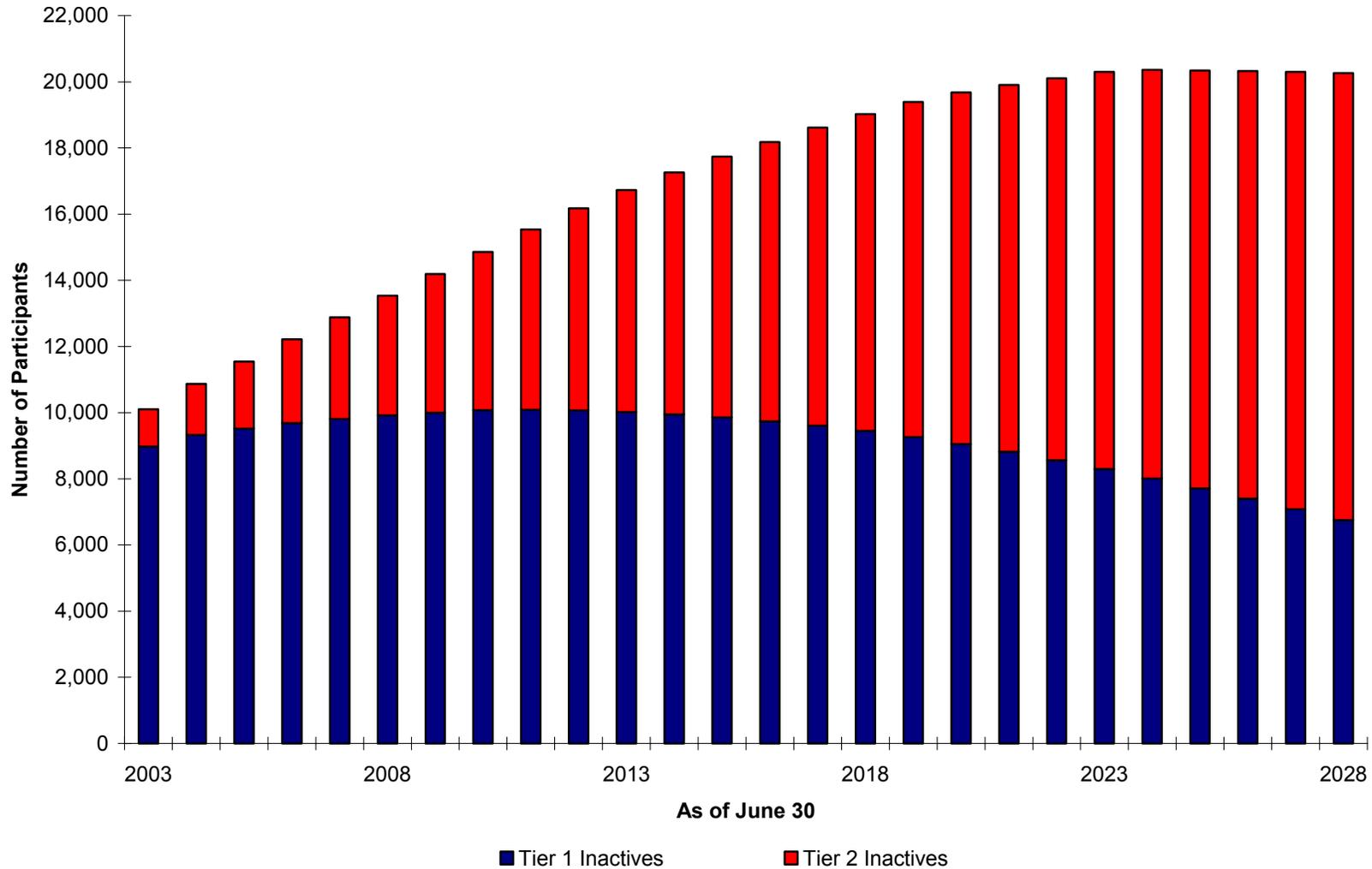
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Inactive Participant Count  
Annual Population Increase 1%



1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Inactive Participant Count  
Annual Population Increase 2%



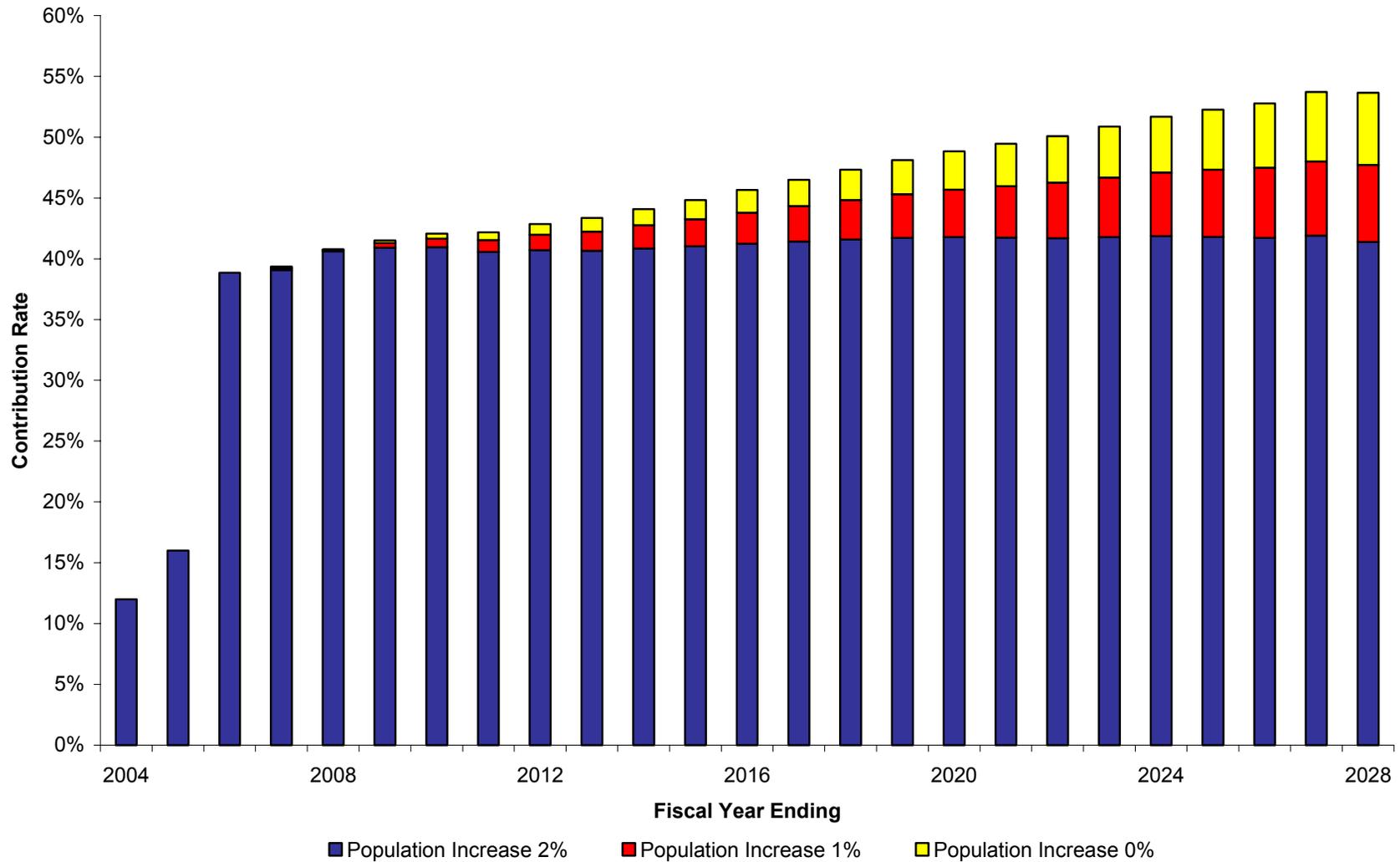
### 1.5(a) Actuarial Projections – Projections at Calculated Rate *(continued)*

#### Observations

- Calculated rates increase under all population scenarios
- Calculated rates begin to decline towards end of the projection period under the 1% and 2% scenarios
- Calculated rates increase to 42% even under the 2% population increase scenario
- Factors contribution to the projected rate increases are:
  - Contributions are less than the actuarially calculated rate for the first 2 years of the projection
  - After the first 2 years, there is still a 2-year lag before calculated rates actually enter the System
  - New entrants enter the System at lower pay levels than the exiting members they are replacing, diluting the pay-off of unfunded liabilities. Because new entrants also add additional liability, each new entrant generates a loss.
- Funding ratios are at least 96% by the end of the 25-year period, under all 3 population scenarios

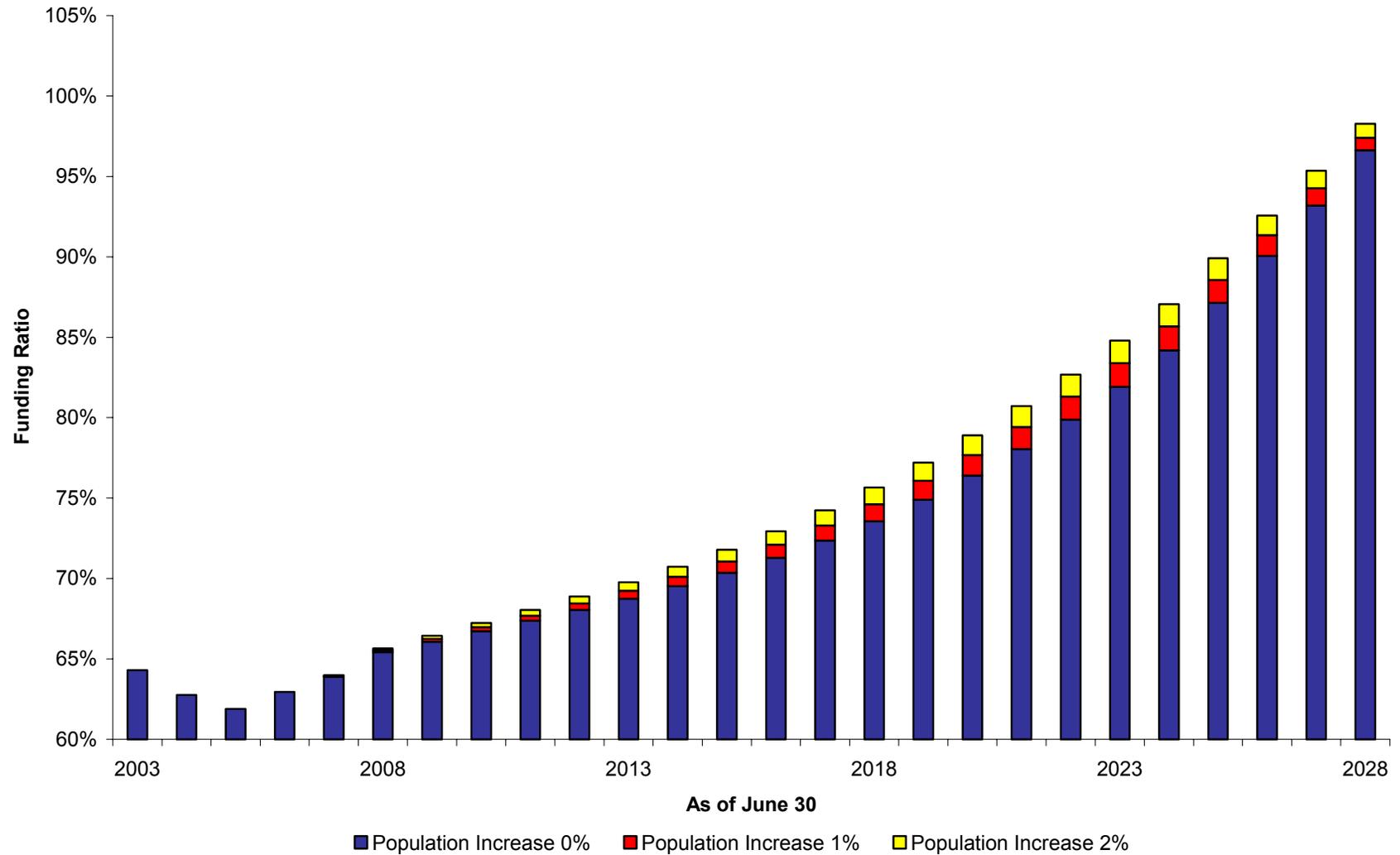
1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Contribution Rates



1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Projected Funding Ratios



## 1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Table 1

State of Alaska TRS  
Financial Projections (in thousands)

Investment Return 8.25%					Annual Population Increase 0.00%									
----- Valuation Amounts on July 1 -----					----- Flow Amounts During Following 12 Months -----								Recognized	Ending
As of June 30	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings	Asset Gain	Actuarial Assets
2003	3,752,285	5,835,609	64.3%	(2,083,324)	532,630	12.00%	63,916	46,286	110,201	350,944	(240,742)	591,982	23,523	4,127,048
2004	3,822,351	6,089,875	62.8%	(2,267,524)	556,132	16.00%	88,981	48,328	137,309	378,310	(241,001)	316,252	23,523	3,921,125
2005	3,921,125	6,334,769	61.9%	(2,413,645)	568,975	38.85%	221,058	49,444	270,502	400,708	(130,205)	327,031	23,523	4,141,473
2006	4,141,473	6,579,652	62.9%	(2,438,180)	577,375	39.06%	225,521	50,174	275,695	424,090	(148,394)	342,518	23,523	4,359,119
2007	4,359,119	6,823,023	63.9%	(2,463,904)	590,015	40.76%	240,479	51,272	291,751	448,025	(156,273)	358,209	60,939	4,621,994
2008	4,621,994	7,064,811	65.4%	(2,442,817)	603,379	41.50%	250,391	52,434	302,825	473,335	(170,511)	374,281	0	4,825,764
2009	4,825,764	7,303,444	66.1%	(2,477,680)	617,765	42.06%	259,860	53,684	313,544	499,783	(186,240)	390,443	0	5,029,968
2010	5,029,968	7,537,607	66.7%	(2,507,640)	633,313	42.17%	267,044	55,035	322,079	528,128	(206,049)	406,473	0	5,230,391
2011	5,230,391	7,763,535	67.4%	(2,533,144)	649,750	42.85%	278,418	56,463	334,882	555,624	(220,742)	422,402	0	5,432,051
2012	5,432,051	7,982,896	68.0%	(2,550,845)	666,447	43.35%	288,885	57,914	346,799	582,374	(235,575)	438,427	0	5,634,902
2013	5,634,902	8,196,415	68.7%	(2,561,512)	684,228	44.08%	301,630	59,459	361,090	607,634	(246,545)	454,709	0	5,843,067
2014	5,843,067	8,405,450	69.5%	(2,562,383)	702,909	44.84%	315,166	61,083	376,249	632,158	(255,909)	471,497	0	6,058,655
2015	6,058,655	8,611,487	70.4%	(2,552,832)	723,135	45.66%	330,162	62,840	393,002	656,180	(263,178)	488,983	0	6,284,460
2016	6,284,460	8,814,836	71.3%	(2,530,375)	744,806	46.50%	346,317	64,724	411,040	678,198	(267,158)	507,448	0	6,524,750
2017	6,524,750	9,016,852	72.4%	(2,492,102)	767,757	47.32%	363,267	66,718	429,985	699,647	(269,662)	527,168	0	6,782,256
2018	6,782,256	9,220,366	73.6%	(2,438,110)	792,083	48.12%	381,137	68,832	449,969	722,442	(272,474)	548,297	0	7,058,080
2019	7,058,080	9,423,429	74.9%	(2,365,349)	817,534	48.83%	399,167	71,044	470,211	744,802	(274,591)	570,965	0	7,354,453
2020	7,354,453	9,626,807	76.4%	(2,272,354)	844,363	49.45%	417,544	73,375	490,919	764,595	(273,676)	595,453	0	7,676,230
2021	7,676,230	9,835,220	78.0%	(2,158,990)	873,415	50.09%	437,479	75,900	513,379	782,591	(269,212)	622,184	0	8,029,202
2022	8,029,202	10,051,673	79.9%	(2,022,471)	905,090	50.87%	460,460	78,652	539,112	802,007	(262,895)	651,565	0	8,417,872
2023	8,417,872	10,275,866	81.9%	(1,857,995)	938,668	51.67%	485,011	81,570	566,581	823,016	(256,435)	683,896	0	8,845,333
2024	8,845,333	10,506,521	84.2%	(1,661,188)	974,342	52.25%	509,097	84,670	593,767	838,688	(244,921)	719,637	0	9,320,049
2025	9,320,049	10,695,314	87.1%	(1,375,265)	1,012,000	52.78%	534,102	87,943	622,045	857,397	(235,352)	759,196	0	9,843,892
2026	9,843,892	10,930,203	90.1%	(1,086,310)	1,051,113	53.71%	564,530	91,342	655,872	877,242	(221,370)	802,990	0	10,425,512
2027	10,425,512	11,186,425	93.2%	(760,913)	1,091,737	53.65%	585,697	94,872	680,569	897,476	(216,907)	851,157	0	11,059,762
2028	11,059,762	11,446,459	96.6%	(386,697)	1,133,931	53.82%	610,242	98,539	708,781	916,746	(207,965)	903,852	0	11,755,649

## 1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Table 2

State of Alaska TRS  
Financial Projections (in thousands)

As of June 30	Investment Return 8.25%				Annual Population Increase 1.00%									
	----- Valuation Amounts on July 1 -----				----- Flow Amounts During Following 12 Months -----								Recognized	Ending
	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings	Asset Gain	Actuarial Assets
2003	3,752,285	5,835,609	64.3%	(2,083,324)	532,630	12.00%	63,916	46,286	110,201	350,944	(240,742)	591,982	23,523	4,127,048
2004	3,822,351	6,089,921	62.8%	(2,267,570)	556,132	16.00%	88,981	48,328	137,309	378,310	(241,001)	316,252	23,523	3,921,125
2005	3,921,125	6,335,870	61.9%	(2,414,746)	573,377	38.85%	222,768	49,826	272,595	400,744	(128,149)	327,115	23,523	4,143,614
2006	4,143,614	6,583,111	62.9%	(2,439,497)	586,635	39.22%	230,080	50,979	281,058	424,193	(143,134)	342,912	23,523	4,366,914
2007	4,366,914	6,830,369	63.9%	(2,463,454)	604,620	40.75%	246,356	52,541	298,898	448,231	(149,334)	359,138	60,939	4,637,658
2008	4,637,658	7,077,875	65.5%	(2,440,218)	623,847	41.29%	257,590	54,212	311,803	473,672	(161,870)	375,930	0	4,851,718
2009	4,851,718	7,324,422	66.2%	(2,472,704)	644,648	41.65%	268,469	56,020	324,489	500,274	(175,785)	393,016	0	5,068,948
2010	5,068,948	7,569,118	67.0%	(2,500,169)	667,202	41.53%	277,087	57,980	335,067	528,795	(193,728)	410,197	0	5,285,417
2011	5,285,417	7,808,690	67.7%	(2,523,272)	691,229	41.98%	290,177	60,068	350,245	556,483	(206,238)	427,540	0	5,506,719
2012	5,506,719	8,045,390	68.4%	(2,538,671)	716,139	42.24%	302,531	62,233	364,764	583,454	(218,690)	445,283	0	5,733,312
2013	5,733,312	8,280,370	69.2%	(2,547,058)	742,797	42.75%	317,570	64,549	382,119	609,070	(226,951)	463,637	0	5,969,998
2014	5,969,998	8,515,355	70.1%	(2,545,357)	771,037	43.25%	333,484	67,003	400,487	634,054	(233,567)	482,890	0	6,219,321
2015	6,219,321	8,752,349	71.1%	(2,533,028)	801,545	43.79%	350,994	69,654	420,649	658,670	(238,021)	503,276	0	6,484,576
2016	6,484,576	8,992,207	72.1%	(2,507,631)	834,288	44.32%	369,779	72,500	442,279	681,438	(239,160)	525,112	0	6,770,528
2017	6,770,528	9,236,885	73.3%	(2,466,357)	869,145	44.83%	389,665	75,529	465,194	703,844	(238,651)	548,724	0	7,080,602
2018	7,080,602	9,489,746	74.6%	(2,409,144)	906,267	45.30%	410,540	78,755	489,295	727,837	(238,542)	574,310	0	7,416,369
2019	7,416,369	9,749,431	76.1%	(2,333,062)	945,445	45.68%	431,833	82,159	513,993	751,588	(237,596)	602,050	0	7,780,823
2020	7,780,823	10,017,495	77.7%	(2,236,671)	986,990	45.96%	453,623	85,769	539,392	772,993	(233,600)	632,282	0	8,179,505
2021	8,179,505	10,299,492	79.4%	(2,119,987)	1,031,829	46.25%	477,229	89,666	566,895	792,856	(225,961)	665,488	0	8,619,032
2022	8,619,032	10,599,300	81.3%	(1,980,268)	1,080,428	46.68%	504,295	93,889	598,184	814,477	(216,292)	702,148	0	9,104,888
2023	9,104,888	10,917,437	83.4%	(1,812,549)	1,132,136	47.08%	533,061	98,383	631,444	838,053	(206,609)	742,631	0	9,640,909
2024	9,640,909	11,253,590	85.7%	(1,612,681)	1,187,212	47.32%	561,783	103,169	664,952	856,624	(191,671)	787,469	0	10,236,707
2025	10,236,707	11,558,848	88.6%	(1,322,142)	1,244,968	47.49%	591,297	108,188	699,484	879,275	(179,791)	837,112	0	10,894,028
2026	10,894,028	11,927,076	91.3%	(1,033,048)	1,305,533	48.01%	626,844	113,451	740,295	903,422	(163,128)	892,028	0	11,622,928
2027	11,622,928	12,329,651	94.3%	(706,722)	1,369,045	47.71%	653,171	118,970	772,141	928,486	(156,344)	952,442	0	12,419,026
2028	12,419,026	12,750,275	97.4%	(331,248)	1,435,647	47.62%	683,590	124,758	808,348	953,088	(144,740)	1,018,599	0	13,292,885

## 1.5(a) Actuarial Projections – Projections at Calculated Rate (continued)

Table 3

State of Alaska TRS  
Financial Projections (in thousands)

As of June 30	Investment Return 8.25%				Annual Population Increase 2.00%								Recognized Asset Gain	Ending Actuarial Assets
	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus* (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings		
	----- Valuation Amounts on July 1 -----				----- Flow Amounts During Following 12 Months -----									
2003	3,752,285	5,835,609	64.3%	(2,083,324)	532,630	12.00%	63,916	46,286	110,201	350,944	(240,742)	591,982	23,523	4,127,048
2004	3,822,351	6,089,968	62.8%	(2,267,617)	556,132	16.00%	88,981	48,328	137,309	378,310	(241,001)	316,252	23,523	3,921,125
2005	3,921,125	6,336,661	61.9%	(2,415,536)	577,778	38.85%	224,479	50,209	274,688	400,780	(126,092)	327,200	23,523	4,145,755
2006	4,145,755	6,585,496	63.0%	(2,439,740)	595,987	39.34%	234,466	51,791	286,257	424,297	(138,040)	343,299	23,523	4,374,537
2007	4,374,537	6,835,398	64.0%	(2,460,861)	619,514	40.62%	251,665	53,836	305,500	448,441	(142,941)	360,031	60,939	4,652,566
2008	4,652,566	7,086,824	65.7%	(2,434,258)	644,925	40.90%	263,783	56,044	319,827	474,017	(154,190)	377,476	0	4,875,853
2009	4,875,853	7,338,846	66.4%	(2,462,993)	672,605	40.95%	275,405	58,449	333,854	500,780	(166,926)	395,372	0	5,104,299
2010	5,104,299	7,590,899	67.2%	(2,486,600)	702,790	40.55%	284,960	61,072	346,032	529,487	(183,455)	413,537	0	5,334,382
2011	5,334,382	7,840,095	68.0%	(2,505,714)	735,215	40.69%	299,194	63,890	363,084	557,384	(194,300)	432,072	0	5,572,154
2012	5,572,154	8,089,136	68.9%	(2,516,982)	769,353	40.66%	312,797	66,857	379,654	584,553	(204,899)	451,251	0	5,818,505
2013	5,818,505	8,339,612	69.8%	(2,521,106)	806,136	40.85%	329,341	70,053	399,394	610,446	(211,052)	471,321	0	6,078,774
2014	6,078,774	8,593,663	70.7%	(2,514,890)	845,443	41.03%	346,886	73,469	420,355	635,774	(215,419)	492,613	0	6,355,967
2015	6,355,967	8,853,817	71.8%	(2,497,849)	888,032	41.23%	366,135	77,170	443,305	660,823	(217,518)	515,395	0	6,653,844
2016	6,653,844	9,121,477	72.9%	(2,467,634)	933,968	41.42%	386,840	81,162	468,002	684,136	(216,135)	540,027	0	6,977,735
2017	6,977,735	9,399,227	74.2%	(2,421,492)	983,213	41.60%	408,975	85,441	494,416	707,236	(212,819)	566,884	0	7,331,800
2018	7,331,800	9,691,030	75.7%	(2,359,230)	1,036,011	41.72%	432,237	90,029	522,266	732,093	(209,827)	596,218	0	7,718,192
2019	7,718,192	9,996,210	77.2%	(2,278,019)	1,092,237	41.77%	456,208	94,915	551,123	756,857	(205,734)	628,264	0	8,140,722
2020	8,140,722	10,317,161	78.9%	(2,176,439)	1,152,307	41.73%	480,836	100,135	580,972	779,450	(198,478)	663,422	0	8,605,667
2021	8,605,667	10,660,343	80.7%	(2,054,676)	1,217,279	41.70%	507,565	105,782	613,346	800,713	(187,367)	702,239	0	9,120,538
2022	9,120,538	11,030,644	82.7%	(1,910,106)	1,287,738	41.78%	538,076	111,904	649,980	824,014	(174,034)	745,266	0	9,691,770
2023	9,691,770	11,429,585	84.8%	(1,737,815)	1,363,168	41.87%	570,736	118,459	689,195	849,564	(160,369)	792,956	0	10,324,357
2024	10,324,357	11,858,005	87.1%	(1,533,648)	1,443,955	41.80%	603,631	125,480	729,110	870,393	(141,283)	845,932	0	11,029,005
2025	11,029,005	12,266,708	89.9%	(1,237,702)	1,530,213	41.71%	638,274	132,976	771,250	896,222	(124,972)	904,738	0	11,808,771
2026	11,808,771	12,756,011	92.6%	(947,240)	1,621,625	41.91%	679,569	140,919	820,488	923,744	(103,256)	969,964	0	12,675,479
2027	12,675,479	13,293,834	95.3%	(618,355)	1,718,497	41.39%	711,260	149,337	860,597	952,577	(91,980)	1,041,933	0	13,625,433
2028	13,625,433	13,865,479	98.3%	(240,047)	1,821,156	41.07%	747,863	158,258	906,122	981,309	(75,187)	1,120,997	0	14,671,242

## 1.5(b) Actuarial Projections – Projections at Current Rate

### Key Assumptions

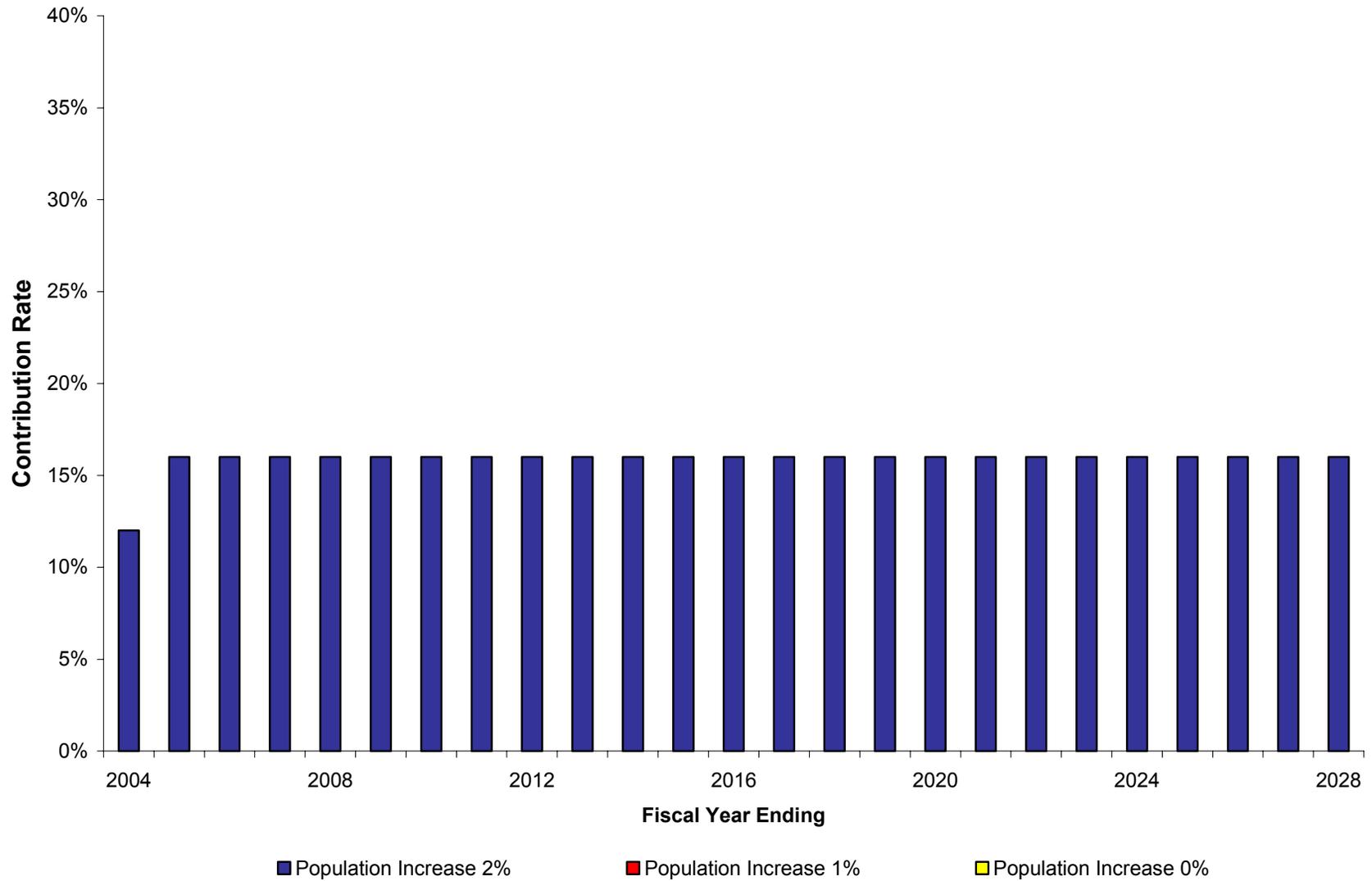
- All assumptions and methods are the same as Section 1.5(a), except:
  - Adopted contribution rate is maintained at the FY05 level for all future years

### Observations

- System funding deteriorates under all three population scenarios
- Actuarially calculated rates escalate under all population scenarios
- Assuming 1% population growth, actuarially calculated rates increase to more than 100%, while the funding ratio decreases to 0% by the end of the projection period

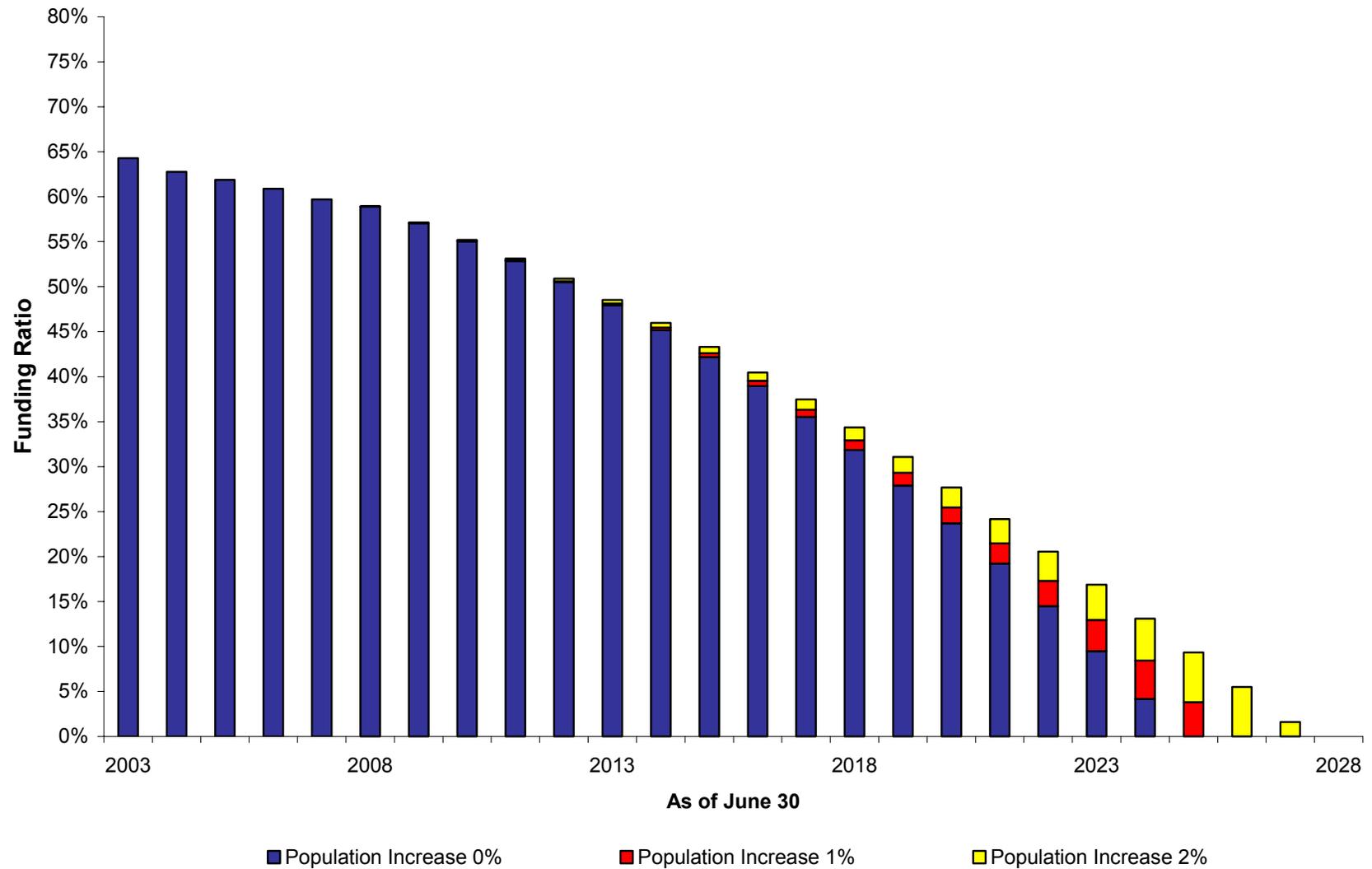
1.5(b) Actuarial Projections – Projections at Current Rate (continued)

Contribution Rate



1.5(b) Actuarial Projections – Projections at Current Rate (continued)

Funding Ratio



## 1.5(b) Actuarial Projections – Projections at Current Rate (continued)

Table 4

State of Alaska TRS  
Financial Projections (in thousands)

Investment Return 8.25%					Annual Population Increase 1.00%									
----- Valuation Amounts on July 1 -----					----- Flow Amounts During Following 12 Months -----								Recognized	Ending
As of June 30	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus (Deficit)	Total Salaries	Employer Ctb Rate	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings	Asset Gain	Actuarial Assets
2003	3,752,285	5,835,609	64.3%	(2,083,324)	532,630	12.00%	63,916	46,286	110,201	350,944	(240,742)	591,982	23,523	4,127,048
2004	3,822,351	6,089,921	62.8%	(2,267,570)	556,132	16.00%	88,981	48,328	137,309	378,310	(241,001)	316,252	23,523	3,921,125
2005	3,921,125	6,335,870	61.9%	(2,414,746)	573,377	16.00%	91,740	49,826	141,567	400,744	(259,177)	321,710	23,523	4,007,181
2006	4,007,181	6,583,111	60.9%	(2,575,930)	586,635	16.00%	93,862	50,979	144,840	424,193	(279,353)	326,037	23,523	4,077,388
2007	4,077,388	6,830,369	59.7%	(2,752,981)	604,620	16.00%	96,739	52,541	149,281	448,231	(298,951)	329,080	60,939	4,168,457
2008	4,168,457	7,077,875	58.9%	(2,909,418)	623,847	16.00%	99,815	54,212	154,028	473,672	(319,644)	330,712	0	4,179,525
2009	4,179,525	7,324,422	57.1%	(3,144,897)	644,648	16.00%	103,144	56,020	159,164	500,274	(341,111)	330,740	0	4,169,154
2010	4,169,154	7,569,118	55.1%	(3,399,963)	667,202	16.00%	106,752	57,980	164,732	528,795	(364,062)	328,938	0	4,134,030
2011	4,134,030	7,808,690	52.9%	(3,674,660)	691,229	16.00%	110,597	60,068	170,664	556,483	(385,819)	325,142	0	4,073,353
2012	4,073,353	8,045,390	50.6%	(3,972,037)	716,139	16.00%	114,582	62,233	176,815	583,454	(406,639)	319,278	0	3,985,992
2013	3,985,992	8,280,370	48.1%	(4,294,378)	742,797	16.00%	118,848	64,549	183,397	609,070	(425,674)	311,285	0	3,871,604
2014	3,871,604	8,515,355	45.5%	(4,643,751)	771,037	16.00%	123,366	67,003	190,369	634,054	(443,685)	301,105	0	3,729,024
2015	3,729,024	8,752,349	42.6%	(5,023,325)	801,545	16.00%	128,247	69,654	197,902	658,670	(460,768)	288,638	0	3,556,894
2016	3,556,894	8,992,207	39.6%	(5,435,313)	834,288	16.00%	133,486	72,500	205,986	681,438	(475,452)	273,831	0	3,355,273
2017	3,355,273	9,236,885	36.3%	(5,881,612)	869,145	16.00%	139,063	75,529	214,592	703,844	(489,252)	256,628	0	3,122,649
2018	3,122,649	9,489,746	32.9%	(6,367,097)	906,267	16.00%	145,003	78,755	223,757	727,837	(504,080)	236,825	0	2,855,395
2019	2,855,395	9,749,431	29.3%	(6,894,036)	945,445	16.00%	151,271	82,159	233,430	751,588	(518,158)	214,196	0	2,551,433
2020	2,551,433	10,017,495	25.5%	(7,466,061)	986,990	16.00%	157,918	85,769	243,688	772,993	(529,305)	188,659	0	2,210,788
2021	2,210,788	10,299,492	21.5%	(8,088,704)	1,031,829	16.00%	165,093	89,666	254,759	792,856	(538,098)	160,193	0	1,832,884
2022	1,832,884	10,599,300	17.3%	(8,766,416)	1,080,428	16.00%	172,868	93,889	266,758	814,477	(547,719)	128,619	0	1,413,784
2023	1,413,784	10,917,437	12.9%	(9,503,652)	1,132,136	16.00%	181,142	98,383	279,524	838,053	(558,529)	93,598	0	948,854
2024	948,854	11,253,590	8.4%	(10,304,736)	1,187,212	16.00%	189,954	103,169	293,123	856,624	(563,501)	55,036	0	440,389
2025	440,389	11,558,848	3.8%	(11,118,460)	1,245,623	16.00%	199,300	108,245	307,544	879,275	(571,731)	12,748	0	0
2026	0	11,927,076	0.0%	(11,927,076)	1,306,908	16.00%	209,105	113,570	322,675	903,422	(580,747)	0	0	0
2027	0	12,329,651	0.0%	(12,329,651)	1,371,207	16.00%	219,393	119,158	338,551	928,486	(589,935)	0	0	0
2028	0	12,750,275	0.0%	(12,750,275)	1,438,671	16.00%	230,187	125,020	355,208	953,088	(597,880)	0	0	0

## 1.5(c) Actuarial Projections – Effect of Economic Scenarios

### Key Assumptions

- All assumptions and methods are the same as Section 1.5(a) except:
  - Results are shown only under the 1% population growth scenario
  - The actuarially calculated contribution rate is adopted in each year, beginning in FY06
  - Investment returns are assumed as follows:

**Total Portfolio Investment Return Under Each Scenario**

Year Ending June 30	Base Case	Growth	Prolonged Recession
2004	17.00%	17.00%	17.00%
2005	8.25%	10.00%	-3.50%
2006	8.25%	10.00%	-3.50%
2007	8.25%	9.50%	2.10%
2008	8.25%	9.00%	7.75%
2009	8.25%	8.25%	7.75%
2010	8.25%	8.25%	7.75%
2011	8.25%	8.25%	7.75%
2012	8.25%	8.25%	7.75%
2013	8.25%	8.25%	7.75%
2014	8.25%	8.25%	7.75%
2015	8.25%	8.25%	7.75%
2016	8.25%	8.25%	7.75%
2017	8.25%	8.25%	7.75%
2018	8.25%	8.25%	7.75%
2019	8.25%	8.25%	7.75%
2020	8.25%	8.25%	7.75%
2021	8.25%	8.25%	7.75%
2022	8.25%	8.25%	7.75%
2023	8.25%	8.25%	7.75%
2024	8.25%	8.25%	7.75%
2025	8.25%	8.25%	7.75%
2026	8.25%	8.25%	7.75%
2027	8.25%	8.25%	7.75%
2028	8.25%	8.25%	7.75%

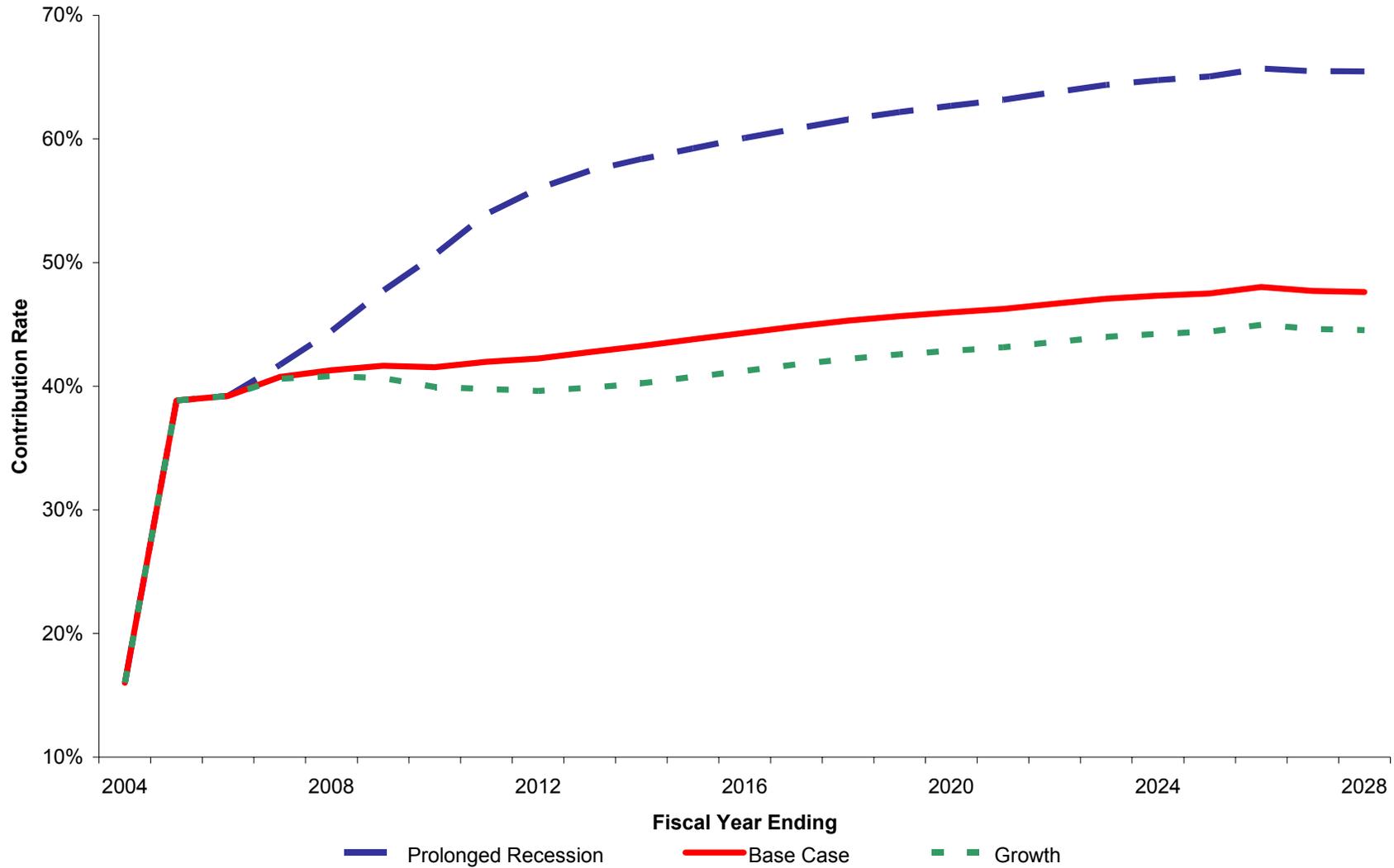
### **1.5(c) Actuarial Projections – Effect of Economic Scenarios**

#### **Observations**

- System funding improves within a few years, except under a prolonged recession
- Actuarially calculated rates escalate rapidly under a recessionary scenario

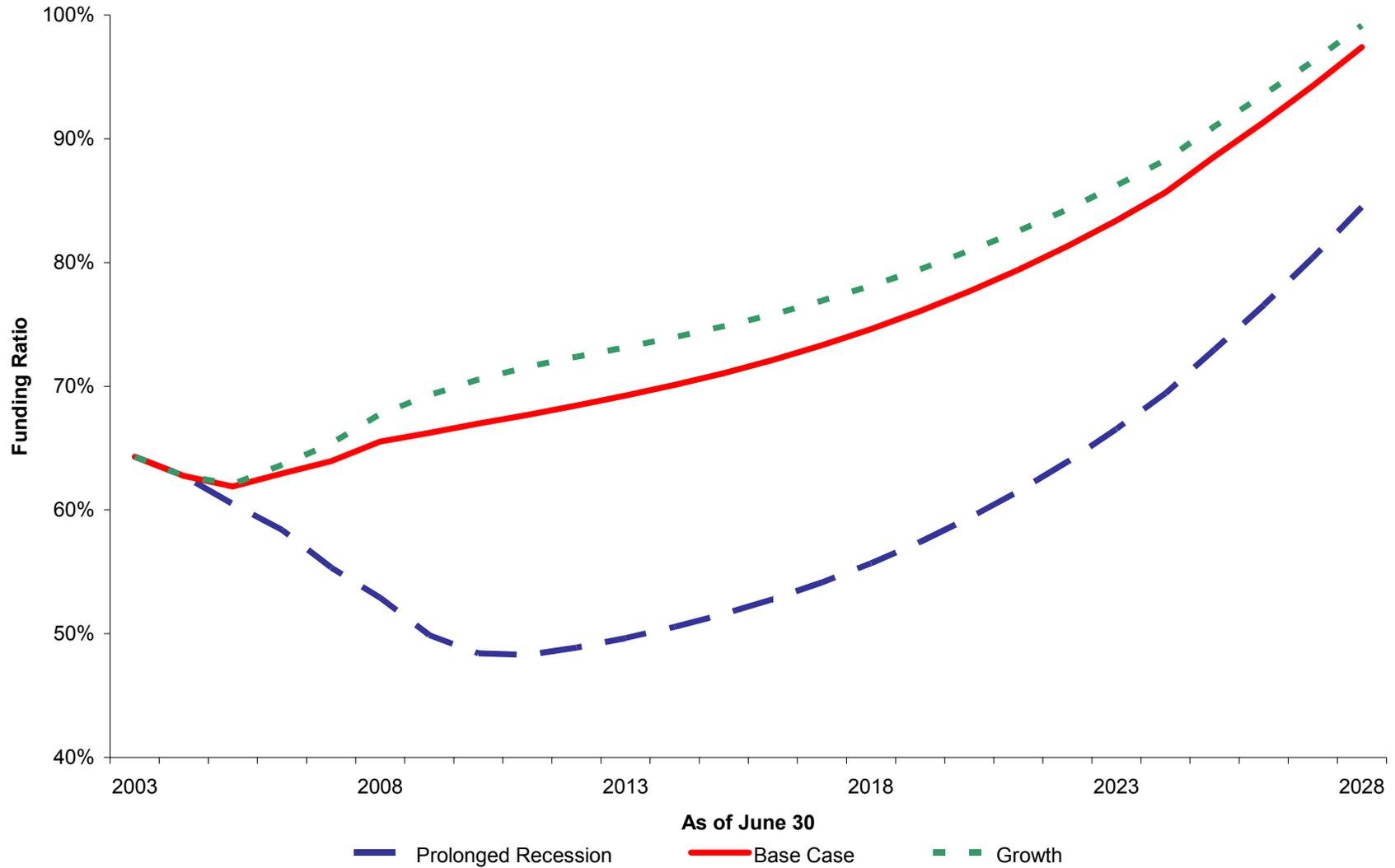
1.5(c) Actuarial Projections – Effect of Economic Scenarios (continued)

Contribution Rate



1.5(c) Actuarial Projections – Effect of Economic Scenarios (continued)

Funding Ratio



## **Section 2**

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, or 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 July 1, 2003. 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, adopts 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) Employers Included**

Currently, there are 57 employers participating in the TRS, including the State of Alaska and 56 school districts and other eligible organizations.

### **(4) 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;
- positions requiring a teaching certificate as a condition of employment in the Department of Education and Early Development and the Department of Labor and Workforce Development;
- 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;
- certain State legislators who have elected to be covered under the TRS; and
- a teacher who has filed for worker's compensation benefits due to an on the job assault and who, as a result of the physical injury, is placed on leave without pay.

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

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.

### **(5) 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. Part-time members receive membership credit for each day in proportion to full-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.

### **(6) Employer Contributions**

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

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

The consolidated rate is a uniform rate for all participating employers, amortized to include future service liabilities (less the value of members' contributions) for the members' future service.

The past service rate is determined separately for each employer to amortize their unfunded past service liability with payments that are level as a percentage of pay over fixed 25-year periods. Effective June 30, 1996, funding surpluses are amortized over 25 years.

### **(7) 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. Supplemental contributions are deducted from gross salaries before federal income taxes are withheld. 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.

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.

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

### **(8) Retirement Benefits**

Eligibility:

- (a) Members, including deferred vested members, are eligible for normal retirement at age 60<sup>3</sup>, 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;
  - (v) two years of paid-up membership service if they are vested in the Public Employees' Retirement System (PERS); or
  - (vi) one year of paid-up membership service if they are retired from the 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.

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<sup>3</sup> 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)**

Members may 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 refund 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.

### **(9) Reemployment of Retired Members**

Retirees who return to work in a permanent full-time or part-time TRS position after a Normal Retirement have two options available, the Standard Option or the Waiver Option.

Under the Standard Option, 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.

If an Alaska school district has established that there is a shortage of teachers in a particular discipline or specialty and has passed a resolution to that effect, a retiree returning to work in a permanent full-time or part-time TRS position with that school district may exercise the Waiver Option. The Waiver Option allows a retiree who retired under a Normal Retirement to reemploy with a TRS employer and continue to receive a retirement benefit by signing a waiver of participation in the TRS. The Waiver Option became effective July 1, 2001 and applies to reemployment periods after that date.

The Waiver Option is not available to members who retired early or under the Retirement Incentive Program (RIP).

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

Members retired under the RIP who return to employment under the TRS, Public Employees' Retirement System (PERS), Judicial Retirement System (JRS) 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.

### **(10) Postemployment Healthcare Benefits**

When pension benefits begin, major medical benefits are provided by the TRS to (1) all employees first hired before July 1, 1990, and (2) members who have twenty-five years of membership service, are disabled or age sixty or older, regardless of their initial hire dates. Employees first hired after June 30, 1990, may receive major medical benefits prior to age sixty by paying premiums.

### **(11) 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.

### **(12) 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.

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

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.

- (d) 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.
- (e) 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 and the member's last benefit check.

### **(13) 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.

In a year where an Ad Hoc PRPA is granted, eligible recipients will receive the higher of the two calculations.

### **(14) 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 – Total TRS

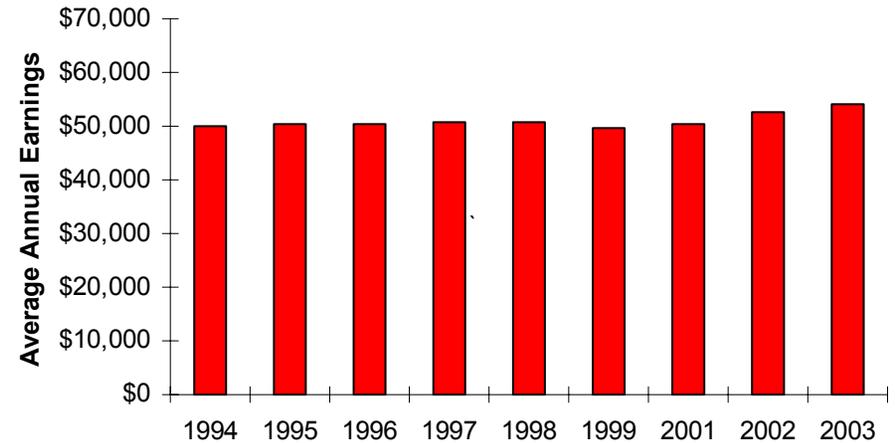
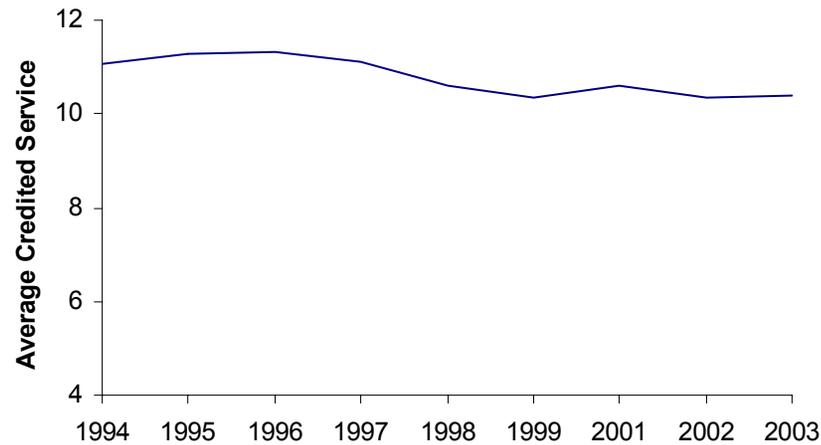
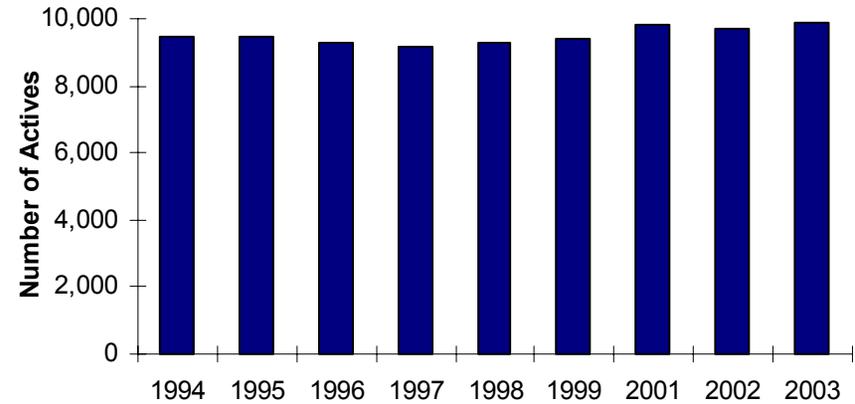
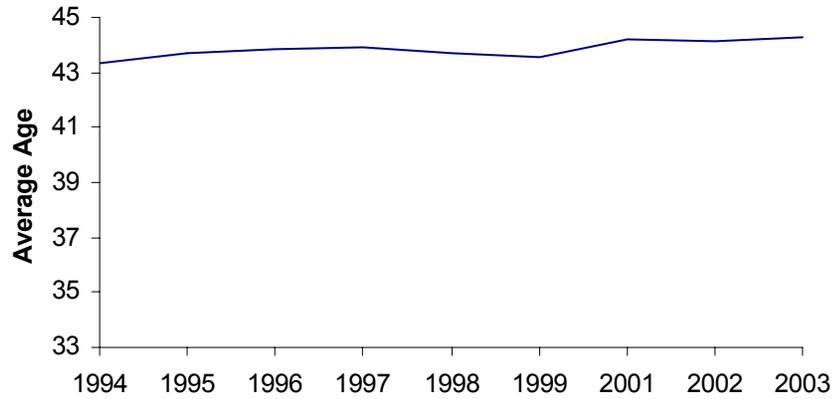
As of June 30	1998	1999	2001	2002	2003
<b>Active Members</b>					
(1) Number	9,262	9,396	9,815	9,690	9,873
(2) Average Age	43.69	43.56	44.19	44.15	44.28
(3) Average Credited Service	10.62	10.34	10.62	10.33	10.39
(4) Average Annual Earnings	\$ 50,684	\$ 49,640	\$ 50,554	\$ 52,535	\$ 53,948
(5) Number Vested	5,285	5,256	5,499	5,224	5,289
(6) Percent Who Are Vested	57.1%	55.9%	56.0%	53.9%	53.6%
<b>Retirees and Beneficiaries</b>					
(1) Number	5,979	6,486	7,333	7,804	8,312
(2) Average Age	62.67	62.74	63.17	63.30	63.60
(3) Average Monthly Benefit:					
Base	\$ 1,819	\$ 1,859	\$ 1,903	\$ 1,936	\$ 1,983
C.O.L.A.	115	118	119	122	125
P.R.P.A.	431	411	448	474	455
Adjustment	1	0	0	0	0
Total	2,366	2,388	2,470	2,532	2,563
<b>Vested Terminations</b>					
(1) Number	1,064	1,150	767	783	708
(2) Average Age	49.59	49.89	49.15	48.97	48.57
(3) Average Monthly Benefit	\$ 1,397	\$ 1,447	\$ 1,217	\$ 1,129	\$ 974
<b>Non-Vested Terminations With Account Balances</b>					
(1) Number	1,285	1,297	2,207	2,447 <sup>4</sup>	2,327
(2) Average Account Balance	\$ 12,437	\$ 13,108	\$ 10,142	\$ 10,964	\$ 11,916

<sup>4</sup> Includes deceased participants with account balances.

**2.2(a) Participant Census Information – Total TRS (continued)**

<b>As of June 30, 2003</b>	<b>Tier 1</b>	<b>Tier 2</b>	<b>Total</b>
<b>Retirees and Beneficiaries</b>			
(1) Number	8,188	124	8,312
(2) Average Age	63.58	60.19	63.60
(3) Average Monthly Benefit:			
Base	\$ 1,994	\$ 1,218	\$ 1,983
C.O.L.A.	126	36	125
P.R.P.A.	462	34	455
Adjustment	0	0	0
Total	2,582	1,288	2,563

2.2(a) Participant Census Information – TRS Active Members at June 30 (continued)



## 2.2(b) Distribution of Active Participants

Annual Earnings by Age				Annual Earnings by Credited Service			
Age	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	137	\$ 5,142,667	\$ 37,538
20 – 24	144	5,289,692	36,734	1	891	36,506,554	40,973
25 – 29	736	29,964,456	40,713	2	678	29,129,132	42,963
30 – 34	1,227	54,790,028	44,654	3	569	25,005,725	43,947
35 – 39	1,226	60,665,497	49,482	4	572	25,999,520	45,454
40 – 44	1,482	79,324,500	53,525	0 – 4	2,847	121,783,598	42,776
45 – 49	1,839	104,424,035	56,783	5 – 9	2,436	122,422,252	50,255
50 – 54	1,922	114,429,295	59,537	10 – 14	1,856	107,123,013	57,717
55 – 59	953	60,569,331	63,556	15 – 19	1,349	85,573,158	63,435
60 – 64	289	19,467,740	67,362	20 – 24	918	61,727,984	67,241
65 – 69	48	3,124,587	65,096	25 – 29	353	25,100,898	71,107
70 – 74	6	526,750	87,792	30 – 34	90	6,766,880	75,188
75+	1	54,305	54,305	35 – 39	22	1,889,102	85,868
				40+	2	243,331	121,666
Total	9,873	\$532,630,216	\$ 53,948	Total	9,873	\$532,630,216	\$ 53,948

## 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	143	1	0	0	0	0	0	0	0	144
25 – 29	628	108	0	0	0	0	0	0	0	736
30 – 34	634	535	58	0	0	0	0	0	0	1,227
35 – 39	360	477	351	38	0	0	0	0	0	1,226
40 – 44	332	375	422	288	65	0	0	0	0	1,482
45 – 49	299	381	392	425	298	44	0	0	0	1,839
50 – 54	270	331	399	369	345	182	26	0	0	1,922
55 – 59	131	169	180	168	160	91	47	7	0	953
60 – 64	44	53	48	52	38	29	13	12	0	289
65 – 69	6	5	5	6	12	7	4	2	1	48
70 – 74	0	1	0	3	0	0	0	1	1	6
75+	0	0	1	0	0	0	0	0	0	1
Total	2,847	2,436	1,856	1,349	918	353	90	22	2	9,873

**2.2(c) Schedule of Active Member Valuation Data**

<b>Valuation Date</b>	<b>Number</b>	<b>Annual Earnings (000's)</b>	<b>Annual Average Earnings</b>	<b>Percent Increase/ (Decrease) in Average Earnings</b>	<b>Number of Participating Employers</b>
June 30, 2003	9,873	\$ 532,630	\$ 53,948	2.7%	57
June 30, 2002	9,690	509,064	52,535	3.9%	57
June 30, 2001	9,815	496,188	50,544	1.8%	60
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

**2.2(d) Statistics on New Benefit Recipients**

<b>During the Year Ending June 30</b>	<b>1998</b>	<b>1999</b>	<b>2000/2001</b>	<b>2002</b>	<b>2003</b>
<b>Service</b>					
(1) Number	657	525	967	529	548
(2) Average Age at Commencement	53.09	53.85	53.88	54.80	55.13
(3) Average Monthly Benefit	\$ 2,551	\$ 2,521	\$ 2,303	\$ 2,556	\$ 2,751
<b>Survivor (including surviving spouse and QDROs)</b>					
(1) Number	47	56	70	50	43
(2) Average Age at Commencement	61.39	58.11	60.66	65.09	60.60
(3) Average Monthly Benefit	\$ 1,128	\$ 1,095	\$ 1,286	\$ 1,270	\$ 1,242
<b>Disability</b>					
(1) Number	9	17	20	10	8
(2) Average Age at Commencement	44.96	48.51	50.78	48.28	47.76
(3) Average Monthly Benefit	\$ 2,065	\$ 2,577	\$ 3,068	\$ 2,800	\$ 3,635
<b>Total</b>					
(1) Number	713	598	1,057	589	599
(2) Average Age at Commencement	53.52	54.10	54.25	55.56	55.42
(3) Average Monthly Benefit	\$ 2,451	\$ 2,389	\$ 2,238	\$ 2,451	\$ 2,654

**2.2(e) Schedule of Average Benefit Payments – New Benefit Recipients**

	Years of Credited Service						
	0 - 4	5 - 9	10 - 14	15 - 19	20 - 24	25 - 29	30+
Period 7/1/02 - 6/30/03:							
Average Monthly Benefit	\$ 236	\$ 899	\$ 1,153	\$ 2,350	\$ 2,835	\$ 3,969	\$ 5,133
Number of Recipients	16	40	69	91	264	87	32
Period 7/1/01 - 6/30/02:							
Average Monthly Benefit	\$ 532	\$ 795	\$ 1,168	\$ 1,706	\$ 2,455	\$ 3,126	\$ 3,915
Number of Recipients	4	36	62	78	180	137	92
Period 7/1/99 - 6/30/01:							
Average Monthly Benefit	\$ 1,514	\$ 1,021	\$ 1,488	\$ 1,935	\$ 2,435	\$ 2,551	\$ 2,864
Number of Recipients	2	33	101	237	374	201	109
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 Recipients	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 Recipients	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 Recipients	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 Recipients	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 Recipients	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 Recipients	7	11	35	24	107	72	24

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

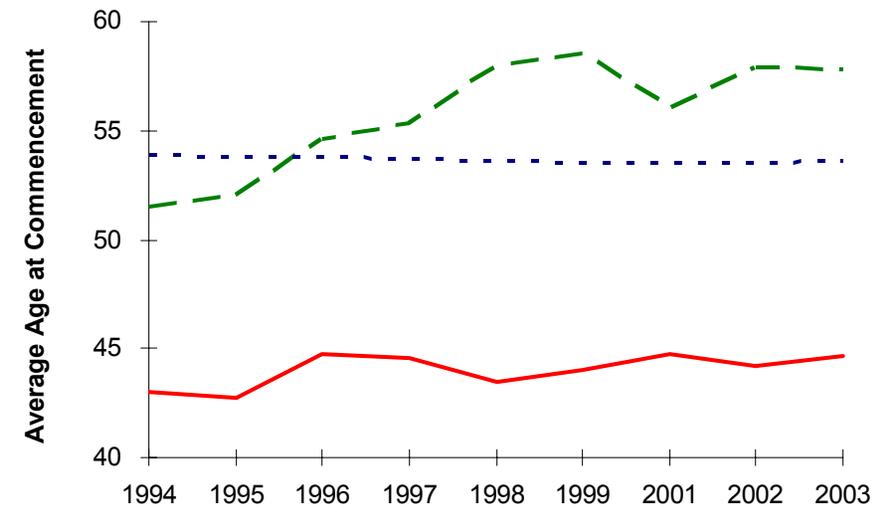
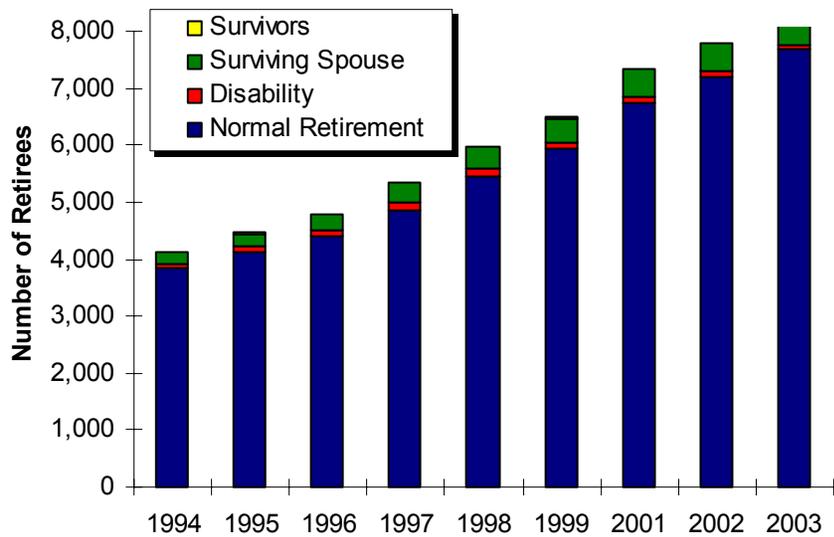
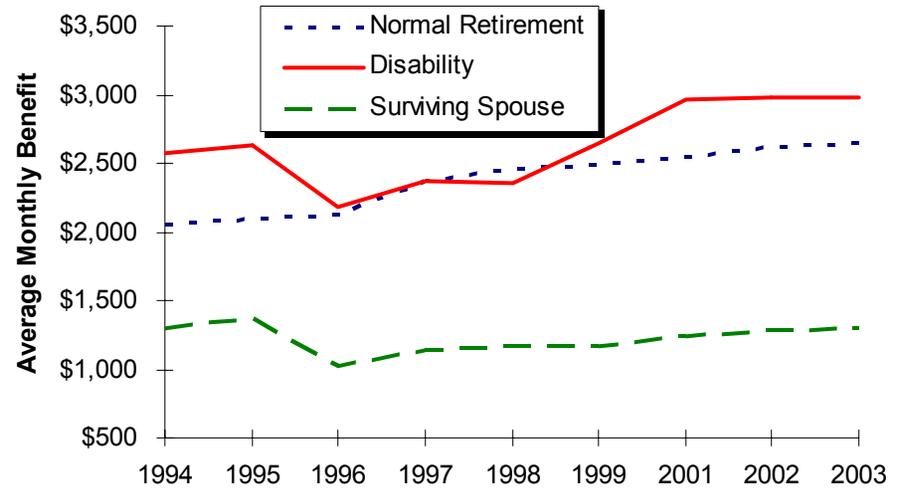
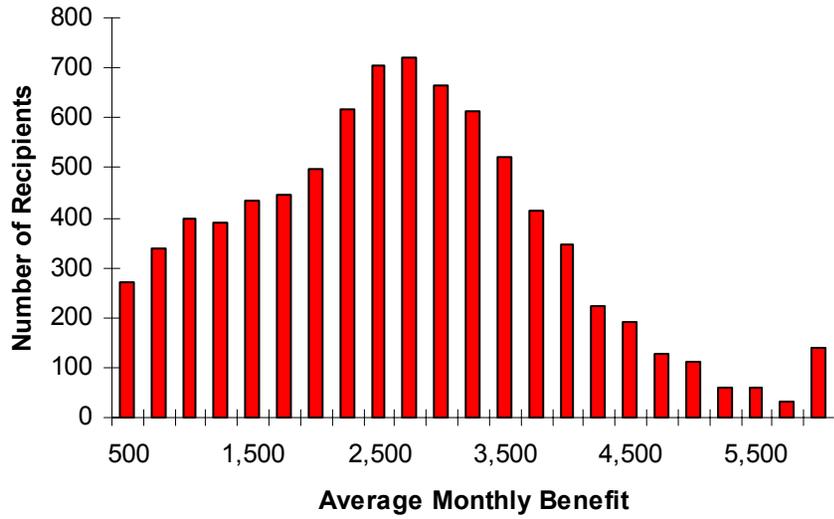
**2.2(f) Statistics on All Benefit Recipients**

<b>As of June 30</b>	<b>1998</b>	<b>1999</b>	<b>2000/2001</b>	<b>2002</b>	<b>2003</b>
<b>Service</b>					
(1) Number, Fiscal Year Start	4,873	5,467	5,924	6,754	7,201
(2) Net Change	594	457	830	447	479
(3) Number, Fiscal Year End	5,467	5,924	6,754	7,201	7,680
(4) Average Age at Commencement	53.57	53.55	53.52	53.53	53.64
(5) Average Age Now	62.69	62.73	63.12	63.27	63.50
(6) Average Monthly Benefit	\$ 2,451	\$ 2,479	\$ 2,549	\$ 2,618	\$ 2,648
<b>Surviving Spouse's Benefits (Includes QDROs)</b>					
(1) Number, Fiscal Year Start	334	382	414	469	501
(2) Net Change	48	32	55	32	48
(3) Number, Fiscal Year End	382	414	469	501	549
(4) Average Age at Commencement	57.95	58.55	56.06	57.86	57.78
(5) Average Age Now	66.59	67.32	66.48	66.88	66.96
(6) Average Monthly Benefit	\$ 1,173	\$ 1,168	\$ 1,246	\$ 1,279	\$ 1,297
<b>Survivor's Benefits (other than spouses)</b>					
(1) Number, Fiscal Year Start	3	6	37	9 <sup>5</sup>	17
(2) Net Change	3	31	(28)	8	(16)
(3) Number, Fiscal Year End	6	37	9 <sup>5</sup>	17	1
(4) Average Age at Commencement	33.76	41.55	49.80	46.06	49.77
(5) Average Age Now	47.04	45.48	54.66	53.71	51.35
(6) Average Monthly Benefit	\$ 464	\$ 684	\$ 545	\$ 549	\$ 1,113
<b>Disabilities</b>					
(1) Number, Fiscal Year Start	133	124	111	101	85
(2) Net Change	(9)	(13)	(10)	(16)	(3)
(3) Number, Fiscal Year End	124	111	101	85	82
(4) Average Age at Commencement	43.44	44.03	44.72	44.22	44.68
(5) Average Age Now	50.81	51.56	52.04	50.95	51.21
(6) Average Monthly Benefit	\$ 2,361	\$ 2,644	\$ 2,969 <sup>6</sup>	\$ 2,974 <sup>6</sup>	\$ 2,976 <sup>6</sup>
<b>Total Number of Benefit Recipients</b>	<b>5,979</b>	<b>6,486</b>	<b>7,333</b>	<b>7,804</b>	<b>8,312</b>

<sup>5</sup> Includes surviving dependents only. In 1999 all dependents were included.

<sup>6</sup> Includes benefit increases due to dependents.

2.2(f) Statistics on All Benefit Recipients (continued)



## 2.2(g) Distribution of Annual Benefits for Benefit Recipients

Annual Benefit by Age				Annual Benefit by Years Since Commencement			
Age	Number of People	Total Annual Benefit	Average Annual Benefit	Years Since Commencement	Number of People	Total Annual Benefit	Average Annual Benefit
0 – 19	1	\$ 18,469	\$ 18,469	0	434	\$ 13,450,819	\$ 30,993
20 – 24	1	36,929	36,929	1	641	19,595,798	30,571
25 – 29	0	0	0	2	376	9,702,216	25,804
30 – 34	1	18,884	18,884	3	366	8,995,248	24,577
35 – 39	5	105,809	21,162	4	589	17,503,358	29,717
40 – 44	31	761,964	24,579	0 – 4	2,406	69,247,439	28,781
45 – 49	247	7,406,519	29,986	5 – 9	2,485	78,425,942	31,560
50 – 54	1,028	32,126,396	31,251	10 – 14	1,275	38,738,929	30,383
55 – 59	2,004	61,089,199	30,484	15 – 19	1,192	42,644,974	35,776
60 – 64	1,886	59,571,266	31,586	20 – 24	525	14,849,379	28,285
65 – 69	1,229	39,343,620	32,013	25 – 29	367	9,554,143	26,033
70 – 74	806	25,015,427	31,037	30 – 34	53	1,456,431	27,480
75+	1,073	29,698,132	27,678	35 – 39	8	241,979	30,247
				40+	1	33,398	33,398
<b>Total</b>	<b>8,312</b>	<b>\$255,192,614</b>	<b>\$ 30,702</b>	<b>Total</b>	<b>8,312</b>	<b>\$255,192,614</b>	<b>\$ 30,702</b>

### Years Since Benefit Commencement 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	1	0	0	0	0	0	0	0	0	1
20 – 24	1	0	0	0	0	0	0	0	0	1
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	0	1	0	0	0	0	0	0	0	1
35 – 39	4	1	0	0	0	0	0	0	0	5
40 – 44	24	5	2	0	0	0	0	0	0	31
45 – 49	192	52	2	0	0	0	1	0	0	247
50 – 54	631	355	37	4	1	0	0	0	0	1,028
55 – 59	940	766	226	61	8	3	0	0	0	2,004
60 – 64	397	816	436	223	12	1	1	0	0	1,886
65 – 69	127	317	339	353	82	7	2	2	0	1,229
70 – 74	39	115	141	329	142	39	1	0	0	806
75+	50	57	92	222	280	317	48	6	1	1,073
<b>Total</b>	<b>2,406</b>	<b>2,485</b>	<b>1,275</b>	<b>1,192</b>	<b>525</b>	<b>367</b>	<b>53</b>	<b>8</b>	<b>1</b>	<b>8,312</b>

## 2.2(h) Schedule of Benefit Recipients by Type of Benefit and Option Selected

Amount of Monthly Benefit		Number of Recipients	Type of Benefit			Option Selected			
			1	2	3	1	2	3	4
\$ 1	\$ 300	105	82	23	0	58	20	21	6
301	– 600	270	211	59	0	151	50	57	12
601	– 900	466	371	95	0	266	93	82	25
901	– 1,200	478	380	98	0	293	99	77	9
1,201	– 1,500	510	432	78	0	305	92	97	16
1,501	– 1,800	518	434	80	4	330	71	105	12
1,801	– 2,100	668	609	51	8	402	119	134	13
2,101	– 2,400	814	766	27	21	480	136	180	18
2,401	– 2,700	868	832	15	21	516	149	184	19
2,701	– 3,000	784	764	11	9	480	105	183	16
3,001	– 3,300	741	728	6	7	469	81	176	15
3,301	– 3,600	566	555	3	8	350	70	139	7
3,601	– 3,900	453	446	3	4	268	47	131	7
3,901	– 4,200	308	308	0	0	187	37	79	5
Over \$4,200		763	762	1	0	437	84	223	19
Totals		8,312	7,680	550	82	4,992	1,253	1,868	199

**Type of Benefit**

1. Normal retirement
2. Survivor payment
3. Disability

**Option Selected**

1. Whole Life Annuity
2. 75% Joint and Contingent Annuity
3. 50% Joint and Contingent Annuity
4. 66 2/3% Joint and Survivor Annuity

## 2.2(i) Schedule of Benefit Recipients 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. <sup>7</sup>	Annual Allowances <sup>7</sup>	No. <sup>7</sup>	Annual Allowances <sup>7</sup>	No.	Annual Allowances		
June 30, 2003	599	\$21,475,421	91	\$3,377,352	8,312	\$255,192,614	7.63%	\$30,702
June 30, 2002	589	24,789,896	118	4,966,397	7,804	237,094,545	9.12%	30,381
June 30, 2001	1,057	39,213,327	210	7,790,727	7,333	217,271,046	16.91%	29,629
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 <sup>8</sup>	43	2,211,834 <sup>8</sup>	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

<sup>7</sup> Numbers are estimated, and include other internal transfers.

<sup>8</sup> 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 Mercer Human Resource Consulting at the Fall 2000 TRS Board Meeting and adopted by the Board in December 2000. These assumptions were the result of an experience study performed in the Fall of 2000. The funding method used in this valuation was adopted June 30, 1985 and last reviewed by the Board in January 2003. The asset smoothing method used to determine valuation assets was changed effective June 30, 2002.

### **Valuation of Liabilities**

#### **(A) Actuarial Method – Projected Unit Credit**

Liabilities and contributions shown in the report are computed using the Projected Unit Credit method of funding. The initial unfunded accrued liability and future gains/losses are amortized over a 25 year fixed period level percentage of pay. However, in keeping with GASB requirements, the net amortization period for all gains and losses will not exceed 30 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 the 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 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.

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

### (B) Actuarial Assumptions

Investment Return	8.25% per year, compounded annually, net of expenses.	
Salary Scale	Inflation – 3.5% per year Merit (first 5 years of employment) – 1.5% per year. Productivity – 0.5% per year	
Total Inflation	Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.5% annually.	
Health Cost Trend	FY04	12.0%
	FY05	12.0%
	FY06	11.5%
	FY07	11.0%
	FY08	10.5%
	FY09	10.0%
	FY10	9.5%
	FY11	9.0%
	FY12	8.5%
	FY13	8.0%
	FY14	7.5%
	FY15	7.0%
	FY16	6.0%
	FY17 and later	5.0%
Mortality	1994 Group Annuity Mortality Basic Table for males and females, 1994 Base Year. All deaths are assumed to result from non-occupational causes.	
Total Turnover	Select and ultimate rates based upon the 1997-99 actual withdrawal experience. (See Table 1).	

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

### (B) Actuarial Assumptions

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.
Retirement	Retirement rates based upon the 1997-99 actual experience in accordance with Table 3.
Spouse's Age	Wives are assumed to be four years younger than husbands.
Dependent Children	Benefits to dependent children have been valued assuming members who are not single have one dependent child.
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.
C.O.L.A.	Of those benefit recipients who are eligible for the C.O.L.A., 65% are assumed to remain in Alaska and receive the C.O.L.A.
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
Sick Leave	4.7 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired.
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.
Expenses	Expenses are covered in the investment return assumption.
Part-time Status	Part-time employees are assumed to earn 0.550 years of credited service per year.

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

### **(C) Valuation of Assets**

Effective June 30, 2002, the asset valuation method recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method will be phased in over the next five 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 LLP. Valuation assets cannot be outside a range of 80% to 120% of the market value of assets.

### **(D) 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 FY04, the pre-65 monthly premium is \$1,016.04 and the post-65 premium is \$387.06, based on an assumed total blended premium of \$777.28. The assumed total blended premium for FY04 is the average of the 2003 and 2004 calendar year actual blended premiums. For the time period January 1, 2004 to December 31, 2004, the actual blended premium as provided by the State of Alaska, Division of Retirement and Benefits, is \$806.00.

2.3 Summary of Actuarial Assumptions and Methods (continued)

**Table 1**  
**Alaska TRS**  
**Total Turnover Assumptions**

<b>Select Rates of Turnover During the First 8 Years of Employment</b>		<b>Ultimate Rates of Turnover After the First 8 Years of Employment</b>	
<u>Year of Employment</u>	<u>Rate</u>	<u>Ages</u>	<u>Rate</u>
1	.10	20+	.04
2	.10		
3	.09		
4	.09		
5	.08		
6	.07		
7	.06		
8	.05		

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

## 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 & up	1.00

Teachers retiring at ages under 50 are assumed to retire immediately upon attaining 21 years of service.

Members currently under age 50 who have already attained 21 years of service are assumed to retire 1 year following the valuation date.

**Section 3**

- Section 3.1 Analysis of financial experience.
- Section 3.2 Summary of accrued and unfunded accrued liabilities.
- Section 3.3 Solvency test.

### 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				
	1999	2000	2001	2002	2003
(1) Health Experience	0.00%	0.00%	0.00%	3.85%	0.00%
(2) Salary Experience	(0.64%)	0.00%	(1.68%)	(0.11%)	0.10%
(3) Investment Experience	(3.73%)	(3.35%)	1.35%	15.03%	0.43%
(4) Demographic Experience	0.80%	(0.91%)	2.66%	4.21%	1.35%
(5) Contribution Shortfall	0.00%	0.00%	0.00%	0.00%	1.40%
(6) (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	(3.57%)	(4.26%)	2.33%	22.98%	3.28%
<b>Non-recurring Changes</b>					
(7) Asset Valuation Method	0.00%	(1.38%)	0.00%	0.03%	0.00%
(8) Past Service Amortization Change	0.00%	0.00%	0.00%	(9.08%)	0.00%
(9) Assumption Changes	0.00%	6.68%	0.00%	6.84%	0.00%
(10) System Benefit Changes	0.00%	0.00%	0.17%	0.00%	0.00%
(11) Administrative System Changes	0.00%	0.00%	3.49%	0.00%	0.00%
(12) Ad hoc PRPA	0.11%	0.16%	0.16%	0.36%	0.00%
(13) Composite (Gain) or Loss During Year, (6) + (7) + (8) + (9) + (10) + (11) + (12)	(3.46%)	1.20%	6.15%	21.13%	3.28%
(14) Beginning Total Employer Contribution Rate	10.55%	7.09%	8.29%	14.44%	35.57%
(15) Ending Total Employer Contribution Rate, (13) + (14)	7.09%	8.29%	14.44%	35.57%	38.85%
(16) Fiscal Year Above Rate is Applied	FY02	FY03	FY04	FY05	FY06

### 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, 2003	\$ 5,835,609	\$ 3,752,285	64.3%	\$ 2,083,324	\$ 532,630	391.1%
June 30, 2002 <sup>(1)(2)(3)</sup>	5,411,642	3,689,036	68.2%	1,722,606	509,437	338.1%
June 30, 2001	4,603,147	4,372,229	95.0%	230,918	496,188	46.5%
June 30, 2000 <sup>(1)(2)(3)</sup>	4,198,868	4,184,015	99.6%	14,853	482,571	3.1%
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 <sup>(2)</sup>	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 <sup>(1)(2)</sup>	2,761,409	2,472,957	89.6%	288,452	476,098	60.6%

(1) Change in Asset Valuation Method

(2) Change of Assumptions

(3) Change in Methods

### 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, 2003	\$ 548,947	\$ 4,105,445	\$ 1,181,217	\$ 3,752,285	100%	78.0%	0.0%
June 30, 2002 <sup>(1)(2)(3)</sup>	523,142	3,755,882	1,132,618	3,689,036	100%	84.3%	0.0%
June 30, 2001	533,752	3,213,431	855,964	4,372,229	100%	100%	73.0%
June 30, 2000 <sup>(1)(2)(3)</sup>	490,176	2,872,250	836,442	4,184,015	100%	100%	98.2%
June 30, 1999	469,068	2,571,345	680,541	3,815,633	100%	100%	100%
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 <sup>(2)</sup>	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 <sup>(1)(2)</sup>	398,990	1,419,506	942,913	2,472,957	100%	100%	69.4%

(1) Change in Asset Valuation Method

(2) Change of Assumptions

(3) Change in Methods

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