



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

Actuarial Valuation Report  
as of June 30, 2013

August 2014

**buck**consultants®

Submitted By:  
Buck Consultants  
1200 Seventeenth Street, Suite 1200  
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# State of Alaska Teachers' Retirement System

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August 22, 2014

State of Alaska  
The Alaska Retirement Management Board  
The Department of Revenue, Treasury Division  
The Department of Administration, Division of Retirement and Benefits  
P.O. Box 110203  
Juneau, AK 99811-0203

### ***Certification of Actuarial Valuation***

Dear Members of The Alaska Retirement Management Board, The Department of Revenue and The Department of Administration:

This report summarizes the annual actuarial valuation results of the State of Alaska Teachers' Retirement System (TRS) as of June 30, 2013 performed by Buck Consultants, LLC.

The actuarial valuation is based on financial information provided in the financial statements audited by KPMG LLP and member data provided by the Division of Retirement and Benefits and summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2013. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under the System were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Buck Consultants, LLC is solely responsible for the actuarial data and actuarial results presented in this report. This report fully and fairly discloses the actuarial position of the System.

The State of Alaska Teachers' Retirement System is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for the State of Alaska Teachers' Retirement System is to pay required contributions that remain level as a percent of total TRS Compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, System expenses, and amortize the Unfunded Actuarial Accrued Liability as a level dollar amount over a closed 25-year period. The Board changed the amortization method used for funding from the level percentage of payroll method to the level dollar method in June 2012 effective June 30, 2012. The compensation used to determine required contributions is the total compensation of all active members in TRS, including those hired after July 1, 2006 who are members of the Defined Contribution Retirement (DCR) Plan. This objective is currently being met and is projected to continue to be met.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the System and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the System. The actuary performs an analysis of System experience periodically and recommends changes if, in the opinion of the actuary, assumption changes are needed to more accurately reflect expected future experience. The last full experience analysis was performed in 2010. A review of the healthcare assumptions was performed for last year's actuarial valuation and changes were made to the healthcare cost trend rates and the per capita claims cost rates, effective June 30, 2012, to better reflect expected future healthcare experience. Based on updated experience, these assumptions are still reasonable. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 6 beginning on page 65.

The assumptions and methods used to determine the Annual Required Contributions (ARC) of the Employers to the State of Alaska Teachers' Retirement System as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statements No. 25, Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans, and No. 43, Financial Reporting for Postemployment Benefit Plans Other Than Pension Plans. Based on member data and asset information provided by the Division of Retirement and Benefits, we have prepared the Schedule of Funding Progress, Schedule of Employer Contributions, and trend data schedules under GASB Nos. 25 and 43 that are included in the Financial Section of the CAFR. We have also prepared the member data tables shown in Section 5 of this report for the Statistical Section of the CAFR, and the summary of actuarial assumptions, solvency test, and analysis of financial experience for the Actuarial Section of the CAFR.

The undersigned is an Enrolled Actuary, an Associate of the Society of Actuaries and Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. This report has been prepared in accordance with all Applicable Actuarial Standards of Practice. We are available to answer any questions on the material contained in the report, or to provide explanations or further details as may be appropriate.

Respectfully submitted,

BUCK CONSULTANTS, LLC



David H. Sliskinsky, ASA, EA, MAAA, FCA  
Principal, Consulting Actuary

The Alaska Retirement Management Board, The Department of Revenue and  
The Department of Administration  
August 22, 2014  
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The undersigned actuary is responsible for all assumptions related to the average annual per capita health claims cost and the health care cost trend rates, and hereby affirms her qualification to render opinions in such matters, in accordance with the qualification standards of the American Academy of Actuaries.



Melissa Bissett, FSA, MAAA  
Senior Consultant, Health & Productivity

# State of Alaska Teachers' Retirement System

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## *EXECUTIVE SUMMARY*

### **Overview**

The State of Alaska Teachers' Retirement System provides pension and postemployment healthcare benefits to teachers and other eligible participants. The Commissioner of the Department of Administration is responsible for administering the System. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the System. This report presents the results of the actuarial valuation of the System benefits as of the valuation date of June 30, 2013.

### **Purpose**

An actuarial valuation is performed on the retirement plan annually as of the beginning of the fiscal year. The main purposes of the actuarial valuation detailed in this report are:

1. To determine the Employer/State contribution necessary to meet the Board's funding policy for the System;
2. To disclose the funding assets and liability measures as of the valuation date;
3. To disclose the accounting measures for the System required by GASB Nos. 25 and 43 as of the end of the last fiscal year;
4. To review the current funded status of the System;
5. To compare actual and expected experience under the System during the last fiscal year;
6. And to report trends in contributions, assets, liabilities, and funded status over the last several years.

The actuarial valuation provides a "snapshot" of the funded position of the TRS based on the plan provisions, membership, assets, and actuarial assumptions as of the valuation date. Actuarial projections are also performed to provide a long-term view of the expected future funding status and contribution patterns (see Section 4 beginning on page 41).

Future actuarial valuation measurements and projections may differ from the current measurements presented in this report due to such factors as: plan experience different from that anticipated by the economic and demographic assumptions, increases or decreases expected as part of the natural operation of the methodology used for these measurements, and changes in plan provisions or applicable law. The sensitivity analysis shown on page 50 is an example of the differences which can occur in projected contribution amounts when actual investment returns are different than assumed, but does not include the impact of all possible future differences that can impact future measurements.

# State of Alaska Teachers' Retirement System

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## Funding Status

The funding status is a measure of the progress that has been made in funding the plan as of the valuation date. It is determined as a ratio of the value of assets using either the actuarial or fair value, divided by the total actuarial accrued liability on the valuation date. A ratio of over 100% represents a plan that is ahead in funding, and a ratio of less than 100% represents a plan that is behind in funding on the valuation date. A comparative summary of the funding ratio from the prior and current actuarial valuations follows:

Funding Status as of June 30 <sup>1</sup>	2012	2013
<b>Pension</b>		
(a) Accrued Liability <sup>2</sup>	\$6,399,777	\$6,589,553
(b) Valuation Assets <sup>2</sup>	<u>3,194,994</u>	<u>3,170,313</u>
(c) Unfunded Accrued Liability <sup>2</sup> , (a) – (b)	\$3,204,783	\$3,419,240
(d) Funding Ratio based on Valuation Assets, (b) ÷ (a)	49.9%	48.1%
(e) Fair Value of Assets <sup>2</sup>	\$3,006,647	\$3,279,130
(f) Funding Ratio based on Fair Value of Assets, (e) ÷ (a)	47.0%	49.8%
<b>Healthcare</b>		
(a) Accrued Liability <sup>2</sup>	\$2,946,667	\$3,002,554
(b) Valuation Assets <sup>3</sup>	<u>1,674,160</u>	<u>1,803,763</u>
(c) Unfunded Accrued Liability <sup>2</sup> , (a) – (b)	\$1,272,507	\$1,198,791
(d) Funding Ratio based on Valuation Assets, (b) ÷ (a)	56.8%	60.1%
(e) Fair Value of Assets <sup>2</sup>	\$1,633,041	\$1,866,421
(f) Funding Ratio based on Fair Value of Assets, (e) ÷ (a)	55.4%	62.2%
<b>Total</b>		
(a) Accrued Liability <sup>2</sup>	\$9,346,444	\$9,592,107
(b) Valuation Assets <sup>4</sup>	<u>4,869,154</u>	<u>4,974,076</u>
(c) Unfunded Accrued Liability <sup>2</sup> , (a) – (b)	\$4,477,290	\$4,618,031
(d) Funding Ratio based on Valuation Assets, (b) ÷ (a)	52.1%	51.9%
(e) Fair Value of Assets <sup>2</sup>	\$4,639,688	\$5,145,551
(f) Funding Ratio based on Fair Value of Assets, (e) ÷ (a)	49.6%	53.6%

<sup>1</sup> Includes pension and healthcare benefits.

<sup>2</sup> In thousands.

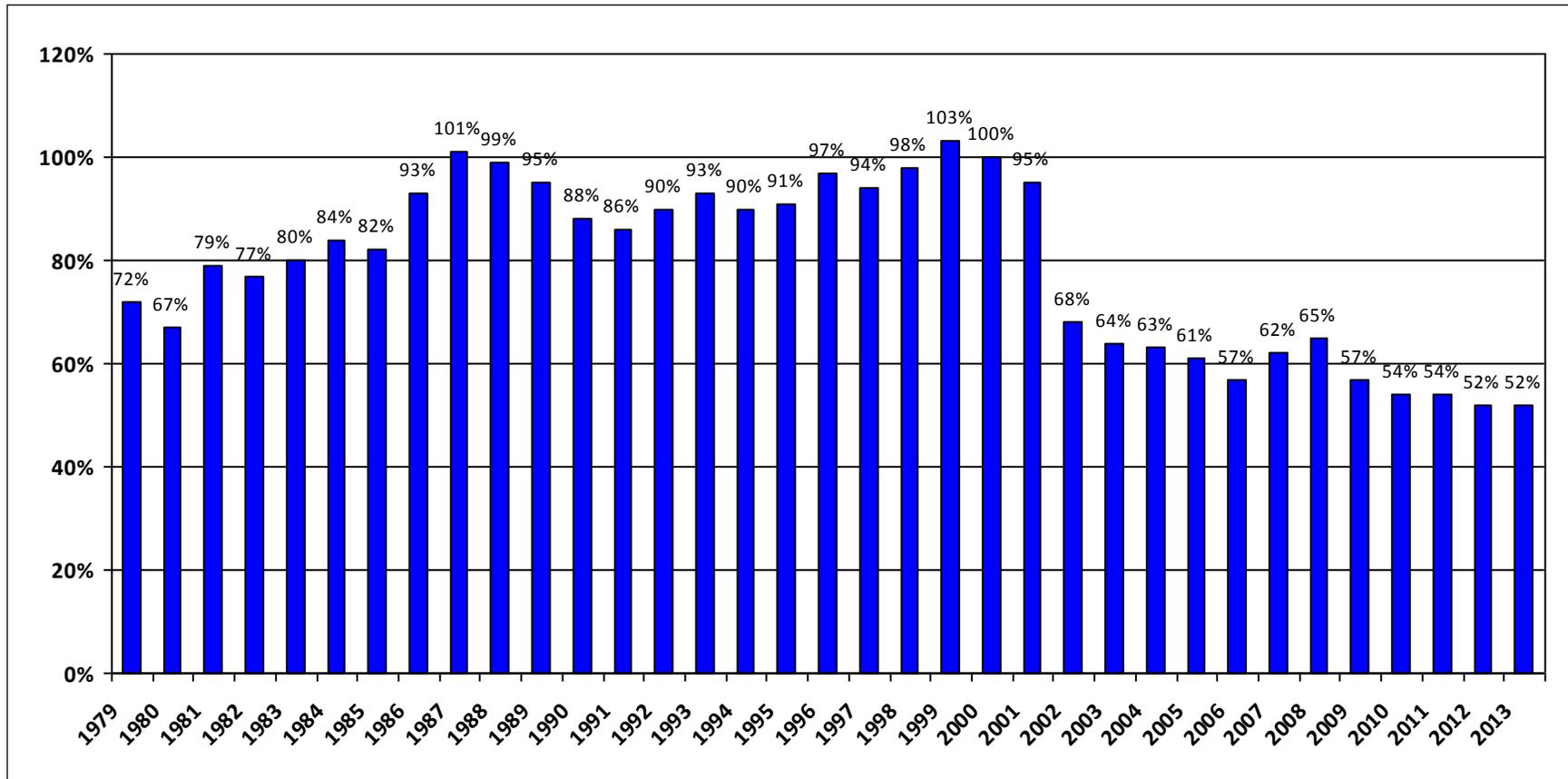
<sup>3</sup> In thousands.

<sup>4</sup> In thousands.

# State of Alaska Teachers' Retirement System

## Executive Summary (cont'd)

### TRS Funding Ratio History (Based on Valuation Assets)



# State of Alaska Teachers' Retirement System

## *Executive Summary (cont'd)*

As shown previously, the funding ratio based on valuation assets as of June 30, 2013 has decreased from 52.1% to 51.9%, a decrease of 0.2%. The total calculated Employer/State contribution rate has increased from 66.31% of total payroll for FY15 to 69.24% for FY16, an increase of 2.93%. The reasons for the change in the funded status and calculated contribution rate are explained below.

### (1) Retiree Medical Costs and Assumptions

The following table summarizes the monthly premium per benefit recipient since 1977.

Time Period	Monthly Premium Per Retiree For Health Coverage	Annual Percentage Change	Average Compound Annual Increase Since FY78
2/1/77-1/31/78	\$ 57.64	66%	-
2/1/78-1/31/79	69.10	20%	20%
2/1/79-1/31/80	64.70	-6%	6%
2/1/80-1/31/81	96.34	49%	19%
2/1/81-1/31/82	96.34	0%	14%
2/1/82-1/31/83	115.61	20%	15%
2/1/83-1/31/84	156.07	35%	18%
2/1/84-1/31/85	191.85	23%	19%
2/1/85-1/31/86	168.25	-12%	14%
2/1/86-1/31/87	165.00	-2%	12%
2/1/87-1/31/88	140.25	-15%	9%
2/1/88-1/31/89	211.22	51%	13%
2/1/89-1/31/90	252.83	20%	13%
2/1/90-1/31/91	243.98	-4%	12%
2/1/91-1/31/92	243.98	0%	11%
2/1/92-1/31/93	226.90	-7%	10%
2/1/93-1/31/94	309.72	37%	11%
2/1/94-1/31/95	336.05	9%	11%
2/1/95-1/31/96	350.50	4%	11%
2/1/96-1/31/97	350.50	0%	10%
2/1/97-1/31/98	368.00	5%	10%
2/1/98-12/31/98	368.00	0%	9%
1/1/99-12/31/99	442.00	20%	10%
1/1/00-12/31/00	530.00	20%	10%
1/1/01-12/31/01	610.00	15%	10%
1/1/02-12/31/02	668.00	10%	10%
1/1/03-12/31/03	720.00	8%	10%
1/1/04-12/31/04	806.00	12%	10%
1/1/05-12/31/05	850.00	5%	10%
1/1/06-12/31/06	876.00	3%	10%
1/1/07-12/31/07	876.00	0%	10%
1/1/08-12/31/08	876.00	0%	9%
1/1/09-12/31/09	937.00	7%	9%
1/1/10-12/31/10	1,068.00	14%	9%
1/1/11-12/31/11	1,176.00	10%	9%
1/1/12-12/31/12	1,200.00	2%	9%
1/1/13-12/31/13	1,223.00	2%	9%
1/1/14-12/31/14	1,223.00	0%	9%

As shown in above table, the monthly retiree medical premium for the January 1, 2014 to December 31, 2014 time period will remain at \$1,223. This represents an increase of 0% from the previous year's medical premium of \$1,223. The health cost trend rates used for this valuation are described in Section 6.3. Over the last 10 years, annual premium rate changes have ranged from no change to up 14%. Also, over the last ten years, the increase in the premium rate has been about 4.3% compounded annually.

# State of Alaska Teachers' Retirement System

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## *Executive Summary (cont'd)*

An analysis of medical costs was completed based on claims information and enrollment data provided by HealthSmart (formerly Wells Fargo Insurance Services). Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs. An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Average medical claims were then distributed across the population based on expected increases in medical expenses that occur with age.

For the 2013 valuation, we updated incurred claims cost and Medicare offset analyses using fiscal 2013 incurred claims and enrollment information through June 2013. For Medicare Part B only participants, we were provided a census, from HealthSmart, of all current retirees that do not have Medicare Part A. A lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B. Experience rates were developed using historical incurred claims for fiscal years 2010 – 2013. The trend assumption is based on the proposed Society of Actuaries' Healthcare Cost Trend Model updated for 2012. The trend rate varies by year declining to 4.5% over 100 years. The trends vary by medical, pre-Medicare and Medicare, and aggregate prescription drugs.

For the 2013 valuation, we have not modified any management level reporting information used to develop per capita claim cost rates. We will continue to compare data from multiple sources and potentially modify future claims cost rate derivation to reflect salient information at the individual claimant level that may enhance global management level data. For the 2013 valuation, we do not recommend any changes to morbidity assumptions used to project increasing claims costs as members age. However, we will continue to compare age-based claims costs derived from individual claimant data to the current morbidity curve and potentially modify the assumed aging impact on claims costs in future valuations. Finally, explicit third-party administration (TPA) costs were added to medical and prescription claims cost rates. Per-member TPA costs are derived from the go-forward Aetna contract and are projected to increase at the assumed rate of 5%.

Based upon variations in medical cost trends between Medicare-eligible and pre-Medicare populations, Buck's practice is to use separate healthcare cost trends for these populations. This, in conjunction with updates to legislation, long-term trend models and time since prior assumptions were set, indicated a need to re-set this assumption for the 2012 valuation. Based upon emerging experience, we did not update the trend assumption for the 2013 valuation.

# State of Alaska Teachers' Retirement System

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## *Executive Summary (cont'd)*

Since 2004, the funding valuation also reflects the impact of the Medicare Part D Retiree Drug Subsidy (RDS) in the projection of prescription drug benefit costs. Buck's actuaries have attested that the prescription drug benefits meet the actuarial equivalence requirements and the plan qualifies to receive the RDS under the Medicare Prescription Drug, Improvement and Modernization Act of 2003 (MMA) for calendar 2013 and 2014. Based on current plan provisions and utilization data, we anticipate the plan will continue to qualify for RDS payments. The State has shared its payments for calendar 2006 through December 2012 and this information was used to estimate future RDS payments in this valuation. Please note, Part D subsidies are not reflected for accounting purposes under GASB No. 43.

Utilization and claims cost data indicate that healthcare experience emerging since the prior valuation is increasing slightly, but still favorably, compared to industry and aggregate trend expectations. Some of the favorable experience can be attributed to the lower portion of participants not eligible for Medicare Part A as compared to historical valuation claim costs. With the introduction of a health improvement plan for State employees, as well as disease management provided by the TPA, it is hoped that the incidence of the most severe and costly chronic conditions can maintain a more manageable and stable level. As with the prior valuation, a weighting methodology is employed, where each of the experience years is weighted appropriately, with more emphasis on the most recent two years, when calculating the claims costs. This has the effect of preventing any one year from unduly influencing the claims costs. In the current valuation, we averaged national trend assumptions with Alaska-specific trend, with 75% weight to Alaska-specific trend and 25% to national trend, during the experience period to give more credibility to Alaska-specific experience while still reflecting national trends.

The new third-party administration contract effective January 1, 2014 is expected to deliver greater medical network and pharmacy discount savings compared to levels implicit in claims data used to develop base-year claim cost rates.

Further detail on development of base-claim cost rates is provided in Section 6.2(c) below.

# State of Alaska Teachers' Retirement System

## *Executive Summary (cont'd)*

The following table summarizes data sources and assumptions and the relative impact changes in each have on healthcare cost projections for 2013 as compared to 2012:

<b>Healthcare Cost Rate Data Source or Assumption Change, 2013 vs. 2012</b>	<b>Gain / Loss Impact on 2013 Valuation Results</b>
Claim lag specific to medical and prescription experience	Negligible
Individual claims level data	<ul style="list-style-type: none"> <li>– No impact on cost data used for 2013, though potentially a source of future modifications</li> <li>– No impact on morbidity assumptions used for 2013, though potentially a source of future modifications</li> </ul>
Explicit TPA fees	Negligible
Assumed TPA medical and pharmacy network discounts	Modest gain
Actual RDS payments received	Negligible
Averaging Alaska-specific trend during the experience period with Health Care Cost Trend Rates (HCCTR) used to bring prior data forward to the valuation year	N/A / Negligible
Aggregate claims data	Moderate gain due to experience, but dampened by weighting methodology
Census Data – Medicare Part B only participation	Gain due to fewer Medicare Part B only participants as compared to historical estimates

# State of Alaska Teachers' Retirement System

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## *Executive Summary (cont'd)*

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

The approximate FY13 investment return based on fair values was 12.2% compared to the expected investment return of 8.00%. This resulted in a gain of approximately \$211.3 million to the System from investment experience. The asset valuation method recognizes 20 percent of this gain (\$42.3 million) this year and an additional 20 percent in each of the next 4 years. In addition, 20 percent of the FY09 investment loss, 20 percent of the FY10 investment gain, 20 percent of the FY11 investment gain and 20 percent of the FY12 investment loss were recognized this year. The approximate FY13 asset return based on actuarial values was 3.7% compared to the expected asset return of 8.00%. The net result was an actuarial asset loss of \$208.0 million which decreased the funding ratio by 2.1% and increased the Employer/State contribution rate by 2.44%.

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

During the period from June 30, 2012, to June 30, 2013, salary increases for continuing active members were less than anticipated in the valuation assumptions causing a 0.1% increase in the funding ratio and a 0.30% decrease in the Employer/State contribution rate.

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

Section 5 provides statistics on active and inactive participants. The number of active participants decreased 7.20% from 6,845 at June 30, 2012 to 6,352 at June 30, 2013 due to the closure of the plan to new entrants as of July 1, 2006. The average age of active participants increased from 49.03 to 49.45 and average credited service increased from 15.16 to 15.80 years.

The number of retirees and beneficiaries increased 3.57% from 11,301 to 11,705, and their average age increased from 67.88 to 68.38. There was a 4.38% increase in the number of vested terminated participants from 868 to 906. Their average age decreased from 49.70 to 49.68.

The overall effect of these participant data changes along with the healthcare experience was an actuarial gain to the System, resulting in a decrease in the Employer/State contribution rate of 0.83% of total payroll. This gain is due to having a larger payroll base to spread the unfunded contribution over and a smaller than expected growth in the per capita claims cost rates for healthcare. The gain/loss by decrement on the accrued liability is shown on the summary page.

# State of Alaska Teachers' Retirement System

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## *Executive Summary (cont'd)*

### **(5) Effect of the Two-Year Delay in the Contribution Rate**

As of June 30, 2012, the actuarially calculated rate was 66.31% for FY15 Employer/State contributions. Since Employer/State contribution rates are determined two years prior to the fiscal year, the June 30, 2010 adopted employer rate of 49.56% was contributed during FY13. The difference between the two calculated rates, 49.56% and 66.31%, or an actuarial contribution rate of 16.75% less than the actuarial rate, created a contribution deficit to the System. This deficit increased the Employer/State contribution rate by 1.62%.

### **(6) Actuarial Projections**

At the Fall 1991 Board Meetings, the TRS Board approved the use of an enhanced actuarial projection system in the valuation report. The same actuarial cost method is used, but the enhanced system projects the associated liabilities 30 years into the future. By also projecting plan assets, this report in effect produces an actuarial valuation for each of the next 30 years. Section 4, Actuarial Funding Projections, contains the results of this analysis.

This type of information can be especially useful to multi-tiered systems, such as TRS. No new DB plan entrants are anticipated. The total active population is expected to grow at 1% per year.

### **(7) Changes in Methods from the Prior Valuation**

There have been no changes in the asset or valuation methods since the prior valuation.

### **(8) Changes in Assumptions from the Prior Valuation**

There have been no changes in actuarial assumptions since the prior valuation.

### **(9) Changes in Benefit Provisions Since the Prior Valuation**

There have been no changes in benefit provisions since the prior valuation.

# State of Alaska Teachers' Retirement System

## *Comparative Summary of Key Actuarial Valuation Results*

<b>Employer/State Contribution Rates for Pension for Fiscal Year:</b>	<b>2015</b>	<b>2016</b>
(a) Normal Cost Rate Net of Member Contributions	2.81%	2.50%
(b) Past Service Rate	<u>41.74%</u>	<u>45.56%</u>
(c) Total Employer/State Contribution Rate (a) + (b)	44.55%	48.06%

<b>Employer/State Contribution Rates for Postemployment Healthcare for Fiscal Year:</b>	<b>2015</b>	<b>2016</b>
(a) Normal Cost Rate	3.59%	3.20%
(b) Past Service Rate	<u>18.17%</u>	<u>17.98%</u>
(c) Total Employer/State Contribution Rate (a) + (b)	21.76%	21.18%

<b>Total Employer/State Contribution Rates for Fiscal Year:</b>	<b>2015</b>	<b>2016</b>
(a) Normal Cost Rate Net of Member Contributions	6.40%	5.70%
(b) Past Service Rate	<u>59.91%</u>	<u>63.54%</u>
(c) Total Employer/State Contribution Rate (a) + (b)	66.31%	69.24%
(d) Board Adopted Total Employer/State Contribution Rate	66.31%	TBD*
(e) Defined Contribution Retirement (DCR) Rate Paid by Employers	<u>4.44%</u>	TBD*
(f) Board Adopted Total Rate, Including DCR Rate Paid by Employers (d) + (e)	70.75%	TBD*

\*The contribution rates for fiscal year ending June 30, 2016 are to be determined using new methodology in accordance with 2014 legislation under HB 385 and SB 119 which change the amortization methodology to a closed 25-year period as a level percentage of pay and eliminate the time lag on the contribution rate calculation.

Contribution rates are based on salary for both DB plan members and DCR members, combined.

The rates shown above are for funding purposes which differ from the Annual Required Contribution for GASB No. 43 reporting purposes. Under GASB No. 43, postemployment healthcare liabilities are gross of the retiree drug subsidy and are calculated with a discount rate for a partially funded plan. Under both GASB Nos. 25 and 43, the amortization of the unfunded liabilities is calculated as a level dollar amount.

Contribution rates include Employer contribution rates as limited by State statute, and include the additional State contribution required under SB 125.

# State of Alaska Teachers' Retirement System

## *Comparative Summary of Key Actuarial Valuation Results (cont'd)*

### Summary of Actuarial Gain/(Loss) and Other Changes During the Year

The following table summarizes the sources of change in the total Employer/State contribution rate based on DB and DCR member payroll combined:

	<u>Pension</u>	<u>Healthcare</u>	<u>Total</u>
1. Last year's total Employer/State contribution rate	44.55%	21.76%	66.31%
2. Change due to:			
a. Effect of two-year delay in the contribution rate	1.34%	0.28%	1.62%
b. Investment experience	2.09%	0.35%	2.44%
c. Salary increases	(0.30)%	N/A	(0.30)%
d. Demographic and medical experience <sup>1</sup>	<u>0.38%</u>	<u>(1.21)%</u>	<u>(0.83)%</u>
e. Total change ( <i>a + b + c + d</i> )	3.51%	(0.58)%	2.93%
3. Total Employer/State contribution rate this year ( <i>1</i> ) + ( <i>2e</i> )	48.06%	21.18%	69.24%

The following table shows the gain/(loss) on total accrued liability (in thousands):

	<u>Pension</u>	<u>Healthcare</u>	<u>Total</u>	<u>% of Total Expected Accrued Liability</u>
- Retirement Experience	\$ 3,268	\$ 6,694	\$ 9,962	0.1%
- Termination Experience	(11,010)	(5,549)	(16,559)	(0.2%)
- Active Mortality Experience	305	400	705	nil
- Inactive Mortality Experience	(4,138)	(2,138)	(6,276)	(0.1%)
- Disability Experience	(696)	(207)	(903)	nil
- Rehires	(11,100)	(4,161)	(15,261)	(0.2%)
- Other Demographic Experience <sup>2</sup>	(29,965)	(2,518)	(32,483)	(0.3%)
- Salary Increases	23,829	N/A	23,829	0.2%
- Alaska COLA	666	N/A	666	nil
- PRPA Other Than Expected	27,733	N/A	27,733	0.3%
- Medical Claims Costs	N/A	90,606	90,606	1.0%
- Total Gain/(Loss)	\$ (1,108)	\$ 83,127	\$ 82,019	0.8%

A gain on total accrued liability is favorable to the System. A loss is unfavorable.

<sup>1</sup> Includes changes in future healthcare claims costs.

<sup>2</sup> Reflects data and programming changes

## Section 1

### Actuarial Funding Results

# State of Alaska Teachers' Retirement System

## Section 1.1

### Actuarial Liabilities and Normal Cost (\$'s in 000's)

As of June 30, 2013	Present Value of Projected Benefits	Accrued (Past Service) Liability
<b>Active Members</b>		
Retirement Benefits	\$ 2,227,814	\$ 1,915,667
Termination Benefits	72,145	33,324
Disability Benefits	3,994	193
Death Benefits	14,715	11,718
Return of Contributions	11,217	(56,122)
Medical and Prescription Drug Benefits	1,199,850	1,053,542
Medicare Part D Subsidy	(71,658)	(63,102)
Indebtedness	(41,509)	(41,509)
Subtotal	\$ 3,416,568	\$ 2,853,711
<b>Inactive Members</b>		
Not Vested	\$ 43,754	\$ 43,754
Vested Terminations		
- Retirement Benefits	115,402	115,402
- Medical and Prescription Drug Benefits	184,796	184,796
- Medicare Part D Subsidy	(10,416)	(10,416)
- Indebtedness	(5,478)	(5,478)
Retirees & Beneficiaries		
- Retirement Benefits	4,572,604	4,572,604
- Medical and Prescription Drug Benefits	1,988,482	1,988,482
- Medicare Part D Subsidy	(150,748)	(150,748)
Subtotal	\$ 6,738,396	\$ 6,738,396
<b>Total</b>	<b>\$ 10,154,964</b>	<b>\$ 9,592,107</b>
<b>Total Pension</b>	<b>\$ 7,014,658</b>	<b>\$ 6,589,553</b>
<b>Total Medical, Net of Part D Subsidy</b>	<b>\$ 3,140,306</b>	<b>\$ 3,002,554</b>
<b>Total Medical, Gross of Part D Subsidy</b>	<b>\$ 3,373,128</b>	<b>\$ 3,226,820</b>

# State of Alaska Teachers' Retirement System

## Section 1.1 (cont'd)

### Actuarial Liabilities and Normal Cost (cont'd) (\$'s in 000's)

As of June 30, 2013	Present Value of Projected Benefits	Accrued (Past Service) Liability
<b>By Tier</b>		
Tier 1		
- Pension	\$ 4,934,378	\$ 4,880,175
- Medical, Net of Part D Subsidy	1,950,649	1,936,173
Tier 2		
- Pension	2,080,280	1,709,378
- Medical, Net of Part D Subsidy	1,189,657	1,066,381
<b>Total</b>	<b>\$ 10,154,964</b>	<b>\$ 9,592,107</b>

As of June 30, 2013	Normal Cost
<b>Active Members</b>	
Retirement Benefits	\$ 47,550
Termination Benefits	5,531
Disability Benefits	562
Death Benefits	474
Return of Contributions	10,209
Medical and Prescription Drug Benefits	25,048
Medicare Part D Subsidy	(1,480)
Subtotal	\$ 87,894
<b>Total</b>	<b>\$ 87,894</b>
<b>Total Pension</b>	<b>\$ 64,326</b>
<b>Total Medical, Net of Part D Subsidy</b>	<b>\$ 23,568</b>
<b>Total Medical, Gross of Part D Subsidy</b>	<b>\$ 25,048</b>

<b>By Tier</b>	
Tier 1	
- Pension	\$ 12,478
- Medical, Net of Part D Subsidy	3,585
Tier 2	
- Pension	51,848
- Medical, Net of Part D Subsidy	19,983
<b>Total</b>	<b>\$ 87,894</b>

# State of Alaska Teachers' Retirement System

## Section 1.2

### Actuarial Contributions – FY16 (\$'s in 000's)

Normal Cost Rate	Pension	Healthcare	Total
(1) Total Normal Cost	\$ 64,326	\$ 23,568	\$ 87,894
(2) DB Member Salaries Projected for FY14	527,474	527,474	527,474
(3) DCR Member Salaries Projected for FY14	210,004	210,004	210,004
(4) Total Salaries Projected for FY14	737,478	737,478	737,478
(5) Normal Cost Rate			
a. Based on DB Member Salaries, (1) ÷ (2)	12.20%	4.47%	16.67%
b. Based on Total Salaries, (1) ÷ (4)	8.72%	3.20%	11.92%
(6) Average Member Contribution Rate <sup>1</sup>	6.22%	0.00%	6.22%
(7) Employer Normal Cost Rate, (5b) – (6)	2.50%	3.20%	5.70%
<b>Past Service Rate</b>			
(1) Accrued Liability	\$ 6,589,553	\$ 3,002,554	\$ 9,592,107
(2) Valuation Assets	<u>3,170,313</u>	<u>1,803,763</u>	<u>4,974,076</u>
(3) Total Unfunded Liability, (1) – (2)	\$ 3,419,240	\$ 1,198,791	\$ 4,618,031
(4) Funded Ratio, (2) ÷ (1)	48.1%	60.1%	51.9%
(5) Past Service Cost Amortization Payment <sup>2</sup>	335,970	132,608	468,578
(6) Total Salaries Projected for FY14	737,478	737,478	737,478
(7) Past Service Rate, (5) ÷ (6)	45.56%	17.98%	63.54%
<b>Total Employer/State Contribution Rate</b>	<b>48.06%</b>	<b>21.18%</b>	<b>69.24%</b>
<b>Normal Cost Rate by Tier (Total Employer and Member)<sup>3</sup></b>			
Tier 1	12.70%	3.65%	16.35%
Tier 2	12.08%	4.66%	16.74%
Maturity Ratio	71.7%	67.0%	70.2%

<sup>1</sup> Assumes no member contribution from members in the DCR plan, 9.65% contributions for Tier 1 members who elected supplemental coverage and 8.65% for the remaining members.

<sup>2</sup> Amortized on a level dollar basis.

<sup>3</sup> Rate determined considering the pay for members of the plan in this tier. DCR payroll is excluded from these calculations.

# State of Alaska Teachers' Retirement System

## Section 1.2 (cont'd)

### Actuarial Contributions – FY16 (\$'s in 000's)

#### Schedule of Past Service Cost Amortizations - Pension

	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Left	Initial	Outstanding	
Initial Unfunded Liability <sup>1</sup>	6/30/2002	14	\$ 871,526	\$ 880,822	\$ 98,927
FY03 Loss <sup>1</sup>	6/30/2003	15	168,666	172,311	18,640
FY04 Loss <sup>1</sup>	6/30/2004	16	83,331	85,682	8,963
FY05 Loss <sup>1</sup>	6/30/2005	17	117,313	120,941	12,277
Change in Assumptions/Methods <sup>1</sup>	6/30/2006	18	284,349	292,946	28,943
FY06 Gain <sup>1</sup>	6/30/2006	18	(21,576)	(22,229)	(2,196)
FY07 Loss	6/30/2007	19	25,203	25,911	2,498
FY08 Gain	6/30/2008	20	(51,093)	(52,284)	(4,931)
FY09 Loss	6/30/2009	21	780,078	792,692	73,274
Change in Assumptions	6/30/2010	22	351,643	353,701	32,106
FY10 Loss	6/30/2010	22	31,237	31,419	2,852
FY11 Loss	6/30/2011	23	95,744	95,448	8,522
FY12 Loss	6/30/2012	24	353,279	348,447	30,643
FY13 Loss	6/30/2013	25	293,433	293,433	25,452
<b>Total</b>				<b>\$ 3,419,240</b>	<b>\$ 335,970</b>

<sup>1</sup> The pension and healthcare split was done using a ratio of unfunded accrued liability as of June 30, 2006.

# State of Alaska Teachers' Retirement System

## Section 1.2 (cont'd)

### Actuarial Contributions – FY16 (\$'s in 000's)

#### Schedule of Past Service Cost Amortizations – Healthcare

	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Left	Initial	Outstanding	
Initial Unfunded Liability <sup>1</sup>	6/30/2002	14	\$ 851,080	\$ 860,157	\$ 96,606
FY03 Loss <sup>1</sup>	6/30/2003	15	164,710	168,268	18,202
FY04 Loss <sup>1</sup>	6/30/2004	16	81,376	83,670	8,753
FY05 Loss <sup>1</sup>	6/30/2005	17	114,560	118,103	11,988
Change in Assumptions/Methods <sup>1</sup>	6/30/2006	18	277,678	286,074	28,264
FY06 Gain <sup>1</sup>	6/30/2006	18	(21,071)	(21,708)	(2,145)
FY07 Gain	6/30/2007	19	(375,974)	(386,551)	(37,269)
Change in Assumptions	6/30/2008	20	138,986	142,232	13,414
FY08 Gain	6/30/2008	20	(186,882)	(191,244)	(18,036)
FY09 Gain	6/30/2009	21	(95,703)	(97,250)	(8,990)
Change in Assumptions	6/30/2010	22	272,151	273,744	24,848
FY10 Loss	6/30/2010	22	65,520	65,904	5,982
FY11 Gain	6/30/2011	23	(15,652)	(15,604)	(1,393)
Change in Assumptions	6/30/2012	24	66,859	65,945	5,799
FY12 Gain	6/30/2012	24	(125,126)	(123,415)	(10,853)
FY13 Gain	6/30/2013	25	(29,534)	(29,534)	(2,562)
<b>Total</b>				<b>\$ 1,198,791</b>	<b>\$ 132,608</b>

<sup>1</sup> The pension and healthcare split was done using a ratio of unfunded accrued liability as of June 30, 2006

# State of Alaska Teachers' Retirement System

## Section 1.2 (cont'd)

### Actuarial Contributions – FY16 (\$'s in 000's)

#### Schedule of Past Service Cost Amortizations - Total

	Amortization Period		Balances		Beginning-of-Year Payment
	Date Created	Years Left	Initial	Outstanding	
Initial Unfunded Liability	6/30/2002	14	\$ 1,722,606	\$ 1,740,979	\$ 195,533
FY03 Loss	6/30/2003	15	333,376	340,579	36,842
FY04 Loss	6/30/2004	16	164,707	169,352	17,716
FY05 Loss	6/30/2005	17	231,873	239,044	24,265
Change in Assumptions/Methods	6/30/2006	18	562,027	579,020	57,207
FY06 Gain	6/30/2006	18	(42,647)	(43,937)	(4,341)
FY07 Gain	6/30/2007	19	(350,771)	(360,640)	(34,771)
Change in Assumptions	6/30/2008	20	138,986	142,232	13,414
FY08 Gain	6/30/2008	20	(237,975)	(243,528)	(22,967)
FY09 Loss	6/30/2009	21	684,375	695,442	64,284
Change in Assumptions	6/30/2010	22	623,794	627,445	56,954
FY10 Loss	6/30/2010	22	96,757	97,323	8,834
FY11 Loss	6/30/2011	23	80,092	79,844	7,129
Change in Assumptions	6/30/2012	24	66,859	65,945	5,799
FY12 Loss	6/30/2012	24	228,153	225,032	19,790
FY13 Loss	6/30/2013	25	263,899	263,899	22,890
<b>Total</b>				<b>\$ 4,618,031</b>	<b>\$ 468,578</b>

The amortization factor for 25 years is 11.528758. The weighted average amortization factor is 9.855416. The amortization method is level dollar.

The equivalent single amortization period is 17 years.

# State of Alaska Teachers' Retirement System

## Section 1.3

### Actuarial Gain / (Loss) for FY13 (\$'s in 000's)

	Pension	Healthcare	Total
<b>(1) Expected Actuarial Accrued Liability</b>			
(a) Accrued Liability, June 30, 2012	\$ 6,399,777	\$ 2,946,667	\$ 9,346,444
(b) Normal Cost for FY13	69,113	26,738	95,851
(c) Interest on (a) and (b) at 8.00%	517,511	237,872	755,383
(d) Benefit Payments for FY13	380,265	120,855	501,120
(e) Refund of Contributions for FY13	2,668	0	2,668
(f) Interest on (d) and (e) at 8.00% for one-half year	15,023	4,741	19,764
(g) Expected Accrued Liability as of June 30, 2013 (a) + (b) + (c) - (d) - (e) - (f)	6,588,445	3,085,681	9,674,126
<b>(2) Actual Accrued Liability, June 30, 2013</b>	<b>6,589,553</b>	<b>3,002,554</b>	<b>9,592,107</b>
<b>(3) Liability Gain/(Loss), (1)(g) - (2)</b>	<b>\$ (1,108)</b>	<b>\$ 83,127</b>	<b>\$ 82,019</b>
<b>(4) Expected Actuarial Asset Value</b>			
(a) Actuarial Asset Value, June 30, 2012	\$ 3,194,994	\$ 1,674,160	\$ 4,869,154
(b) Interest on (a) at 8.00%	255,600	133,933	389,533
(c) Employee Contributions for FY13	50,201	250	50,451
(d) Employer Contributions for FY13	37,372	35,293	72,665
(e) Employer Legislative Relief for FY13	196,945	105,832	302,777
(f) Medicare Part D Subsidy	0	4,148	4,148
(g) Interest on (c), (d), (e) and (f) at 8.00% for one-half year	11,162	5,709	16,871
(h) Benefit Payments for FY13	380,265	120,855	501,120
(i) Refund of Contributions for FY13	2,668	0	2,668
(j) Interest on (h) and (i) at 8.00% for one-half year	15,023	4,741	19,764
(k) Expected Actuarial Asset Value, June 30, 2013 (a)+(b)+(c)+(d)+(e)+(f)+(g)-(h)-(i)-(j)	3,348,318	1,833,729	5,182,047
<b>(5) Actuarial Asset Value, June 30, 2013</b>	<b>3,170,313</b>	<b>1,803,763</b>	<b>4,974,076</b>
<b>(6) Actuarial Asset Gain/(Loss), (5) - (4)(k)</b>	<b>\$ (178,005)</b>	<b>\$ (29,966)</b>	<b>\$ (207,971)</b>
<b>(7) Actuarial Gain/(Loss), (3) + (6)</b>	<b>\$ (179,113)</b>	<b>\$ 53,161</b>	<b>\$ (125,952)</b>
<b>(8) Effect of the 2-Year Delay on Contributions</b>	<b>\$ (114,320)</b>	<b>\$ (23,627)</b>	<b>\$ (137,947)</b>
<b>(9) FY13 Gain/(Loss) to be Amortized, (7) + (8)</b>	<b>\$ (293,433)</b>	<b>\$ 29,534</b>	<b>\$ (263,899)</b>

# State of Alaska Teachers' Retirement System

## Section 1.4

### Development of Change in Unfunded Liability During FY13

	Pension	Healthcare	Total
1. 2012 Unfunded Liability	\$3,204,783	\$1,272,507	\$4,477,290
a. Interest on unfunded liability	\$ 256,383	\$ 101,800	\$ 358,183
b. Normal cost	69,113	26,738	95,851
c. Employee contributions	(50,201)	(250)	(50,451)
d. Employer contributions	(37,372)	(35,293)	(72,665)
e. Employer legislative relief	(196,945)	(105,832)	(302,777)
f. Medicare Part D subsidy	0	(4,148)	(4,148)
g. Interest on b., c., d., e., and f.	<u>(5,634)</u>	<u>(3,570)</u>	<u>(9,204)</u>
h. Expected change in unfunded liability during FY13	\$ 35,344	\$ (20,555)	\$ 14,789
2. Expected 2013 Unfunded Liability	\$3,240,127	\$1,251,952	\$4,492,079
a. Liability (gains)/losses	1,108	(83,127)	(82,019)
b. Assets (gains)/losses	<u>178,005</u>	<u>29,966</u>	<u>207,971</u>
c. Other changes in unfunded liability during FY13	\$ 179,113	\$ (53,161)	\$ 125,952
3. Actual 2013 Unfunded Liability	\$3,419,240	\$1,198,791	\$4,618,031

# State of Alaska Teachers' Retirement System

## Section 1.5

### Analysis of Financial Experience - Pension

Change in Employer/State Contribution Rate  
Due to (Gains) and Losses in Accrued Liabilities During the Last Five Fiscal Years  
Resulting From Differences Between Assumed Experience and Actual Experience

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	Pension				
	2009	2010	2011	2012	2013
(1) Health Experience	N/A	N/A	N/A	N/A	N/A
(2) Salary Experience	0.29%	0.59%	(0.03)%	0.00%	(0.30)%
(3) Investment Experience	6.53%	(0.34)%	0.18%	3.47%	2.09%
(4) Demographic Experience	(0.54)%	(0.75)%	(0.03)%	(0.36)%	0.38%
(5) Contribution Shortfall	0.01%	0.46%	0.75%	0.52%	1.34%
(6) (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	6.29%	(0.04)%	0.87%	3.63%	3.51%
(7) Asset Valuation Method	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Past Service Amortization Change	0.00%	0.00%	0.00%	9.52%	0.00%
(9) Assumption and Method Changes	0.00%	3.96%	0.00%	0.00%	0.00%
(10) System Benefit Changes	0.00%	0.00%	0.00%	0.00%	0.00%
(11) Composite (Gain) or Loss During Year, (6) + (7) + (8) + (9) + (10)	6.29%	3.92%	0.87%	13.15%	3.51%
(12) Beginning Total Employer/State Contribution Rate	20.32%	26.61%	30.53%	31.40%	44.55%
(13) Ending Total Employer/State Contribution Rate, (11) + (12)	26.61%	30.53%	31.40%	44.55%	48.06%
(14) Fiscal Year Above Rate is Applied	FY12	FY13	FY14	FY15	FY16

# State of Alaska Teachers' Retirement System

## Section 1.5 (cont'd)

### Analysis of Financial Experience - Healthcare

**Change in Employer/State Contribution Rate  
Due to (Gains) and Losses in Accrued Liabilities During the Last Five Fiscal Years  
Resulting From Differences Between Assumed Experience and Actual Experience**

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	Healthcare				
	2009	2010	2011	2012	2013
(1) Health Experience	(2.67)%	0.19%	(0.72)%	(2.02)%	(1.21)%
(2) Salary Experience	N/A	N/A	N/A	N/A	N/A
(3) Investment Experience	0.70%	0.39%	0.28%	0.71%	0.35%
(4) Demographic Experience	N/A	N/A	N/A	N/A	N/A
(5) Contribution Shortfall	(0.27)%	(0.45)%	0.11%	0.19%	0.28%
(6) (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	(2.24)%	0.13%	(0.33)%	(1.12)%	(0.58)%
(7) Asset Valuation Method	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Past Service Amortization Change	0.00%	0.00%	0.00%	3.55%	0.00%
(9) Assumption and Method Changes	0.00%	2.90%	0.00%	0.63%	0.00%
(10) System Benefit Changes	0.00%	0.00%	0.00%	0.00%	0.00%
(11) Composite (Gain) or Loss During Year, (6) + (7) + (8) + (9) + (10)	(2.24)%	3.03%	(0.33)%	3.06%	(0.58)%
(12) Beginning Total Employer/State Contribution Rate	18.24%	16.00%	19.03%	18.70%	21.76%
(13) Ending Total Employer/State Contribution Rate, (11) + (12)	16.00%	19.03%	18.70%	21.76%	21.18%
(14) Fiscal Year Above Rate is Applied	FY12	FY13	FY14	FY15	FY16

# State of Alaska Teachers' Retirement System

## Section 1.5 (cont'd)

### Analysis of Financial Experience – Total

Change in Employer/State Contribution Rate  
Due to (Gains) and Losses in Accrued Liabilities During the Last Five Fiscal Years  
Resulting From Differences Between Assumed Experience and Actual Experience

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	Total				
	2009	2010	2011	2012	2013
(1) Health Experience	(2.67)%	0.19%	(0.72)%	(2.02)%	(1.21)%
(2) Salary Experience	0.29%	0.59%	(0.03)%	0.00%	(0.30)%
(3) Investment Experience	7.23%	0.05%	0.46%	4.18%	2.44%
(4) Demographic Experience	(0.54)%	(0.75)%	(0.03)%	(0.36)%	0.38%
(5) Contribution Shortfall	(0.26)%	0.01%	0.86%	0.71%	1.62%
(6) (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	4.05%	0.09%	0.54%	2.51%	2.93%
(7) Asset Valuation Method	0.00%	0.00%	0.00%	0.00%	0.00%
(8) Past Service Amortization Change	0.00%	0.00%	0.00%	13.07%	0.00%
(9) Assumption and Method Changes	0.00%	6.86%	0.00%	0.63%	0.00%
(10) System Benefit Changes	0.00%	0.00%	0.00%	0.00%	0.00%
(11) Composite (Gain) or Loss During Year, (6) + (7) + (8) + (9) + (10)	4.05%	6.95%	0.54%	16.21%	2.93%
(12) Beginning Total Employer/State Contribution Rate	38.56%	42.61%	49.56%	50.10%	66.31%
(13) Ending Total Employer/State Contribution Rate, (11) + (12)	42.61%	49.56%	50.10%	66.31%	69.24%
(14) Fiscal Year Above Rate is Applied	FY12	FY13	FY14	FY15	FY16

# State of Alaska Teachers' Retirement System

## Section 1.6

### History of UAAL and Funded Ratio (\$'s in 000's)

Valuation Date	Aggregate Accrued Liability	Valuation Assets	Assets as a Percent of Accrued Liability	Unfunded Accrued Liabilities (UAL)
June 30, 2003	\$ 5,835,609	\$ 3,752,285	64.3%	\$ 2,083,324
June 30, 2004	\$ 6,123,600	\$ 3,845,370	62.8%	\$ 2,278,230
June 30, 2005	\$ 6,498,556	\$ 3,958,939	60.9%	\$ 2,539,617
June 30, 2006	\$ 7,229,851	\$ 4,141,700	57.3%	\$ 3,088,151
June 30, 2007	\$ 7,189,403	\$ 4,424,399	61.5%	\$ 2,765,004
June 30, 2008	\$ 7,619,178	\$ 4,936,976	64.8%	\$ 2,682,202
June 30, 2009	\$ 7,847,514	\$ 4,472,958	57.0%	\$ 3,374,556
June 30, 2010	\$ 8,847,788	\$ 4,739,128	53.6%	\$ 4,108,660
June 30, 2011	\$ 9,128,795	\$ 4,937,937	54.1%	\$ 4,190,858
June 30, 2012	\$ 9,346,444	\$ 4,869,154	52.1%	\$ 4,477,290
June 30, 2013	\$ 9,592,107	\$ 4,974,076	51.9%	\$ 4,618,031

## Section 2

### Plan Assets

# State of Alaska Teachers' Retirement System

## Section 2.1

### Summary of Fair Value of Assets (\$'s in 000's)

As of June 30, 2013	Pension	Healthcare	Total Fair Value	Allocation Percent
<b>Cash and Short-Term Investments</b>				
- Cash and Cash Equivalents	\$ 40,498	\$ 33,864	\$ 74,362	1.4%
- Subtotal	\$ 40,498	\$ 33,864	\$ 74,362	1.4%
<b>Fixed Income Investments</b>				
- Domestic Fixed Income Pool	\$ 249,343	\$ 142,341	\$ 391,684	7.6%
- International Fixed Income Pool	64,562	36,855	101,417	2.0%
- High Yield Pool	92,322	52,703	145,025	2.8%
- Treasury Inflation Protection Pool	1,518	867	2,385	nil
- Emerging Debt Pool	<u>27,481</u>	<u>15,688</u>	<u>43,169</u>	<u>0.8%</u>
- Subtotal	\$ 435,226	\$ 248,454	\$ 683,680	13.2%
<b>Equity Investments</b>				
- Domestic Equity Pool	\$ 1,069,604	\$ 610,627	\$ 1,680,231	32.6%
- International Equity Pool	636,937	363,615	1,000,552	19.4%
- Private Equity Pool	293,629	167,622	461,251	8.9%
- Emerging Markets Equity Pool	<u>96,276</u>	<u>54,961</u>	<u>151,237</u>	<u>2.9%</u>
- Subtotal	\$ 2,096,446	\$ 1,196,825	\$ 3,293,271	63.8%
<b>Other Investments</b>				
- Real Estate Pool	\$ 298,972	\$ 171,389	\$ 470,361	9.2%
- Other Investments Pool	263,748	150,589	414,337	8.0%
- Absolute Return Pool	144,616	82,556	227,172	4.4%
- Other Assets	<u>0</u>	<u>1,179</u>	<u>1,179</u>	<u>nil</u>
- Subtotal	\$ 707,336	\$ 405,713	\$ 1,113,049	21.6%
<b>Total Cash and Investments</b>	\$ 3,279,506	\$ 1,884,856	\$ 5,164,362	100.0%
<b>Net Accrued Receivables / (Payables)</b>	<u>(376)</u>	<u>(18,435)</u>	<u>(18,811)</u>	
<b>Net Assets</b>	\$ 3,279,130	\$ 1,866,421	\$ 5,145,551	

# State of Alaska Teachers' Retirement System

## Section 2.2

### Changes in Fair Value of Assets (\$'s in 000's)

Fiscal Year 2013	Pension	Healthcare	Total Fair Value
(1) Net Assets, June 30, 2012 (fair value)	\$ 3,006,647	\$ 1,633,041	\$ 4,639,688
(2) Additions:			
(a) Plan Member Contributions	\$ 50,201	\$ 250	\$ 50,451
(b) Employer Contributions	37,372	35,293	72,665
(c) Employer Legislative Relief	196,945	105,832	302,777
(d) Interest and Dividend Income	59,113	33,174	92,287
(e) Net Appreciation/(Depreciation) in Fair Value of Investments	325,741	178,764	504,505
(f) Medicare Part D Subsidy	0	4,148	4,148
(g) Other	<u>19</u>	<u>4</u>	<u>23</u>
(h) Total Additions	\$ 669,391	\$ 357,465	\$ 1,026,856
(3) Deductions:			
(a) Medical Benefits	\$ 0	\$ 120,855	\$ 120,855
(b) Retirement Benefits	380,265	0	380,265
(c) Refunds of Contributions	2,668	0	2,668
(d) Investment Expenses	10,986	11	10,997
(e) Administrative Expenses	<u>2,989</u>	<u>3,219</u>	<u>6,208</u>
(f) Total Deductions	\$ 396,908	\$ 124,085	\$ 520,993
(4) Net Assets, June 30, 2013 (fair value)	\$ 3,279,130	\$ 1,866,421	\$ 5,145,551
Approximate Fair Value Investment Return Rate During FY13 Net of All Expenses	12.1%	12.3%	12.2%
Liquidity Factor	8.2	14.5	9.7

# State of Alaska Teachers' Retirement System

## Section 2.3

### Actuarial Value of Assets (\$'s in 000's)

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

	Pension	Healthcare	Total
(1) Deferral of Investment Return/(Loss) for FY13			
(a) Fair Value, June 30, 2012	\$3,006,647	\$ 1,633,041	\$ 4,639,688
(b) Contributions for FY13	284,518	141,375	425,893
(c) Medicare Part D Subsidy	0	4,148	4,148
(d) Benefit Payments for FY13	382,933	120,855	503,788
(e) Actual Investment Return ( <i>net of expenses</i> )	370,898	208,712	579,610
(f) Expected Return Rate ( <i>net of expenses</i> )	8.00%	8.00%	8.00%
(g) Expected Return - Weighted for Timing	236,671	131,611	368,282
(h) Investment Gain/(Loss) for the Year ( <i>e. - g.</i> )	134,227	77,101	211,328
(i) Deferred Investment Return/(Loss)	\$ 108,817	\$ 62,658	\$ 171,475
(2) Actuarial Value, June 30, 2013			
(a) Fair Value, June 30, 2013	\$3,279,130	\$ 1,866,421	\$ 5,145,551
(b) 2013 Deferred Investment Return/(Loss)	108,817	62,658	171,475
(c) Preliminary Actuarial Value, June 30, 2013 ( <i>a. - b.</i> )	3,170,313	1,803,763	4,974,076
(d) Upper Limit: 120% of Fair Value, June 30, 2013	3,934,956	2,239,705	N/A
(e) Lower Limit: 80% of Fair Value, June 30, 2013	2,623,304	1,493,137	N/A
(f) Actuarial Value, June 30, 2013 ( <i>c. limited by d. and e.</i> )	\$3,170,313	\$ 1,803,763	\$ 4,974,076
(g) Ratio of Actuarial Value of Assets to Fair Value of Assets	96.7%	96.6%	96.7%
(h) Approximate Actuarial Value Investment Return Rate During FY13 Net of All Expenses	2.3%	6.2%	3.7%

# State of Alaska Teachers' Retirement System

## Section 2.3 (cont'd)

### Actuarial Value of Assets (\$'s in 000's)

The tables below show the development of gain/(loss) to be recognized in the current year (in thousands).

<b>Pension</b>				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2009	\$ (1,104,046)	\$ (883,236)	\$ (220,810)	\$ 0
6/30/2010	57,127	34,275	11,426	11,426
6/30/2011	343,969	137,588	68,794	137,587
6/30/2012	(245,962)	(49,192)	(49,192)	(147,578)
6/30/2013	134,227	0	26,845	107,382
<b>Total</b>	<b>\$ (814,685)</b>	<b>\$ (760,565)</b>	<b>\$ (162,937)</b>	<b>\$ 108,817</b>

<b>Healthcare</b>				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2009	\$ (287,965)	\$ (230,372)	\$ (57,593)	\$ 0
6/30/2010	28,965	17,379	5,793	5,793
6/30/2011	169,662	67,864	33,932	67,866
6/30/2012	(121,138)	(24,228)	(24,228)	(72,682)
6/30/2013	77,101	0	15,420	61,681
<b>Total</b>	<b>\$ (133,375)</b>	<b>\$ (169,357)</b>	<b>\$ (26,676)</b>	<b>\$ 62,658</b>

<b>Total</b>				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2009	\$ (1,392,011)	\$ (1,113,608)	\$ (278,403)	\$ 0
6/30/2010	86,092	51,654	17,219	17,219
6/30/2011	513,631	205,452	102,726	205,453
6/30/2012	(367,100)	(73,420)	(73,420)	(220,260)
6/30/2013	211,328	0	42,265	169,063
<b>Total</b>	<b>\$ (948,060)</b>	<b>\$ (929,922)</b>	<b>\$ (189,613)</b>	<b>\$ 171,475</b>

# State of Alaska Teachers' Retirement System

## Section 2.4

### Historical Asset Rate of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative	Annual	Cumulative
June 30, 2005	9.1%	9.1%	8.5%	8.5%
June 30, 2006	9.6%	9.3%	11.4%	9.9%
June 30, 2007	11.9%	10.2%	18.5%	12.7%
June 30, 2008	10.2%	10.2%	(3.0)%	8.6%
June 30, 2009	(7.9)%	6.3%	(21.0)%	1.9%
June 30, 2010	8.1%	6.6%	10.6%	3.3%
June 30, 2011	6.9%	6.6%	20.5%	5.6%
June 30, 2012	0.7%	5.9%	0.2%	4.9%
June 30, 2013	3.7%	5.6%	12.2%	5.7%

## Section 3

### Accounting Information

# State of Alaska Teachers' Retirement System

## Section 3.1

### Schedule of Funding Progress (\$'s in 000's)

The exhibit below shows the pension disclosure under GASB No. 25.

Valuation Date	Aggregate Accrued Liability	Valuation Assets	Assets as a Percent of Accrued Liability	Unfunded Accrued Liabilities (UAL)	Annual Active Member Payroll <sup>2</sup>	UAL as a Percent of Annual Active Member Payroll
June 30, 2013 – 8.00%	\$ 6,589,553	\$ 3,170,313	48.1%	\$ 3,419,240	\$ 550,044	621.6%
June 30, 2012 – 8.00%	\$ 6,399,777	\$ 3,194,994	49.9%	\$ 3,204,783	\$ 561,971	570.3%
June 30, 2011 – 8.00%	\$ 6,196,104	\$ 3,345,949	54.0%	\$ 2,850,155	\$ 584,068	488.0%
June 30, 2010 <sup>1</sup> – 8.00%	\$ 6,006,981	\$ 3,259,868	54.3%	\$ 2,747,113	\$ 564,887	486.3%
June 30, 2009 – 8.25%	\$ 5,463,987	\$ 3,115,719	57.0%	\$ 2,348,268	\$ 557,026	421.6%
June 30, 2008 – 8.25%	\$ 5,231,654	\$ 3,670,086	70.2%	\$ 1,561,568	\$ 549,148	284.4%
June 30, 2007 – 8.25%	\$ 5,043,448	\$ 3,441,867	68.2%	\$ 1,601,581	\$ 554,245	289.0%
June 30, 2006 <sup>1</sup> – 8.25%	\$ 4,859,336	\$ 3,296,934	67.8%	\$ 1,562,402	\$ 574,409	272.0%

The exhibit below shows the postemployment healthcare disclosure without regard to the Medicare Part D subsidy under GASB No. 43.

Valuation Date	Aggregate Accrued Liability	Valuation Assets	Assets as a Percent of Accrued Liability	Unfunded Accrued Liabilities (UAL)	Annual Active Member Payroll <sup>2</sup>	UAL as a Percent of Annual Active Member Payroll
June 30, 2013 <sup>1</sup> – 5.08%	\$ 5,002,345	\$ 1,803,763	36.1%	\$ 3,198,582	\$ 550,044	581.5%
June 30, 2012 – 5.01%	\$ 5,046,942	\$ 1,674,160	33.2%	\$ 3,372,782	\$ 561,971	600.2%
June 30, 2011 – 7.08%	\$ 3,635,492	\$ 1,591,988	43.8%	\$ 2,043,504	\$ 584,068	349.9%
June 30, 2010 <sup>1</sup> – 8.00%	\$ 3,076,388	\$ 1,479,260	48.1%	\$ 1,597,128	\$ 564,887	282.7%
June 30, 2009 – 4.50%	\$ 4,604,820	\$ 1,357,239	29.5%	\$ 3,247,581	\$ 557,026	583.0%
June 30, 2008 <sup>1</sup> – 4.50%	\$ 4,648,055	\$ 1,266,890	27.3%	\$ 3,381,165	\$ 549,148	615.7%
June 30, 2007 – 4.50%	\$ 4,059,573	\$ 982,532	24.2%	\$ 3,077,041	\$ 554,245	552.2%
June 30, 2006 <sup>1</sup> – 4.50%	\$ 4,288,707	\$ 844,766	19.7%	\$ 3,443,941	\$ 574,409	599.6%

<sup>1</sup> Change in assumptions

<sup>2</sup> Actual active member payroll has been based on information provided by KPMG, LLP.

# State of Alaska Teachers' Retirement System

## Section 3.1 (cont'd)

### Schedule of Funding Progress

For illustration, the exhibit below shows the postemployment healthcare disclosure without regard to the Medicare Part D subsidy discounted at 8.00% and at 4.25% per annum under GASB No. 43 for the current year. These values show the minimum and maximum accrued liability amounts depending on the portion of ARC actually contributed.

<b>Valuation Date</b>	<b>Aggregate Accrued Liability</b>	<b>Valuation Assets</b>	<b>Assets as a Percent of Accrued Liability</b>	<b>Unfunded Accrued Liabilities (UAL)</b>	<b>Annual Active Member Payroll</b>	<b>UAL as a Percent of Annual Active Member Payroll</b>
June 30, 2013 – 8.00%	\$ 3,226,820	\$ 1,803,763	55.9%	\$ 1,423,057	\$ 550,044	258.7%
June 30, 2013 – 4.25%	\$ 5,779,527	\$ 1,803,763	31.2%	\$ 3,975,764	\$ 550,044	722.8%

# State of Alaska Teachers' Retirement System

## Section 3.1 (cont'd)

### Schedule of Funding Progress (\$'s in 000's)

The exhibit below shows the combined pension and postemployment healthcare disclosure under GASB No. 25, prior to 2006.

Valuation Date	Aggregate Accrued Liability	Valuation Assets	Assets as a Percent of Accrued Liability	Unfunded Accrued Liabilities (UAL)	Annual Active Member Payroll	UAL as a Percent of Annual Active Member Payroll
June 30, 2005	\$ 6,498,556	\$ 3,958,939	60.9%	\$ 2,539,617	\$ 535,837	474.0%
June 30, 2004 <sup>2</sup>	\$ 6,123,600	\$ 3,845,370	62.8%	\$ 2,278,230	\$ 522,421	436.1%
June 30, 2003	\$ 5,835,609	\$ 3,752,285	64.3%	\$ 2,083,324	\$ 532,630	391.1%
June 30, 2002 <sup>1 2 3</sup>	\$ 5,411,642	\$ 3,689,036	68.2%	\$ 1,722,606	\$ 509,437	338.1%
June 30, 2001	\$ 4,603,147	\$ 4,372,229	95.0%	\$ 230,918	\$ 496,188	46.5%
June 30, 2000 <sup>1 2 3</sup>	\$ 4,198,868	\$ 4,184,015	99.6%	\$ 14,853	\$ 482,571	3.1%
June 30, 1999	\$ 3,720,954	\$ 3,815,633	102.5%	\$ N/A	\$ 466,414	N/A
June 30, 1998	\$ 3,528,757	\$ 3,446,070	97.7%	\$ 82,687	\$ 469,433	17.6%
June 30, 1997	\$ 3,320,069	\$ 3,120,044	94.0%	\$ 200,025	\$ 466,455	42.9%

<sup>1</sup> Change in Asset Valuation Method

<sup>2</sup> Change of Assumptions

<sup>3</sup> Change in Methods

# State of Alaska Teachers' Retirement System

## Section 3.2

### Schedule of Employer Contributions (\$'s in 000's)

The exhibit below shows the combined pension and postemployment healthcare disclosure under GASB No. 25 and 26 for fiscal years ending in 2006 and before.

Fiscal Year Ended June 30	Total Annual Required Contribution	Total Percentage Contributed
2006	\$ 236,738	54.0%
2005	207,951	45.0%
2004	82,660	83.0%
2003	47,370	133.0%
2002	39,576	155.0%
2001	56,391	114.0%
2000	67,874	92.0%
1999	53,901	114.0%
1998	76,504	80.0%

The following shows pension disclosure under GASB No. 25 for fiscal year ending 2007 and later.

Fiscal Year Ended June 30	Total Annual Required Contribution	Percentage Contributed		
		By Employer	By State	Total
2013	\$ 259,786	14.4%	75.8%	90.2%
2012	\$ 229,509	16.6%	68.6%	85.2%
2011	\$ 167,978	19.5%	65.1%	84.6%
2010*	\$ 170,788	19.8%	58.8%	78.6%
2009	\$ 94,388	28.7%	110.6%	139.3%
2008	\$ 134,544	23.3%	82.7%	106.0%
2007	\$ 169,974	62.2%	0.00%	62.2%

The following shows postemployment healthcare disclosure without regard to the Medicare Part D subsidy under GASB No. 43 for fiscal year ending 2007 and later.

Fiscal Year Ended June 30	Total Annual Required Contribution	Percentage Contributed		
		By Employer	By State	Total
2013	\$ 330,411	10.7%	33.3%	44.0%
2012	\$ 192,700	18.8%	46.6%	65.4%
2011	\$ 167,686	25.8%	51.5%	77.3%
2010*	\$ 312,922	13.6%	38.8%	52.4%
2009	\$ 164,171	28.7%	62.1%	90.8%
2008	\$ 185,271	23.6%	85.7%	109.3%
2007	\$ 76,879	62.2%	0.00%	62.2%

\*The ARC and percentage contributed is based on Buck's calculation and does not match the CAFR. The percentage contributed in includes the legal settlement in FY10, net of fees, as well as the Medicare Part D subsidy contributed by the State to the Healthcare Fund.

# State of Alaska Teachers' Retirement System

## Section 3.2 (cont'd)

### Schedule of Employer Contributions

The exhibit below shows the annual required contribution (ARC) as a percentage of pay for pension and healthcare.

Valuation Date	Fiscal Year	ARC (% of Pay)			Pension Discount Rate	Healthcare Discount Rate
		Pension	Healthcare	Total		
June 30, 2005	FY08	22.73%	54.45%	77.18%	8.25%	4.50%
June 30, 2006	FY09	26.89%	52.20%	79.09%	8.25%	4.50%
June 30, 2007	FY10	28.61%	52.42%	81.03%	8.25%	4.50%
June 30, 2008	FY11	28.76%	28.71%	57.47%	8.25%	8.25%
June 30, 2009	FY12	40.84%	34.29%	75.13%	8.25%	7.08%
June 30, 2010*	FY13	47.23%	60.07%	107.30%	8.00%	5.01%
June 30, 2011	FY14	50.91%	61.27%	112.18%	8.00%	5.08%
June 30, 2012	FY15	59.21%	70.04%	129.25%	8.00%	4.25%
June 30, 2013	FY16	66.52%	70.97%	137.49%	8.00%	4.31%

\*Change in discount rate assumptions effective June 30, 2010

ARC is based on DB salary only and a level dollar amortization of the unfunded liability.

# State of Alaska Teachers' Retirement System

## Section 3.3

### Notes to Trend Data

#### Actuarial Assumptions, Methods and Additional Information Under GASB

Valuation Date	June 30, 2013
Actuarial Cost Method	Entry Age Normal Level Percentage of Pay Normal Cost Basis for Pension Level Dollar Normal Cost Basis for Healthcare
Amortization Method	Level dollar, closed
Equivalent Single Amortization Period	17 years
Asset Valuation Method	5-year smoothed market
Actuarial Assumptions:	
Investment rate of return*	8.00% for pension, 5.08% for healthcare
Projected salary increases	6.11% for first 5 years of service grading down to 3.62% after 20 years
*Includes price inflation at	3.12%
Cost-of-living adjustment	Postretirement Pension Adjustment as described in Section 6.1, item (14)

GASB 43 requires that the discount rate used in the valuation be the estimated long-term yield on investments that are expected to finance postemployment benefits. Depending on the method by which a plan is financed, the relevant investments could be plan assets, employer assets or a combination of plan and employer assets. The investment return should reflect the nature and the mix of both current and expected investments and the basis used to determine the actuarial value of assets.

The State of Alaska Teachers' Retirement System's retiree healthcare benefits are partially funded. GASB outlines two reasonable methods of developing a blended discount rate when a plan is partially funded. These methods base the proportion of assumed plan and employer asset returns on 1) the funded ratio and 2) the percentage of the annual required contribution (ARC) actually being contributed to the plan. The State of Alaska has utilized the second methodology to develop a discount rate of 5.08% as of June 30, 2011, to be used for fiscal 2014 disclosure.

The development of the discount rate used for the FY14 healthcare liabilities valuation disclosure purposes is summarized below:

#### **Investment Returns**

Plan Assets (Long-Term Return)	=	8.00%
Employer Assets (Estimated Short-Term Return)	=	4.25%

#### **Based on Percentage of ARC Contributed during FY11\***

1. Contribution Allocated to Healthcare	=	22.51%
2. Annual Required Contribution, Funding Assumptions	=	28.71%
3. Pay-as-you-go Contribution	=	20.74%
4. Portion of ARC Contributed: [(1-3) / (2-3), not less than 0%, not more than 100%]	=	22.25%
5. Multiplied by long-term investment return	=	1.78%
6. Portion of ARC not Contributed: [100% - (4)]	=	77.75%
7. Multiplied by short-term investment return	=	3.30%
8. Total: (5) + (7)	=	5.08%

\*It is assumed that fiscal 2009 contributions allocated to healthcare ARC for funding purposes and pay-as-you-go contributions are used to derive the GASB 43 discount rate applied to the June 30, 2011 valuation (fiscal 2012), which in turn drives the fiscal 2014 GASB 43 ARC.

Using the GASB 43 discount rate determined above and disregarding future Medicare Part D payments, the fiscal 2014 employer ARC rate for accounting purposes is 61.27% of pay for healthcare benefits and 112.18% of pay for healthcare and pension benefits combined.

# State of Alaska Teachers' Retirement System

## Section 3.4

### Solvency Test (\$'s in 000's)

The exhibit below shows the combined pension and postemployment healthcare Solvency Test for valuation dates June 30, 2010 and before.

Valuation Date	Aggregate Accrued Liability For:			Valuation Assets	Portion of Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2010 <sup>1</sup>	\$ 716,875	\$ 5,909,080	\$ 2,222,033	\$ 4,739,128	100.0%	68.1%	0.0%
June 30, 2009	692,105	5,292,808	1,862,601	4,472,958	100.0%	71.4%	0.0%
June 30, 2008 <sup>1</sup>	654,662	5,181,676	1,782,840	4,936,976	100.0%	82.6%	0.0%
June 30, 2007	638,420	4,912,025	1,638,958	4,424,399	100.0%	77.1%	0.0%
June 30, 2006 <sup>1 2</sup>	615,207	4,925,922	1,688,722	4,141,700	100.0%	71.6%	0.0%
June 30, 2005	589,169	4,694,176	1,215,211	3,958,939	100.0%	71.8%	0.0%
June 30, 2004 <sup>1</sup>	569,435	4,423,036	1,131,129	3,845,370	100.0%	74.1%	0.0%
June 30, 2003	548,947	4,105,445	1,181,217	3,752,285	100.0%	78.0%	0.0%
June 30, 2002 <sup>1 2 3</sup>	523,142	3,755,882	1,132,618	3,689,036	100.0%	84.3%	0.0%
June 30, 2001	533,752	3,213,431	855,964	4,372,229	100.0%	100.0%	73.0%

Healthcare liabilities are calculated using the funding assumptions (i.e., funding investment return and net of Medicare Part D subsidy).

<sup>1</sup> Change in Assumptions

<sup>2</sup> Change in Methods

<sup>3</sup> Change in Asset Valuation Method

# State of Alaska Teachers' Retirement System

## Section 3.4 (cont'd)

### Solvency Test (\$'s in 000's)

The exhibit below shows the pension Solvency Test for valuation dates June 30, 2005 and later.

Valuation Date	Pension Aggregate Accrued Liability For:			Pension Valuation Assets	Portion of Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2013	\$ 726,139	\$ 4,726,282	\$ 1,137,132	\$ 3,170,313	100.0%	51.7%	0.0%
June 30, 2012	727,435	4,532,982	1,139,360	3,194,994	100.0%	54.4%	0.0%
June 30, 2011	717,819	4,352,035	1,126,250	3,345,949	100.0%	60.4%	0.0%
June 30, 2010 <sup>1</sup>	716,675	4,153,119	1,137,187	3,259,868	100.0%	61.2%	0.0%
June 30, 2009	692,105	3,815,020	956,862	3,115,719	100.0%	63.5%	0.0%
June 30, 2008	654,662	3,700,812	876,180	3,670,086	100.0%	81.5%	0.0%
June 30, 2007	638,420	3,567,894	837,134	3,441,867	100.0%	78.6%	0.0%
June 30, 2006 <sup>1 2</sup>	615,207	3,432,703	811,426	3,296,934	100.0%	78.1%	0.0%
June 30, 2005	589,169	3,200,339	545,077	3,184,976 <sup>3</sup>	100.0%	81.1%	0.0%

<sup>1</sup> Change in Assumptions

<sup>2</sup> Change in Methods

<sup>3</sup> The pension and postemployment healthcare valuation assets were allocated using a ratio of fair value of assets as of June 30, 2005

# State of Alaska Teachers' Retirement System

## Section 3.4 (cont'd)

### Solvency Test (\$'s in 000's)

The exhibit below shows the postemployment healthcare Solvency Test for valuation dates June 30, 2005 and later.

Valuation Date	Postemployment Healthcare Aggregate Accrued Liability For:			Postemployment Healthcare Valuation Assets	Portion of Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2013	\$ 0	\$ 2,012,114	\$ 990,440	\$ 1,803,763	100.0%	89.6%	0.0%
June 30, 2012	0	1,933,288	1,013,379	1,674,160	100.0%	86.6%	0.0%
June 30, 2011	0	1,879,564	1,053,127	1,591,988	100.0%	84.7%	0.0%
June 30, 2010 <sup>1</sup>	0	1,755,961	1,084,846	1,479,260	100.0%	84.2%	0.0%
June 30, 2009	0	1,477,788	905,739	1,357,239	100.0%	91.8%	0.0%
June 30, 2008 <sup>1</sup>	0	1,480,864	906,660	1,266,890	100.0%	85.6%	0.0%
June 30, 2007	0	1,344,131	801,824	982,532	100.0%	73.1%	0.0%
June 30, 2006 <sup>1 2</sup>	0	1,493,219	877,296	844,766	100.0%	56.6%	0.0%
June 30, 2005	0	1,493,837	670,134	773,963 <sup>3</sup>	100.0%	51.8%	0.0%

Healthcare liabilities are calculated using the funding assumptions (i.e., funding investment return and net of Medicare Part D subsidy).

<sup>1</sup> Change in Assumptions

<sup>2</sup> Change in Methods

<sup>3</sup> The pension and postemployment healthcare valuation assets were allocated using a ratio of fair value of assets as of June 30, 2005

## Section 4

### Projections

### Projection Assumptions and Methods

#### Key Assumptions

- 8.00% investment return on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets reflects the deferred gains and losses generated by the smoothing method. The current deferred amounts are recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section 6. All future demographic experience is assumed to be exactly realized.
- The actuarially calculated contribution rate with a two-year lag is adopted each year.
- No new DB Plan members enter Tiers 1 and 2.
- Projections assume a 1% increase in the total active member population. All new members are expected to enter the DCR plan and contribution rates are determined as a percent of total DB and DCR payroll, combined.
- For the Sensitivity Analysis, all assumptions and methods are the same except investment returns on the Fair Value of Assets are assumed as follows:

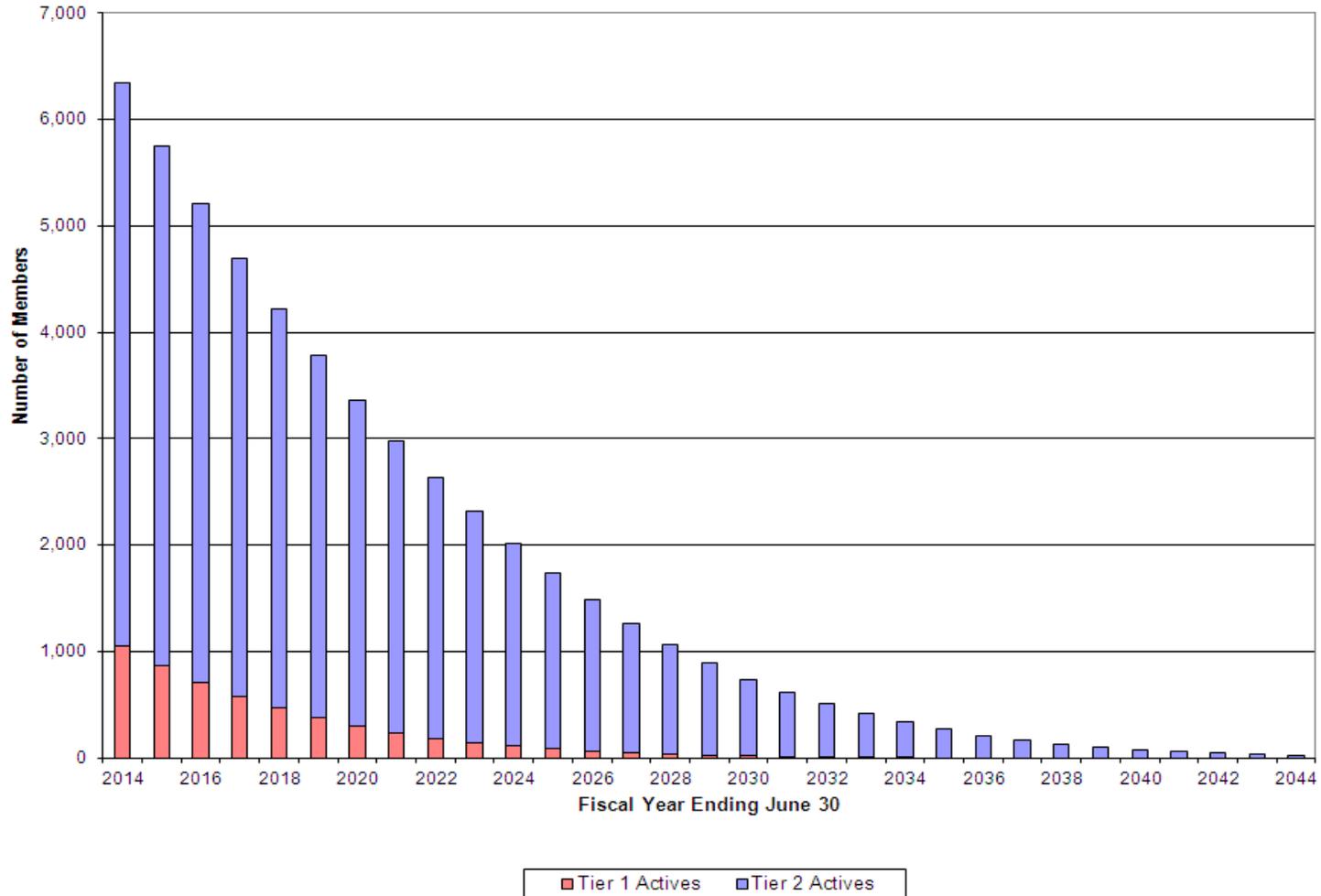
Base Case:	8.00% for all future years
Optimistic:	8.75% for all future years
Pessimistic:	7.25% for all future years

In each case, liabilities have been projected using 8.00% as the discount rate for future benefit payments. These scenarios are intended to illustrate the impact if investment rates are different than the 8.00% assumed investment return. They do not illustrate the effect of changing the assumed discount rate for determining liabilities.

# State of Alaska Teachers' Retirement System

## Section 4.2

Membership Projection  
Projected Active Member Count

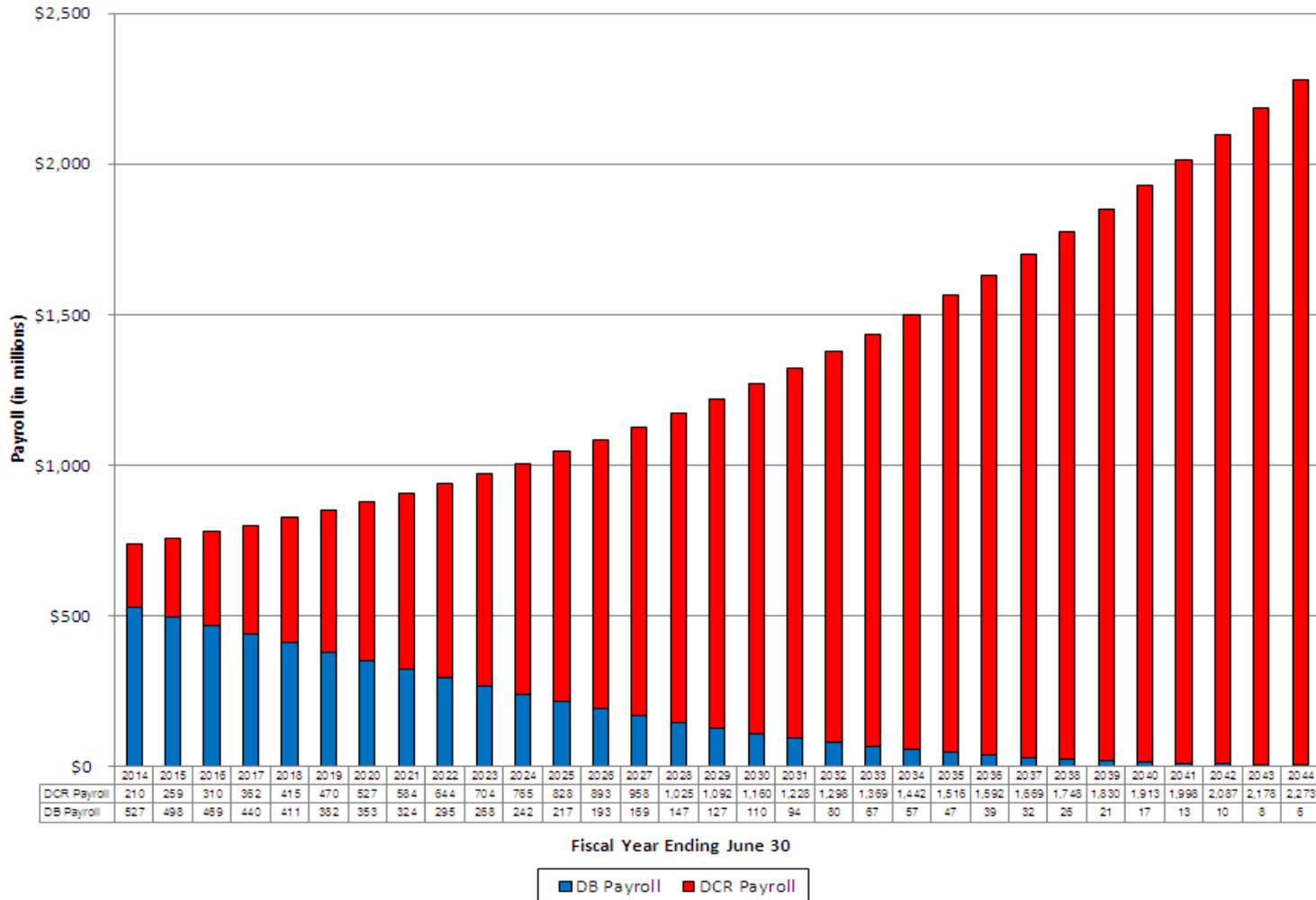


# State of Alaska Teachers' Retirement System

## Section 4.2 (cont'd)

### Membership Projection

### Projected DB and DCR Payroll



# State of Alaska Teachers' Retirement System

## Section 4.2 (cont'd)

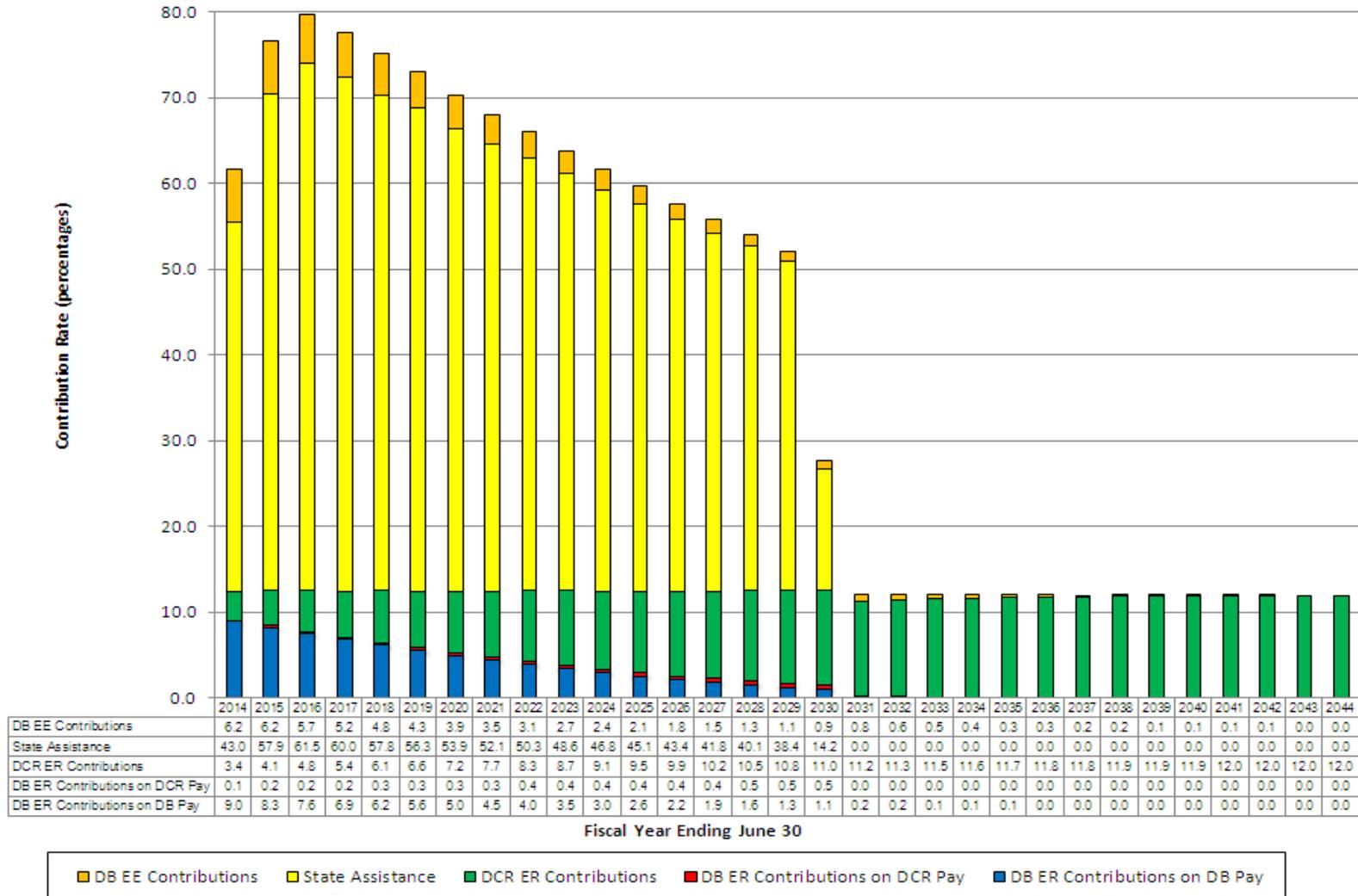
### Membership Projection Projected Inactive Member Count



# State of Alaska Teachers' Retirement System

## Section 4.3

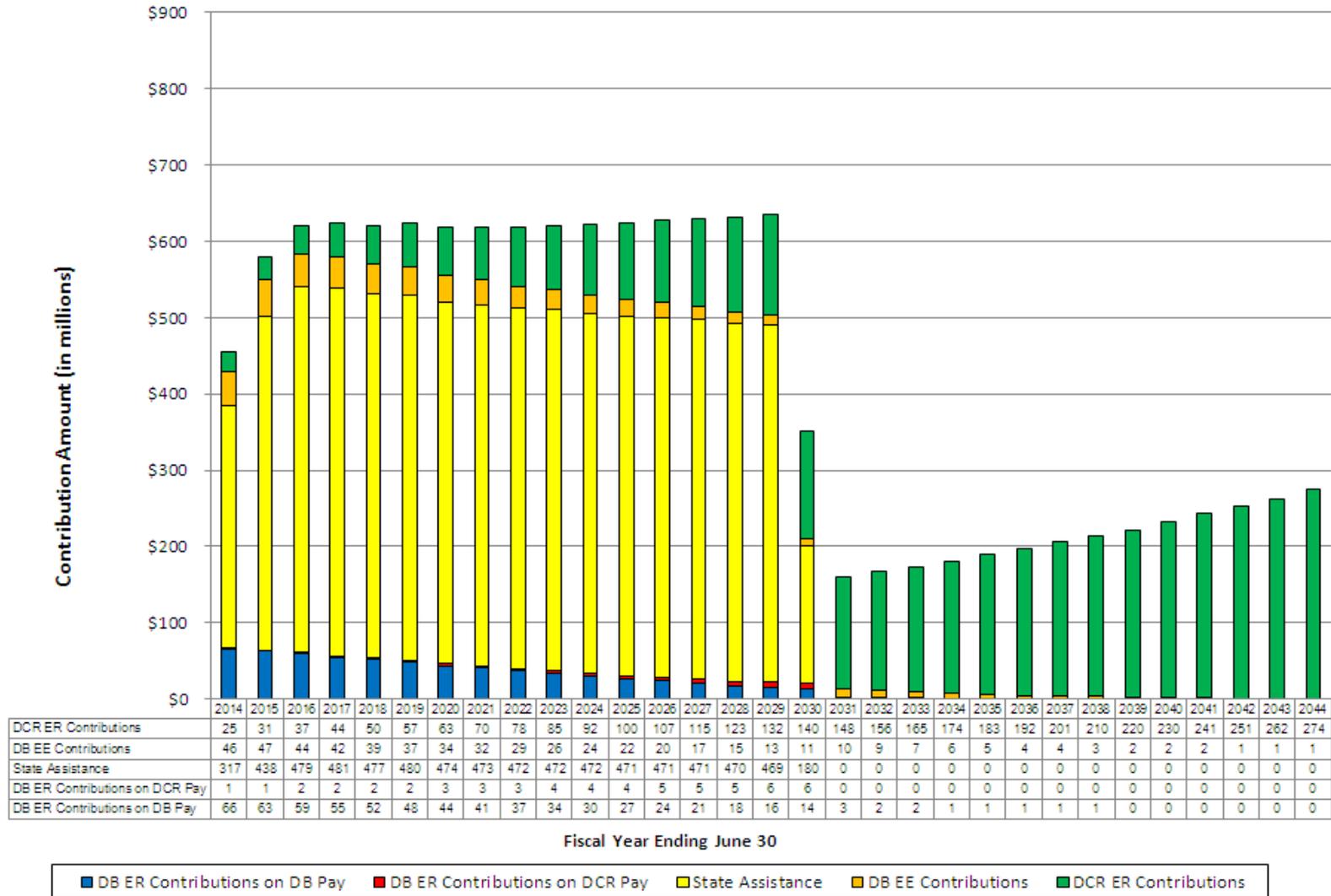
### Projection of Employer/State Contribution Rates (Based on Total DB and DCR Payroll)



# State of Alaska Teachers' Retirement System

## Section 4.4

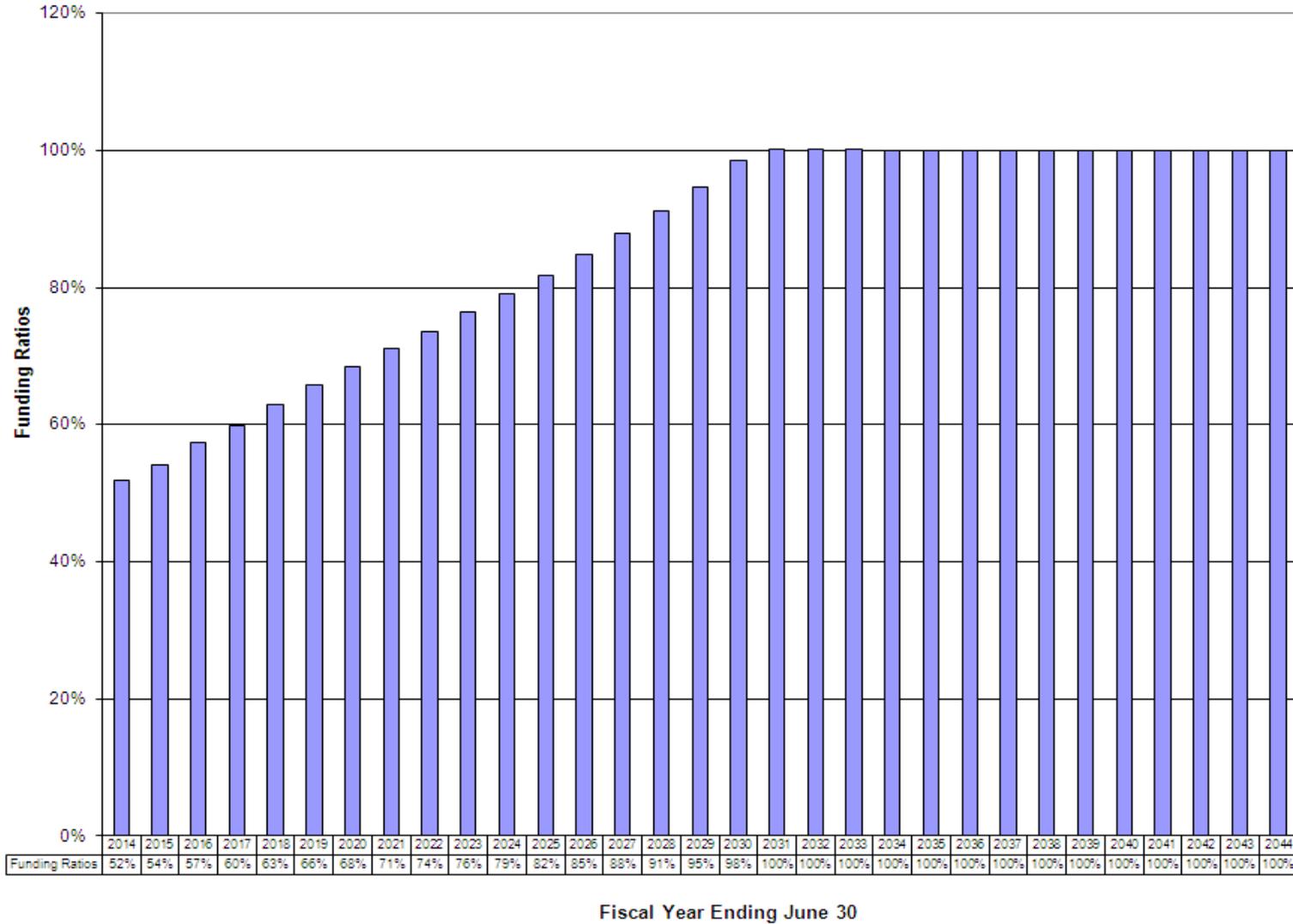
### Projection of Employer/State Contribution Amounts



# State of Alaska Teachers' Retirement System

## Section 4.5

### Projection of Funding Ratios



# State of Alaska Teachers' Retirement System

## Section 4.6

### Table of Projected Actuarial Results

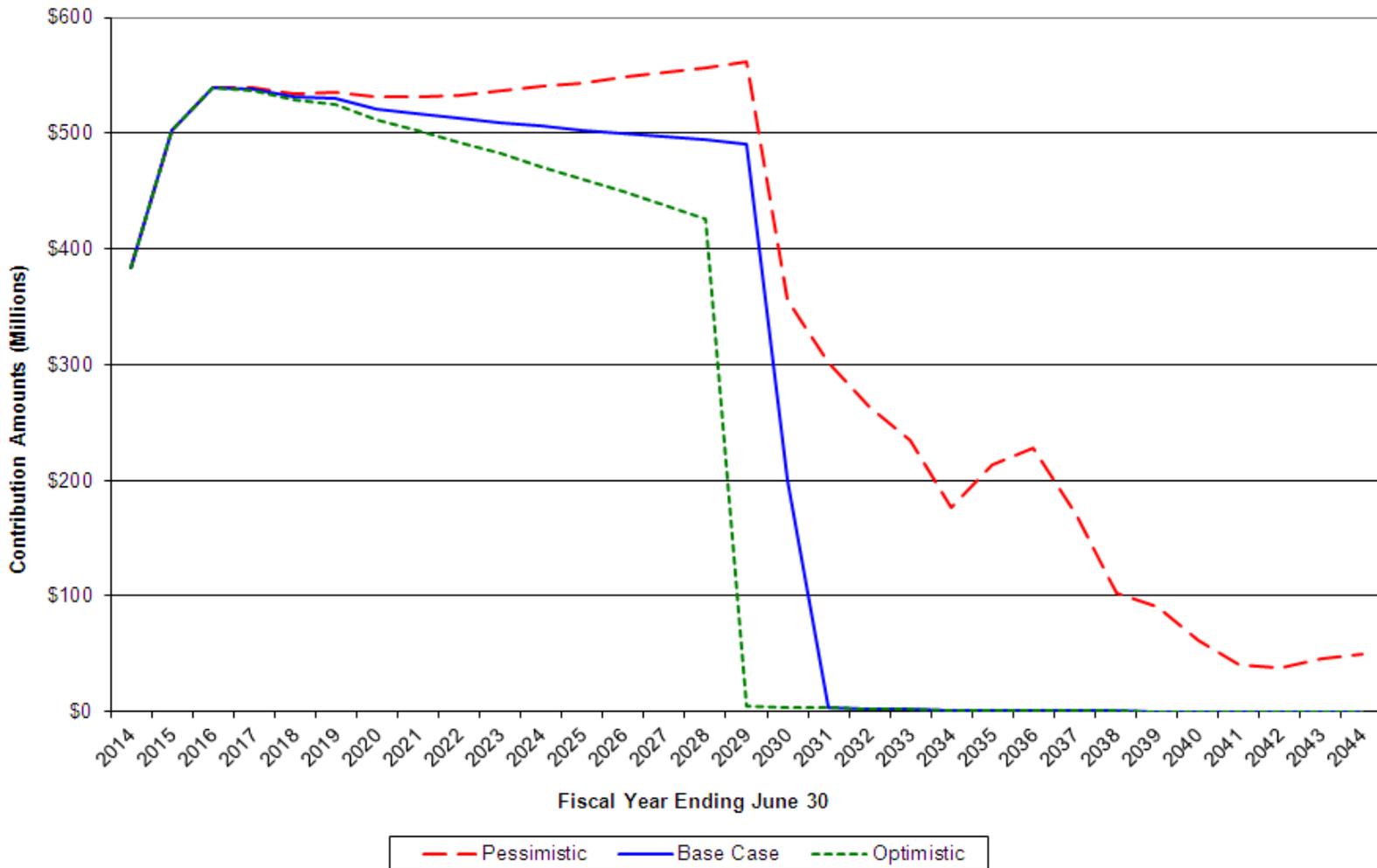
State of Alaska TRS  
Financial Projections (in Thousands)

Fiscal Year End	Investment Return 8.00% Valuation Amounts on July 1 (Beginning of Fiscal Year)				Flow Amounts During Following 12 Months									Recognized Asset Gain/(Loss)	Ending Actuarial Assets
	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus (Deficit)	Total Salaries	Employer/State Ctb Rate	Employer Contribs	State Contribs	Employee Contribs	Total Contribs	Benefit Payments	Net Contribs	Investment Earnings		
2014	\$4,974,076	\$9,592,107	52%	(\$4,618,031)	\$737,478	50.10%	\$67,056	\$316,847	\$50,754	\$434,657	\$551,252	(\$116,595)	\$405,230	\$88,790	\$5,351,501
2015	5,351,501	9,881,454	54%	(4,529,953)	757,205	66.31%	63,887	438,216	51,974	554,077	582,473	(28,396)	431,677	71,572	5,826,354
2016	5,826,354	10,157,845	57%	(4,331,491)	778,576	69.24%	60,458	478,628	49,633	588,719	612,554	(23,835)	464,018	(31,154)	6,235,383
2017	6,235,383	10,419,231	60%	(4,183,848)	801,752	67.08%	57,110	480,705	47,343	585,158	644,036	(58,878)	497,752	42,266	6,716,523
2018	6,716,523	10,662,622	63%	(3,946,099)	826,440	64.28%	53,783	477,453	45,079	576,315	672,925	(96,610)	531,286	0	7,151,199
2019	7,151,199	10,888,607	66%	(3,737,408)	852,477	62.18%	50,451	479,619	42,827	572,897	699,486	(126,589)	564,795	0	7,589,405
2020	7,589,405	11,101,332	68%	(3,511,927)	879,507	59.27%	47,072	474,212	40,484	561,768	728,483	(166,715)	598,181	0	8,020,871
2021	8,020,871	11,295,875	71%	(3,275,004)	908,197	56.89%	43,706	472,967	38,250	554,923	763,557	(208,634)	630,936	0	8,443,173
2022	8,443,173	11,464,564	74%	(3,021,391)	939,033	54.60%	40,442	472,270	35,960	548,672	795,067	(246,395)	663,134	0	8,859,912
2023	8,859,912	11,605,270	76%	(2,745,358)	972,108	52.41%	37,345	472,137	26,441	535,923	821,736	(285,813)	694,838	0	9,268,937
2024	9,268,937	11,727,404	79%	(2,458,467)	1,007,492	50.24%	34,382	471,782	24,079	530,243	848,416	(318,173)	726,201	0	9,676,965
2025	9,676,965	11,828,098	82%	(2,151,133)	1,045,414	48.09%	31,554	471,186	21,745	524,485	869,875	(345,390)	757,704	0	10,089,279
2026	10,089,279	11,901,605	85%	(1,812,326)	1,085,350	46.05%	28,838	470,966	19,536	519,340	899,838	(380,498)	789,212	0	10,497,993
2027	10,497,993	11,945,127	88%	(1,447,134)	1,127,446	44.10%	26,212	470,992	17,363	514,567	937,424	(422,857)	820,122	0	10,895,258
2028	10,895,258	11,951,091	91%	(1,055,833)	1,172,127	42.13%	23,809	470,008	15,238	509,055	963,798	(454,743)	850,564	0	11,291,079
2029	11,291,079	11,923,723	95%	(632,644)	1,219,617	40.22%	21,675	468,855	13,294	503,824	984,975	(481,151)	881,123	0	11,691,051
2030	11,691,051	11,871,347	98%	(180,296)	1,269,851	15.74%	19,810	180,065	11,429	211,304	1,006,341	(795,037)	900,735	0	11,796,749
2031	11,796,749	11,787,052	100%	9,697	1,322,473	0.23%	3,042	0	9,919	12,961	1,044,260	(1,031,299)	899,796	0	11,665,246
2032	11,665,246	11,656,079	100%	9,167	1,378,057	0.17%	2,343	0	8,544	10,887	1,066,033	(1,055,146)	888,268	0	11,498,368
2033	11,498,368	11,489,794	100%	8,574	1,436,734	0.13%	1,868	0	7,184	9,052	1,074,089	(1,065,037)	874,502	0	11,307,833
2034	11,307,833	11,300,134	100%	7,699	1,498,592	0.09%	1,349	0	6,144	7,493	1,083,728	(1,076,235)	858,788	0	11,090,386
2035	11,090,386	11,083,521	100%	6,865	1,563,445	0.07%	1,094	0	5,159	6,253	1,091,556	(1,085,303)	841,011	0	10,846,094
2036	10,846,094	10,839,988	100%	6,106	1,630,912	0.05%	815	0	4,240	5,055	1,093,639	(1,088,584)	821,332	0	10,578,842
2037	10,578,842	10,573,531	100%	5,311	1,701,050	0.03%	510	0	3,572	4,082	1,100,711	(1,096,629)	799,612	0	10,281,825
2038	10,281,825	10,277,344	100%	4,481	1,774,139	0.03%	532	0	2,839	3,371	1,097,307	(1,093,936)	775,968	0	9,963,857
2039	9,963,857	9,960,095	100%	3,762	1,850,412	0.01%	185	0	2,406	2,591	1,086,647	(1,084,056)	750,954	0	9,630,755
2040	9,630,755	9,627,813	100%	2,942	1,929,632	0.01%	193	0	1,930	2,123	1,075,848	(1,073,725)	724,747	0	9,281,777
2041	9,281,777	9,279,581	100%	2,196	2,011,688	0.00%	0	0	1,609	1,609	1,066,022	(1,064,413)	697,227	0	8,914,591
2042	8,914,591	8,913,216	100%	1,375	2,097,071	0.00%	0	0	1,258	1,258	1,037,387	(1,036,129)	669,057	0	8,547,519
2043	8,547,519	8,546,905	100%	614	2,186,002	0.01%	219	0	874	1,093	1,013,415	(1,012,322)	640,705	0	8,175,902
2044	8,175,902	8,175,887	100%	15	2,278,759	0.00%	0	0	684	684	988,779	(988,095)	612,008	0	7,799,815
							\$719,740	\$7,566,908	\$607,791	\$8,894,439					

# State of Alaska Teachers' Retirement System

## Sensitivity Analysis

### Impact Various Investment Rates of Return Have on the Employer/State Contribution Amount



## Section 5

### Member Data

# State of Alaska Teachers' Retirement System

## Section 5.1

### Summary of Members Included

As of June 30	2009	2010	2011	2012	2013
<b>Active Members</b>					
(1) Number	8,226	7,832	7,303	6,845	6,352
(2) Average Age	47.42	48.10	48.50	49.03	49.45
(3) Average Credited Service	13.19	13.97	14.52	15.16	15.80
(4) Average Entry Age	34.23	34.13	33.98	33.87	33.65
(5) Average Annual Earnings	\$ 67,715	\$ 72,125	\$ 74,648	\$ 77,351	\$ 79,386
(6) Number Vested	5,799	5,959	5,911	5,918	5,880
(7) Percent Who Are Vested	70.5%	76.1%	80.9%	86.5%	92.6%
<b>Retirees, Disableds and Beneficiaries</b>					
(1) Number	10,255	10,598	11,016	11,301	11,705
(2) Average Age	66.42	66.91	67.40	67.88	68.38
(3) Average Monthly Pension Benefit					
Base	\$ 1,994	\$ 2,017	\$ 2,051	\$ 2,085	\$ 2,111
C.O.L.A.	124	124	125	127	127
P.R.P.A.	526	505	504	527	528
Adjustment	0	0	0	0	0
Sick	47	48	49	52	54
Total	\$ 2,691	\$ 2,694	\$ 2,729	\$ 2,791	\$ 2,820
<b>Vested Terminations (vested at time of termination, not refunded contributions or commenced benefit)</b>					
(1) Number	884	840	852	868	906
(2) Average Age	49.52	49.34	49.75	49.70	49.68
(3) Average Monthly Pension Benefit	\$ 1,204	\$ 1,109	\$ 1,184	\$ 1,188	\$ 1,283
<b>Non-Vested Terminations (not vested at termination, not refunded contributions)</b>					
(1) Number	2,830	2,789	2,675	2,559	2,448
(2) Average Account Balance	\$ 14,408	\$ 15,460	\$ 16,274	\$ 17,266	\$ 17,866
<b>Total Number of Members</b>	<b>22,195</b>	<b>22,059</b>	<b>21,846</b>	<b>21,573</b>	<b>21,411</b>

# State of Alaska Teachers' Retirement System

## Section 5.1 (cont'd)

### Summary of Members Included

As of June 30, 2013	DB			DCR Tier 3	Grand Total
	Tier 1	Tier 2	Total		
<b>Active Members</b>					
(1) Numbers	1,056	5,296	6,352	3,272	9,624
(2) Average Age	57.49	47.85	49.45	38.10	45.59
(3) Average Credited Service	25.04	13.96	15.80	3.52	11.63
(4) Average Entry Age	32.45	33.89	33.65	34.58	33.96
(5) Annual Earnings					
(a) Amount (000's)	\$ 94,657	\$ 409,603	\$ 504,260	\$ 197,944	\$ 702,204
(b) Average	\$ 89,638	\$ 77,342	\$ 79,386	\$ 60,496	\$ 72,964

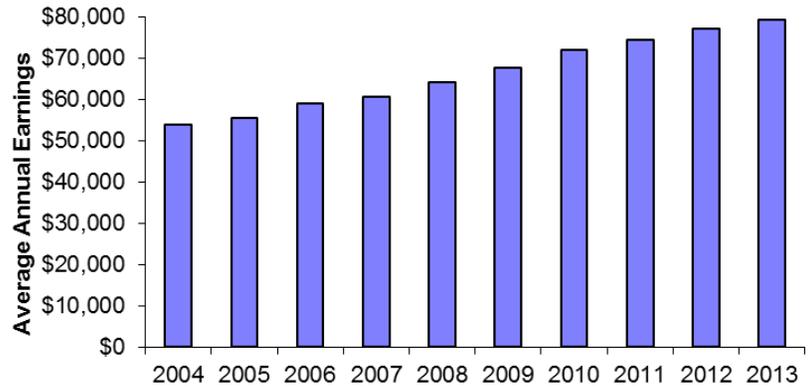
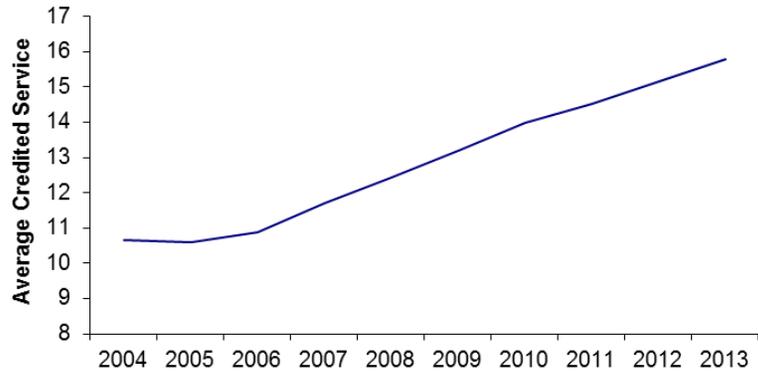
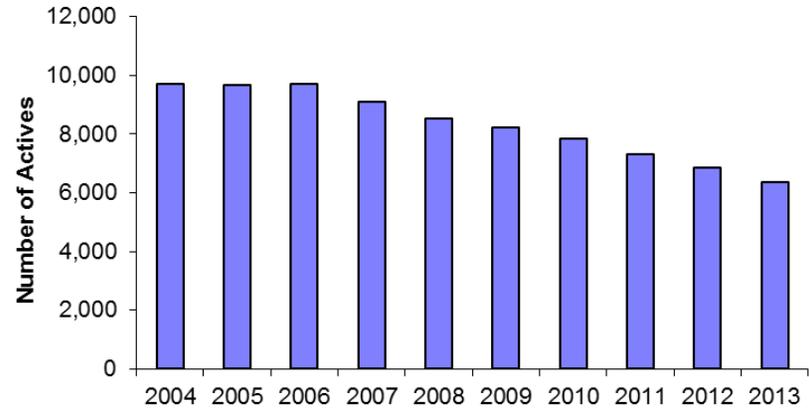
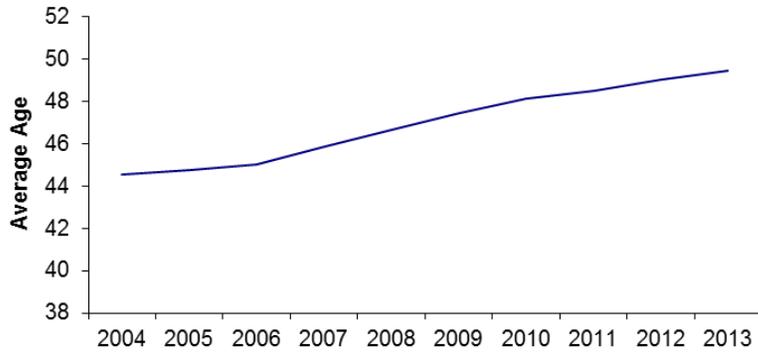
As of June 30, 2013	Tier 1	Tier 2	Total
<b>Retirees, Disableds and Beneficiaries</b>			
(1) Number	10,466	1,239	11,705
(2) Average Age	68.88	64.14	68.38
(3) Average Monthly Pension Benefit			
Base	\$ 2,174	\$ 1,581	\$ 2,111
C.O.L.A.	139	29	127
P.R.P.A.	583	65	528
Adjustment	0	0	0
Sick	55	40	54
Total	\$ 2,951	\$ 1,715	\$ 2,820

# State of Alaska Teachers' Retirement System

## Section 5.1 (cont'd)

### Summary of Members Included

#### Active Members at June 30



# State of Alaska Teachers' Retirement System

## Section 5.2

### Age and Service Distribution of Active Members

Annual Earnings by Age				Annual Earnings by Credited Service			
Age	Number	Total Annual Earnings	Average Annual Earnings	Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0 – 19	1	\$ 60,188	\$ 60,188	0	0	\$ 0	\$ 0
20 – 24	0	0	0	1	2	118,163	59,082
25 – 29	0	0	0	2	10	642,457	64,246
30 – 34	328	21,891,065	66,741	3	12	766,450	63,871
35 – 39	728	52,391,507	71,966	4	30	1,831,994	61,066
40 – 44	1,140	87,044,822	76,355	0 – 4	54	3,359,064	62,205
45 – 49	1,112	88,191,106	79,309	5 – 9	1,150	79,660,886	69,270
50 – 54	1,150	94,075,649	81,805	10 – 14	1,976	148,396,736	75,100
55 – 59	1,035	85,792,260	82,891	15 – 19	1,516	124,164,525	81,903
60 – 64	629	53,705,259	85,382	20 – 24	995	86,626,498	87,062
65 – 69	192	17,627,200	91,808	25 – 29	443	40,321,157	91,018
70 – 74	31	2,931,148	94,553	30 – 34	156	15,171,036	97,250
75+	6	549,947	91,658	35 – 39	47	4,958,484	105,500
				40+	15	1,601,765	106,784
<b>Total</b>	<b>6,352</b>	<b>\$504,260,151</b>	<b>\$ 79,386</b>	<b>Total</b>	<b>6,352</b>	<b>\$504,260,151</b>	<b>\$ 79,386</b>

### 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	1	0	0	0	0	0	0	0	0	1
20 – 24	0	0	0	0	0	0	0	0	0	0
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	8	234	86	0	0	0	0	0	0	328
35 – 39	14	254	393	67	0	0	0	0	0	728
40 – 44	12	195	496	390	47	0	0	0	0	1,140
45 – 49	5	136	325	333	288	25	0	0	0	1,112
50 – 54	5	113	289	295	300	125	23	0	0	1,150
55 – 59	5	110	226	265	201	163	60	5	0	1,035
60 – 64	2	81	134	127	115	89	51	27	3	629
65 – 69	2	26	23	31	37	33	19	13	8	192
70 – 74	0	1	3	4	7	8	2	2	4	31
75+	0	0	1	4	0	0	1	0	0	6
<b>Total</b>	<b>54</b>	<b>1,150</b>	<b>1,976</b>	<b>1,516</b>	<b>995</b>	<b>443</b>	<b>156</b>	<b>47</b>	<b>15</b>	<b>6,352</b>

Total annual earnings are the annualized earnings for the fiscal year ending on the valuation date.

# State of Alaska Teachers' Retirement System

## Section 5.3

### Member Data Reconciliation

	Inactive Members						Total
	Active Members	Due a Refund	With Deferred Benefits	Retired Members	Disabled Members	Beneficiaries	
<b>As of June 30, 2012</b>	<b>6,845</b>	<b>2,559</b>	<b>868</b>	<b>10,371</b>	<b>33</b>	<b>897</b>	<b>21,573</b>
Vested Terminations	(191)	(3)	194	0	0	0	0
Non-vested Terminations	(51)	52	(1)	0	0	0	0
Cash-outs	(2)	(79)	(7)	0	0	0	(88)
Disability Retirements	(5)	(1)	(1)	0	7	0	0
Age Retirements	(364)	(13)	(84)	468	(7)	N/A	0
Deaths With Beneficiary	(3)	0	0	(60)	0	63	0
Deaths Without Beneficiary	(4)	(8)	(2)	(83)	(1)	(23)	(121)
Data Corrections	0	0	0	(3)	0	3	0
Transfers Out	0	0	0	0	0	0	0
Rehires	126	(60)	(61)	(5)	0	0	0
Pick Ups	1	1	0	0	0	45	47
<b>Net Change</b>	<b>(493)</b>	<b>(111)</b>	<b>38</b>	<b>317</b>	<b>(1)</b>	<b>88</b>	<b>(162)</b>
New Entrants During the Year	0	0	N/A	N/A	N/A	N/A	0
<b>As of June 30, 2013</b>	<b>6,352</b>	<b>2,448</b>	<b>906</b>	<b>10,688</b>	<b>32</b>	<b>985</b>	<b>21,411</b>

# State of Alaska Teachers' Retirement System

## Section 5.4

### Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's) <sup>1</sup>	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2013	6,352	\$ 504,260	\$ 79,386	2.6%	58
June 30, 2012	6,845	529,468	77,351	3.6%	58
June 30, 2011	7,303	545,155	74,648	3.5%	58
June 30, 2010	7,832	564,887	72,125	6.5%	58
June 30, 2009	8,226	557,026	67,715	5.2%	58
June 30, 2008	8,531	549,148	64,371	5.8%	58
June 30, 2007	9,107	554,245	60,859	2.9%	58
June 30, 2006	9,710	574,409	59,156	6.6%	58
June 30, 2005	9,656	535,837	55,493	2.9%	58
June 30, 2004	9,688	522,421	53,925	0.0%	58

<sup>1</sup> Prior to June 30, 2006, unannualized earnings were used. Starting June 30, 2006, annualized earnings are used.

# State of Alaska Teachers' Retirement System

## Section 5.5

### Summary of New Pension Benefit Recipients

During the Year Ending June 30	2009	2010	2011	2012	2013
<b>Service</b>					
(1) Number	299	442	496	426	461
(2) Average Age at Commencement	57.30	58.24	59.28	59.41	59.88
(3) Average Monthly Pension Benefit	\$ 2,374	\$ 2,881	\$ 3,015	\$ 3,100	\$ 3,084
<b>Survivor (including surviving spouse and QDROs)</b>					
(1) Number	65	84	62	39	108
(2) Average Age at Commencement	68.52	66.32	68.37	66.09	68.46
(3) Average Monthly Pension Benefit	\$ 1,419	\$ 1,451	\$ 1,842	\$ 1,945	\$ 1,561
<b>Disability</b>					
(1) Number	4	7	6	8	7
(2) Average Age at Commencement	49.85	53.45	45.50	52.95	49.61
(3) Average Monthly Pension Benefit	\$ 3,426	\$ 2,857	\$ 3,184	\$ 3,615	\$ 3,625
<b>Total</b>					
(1) Number	368	533	564	473	576
(2) Average Age at Commencement	59.20	59.45	60.13	59.85	61.36
(3) Average Monthly Pension Benefit	\$ 2,217	\$ 2,655	\$ 2,888	\$ 3,013	\$ 2,805

# State of Alaska Teachers' Retirement System

## Section 5.5 (cont'd)

### Summary of New Pension Benefit Recipients

#### Average Pension Benefit Payments

	Years of Credited Service						
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+
Period 7/1/12 – 6/30/13: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 253	\$ 1,030	\$ 1,496	\$ 2,450	\$ 3,281	\$ 4,384	\$ 6,052
Number of Recipients	10	57	67	90	101	79	64
Period 7/1/11- 6/30/12: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 353	\$ 1,064	\$ 1,512	\$ 2,241	\$ 3,276	\$ 4,320	\$ 5,739
Number of Recipients	11	43	62	61	118	81	58
Period 7/1/10- 6/30/11: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 146	\$ 902	\$ 1,432	\$ 2,328	\$ 3,131	\$ 4,283	\$ 5,496
Number of Recipients	5	68	63	77	118	104	67
Period 7/1/09- 6/30/10: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 482	\$ 1,020	\$ 1,343	\$ 2,263	\$ 2,992	\$ 4,120	\$ 6,263
Number of Recipients	14	50	63	85	109	79	49
Period 7/1/08- 6/30/09: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 230	\$ 950	\$ 1,168	\$ 2,239	\$ 2,957	\$ 3,897	\$ 4,860
Number of Recipients	13	35	64	52	67	54	18
Period 7/1/07- 6/30/08: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 209	\$ 945	\$ 1,248	\$ 2,226	\$ 2,966	\$ 3,832	\$ 5,057
Number of Recipients	13	44	62	92	95	87	33
Period 7/1/06- 6/30/07: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 214	\$ 798	\$ 1,249	\$ 2,250	\$ 2,909	\$ 3,709	\$ 5,109
Number of Recipients	9	41	54	69	102	68	28
Period 7/1/05- 6/30/06: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 1,078	\$ 960	\$ 1,110	\$ 1,982	\$ 2,695	\$ 3,388	\$ 4,563
Number of Recipients	9	50	63	90	124	68	26
Period 7/1/04- 6/30/05: <sup>1</sup>							
Average Monthly Pension Benefit	\$ 1,287	\$ 1,106	\$ 1,575	\$ 2,255	\$ 2,932	\$ 3,534	\$ 4,018
Number of Recipients	119	24	33	69	105	31	16

<sup>1</sup>“Average Monthly Benefit” includes postretirement pension adjustments and cost-of-living increases.

<sup>1</sup> Does not include beneficiaries.

**buckconsultants**

State of Alaska  
Teachers' Retirement System  
As of June 30, 2013

# State of Alaska Teachers' Retirement System

## Section 5.6

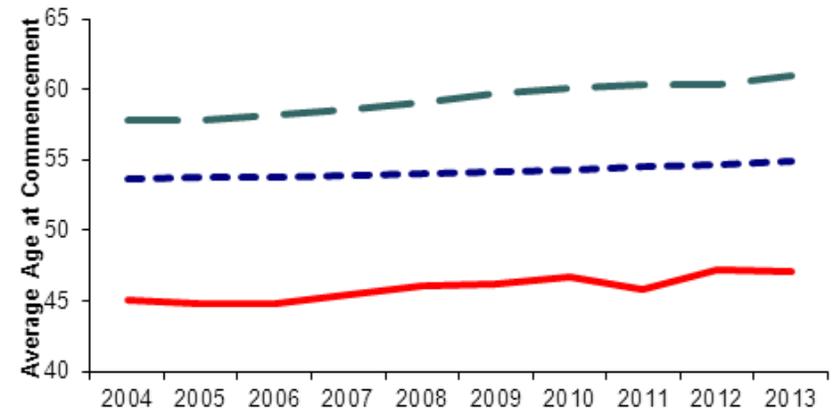
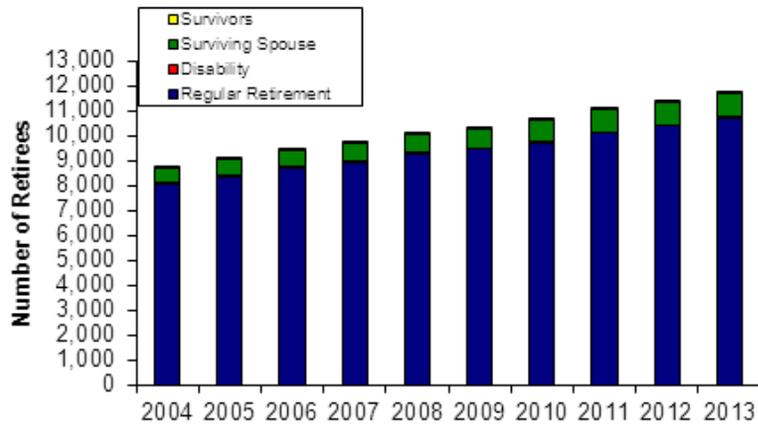
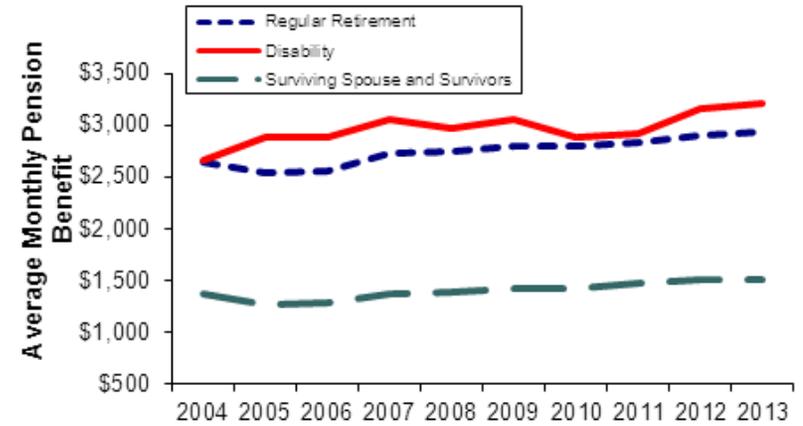
### Summary of All Pension Benefit Recipients

As of June 30	2009	2010	2011	2012	2013
<b>Service</b>					
(1) Number, Fiscal Year Start	9,250	9,432	9,707	10,094	10,371
(2) Net Change	182	275	387	277	317
(3) Number, Fiscal Year End	9,432	9,707	10,094	10,371	10,688
(4) Average Age at Commencement	54.10	54.26	54.48	54.65	54.87
(5) Average Current Age	66.25	66.72	67.19	67.67	68.17
(6) Average Monthly Pension Benefit	\$ 2,794	\$ 2,804	\$ 2,839	\$ 2,901	\$ 2,939
<b>Surviving Spouse's Benefits (includes QDROs)</b>					
(1) Number, Fiscal Year Start	726	774	841	882	893
(2) Net Change	48	67	41	11	87
(3) Number, Fiscal Year End	774	841	882	893	980
(4) Average Age at Commencement	59.64	60.23	60.58	60.45	61.07
(5) Average Current Age	69.50	70.11	70.64	71.04	71.40
(6) Average Monthly Pension Benefit	\$ 1,421	\$ 1,431	\$ 1,475	\$ 1,504	\$ 1,517
<b>Survivor's Benefits (other than spouses)</b>					
(1) Number, Fiscal Year Start	3	3	6	6	4
(2) Net Change	0	3	0	(2)	1
(3) Number, Fiscal Year End	3	6	6	4	5
(4) Average Age at Commencement	33.44	31.90	31.90	31.90	38.32
(5) Average Current Age	36.19	34.11	35.11	35.71	42.20
(6) Average Monthly Pension Benefit	\$ 545	\$ 648	\$ 656	\$ 711	\$ 1,272
<b>Disabilities</b>					
(1) Number, Fiscal Year Start	47	46	44	34	33
(2) Net Change	(1)	(2)	(10)	(1)	(1)
(3) Number, Fiscal Year End	46	44	34	33	32
(4) Average Age at Commencement	46.13	46.64	45.79	47.16	47.13
(5) Average Current Age	52.13	52.66	51.06	51.61	50.99
(6) Average Monthly Pension Benefit	\$ 3,058	\$ 2,879	\$ 2,913	\$ 3,154	\$ 3,213
<b>Total</b>					
(1) Number, Fiscal Year Start	10,026	10,255	10,598	11,016	11,301
(2) Net Change	229	343	418	285	404
(3) Number, Fiscal Year End	10,255	10,598	11,016	11,301	11,705
(4) Average Age at Commencement	54.48	54.69	54.93	55.08	55.36
(5) Average Current Age	66.42	66.91	67.40	67.88	68.38
(6) Average Monthly Pension Benefit	\$ 2,691	\$ 2,694	\$ 2,729	\$ 2,791	\$ 2,820

# State of Alaska Teachers' Retirement System

## Section 5.6 (cont'd)

### Summary of All Pension Benefit Recipients



# State of Alaska Teachers' Retirement System

## Section 5.6 (cont'd)

### Summary of All Pension Benefit Recipients

#### Distribution of Annual Pension Benefits for Benefit Recipients

##### Annual Pension Benefit by Age

Age	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0 – 19	0	\$ 0	\$ 0
20 – 24	2	18,893	9,447
25 – 29	0	0	0
30 – 34	0	0	0
35 – 39	2	76,591	38,296
40 – 44	10	252,040	25,204
45 – 49	82	2,703,656	32,971
50 – 54	364	12,420,481	34,122
55 – 59	1,213	39,984,753	32,964
60 – 64	2,711	84,361,869	31,118
65 – 69	2,867	95,145,603	33,186
70 – 74	2,075	74,956,232	36,123
75+	2,379	86,239,585	36,250
<b>Total</b>	<b>11,705</b>	<b>\$ 396,159,703</b>	<b>\$ 33,845</b>

##### Annual Pension Benefit by Years Since Commencement

Years Since Commencement	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	518	\$ 17,972,393	\$ 34,696
1	489	17,162,105	35,096
2	571	20,192,770	35,364
3	453	14,375,806	31,735
4	402	11,689,170	29,078
0 – 4	2,433	81,392,244	33,453
5 – 9	2,225	66,605,037	29,935
10 – 14	2,263	69,628,719	30,768
15 – 19	2,289	83,375,078	36,424
20 – 24	1,076	39,193,917	36,426
25 – 29	927	39,779,718	42,912
30 – 34	332	11,441,848	34,463
35 – 39	148	4,427,867	29,918
40+	12	315,275	26,273
<b>Total</b>	<b>11,705</b>	<b>\$ 396,159,703</b>	<b>\$ 33,845</b>

#### Years Since Benefit Commencement by Age

Age	Years Since Commencement									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	2	0	0	0	0	0	0	0	0	2
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	2	0	0	0	0	0	0	0	0	2
40 – 44	5	4	0	1	0	0	0	0	0	10
45 – 49	67	12	3	0	0	0	0	0	0	82
50 – 54	216	123	21	3	1	0	0	0	0	364
55 – 59	632	356	178	45	1	0	0	0	1	1,213
60 – 64	880	856	608	338	26	2	1	0	0	2,711
65 – 69	361	582	910	741	212	52	6	3	0	2,867
70 – 74	150	194	370	743	405	201	10	1	1	2,075
75+	118	98	173	418	431	672	315	144	10	2,379
<b>Total</b>	<b>2,433</b>	<b>2,225</b>	<b>2,263</b>	<b>2,289</b>	<b>1,076</b>	<b>927</b>	<b>332</b>	<b>148</b>	<b>12</b>	<b>11,705</b>

# State of Alaska Teachers' Retirement System

## Section 5.7

### Schedule of Pension Benefit Recipients by Type of Pension Benefit and Option Elected

Amount of Monthly Pension Benefit		Number of Recipients	Type of Pension Benefit			Option Selected			
			1	2	3	1	2	3	4
\$ 1	\$ 300	203	150	53	0	118	44	33	8
301	– 600	363	265	98	0	192	75	77	19
601	– 900	637	522	115	0	328	140	137	32
901	– 1,200	733	600	133	0	423	161	117	32
1,201	– 1,500	667	533	134	0	350	154	139	24
1,501	– 1,800	630	514	115	1	341	142	125	22
1,801	– 2,100	699	583	115	1	362	152	164	21
2,101	– 2,400	846	776	70	0	391	200	223	32
2,401	– 2,700	1,006	945	58	3	484	238	259	25
2,701	– 3,000	970	929	33	8	461	213	269	27
3,001	– 3,300	902	873	24	5	426	189	266	21
3,301	– 3,600	802	784	15	3	400	150	233	19
3,601	– 3,900	733	717	9	7	379	128	205	21
3,901	– 4,200	593	586	6	1	303	92	189	9
Over \$4,200		1,921	1,911	7	3	903	283	678	57
Totals		11,705	10,688	985	32	5,861	2,361	3,114	369

#### Type of Pension Benefit

1. Regular retirement
2. Survivor payment
3. Disability

#### Option Selected

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

# State of Alaska Teachers' Retirement System

## Section 5.8

### Pension Benefit Recipients Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase in Annual Pension Allowances	Average Annual Pension Allowance
	No. <sup>1</sup>	Annual Pension Allowances <sup>1</sup>	No. <sup>1</sup>	Annual Pension Allowances <sup>1</sup>	No.	Annual Pension Allowances		
June 30, 2013	576	\$19,387,542	172	\$1,652,575	11,705	\$396,159,703	4.69%	\$33,845
June 30, 2012	473	17,104,564	188	(617,561)	11,301	378,424,736	4.91%	33,486
June 30, 2011	564	19,546,369	146	1,464,766	11,016	360,702,611	5.28%	32,744
June 30, 2010	533	16,980,817	190	5,495,399	10,598	342,621,008	3.47%	32,329
June 30, 2009	368	9,788,639	139	(2,857,118)	10,255	331,135,590	3.97%	32,290
June 30, 2008	481	14,265,236	133	806,945	10,026	318,489,833	4.41%	31,766
June 30, 2007	432	12,388,703	140	(14,114,559)	9,678	305,031,542	9.52%	31,518
June 30, 2006	487	12,731,292	121	(50,838)	9,386	278,528,280	4.81%	29,675
June 30, 2005	446	11,243,448	133	13,053,612	9,020	265,746,150	(0.68)%	29,462
June 30, 2004	491	17,867,366	96	5,503,666	8,707	267,556,314	4.84%	30,729

<sup>1</sup> Numbers are estimated, and include other internal transfers.

## Section 6

### Basis of the Actuarial Valuation

### **Summary of Plan Provisions and Changes in Plan Provisions**

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

July 1, 1955, with amendments through June 30, 2013. Chapter 97, 1990 Session Laws of Alaska, created a two-tier retirement system. Members who were first hired under the TRS before July 1, 1990 (Tier 1) are eligible for different benefits than members hired after June 30, 1990 (Tier 2). Chapter 9, 2005 Session Laws of Alaska, closed the plan to new members hired after June 30, 2006.

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

The Commissioner of Administration or the Commissioner's designee is the administrator of the system. The Attorney General of the state is the legal counsel for the system and shall advise the administrator and represent the system in legal proceedings.

Prior to June 30, 2005, the Teachers' Retirement Board prescribed policies and adopted regulations and performed other activities necessary to carry out the provisions of the system. The Alaska State Pension Investment Board, Department of Revenue, Treasury Division was responsible for investing TRS funds.

On July 27, 2005, Senate Bill 141, enacted as Chapter 9, 2005 Session laws of Alaska, replaced the Teachers' Retirement Board and the Alaska State Pension Investment Board with the Alaska Retirement Management Board.

#### **(3) Employers Included**

Currently, there are 58 employers participating in the TRS, including the State of Alaska, 53 school districts, and four other eligible organizations.

#### **(4) Membership**

Membership in the Alaska TRS is mandatory for the following employees hired before July 1, 2006:

- certificated full-time and part-time elementary and secondary teachers, certificated school nurses, and certificated employees in positions requiring teaching certificates;
- positions requiring a teaching certificate as a condition of employment in the Department of Education and Early Development and the Department of Labor and Workforce Development;
- University of Alaska full-time and part-time teachers, and full-time administrative employees in positions requiring academic standing if approved by the TRS administrator;
- certain full-time or part-time teachers of Alaska Native language or culture who have elected to be covered under the TRS;
- members on approved sabbatical leave under AS 14.20.310;
- certain State legislators who have elected to be covered under the TRS; and
- a teacher who has filed for worker's compensation benefits due to an on-the-job assault and who, as a result of the physical injury, is placed on leave without pay.

### **Section 6.1 (cont'd)**

# State of Alaska Teachers' Retirement System

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## Summary of Plan Provisions and Changes in Plan Provisions

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

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

Senate Bill 141, signed into law on July 27, 2005, closes the plan effective July 1, 2006 to new members first hired on or after July 1, 2006.

### (5) Credited Service

TRS members receive a year of membership credit if they work a minimum of 172 days during the school year (July 1 through June 30 of the following year). Fractional credit is determined based on the number of days worked. Part-time members who work at least 50% of full-time receive membership credit for each day in proportion to full-time service. Credit is granted for all Alaskan public school service.

Members may claim other types of service, including:

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

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

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

Survivors who are receiving occupational death benefits continue to earn TRS service credit while occupational survivor benefits are being paid.

### (6) Employer Contributions

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

### Summary of Plan Provisions and Changes in Plan Provisions

The normal cost rate is a uniform rate for all participating employers (less the value of members' contributions).

The past service rate is a uniform rate for all participating employers to amortize the unfunded past service liability with payments that are a level dollar amount over fixed 25-year periods.

Employer rates cannot be less than the normal cost rate.

#### (7) **Additional State Contribution**

Pursuant to AS14.25.070 effective July 1, 2008, the State shall contribute an amount (in addition to the State contribution as an employer) that when combined with the employer contribution (12.56% of total DB and DCR payroll, less employer contributions to DCR) will be sufficient to pay the total contribution rate adopted by The State of Alaska Retirement Management Board.

#### (8) **Member Contributions**

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

Contributions for Claimed Service: Member contributions are also required for most of the claimed service described in (5) above.

1% Supplemental Contributions: Members who joined the system before July 1, 1982 and elected to participate in the supplemental contributions provision are required to contribute an additional 1% of their salaries. Supplemental contributions are deducted from gross salaries after federal income taxes are withheld. Under the supplemental provision, an eligible spouse or dependent child will receive a survivor's allowance or spouse's pension if the member dies (see (13) below). Supplemental contributions are only refundable upon death (see (13) below).

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

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

Reinstatement of Contributions: Refunded accounts and the corresponding TRS service may be reinstated upon reemployment in the TRS prior to July 1, 2010. Interest accrues on refunds until paid in full or members retire.

## **Summary of Plan Provisions and Changes in Plan Provisions**

### **(9) Retirement Benefits**

Eligibility:

- (a) Members, including deferred vested members, are eligible for normal retirement at age 55 or early retirement at age 50 if they were hired before July 1, 1990 (Tier 1) and age 60 or early retirement at age 55 if they were hired on or after July 1, 1990 (Tier 2). Additionally, they must have at least:
  - (i) eight years of paid-up membership service;
  - (ii) 15 years of paid-up creditable service, the last five years of which are membership service, and they were first hired under the TRS before July 1, 1975;
  - (iii) five years of paid-up membership service and three years of paid-up Alaska Bureau of Indian Affairs service;
  - (iv) 12 years of combined part-time and full-time paid-up membership service;
  - (v) two years of paid-up membership service if they are vested in the Public Employees' Retirement System (PERS); or
  - (vi) one year of paid-up membership service if they are retired from the PERS.
- (b) Members may retire at any age when they have:
  - (i) 25 years of paid-up creditable service, the last five years of which are membership service;
  - (ii) 20 years of paid-up membership service;
  - (iii) 20 years of combined paid-up membership and Alaska Bureau of Indian Affairs service, the last five years of which are membership service; or
  - (iv) 20 years of combined paid-up part-time and full-time membership service.

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

### **Summary of Plan Provisions and Changes in Plan Provisions**

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

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

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

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

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

Retirees who return to work in a permanent full-time or part-time TRS position after a Normal Retirement are eligible to return under the Standard Option.

Under the Standard Option, retirement and retiree healthcare benefits are suspended while retired members are reemployed under the TRS. During reemployment, members earn additional TRS service and contributions are withheld from their wages.

### Summary of Plan Provisions and Changes in Plan Provisions

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

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

Employers make contributions to the unfunded liability of the plan on behalf of rehired retired members at the rate the employer is making contributions to the unfunded liability of the plan for other members.

#### **(11) Postemployment Healthcare Benefits**

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

#### **(12) Disability Benefits**

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

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

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

#### **(13) Death Benefits**

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

### **Summary of Plan Provisions and Changes in Plan Provisions**

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

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

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

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

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

# State of Alaska Teachers' Retirement System

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## Section 6.1 (cont'd)

### Summary of Plan Provisions and Changes in Plan Provisions

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

#### (14) Postretirement Pension Adjustments

Postretirement pension adjustments (PRPAs) are granted annually to eligible benefit recipients when the consumer price index (CPI) for urban wage earners and clerical workers for Anchorage increases during the preceding calendar year. PRPAs are calculated by multiplying the recipient's base benefit, including past PRPAs, excluding the Alaska COLA, times:

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

Ad hoc PRPAs, up to a maximum of 4%, may be granted to eligible recipients who were first hired before July 1, 1990 (Tier 1) if the CPI increases and the funding ratio is at least 105%.

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

#### (15) Alaska Cost of Living Allowance

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

- (a) members who were first hired under the TRS before July 1, 1990 (Tier 1) and their survivors;
- (b) members who were first hired under the TRS after June 30, 1990 (Tier 2) and their survivors if they are at least age 65; and
- (c) all disabled members.

#### Changes in Benefit Provisions Since the Prior Valuation

There have been no changes in benefit provisions since the prior valuation.

### **Description of Actuarial Methods and Valuation Procedures**

The funding method used in this valuation was adopted by the Board in October 2006. The asset smoothing method used to determine valuation assets was changed effective June 30, 2002.

Benefits valued are those delineated in Alaska State statutes as of the valuation date. Changes in State statutes effective after the valuation date are not taken into consideration in setting the assumptions and methods.

**(A) Actuarial Method – Entry Age Actuarial Cost.**

Liabilities and contributions shown in the report are computed using the Entry Age Actuarial Cost method of funding. Any funding surpluses or unfunded accrued liability is amortized over 25 years as a level dollar amount. The initial unfunded accrued liability was established on June 30, 2002 and amortized over a closed 25-year period. Any changes in the unfunded accrued liability established after June 30, 2002 due to changes in plan provisions, actuarial methods or assumptions, or actuarial experience are amortized over a 25-year period from the date established. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined. However, for GASB disclosure requirements, the net amortization period will not exceed 30 years and the level dollar amortization method is used since the defined benefit plan membership was closed effective July 1, 2006.

Projected pension and postemployment healthcare benefits were determined for all active members. Cost factors designed to produce annual costs as a constant percentage of each member's expected compensation in each year for pension benefits (constant dollar amount for healthcare benefits) from the assumed entry age to the assumed retirement age were applied to the projected benefits to determine the normal cost (the portion of the total cost of the plan allocated to the current year under the method). The normal cost is determined by summing intermediate results for active members and determining an average normal cost rate which is then related to the total payroll of active members. The actuarial accrued liability for active members (the portion of the total cost of the plan allocated to prior years under the method) was determined as the excess of the actuarial present value of projected benefits over the actuarial present value of future normal costs.

The actuarial accrued liability for retired members and their beneficiaries currently receiving benefits, terminated vested members and disabled members not yet receiving benefits was determined as the actuarial present value of the benefits expected to be paid. No future normal costs are payable for these members.

The actuarial accrued liability under this method at any point in time is the theoretical amount of the fund that would have been accumulated had annual contributions equal to the normal cost been made in prior years (it does not represent the liability for benefits accrued to the valuation date). The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over the actuarial value of plan assets measured on the valuation date.

### **Description of Actuarial Methods and Valuation Procedures**

Under this method, experience gains or losses, i.e., decreases or increases in accrued liabilities attributable to deviations in experience from the actuarial assumptions, adjust the unfunded actuarial accrued liability.

#### **(B) Valuation of Assets**

Effective June 30, 2002, the asset valuation method recognizes 20% of the difference between actual and expected investment return in each of the current and preceding four years. This method was phased in over the next five years. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

#### **Changes in Methods from the Prior Valuation**

There were no changes in valuation methods since the previous valuation.

#### **(C) Valuation of Medical Benefits**

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for the State of Alaska Teachers' Retirement System postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2012 to June 30, 2013.

Base claims cost rates are incurred healthcare costs expressed as a rate per member per year. Ideally, claims cost rates should be derived for each significant component of cost that can be expected to require differing projection assumptions or methods, i.e., medical claims, prescription drug claims, administrative costs, etc. Separate analysis is limited by the availability and credibility of cost and enrollment data for each component of cost. This valuation reflects non-prescription claims separated by Medicare status, including eligibility for free Part A coverage. Prescription costs are analyzed separately as in prior valuations. Administrative costs are assumed in the final per capita claims cost rates used for valuation purposes, as described below. Analysis to date on Medicare Part A coverage is limited since Part A claim data is not available by individual, nor is this status incorporated into historical claim data.

We analyzed HealthSmart management level reporting for fiscal 2010 through April 2013, and derived recommended base claims cost rates as described in the following steps:

1. Based on analysis described in our Experience Study, dental, vision and audio claims (DVA) are excluded from data analyzed for this valuation.

### Description of Actuarial Methods and Valuation Procedures

2. Available management level reporting does not show claims or enrollment separately for Medicare and non-Medicare plan participants, but does include overall statistics as to the percentage of claims and enrollment attributable to both groups for fiscal 2010 through 2012. Fiscal 2013 management level reporting includes the percentage of claims attributable to both groups but does not address enrollment by group. DB Tier retiree census supplied by the Division was split into under and over age 65 counts as a proxy for fiscal 2013 Medicare and non-Medicare enrollment. Historical claim level reporting and estimated impacts of Medicare coordination and plan design were used to augment cost data by Medicare status.
3. Alaska retirees who do not have 40 quarters of Medicare-covered compensation do not qualify for Medicare Part A coverage free of charge. This is a relatively small and closed group. Medicare was applied to State employment for all employees hired after March 31, 1986. For these “no-Part A” individuals, the State is the primary payer for hospital bills and other Part A services. Thus, claims costs are higher for the no-Part A group. To date, claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. Therefore, higher no-Part A claims are spread across the entire retired population and have been applied to future claims of current active employees projected to retire in the future. To the extent that no-Part A claims can be isolated and applied strictly to the appropriate closed group, actuarial accrued liability will be more accurate and will be lower. The smaller the no-Part A population, the more accrued liabilities will decrease.

Based on census data received from HealthSmart, 0.6% of the current retiree population was identified as having coverage only under Medicare Part B. For future retirees, we assume their Part A eligible status based on a combination of date of hire and/or re-hire, date of birth, tier, etc.

All claims cost rates developed from management level reporting have been compared to similar rates developed from claim level data.

4. The steps above result in separate incurred claims cost rates for medical and prescription benefits for non-Medicare, Medicare Part B only and Medicare Part A&B members for the past four fiscal years. Medical claims cost rates reflect differing average ages and levels of Medicare coordination for each group. Prescription claims cost rates reflect differing average ages. We deemed incurred claim data from HealthSmart management reports to be complete for fiscal 2010, 2011 and 2012. Fiscal 2013 medical claim data was completed using a factor of 0.82; fiscal 2013 prescription claim data was completed using a factor of 0.90 – these factors were derived from historic completion patterns for AlaskaCare retiree claims. Incurred claim cost rates are projected forward to the valuation year using a blend of Alaska plan-specific trend and national trend rates over the same period, with Alaska experience receiving 75% weight, national trend 25%. These weighted trend factors for this purpose for the current valuation are as follows:

# State of Alaska Teachers' Retirement System

## Section 6.2 (cont'd)

### Description of Actuarial Methods and Valuation Procedures

Experience Period	Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year		Weighting Factors
	Medical	Prescription	
FY2010 to FY2011	13.0%	9.6%	10%
FY2011 to FY2012	8.1%	4.5%	20%
FY2012 to FY2013	8.3%	5.1%	40%
FY2013 to FY2014	8.9%	7.1%	30%

5. Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Buck evaluated the impact of the following provisions; however, none of the impacts other than noted fees have been included in the valuation results.

Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions are required. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. We reviewed the impact of including these provisions, but there was no decision made to adopt them, and no requirement to do so.

The Plan will be subject to the high cost plan excise tax (Cadillac tax). Based upon guidance available at the time of disclosure, Buck estimated the year in which the tax would potentially affect Alaska to be sufficiently far into the future to produce a minimal impact. Buck determined the impact to be immaterial based on a blend of pre-Medicare and Medicare retirees.

Patient-centered outcomes research fees and transitional reinsurance fees are included in the administration fees.

We have not identified any other specific provisions of healthcare reform that would be expected to have a significant impact on the measured obligation. As additional guidance on the legislation is issued, we will continue to monitor any potential impacts.

# State of Alaska Teachers' Retirement System

## Section 6.2 (cont'd)

### Description of Actuarial Methods and Valuation Procedures

#### June 30, 2013 Valuation – FY 2014 Claims Cost Rates

	Medical			Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	Pre-Medicare	Medicare A&B	Medicare B Only	
<b>Fiscal 2010 Incurred Claims</b>	<b>\$ 233,601,103</b>	<b>\$ 60,082,942</b>	<b>\$ 1,421,948</b>	<b>\$ 59,287,225</b>	<b>\$ 69,463,204</b>	<b>\$ 394,011</b>	<b>\$ 424,250,433</b>
Membership	32,026	27,915	156	32,026	27,915	156	60,097
Paid Claims Cost Rate	\$ 7,294	\$ 2,152	\$ 9,115	\$ 1,851	\$ 2,488	\$ 2,526	\$ 7,059
Trend to FY2014	1.441	1.441	1.441	1.289	1.289	1.289	
FY 2014 Paid Cost Rate	\$ 10,514	\$ 3,102	\$ 13,138	\$ 2,387	\$ 3,208	\$ 3,256	\$ 9,848
Provider Contracting Factor	0.970	0.970	0.970	0.993	0.993	0.993	
<b>FY 2014 Incurred Cost Rate</b>	<b>\$ 10,200</b>	<b>\$ 3,010</b>	<b>\$ 12,747</b>	<b>\$ 2,370</b>	<b>\$ 3,186</b>	<b>\$ 3,233</b>	<b>\$ 9,618</b>
<b>Fiscal 2011 Incurred Claims</b>	<b>\$ 232,732,266</b>	<b>\$ 55,615,233</b>	<b>\$ 849,185</b>	<b>\$ 48,403,436</b>	<b>\$ 85,633,319</b>	<b>\$ 393,948</b>	<b>\$ 423,627,387</b>
Membership	31,362	29,997	138	31,362	29,997	138	61,497
Paid Claims Cost Rate	\$ 7,421	\$ 1,854	\$ 6,154	\$ 1,543	\$ 2,855	\$ 2,855	\$ 6,889
Trend to FY2014	1.275	1.275	1.275	1.176	1.176	1.176	
FY 2014 Paid Cost Rate	\$ 9,463	\$ 2,364	\$ 7,847	\$ 1,816	\$ 3,358	\$ 3,358	\$ 8,568
Provider Contracting Factor	0.970	0.970	0.970	0.993	0.993	0.993	
<b>FY 2014 Incurred Cost Rate</b>	<b>\$ 9,181</b>	<b>\$ 2,294</b>	<b>\$ 7,613</b>	<b>\$ 1,803</b>	<b>\$ 3,335</b>	<b>\$ 3,335</b>	<b>\$ 8,372</b>
<b>Fiscal 2012 Incurred Claims</b>	<b>\$ 233,633,045</b>	<b>\$ 71,443,709</b>	<b>\$ 1,586,219</b>	<b>\$ 50,486,235</b>	<b>\$ 95,369,339</b>	<b>\$ 589,833</b>	<b>\$ 453,108,380</b>
Membership	29,500	33,631	208	29,500	33,631	208	63,339
Paid Claims Cost Rate	\$ 7,920	\$ 2,124	\$ 7,626	\$ 1,711	\$ 2,836	\$ 2,836	\$ 7,154
Trend to FY2014	1.180	1.180	1.180	1.126	1.126	1.126	
FY 2014 Paid Cost Rate	\$ 9,343	\$ 2,506	\$ 8,997	\$ 1,927	\$ 3,193	\$ 3,193	\$ 8,315
Provider Contracting Factor	0.970	0.970	0.970	0.993	0.993	0.993	
<b>FY 2014 Incurred Cost Rate</b>	<b>\$ 9,065</b>	<b>\$ 2,431</b>	<b>\$ 8,728</b>	<b>\$ 1,913</b>	<b>\$ 3,170</b>	<b>\$ 3,170</b>	<b>\$ 8,126</b>

# State of Alaska Teachers' Retirement System

## Section 6.2 (cont'd)

### Description of Actuarial Methods and Valuation Procedures

#### June 30, 2013 Valuation – FY 2014 Claims Cost Rates

	Medical			Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	Pre-Medicare	Medicare A&B	Medicare B Only	
<b>Fiscal 2013 Incurred Claims</b>	\$ 245,965,030	\$ 75,299,373	\$ 1,948,514	\$ 57,036,466	\$ 107,792,216	\$ 616,977	\$ 488,658,576
Membership	27,036	37,912	217	27,036	37,912	217	65,165
Paid Claims Cost Rate	\$ 9,098	\$ 1,986	\$ 8,979	\$ 2,110	\$ 2,843	\$ 2,843	\$ 7,499
Trend to FY2014	1.089	1.089	1.089	1.071	1.071	1.071	
FY 2014 Paid Cost Rate	\$ 9,911	\$ 2,164	\$ 9,783	\$ 2,259	\$ 3,045	\$ 3,045	\$ 8,123
Provider Contracting Factor	0.970	0.970	0.970	0.993	0.993	0.993	
<b>FY 2014 Incurred Cost Rate</b>	<b>\$ 9,616</b>	<b>\$ 2,099</b>	<b>\$ 9,491</b>	<b>\$ 2,244</b>	<b>\$ 3,024</b>	<b>\$ 3,024</b>	<b>\$ 7,943</b>
Weighted Average 7/1/2013-6/30/2014 Incurred Claims Cost Rates:							
At average age	\$ 9,367	\$ 2,362	\$ 9,136	\$ 2,036	\$ 3,161	\$ 3,166	\$ 8,362
At age 65	\$ 11,125	\$ 1,726	\$ 6,676	\$ 2,621	\$ 2,621	\$ 2,621	\$ 8,208

# State of Alaska Teachers' Retirement System

## Section 6.2 (cont'd)

### Description of Actuarial Methods and Valuation Procedures

Following the development of total projected costs, a distribution of per capita claims cost was developed. This was accomplished by allocating total projected costs to the population census used in the valuation. The allocation was done separately for each of prescription drugs and medical costs for the Medicare eligible and pre-Medicare populations. The allocation weights were developed using participant counts by age and assumed morbidity and aging factors. Results were tested for reasonableness based on historical trend and external benchmarks for costs paid by Medicare.

Below are the results of this analysis:

**Distribution of Per Capita Claims Cost by Age  
for the Period July 1, 2013 through June 30, 2014**

<b>Age</b>	<b>Medical and Medicare Parts A &amp; B</b>	<b>Medical and Medicare Part B Only</b>	<b>Prescription Drug</b>	<b>Medicare Retiree Drug Subsidy</b>
45	\$ 6,161	\$ 6,161	\$ 1,383	\$ 0
50	6,971	6,971	1,642	0
55	7,887	7,887	1,950	0
60	9,367	9,367	2,261	0
65	1,726	6,676	2,621	502
70	2,100	8,122	2,824	541
75	2,493	9,645	3,012	577
80	2,686	10,390	3,088	591

# State of Alaska Teachers' Retirement System

## Section 6.3

### Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2013 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in December 2010. These assumptions were the result of an experience study performed as of June 30, 2009.

Investment Return / Discount Rate	8.00% per year (geometric), compounded annually, net of expenses.
Salary Scale	Inflation – 3.12% per year. Productivity – 0.50% per year. See Table 1 for salary scale rates.
Payroll Growth	3.62% per year. (Inflation + Productivity).
Total Inflation	Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
Mortality (Pre-termination)*	Based upon the 2005-2009 actual experience. (See Table 2). 1994 Group Annuity Mortality (GAM) Sex-distinct Table 1994 Base Year without margin projected to 2013 using Projection Scale AA, adjusted 55% for females and 45% for males. Deaths are assumed to result from non-occupational causes 85% of the time.
Mortality (Post-termination)*	Based upon the 2005-2009 actual experience. (See Table 3). The 1994 GAM Sex-distinct Table 1994 Base Year without margin projected to 2013 using Projection Scale AA, with a 3-year setback for females and 4-year setback for males.
Turnover	Select and ultimate rates based upon the 2005-2009 actual withdrawal experience. (See Table 4).
Disability	Incidence rates based upon the 2005-2009 actual experience, in accordance with Table 5. Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table.
Retirement	Retirement rates based upon the 2005-2009 actual experience in accordance with Table 6. Deferred vested members are assumed to retire at their earliest unreduced retirement date.
Marriage and Age Difference	Wives are assumed to be three years younger than husbands. 85% of male members and 75% of female members are assumed to be married.
Dependent Children	Benefits to dependent children have been valued assuming members who are married and between the ages of 25 and 45 have two dependent children.
Contribution Refunds	10% of terminating members with vested benefits are assumed to have their contributions refunded. 100% of those with non-vested benefits are assumed to have their contributions refunded.

\*The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2010 with an Actual Deaths to Expected Deaths ratio of 117%.

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

COLA	Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.															
Sick Leave	4.7 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired, terminates or dies.															
Postretirement Pension Adjustment	50% and 75% of assumed inflation, or 1.56% and 2.34% respectively, is valued for the annual automatic Postretirement Pension Adjustment (PRPA) as specified in the statute.															
Expenses	All expenses are net of the investment return assumption.															
Part-time Status	Part-time employees are assumed to earn 0.60 years of credited service per year.															
Re-employment Option	We assume all re-employed retirees return to work under the Standard Option.															
Service	Total credited service is provided by the State. We assume that this service is the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes as described in Section 2.1.															
Final Average Earnings	Final Average Earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.															
Per Capita Claims Cost	Sample claims cost rates adjusted to age 65 for FY14 medical benefits are shown below: <table border="1"> <thead> <tr> <th></th> <th>Medical</th> <th>Prescription Drugs</th> </tr> </thead> <tbody> <tr> <td>Pre-Medicare</td> <td>\$11,125</td> <td>\$ 2,621</td> </tr> <tr> <td>Medicare Parts A &amp; B</td> <td>\$ 1,726</td> <td>\$ 2,621</td> </tr> <tr> <td>Medicare Part B Only</td> <td>\$ 6,676</td> <td>\$ 2,621</td> </tr> <tr> <td>Medicare Part D</td> <td>N/A</td> <td>\$ 502</td> </tr> </tbody> </table>		Medical	Prescription Drugs	Pre-Medicare	\$11,125	\$ 2,621	Medicare Parts A & B	\$ 1,726	\$ 2,621	Medicare Part B Only	\$ 6,676	\$ 2,621	Medicare Part D	N/A	\$ 502
	Medical	Prescription Drugs														
Pre-Medicare	\$11,125	\$ 2,621														
Medicare Parts A & B	\$ 1,726	\$ 2,621														
Medicare Part B Only	\$ 6,676	\$ 2,621														
Medicare Part D	N/A	\$ 502														
Third Party Administrator Fees	\$177.57 per person per year; assumed trend rate of 5% per year.															
Medicare Part B Only	For actives and retirees not yet Medicare-eligible, participation is set based on whether the employee/retiree will have 40 quarters of employment after March 31, 1986, depending upon date of hire and/or re-hire.															

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

#### Health Cost Trend

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.7% is applied to the FY14 pre-Medicare medical claims cost to get the FY15 medical claims cost.

	Medical Pre-65	Medical Post-65	Prescription Drugs
FY14	8.7%	6.4%	6.3%
FY15	8.5%	6.3%	6.2%
FY16	8.0%	6.3%	6.2%
FY17	7.5%	6.2%	6.1%
FY18	7.0%	6.1%	6.0%
FY19	6.6%	6.1%	5.8%
FY20	6.4%	6.0%	5.8%
FY25	6.0%	6.0%	5.8%
FY50	5.0%	5.0%	5.0%
FY100	4.5%	4.5%	4.5%

For the June 30, 2012 valuations and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model effectively begins estimating trend amounts beginning in 2012 and projects out to 2100. The model has been populated with assumptions that are specific to the State of Alaska.

#### Aging Factors

Age	Prescription	
	Medical	Drugs
0-44	2.0%	4.5%
45-54	2.5%	3.5%
55-64	3.5%	3.0%
65-73	4.0%	1.5%
74-83	1.5%	0.5%
84-93	0.5%	0.0%
94+	0.0%	0.0%

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

Retired Member Contributions  
for Medical Benefits

Currently contributions are required for TRS members who are under age 60 and have less than 25 years of service. Eligible Tier 1 members are exempt from contribution requirements. Annual FY14 contributions based on monthly rates shown below for calendar 2013 and 2014 are assumed based on the coverage category for current retirees. The composite rate shown is used for current active and inactive members in Tier 2 who are assumed to retire prior to age 60 with less than 25 years of service and who are not disabled:

Coverage Category	Calendar 2014 Annual Contribution	Calendar 2014 Monthly Contribution	Calendar 2013 Monthly Contribution
Retiree Only	\$ 9,876	\$ 823	\$ 807
Retiree and Spouse	\$ 19,764	\$ 1,647	\$ 1,615
Retiree and Child(ren)	\$ 13,956	\$ 1,163	\$ 1,140
Retiree and Family	\$ 23,844	\$ 1,987	\$ 1,948
Composite	\$ 14,676	\$ 1,223	\$ 1,200

# State of Alaska Teachers' Retirement System

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## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

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Trend Rate for Retired  
Member Medical Contribution

The table below shows the rate used to project the retired member medical contributions from the shown fiscal year to the next fiscal year. For example, 8.2% is applied to the FY14 retired member medical contributions to get the FY15 retired member medical contributions.

FY14	8.2%
FY15	8.0%
FY16	7.6%
FY17	7.2%
FY18	6.7%
FY19	6.4%
FY25	5.9%
FY50	5.0%
FY100	4.5%

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2012 valuation. Note that actual FY14 retired member medical contributions are reflected in the valuation so trend on such contribution during FY14 is not applicable.

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Healthcare Participation

100% of system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible. 10% of non-system paid members and their spouses are assumed to elect healthcare benefits as soon as they are eligible.

# State of Alaska Teachers' Retirement System

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## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

**Table 1**  
**Alaska TRS**  
**Salary Scale**

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<b>Year of Employment</b>	<b>Unisex Rate</b>
1-6	6.11%
7	5.94
8	5.78
9	5.61
10	5.44
11	5.28
12	5.11
13	4.94
14	4.78
15	4.61
16	4.45
17	4.28
18	4.11
19	3.95
20	3.78
21+	3.62

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

**Table 2**  
**Alaska TRS**  
**Mortality Table (Pre-termination)**

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	.017%	.012%
21	.018	.012
22	.019	.012
23	.021	.013
24	.024	.013
25	.026	.013
26	.030	.014
27	.032	.014
28	.033	.015
29	.034	.016
30	.035	.017
31	.036	.019
32	.037	.020
33	.037	.021
34	.037	.022
35	.037	.023
36	.038	.024
37	.039	.025
38	.041	.027
39	.042	.029
40	.045	.032
41	.047	.034
42	.050	.037
43	.053	.039
44	.056	.041
45	.060	.042
46	.064	.044
47	.069	.047
48	.075	.051
49	.081	.055
50	.088	.061
51	.097	.068
52	.106	.078
53	.118	.090
54	.131	.102
55	.149	.116
56	.170	.135
57	.195	.157
58	.224	.181
59	.253	.208
60	.284	.239
61	.326	.274
62	.368	.314
63	.425	.359
64	.479	.410

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

**Table 3**  
**Alaska TRS**  
**Mortality Table (Post-termination)**

<u>Age</u>	<u>Male</u>	<u>Female</u>
50	.142%	.085%
51	.153	.092
52	.166	.100
53	.181	.111
54	.196	.124
55	.215	.143
56	.235	.163
57	.263	.185
58	.291	.212
59	.331	.246
60	.377	.285
61	.433	.328
62	.499	.378
63	.561	.434
64	.631	.498
65	.725	.570
66	.819	.653
67	.944	.745
68	1.064	.844
69	1.196	.948
70	1.362	1.052
71	1.512	1.150
72	1.634	1.242
73	1.787	1.342
74	1.915	1.434
75	2.094	1.583
76	2.298	1.726
77	2.518	1.918
78	2.748	2.094
79	3.061	2.338
80	3.361	2.669
81	3.788	2.985
82	4.292	3.327
83	4.868	3.707
84	5.510	4.136
85	6.214	4.625

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

**Table 4**  
**Alaska TRS**  
**Turnover Assumptions**

#### Select Rates of Turnover During the First 8 Years of Employment

<u>Year of Employment</u>	<u>Unisex Rate</u>
1	17.00%
2	17.00
3	14.00
4	12.00
5	10.00
6	9.00
7	7.50
8	6.00

#### Ultimate Rates of Turnover After the First 8 Years of Employment

<u>Age</u>	<u>Male</u>	<u>Female</u>	<u>Age</u>	<u>Male</u>	<u>Female</u>
15	4.4584%	4.3747%	40	4.3189%	4.2658%
16	4.4528	4.3714	41	4.3065	4.2559
17	4.4483	4.3692	42	4.2908	4.2460
18	4.4438	4.3681	43	4.2762	4.2372
19	4.4415	4.3670	44	4.2570	4.2262
20	4.4067	4.3351	45	4.2357	4.2130
21	4.4044	4.3351	46	4.2132	4.2009
22	4.3999	4.3340	47	4.1850	4.1844
23	4.3965	4.3340	48	4.1524	4.1657
24	4.3909	4.3329	49	4.1187	4.1470
25	4.3864	4.3329	50	4.0804	4.1250
26	4.3819	4.3318	51	4.0354	4.0997
27	4.3774	4.3307	52	3.9825	4.0700
28	4.3729	4.3274	53	3.9240	4.0348
29	4.3684	4.3241	54	3.8588	3.9974
30	4.3650	4.3208	55	3.7845	3.9523
31	4.3628	4.3186	56	3.6945	3.8940
32	4.3594	4.3142	57	3.5843	3.8192
33	4.3572	4.3109	58	3.4639	3.7345
34	4.3560	4.3065	59	3.3188	3.6267
35	4.3538	4.3021	60	3.1557	3.5046
36	4.3504	4.2955	61	2.9745	3.3682
37	4.3459	4.2900	62	2.7642	3.2131
38	4.3380	4.2823	63	2.5245	3.0360
39	4.3290	4.2746	64	2.2647	2.8435
			65+	4.5000	4.4000

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

Table 5  
Alaska TRS  
Disability Table

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	.0224%	.0202%
21	.0224	.0202
22	.0232	.0209
23	.0232	.0209
24	.0240	.0216
25	.0240	.0216
26	.0240	.0216
27	.0248	.0223
28	.0256	.0230
29	.0264	.0238
30	.0272	.0245
31	.0272	.0245
32	.0280	.0252
33	.0288	.0259
34	.0296	.0266
35	.0304	.0274
36	.0320	.0288
37	.0328	.0295
38	.0344	.0310
39	.0352	.0317
40	.0368	.0331
41	.0384	.0346
42	.0408	.0367
43	.0432	.0389
44	.0472	.0425
45	.0520	.0468
46	.0560	.0504
47	.0608	.0547
48	.0664	.0598
49	.0712	.0641
50	.0768	.0691
51	.0832	.0749
52	.0912	.0821
53	.1016	.0914
54	.1136	.1022
55	.1280	.1152
56	.1472	.1325
57	.1712	.1541
58	.1952	.1757
59	.2304	.2074
60	.2696	.2426
61	.3120	.2808
62	.3616	.3254
63	.4176	.3758
64	.4768	.4291

# State of Alaska Teachers' Retirement System

## Section 6.3 (cont'd)

### Summary of Actuarial Assumptions and Changes in Assumptions

**Table 6**  
**Alaska TRS**  
**Retirement Table**

Age at Retirement	Retirement Rate		
	Reduced	Unreduced	
	<b>Unisex Rates</b>	<b>Male</b>	<b>Female</b>
<50	N/A	10.00%	10.00%
50	8.00%	13.00	13.00
51	8.00	12.00	12.00
52	8.00	12.00	12.00
53	6.00	13.00	13.00
54	12.00	16.00	16.00
55	8.00	18.00	20.00
56	8.00	17.00	15.00
57	8.00	13.00	17.50
58	8.00	17.50	18.00
59	12.00	15.00	17.50
60	N/A	17.50	20.00
61	N/A	17.50	20.00
62	N/A	11.00	25.00
63	N/A	20.00	25.00
64	N/A	25.00	20.00
65	N/A	30.00	20.00
66	N/A	25.00	20.00
67	N/A	25.00	20.00
68	N/A	25.00	20.00
69	N/A	25.00	20.00
70-84	N/A	50.00	50.00
85		100.00	100.00

# State of Alaska Teachers' Retirement System

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## Section 6.3 (cont'd)

### **Summary of Actuarial Assumptions and Changes in Assumptions**

#### **Changes in Actuarial Assumptions Since the Prior Valuation**

There have been no changes in actuarial assumptions since the prior valuation.

# State of Alaska Teachers' Retirement System

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## *Glossary of Terms*

Actuarial Accrued Liability	Total accumulated cost to fund pension benefits arising from service in all prior years.
Actuarial Cost Method	Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a pension plan for a group of plan members to the years of service that give rise to that cost.
Actuarial Present Value of Projected Benefits	Amount which, together with future interest, is expected to be sufficient to pay all future benefits.
Actuarial Valuation	Study of probable amounts of future pension benefits and the necessary amount of contributions to fund those benefits.
Actuary	Person who performs mathematical calculations pertaining to pension and insurance benefits based on specific procedures and assumptions.
Annual Required Contribution	Disclosure measure of annual pension cost.
GASB 25 and 27	Governmental Accounting Standards Board Statement Number 25 which specifies how the Annual Required Contribution (ARC) is to be calculated, and Number 27 which specifies Employer reporting of Pension Cost.
GASB 43 and 45	Governmental Accounting Standards Board Statement Number 43 which specifies how the Annual Required Contribution (ARC) is to be calculated, and Number 45 which specifies Employer reporting of OPEB Cost.
Liquidity Factor	Is calculated as the average annual Fair Value of Assets divided by the total annual benefit payments. This measures the approximate number of years that assets will cover benefit payments without contributions or investment return. Trend shows solvency risk.
Maturity Ratio	The ratio of the actuarial accrued liability for members who are no longer active to the total actuarial accrued liability. A ratio of over 50% indicates a mature plan. The higher the maturity ratio, the more volatile the contribution rate will be from year to year given actuarial gains and losses.
Normal Cost	That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the plan as a whole.
Unfunded Actuarial Accrued Liability (UAAL)	The portion of the actuarial accrued liability not offset by plan assets.
Vested Benefits	Benefits which are unconditionally guaranteed regardless of employment status.