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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.

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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

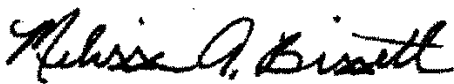


Todd D. Kanaster, ASA, MAAA, FCA
Senior Consultant



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

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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.

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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 nonprescription 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.

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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.

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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:

Experience Period	Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year		Weighting Factors
	Medical	Prescription	
FY 2011 to FY 2012	8.3%	5.1%	10.0%
FY 2011 to FY 2013	8.9%	7.1%	20.0%
FY 2012 to FY 2014	7.7%	6.5%	35.0%
FY 2013 to FY 2015	6.4%	7.1%	35.0%

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 capital 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.

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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.

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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	- 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 update 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.

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- 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.

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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	66.0%	—%
2/1/78-1/31/79	69.10	20.0	20.0
2/1/79-1/31/80	64.70	(6.0)	6.0
2/1/80-1/31/81	96.34	49.0	19.0
2/1/81-1/31/82	96.34	—	14.0
2/1/82-1/31/83	115.61	20.0	15.0
2/1/83-1/31/84	156.07	35.0	18.0
2/1/84-1/31/85	191.85	23.0	19.0
2/1/85-1/31/86	168.25	(12.0)	14.0
2/1/86-1/31/87	165.00	(2.0)	12.0
2/1/87-1/31/88	140.25	(15.0)	9.0
2/1/88-1/31/89	211.22	51.0	13.0
2/1/89-1/31/90	252.83	20.0	13.0
2/1/90-1/31/91	243.98	(4.0)	12.0
2/1/91-1/31/92	243.98	—	11.0
2/1/92-1/31/93	226.90	(7.0)	10.0
2/1/93-1/31/94	309.72	37.0	11.0
2/1/94-1/31/95	336.05	9.0	11.0
2/1/95-1/31/96	350.50	4.0	11.0
2/1/96-1/31/97	350.50	—	10.0
2/1/97-1/31/98	368.00	5.0	10.0
2/1/98-12/31/98	368.00	—	9.0
1/1/99-12/31/99	442.00	20.0	10.0
1/1/00-12/31/00	530.00	20.0	10.0
1/1/01-12/31/01	610.00	15.0	10.0
1/1/02-12/31/02	668.00	10.0	10.0
1/1/03-12/31/03	720.00	8.0	10.0
1/1/04-12/31/04	806.00	12.0	10.0
1/1/05-12/31/05	850.00	5.0	10.0
1/1/06-12/31/06	876.00	3.0	10.0
1/1/07-12/31/07	876.00	—	10.0
1/1/08-12/31/08	876.00	—	9.0
1/1/09-12/31/09	937.00	7.0	9.0
1/1/10-12/31/10	1,068.00	14.0	9.0
1/1/11-12/31/11	1,176.00	10.0	9.0
1/1/12-12/31/12	1,200.00	2.0	9.0
1/1/13-12/31/13	1,223.00	2.0	9.0
1/1/14-12/31/14	1,223.00	—	9.0
1/1/15-12/31/15	1,223.00	—	8.0
1/1/16-12/31/16	1,154.04	(6.0)	8.0

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.

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June 30, 2015 Valuation – FY 2016 Claims Cost Rates

Medical

	Pre-Medicare	Medicare A&B	Medicare B Only
Fiscal 2012 Incurred Claims	\$233,811,415	\$71,498,254	\$1,587,430
Membership	29,500	33,631	208
Paid Claims Cost Rate	\$7,926	\$2,126	\$7,632
Trend to FY2016	1.353	1.353	1.353
FY2016 Paid Cost Rate	\$10,721	\$2,876	\$10,323
Manual Adjustment*	0.970	0.970	0.970
FY 2016 Incurred Cost Rate	\$10,399	\$2,789	\$10,014
Fiscal 2013 Incurred Claims	\$239,986,289	\$73,469,050	\$1,901,151
Membership	27,037	37,913	217
Paid Claims Cost Rate	\$8,876	\$1,938	\$8,761
Trend to FY2016	1.249	1.249	1.249
FY2016 Paid Cost Rate	\$11,086	\$2,420	\$10,942
Manual Adjustment*	0.970	0.970	0.970
FY 2016 Incurred Cost Rate	\$10,754	\$2,348	\$10,614
Fiscal 2014 Incurred Claims	\$222,724,835	\$68,391,357	\$2,049,847
Membership	24,507	42,348	223
Paid Claims Cost Rate	\$9,088	\$1,615	\$9,192
Trend to FY2016	1.146	1.146	1.146
FY2016 Paid Cost Rate	\$10,418	\$1,851	\$10,538
Manual Adjustment*	0.985	0.985	0.985
FY 2016 Incurred Cost Rate	\$10,262	\$1,824	\$10,380
Fiscal 2015 Incurred Claims	\$221,696,106	\$72,331,402	\$1,567,300
Membership	24,046	43,980	242
Paid Claims Cost Rate	\$9,220	\$1,645	\$6,476
Trend to FY2016	1.064	1.064	1.064
FY2016 Paid Cost Rate	\$9,814	\$1,751	\$6,894
Manual Adjustment*	1.000	1.000	1.000
FY 2016 Incurred Cost Rate	\$9,814	\$1,751	\$6,894
Weighted Average 7/1/2015-6/30/2016 Incurred Claims Cost Rates:			
At average age	\$10,217	\$1,999	\$9,170
At age 65	\$11,724	\$1,461	\$6,700

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

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June 30, 2015 Valuation – FY 2016 Claims Cost Rates (cont.)

	Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	
Fiscal 2012 Incurred Claims	\$50,508,869	\$95,412,095	\$590,097	\$453,408,160
Membership	29,500	33,631	208	63,339
Paid Claims Cost Rate	\$1,712	\$2,837	\$2,837	\$7,158
Trend to FY2016	1.285	1.285	1.285	
FY2016 Paid Cost Rate	\$2,200	\$3,645	\$3,645	\$9,526
Manual Adjustment*	0.967	0.967	0.967	
FY2016 Incurred Cost Rate	\$2,127	\$3,525	\$3,525	\$9,231
Fiscal 2013 Incurred Claims	\$52,633,265	\$99,470,696	\$569,334	\$468,029,785
Membership	27,037	37,913	217	65,167
Paid Claims Cost Rate	\$1,947	\$2,624	\$2,624	\$7,182
Trend to FY2016	1.222	1.222	1.222	
FY2016 Paid Cost Rate	\$2,379	\$3,206	\$3,206	\$8,907
Manual Adjustment*	0.967	0.967	0.967	
FY2016 Incurred Cost Rate	\$2,301	\$3,101	\$3,101	\$8,631
Fiscal 2014 Incurred Claims	\$41,879,298	\$121,714,936	\$640,931	\$457,401,204
Membership	24,507	42,348	223	67,078
Paid Claims Cost Rate	\$1,709	\$2,874	\$2,874	\$6,819
Trend to FY2016	1.141	1.141	1.141	
FY2016 Paid Cost Rate	\$1,950	\$3,280	\$3,280	\$7,804
Manual Adjustment*	0.984	0.984	0.984	
FY2016 Incurred Cost Rate	\$1,918	\$3,225	\$3,225	\$7,683
Fiscal 2015 Incurred Claims	\$61,185,727	\$129,308,154	\$711,515	\$486,800,204
Membership	24,046	43,980	242	68,268
Paid Claims Cost Rate	\$2,545	\$2,940	\$2,940	\$7,131
Trend to FY2016	1.071	1.071	1.071	
FY2016 Paid Cost Rate	\$2,725	\$3,149	\$3,149	\$7,707
Manual Adjustment*	1.000	1.000	1.000	
FY2016 Incurred Cost Rate	\$2,725	\$3,149	\$3,149	\$7,707
Weighted Average 7/1/2015-6/30/2016 Incurred Claims Cost Rates:				
At average age	\$2,298	\$3,204	\$3,204	\$8,036
At age 65	\$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.

Actuarial Section

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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	\$ —
50	7,346	7,346	1,725	—
55	8,311	8,311	2,048	—
60	9,871	9,871	2,375	—
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

State of Alaska
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Summary of Actuarial Assumptions and Changes in 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.

1. Investment Return/Discount Rate 8.00% per year (geometric), compounded annually, net of expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.5% per year. See Table 1 for salary scale rates.
3. Payroll Growth 3.62% per year. (Inflation + Productivity).
4. 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.
5. 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.
6. 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 projection to 2018 with Projection Scale BB, with a 3-year setback for males and a 4-year setback for females.
7. Turnover Select and ultimate rates based upon the 2010-2013 actual withdrawal experience. (See Table 4).
8. 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).
9. 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.
10. 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.
11. 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.

*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%.

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

- | | |
|---------------------------------------|---|
| 12. 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. |
| 13. Imputed Data | Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contributions 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. |
| 14. 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. |
| 15. COLA | Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA. |
| 16. 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. |
| 17. 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. |
| 18. Expenses | The investment return assumption is net of all expenses. |
| 19. Part-time Status | Part-time employees are assumed to earn 0.75 years of credited service per year. |
| 20. Re-Employment Option | We assume all re-employed retirees return to work under the Standard Option. |
| 21. 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. |
| 22. 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. |

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Summary of Actuarial Assumptions and Changes in Assumptions

23. Per Capita Claims Cost Sample claims cost rates adjusted to age 65 for FY16 medical benefits are shown below.

	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

24. Third Party Administrator Fees \$194.18 per person per year; assumed trend rate of 5% per year.

25. Medicare Part B Only For actives and retirees not yet Medicare-eligible, participation is set based on whether the employee/retiree will have 40 quarter of employment after March 31, 1986, depending upon date of hire and/or re-hire.

26. 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 costs to get the FY17 medical claims costs.

Fiscal year	Medical pre-65	Medical post-65	Prescription drugs
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	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.

27. 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	—
94 +	—	—

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

28. 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		Calendar 2015
	Annual contribution	Monthly contribution	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

29. 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.

Fiscal year:	
2016	6.6%
2017	6.2
2018	5.8
2019	5.4
2020	5.0
2021	4.7
2025	4.1
2050	4.0
2100	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.

30. Healthcare Participation

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

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

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

Actuarial Section

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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

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Summary of Actuarial Assumptions and Changes in Assumptions

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

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Summary of Actuarial Assumptions and Changes in Assumptions

Table 4
Alaska TRS
Turnover Assumptions

Select Rates of Turnover During the First 8 Year 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

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

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

Actuarial Section

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Summary of Actuarial Assumptions and Changes in Assumptions

Table 6
Alaska TRS Retirement Table

Age at Retirement	Retirement Rate		
	Reduced	Unreduced	
	Unisex Rates	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	

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

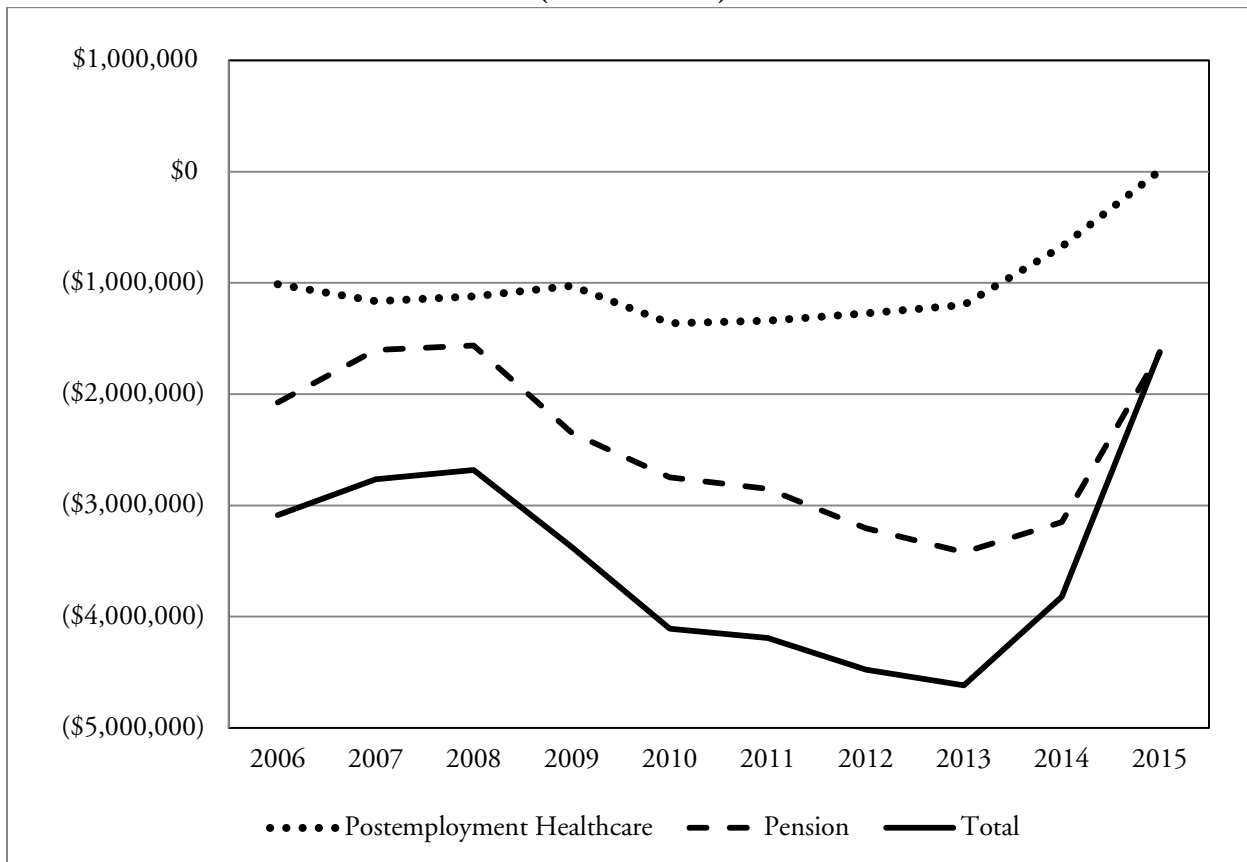
Table 7
 Alaska TRS
 Disabled Mortality Rates

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

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Funding Excess/(Unfunded Liability) (In thousands)				
Actuarial Valuation Year Ended June 30	Postemployment Healthcare	Pension	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
2006	\$ (1,012,540)	\$ (2,075,617)	\$ (3,088,157)	57.3%
2007	(1,163,423)	(1,601,581)	(2,765,004)	61.5
2008	(1,120,634)	(1,561,568)	(2,682,202)	64.8
2009	(1,026,288)	(2,348,268)	(3,374,556)	57.0
2010	(1,361,547)	(2,747,113)	(4,108,660)	53.6
2011	(1,340,703)	(2,850,155)	(4,190,858)	54.1
2012	(1,272,507)	(3,204,783)	(4,477,290)	52.1
2013	(1,198,791)	(3,419,240)	(4,618,031)	51.9
2014	(671,535)	(3,150,223)	(3,821,758)	61.2
2015	8,879	(1,629,073)	(1,620,194)	83.3

**10-YEAR TREND OF UNFUNDED LIABILITY
(In thousands)**



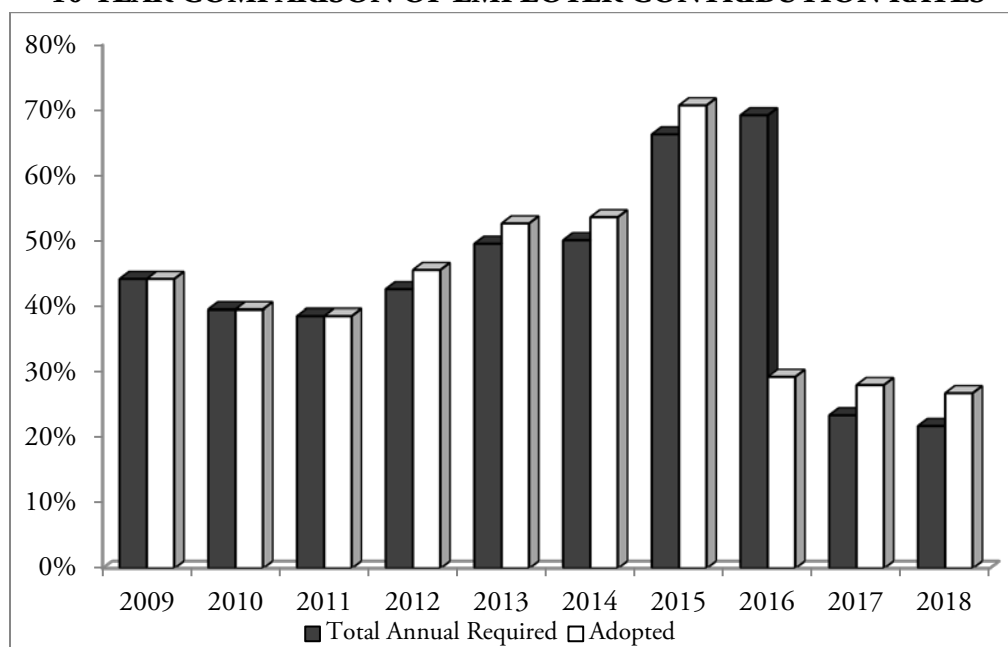
Teachers' Retirement System Defined Benefit Retirement Plan Employer Contribution Rates					
Year Ended June 30	Actuarially Determined				Adopted
	Actuarial Valuation Year Ended June 30	Normal Cost ¹	Past Service	Total Annual Required	
2009	2006	9.37%	34.80%	44.17%	44.17%
2010	2007	7.59	31.94	39.53	39.53
2011	2008	7.56	31.00	38.56	38.56
2012	2009	6.57	36.04	42.61	45.55
2013	2010	7.47	42.09	49.56	52.67
2014	2011	6.59	43.51	50.10	53.62
2015	2012	6.40	59.91	66.31	70.75
2016	2013	5.70	63.54	69.24	29.27
2017	2014	4.63	18.77	23.40	28.02
2018	2015	3.99	17.76	21.75	26.78

¹ Also referred to as the consolidated rate.

Beginning with the June 30, 2014 valuation, contribution rates for FY17 and beyond 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 year "roll-forward" approach and assuming 0% population growth. Investment gains and losses are recognized over a 5-year period beginning in FY15.

Valuations are used to set contribution rates in future years.

10-YEAR COMPARISON OF EMPLOYER CONTRIBUTION RATES



Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Active Member Valuation Data					
Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase 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

Teachers' Retirement System Defined Benefit Retirement Plan Schedule of Pension Benefit Recipients Added to and Removed from Rolls								
Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase/ (Decrease) In Annual Pension Allowances	Average Annual Pension Allowances
	No.*	Annual Pension Allowances*	No.*	Annual Pension Allowances*	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

*Numbers are estimated, and include other internal transfers.

Teachers' Retirement System Defined Benefit Retirement Plan Pension Solvency Test (In thousands)							
Valuation Date	Pension Actuarial Accrued Liability For:			Pension Valuation Assets	Portion of Actuarial Accrued Liabilities 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	\$ 5,442,651	100.0%	90.7%	— %
June 30, 2014 ^{1 2}	718,694	5,042,250	1,160,418	3,771,139	100.0	60.5	—
June 30, 2013	726,139	4,726,282	1,137,132	3,170,313	100.0	51.7	—
June 30, 2012	727,435	4,532,982	1,139,360	3,194,994	100.0	54.4	—
June 30, 2011	717,819	4,352,035	1,126,250	3,345,949	100.0	60.4	—
June 30, 2010 ¹	716,675	4,153,119	1,137,187	3,259,868	100.0	61.2	—
June 30, 2009	692,105	3,815,020	956,862	3,115,719	100.0	63.5	—
June 30, 2008	654,662	3,700,812	876,180	3,670,086	100.0	81.5	—
June 30, 2007	638,420	3,567,894	837,134	3,441,867	100.0	78.6	—
June 30, 2006 ^{1 2}	615,207	3,432,703	811,426	3,296,934	100.0	78.1	—
June 30, 2005	589,169	3,200,339	545,077	3,184,976 ³	100.0	81.1	—

¹ Change in Assumptions
² Change in Methods
³ The pension and postemployment healthcare valuation assets were allocated using a ration of fair value of assets as of June 30, 2005

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Postemployment Healthcare Solvency Test (In thousands)							
Valuation Date	Postemployment Healthcare Actuarial Accrued Liability For:			Post-Employment Healthcare Valuation Assets	Portion of Actuarial Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2015	\$ —	\$ 1,870,987	\$ 806,406	\$ 2,686,272	100.0%	100.0%	100.0%
June 30, 2014 ^{1 2}	—	2,008,223	911,447	2,248,135	100.0	100.0	26.3
June 30, 2013	—	2,012,114	990,440	1,803,763	100.0	89.6	—
June 30, 2012	—	1,933,288	1,013,379	1,674,160	100.0	86.6	—
June 30, 2011	—	1,879,564	1,053,127	1,591,988	100.0	84.7	—
June 30, 2010 ¹	—	1,755,961	1,084,846	1,479,260	100.0	84.2	—
June 30, 2009	—	1,477,788	905,739	1,357,239	100.0	91.8	—
June 30, 2008 ¹	—	1,480,864	906,660	1,266,890	100.0	85.6	—
June 30, 2007	—	1,344,131	801,824	982,532	100.0	73.1	—
June 30, 2006 ^{1 2}	—	1,493,219	877,296	844,766	100.0	56.6	—
June 30, 2005	—	1,493,837	670,134	773,963 ³	100.0	51.8	—

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 ration of fair value of assets as of June 30, 2005

Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience					
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				
	2015	2014	2013	2012	2011
Health Experience	(4.07)%	(8.59)%	(1.21)%	(2.02)%	(0.72)%
Salary Experience	(0.34)	(0.43)	(0.30)	—	(0.03)
Investment Experience	0.62	(6.31)	2.44	4.18	0.46
Demographic Experience	(0.52)	1.75	0.38	(0.36)	(0.03)
Contribution Shortfall	—	1.24	1.62	0.71	0.86
(Gain) or Loss During Year From Experience	(4.31)	(12.34)	2.93	2.51	0.54
Non-recurring changes					
Assumption and Method Changes	—	(33.50)	—	13.70	—
System Benefit Changes	—	—	—	—	—
Composite (Gain) or Loss During Year	(4.31)	(45.84)	2.93	16.21	0.54
Beginning Total Employer/State Contribution Rate	23.40	69.24	66.31	50.10	49.56
Ending Employer/State Contribution Rate	<u>19.09%</u>	<u>23.40%</u>	<u>69.24%</u>	<u>66.31%</u>	<u>50.10%</u>
Fiscal Year Employer/State Contribution Rates	19.09%*	23.40%	24.48%	44.25%	50.10%
Fiscal Year Above Rate is Applied	FY18	FY17	FY16	FY15	FY14

* Expected. Actual Rate to be determined.

NOTE: In the second session of the 28th Alaska legislature, the legislature changed the actuarial methodology from level dollar amortization to level percent of pay. The June 30, 2013 PERS actuarial valuation report was not updated for this change, but specific revisions for the amortization change were presented to reflect the change in amortization. The change in the amortization resulted in an adjusted FY16 employer/state contribution rate of 24.48%.

Actuarial Section

Teachers' Retirement System Defined Benefit Retirement Plan Analysis of Financial Experience						
Change in Employer/State Contribution Rate Due to (Gains) and Losses in Actuarial Accrued Liabilities During the Last Three Fiscal Years Resulting From Differences Between Assumed Experience and Actual Experience						
Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year					
	Pension			Healthcare		
	2015	2014	2013	2015	2014	2013
Health Experience	N/A	N/A	N/A	(4.07)%	(8.59)%	(1.21)%
Salary Experience	(0.34)%	(0.43)%	(0.30)%	N/A	N/A	N/A
Investment Experience	0.40	(3.97)	2.09	0.22	(2.34)	0.35
Demographic Experience	(0.52)	1.75	0.38	N/A	N/A	N/A
Contribution Shortfall	—	1.10	1.34	—	0.14	0.28
(Gain) or Loss During Year From Experience	(0.46)	(1.55)	3.51	(3.85)	(10.79)	(0.58)
Non-recurring changes						
Assumption and Method Changes	—	(28.73)	—	—	(4.77)	—
System Benefit Changes	—	—	—	—	—	—
Composite (Gain) or Loss During Year	(0.46)	(30.28)	3.51	(3.85)	(15.56)	(0.58)
Beginning Total Employer/State Contribution Rate	17.78	48.06	44.55	5.62	21.18	21.76
Ending Total Employer/State Contribution Rate	<u>17.32%</u>	<u>17.78%</u>	<u>48.06%</u>	<u>1.77%</u>	<u>5.62%</u>	<u>21.18%</u>
Fiscal Year Employer/State Contribution Rates	17.32%*	17.78%	15.85%	1.77%*	5.62%	8.63%
Fiscal Year Above Rate is Applied	FY18	FY17	FY16	FY18	FY17	FY16

*Expected. Actual Rate to be determined.

State of Alaska
Teachers' Retirement System
Defined Benefit Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

1. Effective Date

July 1, 1955, with amendments through June 30, 2014. 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.

State of Alaska
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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 dollar amount over a closed 25-year period.

Employer rates cannot be less than the normal cost rate.

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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;

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- 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.

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

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

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

11. Postemployment Healthcare Benefits

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

12. Disability Benefits

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

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

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

13. Death Benefits

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

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.

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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.

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14. Postretirement Pension Adjustments

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

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

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

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

15. Alaska Cost of Living Allowance

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

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

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.



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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 Defined Contribution Retirement (TRS DCR) Plan 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 5.2.c.

All costs, liabilities and other factors under the Plan 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 Plan as of June 30, 2015.

TRS DCR is funded by Employer Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board). The funding objective for TRS DCR is to pay required contributions that remain level as a percent of TRS DCR 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, Plan expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percent of TRS DCR compensation over a closed layered 25-year period. This objective is currently being met and is projected to continue to be met as required by the Alaska state statutes.

The Board and staff of the State of Alaska may use this report for the review of the operations of TRS DCR. 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.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the Plan and reasonable long-term expectations, and represent our best estimate of the anticipated long-term experience under the Plan. The actuary performs an analysis of Plan 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 claims 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 Sections 5.2 and 5.3.

The assumptions and methods used to determine the healthcare Actuarial Required Contributions (ARC) of the Employers to TRS DCR 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 3 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.

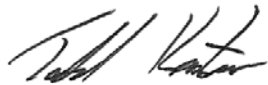
Actuarial Section

David Kershner and Melissa Bissett are Fellows 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. Mr. Kershner, Mr. Kanaster and Mr. Langer take professional responsibility for the overall appropriateness of the analysis, assumptions and results. 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

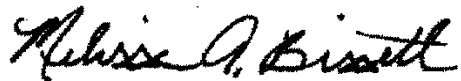


Todd D. Kanaster, ASA, MAAA, FCA
Senior Consultant



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

State of Alaska
Teachers' Retirement System
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Description of Actuarial Methods and Valuation Procedures

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

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.

Valuation of Liabilities

A. Actuarial Method – Entry Age Actuarial Cost

Liabilities and contributions shown in the report are computed using the Entry Age Normal Actuarial Cost Method. Any funding surpluses or unfunded accrued liability is amortized over 25 years as a level percentage of expected payroll. However, in keeping with GASB requirements in effect when the plan was adopted, the net amortization period will not exceed 30 years. These requirements are being amended. Under the new accounting standards that will become applicable to Postemployment Benefit Plans Other Than Pension Plans (GASB 74 and 75), the GASB requirements will not directly control amortization periods used for funding of the plan. Per KPMG, the new accounting standards under GASB 67 (and 68) are not applicable to the Occupational Death & Disability benefits under TRS DCR.

Cost factors designed to produce annual costs as a constant percentage of each member's expected compensation in each year for death and disability benefits (constant dollar amount for retiree medical benefits), from the assumed entry age to the last age with a future benefit 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 DCR Plan 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 beneficiaries and disabled members currently receiving benefits (if any) 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.

State of Alaska
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Description of Actuarial Methods and Valuation Procedures

B. Valuation of Assets

Effective June 30, 2006, the asset valuation method recognizes 20% of the investment gain or loss in each of the current and preceding four years. This method will be phased in over five years. Fair Value of Assets was \$0 as of June 30, 2006. All assets are valued at fair value. Assets are accounted for on an accrued basis and are taken directly from financial statements audited by KPMG LLP. Valuation assets are constrained to a range of 80% to 120% of the fair value of assets.

C. Valuation of Retiree Medical Benefits

The methodology used for the valuation of the retiree medical benefits is described in Section 6.2(d) of the State of Alaska Teachers' Retirement System Defined Benefit Plan Actuarial Valuation Report as of June 30, 2015.

Due to the lack of experience for TRS DCR only, base claims costs are based on those described in the actuarial valuation as of June 30, 2015 for TRS with some adjustments. The claims costs were adjusted to reflect the differences between the DCR medical plan and the DB medical plan. These differences include network steerage, different coverage levels and an indexing of the retiree out-of-pocket dollar amounts. To account for higher initial copays, deductibles and out-of-pocket limits, upcoming FY16 claims costs were reduced 11.9% for medical and 7.1% for prescription drugs. The health care trend rate was reduced 0.2% each year to reflect the fact that the medical benefit to be offered to members will have annual indexing of member cost sharing features such as deductibles and out-of-pocket amounts.

No implicit subsidies are assumed. Employees projected to retire with 30 years of service prior to Medicare are valued with commencement deferred to Medicare eligibility, as such members will be required to pay the full plan premium. Explicit subsidies for disabled and normal retirement are determined using the plan-defined percentages of total projected plan costs, again with no implicit subsidy assumed.

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.

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- 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.

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D. Healthcare Reform

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 due to these provisions; however, only the Patient Centered Outcomes Research Institute fee impact has been included in the valuation results as part of administrative fee.

Because the State plan is retiree-only, not all provisions are required. Unlimited lifetime benefits and dependent coverage to age 26 are two of these provisions. We did look at 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) and the value of the Health Reimbursement Account must be included along with projected plan costs. The excise tax was originally to be effective for 2018; recent legislation passed in December 2015 delayed it to 2020. Based upon guidance available at the time of disclosure, Buck determined the impact on plan liabilities to be immaterial (less than \$75,000 (0.4%)) based on a blend of projected pre-Medicare and Medicare retirees and related cost projections. Participants will be responsible for any tax to the extent they are reflected in retiree contributions.

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.

E. Changes in Methods From the Prior Valuation

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

State of Alaska
Teachers' Retirement System
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Summary of Actuarial Assumptions and Changes in Assumptions

The demographic and economic assumptions used in the June 30, 2015 valuation are described below. Unless noted otherwise, these assumptions were adopted by the Board in December 2014. These assumptions were the result of an experience study performed for the TRS defined benefit plan as of June 30, 2013.

1. Investment Return / Discount Rate 8.00% per year (geometric), compounded annually, net of expenses.
2. Salary Scale Inflation – 3.12% per year. Productivity – 0.5% per year. See Table 1 for salary scale rates.
3. Payroll Growth 3.62% per year. (Inflation + Productivity).
4. 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.
5. Mortality (Pre-termination)* Based upon the 2010-2013 actual experience. (See Table 2.) 68% of males rate and 60% of female rates of post-termination mortality. Deaths are assumed to result from occupational causes 15% of the time.
6. Mortality (Post-termination)*

Based upon the 2010-2013 actual experience. (See Table 3.) 94% of male and 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 4-year setback for females.

Disability Mortality in accordance with the RP-2000 Disability Retiree Mortality Table, 2000 Base Year, project to 2018 with Projection Scale BB.
7. Turnover Select and ultimate rates based upon the 2010-2013 actual withdrawal experience. (See Table 4.)
8. Disability Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 5. Disabilities are assumed to result from occupational causes 15% of the time.
9. 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.
10. 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 at termination from active service.

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

Actuarial Section

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Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

11. Per Capita Claims Cost Sample claims cost rates (before base claims cost adjustments described below) adjusted to age 65 for FY16 medical benefits are shown below:

		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

Members are assumed to attain Medicare eligibility at age 65.

12. Third Party Administrator Fees \$194.18 per person per year; assumed trend rate of 5% per year.

13. Base Claims Cost Adjustments Due to higher initial copays, deductibles, out-of-pocket limits and member cost sharing compared to the DB medical plan, the following cost adjustments are applied to the per capita claims cost rates above:

- 0.881 for the medical plan.
- 0.929 for the prescription drug plan.

14. 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.

15. 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 on the June 30 client data but active in the October 1 client records are updated to active status.

16. 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 costs to get the FY17 medical claims costs.

Fiscal year	Medical pre-65	Medical post-65	Prescription drugs
2016	9.4%	5.9%	5.7%
2017	8.8	5.8	5.4
2018	8.2	5.7	5.1
2019	7.6	5.6	4.8
2020	7.0	5.6	4.6
2021	6.5	5.6	4.4
2022	6.0	5.6	4.2
2025	5.6	5.6	4.0
2050	4.4	4.0	4.0
2100	4.4	4.0	4.0

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

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.

Each of the above trend rates was reduced by 0.2% to reflect the fact that the medical benefits offered to members will have annual indexing of member cost sharing.

17. 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	—
94 +	—	—

18. Retiree Medical Participation

Decrement due to disability		Decrement due to retirement													
Age	Percent participation	Age	Percent participation												
<56	73.00%	55	40.00%												
56	77.50	56	50.00												
57	79.75	57	55.00												
58	82.00	58	60.00												
59	84.25	59	65.00												
60	86.50	60	70.00												
61	88.75	61	75.00												
62	91.00	62	80.00												
63	93.25	63	85.00												
64	95.50	64	90.00												
65+	94.00	65+	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center; border-bottom: 1px solid black;">Years of Service</th> <th style="text-align: center;"></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;"><15</td> <td style="text-align: center;">70.50%</td> </tr> <tr> <td style="text-align: center;">15-19</td> <td style="text-align: center;">75.20</td> </tr> <tr> <td style="text-align: center;">20-24</td> <td style="text-align: center;">79.90</td> </tr> <tr> <td style="text-align: center;">25-29</td> <td style="text-align: center;">89.30</td> </tr> <tr> <td style="text-align: center;">30+</td> <td style="text-align: center;">94.00</td> </tr> </tbody> </table>	Years of Service		<15	70.50%	15-19	75.20	20-24	79.90	25-29	89.30	30+	94.00
Years of Service															
<15	70.50%														
15-19	75.20														
20-24	79.90														
25-29	89.30														
30+	94.00														

*Participation rates reflect the expected plan election rate that varies by reason for decrement, duration that a member may pay full cost prior to Medicare eligibility, and availability of alternative and/or lower cost options, particularly in the Medicare market. This assumption is based on observed trend in participation from a range of other plans.

State of Alaska
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Summary of Actuarial Assumptions and Changes in Assumptions

Table 1
Alaska TRS DCR Plan
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

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 2
Alaska TRS DCR Plan
Mortality Table (Pre-termination)

Age	Male	Female	Age	Male	Female
20	0.0182%	0.0098%	55	0.1615%	0.0985%
21	0.0191	0.0101	56	0.1766	0.1054
22	0.0200	0.0104	57	0.1901	0.1132
23	0.0209	0.0105	58	0.2117	0.1221
24	0.0216	0.0105	59	0.2409	0.1344
25	0.0222	0.0106	60	0.2643	0.1501
26	0.0226	0.0107	61	0.2917	0.1659
27	0.0228	0.0109	62	0.3229	0.1837
28	0.0228	0.0111	63	0.3599	0.2080
29	0.0229	0.0114	64	0.4021	0.2367
30	0.0231	0.0118	65	0.4504	0.2723
31	0.0238	0.0123	66	0.5057	0.3118
32	0.0249	0.0130	67	0.5594	0.3582
33	0.0269	0.0137	68	0.6202	0.4036
34	0.0302	0.0146	69	0.7017	0.4546
35	0.0340	0.0169	70	0.7828	0.5130
36	0.0382	0.0193	71	0.8702	0.5696
37	0.0425	0.0217	72	0.9643	0.6297
38	0.0468	0.0240	73	1.0813	0.6959
39	0.0509	0.0262	74	1.1964	0.7841
40	0.0547	0.0283	75	1.3285	0.8701
41	0.0584	0.0305	76	1.4797	0.9678
42	0.0618	0.0330	77	1.6508	1.0757
43	0.0653	0.0357	78	1.8423	1.1923
44	0.0692	0.0389	79	2.0534	1.3163
45	0.0736	0.0427	80	2.2841	1.4502
46	0.0787	0.0470	81	2.5382	1.5972
47	0.0846	0.0517	82	2.8208	1.7607
48	0.0913	0.0567	83	3.1344	1.9438
49	0.0979	0.0620	84	3.5081	2.1486
50	0.1050	0.0674	85	3.9193	2.3782
51	0.1126	0.0731			
52	0.1208	0.0791			
53	0.1295	0.0855			
54	0.1483	0.0908			

Actuarial Section

State of Alaska
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Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 3
Alaska TRS DCR Plan
Mortality Table (Post-termination)

Age	Male	Female	Age	Male	Female
50	0.1544%	0.1124%	85	5.7637%	3.9636%
51	0.1656	0.1219	86	6.4248	4.3940
52	0.1777	0.1318	87	7.2770	4.8789
53	0.1904	0.1424	88	8.2264	5.4261
54	0.2181	0.1513	89	9.2884	6.0450
55	0.2375	0.1641	90	10.4794	6.8659
56	0.2597	0.1756	91	11.8129	7.7983
57	0.2795	0.1887	92	13.2941	8.8452
58	0.3113	0.2035	93	14.9196	10.0021
59	0.3543	0.2240	94	16.5479	11.2560
60	0.3887	0.2501	95	18.2705	12.5866
61	0.4289	0.2765	96	20.0693	13.9699
62	0.4749	0.3062	97	21.9249	15.3813
63	0.5293	0.3466	98	23.3940	16.4973
64	0.5913	0.3946	99	25.2821	17.8741
65	0.6624	0.4538	100	26.7022	18.8730
66	0.7436	0.5196	101	28.5888	20.1393
67	0.8227	0.5970	102	29.9408	20.9540
68	0.9121	0.6727	103	31.8102	22.0440
69	1.0318	0.7576	104	33.1094	22.6232
70	1.1511	0.8550	105	34.9384	23.7489
71	1.2798	0.9494	106	36.0058	24.6863
72	1.4180	1.0494	107	36.8483	25.8063
73	1.5902	1.1599	108	37.4013	27.0683
74	1.7595	1.3068	109	37.6000	28.4323
75	1.9536	1.4502	110	37.6000	29.8577
76	2.1760	1.6130	111	37.6000	31.3043
77	2.4276	1.7929	112	37.6000	32.7318
78	2.7093	1.9871	113	37.6000	34.0998
79	3.0198	2.1938	114	37.6000	35.3678
80	3.3590	2.4170	115	37.6000	36.4959
81	3.7326	2.6620	116	37.6000	37.4435
82	4.1482	2.9345	117	37.6000	38.1702
83	4.6095	3.2397	118	37.6000	38.6359
84	5.1589	3.5811	119	100.0000	100.0000

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 4
 Alaska TRS DCR Plan
 Turnover Assumptions

Select Rates of Turnover During the First 5 Year of Employment

Service	Male	Female
0	20.70%	21.80%
1	19.55%	18.70%
2	16.10%	15.40%
3	13.80%	13.20%
4	11.50%	11.00%
5	7.32%	8.05%

**Ultimate Rates of Turnover
 After the First 5 Years of Employment**

Age	Male	Female	Age	Male	Female
15	6.2959%	6.6811%	40	6.1753%	6.5647%
16	6.2959	6.6811	41	6.1604	6.5516
17	6.2959	6.6811	42	6.1455	6.5386
18	6.2959	6.6811	43	6.1081	6.5175
19	6.2959	6.6811	44	6.0706	6.4965
20	6.2959	6.6811	45	6.0332	6.4754
21	6.2959	6.6811	46	5.9957	6.4544
22	6.2959	6.6811	47	5.9583	6.4333
23	6.2903	6.6773	48	5.9053	6.3975
24	6.2847	6.6735	49	5.8522	6.3617
25	6.2791	6.6697	50	5.7992	6.3259
26	6.2735	6.6659	51	5.7461	6.2901
27	6.2679	6.6621	52	5.6931	6.2543
28	6.2623	6.6583	53	5.5800	6.1818
29	6.2567	6.6544	54	5.4670	6.1093
30	6.2512	6.6506	55	5.3539	6.0367
31	6.2456	6.6467	56	5.2409	5.9642
32	6.2400	6.6429	57	5.1278	5.8917
33	6.2360	6.6351	58	5.1711	6.0021
34	6.2320	6.6273	59	5.2144	6.1125
35	6.2280	6.6194	60	5.2578	6.2230
36	6.2240	6.6116	61	5.3011	6.3334
37	6.2200	6.6038	62	5.3444	6.4438
38	6.2051	6.5908	63	5.7296	6.6292
39	6.1902	6.5777	64	6.1148	6.8146
			65+	6.5000	7.0000

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

Table 5
Alaska TRS DCR Plan
Disability Table

Age	Unisex
<19	0.0560%
20	0.0560
21	0.0563
22	0.0565
23	0.0574
24	0.0583
25	0.0593
26	0.0602
27	0.0611
28	0.0611
29	0.0612
30	0.0612
31	0.0613
32	0.0613
33	0.0622
34	0.0631
35	0.0641
36	0.0650
37	0.0659
38	0.0674
39	0.0689
40	0.0703
41	0.0718
42	0.0733
43	0.0770
44	0.0806
45	0.0843
46	0.0879
47	0.0916
48	0.0975
49	0.1034
50	0.1093
51	0.1152
52	0.1211
53	0.1356
54	0.1501

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Actuarial Assumptions and Changes in Assumptions

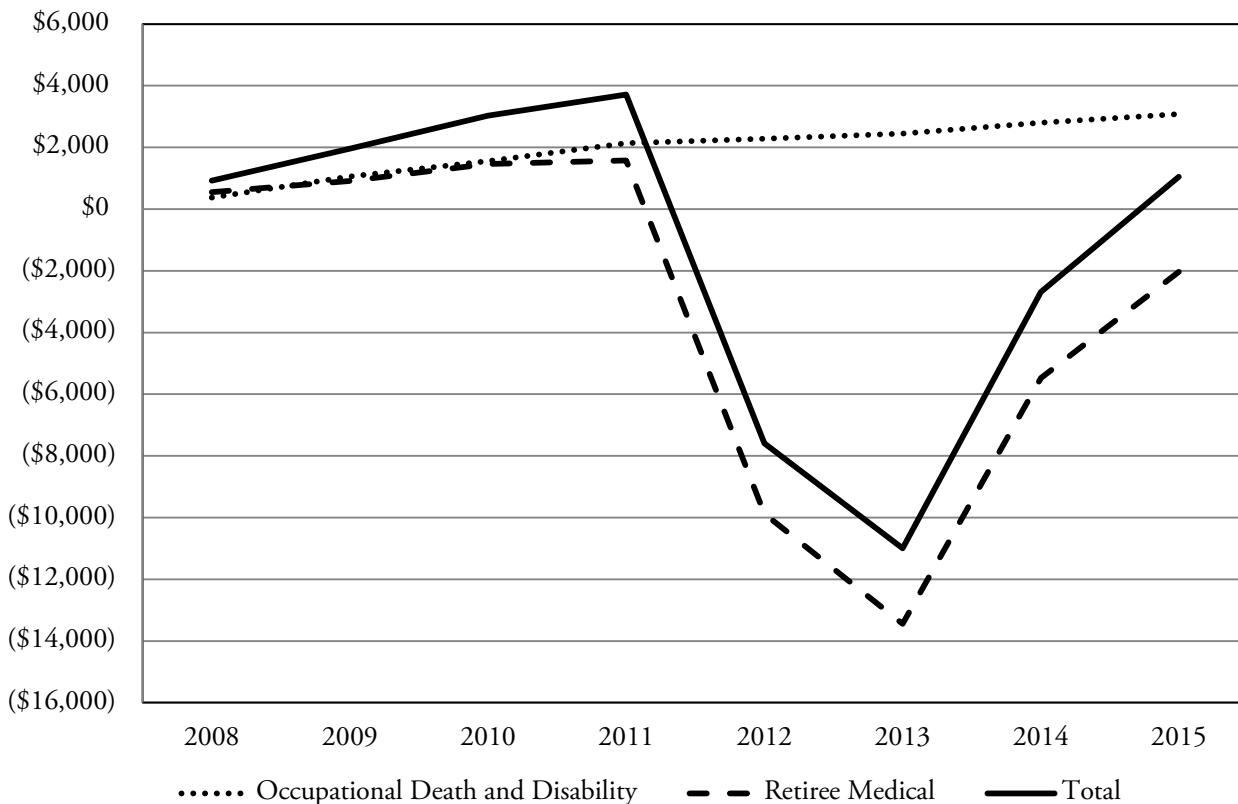
Table 6
Alaska TRS DCR Plan
Retirement Table

Age	Rate
<54	2.00%
55	3.00
56	3.00
57	3.00
58	3.00
59	3.00
60	5.00
61	5.00
62	10.00
63	5.00
64	5.00
65	25.00
66	25.00
67	25.00
68	20.00
69	20.00
>70	100.00

Actuarial Section

Teachers' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability and Retiree Medical Benefits Funding Excess/(Unfunded Liability) (In thousands)				
Actuarial Valuation Year Ended June 30	Occupational Death and Disability	Retiree Medical	Total Funding Excess/ (Unfunded Liability)	Funded Ratio
2008	\$ 376	\$ 551	\$ 927	215.73%
2009	1,057	907	1,964	234.5
2010	1,559	1,465	3,024	223.5
2011	2,136	1,572	3,708	196.1
2012	2,285	(9,874)	(7,589)	55.0
2013	2,452	(13,444)	(10,992)	50.3
2014	2,797	(5,482)	(2,685)	83.5
2015	3,085	(2,035)	(1,050)	105.3

**8-YEAR TREND OF FUNDING EXCESS/(UNFUNDED) LIABILITY
(In thousands)**



**Teachers' Retirement System
Defined Contribution Retirement Plan
Occupational Death and Disability and Retiree Medical Benefits
Employer Contribution Rates**

Fiscal Year	Actuarial Valuation Year Ended June 30	Occupational Death and Disability	Retiree Medical	Total Annual Required	Adopted
2009	N/A	0.62%	0.99%	1.61%	1.61%
2010	2007	0.32	1.03	1.35	1.35
2011	2008	0.28	0.68	0.96	0.96
2012	2009	—	0.58	0.58	0.58
2013	2010	—	0.49	0.49	0.49
2014	2011	—	0.47	0.47	0.47
2015	2012	—	2.04	2.04	2.04
2016	2013	—	2.04	2.04	2.04
2017	2014	—	1.05	1.05	1.05
2018	2015	—	0.91	0.91	0.91

Valuations are used to set contribution rates in future years.

**Teachers' Retirement System
Defined Contribution Retirement Plan
Occupational Death and Disability and Retiree Medical Benefits
Schedule of Active Member Valuation Data**

Valuation Date	Number	Annual Earnings (In thousands)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2015	4,095	\$ 260,584	\$ 63,635	2.7%	58
June 30, 2014	3,547	219,701	61,940	2.4	58
June 30, 2013	3,272	197,944	60,496	3.5	58
June 30, 2012	3,057	178,761	58,476	4.7	58
June 30, 2011	2,708	151,269	55,860	5.6	58
June 30, 2010	2,246	118,813	52,900	5.7	58
June 30, 2009	1,792	89,708	50,061	6.4	58
June 30, 2008	1,198	56,369	47,053	6.2	58
June 30, 2007	641	28,410	44,322	—	58
June 30, 2006	—	—	—	—	58

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

Actuarial Section

Teachers' Retirement System Defined Contribution Retirement Plan Occupational Death and Disability Solvency Test (In thousands)							
Valuation Date	Occupational Death and Disability Aggregate Accrued Liability For:			Occupational Death and Disability Valuation Assets	Portion of Accrued Liabilities Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2015	\$ —	\$ —	\$ 29	\$ 3,114	100.0%	100.0%	100.0%
June 30, 2014 ¹	—	—	23	2,820	100.0	100.0	100.0
June 30, 2013	—	—	80	2,532	100.0	100.0	100.0
June 30, 2012	—	—	63	2,348	100.0	100.0	100.0
June 30, 2011	—	—	57	2,193	100.0	100.0	100.0
June 30, 2010 ¹	—	—	18	1,577	100.0	100.0	100.0
June 30, 2009 ¹	—	—	14	1,071	100.0	100.0	100.0
June 30, 2008	—	—	44	420	100.0	100.0	100.0
June 30, 2007	—	—	16	—	100.0	100.0	0.0
June 30, 2006	—	—	—	—	N/A	N/A	N/A

¹ Change in Assumptions

Teachers' Retirement System Defined Contribution Retirement Plan Retiree Medical Solvency Test (In thousands)							
	Retiree Medical Aggregate Accrued Liability For:				Portion of Accrued Liabilities Covered by Assets:		
Valuation Date	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer- Financed Portion)	Retiree Medical Valuation Assets	(1)	(2)	(3)
June 20,2015	\$ —	\$ —	\$ 19,768	\$ 17,733	100.0%	100.0%	89.7%
June 20,2014 ¹	—	—	16,273	10,791	100.0	100.0	66.3
June 20,2013	—	—	22,058	8,614	100.0	100.0	39.1
June 20,2012 ¹	—	—	16,811	6,937	100.0	100.0	41.3
June 30, 2011	—	—	3,801	5,373	100.0	100.0	100.0
June 30, 2010 ¹	—	—	2,430	3,895	100.0	100.0	100.0
June 30, 2009 ¹	—	—	1,446	2,353	100.0	100.0	100.0
June 30, 2008 ¹	—	—	757	1,308	100.0	100.0	100.0
June 30, 2007	—	—	358	597	100.0	100.0	100.0
June 30, 2006	—	—	—	—	N/A	N/A	N/A

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

¹ Change in Assumptions

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

1. Effective Date

July 1, 2006, with amendments through June 30, 2015.

2. Administration of Plan

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

The Alaska Retirement Management Board prescribes policies, adopts regulations, invests the funds, and performs other activities necessary to carry out the provisions of the Plan.

3. Employers Included

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

4. Membership

An employee of a participating employer who first enters service on or after July 1, 2006, or a member of the defined benefit plan who works for an employer who began participation on or after July 1, 2006, and meets the following criteria is a member in the Plan:

- Permanent full-time or part-time elementary or secondary teachers, school nurses, or a person in a position requiring a teaching certificate as a condition of hire in a public school of the State of Alaska, the Department of Education and Early Development or in the Department of Labor and Workforce Development.
- Full-time or part-time teachers at the University of Alaska or persons occupying full-time administrative positions requiring academic standing who are not in the University's Optional Retirement Plan.

Members can convert to the TRS DCR if they are an eligible nonvested member of the TRS defined benefit plan whose employer consents to transfers to the defined contribution plan and they elect to transfer his or her account balance to the TRS DCR.

5. Member Contributions

Other than the member-paid premiums show on the next page, there are no member contributions for the occupational death & disability and retiree medical benefits.

6. Retiree Medical Benefits

- Member must retire directly from the plan to be eligible for retiree medical coverage. Normal retirement eligibility is the earlier of a) 30 years of service or b) Medicare eligible and 10 years of service.

State of Alaska
Teachers' Retirement System
Defined Contribution Retirement Plan
Summary of Plan Provisions and Changes in Plan Provisions

- No retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% until the member is Medicare eligible. The member's premium for dependent coverage is 100% until both the member and dependent are Medicare eligible.
- Coverage cannot be denied except for failure to pay premium.
- Members who are receiving disability benefits or survivors who are receiving monthly survivor benefits are not eligible until the member meets, or would have met if he/she had lived, the normal retirement eligibility requirements.
- The following is an illustration of the potential medical benefits to be offered. The State Department of Administration has not yet established the provisions of the medical plan to be offered to TRS DCR retirees. An updated design is expected to be determined in 2016. The plan description below is used for valuation purposes and is based on prior communications with the Department of Administration.

Plan Feature	Member Cost Share (In-Network)	Member Cost Share (Out-of-Network)
Deductible (single/family)*	\$250/\$500	
Coinsurance **	20% after deductible	40% after deductible
Maximum Out-of-Pocket* (single/family)	\$2,500/\$5,000	\$5,000/\$10,000
Emergency Room Copay	\$100	\$100
Preventive Care	0% benefit limited to \$2,000/member/year	
Lifetime Max	\$3,000,000 with \$5,000 restore	

* Assumed to increase annually to mitigate impact of healthcare cost trend

** Includes pharmacy benefits

- The plan's coverage is supplemental to Medicare.
- The premium for Medicare-eligible retirees or for Medicare-eligible dependents of Medicare eligible retirees will be based on the member's years of service. The percentage of premium paid by the member is as follows:

Years of Service	Percent of Premium Paid by Member
Less than 15 years	30.00%
15 – 19	25.00
20 – 24	20.00
25 – 29	15.00
30 years or more	10.00

The premium for dependents who are not eligible for Medicare was assumed to be 100%, consistent with that of the retiree.

State of Alaska

Teachers' Retirement System Defined Contribution Retirement Plan

Summary of Plan Provisions and Changes in Plan Provisions

Members have a separate defined contribution Health Reimbursement Arrangement account that can be used to pay for premiums or other medical expenses.

- Coverage will continue for surviving spouses of covered retired members.

7. Occupational Disability Benefits

- Benefit is 40% of salary at date of disability.
- Disability Benefit Adjustment: The disability benefit is increased by 75% of the cost of living increase in the preceding calendar year of 9%, whichever is less.
- Member earns service while on occupational disability.
- Benefits cease when the member becomes eligible for normal retirement at Medicare-eligible age and 10 years of service, or at any age with 30 years of service.
- No retiree medical benefits are provided until normal retirement eligibility. The member's premium is 100% until they are Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

8. Occupational Death Benefits

- Benefit is 40% of salary.
- Survivor's Pension Adjustment: 50% of the cost of living increase in the preceding calendar year or 6%, whichever is less, if the recipient is at least age 60 on July 1, or under age 60 if the recipient has been receiving TRS benefits for at least 8 years as of July 1.
- Benefits cease when the member would have become eligible for normal retirement.
- The period during which the survivor is receiving benefits is counted as service credit toward retiree medical benefits.
- No retiree medical benefits are provided until the member would have been eligible for normal retirement. The surviving spouse's premium is 100% until the member would have been Medicare eligible. Medicare-eligible premiums follow the service-based schedule above.

9. Changes Since the Prior Valuation

There have been no changes since the prior valuation.

