

**State of Alaska  
Teachers' Retirement System**

**Actuarial Valuation Report  
as of June 30, 1990**

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# Highlights

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

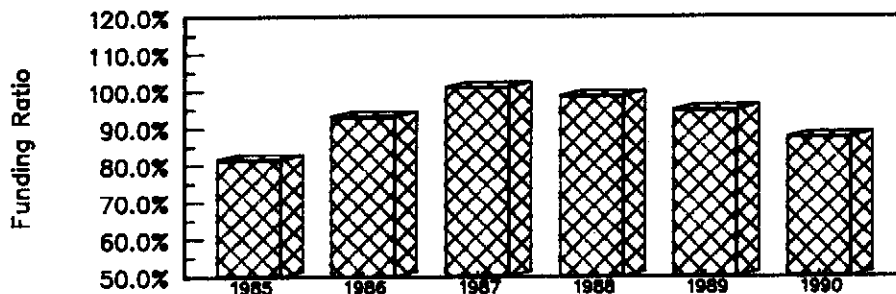
- (1) present the results of a valuation of the Alaska Teachers' Retirement System as of June 30, 1990;
- (2) review experience under the plan for the year ended June 30, 1990;
- (3) determine the appropriate contribution rate for the State and each school district in the System;
- (4) provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into two sections. Section 1 contains the results of the valuation. It includes the experience of the plan during the 1989-90 plan 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.

The principle results are as follows:

	<u>1989</u>	<u>1990</u>
Funding Status as of June 30:		
(a) Valuation Assets*	\$ 1,480,389	\$ 1,662,242
(b) Accrued Liability*	1,557,643	1,895,030
(c) Funding Ratio, (a) / (b)	95.0%	87.7%



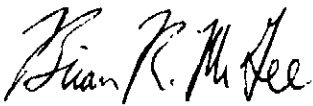
\* In thousands.

Employer Contribution Rates  
for Fiscal Year:

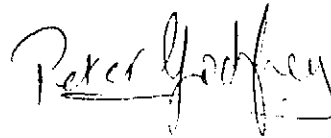
	<u>1992</u>	<u>1993</u>
(a) Normal Cost Rate	13.26%	14.07%
(b) Past Service Rate	1.90%	5.58%
(c) Total Contribution Rate	15.16%	19.65%
(d) Three-year Average Rate	11.87%	15.69%

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data provided to us by the plan sponsor and financial information provided by the audited report from Coopers & Lybrand, to determine a sound value for the plan liabilities. We believe that this value, and the method suggested for funding it, are in full compliance with the Governmental Accounting Standards Board, the Internal Revenue Code, and all applicable regulations.

Respectfully submitted,



Brian R. McGee, FSA  
Principal



Peter L. Godfrey, FIA, ASA  
Consulting Actuary

BRM/PLG/jls

April 11, 1991

# Analysis of the Valuation

As shown in the Highlights section of this report, the funding ratio as of June 30, 1990 has decreased from 95.0% to 87.7%, a 7.3% decrease. The total employer contribution rate has increased from 15.16% of payroll to 19.65%, an increase of 4.49%. The three-year average rate has also increased from 11.87% to 15.69%, a 3.82% increase. The reasons for the change in the funded status and contribution rate are explained below.

## 1. Chapter 97, 1990 SLA

Chapter 97, 1990 SLA passed the Alaska State Legislature last year and was signed into law by Governor Cowper. The bill changed many of the TRS benefit provisions, some of which increase and some decrease the contribution requirements to the System and the funded status of TRS. Some of the major changes include:

- a. Automatic PRPA's will be granted to all current and future retirees.
- b. The benefit formula multiplier was increased for future service over 20 years.
- c. Employee contribution rates were increased by 1.65%, and are now being made on a tax-deferred basis.
- d. Members with 12 years of combined part-time and full-time service are vested.
- e. Normal retirement age for new employees was raised to age 60.
- f. COLA benefits for new employees will be delayed to age 65, unless disabled.
- g. Post-retirement medical benefits for new employees will be reduced.

You will note that items a through d above are effective in FY91 for all employees while items e, f and g, all cost saving items, are applicable only to employees first hired after June 30, 1990. The ultimate cost to the System should be close to the current level. The pattern of costs, however, will be higher in early years when few people are covered by the cost saving features. Contribution rates will then reduce over time as new employees enter the System.

Chapter 97, 1990 SLA caused an increase in the total employer contribution rate of 6.76% and an increase in accrued liability of about \$266,783,000.

## 2. Retiree Medical Insurance

During the year ended June 30, 1990, the System experienced an actuarial gain of \$57,386,000 due to the reduction in retiree medical premiums.

Because, in recent years, the adverse retiree medical premium experience was a major reason for the rapidly increasing employer contribution rate and the deteriorating funding ratio, it is certainly welcome news to be able to comment on a stabilization in retiree medical premiums.

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

<u>Fiscal Year</u>	<u>Monthly Premium Per Retiree For Health Coverage</u>	<u>Annual Percentage Increase</u>	<u>Average Annual Increase Since 1978</u>
1977	\$ 34.75	--	--
1978	57.64	66%	--
1979	69.10	20%	20%
1980	64.70	- 6%	6%
1981	96.34	49%	19%
1982	96.34	0%	14%
1983	115.61	20%	15%
1984	156.07	35%	18%
1985	191.85	24%	19%
1986	168.25	-12%	14%
1987	165.00	- 2%	12%
1988	140.25	-15%	9%
1989	211.22	51%	13%
1990	252.83	20%	13%
1991	243.98	- 4%	12%
1992	243.98	--	11%

As you can see from the above table, the monthly retiree medical premium reduced to \$243.98 during the year from \$252.83, a decrease of 3.50%. The premium for the 1992 fiscal year remained unchanged.

As noted in last year's valuation report, the State has seen a dramatic shift to post-65 rates which have increased considerably faster than pre-65 rates. However, both rates reduced by 3.50% in FY91 and have remained unchanged for FY92, resulting in the first actuarial gain from medical benefits for the System since the June 30, 1987 valuation of the System.

The effect on the past service contribution rate of this reduction in retiree medical premiums was a reduction of 1.38% of payroll. The effect on the normal cost rate was a reduction of 0.90%, resulting in a reduction in the total employer contribution rate due to medical benefits of 2.28% of payroll.

## **2. Investment Performance**

The System once again experienced actuarial gains arising from the investment performance of the Trust assets. Although the return as measured by market values was lower this year than last year, the effect of the five-year smoothing was to increase the return as measured by valuation assets from last year. The approximate rate of return based on market values was 10.03% and the rate based on valuation assets was 11.92%. The resulting actuarial gain was \$43,235,000 which had the effect of reducing the total employer contribution rate by 1.04%.

## **3. Salary Increases**

Salary increases during the year were less than anticipated in the valuation assumptions. Salary experience resulted in an actuarial gain of \$20,599,000 which generated a reduction in the total employer contribution rate of .49% of payroll.

## **4. Employee Data**

Section 2.2 provides statistics on active and inactive participants. The number of active participants increased .7%, from 8,527 at June 30, 1989 to 8,586 at June 30, 1990. The average age of active participants increased from 41.82 to 42.21 and average credited service increased from 10.61 to 10.62 years.

The number of retirees and beneficiaries increased 2.8%, from 3,098 to 3,184, and their average age increased from 61.85 to 62.45. There was a 60.6% increase in the number of vested terminated participants from 508 to 816. Their average age increased from 45.11 to 46.75.

The overall effect of these participant data changes was an actuarial loss of \$16,505,000, resulting in an increase in the past service contribution rate of 0.40% of payroll. These demographic changes also had the effect of increasing the normal cost rate by .70%, resulting in an increase in the average total employer contribution rate of 1.10% of payroll.

## Retirement Incentive Program

The second Retirement Incentive Program has been available to participants since July 1, 1989. The number of new retirees increased from 187 at June 30, 1989 to 199 at June 30, 1990. Although the full effect of the R.I.P. may not be seen until next year's valuation, the R.I.P. was responsible in part for the increase in the number of new retirees.

As with the first R.I.P., the cost is being borne by employers based on the actuarial value of the extra benefits, calculated individually for each employee electing to retire under the program. This cost is being paid over a three-year period. If the assumptions underlying the calculated cost of the R.I.P. are met, the total cost to the System will be equal to the employers' payments.

### Summary

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

(1) Last year's total employer contribution rate (before smoothing) . . .	15.16%
(2) Increase in total employer contribution rate due to Chapter 97, 1990 SLA . . . . .	6.76%
(3) Decrease in past service rate due to retiree medical insurance . . . .	(1.38%)
(4) Decrease in normal cost rate due to retiree medical insurance . . . .	(0.90%)
(5) Decrease due to investment performance . . . . .	(1.04%)
(6) Decrease due to salary increases . . . . .	(0.49%)
(7) Increase in past service rate due to demographic experience . . . . .	0.40%
(8) Increase in normal cost rate due to demographic experience . . . . .	0.70%
(9) Impact of all other factors . . . . .	0.44%
(10) Total employer contribution rate this year (before smoothing) . . . .	19.65%

In summary, the System enjoyed a good year with substantial actuarial gains arising from favorable investment performance and the reduction in medical premiums. The effect of Chapter 97, 1990 SLA, however, caused a substantial increase in current contribution rates and a decrease in the funded status to 87.7%.



# **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, 1990.

Section 1.1(b) shows the transactions of the plan's fund during the Fiscal Year 1990.

Section 1.1(c) develops the valuation assets.

Section 1.2 shows the actuarial present values as of June 30, 1990.

Section 1.3(a) calculates the total contribution rate for Fiscal Year 1993.

Section 1.3(b) develops the three-year smoothed contribution rates for each year since June 30, 1985.

Section 1.4(a) calculates the actuarial gain or loss for FY90.

Section 1.4(b) shows the individual sources of gain and loss.

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

Section 1.6 contains the financial projections.

### 1.1(a) Statement of Net Assets as of June 30, 1990 (in thousands)

	<u>Book Value</u>	<u>Actuarial Value*</u>
Cash and Cash Equivalents	\$ 44,415	\$ 44,415
United States Government Bonds	524,489	524,489
Corporate Bonds	230,631	230,631
United States Common Stocks	479,245	539,685
Foreign Stocks	113,797	123,496
Real Estate Equities	82,897	91,676
Mortgages (net of reserves)	82,134	82,134
Accrued Receivables	<u>25,716</u>	<u>25,716</u>
Total Assets	\$ 1,583,324	\$ 1,662,242

\* The actuarial value of assets is the fair market value of equities and the book value of fixed income investments, as provided in the audited financial statements.

## 1.1(b) Changes in Net Assets During Fiscal Year 1990 (in thousands)

Net Assets, June 30, 1989, (market value) \$ 1,545,877

### Additions:

Employee Contributions	\$ 33,783	
Employer Contributions	49,501	
Contributions for Retirement Incentive Program -		
Employee Contributions	1,441	
Employer Contributions	4,169	
Interest Income and Realized Gain/(Loss)	125,916	
Dividend Income	20,449	
Unrealized Gain (Loss) on Investments	<u>12,376</u>	247,635

### Deductions:

Medical Benefits	\$ 9,713	
Retirement Benefits	71,134	
Refunds of Contributions	2,896	
Administrative Expenses	<u>3,423</u>	<u>87,166</u>

Net Assets, June 30, 1990, (market value) \$ 1,706,346

### Approximate Investment Return Rate During the Year, Net of Administrative Expenses:

Based on Market Values	10.03%
Based on Valuation Assets	11.92%

**1.1(c) Development of Valuation Assets as of June 30, 1990  
(in thousands)**

	<b>A</b>	<b>B</b>	<b>C</b>
	<u>Actuarial Values</u>	<u>Book Values</u>	<u>Ratio (A/B)</u>
(1) June 30, 1990	\$ 1,662,242	\$ 1,583,324	1.0498
(2) June 30, 1989	1,480,389	1,434,984	1.0316
(3) June 30, 1988	1,331,905	1,273,971	1.0455
(4) June 30, 1987	1,267,159	1,146,583	1.1052
(5) June 30, 1986	1,077,878	1,005,289	1.0722
(6) Average Ratio			1.0609
(7) Book Value at June 30, 1990			\$1,583,324
(8) Valuation Assets at June 30, 1990 (6) x (7) but not outside the range of book and actuarial values			\$1,662,242

## 1.2 Actuarial Present Values as of June 30, 1990 (in thousands)

	<u>Normal Cost</u>	<u>Accrued Liabilities</u>
<u>Active Members</u>		
Retirement Benefits	\$ 51,225	\$ 684,155
Termination Benefits	4,012	45,152
Disability Benefits	562	17,973
Death Benefits	1,334	19,743
Return of Contributions	2,009	9,094
Medical Benefits	30,029	207,663
Indebtedness	0	(28,045)
Retiree Incentive Program Receivables	<u>0</u>	<u>(1,180)</u>
Subtotal	\$ 89,171	\$ 954,555
<u>Inactive Members</u>		
Not Vested		\$ 10,091
Vested Terminations	- Retirement Benefits	76,834
	- Medical Benefits	40,660
Retirees & Beneficiaries	- Retirement	694,758
	- Medical Benefits	<u>118,132</u>
Subtotal		\$ 940,475
<u>Totals</u>		\$ 1,895,030

**1.3(a) Development of Total Employer Contribution Rate - FY93  
(in thousands)**

Normal Cost Rate

(1) Total Normal Cost	\$ 89,171
(2) Total Salaries	389,702
(3) Normal Cost Rate, (1) / (2)	22.88%
(4) Average Member Contribution Rate	8.81%
(5) Employer Normal Cost Rate, (3) - (4)	14.07%

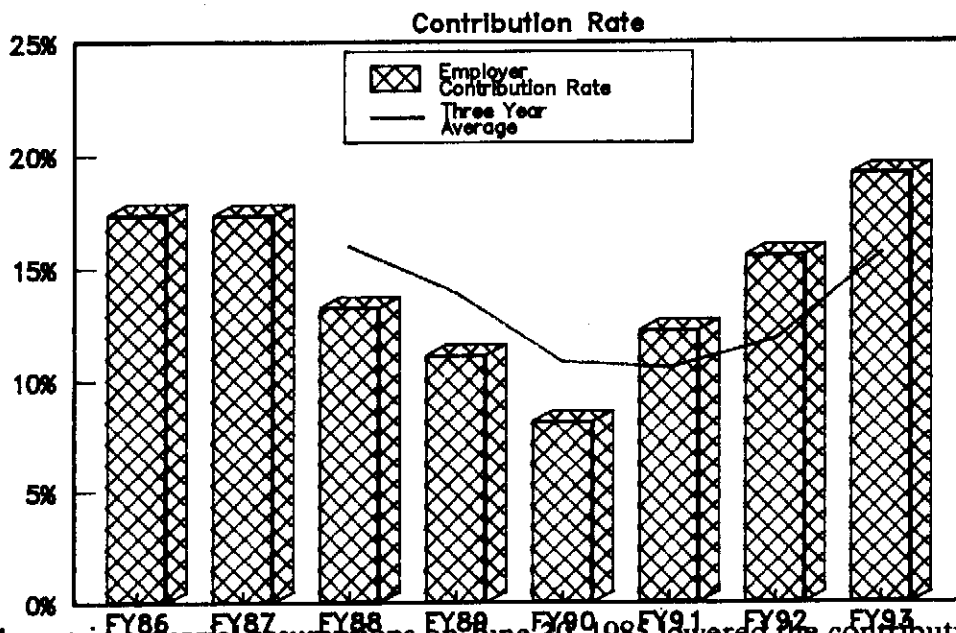
Past Service Rate

(1) Accrued Liability	\$ 1,895,030
(2) Valuation Assets	1,662,242
(3) Total Unfunded Liability, (1) - (2)	232,788
(4) Amortization Factor (25 year)	10.706612
(5) Past Service Cost, (3) / (4)	21,742
(6) Total Salaries	389,702
(7) Past Service Rate, (5) / (6)	5.58%

Total Employer Contribution Rate 19.65%

### 1.3(b) Three-Year Smoothing of Total Employer Contribution Rate

<u>Valuation Date</u>	<u>For Fiscal Year</u>	<u>Employer Contribution Rate</u>	<u>Three-Year Average</u>
6-30-83	FY86	17.36%	
6-30-84	FY87	17.36%	
6-30-85	FY88	13.28%*	16.00%
6-30-86	FY89	11.16%	13.93%
6-30-87	FY90	8.19%	10.87%
6-30-88	FY91	12.27%	10.54%
6-30-89	FY92	15.16%	11.87%
6-30-90	FY93	19.65%**	15.69%



\* A change in actuarial assumptions on June 30, 1985 lowered the contribution rate from 16.68% to 13.28%

\*\* A change in Plan provisions on June 30, 1990 increased the contribution rate from 12.89% to 19.65%.

### 1.4(a) Development of Actuarial Gain/(Loss) for FY90 (in thousands)

(1)	Unfunded Liability, June 30, 1989	\$ 77,254
(2)	Normal Cost for FY90	77,786
(3)	Interest on (1) and (2) at 9%	13,954
(4)	Employee Contributions for FY90	35,224
(5)	Employer Contributions for FY90	53,670
(6)	Interest on (4) and (5) at 9% for one-half year	4,000
(7)	Expected Unfunded Liability, June 30, 1990, (1) + (2) + (3) - (4) - (5) - (6)	76,100
(8)	Actual Unfunded Liability, June 30, 1990, before changes to the System from Chapter 97, 1990 SLA	(33,995)
(9)	Actuarial Gain/(Loss) for the Year, (7) - (8)	\$ 110,095



## 1.4(b) Sources of Actuarial Gain/(Loss) for FY90 (in thousands)

### Actuarial Gains

Investment	\$ 43,235
Salary Increases	20,599
Retiree Medical Insurance	57,386
Miscellaneous	<u>5,380</u>
Total Actuarial Gains	\$ 126,600

### Actuarial Losses

New Entrants	\$ 10,986
Retirement, Turnover and Benefit Payments, including the effect of the ad hoc PRPA	5,044
Mortality and Disability	<u>475</u>
Total Actuarial Losses	\$ 16,505

Net Actuarial Gain/(Loss) for FY90 \$ 110,095

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

State of Alaska - T.R.S.

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

Totals For All Employers

<u>Valuation Date</u>	***** Projected Benefit Obligation *****				
	<u>Current Retirees &amp; Terminated</u>	<u>***** Current Employees ***** Contribs With Int</u>	<u>**** Employer Financed **** Vested</u>	<u>Non-Vested</u>	<u>Total</u>
June 30, 1987	\$ 578,468	\$ 210,493	\$ 353,326	\$ 68,622	\$ 1,210,909
June 30, 1988	688,090	228,217	381,726	49,826	1,347,859
June 30, 1989	779,296	253,436	436,431	88,480	1,557,643
June 30, 1990	940,475	269,491	587,835	97,229	1,895,030

<u>Valuation Date</u>	***** Valuation Assets *****			***** Market Value Assets *****		
	<u>Net Assets Available For Benefits</u>	<u>Unfunded PBO</u>	<u>Assets as Percent of PBO</u>	<u>Net Assets Available For Benefits</u>	<u>Unfunded PBO</u>	<u>Assets as Percent of PBO</u>
June 30, 1987	\$ 1,225,009	\$ (14,100)	101%	\$ 1,303,464	\$ (92,555)	108%
June 30, 1988	1,331,905	15,954	99%	1,356,575	(8,716)	101%
June 30, 1989	1,480,389	77,254	95%	1,545,877	11,766	99%
June 30, 1990	1,662,242	232,788	88%	1,706,346	188,684	90%

# 1.6 Financial Projections

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

As of June 30	Investment Return		9.00% (nominal)		Salary Increases		6.04% (6.5/5.5 assumed)		Ending Asset Valuation	
	Total Assets	Accrued Liability	Surplus* (Deficit)	Total Salaries	Employer Contribs	Employee Contribs	Total Contribs	Net Investment Earnings		
1990	1,662,242	1,895,030	(232,788)	413,240	43,555	36,406	79,962	94,281	155,689	1,803,612
1991	1,803,612	2,070,117	(266,505)	438,200	52,014	38,605	90,620	102,966	169,074	1,960,340
1992	1,960,340	2,258,112	(297,772)	464,667	72,922	40,937	113,859	122,307	184,440	2,146,331
1993	2,146,331	2,459,865	(313,534)	492,733	89,612	43,410	133,022	122,350	202,343	2,359,346
1994	2,359,346	2,676,281	(316,935)	522,494	102,995	46,032	149,027	133,143	15,884	2,597,841
1995	2,597,841	2,908,318	(310,477)	554,053	110,475	48,812	159,287	144,737	14,550	2,857,373
1996	2,857,373	3,156,993	(299,620)	587,517	117,118	51,760	168,879	157,188	11,691	3,138,326
1997	3,138,326	3,423,383	(285,057)	623,003	122,632	54,887	177,519	170,554	6,964	3,440,763
1998	3,440,763	3,708,630	(267,867)	660,633	127,440	58,202	185,642	184,899	744	3,765,144
1999	3,765,144	4,013,944	(248,800)	700,535	131,888	61,717	193,605	200,287	(6,682)	4,112,272
2000	4,112,272	4,340,607	(228,334)	742,847	136,271	65,445	201,716	216,791	(15,075)	4,483,278
2001	4,483,278	4,689,975	(206,696)	787,715	140,705	69,598	210,103	234,486	(24,382)	4,879,451
2002	4,879,451	5,063,485	(184,034)	835,293	145,299	73,589	218,888	253,451	(34,563)	5,302,245
2003	5,302,245	5,462,658	(160,413)	885,745	150,130	78,034	228,164	273,774	(45,610)	5,753,258
2004	5,753,258	5,889,100	(135,842)	939,244	155,255	82,747	238,002	295,545	(57,543)	6,234,220
2005	6,234,220	6,344,515	(110,295)	995,974	160,717	87,745	248,462	318,862	(70,400)	6,746,980

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

## PERCENTAGE RATIO RELATIONSHIPS OF ABOVE DATA

As of June 30	Funding Ratio		As % of Salaries		As % of Assets	
	Employer Contribs	Employee Contribs	Total Contribs	Total Salaries	Net Investment Earnings	Net Investment Earnings
1990	10.54%	8.81%	19.35%	22.82%	-0.83%	9.00%
1991	11.87%	8.81%	20.68%	23.50%	-0.66%	9.00%
1992	15.69%	8.81%	24.50%	24.17%	0.08%	9.00%
1993	18.19%	8.81%	27.00%	24.83%	0.47%	9.00%
1994	19.71%	8.81%	28.52%	25.48%	0.64%	9.00%
1995	19.94%	8.81%	28.75%	26.12%	0.53%	9.00%
1996	19.93%	8.81%	28.74%	26.75%	0.39%	9.00%
1997	19.68%	8.81%	28.49%	27.38%	0.21%	9.00%
1998	19.29%	8.81%	28.10%	27.99%	0.02%	9.00%
1999	18.83%	8.81%	27.64%	28.59%	-0.17%	9.00%
2000	18.34%	8.81%	27.15%	29.18%	-0.35%	9.00%
2001	17.86%	8.81%	26.67%	29.77%	-0.52%	9.00%
2002	17.39%	8.81%	26.20%	30.34%	-0.68%	9.00%
2003	16.95%	8.81%	25.76%	30.91%	-0.83%	9.00%
2004	16.53%	8.81%	25.34%	31.47%	-0.96%	9.00%
2005	16.14%	8.81%	24.95%	32.02%	-1.09%	9.00%

Table 2

State of Alaska TRS  
Financial Projections ('000 omitted)

As of June 30	Investment Return		10.00% (nominal)		Salary Increases		6.04% (6.5/5.5 assumed)		Ending Asset Valuation
	Total Assets	Accrued Liability	Surplus* (Deficit)	Total Salaries	Employer Contribs	Employee Contribs	Total Contribs	Net Benefit Payments	
1990	1,662,242	1,895,030	(232,788)	413,240	43,555	36,406	79,962	94,281	1,821,742
1991	1,821,742	2,070,117	(248,375)	438,200	52,014	38,605	90,620	102,966	2,000,061
1992	2,000,061	2,258,112	(258,051)	464,667	72,922	40,937	113,859	122,307	2,211,697
1993	2,211,697	2,459,865	(248,168)	492,733	88,977	43,410	132,387	142,350	2,454,464
1994	2,454,464	2,676,281	(221,817)	522,494	100,932	46,032	146,963	155,143	2,726,695
1995	2,726,695	2,908,318	(181,623)	554,053	105,999	48,812	154,811	164,737	3,023,575
1996	3,023,575	3,156,993	(133,418)	587,517	109,799	51,760	161,559	171,188	3,345,640
1997	3,345,640	3,423,383	(77,743)	623,003	112,017	54,887	166,904	170,554	3,693,099
1998	3,693,099	3,708,630	(15,531)	660,633	113,095	58,202	171,297	184,899	4,066,592
1999	4,066,592	4,013,944	52,648	700,535	113,389	61,717	175,106	200,287	4,467,144
2000	4,467,144	4,340,607	126,537	742,847	113,200	65,445	178,645	216,791	4,896,141
2001	4,896,141	4,689,975	206,166	787,715	109,814	69,398	179,212	234,486	5,352,198
2002	5,352,198	5,063,485	288,713	835,293	102,015	73,589	175,604	253,451	5,832,439
2003	5,832,439	5,462,658	369,782	885,745	89,302	78,034	167,336	273,774	6,333,085
2004	6,333,085	5,889,100	443,985	939,244	74,722	82,747	157,469	295,545	6,853,079
2005	6,853,079	6,344,515	508,565	995,974	59,883	87,745	147,628	318,862	7,392,857

\* Surpluses reduce employer contributions over 5 years

\* Deficits increase employer contributions over 25 years

PERCENTAGE RATIO RELATIONSHIPS OF ABOVE DATA

As of June 30	Funding Ratio	--As % of Salaries--		--As % of Assets--	
		Employer Contribs	Employee Contribs	Total Contribs	Net Investment Earnings
1990	87.7	10.54%	8.81%	19.35%	-0.82%
1991	88.0	11.87%	8.81%	20.68%	-0.65%
1992	88.6	15.69%	8.81%	24.50%	0.07%
1993	89.9	18.06%	8.81%	26.87%	0.43%
1994	91.7	19.32%	8.81%	28.13%	0.53%
1995	93.8	19.13%	8.81%	27.94%	0.35%
1996	95.8	18.69%	8.81%	27.50%	0.14%
1997	97.7	17.98%	8.81%	26.79%	-0.10%
1998	99.6	17.12%	8.81%	25.93%	-0.35%
1999	101.3	16.19%	8.81%	25.00%	-0.59%
2000	102.9	15.24%	8.81%	24.05%	-0.82%
2001	104.4	13.94%	8.81%	22.75%	-1.08%
2002	105.7	12.21%	8.81%	21.02%	-1.39%
2003	106.8	10.08%	8.81%	18.89%	-1.75%
2004	107.5	7.96%	8.81%	16.77%	-2.10%
2005	108.0	6.01%	8.81%	14.82%	-2.41%

Table 3

State of Alaska TRS  
Financial Projections ('000 omitted)

As of June 30	Investment Return		9.00% (nominal)		Salary Increases		5.04% (5.5/4.5 assumed)		Ending Asset Valuation
	Total Assets	Accrued Liability	Surplus* (Deficit)	Total Salaries	Employer Contribs	Employee Contribs	Total Contribs	Net Benefit Payments	
1990	1,662,242	1,895,030	(232,788)	409,343	43,145	36,063	79,208	94,281	1,802,824
1991	1,802,824	2,063,415	(260,591)	429,974	51,038	37,881	88,919	102,671	1,958,008
1992	1,958,008	2,243,043	(285,035)	451,645	70,878	39,790	110,668	111,644	2,141,139
1993	2,141,139	2,434,562	(293,424)	474,407	86,248	41,795	128,043	121,237	2,349,626
1994	2,349,626	2,638,652	(289,027)	498,318	98,129	43,902	142,031	131,487	2,581,626
1995	2,581,626	2,856,027	(274,401)	523,433	103,886	46,114	150,001	142,436	2,832,333
1996	2,832,333	3,087,436	(255,103)	549,814	108,676	48,439	157,115	154,128	3,101,836
1997	3,101,836	3,333,663	(231,828)	577,524	112,232	50,880	163,112	166,607	3,389,911
1998	3,389,911	3,595,534	(205,622)	606,632	114,970	53,444	168,414	179,922	3,696,707
1999	3,696,707	3,873,909	(177,202)	637,206	117,222	56,138	173,360	194,126	4,022,682
2000	4,022,682	4,169,693	(147,011)	669,321	119,269	58,967	178,236	209,271	4,368,584
2001	4,368,584	4,483,830	(115,246)	703,055	121,212	61,939	183,151	225,415	4,735,283
2002	4,735,283	4,817,309	(82,026)	738,489	123,142	65,061	188,202	242,620	5,123,770
2003	5,123,770	5,171,164	(47,394)	775,709	125,121	68,340	193,461	260,948	5,535,136
2004	5,535,136	5,546,473	(11,337)	814,804	127,190	71,784	198,975	280,470	5,970,554
2005	5,970,554	5,944,363	26,190	855,870	129,376	75,402	204,778	301,255	6,431,266

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

PERCENTAGE RATIO RELATIONSHIPS OF ABOVE DATA

As of June 30	Funding Ratio	As % of Salaries		As % of Assets	
		Employer Contribs	Employee Contribs	Total Benefit Payments	Net Investment Earnings
1990	87.7	10.54%	8.81%	19.35%	-0.87%
1991	87.4	11.87%	8.81%	20.68%	-0.73%
1992	87.3	15.69%	8.81%	24.50%	-0.05%
1993	87.9	18.18%	8.81%	26.99%	0.30%
1994	89.0	19.69%	8.81%	28.50%	0.43%
1995	90.4	19.85%	8.81%	28.66%	0.28%
1996	91.7	19.77%	8.81%	28.58%	0.10%
1997	93.0	19.43%	8.81%	28.24%	-0.11%
1998	94.3	18.95%	8.81%	27.76%	-0.33%
1999	95.4	18.40%	8.81%	27.21%	-0.54%
2000	96.5	17.82%	8.81%	26.63%	-0.74%
2001	97.4	17.24%	8.81%	26.05%	-0.93%
2002	98.3	16.67%	8.81%	25.48%	-1.11%
2003	99.1	16.13%	8.81%	24.94%	-1.27%
2004	99.8	15.61%	8.81%	24.42%	-1.42%
2005	100.4	15.12%	8.81%	23.93%	-1.56%

Table 4

State of Alaska TRS  
Financial Projections ('000 omitted)

As of June 30	Investment Return 10.00% (nominal)		Salary Increases		Flow Amounts During Following 12 Months				Ending Asset		
	Total Assets	Accrued Liability	Surplus* (Deficit)	Total Salaries	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings	Valuation	
1990	1,662,242	1,895,030	(232,788)	409,343	43,145	36,063	79,208	94,281	(15,073)	173,782	1,820,950
1991	1,820,950	2,063,415	(242,464)	429,974	51,038	37,881	88,919	102,671	(13,753)	190,512	1,997,710
1992	1,997,710	2,243,043	(245,333)	451,645	70,878	39,790	110,668	111,644	(976)	209,711	2,206,444
1993	2,206,444	2,434,562	(228,118)	474,407	85,625	41,795	127,421	121,237	6,184	231,986	2,444,614
1994	2,444,614	2,638,652	(194,038)	498,318	96,111	43,902	140,013	131,487	8,526	257,111	2,710,251
1995	2,710,251	2,856,027	(145,776)	523,433	99,524	46,114	145,638	142,436	3,202	284,736	2,998,189
1996	2,998,189	3,087,436	(89,246)	549,814	101,553	48,439	149,991	154,128	(4,136)	314,603	3,308,656
1997	3,308,656	3,333,663	(25,007)	577,524	101,912	50,880	152,791	166,607	(13,815)	346,718	3,641,559
1998	3,641,559	3,595,534	46,025	606,632	101,032	53,444	154,476	179,922	(25,446)	381,091	3,997,204
1999	3,997,204	3,873,909	123,295	637,206	99,259	56,138	155,397	194,126	(38,729)	417,770	4,376,245
2000	4,376,245	4,169,693	206,552	669,321	94,466	58,967	153,433	209,271	(55,838)	456,714	4,777,121
2001	4,777,121	4,483,830	293,291	703,055	84,978	61,939	146,918	225,415	(78,498)	497,673	5,196,296
2002	5,196,296	4,817,309	378,987	738,489	70,348	65,061	135,409	242,620	(107,211)	540,251	5,629,336
2003	5,629,336	5,171,164	458,172	775,709	53,079	68,340	121,419	260,948	(139,530)	584,104	6,073,910
2004	6,073,910	5,546,473	527,437	814,804	35,274	71,784	107,058	280,470	(173,412)	629,090	6,529,589
2005	6,529,589	5,944,363	585,225	855,870	18,072	75,402	93,475	301,255	(207,780)	675,218	6,997,026

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

PERCENTAGE RATIO RELATIONSHIPS OF ABOVE DATA

As of June 30	Funding Ratio		As % of Salaries			As % of Assets		
	Ratio	Ratio	Employer Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings
1990	87.7	87.7	10.54%	8.81%	19.35%	23.03%	-0.87%	10.00%
1991	88.2	88.2	11.87%	8.81%	20.68%	23.88%	-0.72%	10.00%
1992	89.1	89.1	15.69%	8.81%	24.50%	24.72%	-0.05%	10.00%
1993	90.6	90.6	18.05%	8.81%	26.86%	25.56%	0.27%	10.00%
1994	92.6	92.6	19.29%	8.81%	28.10%	26.39%	0.33%	10.00%
1995	94.9	94.9	19.01%	8.81%	27.82%	27.21%	0.11%	10.00%
1996	97.1	97.1	18.47%	8.81%	27.28%	28.03%	-0.13%	10.00%
1997	99.2	99.2	17.65%	8.81%	26.46%	28.85%	-0.40%	10.00%
1998	101.3	101.3	16.65%	8.81%	25.46%	29.66%	-0.67%	10.00%
1999	103.2	103.2	15.58%	8.81%	24.39%	30.47%	-0.93%	10.00%
2000	105.0	105.0	14.11%	8.81%	22.92%	31.27%	-1.22%	10.00%
2001	106.5	106.5	12.09%	8.81%	20.90%	32.06%	-1.58%	10.00%
2002	107.9	107.9	9.53%	8.81%	18.34%	32.85%	-1.98%	10.00%
2003	108.9	108.9	6.84%	8.81%	15.65%	33.64%	-2.39%	10.00%
2004	109.5	109.5	4.33%	8.81%	13.14%	34.42%	-2.76%	10.00%
2005	109.8	109.8	2.11%	8.81%	10.92%	35.20%	-3.08%	10.00%

## **Section 2**

### **Basis of the Valuation**

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

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

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

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

## **2.1 Summary of the Alaska Teachers' Retirement System**

### **(1) Effective Date**

June 30, 1955, with amendments through June 30, 1990. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. New members who are first hired under the TRS after June 30, 1990 are entitled to different benefits than those members who were hired before July 1, 1990.

### **(2) Administration of Plan**

The Commissioner of Administration is responsible for administration of the system; the Alaska Teachers' Retirement Board prescribes policies and adopts regulations to carry out provisions of the system; and the Commissioner of Revenue invests the funds. The Attorney General represents the system in legal proceedings.

### **(3) Membership**

Membership in the Alaska TRS is compulsory 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 (employees who elect to participate in the University of Alaska's optional retirement plan are excluded);
- 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.

TRS members who receive TRS disability benefits are also covered under the TRS and earn membership service while they are on disability.



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

**(4) Credited Service**

A year of membership service is defined to be the same as a school term which is currently a minimum of 172 days, and fractional service credit is on a daily rate basis. Credit is granted for all Alaskan public school service.

TRS members may claim TRS credit for the following service:

- Outside teaching service. Members may claim up to ten years of outside service for their employment in out-of-state schools or Alaska private schools. Outside service includes employment as:
  - (a) certificated full-time elementary and secondary teachers and certificated full-time employees in positions which require teaching certificates as a condition of employment with out-of-state public schools and approved or accredited nonpublic schools either inside or outside of the United States supported by U.S. funds;
  - (b) full-time employees in out-of-state institutions of higher learning requiring academic standing and accreditation; or
  - (c) full-time teachers in approved or accredited nonpublic institutions of higher learning in Alaska.

Contributions are required for service which is claimed. For members first hired after June 30, 1978, the full actuarial cost of providing benefits for the service will be borne by the member. Credit for fractional years of outside service is not allowed.

- Part-time teaching service. Members receive one-half year of membership service for each year as a part-time teacher.
- Military service. Members may claim up to five years of military service; however, the combined total of outside and military service may not exceed ten years, unless entry into the military is immediately preceded by TRS service and following discharge is continued by TRS service within one year. Contributions are required for service which is claimed. Credit for fractional years of military service is allowed.

- Bureau of Indian Affairs (BIA) service in Alaska. Members may claim their Alaska BIA service as professional educators and certificated full-time teachers in positions requiring teaching certificates. Contributions are required for service which is claimed. Credit for fractional years of BIA service is allowed.
- Retroactive service. Members may claim their earlier Alaskan service that was not creditable at the time it occurred but later became creditable because of legislative change. Retroactive contributions are required for earlier service that recurred after June 30, 1955. Contributions are not required for service before July 1, 1955.
- Unused sick leave. Members may claim their unused sick leave after they retire. Contributions are not required.
- Leave of absence without pay. Members may receive credit for their employer-approved leave of absence without pay. Contributions are required.

**(5) Computation of Average Base Salary**

A member's average base salary is determined by averaging the highest base salaries that the member received for any three years of membership service during which the member received compensation for at least two-thirds of each school year.

**(6) Employer Contributions**

The employer contributes an amount required, in addition to member contributions, to finance the benefits of the system.

**(7) Employee Contributions**

Mandatory Employee Contributions: 8.65% of base salary. Employee contributions are deducted from the gross salary before federal income tax is withheld.

Note: Prior to January 1, 1990, the rate was 7%. Employee contributions were deducted from the gross salary after federal income tax was withheld.

Interest Credited: 4.5% compounded annually on June 30.

Refund of Contributions: If a member terminates TRS employment, the balance of the account (mandatory contributions, indebtedness payments and interest earned) may be withdrawn by the member.

Note: The contribution accounts of terminated members may be attached to satisfy claims made under Alaska Statute 09.38.065, federal income tax levies and valid Qualified Domestic Relations Orders.

Reinstatement of Contributions: If mandatory contributions are withdrawn, the member must return to TRS employment in order to reinstate the refunded service. Upon reemployment, an indebtedness will be established for the amount of the refund. Contributions that are attached to satisfy claims under Alaska Statute 09.38.065 or a federal tax levy may be reinstated at any time; the member is not required to return to TRS employment. The indebtedness will accrue interest until it is paid in full or the member retires, whichever occurs first.

Refund at Death: If monthly survivor's benefits are not payable upon the member's death, the member's contribution account balance, including mandatory and supplemental contributions, indebtedness payments, and interest earned, will be paid to the designated beneficiary. When the member has more than one year of TRS service, the beneficiary will also receive \$1,000 plus \$100 for each year of membership service (not to exceed \$3,000). An additional \$500 may be payable if the member is survived by dependent children.

**(8) 1% Supplemental Contributions**

If a member first joined the system before July 1, 1982 and elected to participate in the supplemental contributions provision, a spouse's pension and/or survivor's allowance may be payable to his or her spouse and dependent children. To participate, the member must contribute an additional 1% of his or her base salary. An election to participate must be made no later than 90 days after marriage, the birth or adoption of a child, or reemployment in the system if there was at least a twelve (12) month break in service.

**(9) Normal Retirement Eligibility**

The first of the month following the earlier of (a) or (b) below:

- (a) Upon attaining age 60 (age 55 for members who participated before July 1, 1990) and meeting one of the following service requirements:
    - (i) Eight years of fully-paid membership service; or
    - (ii) 15 years of fully-paid creditable service, the last five of which have been membership service; (if hired after June 30, 1975 a member needs eight years of fully-paid membership service); or
    - (iii) Five years of fully-paid membership service and three years of fully-paid Alaska B.I.A. service; or
    - (iv) 12 years of combined part-time and full-time fully-paid membership service (at least one-half year each); or
    - (v) two years of fully-paid membership service if the member is vested in the Public Employees' Retirement System;
- or;

- (b) At any age after meeting one of the following service requirements:
- (i) 25 years of fully-paid creditable service, the last five of which are membership service; or
  - (ii) 20 years of fully-paid membership service; or
  - (iii) 20 years of fully-paid combined membership service and Alaska B.I.A. service, the last five of which are membership service.
  - (iv) 20 years of combined part-time and full-time fully-paid membership service (at least one-half year each).

A member who has been receiving TRS disability benefits is eligible for a service retirement benefit upon satisfying normal retirement eligibility.

**(10) Normal Retirement Benefit**

Two percent of average base salary for the first twenty years of service, and 2.5% for all remaining years. Service before July 1, 1990 is credited at 2%.

Minimum Benefit: \$25 per month for each year of credited service.

**(11) Early Retirement Eligibility**

Upon attaining age 55 (age 50 for members who participated before July 1, 1990) and meeting one of the following service requirements:

- (a) Eight years of fully-paid membership service; or
- (b) 15 years of fully-paid creditable service, the last five of which have been membership service; (if hired after June 30, 1975 a member needs eight years of fully-paid membership service); or
- (c) Five years of fully-paid membership service and three years of fully-paid Alaska B.I.A. service; or
- (d) 12 years of combined part-time and full-time membership service (at least one-half year each); or
- (e) two years of fully-paid membership service if the member is vested in the Public Employees' Retirement System.

**(12) Early Retirement Benefit**

Actuarial equivalent of the normal retirement benefit based on service and salary to early retirement date.

**(13) Deferred Benefit**

Eligibility:

Refer to (9) *Normal Retirement Eligibility* and (11) *Early Retirement Eligibility* (page 25 - 26).

Withdrawal of employee contributions voids rights to benefits.

Amount: Refer to (10) *Normal Retirement Benefit* and (12) *Early Retirement Benefit*, above.

**(14) Indebtedness Owing At Retirement**

If on the date of appointment to retirement, a member has not paid the full indebtedness amount including interest to the retirement fund, the member's retirement benefit will be reduced for life by an amount equal to the actuarial equivalent of the outstanding indebtedness at the time of retirement.

**(15) Re-employment of a Retired Teacher**

If a retired member is reemployed in a position covered under the system, the retirement benefit will be suspended during the period of reemployment. During such period of reemployment, retirement contributions are mandatory.

A member who returns to TRS employment after retiring under the Retirement Incentive Program (RIP) will:

- (a) forfeit the three years of incentive credits that were granted; and
- (b) be indebted to the system in an amount equal to 110% of the benefits that were paid because of the member's participation in the RIP, including health insurance costs. The indebtedness is reduced by the amount that the member paid to participate.

**(16) Disability Retirement Benefits**

A disability retirement benefit may be paid if a member becomes permanently disabled before the normal retirement date and has at least five years of fully-paid membership service.

The benefit is equal to 50% of the disabled member's base salary immediately prior to becoming disabled. This benefit will be increased by 10% of the member's base salary for each minor child up to a maximum of 40%.

When the disabled member becomes eligible for normal retirement, the disability benefit will terminate and the member will be appointed to normal retirement. The normal retirement benefit will be computed as if the member had been in membership service during the period of disability.

**(17) Death Benefit Before Retirement**

**Nonoccupational Death**

Upon a nonoccupational death of a member who has made no supplemental contributions or who made supplemental contributions for less than one year and has completed less than one year of membership service, a lump-sum benefit shall be paid to the designated beneficiary.

The lump-sum benefit is the member's contribution account balance, including mandatory and supplemental contributions, indebtedness payments and interest earned.

If the member is in active service at the time of death and has completed at least one year of membership service, but is not vested, the beneficiary will also receive \$1,000 plus \$100 for each year of membership service (not to exceed \$3,000). An additional \$500 may be payable if the member is survived by dependent children.

Upon a nonoccupational death of a vested member or deferred vested member who has not made the required supplemental contributions, the surviving spouse may elect to receive the benefits described in the previous paragraph or a 50% joint and survivor option based on the member's average base salary and credited service at the time of death.

**Occupational Death**

Upon an occupational death of a member who has not made the required supplemental contributions, a monthly survivor's pension equal to 40% of the base salary at the time of death or disability, if earlier, may be paid to the spouse. 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 based on the member's average base salary on the date of disability or death and credited service, including the period from the date of disability or death to the normal retirement date.

**(18) Death Benefits After Retirement**

If a member had received retirement benefits prior to his or her death, the designated beneficiary will receive the member's contribution account balance, minus any benefits already paid. However, if the member elected one of the joint and survivor options (50%, 66-2/3% or 75%) at retirement, an eligible spouse would receive a continuing monthly benefit for the rest of his or her life.

**(19) Survivor's Allowance - Supplemental Contributions**

If a member has made supplemental contributions for at least one year and dies while in membership service, or while receiving TRS disability benefits, or if the member has made supplemental contributions for at least five years and dies while on retirement or in deferred vested status, and is survived by dependent children, the surviving spouse and/or 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 survivor's allowance commences the month following the member's death. When there is no longer an eligible dependent child, the survivor's allowance ceases and a spouse's pension becomes payable.

**(20) Spouse's Pension - Supplemental Contributions**

If a member has made supplemental contributions for at least one year and dies while in membership service, or while receiving TRS disability benefits, or if the member has made supplemental contributions for at least five years and dies while on retirement or in deferred vested status, the surviving spouse is entitled to receive a spouse's pension.

The pension is equal to 50% of the retirement benefit that the deceased member was receiving or would have received if the member had been retired at the time of death. The spouse's pension commences the month following the member's death or cessation of the survivor's allowance. The pension ceases when the spouse dies.

**(21) Post-Retirement Pension Adjustment**

A post-retirement pension adjustment will be issued to an eligible benefit recipient each year if the consumer price index (CPI) increases during the prior calendar year. The adjustment to the benefit, excluding the cost-of-living allowance, will be:

- (a) 75% of the CPI increase (not to exceed 9%) for recipients who are at least age 65 or on TRS disability; or

- (b) 50% of the CPI increase (not to exceed 6%) for recipients who are at least age 60 but under 65, and for recipients who have been receiving benefits for at least eight years who are under age 60.

(Ad hoc PRPA's of up to 4% may be issued to retirees who were first hired before July 1, 1990 if the CPI has increased and the financial condition of the fund will permit an adjustment).

**(22) Cost-of-Living Allowance**

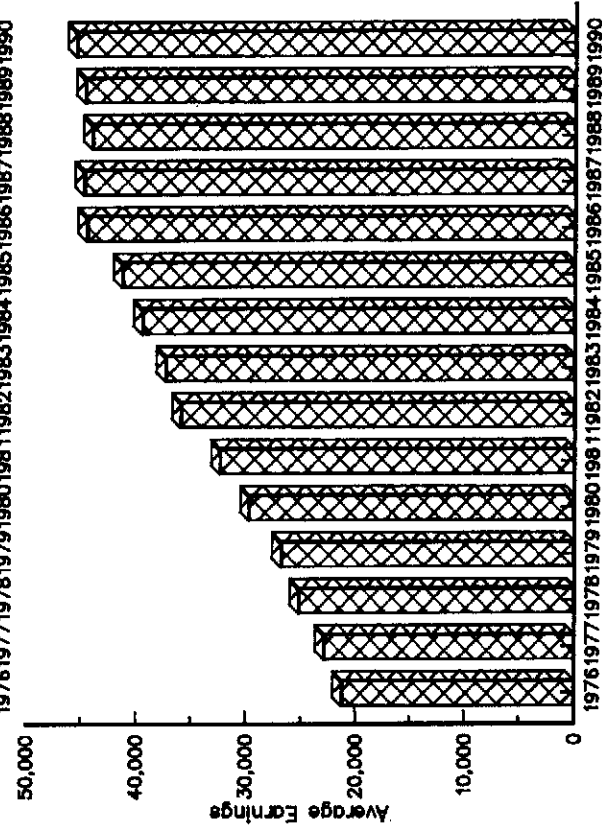
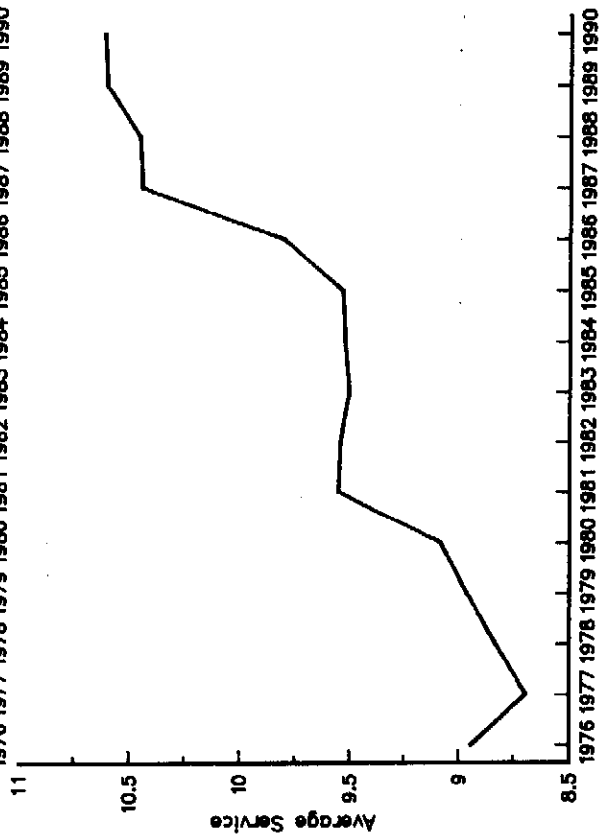
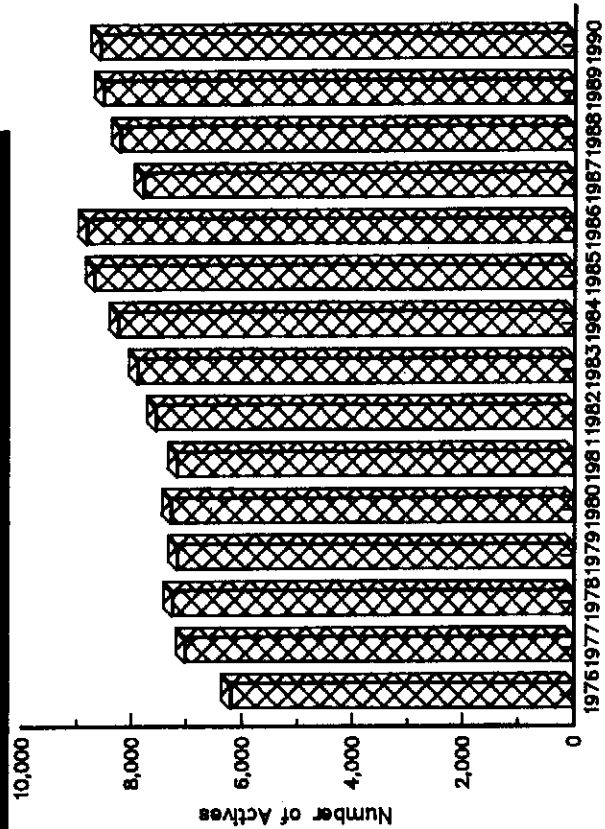
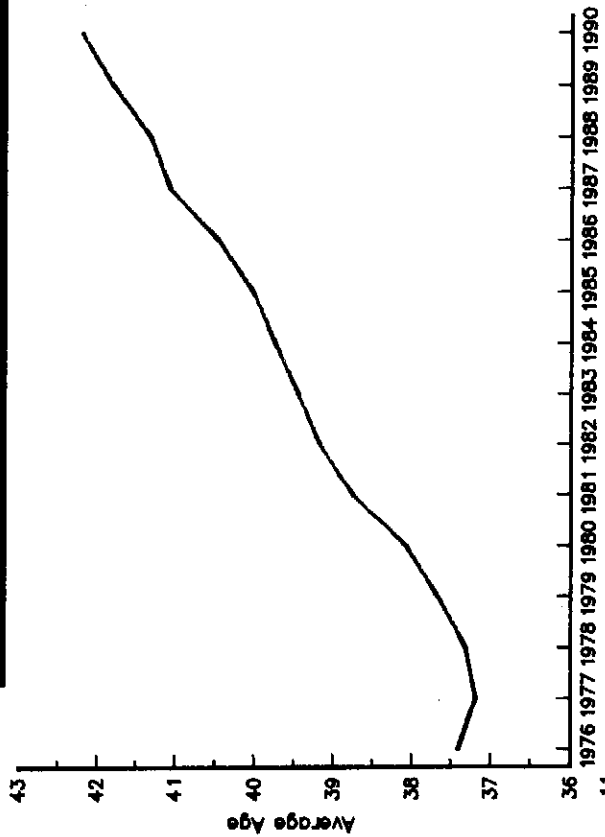
Starting at age 65, a retired member who remains in Alaska is eligible for a cost-of-living allowance (COLA) equal to 10% of the base retirement benefit. Members who were first hired before July 1, 1990 or who are receiving disability benefits are eligible for COLA, regardless of age.



## 2.2(a) Participant Census Information as of June 30

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<b>Active Members</b>					
(1) Number	8,824	7,797	8,218	8,527	8,586
(2) Number Vested	4,233	4,196	4,053	4,787	4,890
(3) Average Age	40.48	41.09	41.34	41.82	42.21
(4) Average Credited Service	9.81	10.45	10.46	10.61	10.62
(5) Average Annual Salary	\$ 44,440	\$ 44,710	\$ 43,966	\$ 44,596	\$ 45,388
<b>Retirees and Beneficiaries</b>					
(1) Number	2,098	2,376	2,972	3,098	3,184
(2) Average Age	63.18	62.83	61.41	61.85	62.45
(3) Average Monthly Benefit:					
Base	\$ 1,205	\$ 1,304	\$ 1,460	\$ 1,476	\$ 1,491
C.O.L.A.	\$ 79	\$ 87	\$ 102	\$ 102	\$ 100
P.R.P.A.	\$ 258	\$ 268	\$ 208	\$ 234	\$ 262
Total	\$ 1,542	\$ 1,659	\$ 1,770	\$ 1,812	\$ 1,853
<b>Vested Terminations</b>					
(1) Number	481	777	408	508	816
(2) Average Age	47.74	47.92	44.26	45.11	46.75
(3) Average Monthly Benefit	\$ 1,178	\$ 1,391	\$ 847	\$ 957	\$ 1,244
<b>Non-Vested Terminations With Account Balances</b>					
(1) Number	869	1,529	938	943	985
(2) Average Account Balance	\$ 8,356	\$ 9,421	\$ 9,773	\$ 9,765	\$ 10,244

# State of Alaska — TRS Actives



## 2.2(b) Distribution of Active Participants

### Active Participants

----- Annual Earnings By Age -----				----- Annual Earnings By 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	1,454	\$ 55,545,307	\$ 38,202
20-24	53	1,567,492	29,575	1	1,022	40,811,686	39,933
25-29	426	13,989,217	32,839	2	927	38,440,070	41,467
30-34	1,040	38,518,121	37,037	3	285	13,442,594	47,167
35-39	1,794	76,041,258	42,387	4	382	18,175,896	47,581
40-44	2,307	108,622,053	47,084	0- 4	4,070	166,415,553	40,888
45-49	1,726	86,152,987	49,915	5- 9	2,480	117,554,217	47,401
50-54	796	41,330,916	51,923	10-14	1,219	62,110,807	50,952
55-59	312	16,390,875	52,535	15-19	596	31,640,429	53,088
60-64	105	5,611,766	53,445	20-24	196	10,450,743	53,320
65-69	21	1,114,716	53,082	25-29	23	1,430,556	62,198
70-74	6	362,256	60,376	30-34	2	99,352	49,676
75-79	0	0	0	35-39	0	0	0
80+	0	0	0	40+	0	0	0
<b>Total</b>	<b>8,586</b>	<b>\$ 389,701,657</b>	<b>\$ 45,388</b>	<b>Total</b>	<b>8,586</b>	<b>\$ 389,701,657</b>	<b>\$ 45,388</b>

### Years of 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	53	0	0	0	0	0	0	0	0	53
25-29	386	40	0	0	0	0	0	0	0	426
30-34	739	284	17	0	0	0	0	0	0	1,040
35-39	980	574	206	34	0	0	0	0	0	1,794
40-44	952	710	416	204	25	0	0	0	0	2,307
45-49	578	511	338	213	80	6	0	0	0	1,726
50-54	229	231	164	98	62	12	0	0	0	796
55-59	105	87	57	33	25	5	0	0	0	312
60-64	39	33	17	10	4	0	2	0	0	105
65-69	7	8	3	3	0	0	0	0	0	21
70-74	2	2	1	1	0	0	0	0	0	6
75-79	0	0	0	0	0	0	0	0	0	0
80+	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4,070</b>	<b>2,480</b>	<b>1,219</b>	<b>596</b>	<b>196</b>	<b>23</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>8,586</b>

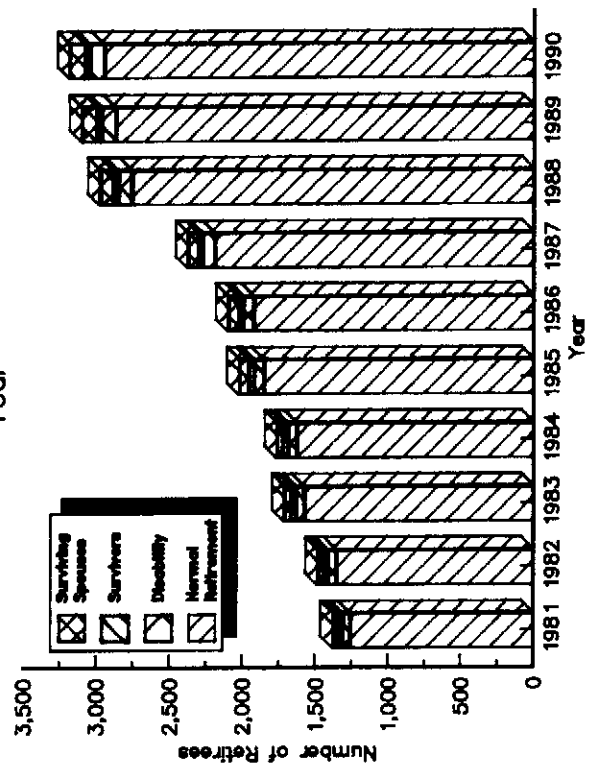
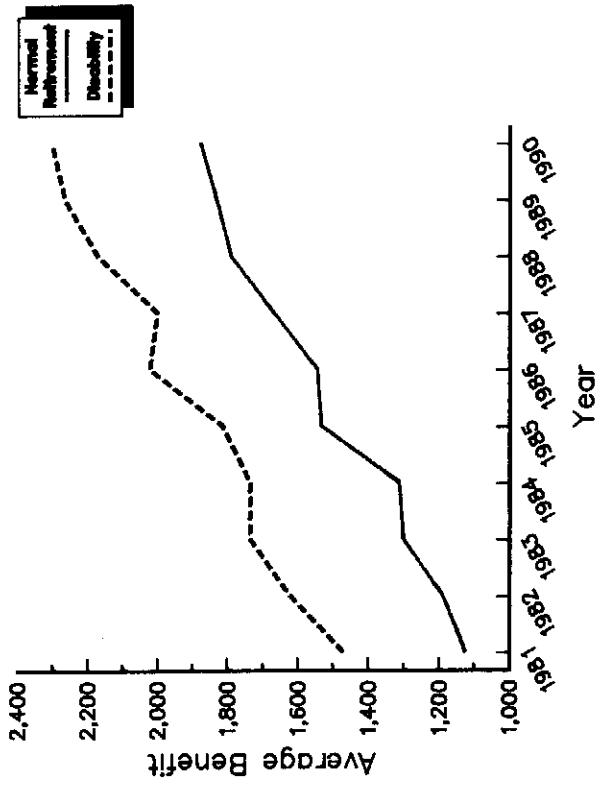
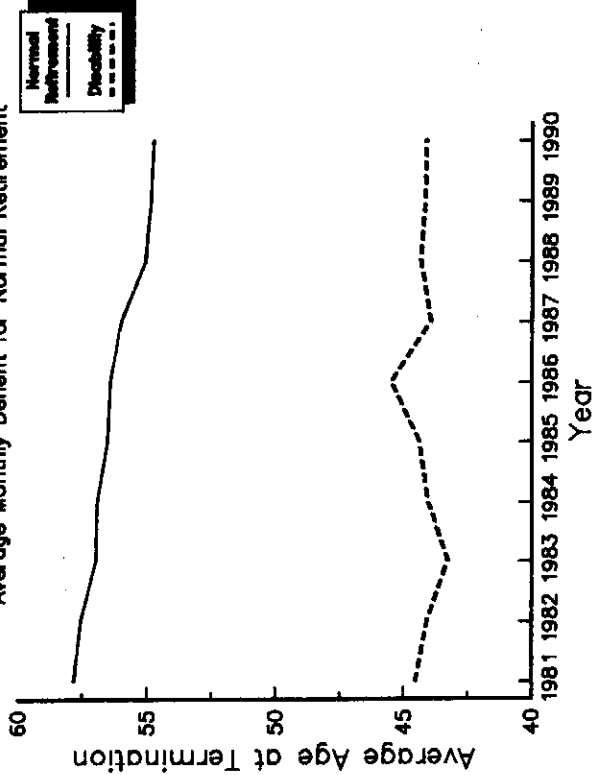
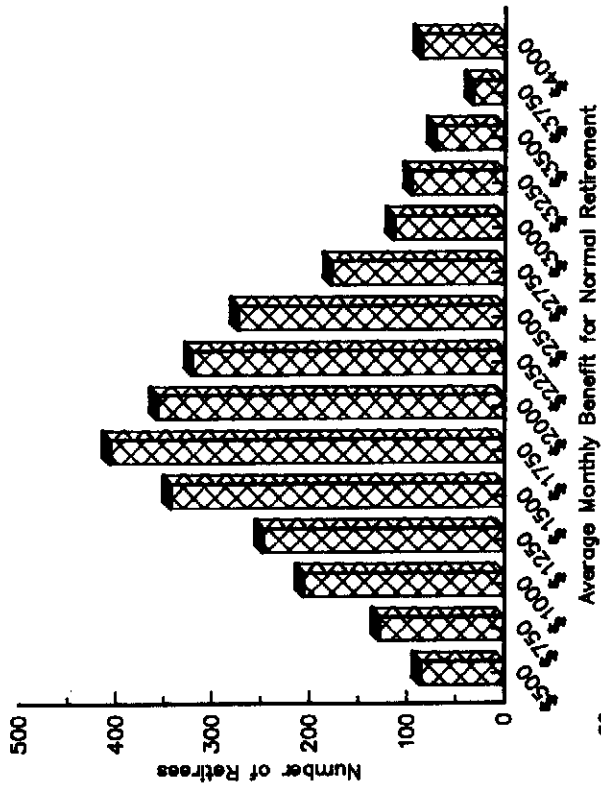
## 2.2(c) Statistics on New Retirees During the Year Ending June 30

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<b>Service</b>					
(1) Number	179	285	621	187	199
(2) Average Age At Retirement	56.06	53.83	52.07	51.82	52.44
(3) Average Monthly Benefit	\$ 1,968	\$ 2,124	\$ 2,224	\$ 1,943	\$ 2,037
<b>Disability</b>					
(1) Number	7	13	15	12	8
(2) Average Age At Retirement	43.48	45.14	46.28	46.24	46.48
(3) Average Monthly Benefit	\$ 2,648	\$ 2,321	\$ 2,743	\$ 2,618	\$ 2,485
<b>Survivor</b>					
(1) Number	3	3	3	2	1
(2) Average Age At Retirement	45.47	46.43	47.39	43.81	63.96
(3) Average Monthly Benefit	\$ 1,942	\$ 1,208	\$ 1,143	\$ 2,318	\$ 1,203
<b>Total</b>					
(1) Number	189	301	639	201	208
(2) Average Age At Retirement	55.43	53.38	51.91	51.41	52.27
(3) Average Monthly Benefit	\$ 1,992	\$ 2,123	\$ 2,231	\$ 1,987	\$ 2,050
<b>Total Number of Retirees</b>	<b>2,098</b>	<b>2,376</b>	<b>2,972</b>	<b>3,098</b>	<b>3,184</b>

## 2.2(d) Statistics on All Retirees as of June 30

	<u>1986</u>	<u>1987</u>	<u>1988</u>	<u>1989</u>	<u>1990</u>
<b>Service Retirements</b>					
(1) Number, Prior Year	1,855	1,922	2,194	2,760	2,870
(2) Net Change During Year	67	272	566	110	78
(3) Number, This Year	1,922	2,194	2,760	2,870	2,948
(4) Average Age At Retirement	56.47	56.06	55.11	54.91	54.80
(5) Average Age Now	64.01	63.52	61.84	62.25	62.84
(6) Average Monthly Benefit	\$ 1,549	\$ 1,672	\$ 1,793	\$ 1,834	\$ 1,879
<b>Surviving Spouse's Benefits</b>					
(1) Number, Prior Year	64	69	70	85	103
(2) Net Change During Year	5	1	15	18	5
(3) Number, This Year	69	70	85	103	108
(4) Average Age At Retirement	54.52	53.93	55.83	55.56	55.76
(5) Average Age Now	63.98	63.49	66.74	67.26	67.79
(6) Average Monthly Benefit	\$ 833	\$ 750	\$ 708	\$ 738	\$ 794
<b>Survivor's Benefits</b>					
(1) Number, Prior Year	38	34	32	36	31
(2) Net Change During Year	(4)	(2)	4	(5)	0
(3) Number, This Year	34	32	36	31	31
(4) Average Age At Retirement	35.29	39.04	36.15	35.42	35.42
(5) Average Age Now	43.08	46.77	44.66	43.73	44.73
(6) Average Monthly Benefit	\$ 1,584	\$ 1,746	\$ 1,513	\$ 1,652	\$ 1,661
<b>Disabilities</b>					
(1) Number, Prior Year	65	73	80	91	94
(2) Net Change During Year	8	7	11	3	3
(3) Number, This Year	73	80	91	94	97
(4) Average Age At Retirement	44.55	44.00	44.39	44.22	44.18
(5) Average Age Now	50.64	49.93	49.87	49.71	50.14
(6) Average Monthly Benefit	\$ 2,003	\$ 2,075	\$ 2,125	\$ 2,267	\$ 2,304
<b>Total Number of Retirees</b>	<b>2,098</b>	<b>2,376</b>	<b>2,972</b>	<b>3,098</b>	<b>3,184</b>

# State of Alaska - TRS Retirees



## 2.2(e) Distributions of Annual Benefits for Benefit Recipients

### Retired Participants

Annual Benefit By Age				Annual Benefit By Service			
Age Groups	Number of People	Total Annual Benefit	Average Annual Benefit	Years of Service	Number of People	Total Annual Benefit	Average Annual Benefit
0-19	3	\$ 14,757	\$ 4,919	0	48	\$ 956,510	\$19,927
20-24	1	6,934	6,934	1	27	753,300	27,900
25-29	0	0	0	2	32	761,870	23,808
30-34	0	0	0	3	50	1,213,679	24,274
35-39	2	58,952	29,476	4	39	998,008	25,590
40-44	61	1,524,000	24,984	0- 4	196	4,683,366	23,895
45-49	239	6,178,571	25,852	5- 9	366	8,014,067	21,896
50-54	494	12,429,476	25,161	10-14	726	14,799,463	20,385
55-59	634	15,105,306	23,825	15-19	950	19,646,037	20,680
60-64	563	12,917,835	22,945	20-24	558	13,932,659	24,969
65-69	449	9,104,305	20,277	25-29	237	6,080,060	25,654
70-74	333	6,325,094	18,994	30-34	86	2,025,976	23,558
75-79	209	3,638,704	17,410	35-39	42	1,137,773	27,090
80+	196	3,493,317	17,823	40+	23	477,850	20,776
<b>Total</b>	<b>3,184</b>	<b>\$70,797,251</b>	<b>\$22,235</b>	<b>Total</b>	<b>3,184</b>	<b>\$70,797,251</b>	<b>\$22,235</b>

### Years of 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	3	0	0	0	0	0	0	0	3
20-24	0	0	1	0	0	0	0	0	0	1
25-29	0	0	0	0	0	0	0	0	0	0
30-34	0	0	0	0	0	0	0	0	0	0
35-39	1	1	0	0	0	0	0	0	0	2
40-44	19	13	8	12	9	0	0	0	0	61
45-49	36	49	43	41	68	2	0	0	0	239
50-54	53	84	127	84	113	31	2	0	0	494
55-59	32	103	177	137	113	53	18	1	0	634
60-64	16	62	163	123	103	57	28	11	0	563
65-69	10	35	111	139	75	47	18	10	4	449
70-74	7	12	62	146	42	37	10	11	6	333
75-79	17	4	29	117	20	3	10	5	4	209
80+	5	0	5	151	15	7	0	4	9	196
<b>Total</b>	<b>196</b>	<b>366</b>	<b>726</b>	<b>950</b>	<b>558</b>	<b>237</b>	<b>86</b>	<b>42</b>	<b>23</b>	<b>3,184</b>

## 2.3 Actuarial Basis

### 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 unfunded accrued liability is amortized over 25 years. Any funded surpluses are amortized over five years.

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

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

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

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

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

### B. Actuarial Assumptions -

- |                          |  |
|--------------------------|--|
| 1. Interest              | 9% per year, compounded annually, net of expenses.                                 |
| 2. Salary Scale          | 6.5% per year for the first five years of employment and 5.5% per year thereafter. |
| 3. Health Cost Inflation | 9% per year.   |



4. Mortality  
1984 Unisex Pension Mortality Table set back 1-1/2 years. All deaths are assumed to result from nonoccupational causes.
5. Turnover  
Based upon the 1981-85 actual total turnover experience. (See Table 1).
6. Disability  
Incidence rates 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.
7. Retirement Age  
Retirement rates based on actual experience in accordance with Table 3.
8. Spouse's Age  
Wives are assumed to be four years younger than husbands.
9. Dependent Children  
Benefits to dependent children have been valued assuming members who are not single have one dependent child.
10. Contribution Refunds  
100% of those terminating after age 35 with eight or more years of membership service, or with at least five years of membership service and at least three years of B.I.A. service 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.
11. C.O.L.A.  
Of those benefit recipients who are eligible for the C.O.L.A., 54% are assumed to remain in Alaska and receive the C.O.L.A.
12. 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.

13. Expenses

Expenses are covered in the interest assumption.

**Valuation of Assets**

Based upon the five-year average ratio between actuarial and book values of the System's assets. The actuarial value of assets equals the market value, except that fixed income investments are carried at book value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements provided by Coopers & Lybrand. Valuation assets cannot be outside the range of book and actuarial values.

**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) were assumed such that the total rate for all retirees equals the present premium rate. 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 FY91 and FY92, the pre-65 monthly premium is \$318.94 and the post-65 premium is \$121.50, based on a total blended premium of \$243.98. These rates and the pre-65/post-65 split were provided by Deloitte & Touche.

**Table 1**

**Alaska TRS**

**Total Turnover Assumptions**

<u>Select Rates of Turnover During the First 10 Years of Employment</u>		<u>Ultimate Rates of Turnover After the First 10 Years of Employment</u>	
<u>Year of Employment</u>	<u>Rate</u>	<u>Ages</u>	<u>Rate</u>
1	.17	20-39	.03
2	.15	40+	.02
3	.12		
4	.12		
5	.11		
6	.09		
7	.07		
8	.07		
9	.07		
10	.06		

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

<u>Age</u>	<u>Rate</u>
20	.42
21	.43
22	.43
23	.44
24	.44
25	.45
26	.46
27	.47
28	.48
29	.49
30	.50
31	.52
32	.53
33	.54
34	.56
35	.58
36	.59
37	.62
38	.64
39	.67
40	.69
41	.72
42	.76
43	.82
44	.89
45	.97
46	1.06
47	1.15
48	1.24
49	1.34
50	1.44
51	1.56
52	1.72
53	1.91
54	2.13
55	2.40
56	2.75
57	3.20
58	3.66
59	4.32
60	5.06
61	5.85
62	6.78
63	7.83
64	8.94

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**Table 3**  
**Alaska TRS**  
**Retirement Rates**

<u>Age at Retirement</u>	<u>Retirement Rate</u>
50	.063
51	.063
52	.063
53	.063
54	.063
55	.117
56	.117
57	.117
58	.117
59	.117
60	.260
61	.180
62	.210
63	.240
64	.270
65	.540
66	.820
67	1.000

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