

State of Alaska

Teachers' Retirement System

Actuarial Valuation Report
as of June 30, 2015

June 2016



©2015 Xerox Corporation and Buck Consultants, LLC. All rights reserved. Xerox® and Xerox and Design® are trademarks of Xerox Corporation in the United States and/or other countries. Buck Consultants® is a trademark of Buck Consultants, LLC in the United States and/or other countries.

Other company trademarks are also acknowledged.

Document Version: 1.0 (July 2014).



David J. Kershner
Principal, Retirement
David.Kershner@xerox.com
602.864.3507

Todd D. Kanaster
Senior Consultant
Todd.Kanaster@xerox.com
720.359.7762

Larry Langer
Principal, Retirement
Larry.Langer@xerox.com
312.846.3669

Melissa A. Bissett
Senior Consultant
Melissa.Bissett@xerox.com
720.359.7735

Buck Consultants, LLC.
5690 DTC Blvd.
Suite 400
Greenwood Village, CO 80011
Fax: 720.359.7701

June 27, 2016

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, 2015 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, 2015. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness. Valuation census data used for the retiree medical valuation utilized available retiree medical information. Certain pension data fields have been used to clarify the retiree medical data provided to us. Details regarding this information can be found in Section 6.2.d.

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 as of June 30, 2015.

TRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) and as required by Alaska state statutes. The funding objective for TRS 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 percentage of payroll over a closed 25-year period and as required by Alaska state statutes. The closed 25-year period was established effective June 30, 2014.

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.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS. Use of this report, for any other purpose or by anyone other than the Board or staff of the State of Alaska may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods or inapplicability of the report for that purpose. Because of the risk of misinterpretation of actuarial results, you should ask Buck to review any statement you wish to make on the results contained in this report. Buck will not accept any liability for any such statement made without the review by Buck.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing 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. In particular, retiree group benefits models necessarily rely on the use of approximations and estimates, and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements. An analysis of the potential range of such future differences is beyond the scope of this valuation (other than the sensitivity analyses shown in Sections 3.2 and 4.7).

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 for the period July 1, 2009 to June 30, 2013. Based on that experience study, the Board adopted new assumptions effective for the June 30, 2014 valuation to better reflect expected future experience. Based on our annual analysis of recent claims experience, changes were made to the per capita claim cost rates effective June 30, 2015 to better reflect expected future healthcare experience. Based on recent experience, the healthcare cost trend assumptions are still reasonable and were not changed. A summary of the actuarial assumptions and methods used in this actuarial valuation are shown in Section 6.

The assumptions and methods used to determine the healthcare Actuarial Required Contributions (ARC) of the Employers to TRS as outlined in this report and all supporting schedules meet the parameters and requirements for disclosure of Governmental Accounting Standards Board (GASB) Statement 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 trend data schedule under GASB No. 43 that is 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. Please see our separate GASB 67 report for pension-related information needed for the CAFR.

David Kershner is a Fellow of the Society of Actuaries and Todd Kanaster and Larry Langer are Associates of the Society of Actuaries. All are Members of the American Academy of Actuaries and meet 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,



David J. Kershner, FSA, EA, MAAA, FCA
Principal



Todd D. Kanaster, ASA, MAAA, FCA
Senior Consultant



Larry Langer, ASA, EA, MAAA, FCA
Principal

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 A. Bissett, FSA, MAAA
Senior Consultant, Health & Productivity

Table of Contents

Executive Summary	1
Comparative Summary of Key Actuarial Valuation Results	6
Section 1 Actuarial Funding Results	8
Section 1.1 Actuarial Liabilities and Normal Cost.....	8
Section 1.2 Actuarial Contributions as of June 30, 2015.....	10
Section 1.3 Roll Forward Contribution Rate Calculation for FY18	11
Section 1.4 Actuarial Gain / (Loss) for FY15.....	13
Section 1.5 Development of Change in Unfunded Liability During FY15.....	14
Section 1.6 Analysis of Financial Experience	15
Section 1.7 History of Unfunded Liability and Funded Ratio	18
Section 2 Plan Assets	19
Section 2.1 Summary of Fair Value of Assets.....	19
Section 2.2 Changes in Fair Value of Assets During FY15	20
Section 2.3 Development of Actuarial Value of Assets	21
Section 2.4 Historical Asset Rates of Return	22
Section 3 Accounting Information	23
Section 3.1 Historical Exhibits	23
Section 3.2 Postemployment Healthcare	25
Section 3.3 Notes to Trend Data.....	27
Section 3.4 Solvency Test.....	29
Section 4 Projections	32
Section 4.1 Projection Assumptions and Methods	32
Section 4.2 Membership Projection	33
Section 4.3 Projection of Employer/State Contribution Rates	36
Section 4.4 Projection of Employer/State Contribution Amounts.....	37
Section 4.5 Projection of Funded Ratios.....	38
Section 4.6 Table of Projected Actuarial Results	39
Section 4.7 Sensitivity Analysis	40

Section 5 Member Data	41
Section 5.1 Summary of Members Included	41
Section 5.2 Age and Service Distribution of Active Members.....	44
Section 5.3 Member Data Reconciliation	45
Section 5.4 Schedule of Active Member Data.....	46
Section 5.5 Summary of New Pension Benefit Recipients	47
Section 5.6 Summary of All Pension Benefit Recipients	49
Section 5.7 Schedule of Pension Benefit Recipients by Type of Pension Benefit and Option Elected	52
Section 5.8 Pension Benefit Recipients Added to and Removed from Rolls	53
Section 6 Basis of the Actuarial Valuation.....	54
Section 6.1 Summary of Plan Provisions	54
Section 6.2 Description of Actuarial Methods and Valuation Procedures	62
Section 6.3 Summary of Actuarial Assumptions	71
Glossary of Terms	82

Executive Summary

Overview

The State of Alaska Teachers' Retirement System (TRS) 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 as of the valuation date of June 30, 2015.

Purpose

An actuarial valuation is performed on the retirement plan annually as of the end 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 healthcare accounting measures for the System required by GASB No. 43 for the last fiscal year;
4. To review the current funded status of the System and assess the funded status as an appropriate measure for determining future actuarially determined contributions;
5. To compare actual and expected experience under the System during the last fiscal year; and
6. 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 TRS based on the plan provisions, membership data, assets, and actuarial methods and assumptions as of the valuation date. Actuarial projections are also performed to provide a long-term view of the expected future funded status and contribution patterns (see Section 4). The sensitivity analysis shown in Section 4.7 is an example of 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. Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Funded Status

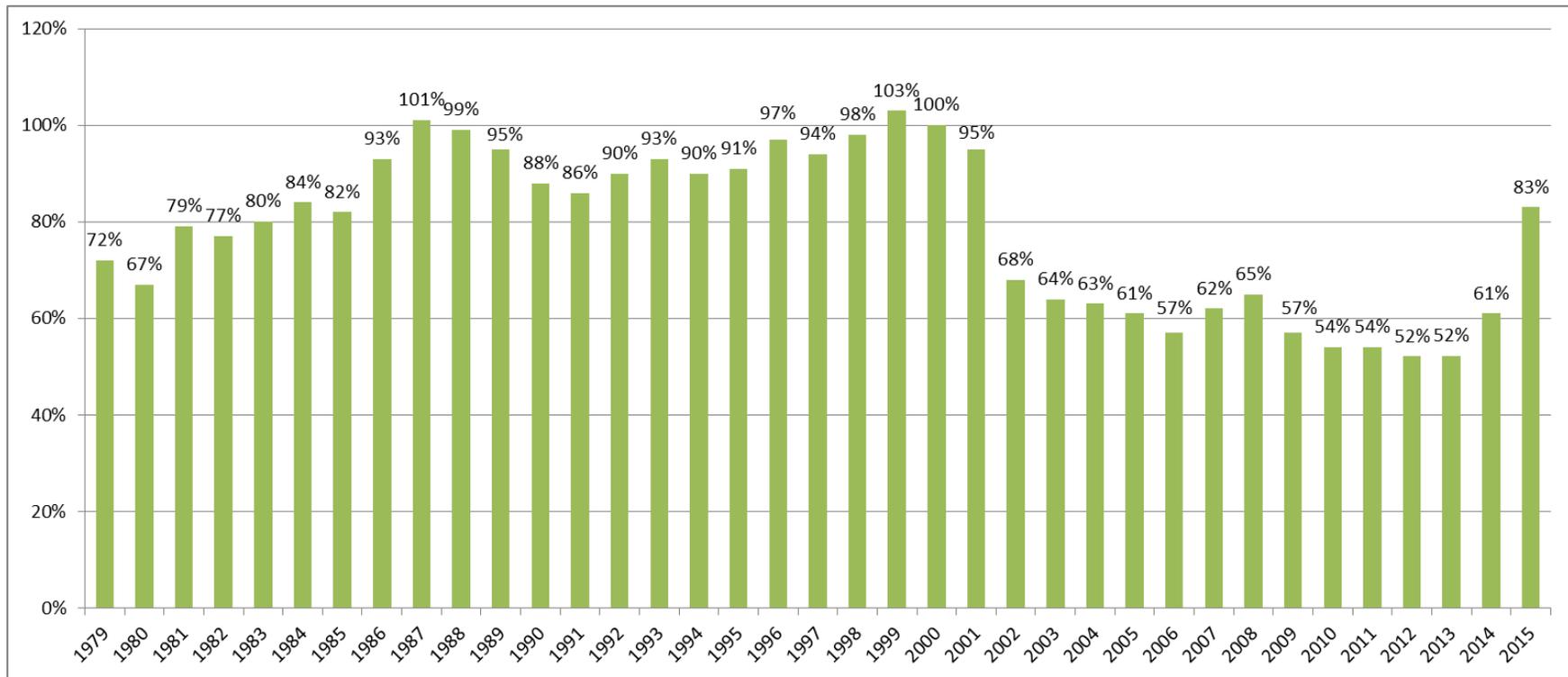
The funded status is a snapshot measure of the funding of the plan as of the valuation date. It is determined as a ratio of the actuarial value of assets divided by the total actuarial accrued liability on the valuation date. As shown in the chart below, the funded ratio can differ depending on whether the market value of assets is used or the actuarial value of assets. Also, the funded ratios presented below do not imply any assessment of the funded position in the event a settlement was being considered. A comparative summary of the funded status from the prior and current actuarial valuations follows:

Funded Status as of June 30 (\$'s in 000's)	2014	2015
Pension		
a. Actuarial Accrued Liability	\$ 6,921,362	\$ 7,051,724
b. Valuation Assets	<u>3,771,139</u>	<u>5,422,651</u>
c. Unfunded Actuarial Accrued Liability, (a) – (b)	\$ 3,150,223	\$ 1,629,073
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	54.5%	76.9%
e. Fair Value of Assets	\$ 3,771,139	\$ 5,246,955
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	54.5%	74.4%
Healthcare		
a. Actuarial Accrued Liability	\$ 2,919,670	\$ 2,677,393
b. Valuation Assets	<u>2,248,135</u>	<u>2,686,272</u>
c. Unfunded Actuarial Accrued Liability, (a) – (b)	\$ 671,535	\$ (8,879)
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	77.0%	100.3%
e. Fair Value of Assets	\$ 2,248,135	\$ 2,588,966
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	77.0%	96.7%
Total		
a. Actuarial Accrued Liability	\$ 9,841,032	\$ 9,729,117
b. Valuation Assets	<u>6,019,274</u>	<u>8,108,923</u>
c. Unfunded Actuarial Accrued Liability, (a) – (b)	\$ 3,821,758	\$ 1,620,194
d. Funded Ratio based on Valuation Assets, (b) ÷ (a)	61.2%	83.3%
e. Fair Value of Assets	\$ 6,019,274	\$ 7,835,921
f. Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	61.2%	80.5%

The funded status of the plan increased from June 30, 2014 to June 30, 2015 primarily due to the large state contribution made in FY15 as well as the FY15 experience summarized on the pages that follow.

The funded status for healthcare benefits is not necessarily an appropriate measure to confirm that assets are sufficient to settle health plan obligations as there are no available financial instruments for purchase. While the System is currently fully funded for healthcare liabilities valuation purposes, it is not based upon fair value. Future experience is likely to vary from assumptions, thus there is a potential for actuarial losses.

TRS Funded Ratio History (Based on Valuation Assets)



1. Investment Experience

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in FY15, the asset valuation method recognizes 20% of the gain or loss each year, for a period of five years. The approximate FY15 investment return based on fair value was 3.2% compared to the expected investment return of 8.00% (net of investment and administrative expenses of approximately 0.40%). This resulted in a loss of approximately \$341.3 million to the System. Due to the recognition of deferred investment gains and losses over a 5-year period, the approximate FY15 investment return based on actuarial value was 7.2%, compared to the expected investment return of 8.00% (net of investment and administrative expenses). This loss increased the Employer/State contribution rate for FY18 by approximately 0.62%.

2. Salary Increases

During the period June 30, 2014 to June 30, 2015, salary increases for continuing active members were less than anticipated in the valuation assumptions, which led to salary gains of approximately \$25.6 million. The net effect of the FY15 salary gain was a decrease of approximately 0.34% in the Employer/State contribution rate for FY18.

3. Demographic Experience (Pension)

Section 5 provides statistics on active and inactive participants. The number of active participants decreased 6.13% from 5,861 at June 30, 2014 to 5,502 at June 30, 2015 due to the closure of the plan to new entrants as of July 1, 2006. The average age of active participants increased from 49.79 to 50.09 and average credited service increased from 16.43 to 16.94 years.

The number of retirees and beneficiaries increased 5.69% from 11,750 to 12,418, and their average age increased from 69.09 to 69.35. There was a 30.14% decrease in the number of vested terminated participants from 1,274 to 890 (see the footnote in Section 5.1 for an explanation of this decrease). Their average age decreased from 52.56 to 50.09.

The overall effect of the demographic experience during FY15, combined with data and other miscellaneous changes, was an actuarial loss of approximately \$16.2 million to the System. As shown on page 7, there was a gain of approximately \$46.3 million due to COLA/PRPA increases during FY15. The combination of the demographic experience loss and the COLA/PRPA gain resulted in a decrease in the Employer/State contribution rate for FY18 of approximately 0.52%.

4. Retiree Medical Experience

As described in Section 6.2, recent claims experience created an actuarial gain of approximately \$311.4 million. There was also a demographic experience gain (including data and other miscellaneous changes) of approximately \$57.3 million. These, in combination with healthcare valuation programming refinements noted in #6, resulted in a decrease in the Employer/State contribution rate for FY18 of approximately 4.07%.

5. Effect of FY15 State Contribution

The large State contribution made in FY15 increased the funded ratio of the plan by approximately 20.5%.

6. Valuation Programming Refinements

We made changes to our valuation programming, including refinements to the programming for Domestic Relation Orders (DROs) and the postretirement survivor benefit adjustment. The combined effect of these programming changes was an actuarial gain of \$14.2M for healthcare.

7. Actuarial Projections

Several years ago, the 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 0% per year and all future demographic assumptions are expected to be exactly realized. In Section 4.7, we illustrate the sensitivity of projected contributions due to potential changes in expected investment rates of return.

8. Changes in Methods Since the Prior Valuation

To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 client data but active in the October 1 client records are updated to active status.

There have been no material changes in the asset or valuation methods since the prior valuation. To increase the efficiency of the data process, assumptions are used for individual data questions which are deemed to have an immaterial impact on liabilities and contribution rates. These data assumptions are described in Section 6.3.

9. Changes in Assumptions Since the Prior Valuation

There have been no changes in actuarial assumptions since the prior valuation. Healthcare claim costs are updated annually as described in Section 6.2.

10. Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Key Actuarial Valuation Results

Employer/State Contribution Rates for Pension for Fiscal Year:	2017	2018
a. Normal Cost Rate Net of Member Contributions	2.44%	2.22%
b. Past Service Rate	<u>15.34%</u>	<u>15.10%</u>
c. Total Employer/State Contribution Rate (a) + (b)*	17.78%	17.32%
Employer/State Contribution Rates for Postemployment Healthcare for Fiscal Year:	2017	2018
a. Normal Cost Rate	2.19%	1.77%
b. Past Service Rate	<u>3.43%</u>	<u>0.00%</u>
c. Total Employer/State Contribution Rate (a) + (b)*	5.62%	1.77%
Total Employer/State Contribution Rates for Fiscal Year:	2017	2018
a. Normal Cost Rate Net of Member Contributions	4.63%	3.99%
b. Past Service Rate	<u>18.77%</u>	<u>15.10%</u>
c. Total Employer/State Contribution Rate (a) + (b)*	23.40%	19.09%
d. Board Adopted Total Employer/State Contribution Rate	23.40%	TBD
e. Defined Contribution Retirement (DCR) Rate Paid by Employers	<u>4.62%</u>	<u>5.03%</u>
f. Board Adopted Total Rate, Including DCR Rate Paid by Employers (d) + (e)	28.02%	TBD

* Beginning with the June 30, 2014 valuation, contribution rates for FY17 and beyond are contribution rates are determined using new methodology in accordance with 2014 legislation under HB 385 and SB 119, 2014 Alaska Laws, which changed the amortization methodology to a closed 25-year period as a level percentage of pay, and eliminated the time lag on the contribution rate calculation by using a 2-year “roll-forward” approach and assuming 0% population growth. Investment gains and losses are recognized over a 5-year period beginning in FY15.

Contribution rates are based on salary for both DB plan members and DCR members, combined. The healthcare rates shown above are for funding purposes which differ from the healthcare 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 GASB No. 43, TRS calculates the amortization of the unfunded liabilities 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.

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 as of June 30, 2014 to June 30, 2015 based on DB and DCR member payroll combined:

	Pension	Healthcare	Total
1. Total Employer/State contribution rate as of June 30, 2014	30.30%	8.59%	38.89%
2. Change due to:			
a. Contribution shortfall	(13.31)%	(2.84)%	(16.15)%
b. Investment experience	0.38%	0.21%	0.59%
c. Salary increases	(0.34)%	0.00%	(0.34)%
d. Demographic and medical experience ¹	(0.35)%	(3.80)%	(4.15)%
e. Change in methodology and assumptions	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
f. Total change (a + b + c + d + e)	(13.62)%	(6.43)%	(20.05)%
3. Total Employer/State contribution rate as of June 30, 2015 (1) + (2f)	16.68%	2.16%	18.84%

The following table shows the FY15 gain/(loss) on total actuarial accrued liability as of June 30, 2015 (\$'s in 000's):

	Pension	Healthcare	Total
Retirement Experience	\$ (101)	\$ (90)	\$ (191)
Termination Experience	(10,284)	(2,923)	(13,207)
Active Mortality Experience	3,820	(146)	3,674
Inactive Mortality Experience	4,964	22,616	27,580
Disability Experience	(407)	(660)	(1,067)
Rehires	(11,622)	(202)	(11,824)
Other Demographic Experience ²	(2,539)	52,871	50,332
Salary Increases	25,558	N/A	25,558
Alaska COLA	4,361	N/A	4,361
PRPA Other Than Expected	41,931	N/A	41,931
Medical Claims Costs	N/A	311,407	311,407
Total	\$ 55,681	\$ 382,873	\$ 438,554

¹ Includes changes in assumed future healthcare claims costs.

² Includes effects of data and programming changes.

- The healthcare gain includes:

- o \$14,194: Reflection of the language in the updated retiree medical handbook regarding loss of spousal coverage for DROs.
- o (\$12): Postretirement survivor benefit adjustment programming refinement.
- o \$38,689: Miscellaneous, including a change to Part B coverage data

Section 1 Actuarial Funding Results

Section 1.1 Actuarial Liabilities and Normal Cost (\$'s in 000's)

As of June 30, 2015	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 2,224,919	\$ 1,919,612
Termination Benefits	57,067	24,415
Disability Benefits	5,237	(1,218)
Death Benefits	12,145	9,597
Return of Contributions	5,274	(58,038)
Medical and Prescription Drug Benefits	950,888	848,088
Medicare Part D Subsidy	(46,443)	(41,682)
Indebtedness	(35,579)	(35,579)
Subtotal	\$ 3,173,508	\$ 2,665,195
Inactive Members		
Not Vested	\$ 42,058	\$ 42,058
Vested Terminations		
- Retirement Benefits	114,253	114,253
- Medical and Prescription Drug Benefits	160,271	160,271
- Medicare Part D Subsidy	(7,620)	(7,620)
- Indebtedness	(3,481)	(3,481)
Retirees & Beneficiaries		
- Retirement Benefits	5,040,105	5,040,105
- Medical and Prescription Drug Benefits	1,854,550	1,854,550
- Medicare Part D Subsidy	(136,214)	(136,214)
Subtotal	\$ 7,063,922	\$ 7,063,922
Total	\$ 10,237,430	\$ 9,729,117
Total Pension	\$ 7,461,998	\$ 7,051,724
Total Medical, Net of Part D Subsidy	\$ 2,775,432	\$ 2,677,393
Total Medical, Gross of Part D Subsidy	\$ 2,965,709	\$ 2,862,909

As of June 30, 2015	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 5,000,584	\$ 4,964,064
- Medical, Net of Part D Subsidy	1,656,170	1,648,579
Tier 2		
- Pension	2,461,414	2,087,660
- Medical, Net of Part D Subsidy	<u>1,119,262</u>	<u>1,028,814</u>
Total	\$ 10,237,430	\$ 9,729,117

As of June 30, 2015	Normal Cost
Active Members	
Retirement Benefits	\$ 45,513
Termination Benefits	4,653
Disability Benefits	930
Death Benefits	394
Return of Contributions	9,520
Medical and Prescription Drug Benefits	17,583
Medicare Part D Subsidy	<u>(846)</u>
Subtotal	\$ 77,747
Total	\$ 77,747
Total Pension	\$ 61,010
Total Medical, Net of Part D Subsidy	\$ 16,737
Total Medical, Gross of Part D Subsidy	\$ 17,583
By Tier	
Tier 1	
- Pension	\$ 8,657
- Medical, Net of Part D Subsidy	1,966
Tier 2	
- Pension	52,353
- Medical, Net of Part D Subsidy	<u>14,771</u>
Total	\$ 77,747

Section 1.2 Actuarial Contributions as of June 30, 2015

(\$'s in 000's)

Normal Cost Rate	Pension	Healthcare	Total
1. Total Normal Cost	\$ 61,010	\$ 16,737	\$ 77,747
2. DB Rate Payroll Projected for FY16	473,734	473,734	473,734
3. DCR Rate Payroll Projected for FY16	274,892	274,892	274,892
4. Total Rate Payroll Projected for FY16	748,626	748,626	748,626
5. Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	12.88%	3.53%	16.41%
b. Based on Total Rate Payroll, (1) ÷ (4)	8.15%	2.24%	10.39%
6. Average Member Contribution Rate ¹	5.48%	0%	5.48%
7. Employer Normal Cost Rate, (5b) – (6)	2.67%	2.24%	4.91%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 7,051,724	\$ 2,677,393	\$ 9,729,117
2. Valuation Assets	<u>5,422,651</u>	<u>2,686,272</u>	<u>8,108,923</u>
3. Total Unfunded Actuarial Accrued Liability, (1) – (2)	\$ 1,629,073	\$ (8,879)	\$ 1,620,194
4. Funded Ratio, (2) ÷ (1)	76.9%	100.3%	83.3%
5. Past Service Cost Amortization Payment ²	104,909	(572)	104,337
6. Total Rate Payroll Projected for FY16	748,626	748,626	748,626
7. Past Service Rate, (5) ÷ (6)	14.01%	-0.08%	13.93%
Total Employer/State Contribution Rate	16.68%	2.16%	18.84%
Normal Cost Rate by Tier (Total Employer and Member) ³			
Tier 1	13.36%	3.03%	16.39%
Tier 2	12.80%	3.61%	16.41%
Maturity Ratio	73.6%	69.9%	72.6%

¹ 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.

² Calculated on a level percent of pay over a 24-year period as of June 30, 2015.

³ Rate determined considering the pay for members of the plan in each tier. DCR payroll is excluded from these calculations.

Section 1.3 Roll Forward Contribution Rate Calculation for FY18

	Pension	Healthcare	Total
1. Liability Roll Forward			
a. Actuarial Accrued Liability as of June 30, 2015	\$ 7,051,724	\$ 2,677,392	\$ 9,729,116
b. Normal Cost	61,011	16,737	77,748
c. Interest on (a) and (b) at 8.00%	569,019	215,530	784,549
d. Estimated Benefit Payments	(446,600)	(141,613)	(588,213)
e. Interest on (d) at 8.00%, adjusted for timing	<u>(19,011)</u>	<u>(6,028)</u>	<u>(25,039)</u>
f. Expected Actuarial Accrued Liability as of June 30, 2016	\$ 7,216,143	\$ 2,762,018	\$ 9,978,161
g. Projected Normal Cost	57,520	15,262	72,782
h. Interest on (f) and (g) at 8.00%	581,893	222,182	804,075
i. Estimated Benefit Payments	(467,829)	(150,146)	(617,975)
j. Interest on (i) at 8.00%, adjusted for timing	<u>(19,915)</u>	<u>(6,391)</u>	<u>(26,306)</u>
k. Expected Actuarial Accrued Liability as of June 30, 2017	\$ 7,367,812	\$ 2,842,925	\$ 10,210,737
2. Asset Roll Forward			
a. Actuarial Value of Assets as of June 30, 2015	\$ 5,422,651	\$ 2,686,272	\$ 8,108,923
b. Interest on (a) at 8.00%	433,812	214,902	648,714
c. Employee Contributions	45,084	0	45,084
d. Employer Contributions	31,592	26,576	58,168
e. State Assistance	90,590	39,519	130,109
f. Interest on (c) – (e) at 8.00%, adjusted for timing*	8,391	3,391	11,782
g. Estimated Benefit Payments	(446,600)	(141,613)	(588,213)
h. AVA Adjustments	(57,980)	(32,111)	(90,091)
i. Interest on (g) at 8.00%, adjusted for timing	<u>(19,011)</u>	<u>(6,028)</u>	<u>(25,039)</u>
j. Expected Actuarial Value of Assets as of June 30, 2016	\$ 5,508,529	\$ 2,790,908	\$ 8,299,437
k. Interest on (j) at 8.00%	440,682	223,273	663,955
l. Employee Contributions	43,111	0	43,111
m. Employer Contributions	39,483	21,389	60,872
n. State Assistance	116,700	0	116,700
o. Interest on (l) – (n) at 8.00%, adjusted for timing*	12,576	839	13,415
p. Estimated Benefit Payments	(467,829)	(150,146)	(617,975)
q. AVA Adjustments	(54,466)	(30,164)	(84,630)
r. Interest on (p) at 8.00%, adjusted for timing	<u>(19,915)</u>	<u>(6,391)</u>	<u>(26,306)</u>
s. Expected Actuarial Value of Assets as of June 30, 2017	5,618,871	2,849,708	8,468,579

	Pension	Healthcare	Total
3. Unfunded Liability Roll Forward			
a. Unfunded Actuarial Accrued Liability as of June 30, 2015	\$ 1,629,073	\$ (8,880)	\$ 1,620,193
b. Normal Cost	61,011	16,737	77,748
c. Interest on (a) and (b) at 8.00%	135,207	628	135,835
d. Employee Contributions	(45,084)	0	(45,084)
e. Employer Contributions	(31,592)	(26,576)	(58,168)
f. State Assistance	(90,590)	(39,519)	(130,109)
g. AVA Adjustment	57,980	32,111	90,091
h. Interest on (d) – (f) at 8.00%, adjusted for timing*	<u>(8,391)</u>	<u>(3,391)</u>	<u>(11,782)</u>
i. Expected Unfunded Actuarial Accrued Liability as of June 30, 2016	\$ 1,707,614	\$ (28,890)	\$ 1,678,724
j. Projected Normal Cost	57,520	15,262	72,782
k. Interest on (i) and (j) at 8.00%	141,211	(1,091)	140,120
l. Employee Contributions	(43,111)	0	(43,111)
m. Employer Contributions	(39,483)	(21,389)	(60,872)
n. State Assistance	(116,700)	0	(116,700)
o. AVA Adjustment	54,466	30,164	84,630
p. Interest on (l) – (n) at 8.00%, adjusted for timing*	<u>(12,576)</u>	<u>(839)</u>	<u>(13,415)</u>
q. Expected Unfunded Actuarial Accrued Liability as of June 30, 2017	\$ 1,748,941	\$ (6,783)	\$ 1,742,158
4. Expected Annual Rate Payroll for FY18			
a. Defined Benefit Members			\$ 423,128
b. Defined Contribution Retirement Members			<u>362,785</u>
c. Total Rate Payroll			\$ 785,913
5. Expected FY18 Contribution Rate Calculation			
a. Projected Normal Cost for FY18	\$ 54,033	\$ 13,885	\$ 67,918
b. Projected Normal Cost Rate for FY18	6.88%	1.77%	8.65%
c. Expected Member Contribution Rate for FY18	(4.66%)	0.00%	(4.66%)
d. Expected Employer Normal Cost Rate for FY18	2.22%	1.77%	3.99%
e. Expected Unfunded Liability as of June 30, 2017	\$ 1,748,941	\$ -	\$ 1,748,941
f. 22 Year Amortization of Expected Unfunded Liability	118,649	-	118,649
g. Expected Past Service Cost Contribution Rate for FY18	15.10%	0.00%	15.10%
h. Expected Total Contribution Rate for FY18	\$ 17.32%	\$ 1.77%	\$ 19.09%

* Employee and Employer Contributions are paid throughout the year. State Assistance was paid on October 1, 2015 for FY16 and is assumed to be paid at the beginning of each year thereafter.

FY17 State assistance contribution was allocated 100% to pension.
Past service contribution rates set to be greater than or equal to 0%.

Section 1.4 Actuarial Gain / (Loss) for FY15

(\$'s in 000's)

	Pension	Healthcare	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability, June 30, 2014	\$ 6,921,362	\$ 2,919,670	\$ 9,841,032
b. Normal Cost for FY15	63,608	19,846	83,454
c. Interest on (a) and (b) at 8.00%	558,798	235,161	793,959
d. Actual Benefit Payments for FY15	416,354	109,740	526,094
e. Refund of Contributions for FY15	2,191	0	2,191
f. Interest on (d) and (e) at 8.00%, adjusted for timing	17,818	4,671	22,489
g. Change in Actuarial Assumptions	0	0	0
h. Change in Healthcare Cost Trend Rates	<u>N/A</u>	<u>0</u>	<u>0</u>
i. Expected Actuarial Accrued Liability as of June 30, 2015 (a) + (b) + (c) – (d) – (e) – (f) + (g) + (h)	\$ 7,107,405	\$ 3,060,266	\$ 10,167,671
2. Actual Actuarial Accrued Liability, June 30, 2015	<u>7,051,724</u>	<u>2,677,393</u>	<u>9,729,117</u>
3. Liability Gain/(Loss), (1)(i) – (2)	\$ 55,681	\$ 382,873	\$ 438,554
4. Expected Actuarial Asset Value			
a. Actuarial Asset Value, June 30, 2014	\$ 3,771,139	\$ 2,248,135	\$ 6,019,274
b. Interest on (a) at 8.00%	301,691	179,851	481,542
c. Employee Contributions for FY15	45,506	227	45,733
d. Employer Contributions for FY15	36,374	26,922	63,296
e. State Assistance Contributions for FY15	1,662,700	337,300	2,000,000
f. Medicare Part D Subsidy	0	15,416	15,416
g. Interest on (c), (d), (e) and (f) at 8.00%, adjusted for timing	85,527	17,159	102,686
h. Benefit Payments for FY15	416,354	109,740	526,094
i. Refund of Contributions for FY15	2,191	0	2,191
j. Interest on (h) and (i) at 8.00%, adjusted for timing	<u>17,817</u>	<u>4,671</u>	<u>22,488</u>
k. Expected Actuarial Asset Value, June 30, 2015 (a) + (b) + (c) + (d) + (e) + (f) + (g) – (h) – (i) – (j)	\$ 5,466,575	\$ 2,710,599	\$ 8,177,174
5. Actuarial Asset Value, June 30, 2015	<u>5,422,651</u>	<u>2,686,272</u>	<u>8,108,923</u>
6. Actuarial Asset Gain/(Loss), (5) - (4)(k)	\$ (43,924)	\$ (24,327)	\$ (68,251)
7. Actuarial Gain/(Loss), (3) + (6)	\$ 11,757	\$ 358,546	\$ 370,303
8. Contribution Gain/(Loss)	\$ 1,547,416	\$ 329,973	\$ 1,877,389
9. FY15 Gain/(Loss), (7) + (8)	\$ 1,559,173	\$ 688,519	\$ 2,247,692

Section 1.5 Development of Change in Unfunded Liability During FY15 (\$'s in 000's)

	Pension	Healthcare	Total
1. 2014 Unfunded Liability	\$ 3,150,223	\$ 671,535	\$ 3,821,758
a. Interest on unfunded liability	\$ 252,018	\$ 53,723	\$ 305,741
b. Normal cost	63,608	19,846	83,454
c. Employee contributions	(45,506)	(227)	(45,733)
d. Employer contributions	(36,374)	(26,922)	(63,296)
e. State Assistance Contributions	(1,662,700)	(337,300)	(2,000,000)
f. Medicare Part D subsidy	0	(15,416)	(15,416)
g. Interest on b., c., d., e., and f.	(80,439)	(15,572)	(96,011)
h. Change in Actuarial Assumptions	0	0	0
i. Change in Healthcare Cost Trend Rates	<u>N/A</u>	<u>0</u>	<u>0</u>
j. Expected change in unfunded liability during FY15	\$ (1,509,393)	\$ (321,868)	\$ (1,831,261)
2. Expected 2015 Unfunded Liability, (1) + (1j)	\$ 1,640,830	\$ 349,667	\$ 1,990,497
a. Liability (gains)/losses during FY15	\$ (55,681)	\$ (382,873)	\$ (438,554)
b. Assets (gains)/losses during FY15	<u>43,924</u>	<u>24,327</u>	<u>68,251</u>
c. Total (gains)/losses during FY15	\$ (11,757)	\$ (358,546)	\$ (370,303)
3. Actual 2015 Unfunded Liability, (2) + (2c)	\$ 1,629,073	\$ (8,879)	\$ 1,620,194

Section 1.6 Analysis of Financial Experience

Pension
Change in Employer/State Contribution Rate
Due to (Gains) and Losses in Actuarial 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				
	2011	2012	2013	2014	2015
1. Health Claims and Demographic Experience	N/A	N/A	N/A	N/A	N/A
2. Salary Experience	(0.03)%	0.00%	(0.30)%	(0.43)%	(0.34)%
3. Investment Experience	0.18%	3.47%	2.09%	(3.97)%	0.40%
4. Demographic Experience	(0.03)%	(0.36)%	0.38%	1.75%	(0.52)%
5. Contribution Shortfall	<u>0.75%</u>	<u>0.52%</u>	<u>1.34%</u>	<u>1.10%</u>	<u>0.00%</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	0.87%	3.63%	3.51%	(1.55)%	(0.46)%
7. Assumption and Method Changes	0.00%	9.52%	0.00%	(28.73)%	0.00%
8. System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	0.87%	13.15%	3.51%	(30.28)%	(0.46)%
10. Beginning Total Employer/State Contribution Rate	<u>30.53%</u>	<u>31.40%</u>	<u>44.55%</u>	<u>48.06%</u>	<u>17.78%</u>
11. Ending Valuation Year Total Employer/State Contribution Rate, (9) + (10)	31.40%	44.55%	48.06%	17.78%	17.32%
12. Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	31.40%	29.90%	15.85%	17.78%	17.32%*
b. Fiscal Year for Which Rate Applies	FY14	FY15	FY16	FY17	FY18

*Expected. Actual Rate to be determined.

Healthcare
Change in Employer/State Contribution Rate
Due to (Gains) and Losses in Actuarial 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				
	2011	2012	2013	2014	2015
1. Health Claims and Demographic Experience	(0.72)%	(2.02)%	(1.21)%	(8.59)%	(4.07)%
2. Salary Experience	N/A	N/A	N/A	N/A	N/A
3. Investment Experience	0.28%	0.71%	0.35%	(2.34)%	0.22%
4. Demographic Experience	N/A	N/A	N/A	N/A	N/A
5. Contribution Shortfall	<u>0.11%</u>	<u>0.19%</u>	<u>0.28%</u>	<u>0.14%</u>	<u>0.00%</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	(0.33)%	(1.12)%	(0.58)%	(10.79)%	(3.85)%
7. Assumption and Method Changes	0.00%	4.18%	0.00%	(4.77)%	0.00%
8. System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	(0.33)%	3.06%	(0.58)%	(15.56)%	(3.85)%
10. Beginning Total Employer/State Contribution Rate	<u>19.03%</u>	<u>18.70%</u>	<u>21.76%</u>	<u>21.18%</u>	<u>5.62%</u>
11. Ending Valuation Year Total Employer/State Contribution Rate, (9) + (10)	18.70%	21.76%	21.18%	5.62%	1.77%
12. Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	18.70%	14.35%	8.63%	5.62%	1.77%*
b. Fiscal Year for Which Rate Applies	FY14	FY15	FY16	FY17	FY18

*Expected. Actual Rate to be determined.

Total
Change in Employer/State Contribution Rate
Due to (Gains) and Losses in Actuarial 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				
	2011	2012	2013	2014	2015
1. Health Claims and Demographic Experience	(0.72)%	(2.02)%	(1.21)%	(8.59)%	(4.07)%
2. Salary Experience	(0.03)%	0.00%	(0.30)%	(0.43)%	(0.34)%
3. Investment Experience	0.46%	4.18%	2.44%	(6.31)%	0.62%
4. Demographic Experience	(0.03)%	(0.36)%	0.38%	1.75%	(0.52)%
5. Contribution Shortfall	<u>0.86%</u>	<u>0.71%</u>	<u>1.62%</u>	<u>1.24%</u>	<u>0.00%</u>
6. (Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5)	0.54%	2.51%	2.93%	(12.34)%	(4.31)%
7. Assumption and Method Changes	0.00%	13.70%	0.00%	(33.50)%	0.00%
8. System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
9. Composite (Gain) or Loss During Year, (6) + (7) + (8)	0.54%	16.21%	2.93%	(45.84)%	(4.31)%
10. Beginning Total Employer/State Contribution Rate	<u>49.56%</u>	<u>50.10%</u>	<u>66.31%</u>	<u>69.24%</u>	<u>23.40%</u>
11. Ending Valuation Year Total Employer/State Contribution Rate, (9) + (10)	50.10%	66.31%	69.24%	23.40%	19.09%
12. Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	50.10%	44.25%	24.48%	23.40%	19.09%*
b. Fiscal Year for Which Rate Applies	FY14	FY15	FY16	FY17	FY18

*Expected. Actual Rate to be determined.

Section 1.7 History of Unfunded Liability and Funded Ratio (\$'s in 000's)

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
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
June 30, 2014	\$ 9,841,032	\$ 6,019,274	61.2%	\$ 3,821,758
June 30, 2015	\$ 9,729,117	\$ 8,108,923	83.3%	\$ 1,620,194

Section 2 Plan Assets

Section 2.1 Summary of Fair Value of Assets (\$'s in 000's)

As of June 30, 2015	Pension	Healthcare	Total Fair Value	Allocation Percent
Cash and Short-Term Investments				
– Cash and Cash Equivalents	\$ 90,096	\$ 59,171	\$ 149,267	1.9%
– Subtotal	\$ 90,096	\$ 59,171	\$ 149,267	1.9%
Fixed Income Investments				
– Domestic Fixed Income Pool	\$ 339,576	\$ 167,898	\$ 507,474	6.5%
– International Fixed Income Pool	84,365	41,713	126,078	1.6%
– High Yield Pool	136,678	67,578	204,256	2.6%
– Frontier Market Pool	1,196	591	1,787	nil
– Treasury Inflation Protection Pool	29,399	14,536	43,935	0.6%
– Emerging Debt Pool	35,759	17,680	53,439	0.7%
– Tactical Fixed Income Pool	<u>26,799</u>	<u>13,250</u>	<u>40,049</u>	<u>0.5%</u>
– Subtotal	\$ 653,772	\$ 323,246	\$ 977,018	12.5%
Equity Investments				
– Domestic Equity Pool	\$ 1,424,910	\$ 704,521	\$ 2,129,431	27.1%
– International Equity Pool	1,163,294	575,171	1,738,465	22.2%
– Private Equity Pool	403,605	199,556	603,161	7.7%
– Emerging Markets Equity Pool	138,606	68,531	207,137	2.6%
– Alternative Equity Strategies	<u>195,136</u>	<u>96,481</u>	<u>291,617</u>	<u>3.7%</u>
– Subtotal	\$ 3,325,551	\$ 1,644,260	\$ 4,969,811	63.3%
Other Investments				
– Real Estate Pool	\$ 363,030	\$ 178,966	\$ 541,996	6.9%
– Other Investments Pool	511,665	252,983	764,648	9.7%
– Absolute Return Pool	298,331	147,505	445,836	5.7%
– Other Assets	<u>0</u>	<u>711</u>	<u>711</u>	<u>nil</u>
– Subtotal	\$ 1,173,026	\$ 580,165	\$ 1,753,191	22.3%
Total Cash and Investments	\$ 5,242,445	\$ 2,606,842	\$ 7,849,287	100.0%
Net Accrued Receivables	<u>4,510</u>	<u>(17,876)</u>	<u>(13,366)</u>	
Net Assets	\$ 5,246,955	\$ 2,588,966	\$ 7,835,921	

Section 2.2 Changes in Fair Value of Assets During FY15 (\$'s in 000's)

Fiscal Year 2015	Pension	Healthcare	Total Fair Value
1. Net Assets, June 30, 2014 (fair value)	\$ 3,771,139	\$ 2,248,135	\$ 6,019,274
2. Additions:			
a. Employee Contributions	\$ 45,506	\$ 227	\$ 45,733
b. Employer Contributions	36,374	26,922	63,296
c. State Assistance Contributions	1,662,700	337,300	2,000,000
d. Interest and Dividend Income	86,637	45,241	131,878
e. Net Appreciation/(Depreciation) in Fair Value of Investments	75,069	36,145	111,214
f. Medicare Part D Subsidy	0	15,416	15,416
g. Other	<u>9</u>	<u>16</u>	<u>25</u>
h. Total Additions	\$ 1,906,295	\$ 461,267	\$ 2,367,562
3. Deductions:			
a. Medical Benefits	\$ 0	\$ 109,740	\$ 109,740
b. Retirement Benefits	416,354	0	416,354
c. Refunds of Contributions	2,191	0	2,191
d. Investment Expenses	9,145	5,212	14,357
e. Administrative Expenses	<u>2,789</u>	<u>5,484</u>	<u>8,273</u>
f. Total Deductions	\$ 430,479	\$ 120,436	\$ 550,915
4. Net Assets, June 30, 2015 (fair value)	\$ 5,246,955	\$ 2,588,966	\$ 7,835,921
Approximate Fair Value Investment Return Rate During FY15 Net of All Expenses	3.4%	3.0%	3.2%
Liquidity Factor	10.8	22	13.1

Section 2.3 Development of Actuarial Value of Assets

The actuarial value of assets was set equal to the fair value at June 30, 2014 and the 20% corridor was eliminated. Investment gains and losses after June 30, 2014 are recognized 20% per year over 5 years.

	Pension	Healthcare	Total
1. Deferral of Investment Gain/(Loss) for FY15			
a. Fair Value, June 30, 2014	\$ 3,771,139	\$ 2,248,135	\$ 6,019,274
b. Contributions for FY15	1,744,580	364,449	2,109,029
c. Medicare Part D Subsidy	0	15,416	15,416
d. Benefit Payments for FY15	418,545	109,740	528,285
e. Actual Investment Return (net of expenses)	149,781	70,706	220,487
f. Expected Return Rate	8.00%	8.00%	8.00%
g. Expected Return - Weighted for Timing	369,401	192,338	561,739
h. Investment Gain/(Loss) for the Year (e. – g.)	(219,620)	(121,632)	(341,252)
i. Deferred Investment Gain/(Loss)	\$ (175,696)	\$ (97,306)	\$ (273,002)
2. Actuarial Value, June 30, 2015			
a. Fair Value, June 30, 2015	\$ 5,246,955	\$ 2,588,966	\$ 7,835,921
b. 2015 Deferred Investment Gain/(Loss)	(175,696)	(97,306)	(273,002)
c. Actuarial Value, June 30, 2015 (a. – b.)	\$ 5,422,651	\$ 2,686,272	\$ 8,108,923
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	103.3%	103.8%	103.5%
4. Approximate Actuarial Value Investment Return Rate During FY15 Net of All Expenses	7.3%	7.0%	7.2%

Section 2.4 Historical Asset Rates 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%
June 30, 2014	22.7%	7.2%	18.2%	6.9%
June 30, 2015	7.2%	7.2%	3.2%	6.5%

*Cumulative since FYE June 30, 2005.

Section 3 Accounting Information*

Section 3.1 Historical Exhibits (\$'s in 000's)

Schedule of Employer Contributions

The following shows pension disclosure under GASB No. 25 for fiscal years ending 2007 through 2013.

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%

* Pension accounting figures for fiscal years after 2013 are contained in separate GASB 67 reports.

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

The exhibit below shows pension disclosure under GASB No. 25, prior to 2006.

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Annual Active Member Payroll	UAAL 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 ²	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 ^{1 2 3}	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 ^{1 2 3}	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%

¹ Change in Asset Valuation Method

² Change of Assumptions

³ Change in Methods

Section 3.2 Postemployment Healthcare (\$'s in 000's)

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

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Annual Active Member Payroll ¹	UAAL as a Percent of Annual Active Member Payroll
June 30, 2015 – 4.31%	\$ 4,840,935	\$ 2,686,272	55.5%	\$ 2,154,663	\$ 503,166	428.2%
June 30, 2014 ² – 4.25%	5,373,322	2,248,135	41.8%	3,125,187	523,580	596.9%
June 30, 2013 – 5.08%	5,002,345	1,803,763	36.1%	3,198,582	550,044	581.5%
June 30, 2012 ² – 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 ² – 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 ² – 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 ² – 4.50%	4,288,707	844,766	19.7%	3,443,941	574,409	599.6%

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.

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Annual Active Member Payroll ¹	UAAL as a Percent of Annual Active Member Payroll
June 30, 2015 – 8.00%	\$ 2,862,909	\$ 2,686,272	93.8%	\$ 176,637	\$ 503,166	35.1%
June 30, 2015 – 4.25%	4,888,954	2,686,272	54.9%	2,202,682	503,166	437.8%

¹ Actual active member payroll has been based on information provided by KPMG, LLP.

² Change in assumptions.

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

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
2015	\$ 352,417	7.6%	100.1%	107.7%
2014	320,797	10.0%	35.6%	45.6%
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 are based on Buck's calculation and do not match the CAFR. The percentage contributed 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.

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

ARC (% of Pay)			
Valuation Date	Fiscal Year	Healthcare	Healthcare Discount Rate
June 30, 2005	FY08	54.45%	4.50%
June 30, 2006	FY09	52.20%	4.50%
June 30, 2007	FY10	52.42%	4.50%
June 30, 2008	FY11	28.71%	8.25%
June 30, 2009	FY12	34.29%	7.08%
June 30, 2010*	FY13	60.07%	5.01%
June 30, 2011	FY14	61.27%	5.08%
June 30, 2012	FY15	70.04%	4.25%
June 30, 2013	FY16	70.97%	4.31%
June 30, 2014	FY17	N/A**	N/A**
June 30, 2015	FY18	N/A**	N/A**

* Change in discount rate assumptions effective June 30, 2010

** GASB 74 accounting will be in effect beginning in FY17 and will be provided in a separate report.

GASB 43 ARC is based on DB salary only and a level dollar basis to determine normal cost and amortization of the unfunded liability. These amounts are converted to percentage of pay. DB salary is the same salary used for determination of employer contribution rates.

Section 3.3 Notes to Trend Data

Actuarial Assumptions, Methods and Additional Information under GASB

Valuation Date	June 30, 2015
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 Percentage of Pay, Closed for Pension Level Dollar, Closed for Healthcare
Amortization Period	25 years as of June 30, 2014
Asset Valuation Method	5-year smoothed market starting in FY15
Actuarial Assumptions:	
Investment rate of return*	8.00% for pension (net of expenses), 4.31% for healthcare
Projected salary increases*	8.11% grading down to 3.87% after 22 years
Cost-of-living adjustment	Postretirement Pension Adjustment as described in Section 6.1, item (14)

*Includes price inflation at 3.12%

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.

TRS retiree healthcare benefits are partially funded. GASB 43 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 4.31% as of June 30, 2013, to be used for June 30, 2015 disclosure and FY16 ARC under GASB 43.

The development of the discount rate used for June 30, 2015 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 FY13*

1. Contribution Allocated to Healthcare	=	24.54%
2. Annual Required Contribution, Funding Assumptions	=	60.07%
3. Pay-as-you-go Contribution	=	24.01%
4. Portion of ARC Contributed: $[(1-3) / (2-3)]$, not less than 0%, not more than 100%	=	1.48%
5. Multiplied by long-term investment return	=	0.12%
6. Portion of ARC not Contributed: $[100\% - (4)]$	=	98.52%
7. Multiplied by short-term investment return	=	4.19%
8. Total: (5) + (7)	=	4.31%

*It is assumed that FY11 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, 2013 valuation (FY14), which in turn drives the FY16 GASB 43 ARC.

Using the GASB 43 discount rate determined above and disregarding future Medicare Part D payments, the FY16 employer ARC rate for accounting purposes is 70.97% of pay for healthcare benefits.

Section 3.4 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 Actuarial Accrued Liability For:			Pension Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2015	\$ 714,422	\$ 5,192,935	\$ 1,144,367	\$ 5,422,651	100.0%	90.7%	0.0%
June 30, 2014 ^{1 2}	718,694	5,042,250	1,160,418	3,771,139	100.0%	60.5%	0.0%
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 ¹	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 ^{1 2}	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 ³	100.0%	81.1%	0.0%

¹ Change in Assumptions

² Change in Methods

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

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

Valuation Date	Postemployment Healthcare Actuarial Accrued Liability For:			Postemployment Healthcare Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2015	\$ 0	\$ 1,870,987	\$ 806,406	\$ 2,686,272	100.0%	100.0%	100.0%
June 30, 2014 ^{1 2}	0	2,008,223	911,447	2,248,135	100.0%	100.0%	26.3%
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 ¹	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 ¹	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 ^{1 2}	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 ³	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).

¹ Change in Assumptions

² Change in Methods

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

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

Valuation Date	Actuarial Accrued Liability For:			Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2010 ¹	\$ 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 ¹	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 ^{1 2}	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 ¹	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 ^{1 2 3}	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).

¹ Change in Assumptions

² Change in Methods

³ Change in Asset Valuation Method

Section 4 Projections

Section 4.1 Projection Assumptions and Methods

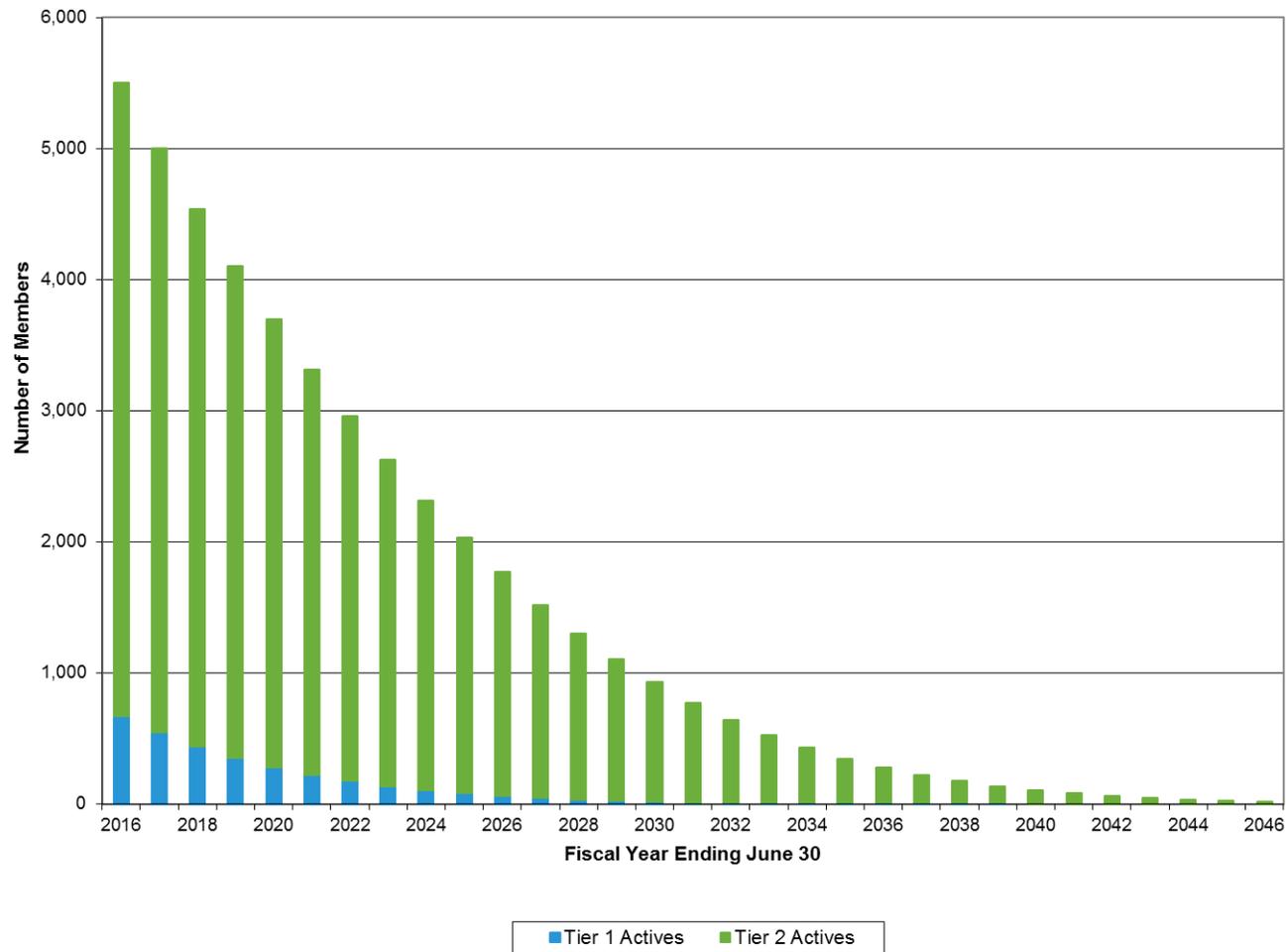
Key Assumptions

- 8.00% investment return on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing method. The current deferred amount is 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 using a two-year lag roll-forward approach adopted each year.
- No new DB Plan members enter Tiers 1 or 2.
- Projections assume a 0% 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

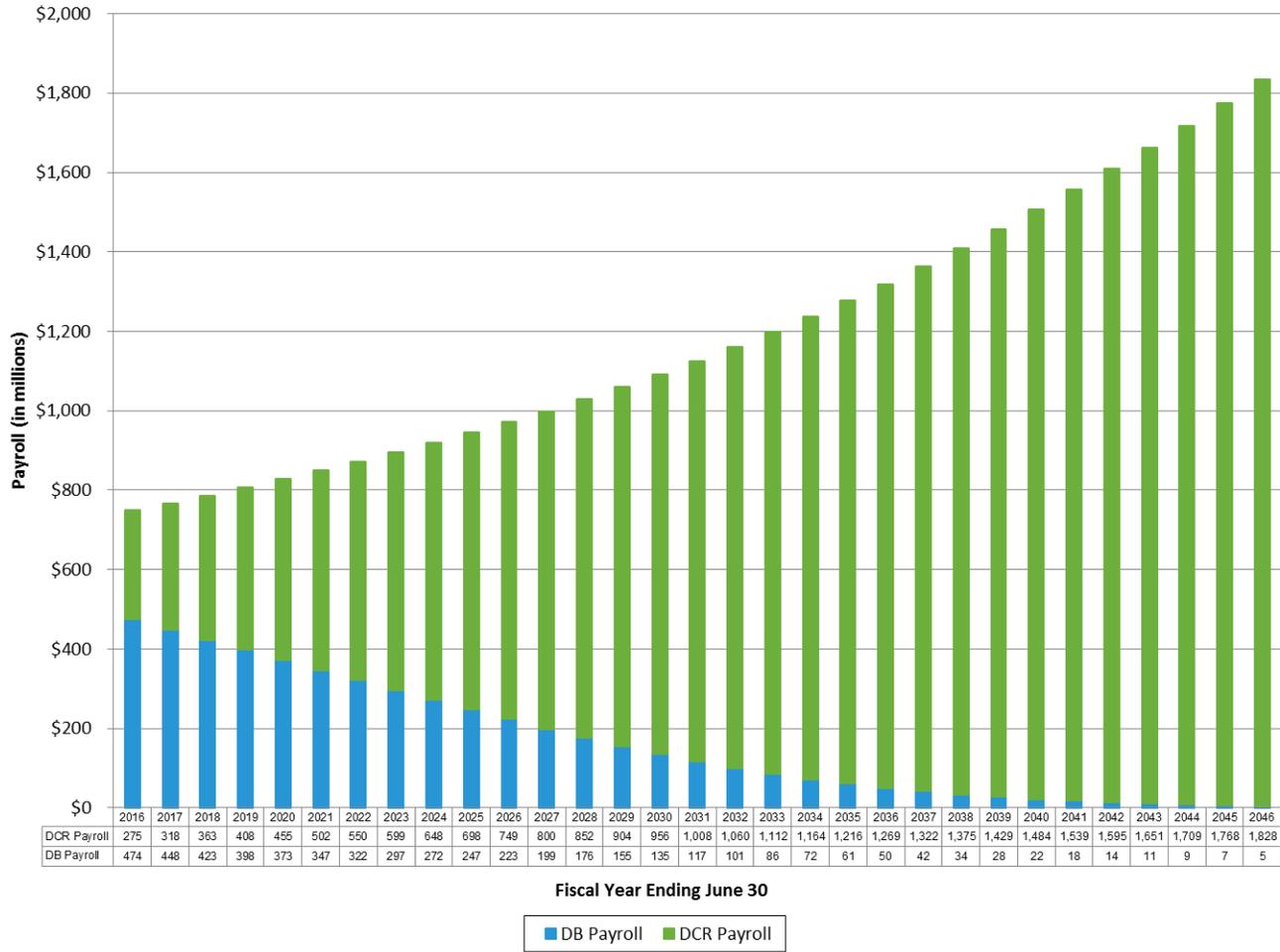
In each case, liabilities have been projected using 8.00% as the discount rate for future benefit payments. These scenarios are intended to illustrate the impact if investment rates of return are different than the 8.00% assumed investment return. They do not illustrate the effect of changing the assumed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

Section 4.2 Membership Projection

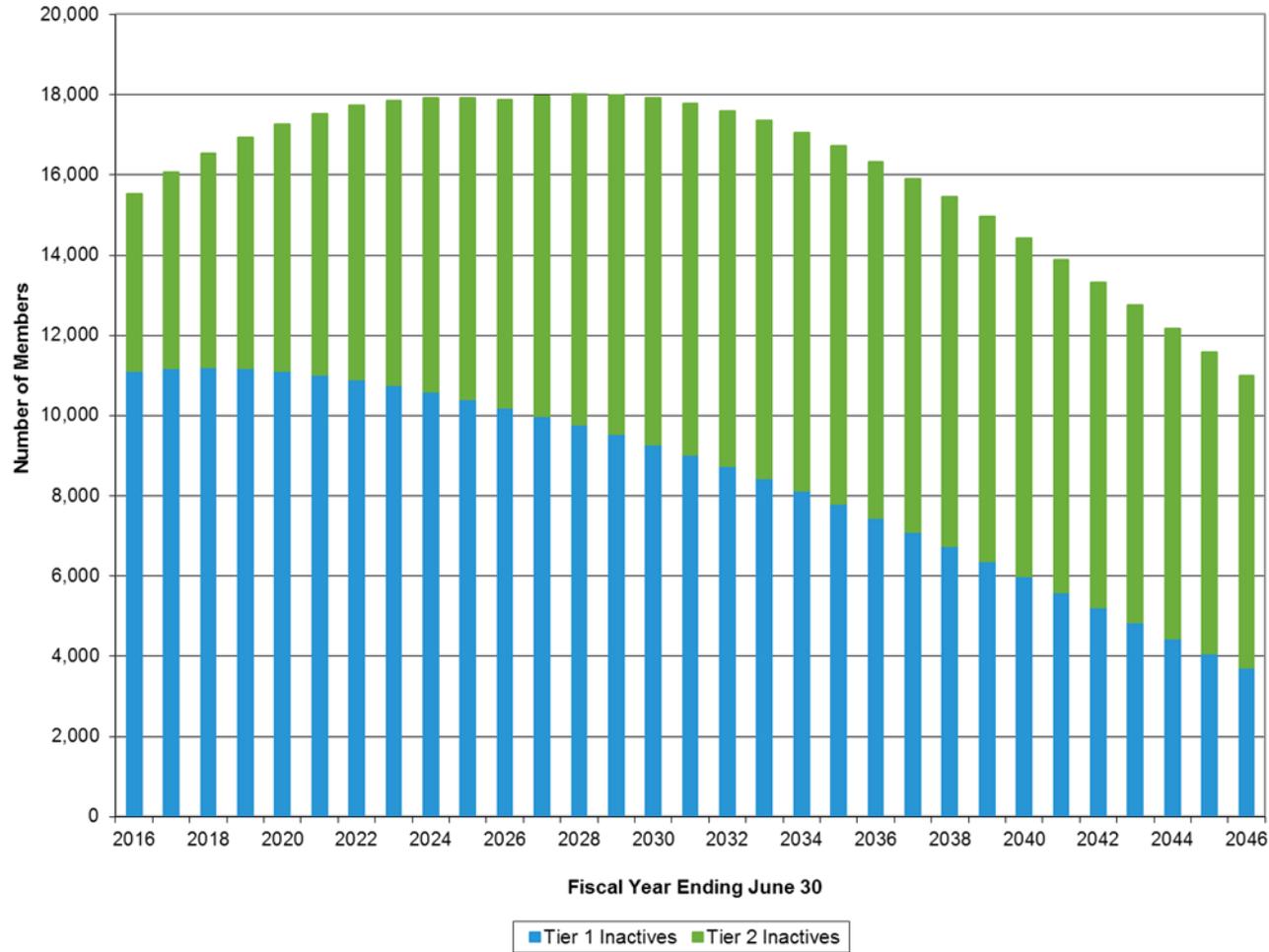
Projected Active Member Count



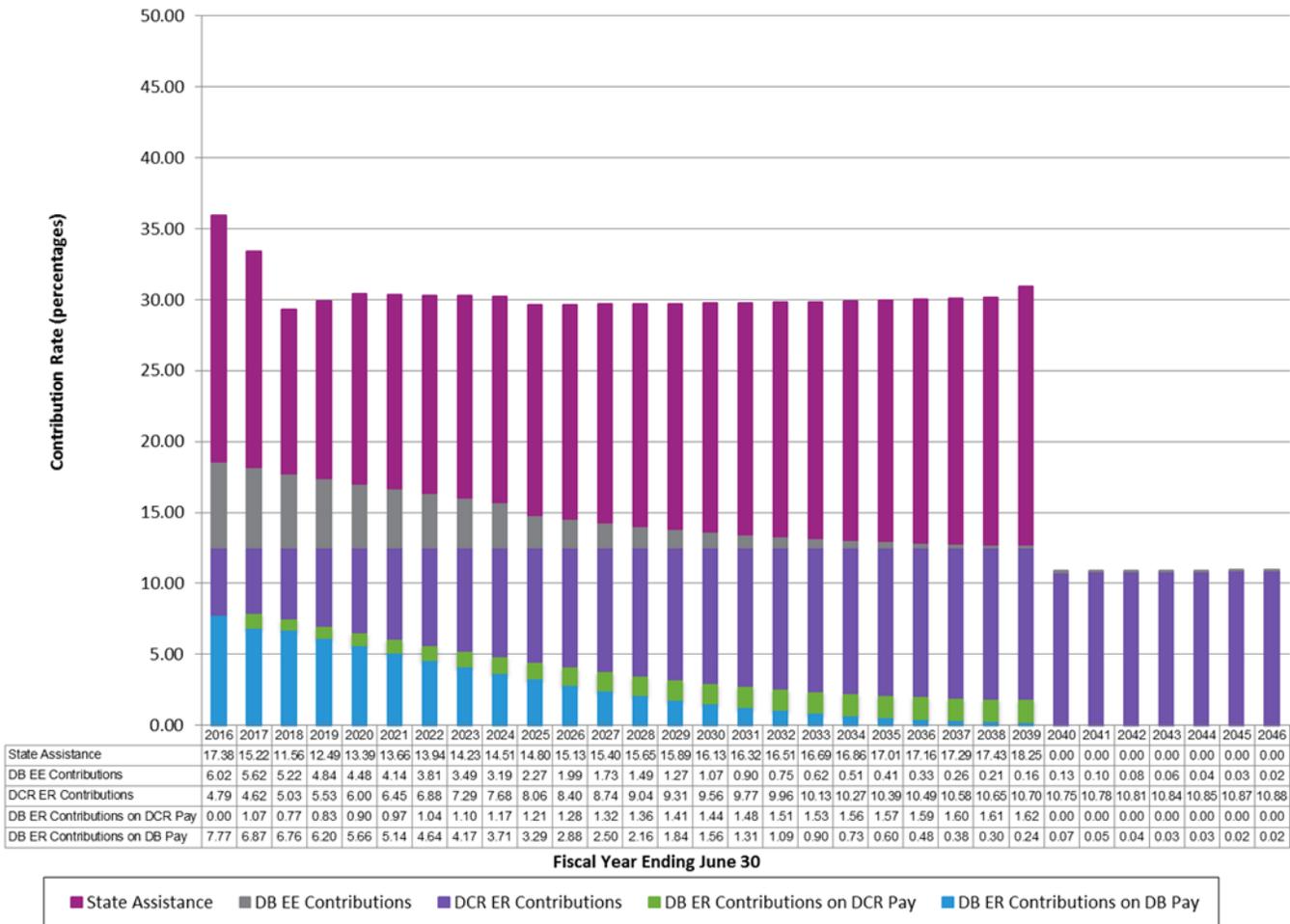
Projected DB and DCR Payroll



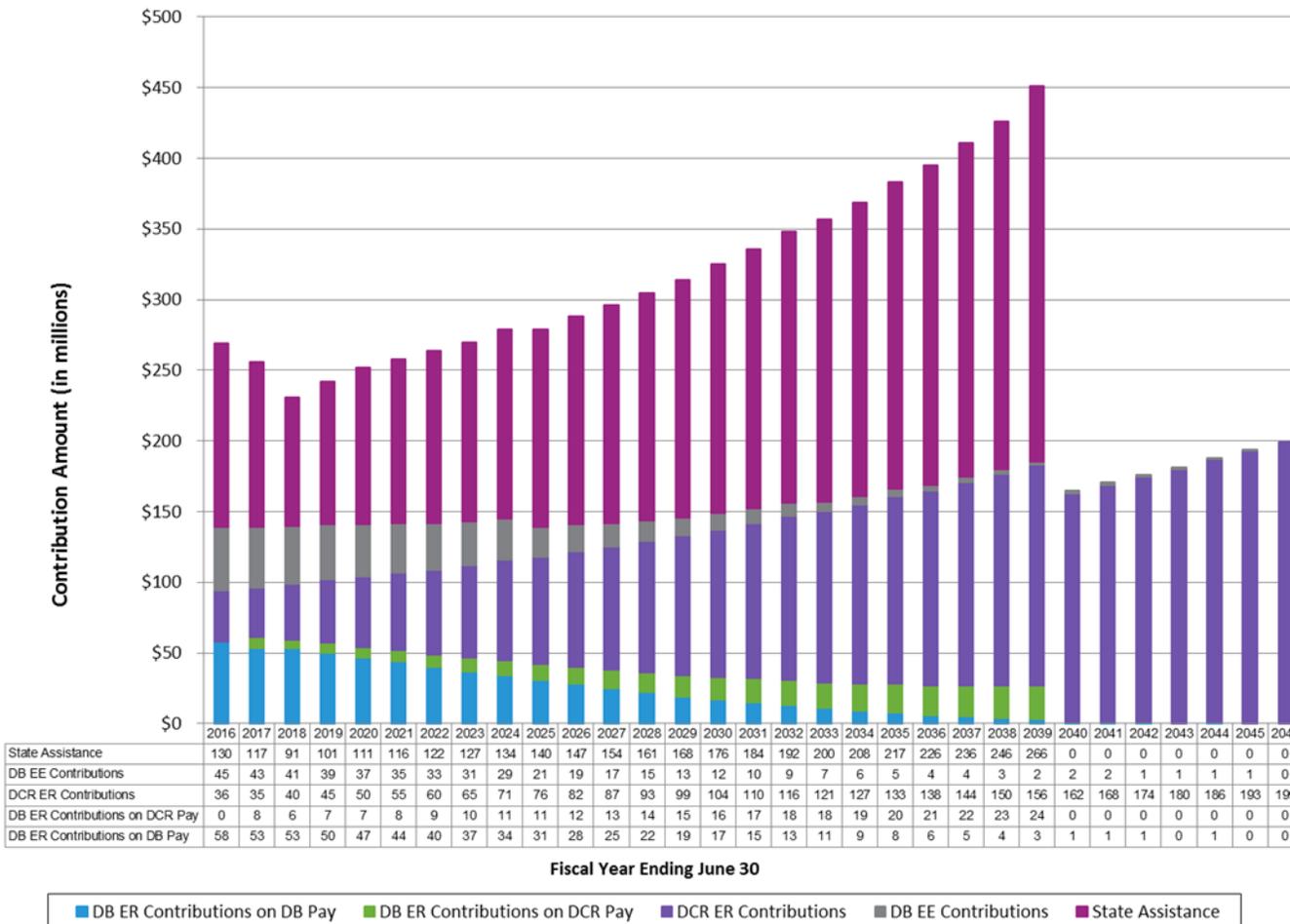
Projected Inactive Member Count



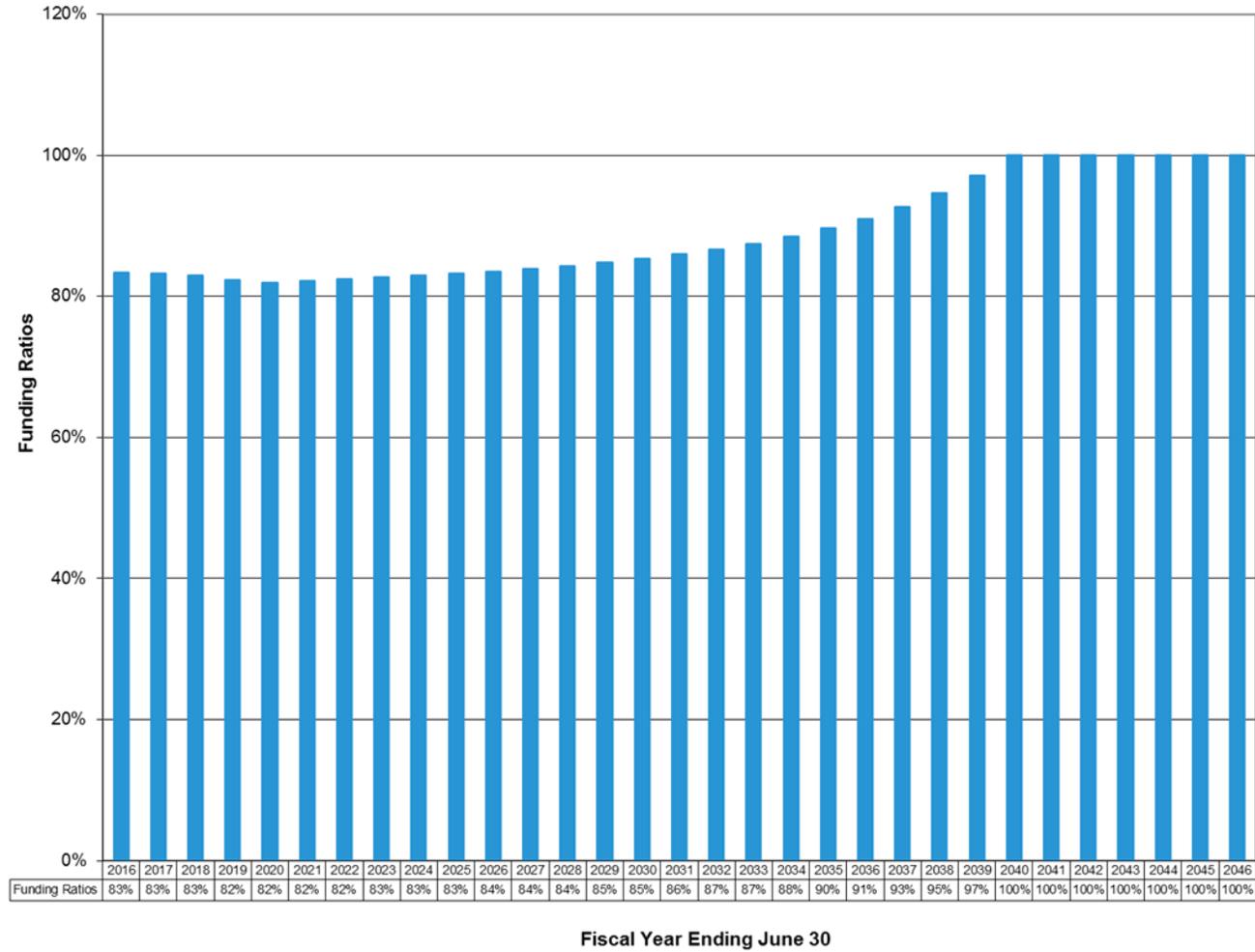
Section 4.3 Projection of Employer/State Contribution Rates (Based on Total DB and DCR Payroll)



Section 4.4 Projection of Employer/State Contribution Amounts



Section 4.5 Projection of Funded Ratios



Section 4.6 Table of Projected Actuarial Results

State of Alaska TRS Financial Projections (\$ in Thousands) Based on 2015 Actuarial Valuation Results, 0% Population Growth for Payroll Baseline

Fiscal Year End	FY 16 Investment Return 8.00%				Investment Return of 8.00% for FY 17 and beyond.				Flow Amounts During Following 12 Months				Benefit Payments	Net Contribs	Investment Earnings	Deferred Asset Gain/(Loss)	Ending Actuarial Assets
	Valuation Amounts on July 1 (Beginning of Fiscal Year)				Total Salaries	Er/State Ctb Rate	DCR Ctb Rate	Total Ctb Rate	DB Contributions								
	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus (Deficit)					Employer	State Assistance	Employee	Total					
2016	\$8,108,923	\$9,729,116	83.3%	(\$1,620,193)	\$748,626	25.15%	4.79%	29.94%	\$58,168	\$130,109	\$45,084	\$233,361	\$588,213	(\$354,852)	\$613,616	(\$204,751)	\$8,299,436
2017	8,299,436	9,978,161	83.2%	(1,678,725)	766,651	23.16%	4.62%	27.78%	60,872	116,700	43,111	220,683	617,975	(397,292)	634,684	(136,501)	8,468,578
2018	8,468,578	10,210,737	82.9%	(1,742,159)	785,912	19.09%	5.03%	24.12%	59,179	90,852	41,057	191,088	646,288	(455,200)	650,255	(68,250)	8,595,382
2019	8,595,382	10,436,921	82.4%	(1,841,539)	806,252	19.52%	5.53%	25.05%	56,680	100,701	39,059	196,440	674,776	(478,336)	665,258	0	8,714,055
2020	8,714,055	10,640,454	81.9%	(1,926,399)	827,595	19.95%	6.00%	25.95%	54,290	110,815	37,117	202,222	702,923	(500,701)	679,653	0	8,893,007
2021	8,893,007	10,826,224	82.1%	(1,933,217)	849,657	19.77%	6.45%	26.22%	51,914	116,063	35,137	203,114	731,427	(528,313)	693,005	0	9,057,699
2022	9,057,699	10,992,580	82.4%	(1,934,881)	872,298	19.62%	6.88%	26.50%	49,547	121,598	33,200	204,345	760,384	(556,039)	705,222	0	9,206,882
2023	9,206,882	11,137,413	82.7%	(1,930,531)	895,774	19.50%	7.29%	26.79%	47,207	127,469	31,233	205,909	788,123	(582,214)	716,276	0	9,340,944
2024	9,340,944	11,260,389	83.0%	(1,919,445)	920,082	19.39%	7.68%	27.07%	44,900	133,504	29,326	207,730	816,302	(608,572)	726,119	0	9,458,491
2025	9,458,491	11,359,903	83.3%	(1,901,412)	945,355	19.30%	8.06%	27.36%	42,541	139,913	21,460	203,914	845,459	(641,545)	734,393	0	9,551,339
2026	9,551,339	11,433,350	83.5%	(1,882,011)	971,728	19.29%	8.40%	27.69%	40,424	147,022	19,337	206,783	866,787	(660,004)	741,316	0	9,632,651
2027	9,632,651	11,480,150	83.9%	(1,847,499)	999,484	19.22%	8.74%	27.96%	38,180	153,920	17,291	209,391	893,546	(684,155)	747,065	0	9,695,561
2028	9,695,561	11,498,177	84.3%	(1,802,616)	1,028,624	19.17%	9.04%	28.21%	36,208	160,979	15,326	212,513	920,957	(708,444)	751,341	0	9,738,458
2029	9,738,458	11,485,521	84.8%	(1,747,063)	1,059,277	19.14%	9.31%	28.45%	34,426	168,320	13,453	216,199	947,571	(731,372)	754,084	0	9,761,170
2030	9,761,170	11,440,377	85.3%	(1,679,207)	1,091,279	19.13%	9.56%	28.69%	32,738	176,024	11,677	220,439	972,444	(752,005)	755,323	0	9,764,488
2031	9,764,488	11,362,390	85.9%	(1,597,902)	1,124,965	19.11%	9.77%	28.88%	31,387	183,594	10,125	225,106	994,615	(769,509)	755,136	0	9,750,115
2032	9,750,115	11,252,814	86.6%	(1,502,699)	1,160,319	19.11%	9.96%	29.07%	30,168	191,569	8,702	230,439	1,013,792	(783,353)	753,704	0	9,720,466
2033	9,720,466	11,112,077	87.5%	(1,391,611)	1,197,206	19.12%	10.13%	29.25%	29,092	199,814	7,423	236,329	1,031,710	(795,381)	751,137	0	9,676,222
2034	9,676,222	10,939,056	88.5%	(1,262,834)	1,235,964	19.15%	10.27%	29.42%	28,304	208,383	6,303	242,990	1,043,871	(800,881)	747,690	0	9,623,031
2035	9,623,031	10,737,440	89.6%	(1,114,409)	1,276,602	19.18%	10.39%	29.57%	27,702	217,151	5,234	250,087	1,051,381	(801,294)	743,751	0	9,565,488
2036	9,565,488	10,509,946	91.0%	(944,458)	1,319,177	19.23%	10.49%	29.72%	27,307	226,370	4,353	258,030	1,056,353	(798,323)	739,623	0	9,506,788
2037	9,506,788	10,257,452	92.7%	(750,664)	1,363,505	19.27%	10.58%	29.85%	26,997	235,750	3,545	266,292	1,057,605	(791,313)	735,581	0	9,451,056
2038	9,451,056	9,982,054	94.7%	(530,998)	1,409,369	19.34%	10.65%	29.99%	26,919	245,653	2,960	275,532	1,054,511	(778,979)	732,020	0	9,404,097
2039	9,404,097	9,686,644	97.1%	(282,547)	1,456,857	20.11%	10.70%	30.81%	27,098	265,876	2,331	295,305	1,049,323	(754,018)	730,084	0	9,380,164
2040	9,380,164	9,371,975	100.0%	8,189	1,505,788	0.07%	10.75%	10.82%	1,054	0	1,958	3,012	1,040,364	(1,037,352)	706,245	0	9,049,056
2041	9,049,056	9,040,615	100.0%	8,441	1,556,462	0.05%	10.78%	10.83%	778	0	1,556	2,334	1,026,303	(1,023,969)	680,328	0	8,705,415
2042	8,705,415	8,696,659	100.0%	8,756	1,608,668	0.04%	10.81%	10.85%	644	0	1,287	1,931	1,008,440	(1,006,509)	653,581	0	8,352,488
2043	8,352,488	8,343,196	100.0%	9,292	1,662,146	0.03%	10.84%	10.87%	498	0	997	1,495	985,451	(983,956)	626,309	0	7,994,840
2044	7,994,840	7,984,889	100.0%	9,951	1,717,504	0.03%	10.85%	10.88%	516	0	687	1,203	958,888	(957,685)	598,816	0	7,635,971
2045	7,635,971	7,625,174	100.0%	10,797	1,774,509	0.02%	10.87%	10.89%	354	0	532	886	929,806	(928,920)	571,332	0	7,278,384
Totals:									\$966,092	\$3,968,149	\$490,861	\$5,425,102					

The FY16 and FY17 Employer/State contribution rates don't match the September 26, 2014 and October 7, 2015 Allocation of Additional Contribution letters due to updated projected Total Salaries

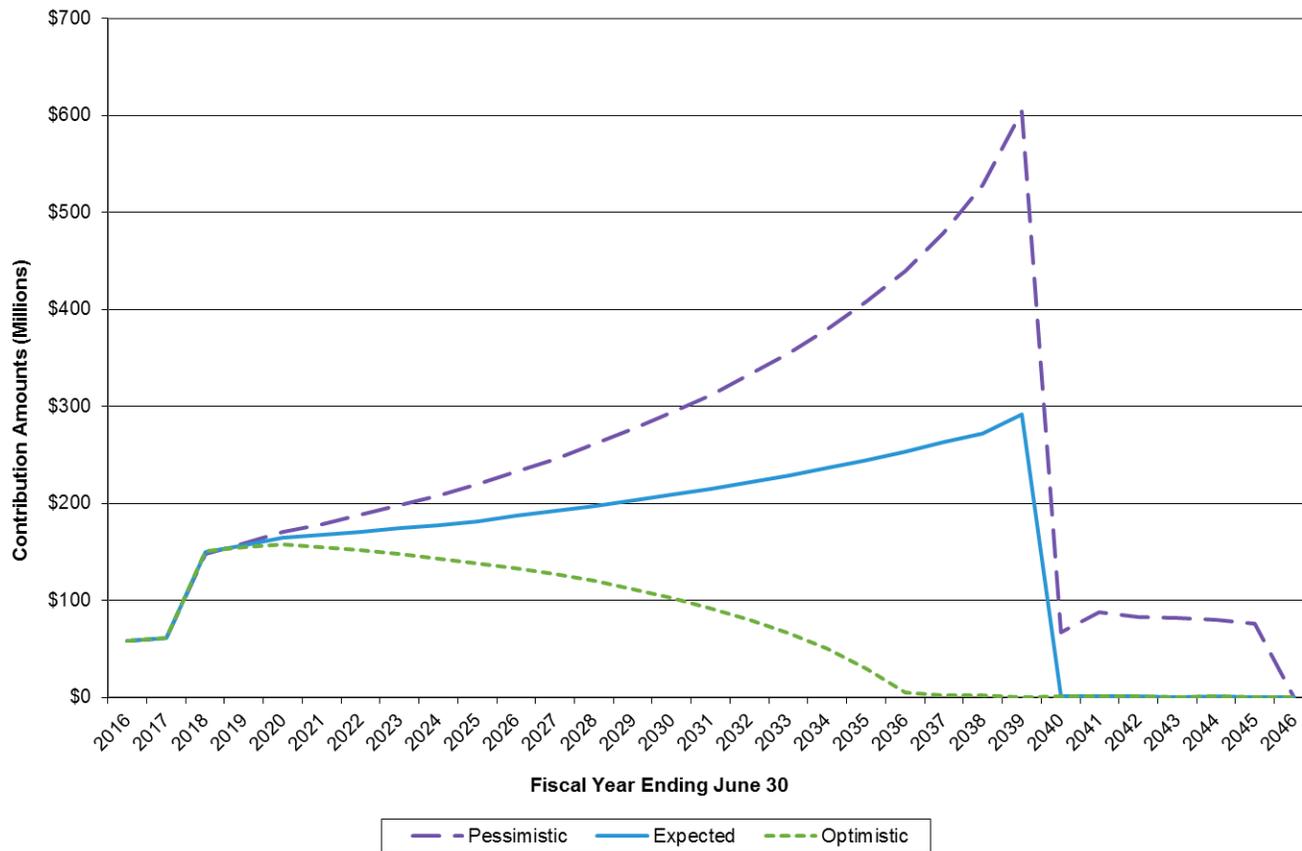
The FY17 State assistance contribution was allocated 100% to pension

Past service contribution rates set to be greater than or equal to 0% for both pension and medical

The employer contribution rate for Occupational Death & Disability and Retiree Medical is 0.91%, determined as of June 30, 2015

Section 4.7 Sensitivity Analysis

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



Section 5 Member Data

Section 5.1 Summary of Members Included

As of June 30	2011	2012	2013	2014	2015 ¹
Active Members					
1. Number	7,303	6,845	6,352	5,861	5,502
2. Average Age	48.50	49.03	49.45	49.79	50.09
3. Average Credited Service	14.52	15.16	15.80	16.43	16.94
4. Average Entry Age	33.98	33.87	33.65	33.36	33.15
5. Average Annual Earnings	\$ 74,648	\$ 77,351	\$ 79,386	\$ 81,023	\$ 82,995
6. Number Vested	5,911	5,918	5,880	5,586	5,297
7. Percent Who Are Vested	80.9%	86.5%	92.6%	95.3%	96.3%
Retirees, Disabilitants and Beneficiaries					
1. Number	11,016	11,301	11,705	11,750	12,418
2. Average Age	67.40	67.88	68.38	69.09	69.35
3. Average Years Since Retirement	N/A	N/A	N/A	N/A	13.50
4. Average Monthly Pension Benefit					
Base	\$ 2,051	\$ 2,085	\$ 2,111	\$ 2,110	\$ 2,175
C.O.L.A. ²	125	127	127	126	129
P.R.P.A. ²	504	527	528	567	550
Adjustment	0	0	0	0	-
Sick	49	52	54	57	58
Total	\$ 2,729	\$ 2,791	\$ 2,820	\$ 2,860	\$ 2,913
Vested Terminations (vested at time of termination, not refunded contributions or commenced benefit)					
1. Number	852	868	906	1,274 ³	890
2. Average Age	49.75	49.70	49.68	52.56	50.09
3. Average Monthly Pension Benefit	\$ 1,184	\$ 1,188	\$ 1,283	\$ 1,916	\$ 1,273
Non-Vested Terminations (not vested at termination, not refunded contributions)					
1. Number	2,675	2,559	2,448	2,328	2,218
2. Average Account Balance	\$ 16,274	\$ 17,266	\$ 17,866	\$ 18,452	\$ 18,962
Total Number of Members	21,846	21,573	21,411	21,213	21,028

¹ 52 members who were terminated before the valuation date were subsequently rehired, per client data as of October 1, 2015. These members were valued as active as of the valuation date.

² Calculated by taking the average of the data field, as provided by the State of Alaska, for all participants in the group.

³ Includes 279 members eligible for unreduced retirement on June 30, 2014.

Summary of Members Included

As of June 30, 2015	DB			DCR Tier 3	Grand Total
	Tier 1	Tier 2	Total		
Active Members					
1. Numbers	671	4,831	5,502	4,095	9,597
2. Average Age	58.75	48.89	50.09	39.15	45.42
3. Average Credited Service	26.26	15.65	16.94	4.19	11.50
4. Average Entry Age	32.49	33.24	33.15	34.96	33.92
5. Annual Earnings					
a. Amount	\$ 62,561,818	\$394,074,419	\$456,636,237	\$260,584,068	\$717,220,305
b. Average	\$ 93,237	\$ 81,572	\$ 82,995	\$ 63,635	\$ 74,734

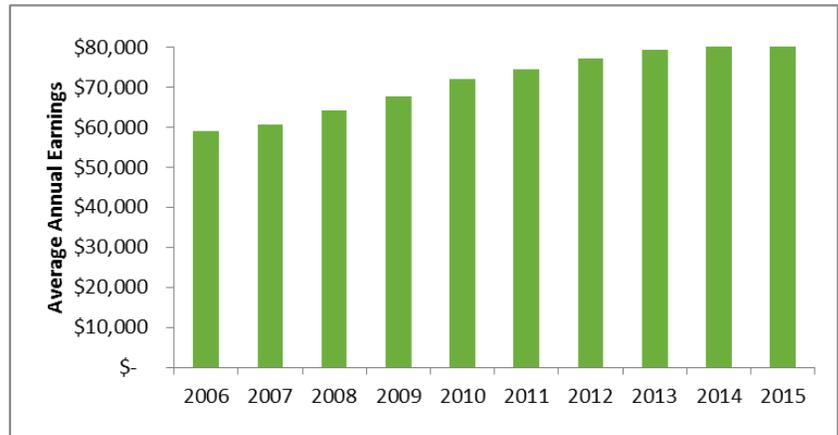
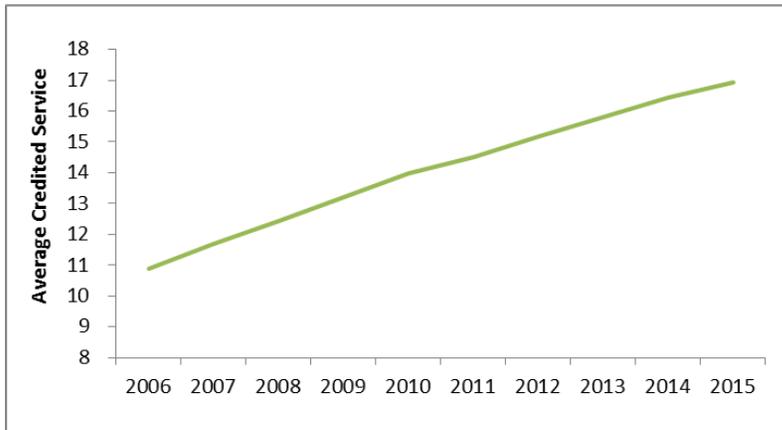
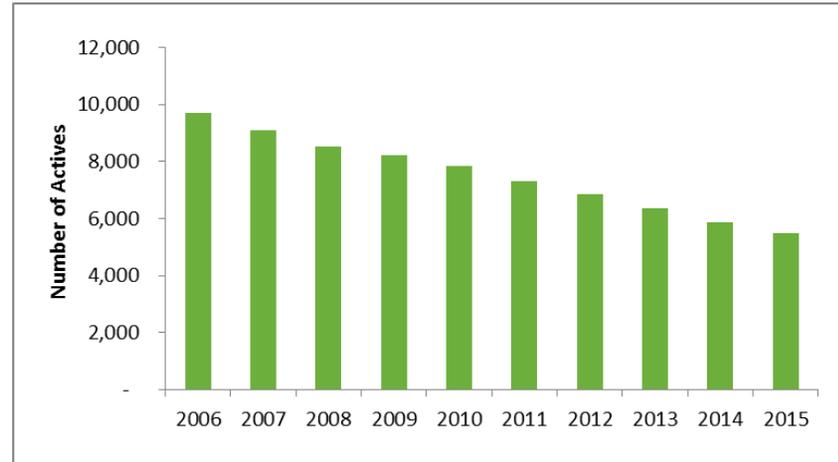
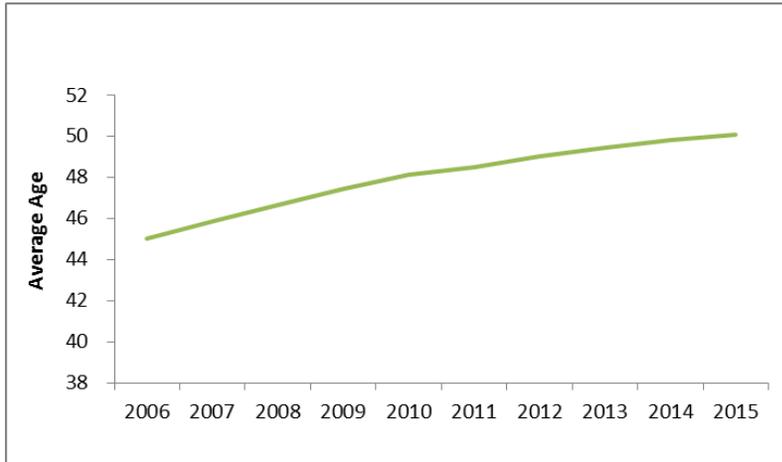
Total and average annual earnings (“valuation pay”) are the annualized earnings for the fiscal year ending on the valuation date.

Retiree Medical Participants as of June 30, 2015*		
	Retirees	All Members
Pre-Medicare	3,205	6,382
Medicare Part A & B	7,611	12,683
Medicare Part B Only	38	67

*Based upon Aetna enrollment reporting as of June 2015, allocated to Medicare Part B only based upon assumptions noted in Section 6.

As of June 30, 2015	Tier 1	Tier 2	Total
Retirees, Disabilitants and Beneficiaries			
1. Numbers	10,682	1,736	12,418
2. Average Age	70.11	64.68	69.35
3. Average Years Since Retirement	14.99	4.30	13.50
4. Average Monthly Pension Benefit			
Base	\$ 2,243	\$ 1,757	\$ 2,175
C.O.L.A.	143	38	129
P.R.P.A.	627	79	550
Adjustment	-	-	-
Sick	59	47	58
Total	\$ 3,073	\$ 1,921	\$ 2,913

Active Members at June 30



Total and average annual earnings (“valuation pay”) are the annualized earnings for the fiscal year ending on the valuation date.

Section 5.2 Age and Service Distribution of Active Members

Annual Earnings by Age

Age	Number	Total Annual Earnings	Average Annual Earnings
0 – 19	0	\$ 0	\$ 0
20 – 24	0	0	0
25 – 29	0	0	0
30 – 34	116	7,981,023	68,802
35 – 39	602	45,544,028	75,655
40 – 44	988	78,305,228	79,256
45 – 49	1,126	94,093,390	83,564
50 – 54	1,046	88,553,168	84,659
55 – 59	871	74,995,874	86,103
60 – 64	520	45,415,876	87,338
65 – 69	187	17,275,611	92,383
70 – 74	37	3,604,814	97,427
75+	9	867,225	96,358
Total	5,502	\$ 456,636,237	\$ 82,995

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	0	\$ 0	\$ 0
1	1	62,110	62,110
2	10	631,396	63,140
3	9	552,056	61,340
4	13	891,814	68,601
0 – 4	33	2,137,376	64,769
5 – 9	425	29,810,364	70,142
10 – 14	1,797	140,088,482	77,957
15 – 19	1,667	139,441,561	83,648
20 – 24	967	86,249,227	89,193
25 – 29	413	38,521,083	93,271
30 – 34	143	14,319,120	100,134
35 – 39	38	3,952,289	104,008
40+	19	2,116,735	111,407
Total	5,502	\$ 456,636,237	\$ 82,995

Years of Credited Service by Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0 – 19	0	0	0	0	0	0	0	0	0	0
20 – 24	0	0	0	0	0	0	0	0	0	0
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	3	39	72	1	1	0	0	0	0	116
35 – 39	8	112	417	65	0	0	0	0	0	602
40 – 44	9	97	417	431	34	0	0	0	0	988
45 – 49	8	49	317	437	275	40	0	0	0	1,126
50 – 54	3	48	231	313	299	132	20	0	0	1,046
55 – 59	2	34	177	258	212	127	55	6	0	871
60 – 64	0	34	122	123	102	75	42	18	4	520
65 – 69	0	11	36	32	35	31	19	11	12	187
70 – 74	0	1	7	4	5	8	6	3	3	37
75+	0	0	1	3	4	0	1	0	0	9
Total	33	425	1,797	1,667	967	413	143	38	19	5,502

Total and average annual earnings (“valuation pay”) are the annualized earnings for the fiscal year ending on the valuation date.

Section 5.3 Member Data Reconciliation

	Active Members	Inactive Members					Total
		Due a Refund	With Deferred Benefits	Retired Members ¹	Disabled Members	Bene-ficiaries	
As of June 30, 2014	5,861	2,328	995	10,960	30	1,039	21,213
Vested Terminations	(138)	(2)	140	0	0	0	0
Non-vested Terminations	(16)	21	(5)	0	0	0	0
Cash-outs	(2)	(59)	(4)	0	0	0	(65)
Disability Retirements	(8)	0	0	0	8	0	0
Age Retirements	(371)	(16)	(141)	536	(8)	N/A	0
Deaths With Beneficiary	(3)	0	0	(62)	(1)	66	0
Deaths Without Beneficiary	(6)	0	(1)	(111)	0	(25)	(143)
Data Corrections	0	0	6	(6)	0	(3) ²	(3)
Transfers Out	0	0	0	0	0	0	0
Rehires	185	(54)	(100)	(31)	0	0	0
Pick Ups*	0	0	0	1	0	25	26
Net Change	(359)	(110)	(105)	327	(1)	63	(185)
As of June 30, 2015	5,502	2,218	890	11,287	29	1,102	21,028

*Pickup beneficiaries are primarily new DROs.

¹ Includes 279 deferred vested members eligible for unreduced retirement on June 30, 2014, of which 273 retired in FY15.

² Expiration of a dependent benefit and two DRO participants who became beneficiaries.

Section 5.4 Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2015	5,502	\$ 456,636	\$ 82,995	2.4%	58
June 30, 2014	5,861	474,873	81,023	2.1%	58
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

Total and average annual earnings ("valuation pay") are the annualized earnings for the fiscal year ending on the valuation date.

Section 5.5 Summary of New Pension Benefit Recipients

During the Year Ending June 30	2011	2012	2013	2014	2015
Service					
1. Number	496	426	461	146	791
2. Average Age at Commencement	59.28	59.41	59.88	60.43	59.87
3. Average Monthly Pension Benefit	\$ 3,015	\$ 3,100	\$ 3,084	\$ 2,433	\$ 3,363
Survivor (including surviving spouse and DROs)					
1. Number	62	39	108	76	89
2. Average Age at Commencement	68.37	66.09	68.46	70.21	70.22
3. Average Monthly Pension Benefit	\$ 1,842	\$ 1,945	\$ 1,561	\$ 1,658	\$ 1,715
Disability					
1. Number	6	8	7	4	8
2. Average Age at Commencement	45.50	52.95	49.61	50.80	53.62
3. Average Monthly Pension Benefit	\$ 3,184	\$ 3,615	\$ 3,625	\$ 3,945	\$ 3,808
Total					
1. Number	564	473	576	226	888
2. Average Age at Commencement	60.13	59.85	61.36	63.55	60.85
3. Average Monthly Pension Benefit	\$ 2,888	\$ 3,013	\$ 2,805	\$ 2,199	\$ 3,202

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 7/1/14 – 6/30/15: ¹							
Average Monthly Pension Benefit	\$ 349	\$ 1,041	\$ 1,342	\$ 2,205	\$ 3,267	\$ 4,220	\$ 5,900
Number of Recipients	11	33	70	67	137	125	94
Period 7/1/13- 6/30/14: ¹							
Average Monthly Pension Benefit	\$ 235	\$ 904	\$ 1,435	\$ 2,398	\$ 3,016	\$ 4,073	\$ 7,485
Number of Recipients	8	31	31	28	22	18	12
Period 7/1/12- 6/30/13: ¹							
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: ¹							
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: ¹							
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: ¹							
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: ¹							
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: ¹							
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: ¹							
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

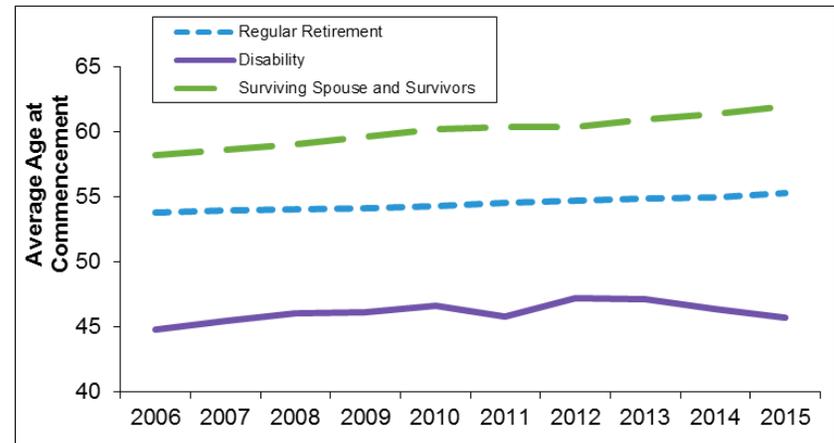
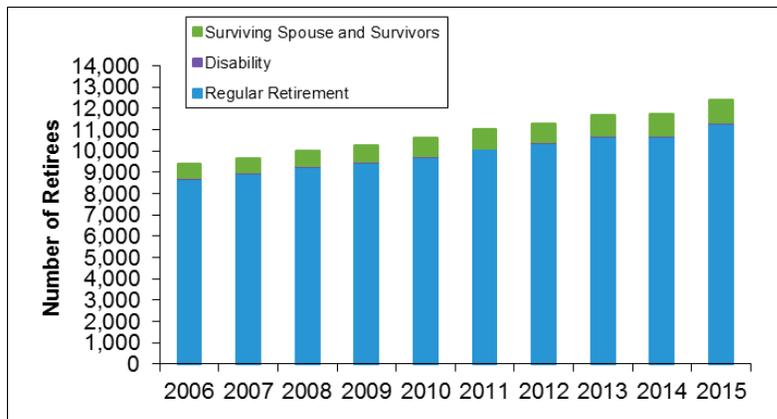
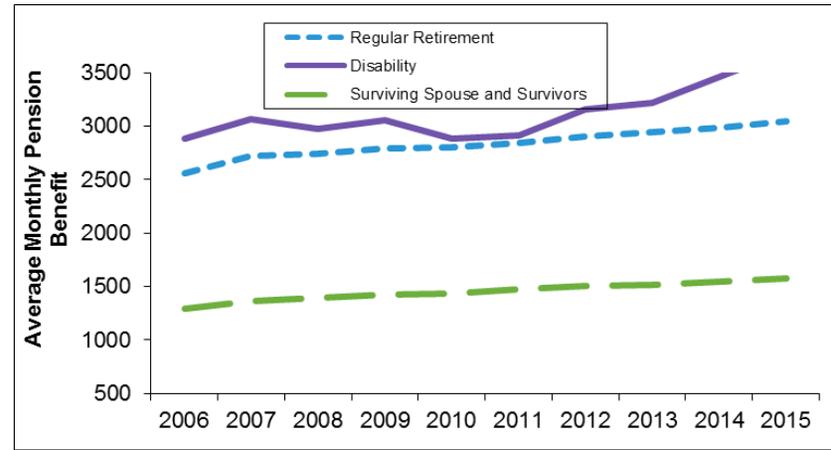
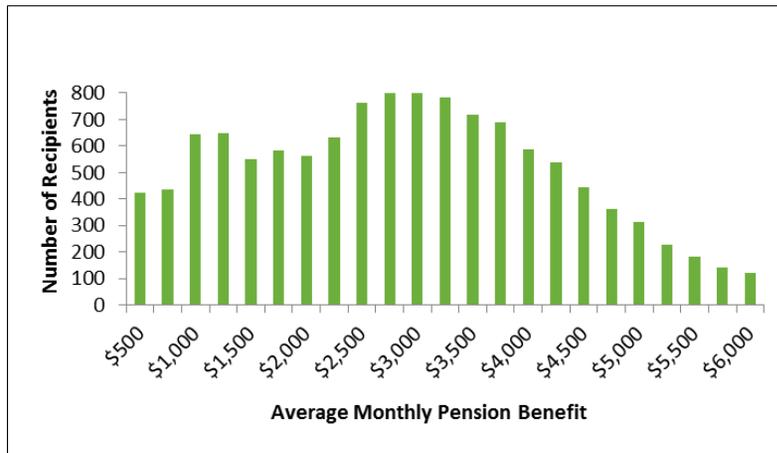
¹“Average Monthly Pension Benefit” includes postretirement pension adjustments and cost-of-living increases

¹ Does not include beneficiaries.

Section 5.6 Summary of All Pension Benefit Recipients

As of June 30	2011	2012	2013	2014	2015
Service					
1. Number, Fiscal Year Start	9,707	10,094	10,371	10,688	10,681
2. Net Change	387	277	317	(7)	606
3. Number, Fiscal Year End	10,094	10,371	10,688	10,681	11,287
4. Average Age at Commencement	54.48	54.65	54.87	54.91	55.28
5. Average Current Age	67.19	67.67	68.17	68.87	69.09
6. Average Monthly Pension Benefit	\$ 2,839	\$ 2,901	\$ 2,939	\$ 2,986	\$ 3,040
Surviving Spouse's Benefits (includes DROs)					
1. Number, Fiscal Year Start	841	882	893	980	1,034
2. Net Change	41	11	87	54	62
3. Number, Fiscal Year End	882	893	980	1,034	1,096
4. Average Age at Commencement	60.58	60.45	61.07	61.47	62.04
5. Average Current Age	70.64	71.04	71.40	71.98	72.54
6. Average Monthly Pension Benefit	\$ 1,475	\$ 1,504	\$ 1,517	\$ 1,548	\$ 1,576
Survivor's Benefits (other than spouses)					
1. Number, Fiscal Year Start	6	6	4	5	5
2. Net Change	0	(2)	1	0	1
3. Number, Fiscal Year End	6	4	5	5	6
4. Average Age at Commencement	31.90	31.90	38.32	39.19	49.91
5. Average Current Age	35.11	35.71	42.20	44.07	54.06
6. Average Monthly Pension Benefit	\$ 656	\$ 711	\$ 1,272	\$ 1,302	\$ 1,128
Disabilities					
1. Number, Fiscal Year Start	44	34	33	32	30
2. Net Change	(10)	(1)	(1)	(2)	(1)
3. Number, Fiscal Year End	34	33	32	30	29
4. Average Age at Commencement	45.79	47.16	47.13	46.32	45.67
5. Average Current Age	51.06	51.61	50.99	50.40	49.16
6. Average Monthly Pension Benefit	\$ 2,913	\$ 3,154	\$ 3,213	\$ 3,461	\$ 3,699
Total					
1. Number, Fiscal Year Start	10,598	11,016	11,301	11,705	11,750
2. Net Change	418	285	404	45	668
3. Number, Fiscal Year End	11,016	11,301	11,705	11,750	12,418
4. Average Age at Commencement	54.93	55.08	55.36	55.45	55.85
5. Average Current Age	67.40	67.88	68.38	69.09	69.35
6. Average Monthly Pension Benefit	\$ 2,729	\$ 2,791	\$ 2,820	\$ 2,860	\$ 2,912

Summary of All Pension Benefit Recipients



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	1	\$ 41,547	\$ 41,547
20 – 24	1	9,780	9,780
25 – 29	0	0	0
30 – 34	0	0	0
35 – 39	2	79,387	39,694
40 – 44	6	201,760	33,627
45 – 49	65	2,229,673	34,303
50 – 54	305	11,334,777	37,163
55 – 59	1,042	36,782,104	35,300
60 – 64	2,529	81,489,772	32,222
65 – 69	3,158	105,845,778	33,517
70 – 74	2,473	90,337,810	36,530
75+	2,836	105,510,915	37,204
Total	12,418	\$ 433,863,303	\$ 34,938

Annual Pension Benefit by Years Since Commencement

Years Since Commencement	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	541	\$ 19,982,901	\$ 36,937
1	535	19,060,442	35,627
2	542	19,440,257	35,868
3	482	17,279,141	35,849
4	558	20,302,545	36,384
0 – 4	2,658	96,065,286	36,142
5 – 9	2,127	66,295,679	31,169
10 – 14	2,248	69,466,426	30,901
15 – 19	2,515	89,266,298	35,494
20 – 24	1,078	39,877,350	36,992
25 – 29	1,194	50,743,697	42,499
30 – 34	392	15,561,303	39,697
35 – 39	175	5,671,160	32,407
40+	31	916,104	29,552
Total	12,418	\$ 433,863,303	\$ 34,938

Years Since 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	1	0	0	0	0	0	0	0	1
20 – 24	0	1	0	0	0	0	0	0	0	1
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	0	0	0	0	0	0	0	0	0	0
35 – 39	1	1	0	0	0	0	0	0	0	2
40 – 44	5	1	0	0	0	0	0	0	0	6
45 – 49	50	12	1	2	0	0	0	0	0	65
50 – 54	194	86	24	1	0	0	0	0	0	305
55 – 59	555	298	143	42	3	0	0	0	1	1,042
60 – 64	1,004	721	492	287	23	2	0	0	0	2,529
65 – 69	521	615	959	801	183	73	4	1	1	3,158
70 – 74	181	250	436	911	346	330	14	4	1	2,473
75+	147	141	193	471	523	789	374	170	28	2,836
Total	2,658	2,127	2,248	2,515	1,078	1,194	392	175	31	12,418

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	210	151	59	0	126	43	34	7
301 – 600	371	270	101	0	192	77	82	20
601 – 900	632	512	120	0	325	143	129	35
901 – 1,200	787	646	141	0	434	178	143	32
1,201 – 1,500	701	553	148	0	381	157	139	24
1,501 – 1,800	683	548	135	0	366	152	137	28
1,801 – 2,100	685	575	110	0	348	158	155	24
2,101 – 2,400	829	735	94	0	390	201	212	26
2,401 – 2,700	999	927	71	1	470	238	262	29
2,701 – 3,000	964	916	46	2	446	225	263	30
3,001 – 3,300	937	906	26	5	435	209	267	26
3,301 – 3,600	840	821	14	5	412	166	245	17
3,601 – 3,900	788	764	16	8	395	152	213	28
3,901 – 4,200	641	634	5	2	317	106	206	12
Over \$4,200	2,351	2,329	16	6	1,085	371	829	66
Totals	12,418	11,287	1,102	29	6,122	2,576	3,316	404

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

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. ¹	Annual Pension Allowances ¹	No. ¹	Annual Pension Allowances ¹	No.	Annual Pension Allowances		
June 30, 2015	888	\$34,120,658	482	\$3,531,501	12,418	\$433,863,303	7.59%	\$34,938
June 30, 2014	226	5,964,256	181	(1,150,187)	11,750	403,274,146	1.80%	34,321
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

¹ Numbers are estimated, and include other internal transfers.

Section 6 Basis of the Actuarial Valuation

Section 6.1 Summary of Plan Provisions

1. Effective Date

July 1, 1955, with amendments through June 30, 2015. 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.

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.

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 percentage of payroll amount over a closed 25-year period starting June 30, 2014.

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%) 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.

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.

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.

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.

Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination. Participants in dental, vision, and audio coverage pay a full self-supporting rate and those benefits are not included in this valuation.

Surviving spouses continue coverage only if a pension payment form that provided survivor benefits was elected. Alternate payees (i.e. individuals who are the subject of a domestic relations order or DRO) are allowed to participate in the plan, but must pay the full cost.

Where premiums are required prior to age 60 (Tier 2), the valuation bases this payment upon the age of the retiree.

Participants in the defined benefit plan are covered under the following benefit design:

Plan Feature	Amounts
Deductible (single/family)	\$150 / \$450
Coinsurance - most services	20%
Outpatient surgery/testing	0%
Maximum Out-of-Pocket (single/family, excl. deductible)	\$800 / \$2,400
Rx Copays (generic/ brand/mail-order), does not apply to OOP max	\$4 / \$8 / \$0
Lifetime Maximum	\$2,000,000

The plan coordinates with Medicare on a traditional Coordination of Benefits Method.

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.

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.
- c. **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 funded 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.

16. Changes in Benefit Provisions Since the Prior Valuation

There have been no changes in the benefit provisions effective since the prior valuation. This valuation reflects a better understanding of the coverage for alternate payees under a domestic relations order.

Section 6.2 Description of Actuarial Methods and Valuation Procedures

The funding method used in this valuation was adopted by the Board in October 2006. Changes in the amortization of unfunded actuarial accrued liability were made in 2014. The asset smoothing method used to determine valuation assets was changed effective June 30, 2014.

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 Normal

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method. Any funding surpluses or unfunded accrued liability are amortized over a closed 25-year period (established June 30, 2014) as a level percentage of payroll amount. State statutes allow the contribution rate to be determined on payroll for all members, defined benefit and defined contribution member payroll combined.

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.

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**

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in 2015, the asset value method recognizes 20% of the gain or loss each year, for a period of 5 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.

c. Changes in Methods Since the Prior Valuation

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

d. Valuation of Medical Benefits

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for TRS postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2015 to June 30, 2016. Healthcare cost trend and retiree contribution increase assumptions remain unchanged from the prior year (June 30, 2014) valuation.

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 historic 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 and Aetna reporting for fiscal 2012 through 2015 and derived recommended base claims cost rates as described in the following steps:

1. Medical, prescription drug, dental, vision and audio coverage is provided through the AlaskaCare Retiree Health Plan and is available to employees of the State and subdivisions who meet retirement criteria based on the retirement plan tier in effect at their date of hire. Health plan provisions do not vary by retirement tier or age, except for Medicare coordination. Dental, vision and audio claims (DVA) are excluded from data analyzed for this valuation as those are retiree-pay all benefits where rates are assumed to be self-supporting.
2. The plan was administered by Wells Fargo Insurance Services (acquired by HealthSmart, in January 2012) from July 1, 2009 through December 31, 2013 and by Aetna effective January 1, 2014.
 - a. Claims and enrollment data for July 2011 (FY12) through June 2015 (FY15), with claims paid through July 2015 were provided by HealthSmart and Aetna and are included in our analysis.

Available historic management level reporting from HealthSmart 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. Historical claim level reporting and estimated impacts of Medicare coordination and plan design were used to augment cost data by Medicare status. Aetna does provide separate experience by Medicare status and will be incorporated into per capita rate development as credible experience emerges.

For the June 30, 2015 valuation, we were informed that pharmacy claims reported did not reflect rebates. Based upon aggregate rebates in proportion to 2014 incurred claims for all State of Alaska plans (active and retiree), Buck reduced reported pharmacy incurred claims by 7% to estimate the rebates for the retiree population beginning January 1, 2014. As more detailed rebate information becomes available, we will update as appropriate.

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 Aetna, about 0.35% of the current retiree (including dependents) 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.

4. Develop estimated Retiree Drug Subsidy reimbursement - Actual subsidy payments to the State were received for CY2007-CY2014, and the first six months of CY2015. Buck obtained this information based upon recorded and available information in the RDS Subsidy website. The projected subsidy for FY 2016 was determined based on the historic ratio of subsidy received to claims incurred (adjusted for rebates), and then applied to the appropriate projection period. These amounts are applicable only to Medicare eligible participants.
5. Adjust for network change – based upon projections for network savings of 3% (improved discounts, pharmacy rebates etc.), adjustments were applied to claims in the experience base prior to January 1, 2014.
6. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Because we accounted for both Alaska-specific and national trend factors as described below, we did not make any additional smoothing adjustments. Buck compared data utilized to alternate sources provided by the State and Aetna to assess accuracy and reasonableness of data.
7. 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 and Aetna provided data to be complete for fiscal 2012, 2013 and 2014. Fiscal 2015 medical claim data was completed using a factor of 0.91; fiscal 2015 prescription claim data was deemed complete. These factors were derived from completion patterns through July 2015 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:

Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year			
Experience Period	Medical	Prescription	Weighting Factors
FY2011 to FY2012	8.3%	5.1%	10%
FY2011 to FY2013	8.9%	7.1%	20%
FY2012 to FY2014	7.7%	6.5%	35%
FY2013 to FY2015	6.4%	7.1%	35%

We have some run-out claims data, thus less estimation for complete claims in fiscal 2015, so we increased the credibility weight slightly for the most recent period. Incurred but not reported claim liability is separately determined and accounted for outside of this valuation.

For per capita claim cost development, medical claims were trended on a composite basis for pre-Medicare vs. Medicare due to limited reporting as noted in #2 above. Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate.

All claims cost rates developed provided in management level reporting have been compared to similar rates developed from provided experience data to assess reasonableness data.

8. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for fiscal 2016 are based upon rates in effect at the midpoint of the year, January 2016 as agreed upon in the Aetna contracts. We also include PCORI fees under the Affordable Care Act. We estimated the 2016 rates based upon the 2014 rate of \$2.08 per member per year. The annual per participant per year rate for medical and prescription benefits (including PCORI) is \$194.18.
9. 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. Legislation passed in December 2015 deferred the effective date of this tax until 2020; though thresholds still start indexing in 2018. This did not change our estimated impact of the tax.

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); however, the impact is not expected to significantly impact the OPEB liability and not until far into the future. Based upon guidance available at the time of disclosure, Buck estimated the tax based upon a blended test of pre and post-Medicare projected costs and enrollment projections.

- A blended test compares a weighted average per capita cost (based upon proportions of pre/post Medicare eligible enrollments) to the thresholds in each projection year. Projected enrollment was based upon the 2015 enrollment data provided by Aetna, and 2015 valuation headcount projections. 2015 valuation census projections reflected an increase in the proportion of retirees that are Medicare eligible.

- We included administrative fees and applied Retiree Drug Subsidy reimbursements to the Medicare rates. We tested the results excluding the impact of the Retiree Drug Subsidy and results are still well below 0.01% of accrued liability.
- We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2014 valuation, and that the cost thresholds would increase at 3.0%.
- Buck determined the impact to be less than \$250,000 (0.01%) of the June 30, 2015 healthcare accrued liability. In addition, any additional per capita costs due to the tax were not expected to significantly impact trend over the long term.

Patient-centered outcomes research fees are included in the admin fees. As Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.

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.

The following table summarizes data sources and assumptions and the relative impact changes in each have on healthcare cost projections for 2015 as compared to 2014:

Healthcare Cost Rate Data Source or Assumption Change, 2015 vs. 2014	Gain / Loss Impact on 2015 Valuation Results
Claim lag specific to medical and prescription experience	Negligible
Individual claims level data	<ul style="list-style-type: none"> – No impact on cost data used for 2015, though potentially a source of future modifications – No impact on morbidity assumptions used for 2015, though potentially a source of future modifications
Explicit TPA fees	Negligible
Actual RDS payments received	Negligible
Aggregate claims data	Gain due to experience, mainly Medicare eligible, but dampened by weighting methodology
Census Data – Medicare Part B only participation*	Gain due to updated census

* We have prepared our valuation based on the participant census data that was readily available. Certain pension fields have been used to clarify the retiree medical data provided. This serves as a proxy until additional retiree medical data can be provided.

In accordance with actuarial standards, we note the following specific data sources and steps taken to value retiree medical benefits:

- The Division of Retirement and Benefits provided pension valuation census data. This pension census data included retiree medical enrollment information that indicated the retirement system and an indication regarding eligibility for system-paid benefits.
- Certain adjustments and assumptions were made to determine the number of people enrolled in retiree medical:
 - Where there is an indication of non-system paid health benefits, we reflected the coverage level (e.g. single vs. couple) indicated on the pension data in valuing the retiree medical plan.

- Where system-paid health benefits coverage is indicated, the premium dollar amount indicated on the data is a composite rate that does not specify the number of people enrolled.
 - Buck understands that retiree medical coverage/eligibility is in place while a pension benefit is payable.
 - For individuals who are receiving a pension benefit, Buck references the pension benefit payment form (single life annuity, joint & survivor, etc.) along with marital status to determine the number of people to value for medical purposes:
 - Where there is a single life-annuity indicated and the marital status is single, we valued one member for health coverage.
 - Where there is a single life-annuity indicated and the marital status is married, we valued two members until the retiree dies. Upon the retiree's death, medical coverage for the spouse is assumed to cease and that spouse is no longer valued.
 - Where there is a joint & survivor annuity, we assumed a member and spouse are covered and upon the retiree's death, health coverage is assumed to continue to the surviving spouse.
 - For individuals included in the pension data expecting a future pension, we valued health benefits starting at the same point that the pension benefit is assumed to start.
 - Future retirees' level of coverage is estimated according to valuation assumptions regarding spousal coverage.
- Limitations on the use of the valuation results due to uncertainty about various aspects of the data: Since pension data is used to estimate health care coverage, the retiree medical liabilities and resultant figures regarding funded status and proposed employer contribution rates may be different if we had data that could directly determine the level of health coverage for each retiree.
 - Unresolved matters: We have received retiree medical enrollment data, but we have not completed the reconciliation of retiree medical enrollment data to the retiree medical valuation census data. Based on information provided to us, it appears that our valuation may assume that a greater number of individuals are enrolled in the retiree medical coverage than are indicated in the enrollment statistics provided by the carrier. This is because our data assumptions for use of pension data as a proxy for individual retiree medical coverage conservatively include in the valuation any potential dependent. The carrier enrollment information with lower enrollment figures are conservatively used to develop per capita costs, resulting in higher per capita costs than if the counts from the proxy data were used.
 - Potential uncertainty or bias: Until we complete the comparison between retiree medical enrollment and the proxy data, we cannot specify the magnitude of the difference. There is potential for bias, and we believe there is conservatism in our methodology. That is, it is possible there are more people included in the valuation than are enrolled in the retiree medical plan.

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%
1/1/15-12/31/15	1,223.00	0%	8%
1/1/16-12/31/16	1,154.04	-6%	8%

As shown in the table above, the monthly retiree medical premium for the January 1, 2016 to December 31, 2016 time period will decrease to \$1,154. This represents a decrease of 6% from the previous year's medical premium. 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 a 6% decrease to a 14% increase. Also, over the last ten years, the increase in the premium rate has been about 2.8% compounded annually. Segal developed and provided 2016 retiree contribution rates.

Description of Actuarial Methods and Valuation Procedures

June 30, 2015 Valuation – FY 2016 Claims Cost Rates

	Medical			Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	Pre-Medicare	Medicare A&B	Medicare B Only	
Fiscal 2012 Incurred Claims	\$ 233,811,415	\$ 71,498,254	\$ 1,587,430	\$ 50,508,869	\$ 95,412,095	\$ 590,097	\$ 453,408,160
Membership	29,500	33,631	208	29,500	33,631	208	63,339
Paid Claims Cost Rate	\$ 7,926	\$ 2,126	\$ 7,632	\$ 1,712	\$ 2,837	\$ 2,837	\$ 7,158
Trend to FY2016	1.353	1.353	1.353	1.285	1.285	1.285	
FY 2016 Paid Cost Rate	\$ 10,721	\$ 2,876	\$ 10,323	\$ 2,200	\$ 3,645	\$ 3,645	\$ 9,526
Manual Adjustment*	0.970	0.970	0.970	0.967	0.967	0.967	
FY 2016 Incurred Cost Rate	\$ 10,399	\$ 2,789	\$ 10,014	\$ 2,127	\$ 3,525	\$ 3,525	\$ 9,231
Fiscal 2013 Incurred Claims	\$ 239,986,289	\$ 73,469,050	\$ 1,901,151	\$ 52,633,265	\$ 99,470,696	\$ 569,334	\$ 468,029,785
Membership	27,037	37,913	217	27,037	37,913	217	65,167
Paid Claims Cost Rate	\$ 8,876	\$ 1,938	\$ 8,761	\$ 1,947	\$ 2,624	\$ 2,624	\$ 7,182
Trend to FY2016	1.249	1.249	1.249	1.222	1.222	1.222	
FY 2016 Paid Cost Rate	\$ 11,086	\$ 2,420	\$ 10,942	\$ 2,379	\$ 3,206	\$ 3,206	\$ 8,907
Manual Adjustment*	0.970	0.970	0.970	0.967	0.967	0.967	
FY 2016 Incurred Cost Rate	\$ 10,754	\$ 2,348	\$ 10,614	\$ 2,301	\$ 3,101	\$ 3,101	\$ 8,631
Fiscal 2014 Incurred Claims	\$ 222,724,835	\$ 68,391,357	\$ 2,049,847	\$ 41,879,298	\$ 121,714,936	\$ 640,931	\$ 457,401,204
Membership	24,507	42,348	223	24,507	42,348	223	67,078
Paid Claims Cost Rate	\$ 9,088	\$ 1,615	\$ 9,192	\$ 1,709	\$ 2,874	\$ 2,874	\$ 6,819
Trend to FY2016	1.146	1.146	1.146	1.141	1.141	1.141	
FY 2016 Paid Cost Rate	\$ 10,418	\$ 1,851	\$ 10,538	\$ 1,950	\$ 3,280	\$ 3,280	\$ 7,804
Manual Adjustment*	0.985	0.985	0.985	0.984	0.984	0.984	
FY 2016 Incurred Cost Rate	\$ 10,262	\$ 1,824	\$ 10,380	\$ 1,918	\$ 3,225	\$ 3,225	\$ 7,683
Fiscal 2015 Incurred Claims	\$ 221,696,106	\$ 72,331,402	\$ 1,567,300	\$ 61,185,727	\$ 129,308,154	\$ 711,515	\$ 486,800,204
Membership	24,046	43,980	242	24,046	43,980	242	68,268
Paid Claims Cost Rate	\$ 9,220	\$ 1,645	\$ 6,476	\$ 2,545	\$ 2,940	\$ 2,940	\$ 7,131
Trend to FY2016	1.064	1.064	1.064	1.071	1.071	1.071	
FY 2016 Paid Cost Rate	\$ 9,814	\$ 1,751	\$ 6,894	\$ 2,725	\$ 3,149	\$ 3,149	\$ 7,707
Manual Adjustment*	1.000	1.000	1.000	1.000	1.000	1.000	
FY 2016 Incurred Cost Rate	\$ 9,814	\$ 1,751	\$ 6,894	\$ 2,725	\$ 3,149	\$ 3,149	\$ 7,707
Weighted Average 7/1/2015-6/30/2016 Incurred Claims Cost Rates:							
At average age	\$ 10,217	\$ 1,999	\$ 9,170	\$ 2,298	\$ 3,204	\$ 3,204	\$ 8,036
At age 65	\$ 11,724	\$ 1,461	\$ 6,700	\$ 2,753	\$ 2,753	\$ 2,753	\$ 7,516

*"Manual Adjustment" is the estimated savings due to the change in claims administrator effective January 1, 2014.

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, 2015 through June 30, 2016

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy
45	\$ 6,493	\$ 6,493	\$ 1,452	\$ 0
50	7,346	7,346	1,725	0
55	8,311	8,311	2,048	0
60	9,871	9,871	2,375	0
65	1,461	6,700	2,753	496
70	1,778	8,152	2,966	534
75	2,111	9,679	3,163	570
80	2,274	10,427	3,243	584

Section 6.3 Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2015 valuation are described below. These assumptions were adopted by the Board in December 2014. These assumptions were the result of an experience study performed as of June 30, 2013.

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 2010-2013 actual experience. (See Table 2). 68% of male rates and 60% of female rates of post-termination mortality. Deaths are assumed to result from non-occupational causes 85% of the time.
Mortality (Post-termination)*	Based upon the 2010-2013 actual experience. (See Table 3). 94% of male and 97% of female rates of RP-2000, 2000 Base Year projected to 2018 with Projection Scale BB, with a 3-year setback for males and a 4-year setback for females.
Turnover	Select and ultimate rates based upon the 2010-2013 actual withdrawal experience. (See Table 4).
Disability	Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 5. Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB. (See Table 7).
Retirement	Retirement rates based upon the 2010-2013 actual experience in accordance with Table 6. Deferred vested members are assumed to retire at their earliest unreduced retirement date. The modified cash refund annuity is valued as a three-year certain and life annuity.
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	5% 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.
Imputed Data	Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data. Nonvested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.
Teacher Active Data Adjustment	To reflect participants who terminate employment before the valuation date and are subsequently rehired after the valuation date, participants who are listed as terminated in the June 30 client data but active in the October 1 client records are updated to active status.

*The mortality assumptions include an allowance for future mortality improvement. The mortality table used was set in 2014 with an Actual Deaths to Expected Deaths ratio of 110%.

COLA	Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.															
Sick Leave	4.5 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	The investment return assumption is net of all expenses.															
Part-time Status	Part-time employees are assumed to earn 0.75 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	<p>Sample claims cost rates adjusted to age 65 for FY16 medical benefits are shown below:</p> <table border="1"> <thead> <tr> <th></th> <th>Medical</th> <th>Prescription Drugs</th> </tr> </thead> <tbody> <tr> <td>Pre-Medicare</td> <td>\$ 11,724</td> <td>\$ 2,753</td> </tr> <tr> <td>Medicare Parts A & B</td> <td>\$ 1,461</td> <td>\$ 2,753</td> </tr> <tr> <td>Medicare Part B Only</td> <td>\$ 6,700</td> <td>\$ 2,753</td> </tr> <tr> <td>Medicare Part D</td> <td>N/A</td> <td>\$ 496</td> </tr> </tbody> </table>		Medical	Prescription Drugs	Pre-Medicare	\$ 11,724	\$ 2,753	Medicare Parts A & B	\$ 1,461	\$ 2,753	Medicare Part B Only	\$ 6,700	\$ 2,753	Medicare Part D	N/A	\$ 496
	Medical	Prescription Drugs														
Pre-Medicare	\$ 11,724	\$ 2,753														
Medicare Parts A & B	\$ 1,461	\$ 2,753														
Medicare Part B Only	\$ 6,700	\$ 2,753														
Medicare Part D	N/A	\$ 496														
Third Party Administrator Fees	\$194.18 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.															

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, 9.4% is applied to the FY16 pre-Medicare medical claims cost to get the FY17 medical claims cost.

	Medical Pre-65	Medical Post-65	Prescription Drugs
FY16	9.4%	5.9%	5.7%
FY17	8.8%	5.8%	5.4%
FY18	8.2%	5.7%	5.1%
FY19	7.6%	5.6%	4.8%
FY20	7.0%	5.6%	4.6%
FY21	6.5%	5.6%	4.4%
FY22	6.0%	5.6%	4.2%
FY25	5.6%	5.6%	4.0%
FY50	4.4%	4.0%	4.0%
FY100	4.4%	4.0%	4.0%

For the June 30, 2014 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 2014 and projects out to 2090. The model has been populated with assumptions that are specific to the State of Alaska.

Aging Factors

Age	Medical	Prescription 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%

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 FY16 contributions based on monthly rates shown below for calendar 2015 and 2016 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 2016 Annual Contribution	Calendar 2016 Monthly Contribution	Calendar 2015 Monthly Contribution
Retiree Only	\$ 9,324	\$ 777	\$ 823
Retiree and Spouse	\$ 18,648	\$ 1,554	\$ 1,647
Retiree and Child(ren)	\$ 13,164	\$ 1,097	\$ 1,163
Retiree and Family	\$ 22,500	\$ 1,875	\$ 1,987
Composite	\$ 13,848	\$ 1,154	\$ 1,223

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, 6.6% is applied to the FY16 retired member medical contributions to get the FY17 retired member medical contributions.

FY16	6.6%
FY17	6.2%
FY18	5.8%
FY19	5.4%
FY20	5.0%
FY21	4.7%
FY25	4.1%
FY50	4.0%
FY100	4.0%

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation. Note that actual FY16 retired member medical contributions are reflected in the valuation so trend on such contribution during FY16 is not applicable.

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.

Table 1
Alaska TRS
Salary Scale

Years of service	Percent Increase
0	8.11%
1	7.51%
2	6.91%
3	6.41%
4	6.11%
5	6.11%
6	5.90%
7	5.69%
8	5.55%
9	5.40%
10	5.26%
11	5.11%
12	4.96%
13	4.84%
14	4.72%
15	4.60%
16	4.49%
17	4.37%
18	4.27%
19	4.17%
20	4.07%
21	3.97%
22+	3.87%

Table 2
Alaska TRS
Mortality Table (Pre-termination)

Age	Male	Female	Age	Male	Female
20	0.000182	0.000098	53	0.001295	0.000855
21	0.000191	0.000101	54	0.001483	0.000908
22	0.000200	0.000104	55	0.001615	0.000985
23	0.000209	0.000105	56	0.001766	0.001054
24	0.000216	0.000105	57	0.001901	0.001132
25	0.000222	0.000106	58	0.002117	0.001221
26	0.000226	0.000107	59	0.002409	0.001344
27	0.000228	0.000109	60	0.002643	0.001501
28	0.000228	0.000111	61	0.002917	0.001659
29	0.000229	0.000114	62	0.003229	0.001837
30	0.000231	0.000118	63	0.003599	0.002080
31	0.000238	0.000123	64	0.004021	0.002367
32	0.000249	0.000130	65	0.004504	0.002723
33	0.000269	0.000137	66	0.005057	0.003118
34	0.000302	0.000146	67	0.005594	0.003582
35	0.000340	0.000169	68	0.006202	0.004036
36	0.000382	0.000193	69	0.007017	0.004546
37	0.000425	0.000217	70	0.007828	0.005130
38	0.000468	0.000240	71	0.008702	0.005696
39	0.000509	0.000262	72	0.009643	0.006297
40	0.000547	0.000283	73	0.010813	0.006959
41	0.000584	0.000305	74	0.011964	0.007841
42	0.000618	0.000330	75	0.013285	0.008701
43	0.000653	0.000357	76	0.014797	0.009678
44	0.000692	0.000389	77	0.016508	0.010757
45	0.000736	0.000427	78	0.018423	0.011923
46	0.000787	0.000470	79	0.020534	0.013163
47	0.000846	0.000517	80	0.022841	0.014502
48	0.000913	0.000567	81	0.025382	0.015972
49	0.000979	0.000620	82	0.028208	0.017607
50	0.001050	0.000674	83	0.031344	0.019438
51	0.001126	0.000731	84	0.035081	0.021486
52	0.001208	0.000791	85	0.039193	0.023782

Table 3
Alaska TRS
Mortality Table (Post-termination)

Age	Male	Female	Age	Male	Female
50	0.001544	0.001124	85	0.057637	0.039636
51	0.001656	0.001219	86	0.064248	0.043940
52	0.001777	0.001318	87	0.072770	0.048789
53	0.001904	0.001424	88	0.082264	0.054261
54	0.002181	0.001513	89	0.092884	0.060450
55	0.002375	0.001641	90	0.104794	0.068659
56	0.002597	0.001756	91	0.118129	0.077983
57	0.002795	0.001887	92	0.132941	0.088452
58	0.003113	0.002035	93	0.149196	0.100021
59	0.003543	0.002240	94	0.165479	0.112560
60	0.003887	0.002501	95	0.182705	0.125866
61	0.004289	0.002765	96	0.200693	0.139699
62	0.004749	0.003062	97	0.219249	0.153813
63	0.005293	0.003466	98	0.233940	0.164973
64	0.005913	0.003946	99	0.252821	0.178741
65	0.006624	0.004538	100	0.267022	0.188730
66	0.007436	0.005196	101	0.285888	0.201393
67	0.008227	0.005970	102	0.299408	0.209540
68	0.009121	0.006727	103	0.318102	0.220440
69	0.010318	0.007576	104	0.331094	0.226232
70	0.011511	0.008550	105	0.349384	0.237489
71	0.012798	0.009494	106	0.360058	0.246863
72	0.014180	0.010494	107	0.368483	0.258063
73	0.015902	0.011599	108	0.374013	0.270683
74	0.017595	0.013068	109	0.376000	0.284323
75	0.019536	0.014502	110	0.376000	0.298577
76	0.021760	0.016130	111	0.376000	0.313043
77	0.024276	0.017929	112	0.376000	0.327318
78	0.027093	0.019871	113	0.376000	0.340998
79	0.030198	0.021938	114	0.376000	0.353678
80	0.033590	0.024170	115	0.376000	0.364959
81	0.037326	0.026620	116	0.376000	0.374435
82	0.041482	0.029345	117	0.376000	0.381702
83	0.046095	0.032397	118	0.376000	0.386359
84	0.051589	0.035811	119	0.376000	0.388000

Table 4
Alaska TRS
Turnover Assumptions
Select Rates of Turnover During the First 8 Years of Employment

Service	Male	Female
0	0.204	0.170
1	0.204	0.170
2	0.168	0.140
3	0.144	0.120
4	0.120	0.100
5	0.108	0.090
6	0.090	0.075
7	0.072	0.060

Ultimate Rates of Turnover After the First 8 Years of Employment

Age	Male	Female	Age	Male	Female
15	0.031209	0.037185	40	0.030159	0.036224
16	0.031170	0.037157	41	0.030085	0.036155
17	0.031138	0.037138	42	0.030010	0.036086
18	0.031107	0.037129	43	0.029866	0.035976
19	0.031091	0.037120	44	0.029721	0.035867
20	0.030847	0.036848	45	0.029577	0.035757
21	0.030831	0.036848	46	0.029432	0.035648
22	0.030799	0.036839	47	0.029288	0.035538
23	0.030776	0.036839	48	0.029046	0.035380
24	0.030736	0.036830	49	0.028805	0.035221
25	0.030705	0.036830	50	0.028563	0.035063
26	0.030673	0.036820	51	0.028248	0.034847
27	0.030642	0.036762	52	0.027878	0.034595
28	0.030610	0.041480	53	0.027468	0.034296
29	0.030579	0.046198	54	0.046305	0.059961
30	0.030555	0.050917	55	0.045414	0.059285
31	0.030540	0.055635	56	0.044334	0.058410
32	0.030516	0.060353	57	0.043012	0.057288
33	0.030500	0.055569	58	0.041567	0.056018
34	0.030455	0.050784	59	0.039826	0.054401
35	0.030431	0.046000	60	0.037868	0.052569
36	0.030407	0.041215	61	0.035694	0.050523
37	0.030383	0.036431	62	0.033170	0.048197
38	0.030308	0.036362	63	0.030294	0.045540
39	0.030234	0.036293	64	0.027176	0.042653
			65+	0.054000	0.066000

Table 5
Alaska TRS
Disability Table

Age	Unisex
20	0.000560
21	0.000563
22	0.000565
23	0.000574
24	0.000583
25	0.000593
26	0.000602
27	0.000611
28	0.000611
29	0.000612
30	0.000612
31	0.000613
32	0.000613
33	0.000622
34	0.000631
35	0.000641
36	0.000650
37	0.000659
38	0.000674
39	0.000689
40	0.000703
41	0.000718
42	0.000733
43	0.000770
44	0.000806
45	0.000843
46	0.000879
47	0.000916
48	0.000975
49	0.001034
50	0.001093
51	0.001152
52	0.001211
53	0.001356
54	0.001501

Table 6
Alaska TRS
Retirement Table

Age	Reduced	Unreduced	
	Unisex	Male	Female
< 45	N/A	0.03	0.03
46	N/A	0.05	0.05
47	N/A	0.05	0.08
48	N/A	0.05	0.08
49	N/A	0.05	0.08
50	0.08	0.05	0.13
51	0.08	0.08	0.12
52	0.08	0.15	0.12
53	0.08	0.15	0.13
54	0.16	0.15	0.14
55	0.08	0.20	0.16
56	0.08	0.17	0.16
57	0.08	0.15	0.16
58	0.08	0.20	0.16
59	0.16	0.20	0.22
60	N/A	0.25	0.22
61	N/A	0.18	0.22
62	N/A	0.18	0.20
63	N/A	0.18	0.20
64	N/A	0.18	0.25
65	N/A	0.30	0.20
66	N/A	0.25	0.20
67	N/A	0.25	0.20
68	N/A	0.25	0.25
69	N/A	0.35	0.25
70	N/A	0.30	0.25
71	N/A	0.30	0.35
72	N/A	0.30	0.35
73	N/A	0.30	0.35
74	N/A	0.30	0.35
75 – 84	N/A	0.50	
85+	N/A	1.00	

Table 7
Alaska TRS
Disabled Mortality Rates

Age	Male	Female	Age	Male	Female
≤45	0.0214	0.0071	80	0.0833	0.0582
46	0.0226	0.0078	81	0.0880	0.0621
47	0.0238	0.0085	82	0.0928	0.0662
48	0.0250	0.0093	83	0.0978	0.0707
49	0.0262	0.0101	84	0.1028	0.0755
50	0.0275	0.0109	85	0.1079	0.0806
51	0.0287	0.0118	86	0.1130	0.0862
52	0.0299	0.0127	87	0.1204	0.0921
53	0.0311	0.0137	88	0.1282	0.0985
54	0.0324	0.0144	89	0.1362	0.1054
55	0.0336	0.0151	90	0.1503	0.1148
56	0.0348	0.0158	91	0.1667	0.1249
57	0.0354	0.0164	92	0.1841	0.1359
58	0.0359	0.0171	93	0.2022	0.1475
59	0.0365	0.0176	94	0.2209	0.1611
60	0.0370	0.0182	95	0.2400	0.1745
61	0.0376	0.0188	96	0.2594	0.1877
62	0.0382	0.0194	97	0.2790	0.2003
63	0.0389	0.0204	98	0.2934	0.2084
64	0.0396	0.0214	99	0.3128	0.2192
65	0.0404	0.0226	100	0.3264	0.2250
66	0.0413	0.0238	101	0.3459	0.2362
67	0.0422	0.0252	102	0.3585	0.2455
68	0.0434	0.0267	103	0.3762	0.2613
69	0.0454	0.0284	104	0.3850	0.2741
70	0.0477	0.0303	105	0.3979	0.2931
71	0.0502	0.0323	106	0.4000	0.3078
72	0.0529	0.0345	107	0.4000	0.3227
73	0.0558	0.0368	108	0.4000	0.3374
74	0.0591	0.0393	109	0.4000	0.3515
75	0.0625	0.0420	110	0.4000	0.3646
76	0.0662	0.0449	111	0.4000	0.3762
77	0.0702	0.0479	112	0.4000	0.3860
78	0.0744	0.0511	113	0.4000	0.3935
79	0.0788	0.0546	114	0.4000	0.3983
			115+	0.4000	0.4000

Glossary of Terms

Actuarial Accrued Liability	Total accumulated cost to fund pension or postemployment 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 or postemployment 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 or postemployment 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 (ARC)	Disclosure measure of annual postretirement benefit cost under GASB 43 and 45.
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 ARC is to be calculated, and Number 45, which specifies Employer reporting of Other Postemployment Benefit (OPEB) Cost.
GASB 67 and 68	Governmental Accounting Standards Board Statement Number 67 amends Number 25 effective for the fiscal year beginning after June 15, 2013, and defines new financial reporting requirements for public pension plans. Governmental Accounting Standards Board Statement Number 68 amends Number 27 effective for fiscal years beginning after June 15, 2014 and defines new accounting and financial reporting requirements for employers sponsoring public pension plans.
GASB 74 and 75	Governmental Accounting Standards Board Statement Number 74 amends Number 43 effective for the fiscal year beginning after June 15, 2016, and defines new financial reporting requirements for public postemployment benefit plans. Governmental Accounting Standards Board Statement Number 75 amends Number 45 effective for fiscal years beginning after June 15, 2017, and defines new accounting and financial reporting requirements for employers sponsoring public postemployment benefit plans.
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.
Rate Payroll	Members' earnings used to determine contribution rates.
Unfunded Actuarial Accrued Liability (UAAL)	The portion of the actuarial accrued liability not offset by plan assets.
Valuation Payroll	Members' earnings used to determine Normal Cost and Actuarial Accrued Liability.
Vested Benefits	Benefits which are unconditionally guaranteed regardless of employment