

State of Alaska

Public Employees' Retirement System

Actuarial Valuation Report

as of June 30, 1992

Prepared by:

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April 2, 1993

State of Alaska
Public Employees' 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 actuarial valuation required for the State of Alaska Public Employees' Retirement System has been prepared as of June 30, 1992 by William M. Mercer, Incorporated. The purposes of the report include:

- (1) a review of experience under the Plan for the year ended June 30, 1992;
- (2) a determination of the appropriate contribution rate for each employer in the System;
- (3) the provision of reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

In preparing this valuation, we have employed generally accepted actuarial methods and assumptions, in conjunction with employee data provided to us by the System's staff and financial information provided by the audited report from KPMG Peat Marwick, to determine a sound value for the System liability. This data has not been audited, but it has been reviewed and found to be consistent, both internally and with prior years' data. The actuarial assumptions are based on the results of an experience study presented to the Board in October 1991.

The contribution requirements are determined as a level percentage of payroll, and reflect the cost of benefits accruing in FY93 and a 25-year rolling amortization of the unfunded accrued liability. The amortization period is set by the Board. Contribution levels are recommended by the Actuary and adopted by the Board each year. The ratio of assets to liabilities increased from 88.1% to 91.2% during the year. Over the years, progress has been made toward achieving the funding objectives of the System.

Public Employees' Retirement Board
April 2, 1993
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The valuation reflects a change in the determination of the actuarial value of the fixed income portion of the assets, from book value to full market value. The assumptions and methods, when applied in combination, fairly represent past and anticipated future experience of the System.

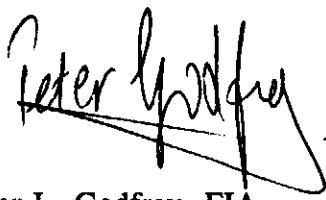
Future contribution requirements may differ from those determined in the valuation because of:

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

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

Sincerely,


Brian R. McGee, FSA
Principal


Peter L. Godfrey, FIA
Associate

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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 Public Employees' Retirement System as of June 30, 1992;
- (2) review experience under the plan for the year ended June 30, 1992;
- (3) determine the appropriate contribution rate for each employer in the System;
- (4) provide reporting and disclosure information for financial statements, governmental agencies, and other interested parties.

The report is divided into two sections. Section 1 contains the results of the valuation. It includes the experience of the plan during the 1991-92 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.

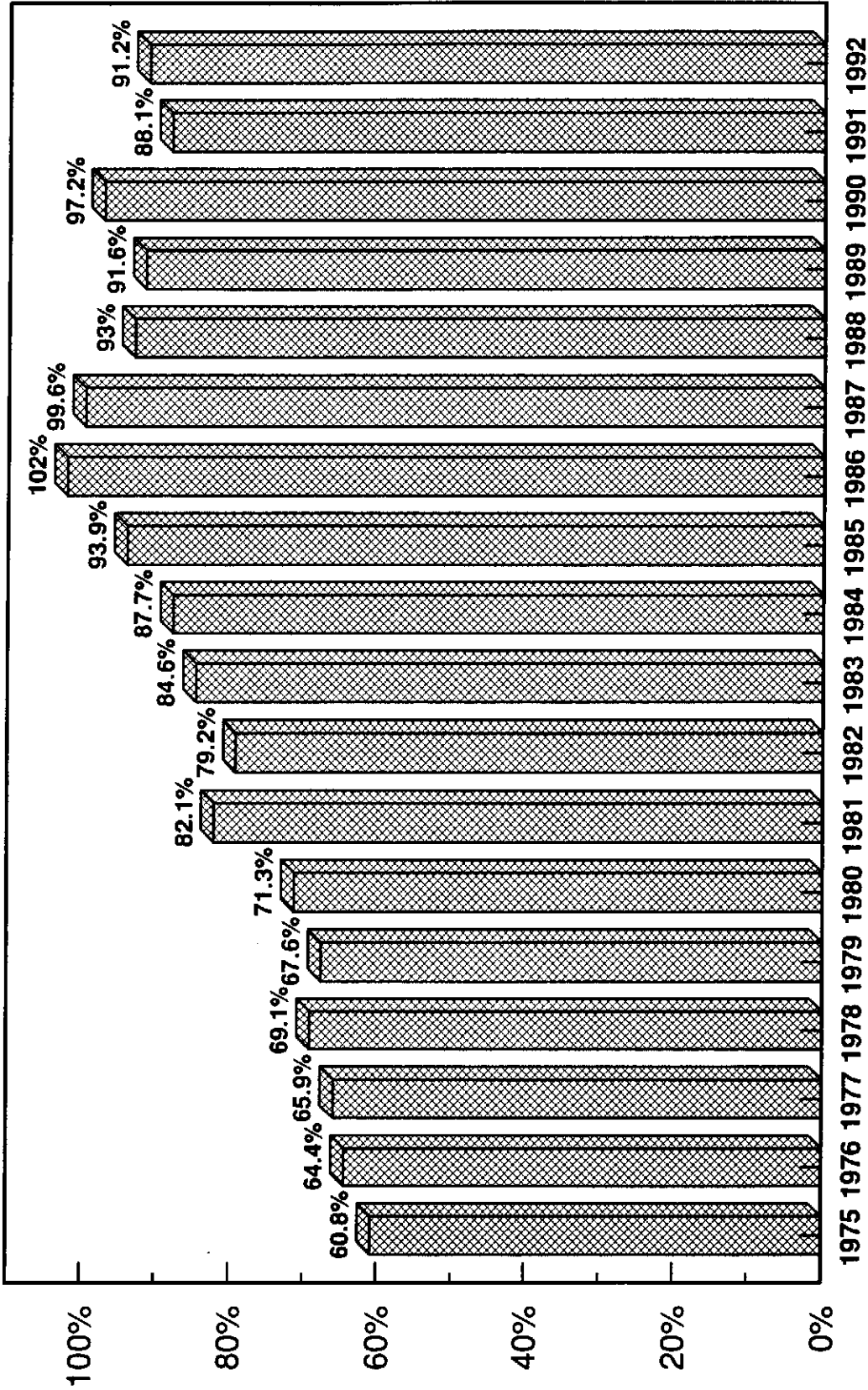
The principle results are as follows:

	<u>1991</u>	<u>1992</u>
Funding Status as of June 30:		
(a) Valuation Assets*	\$2,942,121	\$3,409,859**
(b) Accrued Liability*		
i) Non-Medical Benefits	2,437,555	2,735,178
ii) Total Benefits (including medical)	3,339,145	3,740,882
(c) Funding Ratio, (a) / (b)		
i) Non-Medical Benefits	120.7%	124.7%
ii) Total Benefits (including medical)	88.1%	91.2%

* In thousands.

** Reflects change in asset valuation method.

STATE OF ALASKA PERS FUNDING RATIO HISTORY



Employer Contribution Rates
for Fiscal Year:

	<u>1994</u>	<u>1995</u>
(a) Consolidated Rate	10.18%	10.90%
(b) Average Past Service Rate	3.54%	2.80%
(c) Average Total Contribution Rate	13.72%	13.70%

Analysis of the Valuation

As shown in the Highlights section of the report, the funding ratio as of June 30, 1992 has increased from 88.1% to 91.2%, an increase of 3.1%. The average employer contribution rate has reduced from 13.72% of payroll for FY94 to 13.70% for FY95, a reduction of 0.02% of payroll. The reasons for the change in the funded status and contribution rate are explained below.

(1) Retiree Medical Insurance

As you are aware, retiree medical premium experience has, in recent years, caused large fluctuations in the employer contribution rate. The following table summarizes the monthly premium per benefit recipient since retiree medical benefits have been provided under PERS and TRS.

<u>Fiscal Year</u>	<u>Monthly Premium Per Retiree For Health Coverage</u>	<u>Annual Percentage Increase</u>	<u>Average Annual Increase Since 1978</u>
1977	\$ 34.75	--	--
1978	57.64	66%	--
1979	69.10	20%	20%
1980	64.70	- 6%	6%
1981	96.34	49%	19%
1982	96.34	0%	14%
1983	115.61	20%	15%
1984	156.07	35%	18%
1985	191.85	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%
1993	226.90	- 7%	10%
1994	309.72	37%	11%

As you can see from the above table, the monthly retiree medical premium decreased during the year, to \$226.90. The premium for the 1994 fiscal year has increased to \$309.72, an increase of 37%. Since FY88, annual premium rate changes have ranged from 51% up to 15% down, but the average annual increase has been about 9.5%.

Last year, in an attempt to better predict the long-term increase in medical premiums, the Board adopted a health cost trend assumption which varies by year, declining to an ultimate rate equal to 7.5% for FY97 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 of bringing large health-related gains and losses into the System every year, we recommend that the Board use the health cost trend assumption to determine actuarial liabilities for retiree medical benefits. The difference between the assumed rate and the actual rate will be tracked annually and reduced if the gap becomes too wide. Also, adjustments will be made, if necessary, to the assumed medical premium rate every four to five years when a formal experience analysis is performed.

The effect of this approach is that no gain or loss emerges this year due to retiree medical insurance.

(2) Asset Valuation Method

The asset valuation method is based upon the five-year average ratio between actuarial and book values of the System's assets. Prior to June 30, 1992, the actuarial value of assets equalled the market value, except that fixed income investments were carried at book value. Beginning June 30, 1992, the actuarial value of assets of fixed income investments equals the full market value.

This change was made as a result of a change in investment philosophy over time from a "buy and hold" strategy for fixed income investments to a "managed" strategy. This means that the fixed income funds are actively managed to obtain market advantages, making the market value a more appropriate valuation method. The effect of the change increased valuation assets by \$103,790,000, which increased the funding ratio by 2.8% and lowered the average employer contribution rate by 0.88%.

(3) Investment Performance

The approximate rate of return based on market value of system assets was 11.54%. The effect of the five-year smoothing technique, before the change in asset valuation method, was a rate of return based on valuation assets of 9.40%, compared to the 8.75% investment return assumption. This produced a gain of \$19,375,000 to the System from investment performance which had the effect of decreasing the average employer contribution rate by 0.16%.

(4) Salary Increases

Last year, salary increases were less than anticipated in the valuation assumptions. Salary experience resulted in an actuarial gain which generated a reduction in the total employer contribution rate equal to 0.56%.

(5) Employee Data

Section 2.2 provides statistics on active and inactive participants. The number of active participants increased 3.0% from 29,840 at June 30, 1991 to 30,721 at June 30, 1992. This increase matched the median population increase scenario reviewed last year. The average age of active participants increased from 40.68 to 41.21 and average credited service increased from 6.91 to 7.22 years.

The number of retirees and beneficiaries increased 4.1% from 8,358 to 8,704, and their average age increased from 63.15 to 63.58. There was a 7.8% increase in the number of vested terminated participants from 3,015 to 3,249. Their average age increased from 43.20 to 43.59.

The overall effect of these participant data changes was an actuarial loss to the System, resulting in an increase in the past service rate equal to 1.02%. These demographic changes also had the effect of increasing the consolidated rate by 0.56%.

(6) Actuarial Projections

At the Fall 1991 Board Meetings, the PERS Board approved the use of an enhanced actuarial projection system in the valuation report this year. The same actuarial cost method is used, but the enhanced system projects population growth patterns and their associated liabilities 25 years into the future. By also projecting plan assets, this report in effect produces an actuarial valuation for each of the next 25 years. Section 1.5, Actuarial Projections, contains the results of this analysis.

This type of information can be especially useful to two-tiered systems, such as PERS. All of the projected new entrants will be covered under the cost savings provisions of the second tier, so that the ultimate effect of the second tier on plan liabilities can be anticipated. As you can see in Section 1.5, based on the actuarial assumptions and cost method, future contribution rates are expected to remain relatively constant, and then slowly increase in 10 to 15 years. This reflects the fact that many second-tier employees are already in PERS and affecting the rate. Also, health premiums are expected to increase faster than salaries, putting upward pressure on the rates.

Summary

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

(1) Last year's average employer contribution rate	13.72%
(2) Change in past service rate due to retiree medical insurance	0.00%
(3) Change in consolidated rate due to retiree medical insurance	0.00%
(4) Decrease due to investment performance	(0.16%)
(5) Decrease due to salary increases	(0.56%)
(6) Increase in past service rate due to demographic experience	1.02%
(7) Increase in consolidated rate due to demographic experience	0.56%
(8) Decrease in average employer contribution rate due to change in asset valuation method	(0.88%)
(9) Average employer contribution rate this year	13.70%

Section 1

Valuation Results

This section sets forth the results of the actuarial valuation.

Section 1.1(a) shows the distribution of net assets as of June 30, 1992.

Section 1.1(b) shows the transactions of the plan's fund during FY92.

Section 1.1(c) develops the valuation assets as of June 30, 1992.

Section 1.2(a) shows the actuarial present values for Police and Fire members as of June 30, 1992.

Section 1.2(b) shows the actuarial present values for "Other" members as of June 30, 1992.

Section 1.3(a) develops the average employer contribution rate for Police and Fire members - FY95.

Section 1.3(b) develops the average employer contribution rate for "Other" members - FY95.

Section 1.3(c) develops the average employer contribution rate for all members - FY95.

Section 1.4 calculates the actuarial gain or loss for FY92.

Section 1.5 contains the financial projections.

1.1(a) Statement of Net Assets as of June 30, 1992 (in thousands)

	<u>Book Value</u>	<u>Actuarial Value*</u>
Cash and Cash Equivalents	\$ 10,248	\$ 10,248
United States Government Bonds	715,943	804,158
Other United States Government Securities	62,398	63,614
Corporate Bonds	803,736	852,468
United States Common Stocks	1,125,674	1,296,970
Foreign Stocks	191,441	187,632
Real Estate Equities	152,285	118,049
Mortgages (Net of Reserves)	67,575	76,236
Net Accrued Receivables	<u>44,729</u>	<u>44,729</u>
Total Assets	\$3,174,029	\$3,454,104

* Effective June 30, 1992, the Actuarial Value of Assets equals the full Market Value, as provided in the audited financial statements.

1.1(b) Changes in Net Assets During Fiscal Year 1992 (in thousands)

Net Assets, June 30, 1991, (market value) \$ 3,017,541

Additions:

Employee Contributions	\$ 77,602	
Employer Contributions	147,961	
Contributions for Retirement Incentive Program:		
Employee Contributions	72	
Employer Contributions	1,231	
Interest Income and Realized Gain (Loss)	235,196	
Dividend Income	47,477	
Unrealized Gain (Loss) on Investments	<u>78,450</u>	587,989

Deductions:

Medical Benefits	\$ 23,120	
Retirement Benefits	108,360	
Refunds of Contributions	11,901	
Administrative Expenses	<u>8,045</u>	151,426

Net Assets, June 30, 1992, (market value) \$ 3,454,104

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

Based on Market Values	11.54%
Based on Valuation Assets (prior to change in asset valuation method)	9.40%

1.1(c) Development of Valuation Assets as of June 30, 1992 (in thousands)

	A	B	C
	<u>Actuarial Value</u>	<u>Book Value</u>	<u>Ratio (A/B)</u>
(1) June 30, 1992	\$3,454,104	\$3,174,029	1.0882
(2) June 30, 1991	3,017,541	2,825,114	1.0681
(3) June 30, 1990	2,746,555	2,553,305	1.0757
(4) June 30, 1989	2,452,962	2,277,181	1.0772
(5) June 30, 1988	2,123,695	1,999,221	1.0623
(6) Average Ratio			1.0743
(7) Book Value at June 30, 1992			\$3,174,029
(8) Valuation Assets at June 30, 1992, (6) x (7) but not outside the range of book and actuarial values			\$3,409,859

**1.2(a) Actuarial Present Values as of June 30, 1992
Police and Fire Members (in thousands)**

	<u>Normal Cost</u>	<u>Accrued Liability</u>
<u>Active Members</u>		
Retirement Benefits	\$ 16,787	\$ 257,638
Termination Benefits	567	5,290
Disability Benefits	620	11,317
Death Benefits	528	10,323
Return of Contributions	365	2,135
Medical Benefits	6,290	73,267
Indebtedness	0	(7,740)
Retirement Incentive Program Receivables	<u>0</u>	<u>(712)</u>
Subtotal	\$ 25,157	\$ 351,518
<u>Inactive Members</u>		
Not Vested	\$ 0	\$ 368
Vested Terminations - Retirement Benefits	0	6,790
- Medical Benefits	0	7,467
Retirees & Beneficiaries - Retirement Benefits	0	195,445
- Medical Benefits	<u>0</u>	<u>30,930</u>
Subtotal	\$ 0	\$ 241,000
<u>Totals</u>	\$ 25,157	\$ 592,518

**1.2(b) Actuarial Present Values as of June 30, 1992
"Other" Members (in thousands)**

	<u>Normal Cost</u>	<u>Accrued Liability</u>
<u>Active Members</u>		
Retirement Benefits	\$ 73,156	\$ 867,788
Termination Benefits	17,623	165,880
Disability Benefits	3,337	42,772
Death Benefits	3,691	55,773
Return of Contributions	6,161	27,457
Medical Benefits	63,011	481,808
Indebtedness	0	(29,560)
Retirement Incentive Program Receivables	<u>0</u>	<u>(5,574)</u>
Subtotal	\$ 166,979	\$ 1,606,344
<u>Inactive Members</u>		
Not Vested	\$ 0	\$ 9,491
Vested Terminations - Retirement Benefits	0	158,205
- Medical Benefits	0	177,217
Retirees & Beneficiaries - Retirement Benefits	0	962,092
- Medical Benefits	<u>0</u>	<u>235,015</u>
Subtotal	\$ 0	\$ 1,542,020
<u>Totals</u>	\$ 166,979	\$ 3,148,364

1.3(a) Development of Average Employer Contribution Rate - FY95 For Police and Fire Members (in thousands)

Consolidated Rate

(1)	Total Normal Cost	\$ 25,157
(2)	Total Salaries	122,762
(3)	Normal Cost Rate for Police & Fire Members, (1) / (2)	20.49%
(4)	Member Contribution Rate (Police & Fire)	7.50%
(5)	Consolidated Employer Normal Cost Rate For Police & Fire Members, (3) - (4)	12.99%

Past Service Rate

(1)	Accrued Liability	\$ 592,518
(2)	Valuation Assets	540,087*
(3)	Total Unfunded Liability, (1) - (2)	52,431
(4)	Amortization Factor (25 years)	10.902097
(5)	Past Service Cost, (3) / (4)	4,809
(6)	Total Salaries	122,762
(7)	Past Service Rate, (5) / (6)	3.92%

Total Employer Contribution Rate 16.91%

* Allocated in proportion to Accrued Liability.

1.3(b) Development of Average Employer Contribution Rate - FY95 For "Other" Members (in thousands)

Consolidated Rate

(1)	Total Normal Cost	\$ 166,979
(2)	Total Salaries	961,054
(3)	Normal Cost Rate for "Other" Members, (1) / (2)	17.37%
(4)	Member Contribution Rate ("Others")	6.75%
(5)	Consolidated Employer Normal Cost Rate For Other Members, (3) - (4)	10.62%

Past Service Rate

(1)	Accrued Liability	\$3,148,364
(2)	Valuation Assets	2,869,772*
(3)	Total Unfunded Liability, (1) - (2)	278,592
(4)	Amortization Factor (25 years)	10.902097
(5)	Past Service Cost, (3) / (4)	\$ 25,554
(6)	Total Salaries	\$ 961,054
(7)	Past Service Rate, (5) / (6)	2.66%

Total Employer Contribution Rate 13.28%

* Allocated in proportion to Accrued Liability.

1.3(c) Development of Average Employer Contribution Rate - FY95 All Members (in thousands)

Consolidated Rate

(1)	Total Normal Cost	\$ 192,136
(2)	Total Salaries	1,083,816
(3)	Normal Cost Rate for All Members, (1) / (2)	17.73%
(4)	Average Member Contribution Rate	6.83%
(5)	Consolidated Employer Normal Cost Rate for All Members, (3) - (4)	10.90%

Past Service Rate

(1)	Accrued Liability	\$3,740,882
(2)	Valuation Assets	3,409,859
(3)	Total Unfunded Liability, (1) - (2)	331,023
(4)	25-Year Amortization Factor	10.902097
(5)	Past Service Cost, (3) / (4)	30,363
(6)	Total Salaries	1,083,816
(7)	Past Service Rate, (5) / (6)	2.80%

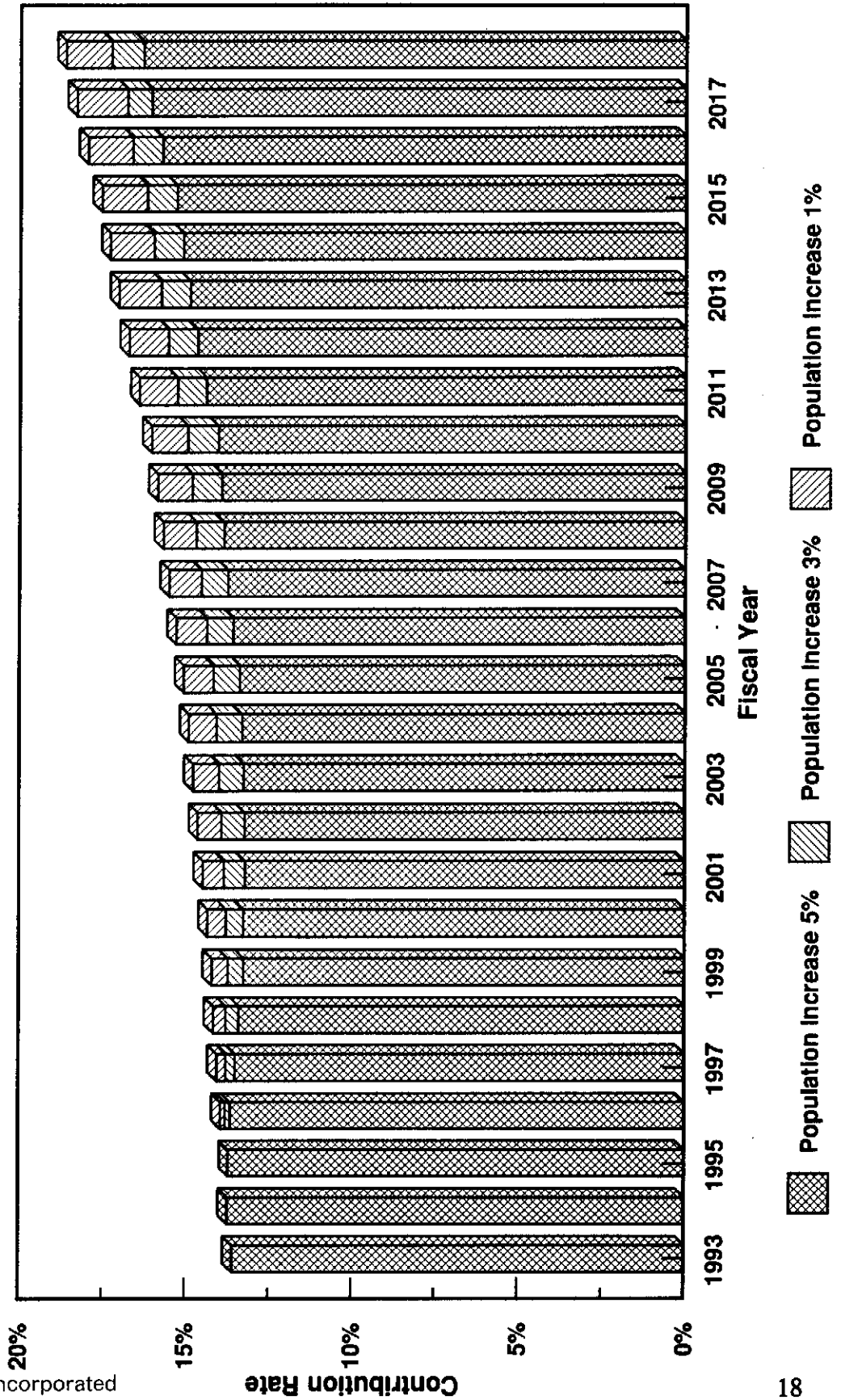
Total Employer Contribution Rate 13.70%

1.4 Development of Actuarial Gain/(Loss) for FY92 (in thousands)

(1) Unfunded Liability, June 30, 1991	\$ 397,024
(2) Normal Cost for FY92	174,917
(3) Interest on (1) and (2) at 8.75%	50,045
(4) Employee Contributions for FY92	77,674
(5) Employer Contributions for FY92	149,192
(6) Interest on (4) and (5) at 8.75% for one-half year	9,925
(7) Expected Unfunded Liability, June 30, 1992, (1) + (2) + (3) - (4) - (5) - (6)	385,195
(8) Reduction in Unfunded Liability due to Change in Asset Valuation Method	103,790
(9) Expected Unfunded Liability after Changes, (7) - (8)	281,405
(10) Actual Unfunded Liability, June 30, 1992	331,023
(11) Actuarial Gain/(Loss) for the Year, (9) - (10)	\$ (49,618)

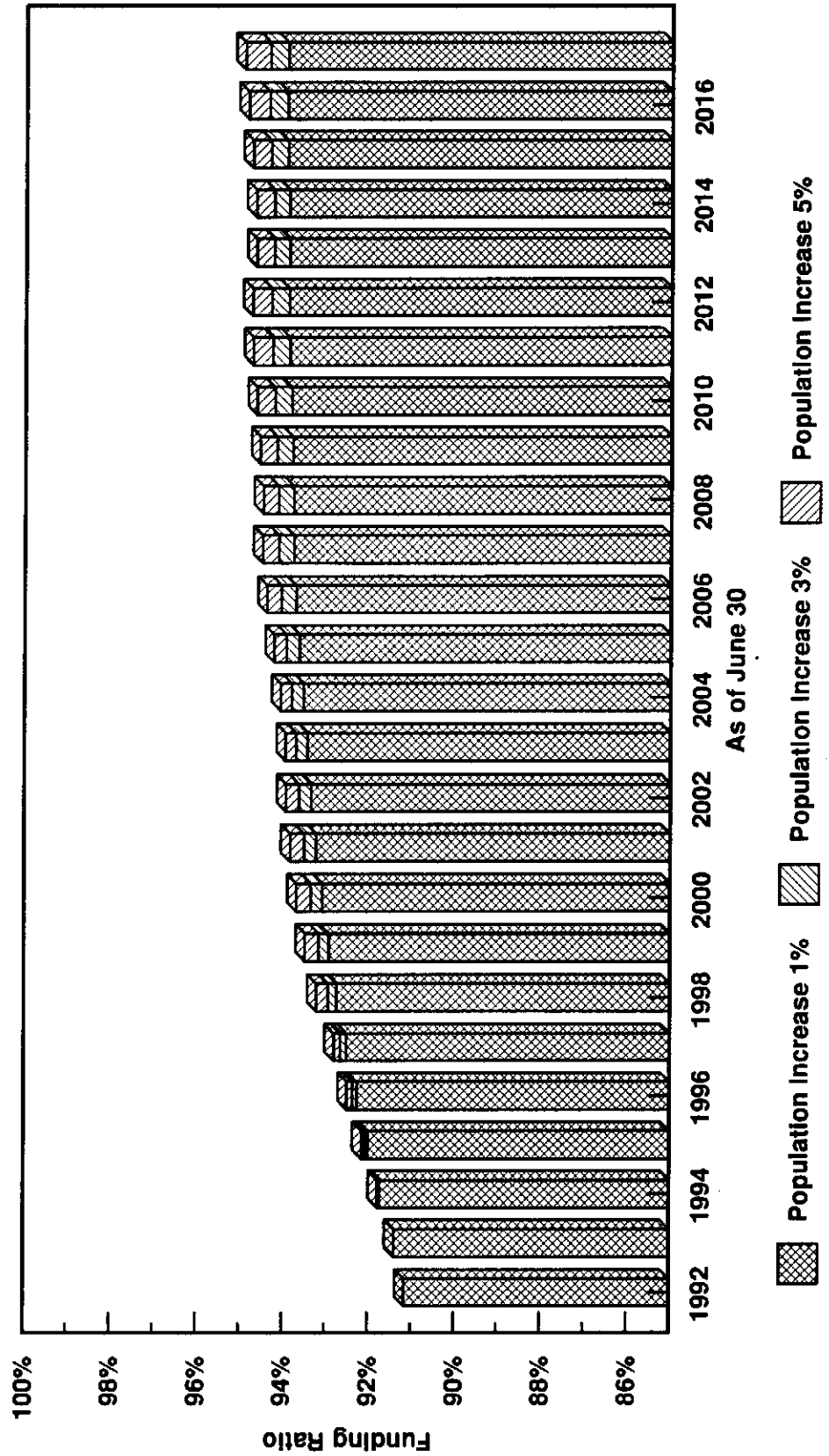
1.5 Actuarial Projections

State of Alaska PERS Projected Contribution Rates



1.5 Actuarial Projections (continued)

State of Alaska PERS Projected Funding Ratios



1.5 Actuarial Projections (continued)

Table 1

State of Alaska PERS
Financial Projections ('000 omitted)

As of June 30	Investment Return 8.75%		Valuation Amounts on July 1		Surplus* (Deficit)	Total Salaries		Employer Ctb Rate		Flow Amounts During Following 12 Months		Annual Population Increase 1.00%		Ending Asset Value
	Total Assets	Accrued Liability	Funding Ratio	Total		Salaries	Total	Employer	Employee	Total	Benefit	Net	Investment	
1992	3,409,859	3,740,882	91.2%	(331,023)	1,083,816	13.58%	147,182	74,025	221,207	164,926	56,281	300,825	3,766,965	
1993	3,766,965	4,121,700	91.4%	(354,735)	1,122,189	13.72%	153,964	76,645	230,610	183,112	47,498	331,687	4,146,150	
1994	4,146,150	4,519,978	91.7%	(373,828)	1,161,316	13.70%	159,092	79,318	238,410	200,805	37,605	364,433	4,548,188	
1995	4,548,188	4,943,855	92.0%	(395,666)	1,203,597	13.93%	167,711	82,206	249,916	220,421	29,495	399,257	4,976,940	
1996	4,976,940	5,394,328	92.3%	(417,388)	1,249,811	14.04%	175,448	85,362	260,810	244,182	16,628	436,210	5,429,778	
1997	5,429,778	5,869,095	92.5%	(439,317)	1,299,523	14.15%	183,933	88,757	272,691	272,772	(82)	475,102	5,904,798	
1998	5,904,798	6,366,901	92.7%	(462,103)	1,361,280	14.20%	193,256	92,975	286,232	301,676	(15,444)	515,994	6,405,348	
1999	6,405,348	6,893,105	92.9%	(487,757)	1,423,036	14.33%	203,961	97,193	301,154	335,221	(34,067)	558,978	6,930,259	
2000	6,930,259	7,445,471	93.1%	(515,212)	1,484,792	14.48%	214,941	101,411	316,352	372,132	(55,780)	603,957	7,478,436	
2001	7,478,436	8,022,418	93.2%	(543,982)	1,546,548	14.63%	226,191	105,629	331,821	412,077	(80,256)	650,852	8,049,031	
2002	8,049,031	8,623,018	93.3%	(573,986)	1,608,305	14.77%	237,605	109,847	347,452	456,472	(109,019)	699,521	8,639,533	
2003	8,639,533	9,246,997	93.4%	(607,464)	1,692,430	14.92%	252,472	115,593	368,065	503,580	(135,515)	750,030	9,254,048	
2004	9,254,048	9,894,735	93.5%	(640,687)	1,776,555	15.06%	267,509	121,339	388,848	552,806	(163,958)	802,556	9,892,646	
2005	9,892,646	10,567,265	93.6%	(674,620)	1,860,680	15.29%	284,468	127,084	411,552	604,067	(192,515)	857,184	10,557,315	
2006	10,557,315	11,266,275	93.7%	(708,960)	1,944,805	15.50%	301,364	132,830	434,194	659,176	(224,981)	913,922	11,246,256	
2007	11,246,256	11,994,106	93.8%	(747,850)	2,028,929	15.69%	318,300	138,576	456,876	716,023	(259,146)	972,710	11,959,819	
2008	11,959,819	12,753,751	93.8%	(793,932)	2,147,402	15.87%	340,698	146,668	487,366	772,450	(285,084)	1,034,012	12,708,747	
2009	12,708,747	13,548,859	93.8%	(840,112)	2,265,875	16.05%	363,649	154,759	518,409	829,569	(311,160)	1,098,402	13,495,989	
2010	13,495,989	14,383,732	93.8%	(887,743)	2,384,347	16.41%	391,240	162,851	554,091	889,066	(334,975)	1,166,244	14,327,257	
2011	14,327,257	15,263,326	93.9%	(936,069)	2,502,820	16.73%	418,751	170,943	589,694	950,368	(360,674)	1,237,856	15,204,439	
2012	15,204,439	16,193,249	93.9%	(988,811)	2,621,293	17.03%	446,333	179,034	625,367	1,015,528	(390,161)	1,313,319	16,127,597	
2013	16,127,597	17,179,766	93.9%	(1,052,169)	2,786,001	17.30%	481,915	190,284	672,199	1,077,446	(405,247)	1,393,435	17,115,785	
2014	17,115,785	18,229,791	93.9%	(1,114,006)	2,950,710	17.56%	518,124	201,533	719,657	1,140,405	(420,748)	1,479,223	18,174,260	
2015	18,174,260	19,350,896	93.9%	(1,176,636)	3,115,419	17.96%	559,607	212,783	772,390	1,211,474	(439,084)	1,571,038	19,306,214	
2016	19,306,214	20,551,305	93.9%	(1,245,091)	3,280,128	18.32%	600,787	224,033	824,820	1,286,268	(461,448)	1,669,105	20,513,871	
2017	20,513,871	21,839,895	93.9%	(1,326,024)	3,444,836	18.63%	641,925	235,282	877,207	1,364,815	(487,608)	1,773,631	21,799,894	

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

1.5 Actuarial Projections (continued)

Table 2

State of Alaska PERS
Financial Projections ('000 omitted)

As of June 30	Investment Return 8.75%		Valuation Amounts on July 1		Surplus* (Deficit)		Total Salaries		Employer Ctb Rate		Flow Amounts During Following 12 Months		Annual Population Increase 3.00%		Ending Asset Value	
	Total Assets	Accrued Liability	Funding Ratio	Total	Surplus*	Total	Salaries	Employer Ctb Rate	Employer Ctb Rate	Total	Benefit Payments	Net Contribs	Investment Earnings	Ending Asset Value		
1992	3,409,859	3,740,882	91.2%	(331,023)	1,083,816	13.58%	147,182	74,025	221,207	164,926	56,281	300,825	3,766,965			
1993	3,766,965	4,122,131	91.4%	(355,166)	1,138,487	13.72%	156,200	77,759	233,959	183,120	50,840	331,834	4,149,638			
1994	4,149,638	4,522,915	91.7%	(373,277)	1,195,553	13.70%	163,783	81,656	245,439	200,992	44,447	365,038	4,559,123			
1995	4,559,123	4,951,981	92.1%	(392,858)	1,258,403	13.79%	173,585	85,949	259,534	220,905	38,630	400,613	4,998,366			
1996	4,998,366	5,411,016	92.4%	(412,650)	1,328,102	13.77%	182,918	90,709	273,627	245,103	28,524	438,605	5,465,495			
1997	5,465,495	5,898,756	92.7%	(433,261)	1,404,522	13.77%	193,416	95,929	289,345	274,293	15,052	478,889	5,959,436			
1998	5,959,436	6,411,881	92.9%	(452,445)	1,505,035	13.72%	206,484	102,794	309,278	303,746	5,532	521,693	6,486,660			
1999	6,486,660	6,962,719	93.2%	(476,058)	1,605,548	13.78%	221,221	109,659	330,880	337,949	(7,069)	567,274	7,046,865			
2000	7,046,865	7,549,254	93.3%	(502,389)	1,706,061	13.83%	236,028	116,524	352,552	375,674	(23,122)	615,589	7,639,332			
2001	7,639,332	8,170,606	93.5%	(531,274)	1,806,574	13.91%	251,278	123,389	374,667	416,589	(41,922)	666,607	8,264,018			
2002	8,264,018	8,827,029	93.6%	(563,011)	1,907,087	13.99%	266,789	130,254	397,043	462,175	(65,132)	720,252	8,919,137			
2003	8,919,137	9,519,909	93.7%	(600,772)	2,058,702	14.07%	289,734	140,609	430,343	510,724	(80,381)	776,908	9,615,665			
2004	9,615,665	10,251,768	93.8%	(636,103)	2,210,318	14.16%	313,042	150,965	464,006	561,680	(97,674)	837,097	10,355,088			
2005	10,355,088	11,026,258	93.9%	(671,170)	2,361,933	14.37%	339,430	161,320	500,750	615,094	(114,344)	901,068	11,141,811			
2006	11,141,811	11,848,168	94.0%	(706,357)	2,513,549	14.54%	365,478	171,675	537,154	672,911	(135,758)	968,969	11,975,022			
2007	11,975,022	12,723,420	94.1%	(748,398)	2,665,165	14.69%	391,433	182,031	573,464	733,058	(159,594)	1,040,832	12,856,261			
2008	12,856,261	13,659,069	94.1%	(802,808)	2,897,063	14.82%	429,242	197,869	627,111	793,457	(166,346)	1,117,645	13,807,560			
2009	13,807,560	14,663,303	94.2%	(855,743)	3,128,960	14.95%	467,928	213,708	681,636	855,306	(173,670)	1,200,563	14,834,454			
2010	14,834,454	15,745,446	94.2%	(910,992)	3,360,858	15.27%	513,243	229,547	742,789	920,575	(177,785)	1,290,237	15,946,905			
2011	15,946,905	16,915,953	94.3%	(969,048)	3,592,756	15.54%	558,184	245,385	803,570	989,027	(185,458)	1,387,240	17,148,688			
2012	17,148,688	18,186,414	94.3%	(1,037,726)	3,824,654	15.77%	603,198	261,224	864,422	1,062,774	(198,352)	1,491,832	18,442,168			
2013	18,442,168	19,569,553	94.2%	(1,127,385)	4,176,160	15.98%	667,479	285,232	952,710	1,134,915	(182,204)	1,605,718	19,865,682			
2014	19,865,682	21,079,226	94.2%	(1,213,545)	4,566,259	16.19%	739,489	311,875	1,051,364	1,209,921	(158,557)	1,731,310	21,438,435			
2015	21,438,435	22,730,426	94.3%	(1,291,991)	4,879,173	16.63%	811,241	333,248	1,144,489	1,296,219	(151,731)	1,869,225	23,155,929			
2016	23,155,929	24,539,275	94.4%	(1,383,346)	5,230,680	16.78%	877,873	357,255	1,235,129	1,389,490	(154,361)	2,019,391	25,020,959			
2017	25,020,959	26,523,033	94.3%	(1,502,075)	5,582,186	17.28%	964,389	381,263	1,345,653	1,489,996	(144,343)	2,183,019	27,020,959			

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

1.5 Actuarial Projections (continued)

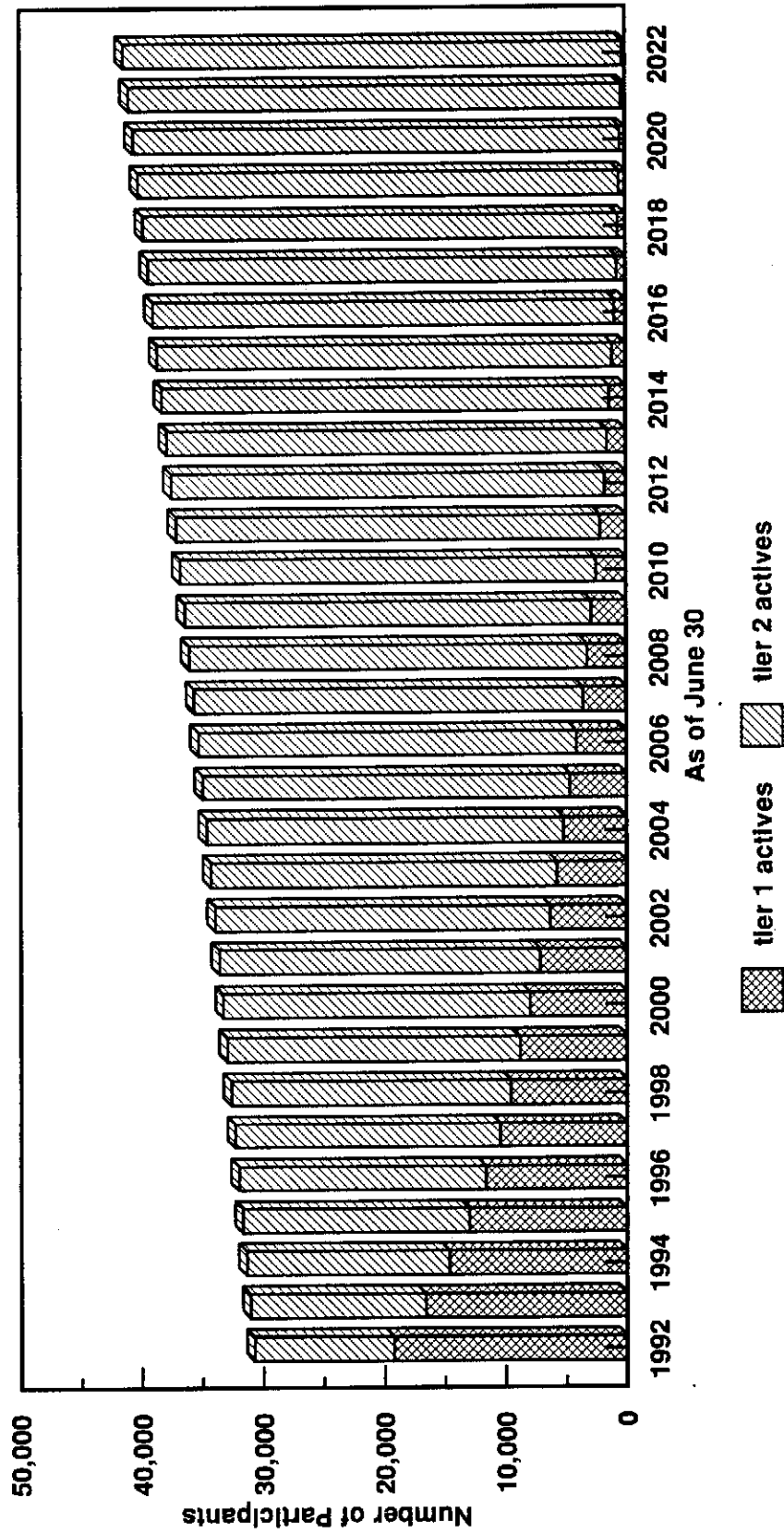
Table 3
State of Alaska PERS
Financial Projections ('000 omitted)

As of June 30	Investment Return 8.75%		Valuation Amounts on July 1		Surplus* (Deficit)	Total Salaries		Flow Amounts During Following 12 Months			Annual Population Increase 5.00%			Ending Asset Value	
	Total Assets	Accrued Liability	Funding Ratio	Total		Employer Ctb Rate	Employer Ctb Rate	Employee Ctb Rate	Contribs	Benefit Payments	Net Contribs	Investment Earnings	Asset Value		
1992	3,409,859	3,740,882	91.2%	(331,023)	1,083,816	13.58%	147,182	74,025	221,207	164,926	56,281	300,825	3,766,965		
1993	3,766,965	4,122,561	91.4%	(355,596)	1,155,538	13.72%	158,540	78,923	237,463	183,127	54,336	331,987	4,153,288		
1994	4,153,288	4,525,871	91.8%	(372,583)	1,231,268	13.70%	168,675	84,096	252,771	201,179	51,591	365,670	4,570,549		
1995	4,570,549	4,960,178	92.1%	(389,629)	1,316,242	13.64%	179,598	89,899	269,497	221,397	48,100	402,027	5,020,677		
1996	5,020,677	5,428,205	92.5%	(407,528)	1,412,008	13.50%	190,665	96,440	287,105	246,054	41,052	441,105	5,502,833		
1997	5,502,833	5,929,682	92.8%	(426,849)	1,518,966	13.39%	203,385	103,745	307,131	275,885	31,246	482,865	6,016,944		
1998	6,016,944	6,455,103	93.2%	(438,159)	1,667,974	13.25%	221,074	113,923	334,996	305,958	29,039	527,753	6,573,736		
1999	6,573,736	7,032,048	93.5%	(458,312)	1,816,982	13.25%	240,681	124,100	364,781	340,920	23,861	576,246	7,173,843		
2000	7,173,843	7,657,612	93.7%	(483,769)	1,965,990	13.21%	259,619	134,277	393,896	379,599	14,298	628,337	7,816,477		
2001	7,816,477	8,330,951	93.8%	(514,474)	2,114,998	13.22%	279,522	144,454	423,976	421,672	2,304	684,043	8,502,823		
2002	8,502,823	9,053,278	93.9%	(550,454)	2,264,006	13.25%	299,979	154,632	454,611	468,698	(14,087)	743,381	9,232,117		
2003	9,232,117	9,827,862	93.9%	(595,745)	2,511,374	13.30%	334,056	171,527	505,583	519,013	(13,430)	807,223	10,025,910		
2004	10,025,910	10,660,034	94.1%	(634,124)	2,758,742	13.37%	368,790	188,422	557,212	572,120	(14,908)	876,615	10,887,617		
2005	10,887,617	11,557,180	94.2%	(669,563)	3,006,110	13.58%	408,211	205,317	613,529	628,223	(14,694)	952,024	11,824,946		
2006	11,824,946	12,528,745	94.4%	(703,799)	3,253,478	13.73%	446,698	222,213	668,910	689,433	(20,522)	1,033,785	12,838,209		
2007	12,838,209	13,586,233	94.5%	(748,024)	3,500,846	13.85%	484,747	239,108	723,855	753,751	(29,896)	1,122,035	13,930,348		
2008	13,930,348	14,743,205	94.5%	(812,857)	3,913,468	13.94%	545,622	267,290	812,912	819,228	(6,316)	1,218,629	15,142,661		
2009	15,142,661	16,015,280	94.6%	(872,619)	4,326,090	14.05%	607,834	295,472	903,305	887,201	16,104	1,325,687	16,484,453		
2010	16,484,453	17,420,137	94.6%	(935,684)	4,738,712	14.40%	682,301	323,654	1,005,955	959,985	45,970	1,444,401	17,974,824		
2011	17,974,824	18,977,511	94.7%	(1,002,687)	5,151,335	14.67%	755,667	351,836	1,107,503	1,037,769	69,734	1,575,848	19,620,405		
2012	19,620,405	20,709,196	94.7%	(1,088,790)	5,563,957	14.90%	828,999	380,018	1,209,017	1,122,827	86,190	1,720,556	21,427,151		
2013	21,427,151	22,639,043	94.6%	(1,211,892)	6,246,305	15.10%	943,174	426,623	1,369,796	1,208,579	161,217	1,881,929	23,470,297		
2014	23,470,297	24,792,964	94.7%	(1,322,667)	6,928,653	15.30%	1,060,205	473,227	1,533,432	1,299,833	233,599	2,063,871	25,767,767		
2015	25,767,767	27,198,927	94.7%	(1,431,159)	7,611,002	15.73%	1,196,912	519,831	1,716,743	1,406,541	310,202	2,268,251	28,346,221		
2016	28,346,221	29,886,957	94.8%	(1,540,737)	8,293,350	16.05%	1,331,124	566,436	1,897,560	1,524,695	372,865	2,496,607	31,215,692		
2017	31,215,692	32,889,140	94.9%	(1,673,447)	8,975,698	16.31%	1,464,296	613,040	2,077,336	1,655,076	422,260	2,749,847	34,387,800		

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

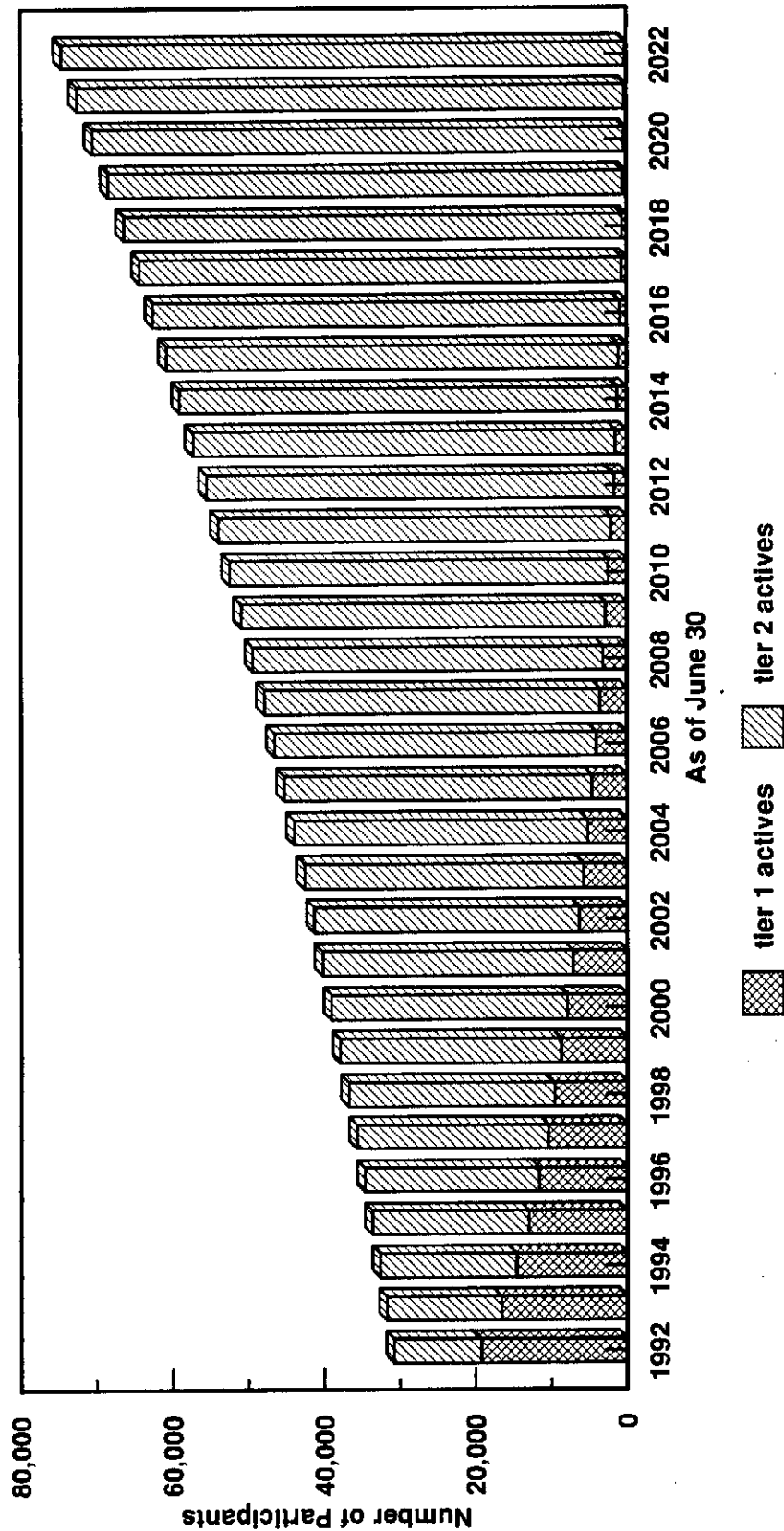
1.5 Actuarial Projections (continued)

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



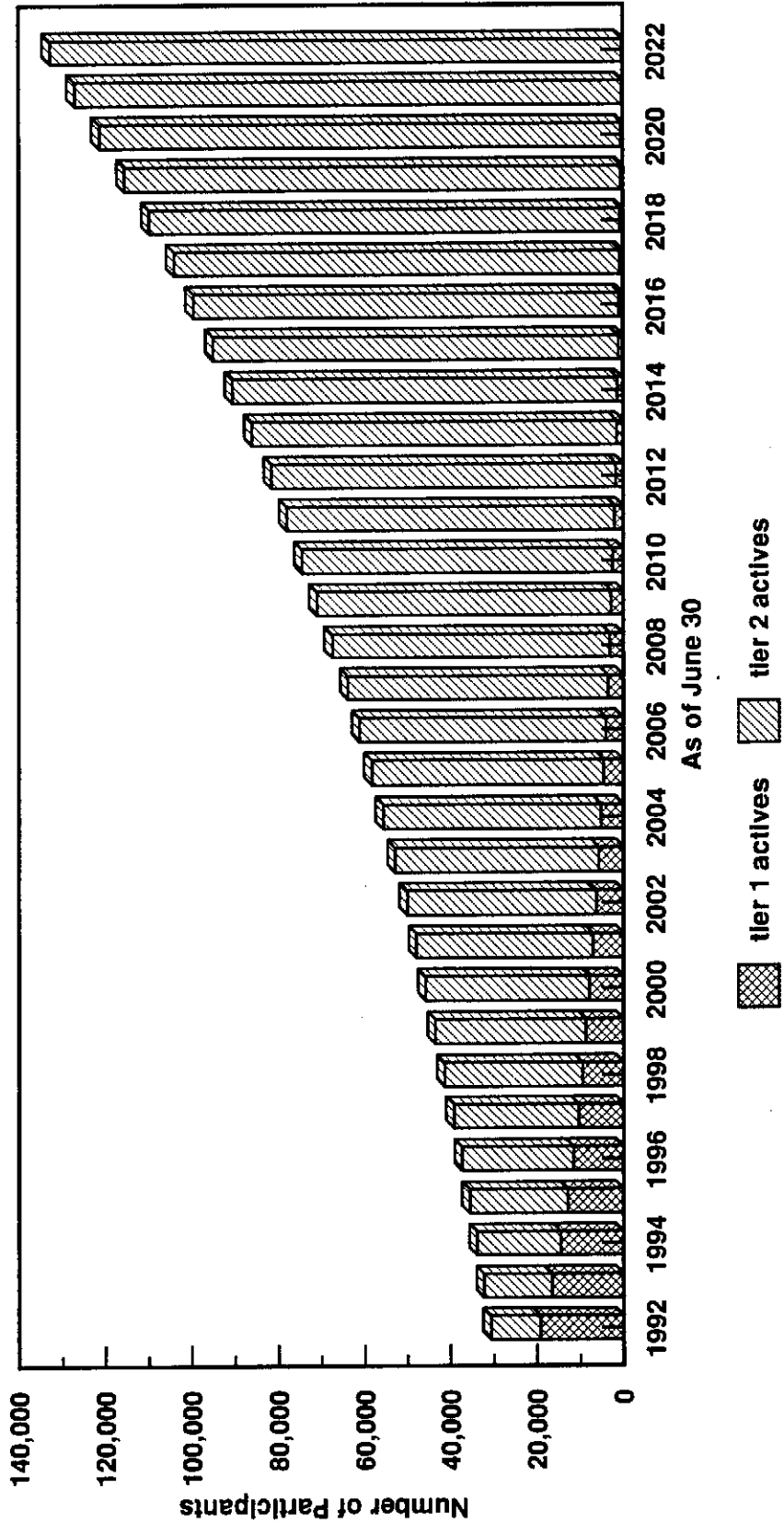
1.5 Actuarial Projections (continued)

**State of Alaska PERS
 Projected Active Participant Count
 Annual Population Increase of 3%**



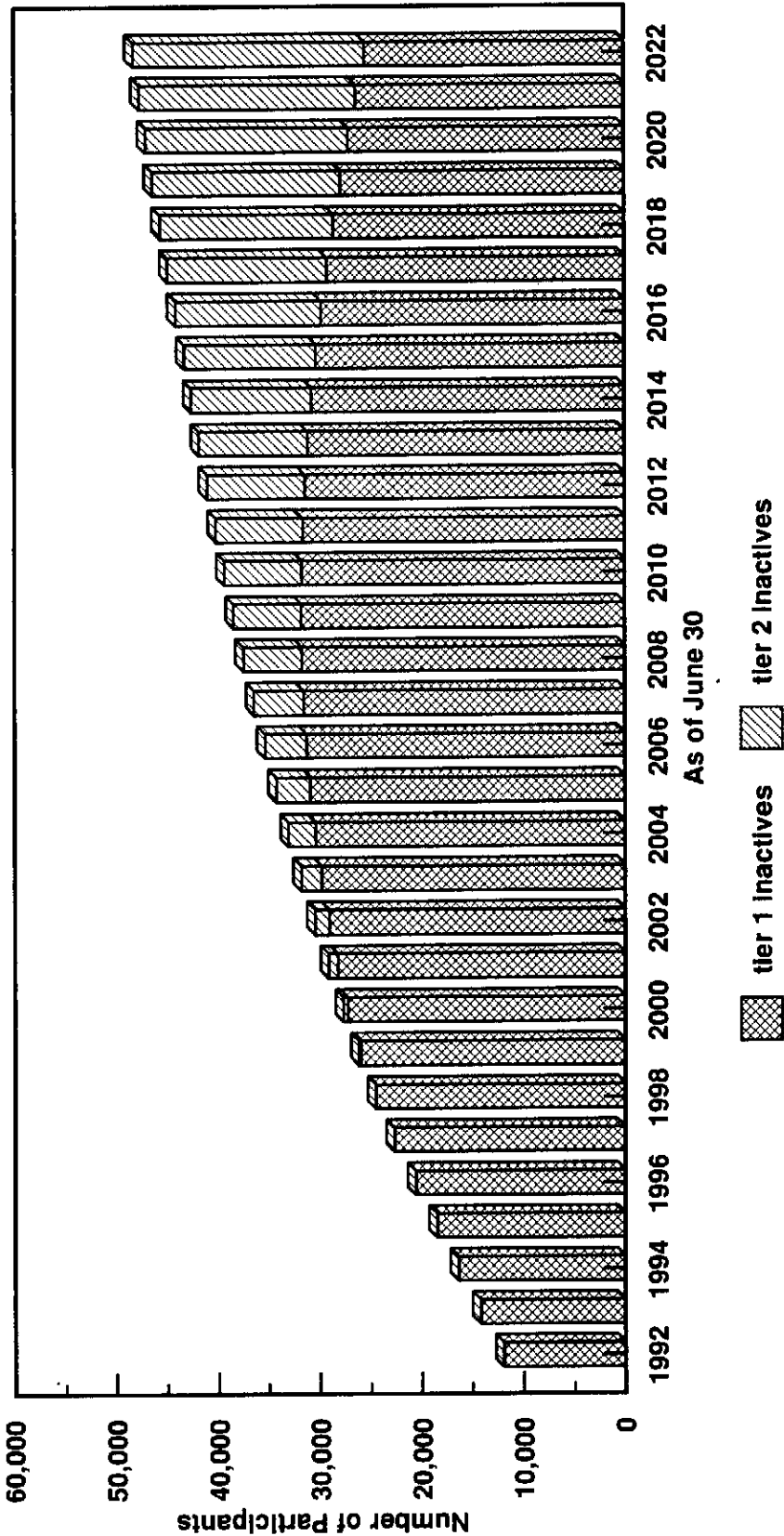
1.5 Actuarial Projections (continued)

**State of Alaska PERS
 Projected Active Participant Count
 Annual Population Increase of 5%**



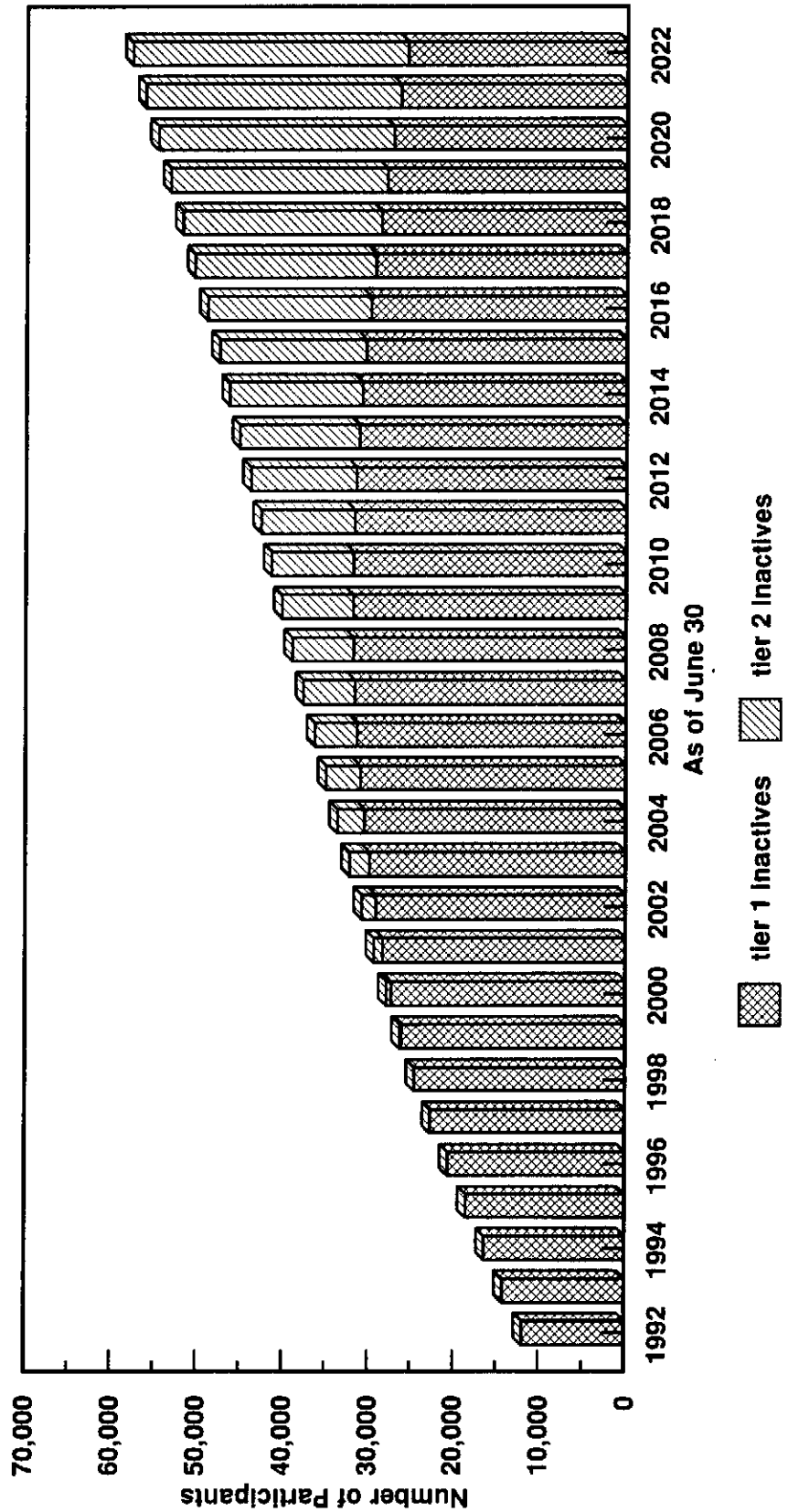
1.5 Actuarial Projections (continued)

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



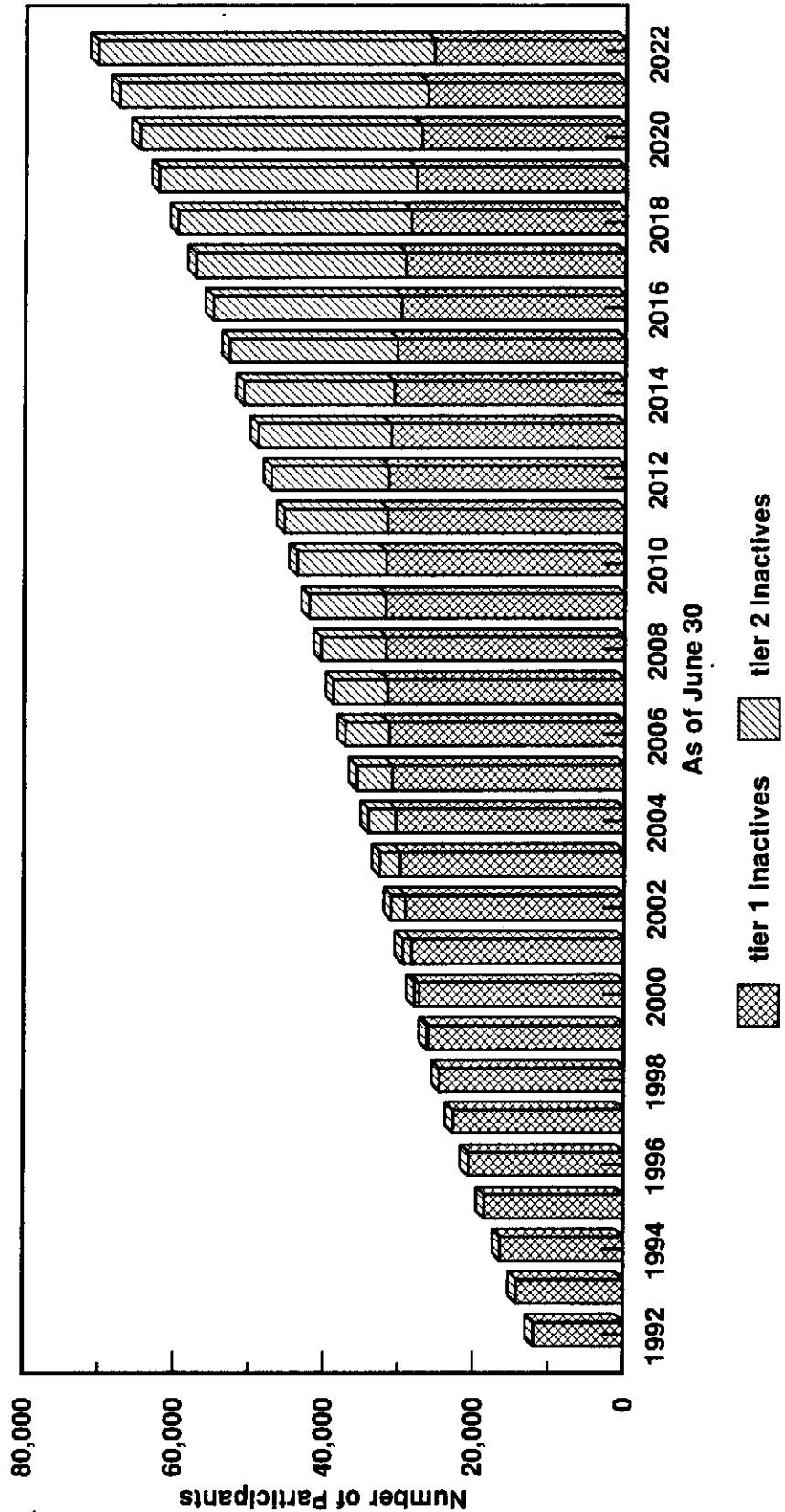
1.5 Actuarial Projections (continued)

State of Alaska PERS
Projected Inactive Participant Count
Annual Population Increase of 3%



1.5 Actuarial Projections (continued)

State of Alaska PERS
Projected Inactive Participant Count
Annual Population Increase of 5%



Section 2

Basis of 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 Public Employees' Retirement System

(1) Effective Date

January 1, 1961, with amendments through June 30, 1992. Chapter 82, 1986 Session Laws of Alaska, created a two-tier retirement system. New members who are first hired under the PERS after June 30, 1986 are entitled to different benefits than those members who were hired before July 1, 1986.

(2) Administration of Plan

The Commissioner of Administration is responsible for administration of the system; the Public Employees' 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.

In 1992, legislation passed (Ch 31, SLA 1992) to establish the Alaska State Pension Investment Board. The investment board will be responsible for managing and investing Alaska's pension funds. The new board will begin managing the funds on July 1, 1993, or the date that the funds are transferred to the board, whichever is earlier.

(3) Employers Included

State of Alaska, political subdivisions, and public organizations who have elected to join the system.

(4) Employees Included

Membership in the Alaska PERS is compulsory for all permanent full-time and part-time employees of the State and designated departments, groups or other classifications of employees of participating political subdivisions or public organizations, and elected officials unless they have waived participation.

University of Alaska employees who elect to participate in the University's optional retirement plan and employees who are participating in other retirement plans that are funded by the State are not covered by the PERS. However, certain members of the Alaska Teachers' Retirement System (TRS) are eligible for PERS retirement benefits for their elected public official service with municipalities. Additionally, employees who work half-time in the PERS and the TRS simultaneously are eligible for half-time PERS and TRS credit.

PERS members who receive PERS occupational disability benefits are also covered under the PERS and earn service credit while they are on disability.

(5) Credited Service

Members receive credit for each day of PERS-covered employment.

Permanent part-time employees who work at least 15 hours per week, but less than 30 hours, receive service credit on a proportionate basis.

PERS members may claim PERS credit for the following service:

- part-time State of Alaska service rendered after December 31, 1960, and before January 1, 1976.
- service with the State, former Territory of Alaska, or U.S. Government in Alaska before January 1, 1961;
- past peace officer, correctional officer, and fire fighter of a participating political subdivision or special officer service after January 1, 1961;
- military service (not more than five years may be claimed);
- temporary service after December 31, 1960;
- elected official service before January 1, 1981;
- Alaska Bureau of Indian Affairs service;
- half-time service that was rendered to PERS employers by employees who were also working in half-time positions covered by the Teachers' Retirement System; and
- leave without pay service after June 13, 1987, while the members were receiving Workers' Compensation.

Except for service before January 1, 1961, with the State, former Territory of Alaska, or U.S. Government in Alaska, contributions are required for all past service.

Past service rendered by employees of participating political subdivisions that occurred before the employers joined the PERS may be creditable if the employers agree to the pay required contributions.

(6) Computation of Average Monthly Compensation

The average monthly compensation is determined by averaging the highest salaries that the member received during any three consecutive payroll years. A member must have a minimum of 115 days of credited service in the last year worked to include it as one of the three highest.

(7) Employer Contributions

Separate contribution rates are established for each employer equal to the sum of:

(a) Consolidated Rate

A uniform rate for all participating employers sufficient to amortize all future service liabilities (less value of employee contributions) over the future working lifetimes of the covered group.

(b) Past Service Rate

A rate determined separately for each employer sufficient to amortize such employer's unfunded past service liability with level payments over 25 years. Any funding surplus is amortized over five years.

(8) Employee Contributions

Mandatory Employee Contributions: 7.5% of compensation for police and fire members; 6.75% of compensation for all other members. Employee contributions are deducted from the gross salary before federal income tax is withheld.

Note: Prior to January 1, 1987, rates were 5% for police and fire and 4.25% for all other members. Employee contributions were deducted from the gross salary after federal income tax was withheld.

Interest Credited: 4.5% compounded semiannually on June 30 and December 31.

Refund of Contributions:

If a member terminates PERS employment, the balance of the member's account (mandatory and voluntary 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 refunded or withdrawn, the member must return to PERS employment in order to reinstate the refunded service. Upon reemployment, an indebtedness may 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 PERS 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 pension are not payable upon the member's death, the member's contribution account balance, including mandatory and voluntary contributions, indebtedness payments, and interest earned, will be paid to the designated beneficiary. When the member has more than one year of PERS credit, the beneficiary will also receive an additional \$1,000 plus \$100 for each year of PERS credit.

(9) Normal Retirement Benefit

Eligibility:

- (a) Upon attaining age 60 (age 55 for members who participated before July 1, 1986) and meeting one of the following service requirements:
 - (i) Five years of paid-up PERS service; or
 - (ii) 60 days of paid-up PERS service if the member was an employee of the legislature during each of five legislative sessions and was first hired under the PERS before May 30, 1987; or
 - (iii) 80 days of paid-up PERS service if the member was an employee of the legislature during each of five legislative sessions and was first hired under the PERS after May 29, 1987; or
 - (iv) two years of paid-up PERS service if the member is vested in the Teachers' Retirement System; or

- (b) At any age after meeting one of the following service requirements:
 - (i) 20 years of paid-up PERS service as a peace officer or fire fighter; or
 - (ii) 30 years of paid-up PERS service for "all other" members.

A member who has been receiving PERS occupational disability benefits is eligible for a service retirement benefit upon satisfying the requirements for normal retirement.

Type:

Life only, level income, or optional joint and survivor benefit (actuarially reduced).

Amount:

All Others

2% of average monthly compensation for the first ten years of service, 2.25% for the next ten years, and 2.5% for all remaining years. Service before July 1, 1986 is calculated at 2%.

Police & Fire

2% of average monthly compensation for the first ten years of service plus 2.5% for years of service in excess of ten.

Minimum Benefit - \$25.00 per month for each year of credited service.

(10) Early Retirement Benefit

Eligibility:

Upon attaining age 55 (age 50 for members who participated before July 1, 1986) and meeting one of the following service requirements:

- (a) Five years of paid-up PERS service; or
- (b) 60 days of paid-up PERS service if the member was an employee of the legislature during each of five legislative sessions and was first hired under the PERS before May 30, 1987; or
- (c) 80 days of paid-up PERS service if the member was an employee of the legislature during each of five legislative sessions and was first hired under the PERS after May 29, 1987; or
- (d) two years of paid-up PERS service if the member is vested in the Teachers' Retirement System.

Type:

Life only, level income, or optional joint and survivor benefit (actuarially reduced).

Amount:

Actuarial equivalent of normal retirement benefit (see 9 above) based on service and compensation to early retirement date.

(11) Deferred Benefit

Eligibility:

Refer to (9) *Normal Retirement Benefit* and (10) *Early Retirement Benefit*, above. Withdrawal of employee contributions voids rights to benefits.

Type:

Life only, level income, or optional joint and survivor benefit (actuarially reduced).

Amount:

Refer to (9) *Normal Retirement Benefit* and (10) *Early Retirement Benefit*, above.

(12) 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. Note: Indebtedness must be paid in full for service used to qualify the member to receive a retirement benefit.

(13) Re-employment of a Retired Member

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 PERS 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.

(14) Disability Benefit

Occupational Disability:

Eligibility:

No age or service requirements.

Type:

Monthly benefit payable until death, recovery, or normal retirement.

Amount:

40% of gross monthly compensation (66-2/3% for police/fire members who participated before July 1, 1976, offset by any workers compensation) at date of disability. When the disabled member becomes eligible for normal retirement, the occupational 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 employed and had earned PERS credit during the period of occupational disability.

Non-Occupational Disability:

Eligibility:

Five or more years of credited service.

Type:

Monthly benefit payable until death, recovery, or normal retirement.

Amount:

Refer to (9) *Normal Retirement Benefits* on page 38. When the disabled member becomes eligible for normal retirement, the nonoccupational disability benefit will terminate. The period of time on nonoccupational disability is not included in the normal retirement benefit calculation.

(15) Death Benefit Before Retirement

Non-Occupational Death:

With less than one year of credited service, the member's contribution account balance,

including mandatory and voluntary contributions, indebtedness payments, and interest earned, will be paid to the designated beneficiary. With more than one, but less than five years of credited service, the beneficiary will also receive \$1,000 plus \$100 for each year of PERS service.

When the member is vested, the surviving spouse may elect to receive the benefits described above or a 50% joint and survivor option based on the member's average monthly compensation and credited service at the time of death.

Occupational Death:

Upon an occupational death of an active member, a monthly survivor's pension equal to 40% (66-2/3% for police/fire members who participated before July 1, 1976) of gross monthly compensation at date of death or disability, if earlier, may be paid to the spouse or if there is no spouse, 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 salary on the date of death or disability and credited service, including the period from the date of death or disability to the normal retirement date.

(16) Death Benefits After Retirement

If a member dies after retirement, the designated beneficiary will receive the member's contribution account balance, minus any benefits already paid. If the member elected a survivor option at retirement, the eligible spouse will receive a continuing monthly benefit for the rest of his or her life.

(17) 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 PERS 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 five 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, 1986 if the CPI has increased and the financial condition of the fund will permit an increase).

(18) 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 or \$50 per month, whichever is greater. Members who were first hired before July 1, 1986 or who are receiving disability benefits are eligible for COLA, regardless of age.

(19) Voluntary Contributions

An employee may voluntarily contribute up to 5% of his or her salary. Voluntary contributions are recorded in a separate account and are payable to the:

- (a) member in a lump sum upon termination of employment;
- (b) member's beneficiary in a lump sum if the member dies; or
- (c) member in a lump sum, life annuity, or payments over a designated period of time when the member retires.

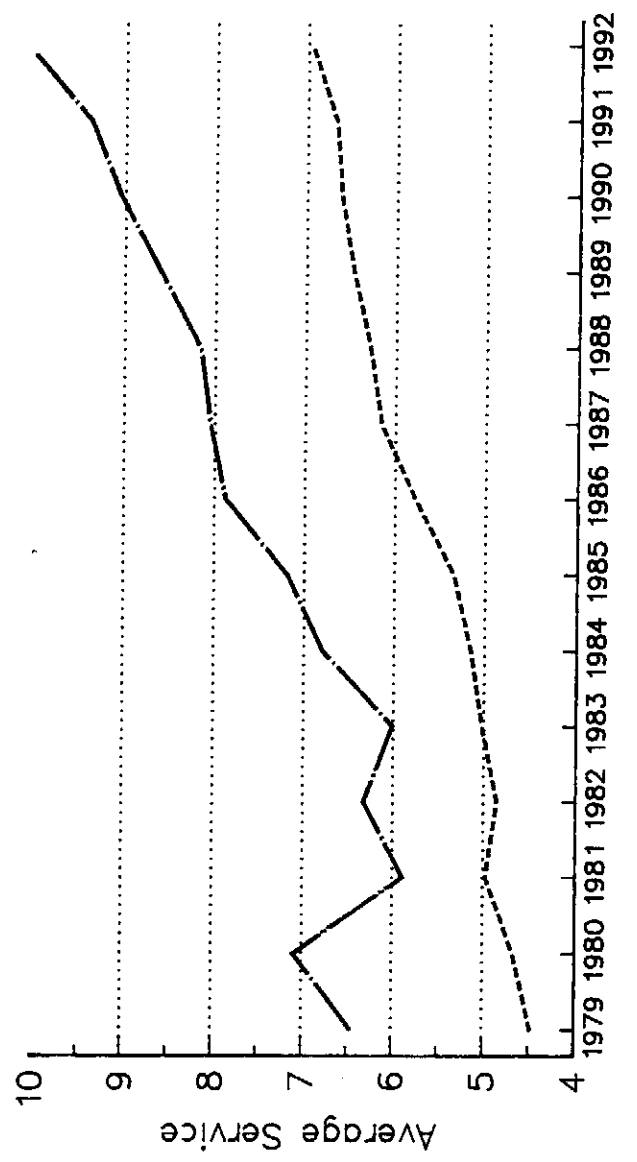
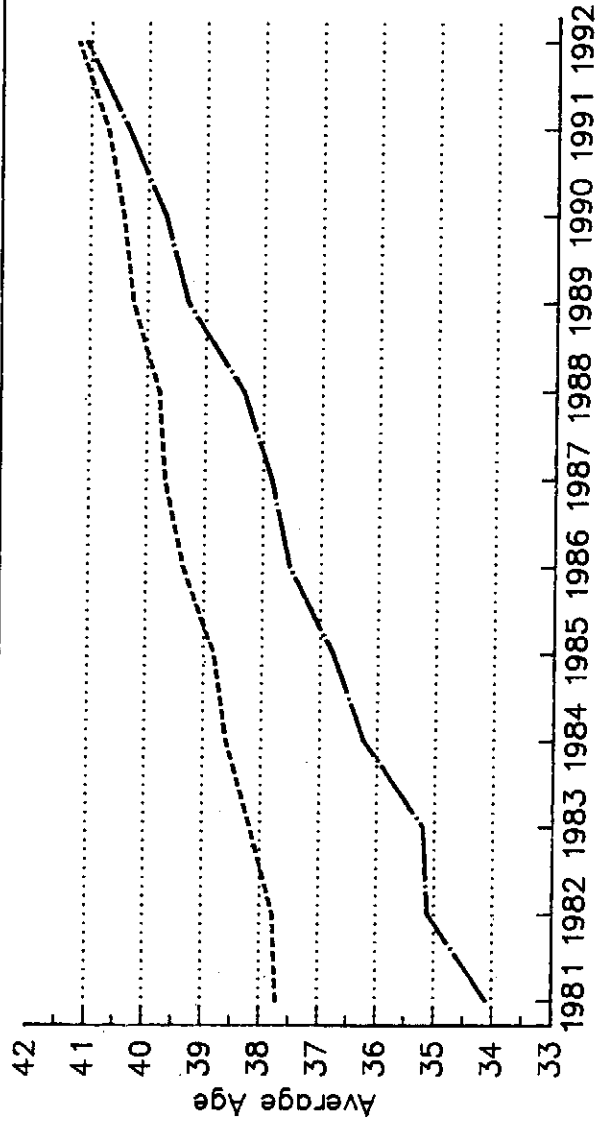
2.2(a) Participant Census Information - Total PERS as of June 30

	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
Active Members					
(1) Number	26,676	28,044	29,086	29,840	30,721
(2) Average Age	39.67	40.17	40.37	40.68	41.21
(3) Average Credited Service	6.45	6.66	6.82	6.91	7.22
(4) Average Annual Salary	\$ 34,052	\$ 32,550	\$ 32,733	\$ 34,444	\$ 35,280
Retirees and Beneficiaries					
(1) Number	6,702	6,967	7,365	8,358	8,704
(2) Average Age	62.82	63.28	63.62	63.15	63.58
(3) Average Monthly Benefit:					
Base	\$ 791	\$ 795	\$ 797	\$ 864	\$ 867
C.O.L.A.	64	64	61	66	64
P.R.P.A.	90	98	110	108	144
TOTAL	945	957	968	1,038	1,075
Vested Terminations					
(1) Number	1,898	2,314	2,745	3,015	3,249
(2) Average Age	42.77	42.97	42.96	43.20	43.59
(3) Average Monthly Benefit	\$ 504	\$ 519	\$ 536	\$ 556	\$ 582
Non-Vested Terminations With Account Balances					
(1) Number	3,101	3,365	3,695	4,108	4,380
(2) Average Account Balance	\$ 2,100	\$ 1,891	\$ 2,045	\$ 2,124	\$ 2,251

2.2(b) Additional Information - Active Members by Type of Status as of June 30

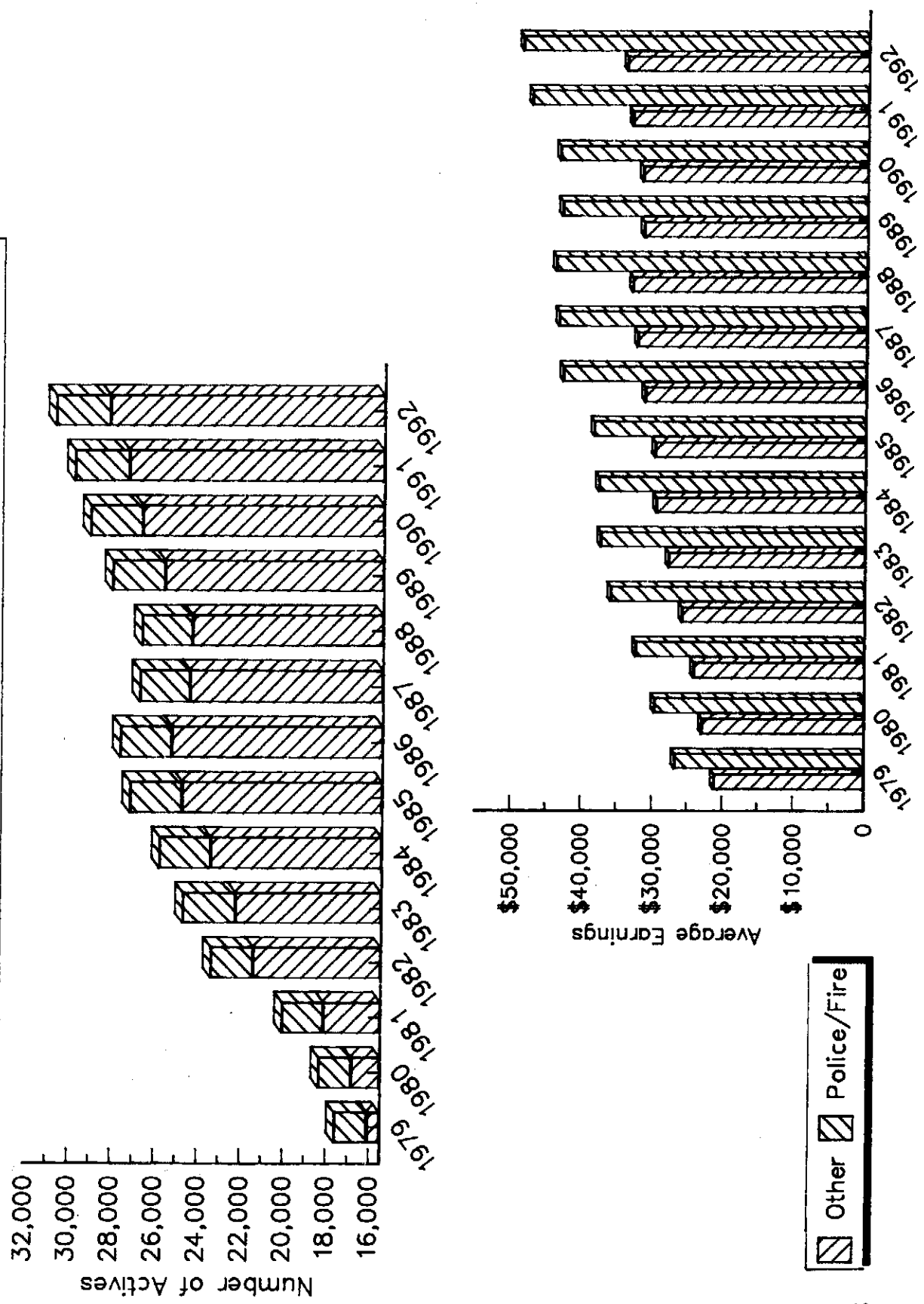
	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
Active Police & Fire					
(1) Number	2,327	2,414	2,419	2,533	2,515
(2) Average Age	38.35	39.31	39.70	40.35	41.08
(3) Average Credited Service	8.16	8.60	9.05	9.38	10.10
(4) Average Annual Salary	\$ 43,947	\$ 43,082	\$ 43,462	\$ 47,470	\$ 48,812
(5) Number Vested	1,505	1,598	1,683	1,795	1,842
(6) Percent Who Are Vested	64.7%	66.2%	69.6%	70.9%	73.2%
Active "Other" Members					
(1) Number	24,349	25,630	26,667	27,307	28,206
(2) Average Age	39.80	40.25	40.43	40.71	41.22
(3) Average Credited Service	6.29	6.48	6.62	6.68	6.96
(4) Average Annual Salary	\$ 33,106	\$ 31,558	\$ 31,760	\$ 33,236	\$ 34,073
(5) Number Vested	12,191	13,345	14,109	14,234	14,640
(6) Percent Who Are Vested	50.1%	52.1%	52.9%	52.1%	51.9%

State of Alaska - PERS Actives



Other **Police/Fire**
 - - - - -

State of Alaska - PERS Actives



2.2(c) Distribution of Active Police and Fire Participants

----- Annual Earnings By Age -----				----- Annual Earnings By Credited Service -----			
Age Groups	Number of People	Total Annual Earnings	Average Annual Earnings	Years of Service	Number of People	Total Annual Earnings	Average Annual Earnings
0-19	0	\$ 0	\$ 0	0	78	\$ 1,934,928	\$ 24,807
20-24	35	1,213,346	34,667	1	126	4,568,269	36,256
25-29	155	6,055,308	39,067	2	131	5,276,092	40,276
30-34	314	14,314,561	45,588	3	173	7,123,535	41,177
35-39	598	29,398,700	49,162	4	165	6,902,458	41,833
40-44	653	33,307,759	51,007	0- 4	673	25,805,292	38,344
45-49	489	25,339,828	51,820	5- 9	638	29,112,921	45,632
50-54	207	10,301,972	49,768	10-14	613	32,098,628	52,363
55-59	52	2,356,564	45,319	15-19	417	24,589,002	58,966
60-64	12	474,118	39,510	20-24	156	9,973,081	63,930
65-69	0	0	0	25-29	16	1,074,884	67,180
70-74	0	0	0	30-34	2	108,348	54,174
75-79	0	0	0	35-39	0	0	0
80+	0	0	0	40+	0	0	0
Total	2,515	\$122,762,156	\$ 48,812	Total	2,515	\$122,762,156	\$ 48,812

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	35	0	0	0	0	0	0	0	0	35
25-29	120	34	1	0	0	0	0	0	0	155
30-34	125	122	62	5	0	0	0	0	0	314
35-39	111	186	207	89	5	0	0	0	0	598
40-44	139	149	164	158	43	0	0	0	0	653
45-49	85	95	106	109	85	9	0	0	0	489
50-54	37	41	58	44	20	6	1	0	0	207
55-59	17	9	13	8	3	1	1	0	0	52
60-64	4	2	2	4	0	0	0	0	0	12
65-69	0	0	0	0	0	0	0	0	0	0
70-74	0	0	0	0	0	0	0	0	0	0
75-79	0	0	0	0	0	0	0	0	0	0
80+	0	0	0	0	0	0	0	0	0	0
Total	673	638	613	417	156	16	2	0	0	2,515

2.2(d) Distribution of Active "Other" Participants

----- Annual Earnings By Age -----				----- Annual Earnings By Credited Service -----			
<u>Age Groups</u>	<u>Number of People</u>	<u>Total Annual Earnings</u>	<u>Average Annual Earnings</u>	<u>Years of Service</u>	<u>Number of People</u>	<u>Total Annual Earnings</u>	<u>Average Annual Earnings</u>
0-19	69	\$ 961,068	\$ 13,929	0	3,522	\$ 63,832,916	\$ 18,124
20-24	845	18,227,062	21,570	1	3,193	90,436,280	28,323
25-29	2,357	61,327,940	26,019	2	2,659	78,431,392	29,497
30-34	4,116	125,873,736	30,582	3	2,327	72,772,192	31,273
35-39	5,651	189,269,856	33,493	4	1,878	61,488,756	32,742
40-44	5,854	216,544,849	36,991	0- 4	13,579	366,961,536	27,024
45-49	4,459	167,410,960	37,545	5- 9	6,979	253,560,878	36,332
50-54	2,698	104,442,832	38,711	10-14	4,609	193,372,256	41,955
55-59	1,333	48,177,568	36,142	15-19	2,130	99,447,776	46,689
60-64	629	21,954,442	34,904	20-24	682	34,987,740	51,302
65-69	153	5,526,668	36,122	25-29	199	11,089,291	55,725
70-74	36	1,134,029	31,501	30-34	25	1,480,786	59,231
75-79	4	146,571	36,643	35-39	2	101,560	50,780
80+	2	55,999	28,000	40+	1	51,757	51,757
Total	28,206	\$961,053,580	\$ 34,073	Total	28,206	\$961,053,580	\$ 34,073

Years of Credited Service By Age

<u>Age</u>	----- Years of Service -----									<u>Total</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35-39</u>	<u>40+</u>	
0-19	69	0	0	0	0	0	0	0	0	69
20-24	835	10	0	0	0	0	0	0	0	845
25-29	1,991	353	13	0	0	0	0	0	0	2,357
30-34	2,557	1,123	411	25	0	0	0	0	0	4,116
35-39	2,744	1,613	987	296	11	0	0	0	0	5,651
40-44	2,209	1,568	1,246	675	152	4	0	0	0	5,854
45-49	1,566	1,126	924	489	267	86	1	0	0	4,459
50-54	849	647	587	368	157	78	12	0	0	2,698
55-59	450	331	279	194	53	18	8	0	0	1,333
60-64	223	163	125	69	32	12	3	2	0	629
65-69	62	42	29	12	6	1	1	0	0	153
70-74	22	1	6	2	4	0	0	0	1	36
75-79	1	1	2	0	0	0	0	0	0	4
80+	1	1	0	0	0	0	0	0	0	2
Total	13,579	6,979	4,609	2,130	682	199	25	2	1	28,206

2.2(e) Statistics on New Retirees Police and Fire Members During the Year Ending June 30

	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
Service					
(1) Number	64	9	36	96	25
(2) Average Age at Retirement	49.39	52.55	51.19	50.97	51.77
(3) Average Monthly Benefit	\$ 2,467	\$ 1,536	\$ 1,551	\$ 2,008	\$ 1,786
Disability					
(1) Number	7	8	1	6	8
(2) Average Age at Retirement	40.30	39.71	38.05	40.71	44.00
(3) Average Monthly Benefit	\$ 1,147	\$ 1,662	\$ 1,171	\$ 2,216	\$ 1,502
Survivor (including surviving spouse)					
(1) Number	1	1	1	1	2
(2) Average Age at Retirement	50.91	52.30	52.62	47.9	28.61
(3) Average Monthly Benefit	\$ 181	\$ 611	\$ 312	\$ 1,114	\$ 1,570
Total					
(1) Number	72	18	38	103	35
(2) Average Age at Retirement	48.53	46.83	50.88	50.34	48.67
(3) Average Monthly Benefit	\$ 2,307	\$ 1,541	\$ 1,508	\$ 2,011	\$ 1,709

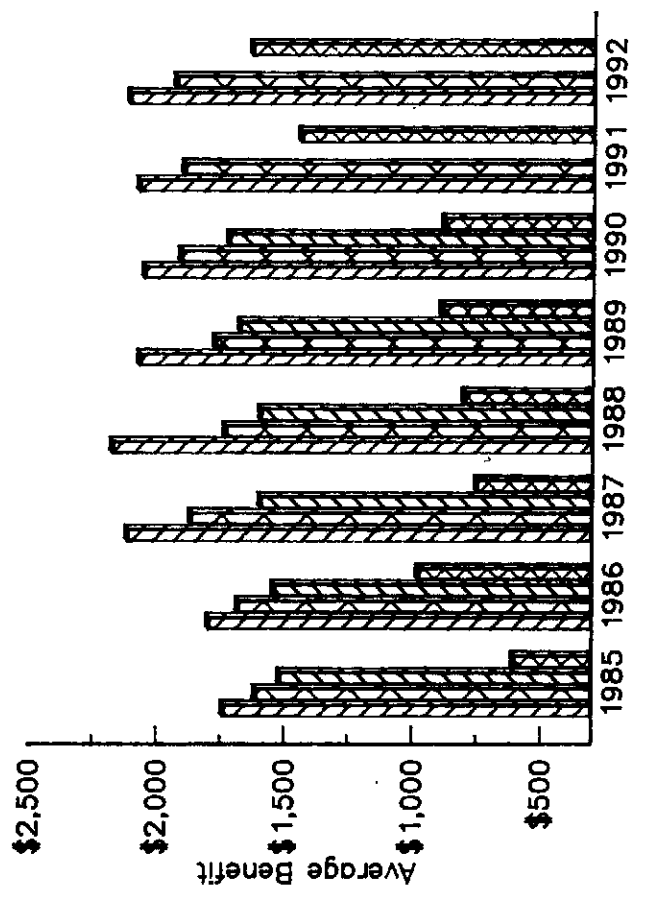
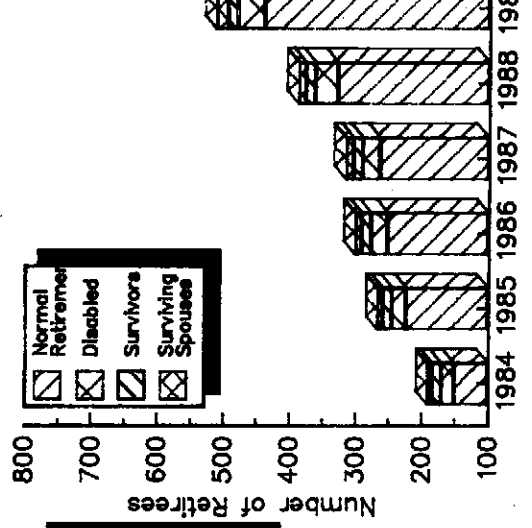
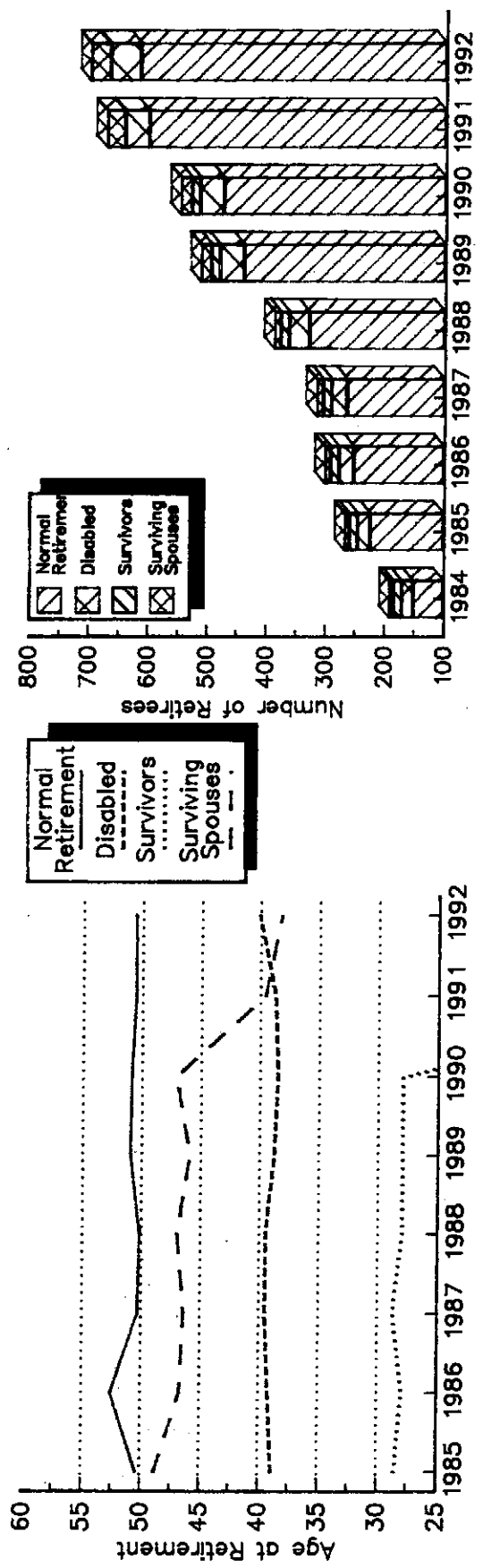
2.2(f) Statistics on New Retirees "Other" Members During the Year Ending June 30

	<u>1988</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>
Service					
(1) Number	972	309	420	829	404
(2) Average Age at Retirement	56.53	57.44	56.40	55.82	56.84
(3) Average Monthly Benefit	\$ 982	\$ 746	\$ 853	\$ 1,121.36	\$ 912.32
Disability					
(1) Number	22	25	22	20	15
(2) Average Age at Retirement	46.53	46.61	45.85	45.38	43.87
(3) Average Monthly Benefit	\$ 1,073	\$ 1,061	\$ 955	\$ 944.17	\$ 999.15
Survivor (including surviving spouse)					
(1) Number	20	18	15	27	16
(2) Average Age at Retirement	46.02	45.38	53.05	60.35	49.44
(3) Average Monthly Benefit	\$ 515	\$ 725	\$ 748	\$ 674.75	\$ 586.10
Total					
(1) Number	1,014	352	457	876	435
(2) Average Age at Retirement	56.11	56.05	55.78	55.72	56.12
(3) Average Monthly Benefit	\$ 975	\$ 767	\$ 855	\$ 1,103.55	\$ 903.32

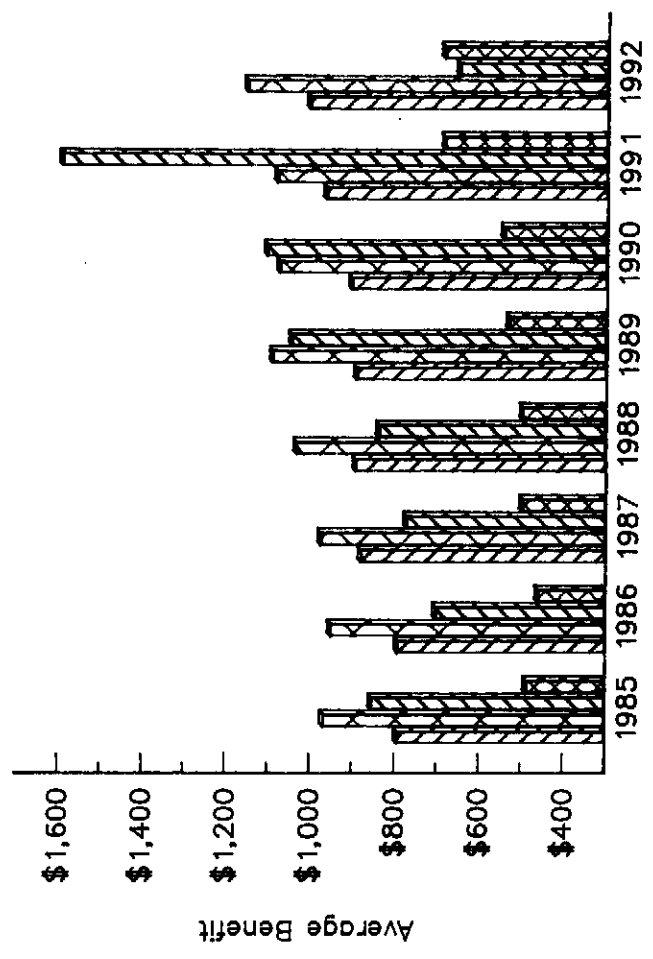
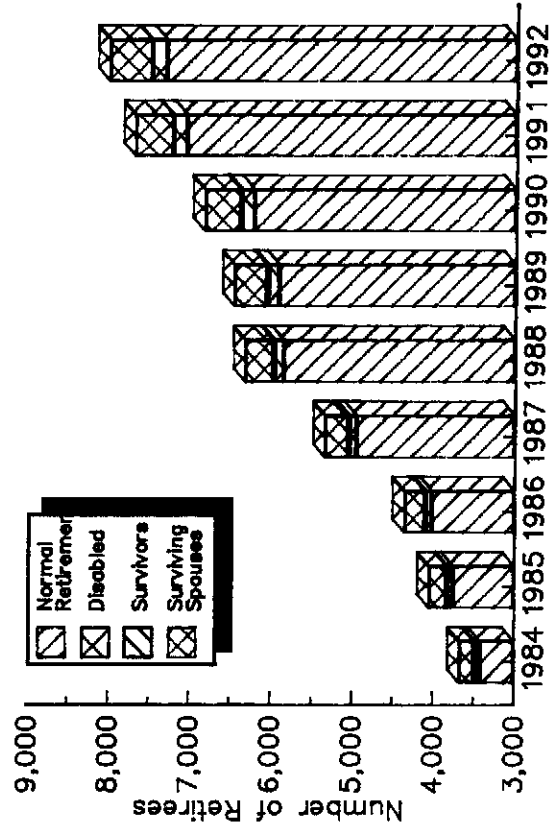
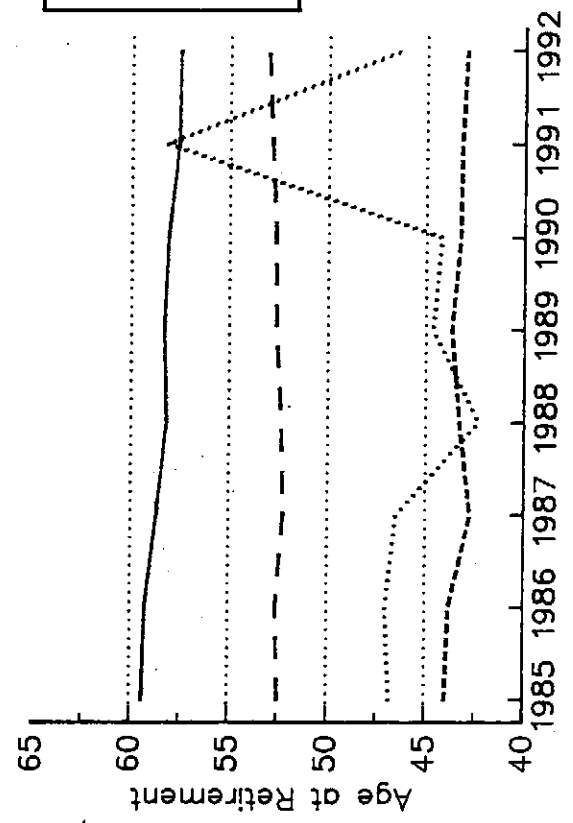
2.2(g) Statistics on All Retirees as of June 30, 1992

	<u>Police & Fire</u>	<u>"Other"</u>
Service Retirement		
(1) Number, June 30, 1991	600	7,049
(2) Net Change During FY92	15	255
(3) Number, June 30, 1992	615	7,304
(4) Average Age At Retirement	50.47	57.49
(5) Average Age Now	57.09	64.79
(6) Average Monthly Benefit	\$ 2,110.90	\$ 1,005.28
Surviving Spouse's Benefits		
(1) Number, June 30, 1991	31	467
(2) Net Change During FY92	2	51
(3) Number, June 30, 1992	33	518
(4) Average Age At Retirement	38.28	53.06
(5) Average Age Now	49.67	62.60
(6) Average Monthly Benefit	\$ 1,634.21	\$ 686.81
Survivor's Benefits		
(1) Number, June 30, 1991	0	2
(2) Net Change During FY92	0	1
(3) Number, June 30, 1992	0	3
(4) Average Age At Retirement	--	46.33
(5) Average Age Now	--	48.55
(6) Average Monthly Benefit	--	\$ 651.50
Disabilities		
(1) Number, June 30, 1991	41	168
(2) Net Change During FY92	10	12
(3) Number, June 30, 1992	51	180
(4) Average Age At Retirement	40.14	42.95
(5) Average Age Now	44.29	47.84
(6) Average Monthly Benefit	\$ 1,930.80	\$ 1,153.01
Total Number of Retirees	699	8,005

State of Alaska - PERS Police/Fire Retirees



State of Alaska - PERS "Other" Retirees



2.2(h) Distribution of Annual Benefits for Police and Fire Benefit Recipients

----- Annual Benefit By Age -----				-- Annual Benefit By Years Since Retirement --			
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	0	\$ 0	\$ 0	0	35	\$ 717,687	\$ 20,505
20-24	1	6,571	6,571	1	103	2,483,673	24,113
25-29	2	37,684	18,842	2	62	1,491,782	24,061
30-34	2	37,724	18,862	3	22	451,814	20,537
35-39	13	279,668	21,513	4	84	2,391,112	28,466
40-44	43	1,169,887	27,207	0- 4	306	7,536,068	24,628
45-49	124	3,720,276	30,002	5- 9	232	6,363,389	27,428
50-54	156	3,941,414	25,265	10-14	110	2,529,888	22,999
55-59	141	3,518,627	24,955	15-19	44	806,315	18,325
60-64	106	2,633,965	24,849	20-24	7	171,612	24,516
65-69	72	1,450,949	20,152	25-29	0	0	0
70-74	27	445,771	16,510	30-34	0	0	0
75-79	9	118,123	13,125	35-39	0	0	0
80+	3	46,613	15,538	40+	0	0	0
Total	699	\$17,407,272	\$ 24,903	Total	699	\$17,407,272	\$ 24,903

Years Since Retirement by Age

Age	----- Years Since Retirement -----									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0-19	0	0	0	0	0	0	0	0	0	0
20-24	0	0	0	1	0	0	0	0	0	1
25-29	2	0	0	0	0	0	0	0	0	2
30-34	2	0	0	0	0	0	0	0	0	2
35-39	6	4	2	1	0	0	0	0	0	13
40-44	35	6	0	1	1	0	0	0	0	43
45-49	81	31	7	4	1	0	0	0	0	124
50-54	87	57	6	5	1	0	0	0	0	156
55-59	64	58	17	2	0	0	0	0	0	141
60-64	21	47	33	5	0	0	0	0	0	106
65-69	7	21	33	10	1	0	0	0	0	72
70-74	0	7	7	12	1	0	0	0	0	27
75-79	0	1	5	2	1	0	0	0	0	9
80+	1	0	0	1	1	0	0	0	0	3
Total	306	232	110	44	7	0	0	0	0	699

2.2(i) Distribution of Annual Benefits for "Other" Benefit Recipients

----- Annual Benefit By Age -----				-- Annual Benefit By Years Since Retirement ---			
<u>Age Groups</u>	<u>Number of People</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>	<u>Years of Service</u>	<u>Number of People</u>	<u>Total Annual Benefit</u>	<u>Average Annual Benefit</u>
0-19	0	\$ 0	\$ 0	0	435	\$ 4,715,315	\$ 10,840
20-24	1	1,669	1,669	1	885	11,623,480	13,134
25-29	1	7,739	7,739	2	648	7,329,842	11,311
30-34	11	103,277	9,389	3	313	3,170,033	10,128
35-39	25	276,202	11,048	4	948	11,818,022	12,466
40-44	67	705,301	10,527	0- 4	3,229	38,656,692	11,972
45-49	160	1,666,119	10,413	5- 9	2,550	33,112,187	12,985
50-54	887	9,449,515	10,653	10-14	1,336	14,247,459	10,664
55-59	1,570	20,565,732	13,099	15-19	795	7,902,693	9,940
60-64	1,665	22,361,441	13,430	20-24	86	855,266	9,945
65-69	1,546	17,812,564	11,522	25-29	7	83,998	12,000
70-74	1,106	12,247,920	11,074	30-34	2	36,034	18,017
75-79	597	6,339,120	10,618	35-39	0	0	0
80+	<u>369</u>	<u>3,357,730</u>	<u>9,100</u>	40+	<u>0</u>	<u>0</u>	<u>0</u>
Total	8,005	\$94,894,329	\$11,854	Total	8,005	\$94,894,329	\$ 11,854

Years Since Retirement By Age

<u>Age</u>	----- Years Since Retirement -----									<u>Total</u>
	<u>0-4</u>	<u>5-9</u>	<u>10-14</u>	<u>15-19</u>	<u>20-24</u>	<u>25-29</u>	<u>30-34</u>	<u>35-39</u>	<u>40+</u>	
0-19	0	0	0	0	0	0	0	0	0	0
20-24	1	0	0	0	0	0	0	0	0	1
25-29	1	0	0	0	0	0	0	0	0	1
30-34	9	1	1	0	0	0	0	0	0	11
35-39	17	6	2	0	0	0	0	0	0	25
40-44	40	14	8	5	0	0	0	0	0	67
45-49	128	22	8	2	0	0	0	0	0	160
50-54	777	81	19	8	2	0	0	0	0	887
55-59	1,061	474	24	9	1	1	0	0	0	1,570
60-64	660	799	193	11	2	0	0	0	0	1,665
65-69	397	638	423	87	1	0	0	0	0	1,546
70-74	113	394	368	229	2	0	0	0	0	1,106
75-79	16	91	234	249	7	0	0	0	0	597
80+	<u>9</u>	<u>30</u>	<u>56</u>	<u>195</u>	<u>71</u>	<u>6</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>369</u>
Total	3,229	2,550	1,336	795	86	7	2	0	0	8,005

2.3 Actuarial Basis

Valuation of Liabilities

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

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

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

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

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

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

B. Actuarial Assumptions -

- | | |
|----------------------|--|
| 1. Investment Return | 8.75% 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. |

- | | | | | | | | |
|--------------------------|---|--------------|-------------|---------|-------------|-------------|-------------|
| 11. Contribution Refunds | 100% of those terminating after age 35 with five or more years of 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. | | | | | | |
| 12. C.O.L.A. | Of those benefit recipients who are eligible for the C.O.L.A., 71% are assumed to remain in Alaska and receive the C.O.L.A. | | | | | | |
| 13. New Entrants | Growth projections are made for the active PERS population under three scenarios:

<table border="0" style="margin-left: 40px;"> <tr> <td>Pessimistic:</td> <td>1% per year</td> </tr> <tr> <td>Median:</td> <td>3% per year</td> </tr> <tr> <td>Optimistic:</td> <td>5% per year</td> </tr> </table> | Pessimistic: | 1% per year | Median: | 3% per year | Optimistic: | 5% per year |
| Pessimistic: | 1% per year | | | | | | |
| Median: | 3% per year | | | | | | |
| Optimistic: | 5% per year | | | | | | |
| 14. Expenses | Expenses are covered in the investment return assumption. | | | | | | |

Valuation of Assets

Based upon the five-year average ratio between actuarial and book values of the System's assets. Prior to June 30, 1992, the actuarial value of assets equalled the market value, except that fixed income investments were carried at book value. Effective June 30, 1992, the actuarial value of assets equals the full market value. Assets are accounted for on an accrued basis and are taken directly from audited financial statements provided by KPMG Peat Marwick. Valuation assets cannot be outside 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) are 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 FY93, the pre-65 monthly premium is \$310.80 and the post-65 premium is \$108.37, based on a total blended premium of \$226.90. For FY94, the pre-65 monthly premium is assumed to be \$346.54 and the post-65 premium is assumed to be \$120.83, based on a total blended premium of \$252.99. The FY93 rates and the pre-65/post-65 split were provided by Deloitte & Touche.

Table 1

**Alaska PERS
Total Turnover Assumptions**

Select Rates of Turnover During the First 10 Years <u>of Employment</u>	Ultimate Rates of Turnover After the First 10 Years <u>of Employment</u>
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Police and Fire:

<u>Year of Employment</u>	----- Age at Hire -----			<u>Age</u>	<u>Rate</u>
	<u>20-29</u>	<u>30-39</u>	<u>40+</u>		
1	.22	.18	.10	20-39	.03
2	.19	.13	.10	40+	.01
3	.13	.12	.10		
4	.12	.12	.10		
5	.10	.10	.10		
6	.08	.08	.08		
7	.07	.07	.07		
8	.06	.06	.06		
9	.05	.05	.05		
10	.04	.04	.04		

Others:

<u>Year of Employment</u>	----- Age at Hire -----		<u>Age</u>	<u>Rate</u>
	<u>20-29</u>	<u>30+</u>		
1	.30	.23	20-29	.065
2	.23	.18	30-34	.060
3	.20	.14	35-44	.055
4	.16	.13	45+	.050
5	.16	.13		
6	.14	.13		
7	.12	.12		
8	.11	.11		
9	.09	.09		
10	.08	.08		

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

<u>Age</u>	<u>Police & Fire Rate</u>	<u>"Other" Member Rate</u>
20	.85	.14
21	.87	.14
22	.90	.14
23	.94	.15
24	.98	.15
25	1.03	.15
26	1.08	.15
27	1.13	.15
28	1.19	.16
29	1.25	.16
30	1.31	.16
31	1.37	.17
32	1.43	.17
33	1.44	.25
34	1.48	.34
35	1.55	.44
36	1.65	.53
37	1.78	.64
38	1.94	.75
39	2.13	.87
40	2.35	.99
41	2.60	1.12
42	2.88	1.25
43	3.19	1.39
44	3.53	1.53
45	3.90	1.68
46	4.30	1.84
47	4.73	2.00
48	5.19	2.17
49	5.68	2.34
50	6.20	2.52
51	6.75	2.70
52	7.33	2.89
53	7.94	3.08
54	8.58	3.29
55	9.25	3.49
56	9.95	3.70
57	10.68	3.92
58	11.44	4.14
59	12.23	4.37
60	13.05	4.61
61	13.90	4.84
62	14.78	5.09
63	15.69	5.34
64	16.63	5.60

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Table 3
Alaska PERS
Retirement Rates

<u>Age</u>	<u>Police & Fire Rate</u>	<u>"Other" Member Rate</u>
50	.25	.11
51	.14	.08
52	.14	.08
53	.15	.08
54	.15	.08
55	.30	.19
56	.25	.16
57	.21	.13
58	.21	.12
59	.20	.11
60	.20	.17
61	.40	.14
62	1.00	.21
63	1.00	.22
64	1.00	.22
65	1.00	.31
66	1.00	.61
67 & Up	1.00	1.00

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