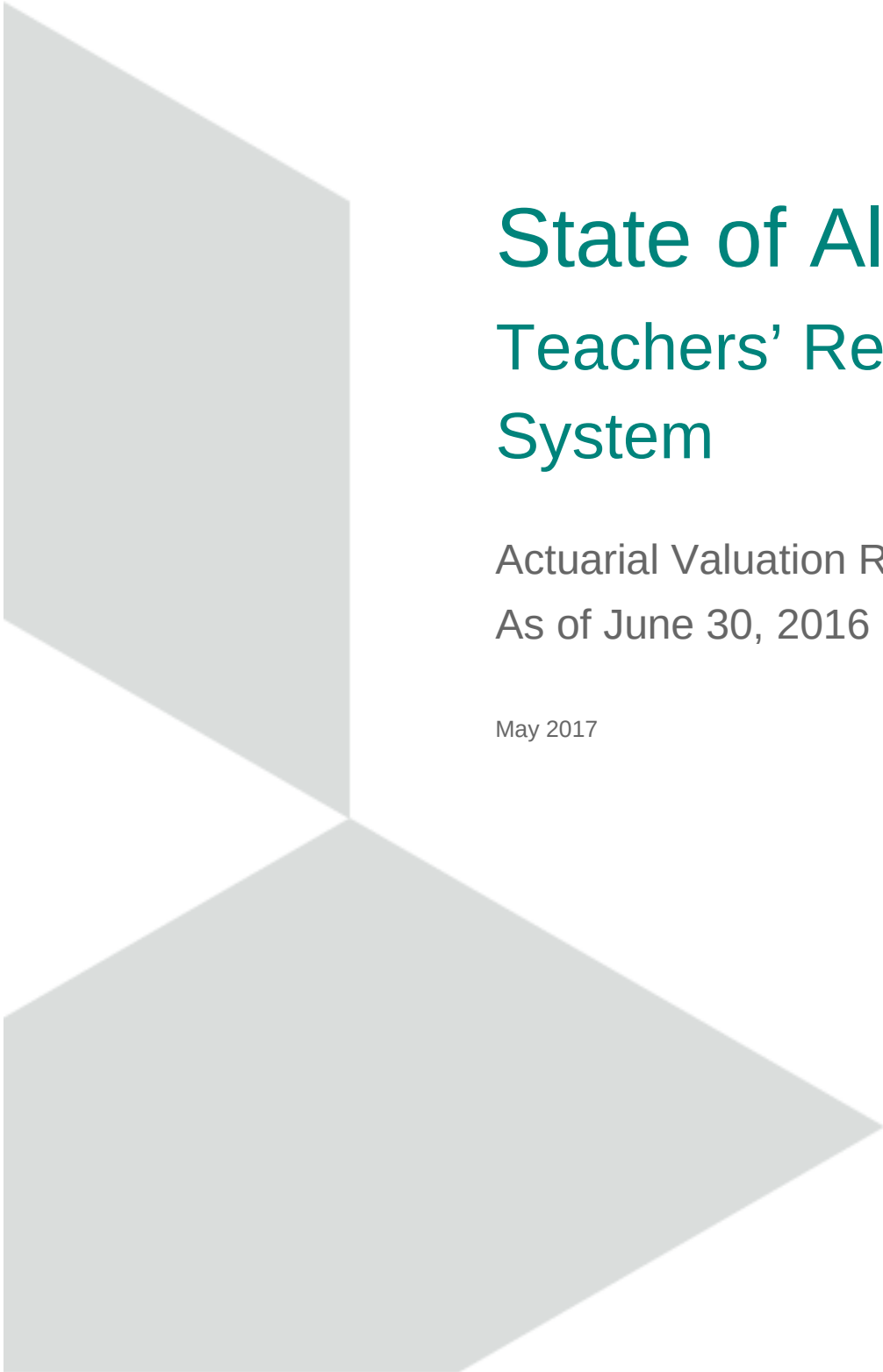




State of Alaska Teachers' Retirement System

Actuarial Valuation Report
As of June 30, 2016

May 2017

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May 23, 2017

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, 2016 performed by Conduent HR Services, LLC (Conduent), formerly known as Buck Consultants, LLC.

The actuarial valuation is based on financial information provided in the statements audited by KPMG LLP, member data provided by the Division of Retirement and Benefits, and medical enrollment data provided by the healthcare claims administrator (Aetna), all as summarized in this report. The benefits considered are those delineated in Alaska statutes effective June 30, 2016. The actuary did not verify the data submitted, but did perform tests for consistency and reasonableness.

All costs, liabilities and other factors under the System were determined in accordance with generally accepted actuarial principles and procedures. An actuarial cost method is used to measure the actuarial liabilities which we believe is reasonable. Conduent 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, 2016.

TRS is funded by Employer, State, and Member Contributions in accordance with the funding policy adopted by the Alaska Retirement Management Board (Board) and as required by Alaska state statutes. The funding objective for TRS is to pay required contributions that remain level as a percent of total TRS compensation. The Board has also established a funding policy objective that the required contributions be sufficient to pay the Normal Costs of active plan members, System expenses, and amortize the Unfunded Actuarial Accrued Liability as a level percentage of payroll over a closed 25-year period and as required by Alaska state statutes. The closed 25-year period was established effective June 30, 2014.

The compensation used to determine required contributions is the total compensation of all active members in TRS, including those hired after July 1, 2006 who are members of the Defined Contribution Retirement (DCR) Plan. This objective is currently being met and is projected to continue to be met.

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

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, 2016 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 Larry Langer is an Associate of the Society of Actuaries. Both are Fellows of the Conference of Consulting Actuaries and 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



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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Executive Summary

Overview

The State of Alaska Teachers' Retirement System (TRS) provides pension and postemployment healthcare benefits to teachers and other eligible participants. The Commissioner of the Department of Administration is responsible for administering the System. The Alaska Retirement Management Board has fiduciary responsibility over the assets of the System. This report presents the results of the actuarial valuation of the System as of the valuation date of June 30, 2016.

Purpose

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

- To determine the Employer/State contribution necessary to meet the Board's funding policy for the System;
- To disclose the funding assets and liability measures as of the valuation date;
- To disclose the healthcare accounting measures for the System required by GASB No. 43 for the last fiscal year;
- To review the current funded status of the System and assess the funded status as an appropriate measure for determining future actuarially determined contributions;
- To compare actual and expected experience under the System during the last fiscal year; and
- To report trends in contributions, assets, liabilities, and funded status over the last several years.

The actuarial valuation provides a "snapshot" of the funded position of TRS based on the plan provisions, membership data, assets, and actuarial methods and assumptions as of the valuation date. Actuarial projections are also performed to provide a long-term view of the expected future funded status and contribution patterns (see Section 4). The sensitivity analysis shown in Section 4.7 is an example of differences which can occur in projected contribution amounts when actual investment returns are different than assumed, but does not include the impact of all possible future differences that can impact future measurements. Retiree group benefits models necessarily rely on the use of approximations and estimates and are sensitive to changes in these approximations and estimates. Small variations in these approximations and estimates may lead to significant changes in actuarial measurements.

Funded Status

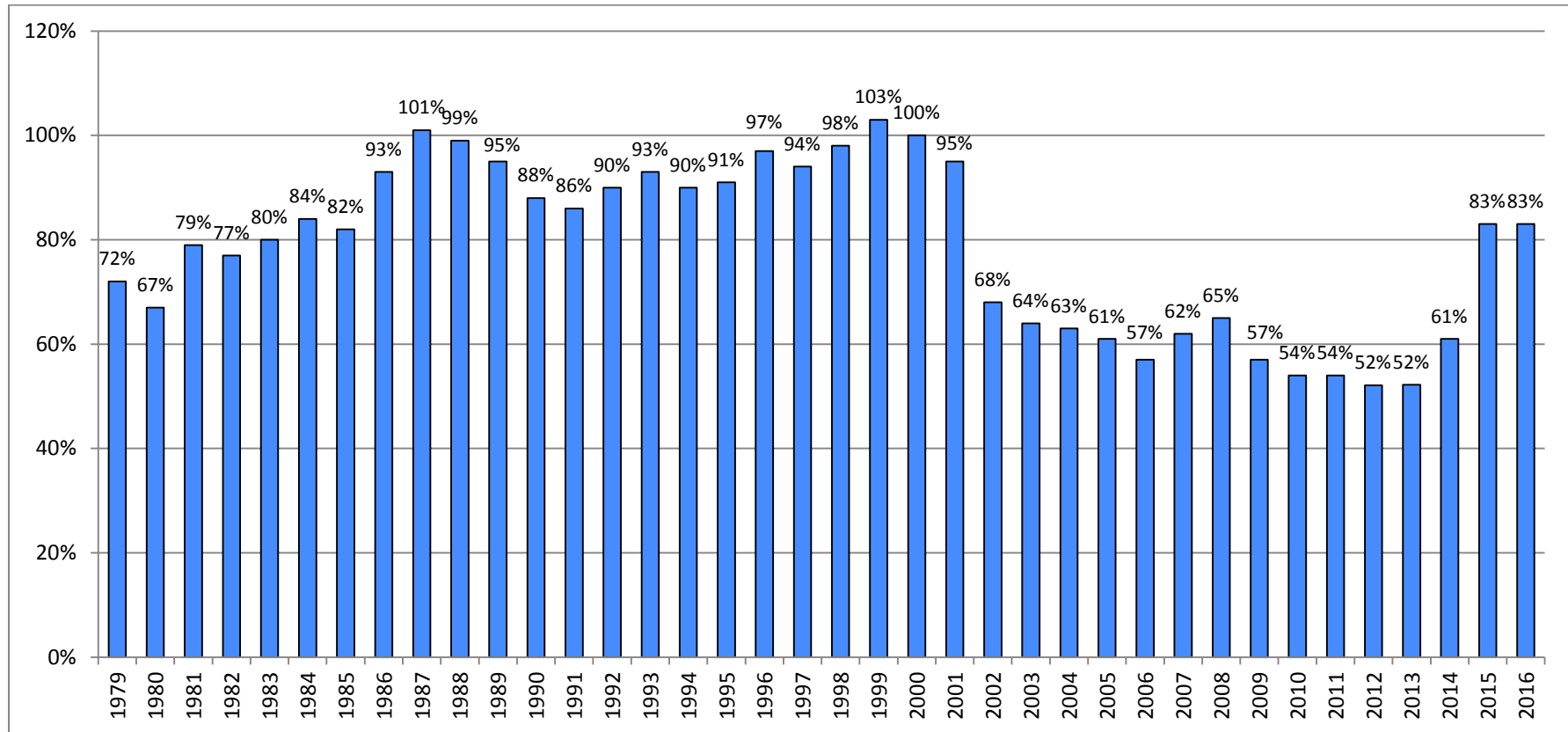
Where presented, references to “funded ratio” and “unfunded accrued liability” typically are measured on an actuarial value of assets basis. It should be noted that the same measurements using market value of assets would result in different funded ratios and unfunded accrued liabilities. Moreover, the funded ratio presented is appropriate for evaluating the need and level of future contributions but makes no assessment regarding the funded status of the plan if the plan were to settle (i.e. purchase annuities) for a portion or all of its liabilities.

Funded Status as of June 30 (\$'s in 000's)		2015	2016
Pension			
a.	Actuarial Accrued Liability	\$ 7,051,724	\$ 7,159,788
b.	Valuation Assets	<u>5,422,651</u>	<u>5,428,687</u>
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	\$ 1,629,073	\$ 1,731,101
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	76.9%	75.8%
e.	Fair Value of Assets	\$ 5,246,955	\$ 4,942,201
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	74.4%	69.0%
Healthcare			
a.	Actuarial Accrued Liability	\$ 2,677,393	\$ 2,747,836
b.	Valuation Assets	<u>2,686,272</u>	<u>2,771,704</u>
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	\$ (8,879)	\$ (23,868)
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	100.3%	100.9%
e.	Fair Value of Assets	\$ 2,588,966	\$ 2,523,579
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	96.7%	91.8%
Total			
a.	Actuarial Accrued Liability	\$ 9,729,117	\$ 9,907,624
b.	Valuation Assets	<u>8,108,923</u>	<u>8,200,391</u>
c.	Unfunded Actuarial Accrued Liability, (a) – (b)	\$ 1,620,194	\$ 1,707,233
d.	Funded Ratio based on Valuation Assets, (b) ÷ (a)	83.3%	82.8%
e.	Fair Value of Assets	\$ 7,835,921	\$ 7,465,780
f.	Funded Ratio based on Fair Value of Assets, (e) ÷ (a)	80.5%	75.4%

The funded status of the plan decreased from June 30, 2015 to June 30, 2016. This decrease was primarily due to losses from lower than expected investment return and changes in the methods used to develop the per capita claims for the healthcare valuation (including use of the data warehouse to capture actual retiree medical coverage levels), additional data sources to identify dual coverage participants, and resultant changes in the aging factors. These losses were offset by gains on the claims experience.

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

TRS Funded Ratio History (Based on Valuation Assets)



1. Investment Experience

The actuarial asset value was reinitialized to equal Fair Value of Assets as of June 30, 2014. Beginning in FY15, the asset valuation method recognizes 20% of the gain or loss each year, for a period of five years. The approximate FY16 investment return based on fair value was (0.7%) compared to the expected investment return of 8.00% (net of investment and administrative expenses of approximately 0.3%). This resulted in a loss of approximately \$662.3 million to the System. Due to the recognition of deferred investment gains and losses over a 5-year period, the approximate FY16 investment return based on actuarial value was 5.1%, compared to the expected investment return of 8.00% (net of investment and administrative expenses).

Salary Increases

During the period June 30, 2015 to June 30, 2016, salary increases for continuing active members were less than anticipated in the valuation assumptions, which led to salary gains of approximately \$32.6 million.

Demographic Experience (Pension)

Section 5 provides statistics on active and inactive participants. The number of active participants decreased 6.89% from 5,502 at June 30, 2015 to 5,123 at June 30, 2016 due to the closure of the plan to new entrants as of July 1, 2006. The average age of active participants increased from 50.09 to 50.50 and average credited service increased from 16.94 to 17.53 years.

The number of retirees and beneficiaries increased 2.48% from 12,418 to 12,726, and their average age increased from 69.35 to 69.85. There was a 1.69% decrease in the number of vested terminated participants from 890 to 875. Their average age increased from 50.09 to 50.25.

The overall effect of the demographic experience during FY16, combined with data and other miscellaneous changes, was an actuarial loss of approximately \$51.2 million to the System. As shown on page 7, there was a gain of approximately \$84.4 million due to COLA/PRPA increases during FY16.

Retiree Medical Experience

As described in Section 6.2, recent claims experience and actual healthcare enrollment created an actuarial gain of approximately \$24.3 million (including health plan enrollment data and other miscellaneous changes). There were additional demographic experience gains of approximately \$9.3 million.

Effect of FY16 State Contribution

The State contribution made in FY16 increased the funded ratio of the plan by approximately 1.4%.

Valuation Programming Refinements

We refined our pension valuation programming for current disabled participants to adjust occupational and nonoccupational death benefits. The effect of the programming changes was an actuarial loss of \$1.0M for pension.

Actuarial Projections

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

This type of information can be especially useful to multi-tiered systems, such as TRS. No new DB plan entrants are anticipated. The total active population is expected to grow at 0% per year and all future demographic assumptions are expected to be exactly realized. In Section 4.7, we illustrate the sensitivity of projected contributions due to potential changes in expected investment rates of return.

Changes in Methods Since the Prior Valuation

There have been no material changes in the asset or valuation methods since the prior valuation. Enhanced health plan enrollment data resulted in some offsetting cost increases and enrollment decreases.

Changes in Assumptions Since the Prior Valuation

Starting with the June 30, 2016 valuation, the Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. This assumption was developed based on the 5 years of rehire loss experience through June 30, 2015. Healthcare claim costs are updated annually as described in Section 6.2.

Changes in Benefit Provisions Since the Prior Valuation

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

Comparative Summary of Key Actuarial Valuation Results

Employer/State Contribution Rates for Pension for Fiscal Year:		2018	2019
a.	Normal Cost Rate Net of Member Contributions	2.22%	3.26%
b.	Past Service Rate	<u>16.94%</u>	<u>18.58%</u>
c.	Total Employer/State Contribution Rate, (a) + (b)*	19.16%	21.84%
Employer/State Contribution Rates for Postemployment Healthcare for Fiscal Year:		2018	2019
a.	Normal Cost Rate	1.77 %	2.03%
b.	Past Service Rate	<u>0.82 %</u>	<u>1.30%</u>
c.	Total Employer/State Contribution Rate, (a) + (b)*	2.59%	3.33%
Total Employer/State Contribution Rates for Fiscal Year:		2018	2019
a.	Normal Cost Rate Net of Member Contributions	3.99%	5.29%
b.	Past Service Rate	<u>17.76%</u>	<u>19.89%</u>
c.	Total Employer/State Contribution Rate, (a) + (b)*	21.75%	25.18%
d.	Board Adopted Total Employer/State Contribution Rate	21.75%	TBD
e.	Defined Contribution Retirement (DCR) Rate Paid by Employers	<u>5.03%</u>	<u>5.27%</u>
f.	Board Adopted Total Rate, Including DCR Rate Paid by Employers, (d) + (e)	26.78%	TBD

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

Contribution rates are based on salary for both DB plan members and DCR members, combined. The healthcare rates shown above are for funding purposes which differ from the healthcare Annual Required Contribution for GASB No. 43 reporting purposes. Under GASB No. 43, postemployment healthcare liabilities are gross of the retiree drug subsidy and are calculated with a discount rate for a partially funded plan. Under GASB No. 43, TRS calculates the amortization of the unfunded liabilities as a level dollar amount.

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

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

The following table summarizes the sources of change in the total Employer/State contribution rate as of June 30, 2015 to June 30, 2016 based on DB and DCR member payroll combined:

	Pension	Healthcare	Total
1. Total Employer/State contribution rate as of June 30, 2015	16.68%	2.16%	18.84%
Change due to:			
a. FY16 Contribution	0.04%	(0.50)%	(0.46)%
b. Investment experience	1.29%	0.67%	1.96%
c. Salary increases	(0.29)%	0.00%	(0.29)%
d. Demographic and medical experience ^{1 & 2}	0.02%	0.00%	0.02%
e. Addition of rehire assumption	1.42%	0.24%	1.66%
f. Total change, (a) + (b) + (c) + (d) + (e)	2.48%	0.41%	2.89%
Total Employer/State contribution rate as of June 30, 2016, (1) + (2)(f)	19.16%	2.57%	21.73%

The following table shows the FY16 gain/(loss) on total actuarial accrued liability as of June 30, 2016 (\$'s in 000's):

	Pension	Healthcare	Total
Retirement Experience	\$ 7,046	\$ 1,691	\$ 8,737
Termination Experience	(9,687)	(3,040)	(12,727)
Active Mortality Experience	2,108	(300)	1,808
Inactive Mortality Experience	(7,720)	5,540	(2,180)
Disability Experience	(369)	466	97
Rehires	(8,470)	(584)	(9,054)
Other Demographic Experience ²	(34,154)	5,597	(28,557)
Salary Increases	32,576	N/A	32,576
Alaska COLA	135	N/A	135
PRPA Other Than Expected	84,291	N/A	84,291
Medical Claims Costs ¹	N/A	24,266	24,266
Total	\$ 65,756	\$ 33,636	\$ 99,392

¹ Includes changes in assumed future healthcare claims costs and reflects healthcare enrollment.

² Includes the effects of data and programming changes.

- The pension loss includes:

- o (\$1.0M): Programming refinements for current disabled participants (occupational and nonoccupational death benefits)
- o (\$31.2M): Form of payment data corrections performed by Division
- o (\$2.0M): Data and other miscellaneous changes

- The healthcare gain includes:

- o 5.6M: Data and other miscellaneous changes

Section 1 Actuarial Funding Results

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

As of June 30, 2016	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
Active Members		
Retirement Benefits	\$ 2,170,829	\$ 1,889,575
Termination Benefits	50,630	20,279
Disability Benefits	4,523	(1,506)
Death Benefits	11,786	9,429
Return of Contributions	4,822	(54,746)
Medical and Prescription Drug Benefits	1,048,422	942,757
Medicare Part D Subsidy	(53,083)	(48,005)
Indebtedness	<u>(32,916)</u>	<u>(32,916)</u>
Subtotal	\$ 3,205,013	\$ 2,724,867
Inactive Members		
Not Vested	\$ 41,488	\$ 41,488
Vested Terminations		
- Retirement Benefits	119,402	119,402
- Medical and Prescription Drug Benefits	186,334	186,334
- Medicare Part D Subsidy	(9,192)	(9,192)
- Retirement Benefits	(3,527)	(3,527)
Retirees & Beneficiaries		
- Retirement Benefits	5,172,310	5,172,310
- Medical and Prescription Drug Benefits	1,807,045	1,807,045
- Medicare Part D Subsidy	<u>(131,103)</u>	<u>(131,103)</u>
Subtotal	\$ 7,182,757	\$ 7,182,757
Total	\$ 10,387,770	\$ 9,907,624
Total Pension	\$ 7,539,347	\$ 7,159,788
Total Medical, Net of Part D Subsidy	\$ 2,848,423	\$ 2,747,836
Total Medical, Gross of Part D Subsidy	\$ 3,041,801	\$ 2,936,136

As of June 30, 2016	Present Value of Projected Benefits	Actuarial Accrued (Past Service) Liability
By Tier		
Tier 1		
- Pension	\$ 4,940,199	\$ 4,911,283
- Medical, Net of Part D Subsidy	1,548,724	1,542,144
Tier 2		
- Pension	2,599,148	2,248,505
- Medical, Net of Part D Subsidy	<u>1,299,699</u>	<u>1,205,692</u>
Total	\$ 10,387,770	\$ 9,907,624

As of June 30, 2016	Normal Cost
Active Members	
Retirement Benefits	\$ 42,854
Termination Benefits	4,444
Disability Benefits	893
Death Benefits	373
Return of Contributions	9,142
Medical and Prescription Drug Benefits	18,365
Medicare Part D Subsidy	(918)
Rehire (Pension)	10,670
Rehire (Medical)	<u>1,813</u>
Subtotal	\$ 87,636
Total	\$ 87,636
Total Pension	\$ 68,376
Total Medical, Net of Part D Subsidy	\$ 19,260
Total Medical, Gross of Part D Subsidy	\$ 20,273
By Tier	
Tier 1	
- Pension	\$ 8,337
- Medical, Net of Part D Subsidy	1,920
Tier 2	
- Pension	60,039
- Medical, Net of Part D Subsidy	<u>17,340</u>
Total	\$ 87,636

Section 1.2 Actuarial Contributions as of June 30, 2016

(\$'s in 000's)

Normal Cost Rate	Pension	Healthcare	Total
1. Total Normal Cost	\$ 68,376	\$ 19,260	\$ 87,636
DB Rate Payroll Projected for FY17	449,629	449,629	449,629
DCR Rate Payroll Projected for FY17	300,750	300,750	300,750
Total Rate Payroll Projected for FY17	750,379	750,379	750,379
Normal Cost Rate			
a. Based on DB Rate Payroll, (1) ÷ (2)	15.21%	4.28%	19.49%
b. Based on Total Rate Payroll, (1) ÷ (4)	9.11%	2.57%	11.68%
Average Member Contribution Rate ¹	5.18%	0.00%	5.18%
Employer Normal Cost Rate, (5)(b) – (6)	3.93%	2.57%	6.50%
Past Service Rate			
1. Actuarial Accrued Liability	\$ 7,159,788	\$ 2,747,836	\$ 9,907,624
2. Valuation Assets	<u>5,428,687</u>	<u>2,771,704</u>	<u>8,200,391</u>
3. Total Unfunded Actuarial Accrued Liability, (1) – (2)	\$ 1,731,101	\$ (23,868)	\$ 1,707,233
4. Funded Ratio, (2) ÷ (1)	75.82%	100.87%	82.77%
5. Past Service Cost Amortization Payment ²	114,320	(1,576)	112,744
6. Total Rate Payroll Projected for FY17	750,379	750,379	750,379
7. Past Service Rate, (5) ÷ (6), not less than 0%	15.23%	0.00%	15.23%
Total Employer/State Contribution Rate	19.16%	2.57%	21.73%
Normal Cost Rate by Tier (Total Employer and Member) ³			
Tier 1	15.79%	3.63%	19.42%
Tier 2	15.13%	4.37%	19.50%
Maturity Ratio	74.40%	67.40%	72.50%

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

² Calculated on a level percent of pay over a 23-year period as of June 30, 2016.

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

Section 1.3 Roll Forward Contribution Rate Calculation for FY19

	Pension	Healthcare	Total
1. Liability Roll Forward			
a. Actuarial Accrued Liability as of June 30, 2016	\$ 7,159,788	\$ 2,747,836	\$ 9,907,624
b. Normal Cost	68,376	19,260	87,636
c. Interest on (a) and (b) at 8.00%	578,253	221,368	799,621
d. Estimated Benefit Payments	(459,072)	(138,838)	(597,910)
e. Interest on (d) at 8.00%, adjusted for timing	<u>(19,542)</u>	<u>(5,910)</u>	<u>(25,452)</u>
f. Expected Actuarial Accrued Liability as of June 30, 2017	\$ 7,327,803	\$ 2,843,716	\$ 10,171,519
g. Projected Normal Cost	64,245	17,524	81,769
h. Interest on (f) and (g) at 8.00%	591,364	228,899	820,263
i. Estimated Benefit Payments	(480,759)	(147,397)	(628,156)
j. Interest on (i) at 8.00%, adjusted for timing	<u>(20,465)</u>	<u>(6,274)</u>	<u>(26,739)</u>
k. Expected Actuarial Accrued Liability as of June 30, 2018	\$ 7,482,188	\$ 2,936,468	\$ 10,418,656
2. Asset Roll Forward			
a. Actuarial Value of Assets as of June 30, 2016	\$ 5,428,687	\$ 2,771,704	\$ 8,200,391
b. Interest on (a) at 8.00%	434,295	221,736	656,031
c. Employee Contributions	42,732	0	42,732
d. Employer Contributions	38,645	20,935	59,580
e. State Assistance	116,700	0	116,700
f. Interest on (c) – (e) at 8.00%, adjusted for timing*	10,127	821	10,948
g. Estimated Benefit Payments	(459,072)	(138,838)	(597,910)
h. AVA Adjustments	(171,521)	(87,964)	(259,485)
i. Interest on (g) at 8.00%, adjusted for timing	<u>(19,542)</u>	<u>(5,910)</u>	<u>(25,452)</u>
j. Expected Actuarial Value of Assets as of June 30, 2017	\$ 5,421,051	\$ 2,782,484	\$ 8,203,535
k. Interest on (j) at 8.00%	433,684	222,599	656,283
l. Employee Contributions	40,682	0	40,682
m. Employer Contributions	42,934	14,796	57,730
n. State Assistance	106,570	5,187	111,757
o. Interest on (l) – (n) at 8.00%, adjusted for timing*	11,806	995	12,801
p. Estimated Benefit Payments	(480,759)	(147,397)	(628,156)
q. AVA Adjustments	(160,914)	(82,513)	(243,427)
r. Interest on (p) at 8.00%, adjusted for timing	<u>(20,465)</u>	<u>(6,274)</u>	<u>(26,739)</u>
s. Expected Actuarial Value of Assets as of June 30, 2018	5,394,589	2,789,877	8,184,466

	Pension	Healthcare	Total
3. Unfunded Liability Roll Forward			
a. Unfunded Actuarial Accrued Liability as of June 30, 2016	\$ 1,731,101	\$ (23,868)	\$ 1,707,233
b. Normal Cost	68,376	19,260	87,636
c. Interest on (a) and (b) at 8.00%	143,958	(368)	143,590
d. Employee Contributions	(42,732)	0	(42,732)
e. Employer Contributions	(38,645)	(20,935)	(59,580)
f. State Assistance	(116,700)	0	(116,700)
g. AVA Adjustment	171,521	87,964	259,485
h. Interest on (d) – (f) at 8.00%, adjusted for timing*	<u>(10,127)</u>	<u>(821)</u>	<u>(10,948)</u>
i. Expected Unfunded Actuarial Accrued Liability as of June 30, 2017	\$ 1,906,752	\$ 61,232	\$ 1,967,984
j. Projected Normal Cost	64,245	17,524	81,769
k. Interest on (i) and (j) at 8.00%	157,680	6,300	163,980
l. Employee Contributions	(40,682)	0	(40,682)
m. Employer Contributions	(42,934)	(14,796)	(57,730)
n. State Assistance	(106,570)	(5,187)	(111,757)
o. AVA Adjustment	160,914	82,513	243,427
p. Interest on (l) – (n) at 8.00%, adjusted for timing*	<u>(11,806)</u>	<u>(995)</u>	<u>(12,801)</u>
q. Expected Unfunded Actuarial Accrued Liability as of June 30, 2018	\$ 2,087,599	\$ 146,591	\$ 2,234,190
4. Expected Annual Rate Payroll for FY19			
a. Defined Benefit Members			\$ 399,217
b. Defined Contribution Retirement Members			<u>385,203</u>
c. Total Rate Payroll			\$ 784,420
5. Expected FY19 Contribution Rate Calculation			
a. Projected Normal Cost for FY19	\$ 60,185	\$ 15,915	\$ 76,100
b. Projected Normal Cost Rate for FY19	7.67%	2.03%	9.70%
c. Expected Member Contribution Rate for FY19	(4.41)%	0.00%	(4.41)%
d. Expected Employer Normal Cost Rate for FY19	3.26%	2.03%	5.29%
e. Expected Unfunded Liability as of June 30, 2018	\$ 2,087,599	\$ 146,591	\$ 2,234,190
f. 21 Year Amortization of Expected Unfunded Liability	145,770	10,236	156,006
g. Expected Past Service Cost Contribution Rate for FY19	18.58%	1.30%	19.89%
h. Expected Total Contribution Rate for FY19	\$ 21.84%	\$ 3.33%	\$ 25.18%

* Employee and Employer Contributions are paid throughout the year. State Assistance was paid on October 1, 2016 for FY17 and is assumed to be paid at the beginning of each year thereafter.

Section 1.4 Actuarial Gain / (Loss) for FY16 (\$'s in 000's)

	Pension	Healthcare	Total
1. Expected Actuarial Accrued Liability			
a. Actuarial Accrued Liability, June 30, 2015	\$ 7,051,724	\$ 2,677,393	\$ 9,729,117
b. Normal Cost for FY16	61,010	16,737	77,747
c. Interest on (a) and (b) at 8.00%	569,019	215,530	784,549
d. Actual Benefit Payments for FY16	435,699	122,954	558,653
e. Refund of Contributions for FY16	1,883	0	1,883
f. Interest on (d) and (e) at 8.00%, adjusted for timing	18,627	5,234	23,861
g. Change in Actuarial Assumptions	0	0	0
h. Change in Healthcare Cost Trend Rates	<u>N/A</u>	<u>0</u>	<u>0</u>
i. Expected Actuarial Accrued Liability as of June 30, 2016, (a) + (b) + (c) – (d) – (e) – (f) + (g) + (h)	\$ 7,225,544	\$ 2,781,472	\$ 10,007,016
2. Actual Actuarial Accrued Liability, June 30, 2016	<u>7,159,788</u>	<u>2,747,836</u>	<u>9,907,624</u>
3. Liability Gain/(Loss), (1)(i) – (2)	\$ 65,756	\$ 33,636	\$ 99,392
4. Expected Actuarial Asset Value			
a. Actuarial Asset Value, June 30, 2015	\$ 5,422,651	\$ 2,686,272	\$ 8,108,923
b. Interest on (a) at 8.00%	433,812	214,902	648,714
c. Employee Contributions for FY16	42,654	306	42,960
d. Employer Contributions for FY16	33,478	26,580	60,058
e. State Assistance for FY16	90,590	39,519	130,109
f. Medicare Part D Subsidy	0	5,003	5,003
g. Interest on (c), (d), (e) and (f) at 8.00%, adjusted for timing	8,369	3,207	11,576
h. Benefit Payments for FY16	435,699	122,954	558,653
i. Refund of Contributions for FY16	1,883	0	1,883
j. Interest on (h) and (i) at 8.00%, adjusted for timing	<u>18,627</u>	<u>5,234</u>	<u>23,861</u>
k. Expected Actuarial Asset Value, June 30, 2016, (a) + (b) + (c) + (d) + (e) + (f) + (g) – (h) – (i) – (j)	\$ 5,575,345	\$ 2,847,601	\$ 8,422,946
5. Actuarial Asset Value, June 30, 2016	<u>5,428,687</u>	<u>2,771,704</u>	<u>8,200,391</u>
6. Actuarial Asset Gain/(Loss), (5) – (4)(k)	\$ (146,658)	\$ (75,897)	\$ (222,555)
7. Actuarial Gain/(Loss), (3) + (6)	\$ (80,902)	\$ (42,261)	\$ (123,163)
8. Contribution Gain/(Loss)	\$ (4,102)	\$ 57,157	\$ 53,055
9. FY16 Gain/(Loss), (7) + (8)	\$ (85,004)	\$ 14,896	\$ (70,108)

Section 1.5 Development of Change in Unfunded Liability During FY16 (\$'s in 000's)

	Pension	Healthcare	Total
1. 2015 Unfunded Liability	\$ 1,629,073	\$ (8,879)	\$ 1,620,194
a. Interest on Unfunded Liability	\$ 130,326	\$ (710)	\$ 129,616
b. Normal Cost	61,010	16,737	77,747
c. Employee Contributions	(42,654)	(306)	(42,960)
d. Employer Contributions	(33,478)	(26,580)	(60,058)
e. State Assistance Contributions	(90,590)	(39,519)	(130,109)
f. Medicare Part D Subsidy	0	(5,003)	(5,003)
g. Interest on (b), (c), (d), (e), and (f)	(3,488)	(1,869)	(5,357)
h. Change in Actuarial Assumptions	0	0	0
i. Change in Healthcare Cost Trend Rates	<u>N/A</u>	<u>0</u>	<u>0</u>
j. Expected change in Unfunded Liability during FY16	\$ 21,126	\$ (57,250)	\$ (36,124)
Expected 2016 Unfunded Liability, (1) + (1)(j)	\$ 1,650,199	\$ (66,129)	\$ 1,584,070
a. Liability (gains)/losses during FY16	\$ (65,756)	\$ (33,636)	\$ (99,392)
b. Assets (gains)/losses during FY16	<u>146,658</u>	<u>75,897</u>	<u>222,555</u>
c. Total (gains)/losses during FY16	\$ 80,902	\$ 42,261	\$ 123,163
Actual 2016 Unfunded Liability, (2) + (2)(c)	\$ 1,731,101	\$ (23,868)	\$ 1,707,233

Section 1.6 Analysis of Financial Experience

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

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	2012	2013	2014	2015	2016
1. Health Claims and Demographic Experience	N/A	N/A	N/A	N/A	N/A
Salary Experience	0.00%	(0.30)%	(0.43)%	(0.34)%	(0.42)%
Investment Experience	3.47%	2.09%	(3.97)%	0.40%	1.36%
Demographic Experience	(0.36)%	0.38%	1.75%	(0.52)%	(0.98)%
Normal Cost Rehire Assumption	0.00%	0.00%	0.00%	0.00%	2.73%
Contribution Shortfall	<u>0.52%</u>	<u>1.34%</u>	<u>1.10%</u>	<u>0.00%</u>	<u>0.00%</u>
(Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5) + (6)	3.63%	3.51%	(1.55)%	(0.46)%	2.69%
Assumption and Method Changes	9.52%	0.00%	(28.73)%	0.00%	0.00%
System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Composite (Gain) or Loss During Year, (7) + (8) + (9)	13.15%	3.51%	(30.28)%	(0.46)%	2.69%
Beginning Total Employer/State Contribution Rate	<u>31.40%</u>	<u>44.55%</u>	<u>48.06%</u>	<u>17.78%</u>	<u>19.16%</u>
Ending Valuation Year Total Employer/State Contribution Rate, (10) + (11)	44.55%	48.06%	17.78%	17.32%	21.85%
Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	29.90%	15.85%	17.78%	19.16%	21.85%*
b. Fiscal Year for Which Rate Applies	FY15	FY16	FY17	FY18	FY19

*Expected. Actual Rate to be determined.

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

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	2012	2013	2014	2015	2016
1. Health Claims and Demographic Experience	(2.02)%	(1.21)%	(8.59)%	(4.07)%	(0.43)%
Salary Experience	N/A	N/A	N/A	N/A	N/A
Investment Experience	0.71%	0.35%	(2.34)%	0.22%	0.71%
Demographic Experience	N/A	N/A	N/A	N/A	N/A
Normal Cost Rehire Assumption	0.00%	0.00%	0.00%	0.00%	0.46%
Contribution Shortfall	<u>0.19%</u>	<u>0.28%</u>	<u>0.14%</u>	<u>0.00%</u>	<u>0.00%</u>
(Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5) + (6)	(1.12)%	(0.58)%	(10.79)%	(3.85)%	0.74%
Assumption and Method Changes	4.18%	0.00%	(4.77)%	0.00%	0.00%
System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Composite (Gain) or Loss During Year, (7) + (8) + (9)	3.06%	(0.58)%	(15.56)%	(3.85)%	0.74%
Beginning Total Employer/State Contribution Rate	<u>18.70%</u>	<u>21.76%</u>	<u>21.18%</u>	<u>5.62%</u>	<u>2.59%</u>
Ending Valuation Year Total Employer/State Contribution Rate, (10) + (11)	21.76%	21.18%	5.62%	1.77%	3.33%
Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	14.35%	8.63%	5.62%	2.59%	3.33%*
b. Fiscal Year for Which Rate Applies	FY15	FY16	FY17	FY18	FY19

*Expected. Actual Rate to be determined.

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

Type of (Gain) or Loss	Change in Employer/State Contribution Rate During Fiscal Year				
	2012	2013	2014	2015	2016
1. Health Claims and Demographic Experience	(2.02)%	(1.21)%	(8.59)%	(4.07)%	(0.43)%
Salary Experience	0.00%	(0.30)%	(0.43)%	(0.34)%	(0.42)%
Investment Experience	4.18%	2.44%	(6.31)%	0.62%	2.07%
Demographic Experience	(0.36)%	0.38%	1.75%	(0.52)%	(0.98)%
Normal Cost Rehire Assumption	0.00%	0.00%	0.00%	0.00%	3.19%
Contribution Shortfall	<u>0.71%</u>	<u>1.62%</u>	<u>1.24%</u>	<u>0.00%</u>	<u>0.00%</u>
(Gain) or Loss During Year From Experience, (1) + (2) + (3) + (4) + (5) + (6)	2.51%	2.93%	(12.34)%	(4.31)%	3.43%
Assumption and Method Changes	13.70%	0.00%	(33.50)%	0.00%	0.00%
System Benefit Changes	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>
Composite (Gain) or Loss During Year, (7) + (8) + (9)	16.21%	2.93%	(45.84)%	(4.31)%	3.43%
Beginning Total Employer/State Contribution Rate	<u>50.10%</u>	<u>66.31%</u>	<u>69.24%</u>	<u>23.40%</u>	<u>21.75%</u>
Ending Valuation Year Total Employer/State Contribution Rate, (10) + (11)	66.31%	69.24%	23.40%	19.09%	25.18%
Fiscal Year Rates					
a. Fiscal Year Employer/State Contribution Rates	44.25%	24.48%	23.40%	21.75%	25.18%*
b. Fiscal Year for Which Rate Applies	FY15	FY16	FY17	FY18	FY19

*Expected. Actual Rate to be determined.

Section 1.7 History of Unfunded Liability and Funded Ratio

(\$'s in 000's)

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)
June 30, 2003	\$ 5,835,609	\$ 3,752,285	64.3%	\$ 2,083,324
June 30, 2004	\$ 6,123,600	\$ 3,845,370	62.8%	\$ 2,278,230
June 30, 2005	\$ 6,498,556	\$ 3,958,939	60.9%	\$ 2,539,617
June 30, 2006	\$ 7,229,851	\$ 4,141,700	57.3%	\$ 3,088,151
June 30, 2007	\$ 7,189,403	\$ 4,424,399	61.5%	\$ 2,765,004
June 30, 2008	\$ 7,619,178	\$ 4,936,976	64.8%	\$ 2,682,202
June 30, 2009	\$ 7,847,514	\$ 4,472,958	57.0%	\$ 3,374,556
June 30, 2010	\$ 8,847,788	\$ 4,739,128	53.6%	\$ 4,108,660
June 30, 2011	\$ 9,128,795	\$ 4,937,937	54.1%	\$ 4,190,858
June 30, 2012	\$ 9,346,444	\$ 4,869,154	52.1%	\$ 4,477,290
June 30, 2013	\$ 9,592,107	\$ 4,974,076	51.9%	\$ 4,618,031
June 30, 2014	\$ 9,841,032	\$ 6,019,274	61.2%	\$ 3,821,758
June 30, 2015	\$ 9,729,117	\$ 8,108,923	83.3%	\$ 1,620,194
June 30, 2016	\$ 9,907,624	\$ 8,200,391	82.8%	\$ 1,707,233

Section 2 Plan Assets

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

As of June 30, 2016	Pension	Healthcare	Total Fair Value	Allocation Percent
Cash and Short-Term Investments				
– Cash and Cash Equivalents	\$ 37,839	\$ 24,703	\$ 62,542	0.8%
– Subtotal	\$ 37,839	\$ 24,703	\$ 62,542	0.8%
Fixed Income Investments				
– Domestic Fixed Income Pool	\$ 283,491	\$ 145,170	\$ 428,661	5.7%
– International Fixed Income Pool	78,664	40,282	118,946	1.6%
– High Yield Pool	173,939	89,071	263,010	3.5%
– Treasury Inflation Protection Pool	11,923	6,105	18,028	0.2%
– Emerging Debt Pool	33,705	17,260	50,965	0.7%
– Tactical Fixed Income Pool	<u>33,088</u>	<u>19,816</u>	<u>52,904</u>	<u>0.7%</u>
– Subtotal	\$ 614,810	\$ 317,704	\$ 932,514	12.6%
Equity Investments				
– Domestic Equity Pool	\$ 1,288,741	\$ 659,940	\$ 1,948,681	26.1%
– International Equity Pool	1,050,408	537,894	1,588,302	21.3%
– Private Equity Pool	394,247	201,887	596,134	8.0%
– Emerging Markets Equity Pool	141,355	72,385	213,740	2.9%
– Alternative Equity Strategies	<u>210,350</u>	<u>107,716</u>	<u>318,066</u>	<u>4.3%</u>
– Subtotal	\$ 3,085,101	\$ 1,579,822	\$ 4,664,923	62.4%
Other Investments				
– Real Estate Pool	\$ 389,650	\$ 199,286	\$ 588,936	7.9%
– Other Investments Pool	487,041	249,405	736,446	9.8%
– Absolute Return Pool	325,343	166,602	491,945	6.6%
– Other Assets	<u>0</u>	<u>711</u>	<u>711</u>	<u>0.0%</u>
– Subtotal	\$ 1,202,034	\$ 616,004	\$ 1,818,038	24.3%
Total Cash and Investments	\$ 4,939,784	\$ 2,538,233	\$ 7,478,017	100.0%
Net Accrued Receivables	<u>2,417</u>	<u>(14,654)</u>	<u>(12,237)</u>	
Net Assets	\$ 4,942,201	\$ 2,523,579	\$ 7,465,780	

Section 2.2 Changes in Fair Value of Assets During FY16 (\$'s in 000's)

Fiscal Year 2016	Pension	Healthcare	Total Fair Value
1. Net Assets, June 30, 2015 (fair value)	\$ 5,246,955	\$ 2,588,966	\$ 7,835,921
Additions:			
a. Employee Contributions	\$ 42,654	\$ 306	\$ 42,960
b. Employer Contributions	33,478	26,580	60,058
c. State Assistance Contributions	90,590	39,519	130,109
d. Interest and Dividend Income	92,261	46,644	138,905
e. Net Appreciation/(Depreciation) in Fair Value of Investments	(112,741)	(54,159)	(166,900)
f. Medicare Part D Subsidy	0	5,003	5,003
g. Other	<u>95</u>	<u>4,740</u>	<u>4,835</u>
h. Total Additions	\$ 146,337	\$ 68,633	\$ 214,970
Deductions:			
a. Medical Benefits	\$ 0	\$ 122,954	\$ 122,954
b. Retirement Benefits	435,699	0	435,699
c. Refunds of Contributions	1,883	0	1,883
d. Investment Expenses	10,861	5,555	16,416
e. Administrative Expenses	<u>2,648</u>	<u>5,511</u>	<u>8,159</u>
f. Total Deductions	\$ 451,091	\$ 134,020	\$ 585,111
Net Assets, June 30, 2016 (fair value)	\$ 4,942,201	\$ 2,523,579	\$ 7,465,780
Approximate Fair Value Investment Return Rate During FY16 Net of All Expenses	(0.7)%	(0.7)%	(0.7)%
Liquidity Factor	11.6	20.8	13.6

Section 2.3 Development of Actuarial Value of Assets (\$'s in 000's)

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

	Pension	Healthcare	Total
1. Deferral of Investment Gain/(Loss) for FY16			
a. Fair Value, June 30, 2015	\$ 5,246,955	\$ 2,588,966	\$ 7,835,921
b. Contributions for FY16	166,722	66,405	233,127
c. Medicare Part D Subsidy	0	5,003	5,003
d. Benefit Payments	437,582	122,954	560,536
e. Actual Investment Return (net of expenses)	(33,894)	(13,841)	(47,735)
f. Expected Return Rate	8.00%	8.00%	8.00%
g. Expected Return - Weighted for Timing	409,499	205,090	614,589
h. Investment Gain/(Loss) for the Year, (e) – (g)	(443,393)	(218,931)	(662,324)
i. Deferred Investment Gain/(Loss)	\$ (354,714)	\$ (175,145)	\$ (529,859)
2. Actuarial Value, June 30, 2016			
a. Fair Value, June 30, 2016	\$ 4,942,201	\$ 2,523,579	\$ 7,465,780
b. Deferred Investment Gain/(Loss)	(486,486)	(248,125)	(734,611)
c. Actuarial Value, June 30, 2016, (a) – (b)	\$ 5,428,687	\$ 2,771,704	\$ 8,200,391
3. Ratio of Actuarial Value of Assets to Fair Value of Assets	109.8%	109.8%	109.8%
4. Approximate Actuarial Value Investment Return Rate During FY16 Net of All Expenses	5.2%	5.0%	5.1%

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

Pension				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2012	\$ 0	\$ 0	\$ 0	\$ 0
6/30/2013	0	0	0	0
6/30/2014	0	0	0	0
6/30/2015	(219,620)	(43,924)	(43,924)	(131,772)
6/30/2016	<u>(443,393)</u>	<u>0</u>	<u>(88,679)</u>	<u>(354,714)</u>
Total	\$ (663,013)	\$ (43,924)	\$ (132,603)	\$ (486,486)

Healthcare				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2012	\$ 0	\$ 0	\$ 0	\$ 0
6/30/2013	0	0	0	0
6/30/2014	0	0	0	0
6/30/2015	(121,632)	(24,326)	(24,326)	(72,980)
6/30/2016	<u>(218,931)</u>	<u>0</u>	<u>(43,786)</u>	<u>(175,145)</u>
Total	\$ (340,563)	\$ (24,326)	\$ (68,112)	\$ (248,125)

Total				
Plan Year Ended	Asset Gain/(Loss)	Gain/(Loss) Recognized in Prior Years	Gain/(Loss) Recognized This Year	Gain/(Loss) Deferred to Future Years
6/30/2012	\$ 0	\$ 0	\$ 0	\$ 0
6/30/2013	0	0	0	0
6/30/2014	0	0	0	0
6/30/2015	(341,252)	(68,250)	(68,250)	(204,752)
6/30/2016	<u>(662,324)</u>	<u>0</u>	<u>(132,465)</u>	<u>(529,859)</u>
Total	\$ (1,003,576)	\$ (68,250)	\$ (200,715)	\$ (734,611)

Section 2.4 Historical Asset Rates of Return

Year Ending	Actuarial Value		Fair Value	
	Annual	Cumulative*	Annual	Cumulative*
June 30, 2005	9.1%	9.1%	8.5%	8.5%
June 30, 2006	9.6%	9.3%	11.4%	9.9%
June 30, 2007	11.9%	10.2%	18.5%	12.7%
June 30, 2008	10.2%	10.2%	(3.0)%	8.6%
June 30, 2009	(7.9)%	6.3%	(21.0)%	1.9%
June 30, 2010	8.1%	6.6%	10.6%	3.3%
June 30, 2011	6.9%	6.6%	20.5%	5.6%
June 30, 2012	0.7%	5.9%	0.2%	4.9%
June 30, 2013	3.7%	5.6%	12.2%	5.7%
June 30, 2014	22.7%	7.2%	18.2%	6.9%
June 30, 2015	7.2%	7.2%	3.2%	6.5%
June 30, 2016	5.1%	6.9%	(0.7)%	5.7%

*Cumulative since FYE June 30, 2005.

Section 3 Accounting Information

Section 3.1 Historical Exhibits

(\$'s in 000's)

Schedule of Employer Contributions

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

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

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

Schedule of Funding Progress

(\$'s in 000's)

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

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

¹ Change in Asset Valuation Method

² Change of Assumptions

³ Change in Methods

Section 3.2 Postemployment Healthcare

(\$'s in 000's)

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

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Annual Active Member Payroll ¹	UAAL as a Percent of Annual Active Member Payroll
June 30, 2016 – 4.43%	\$ 4,898,395	\$ 2,771,704	56.6%	\$ 2,126,691	\$ 474,291	448.4%
June 30, 2015 – 4.31%	4,840,935	2,686,272	55.5%	2,154,663	503,163	428.2%
June 30, 2014 ² – 4.25%	5,373,322	2,248,135	41.8%	3,125,187	523,580	596.9%
June 30, 2013 – 5.08%	5,002,345	1,803,763	36.1%	3,198,582	550,044	581.5%
June 30, 2012 ² – 5.01%	5,046,942	1,674,160	33.2%	3,372,782	561,971	600.2%
June 30, 2011 – 7.08%	3,635,492	1,591,988	43.8%	2,043,504	584,068	349.9%
June 30, 2010 ² – 8.00%	3,076,388	1,479,260	48.1%	1,597,128	564,887	282.7%
June 30, 2009 – 4.50%	4,604,820	1,357,239	29.5%	3,247,581	557,026	583.0%
June 30, 2008 ² – 4.50%	4,648,055	1,266,890	27.3%	3,381,165	549,148	615.7%
June 30, 2007 – 4.50%	4,059,573	982,532	24.2%	3,077,041	554,245	552.2%
June 30, 2006 ² – 4.50%	4,288,707	844,766	19.7%	3,443,941	574,409	599.6%

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

Valuation Date	Total Actuarial Accrued Liability	Valuation Assets	Assets as a Percent of Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability (UAAL)	Annual Active Member Payroll ¹	UAAL as a Percent of Annual Active Member Payroll
June 30, 2016 – 8.00%	\$ 2,936,136	\$ 2,771,704	94.4%	\$ 164,432	\$ 474,291	34.7%
June 30, 2016 – 4.25%	5,046,551	2,771,704	54.9%	2,274,847	474,291	479.6%

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

² Change in assumptions.

Schedule of Employer Contributions

(\$'s in 000's)

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

Fiscal Year Ended June 30	Total Annual Required Contribution	Percentage Contributed		
		By Employer	By State	Total
2016	\$ 336,595	7.9%	11.8%	19.7%
2015	352,417	7.6%	100.1%	107.7%
2014	320,797	10.0%	35.6%	45.6%
2013	330,411	10.7%	33.3%	44.0%
2012	192,700	18.8%	46.6%	65.4%
2011	167,686	25.8%	51.5%	77.3%
2010*	312,922	13.6%	38.8%	52.4%
2009	164,171	28.7%	62.1%	90.8%
2008	185,271	23.6%	85.7%	109.3%
2007	76,879	62.2%	0.00%	62.2%

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

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

ARC (% of Pay)			
Valuation Date	Fiscal Year	Healthcare	Healthcare Discount Rate
June 30, 2005	FY08	54.45%	4.50%
June 30, 2006	FY09	52.20%	4.50%
June 30, 2007	FY10	52.42%	4.50%
June 30, 2008	FY11	28.71%	8.25%
June 30, 2009	FY12	34.29%	7.08%
June 30, 2010*	FY13	60.07%	5.01%
June 30, 2011	FY14	61.27%	5.08%
June 30, 2012	FY15	70.04%	4.25%
June 30, 2013	FY16	70.97%	4.31%
June 30, 2014	FY17	N/A**	4.43%
June 30, 2015	FY18	N/A**	N/A**
June 30, 2016	FY19	N/A**	N/A**

* Change in discount rate assumptions effective June 30, 2010

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

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

Section 3.3 Notes to Trend Data

Actuarial Assumptions, Methods and Additional Information under GASB

Valuation Date	June 30, 2016
Actuarial Cost Method	Entry Age Normal Level Percentage of Pay Normal Cost Basis for Pension Level Dollar Normal Cost Basis for Healthcare
Amortization Method	Level Percentage of Pay, Closed for Pension Level Dollar, Closed for Healthcare
Amortization Period	25 years as of June 30, 2014
Asset Valuation Method	5-year smoothed market starting in FY15
Actuarial Assumptions:	
Investment rate of return*	8.00% for pension (net of expenses), 4.43% for healthcare
Projected salary increases*	8.11% grading down to 3.87% after 22 years
Cost-of-living adjustment	Postretirement Pension Adjustment as described in Section 6.1, item (14)

*Includes price inflation at 3.12%

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

TRS retiree healthcare benefits are partially funded. GASB 43 outlines two reasonable methods of developing a blended discount rate when a plan is partially funded. These methods base the proportion of assumed plan and employer asset returns on 1) the funded ratio and 2) the percentage of the annual required contribution (ARC) actually being contributed to the plan. The State of Alaska has utilized the second methodology to develop a discount rate of 4.43% as of June 30, 2014, to be used for June 30, 2016 disclosure under GASB 43. FY17 information will be developed separately in compliance with GASB 74.

The development of the discount rate used for June 30, 2016 healthcare liabilities valuation disclosure purposes is summarized below:

Investment Returns

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

Based on Percentage of ARC Contributed during FY14*

1. Contribution Allocated to Healthcare	=	25.59%
2. Annual Required Contribution, Funding Assumptions	=	61.27%
3. Pay-as-you-go Contribution	=	23.78%
4. Portion of ARC Contributed: $[(1-3) \div (2-3)]$, not less than 0%, not more than 100%	=	4.82%
5. Multiplied by long-term investment return	=	0.39%
6. Portion of ARC not Contributed: $[100\% - (4)]$	=	95.18%
7. Multiplied by short-term investment return	=	4.04%
8. Total: $(5) + (7)$	=	4.43%

*It is assumed that FY12 contributions allocated to healthcare ARC for funding purposes and pay-as-you-go contributions are used to derive the GASB 43 discount rate applied to the June 30, 2014 valuation (FY15), which in turn drives the June 30, 2016 GASB 43 discount rate.

Section 3.4 Solvency Test (\$'s in 000's)

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

Valuation Date	Pension Actuarial Accrued Liability For:			Pension Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ 709,903	\$ 5,329,673	\$ 1,120,212	\$ 5,428,687	100.0%	88.5%	0.0%
June 30, 2015	714,422	5,192,935	1,144,367	5,422,651	100.0%	90.7%	0.0%
June 30, 2014 ^{1 2}	718,694	5,042,250	1,160,418	3,771,139	100.0%	60.5%	0.0%
June 30, 2013	726,139	4,726,282	1,137,132	3,170,313	100.0%	51.7%	0.0%
June 30, 2012	727,435	4,532,982	1,139,360	3,194,994	100.0%	54.4%	0.0%
June 30, 2011	717,819	4,352,035	1,126,250	3,345,949	100.0%	60.4%	0.0%
June 30, 2010 ¹	716,675	4,153,119	1,137,187	3,259,868	100.0%	61.2%	0.0%
June 30, 2009	692,105	3,815,020	956,862	3,115,719	100.0%	63.5%	0.0%
June 30, 2008	654,662	3,700,812	876,180	3,670,086	100.0%	81.5%	0.0%
June 30, 2007	638,420	3,567,894	837,134	3,441,867	100.0%	78.6%	0.0%
June 30, 2006 ^{1 2}	615,207	3,432,703	811,426	3,296,934	100.0%	78.1%	0.0%
June 30, 2005	589,169	3,200,339	545,077	3,184,976 ³	100.0%	81.1%	0.0%

¹ Change in Assumptions

² Change in Methods

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

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

Valuation Date	Postemployment Healthcare Actuarial Accrued Liability For:			Postemployment Healthcare Valuation Assets	Portion of Actuarial Accrued Liability Covered by Assets:		
	(1) Active Member Contributions	(2) Inactive Members	(3) Active Members (Employer-Financed Portion)		(1)	(2)	(3)
June 30, 2016	\$ 0	\$ 1,853,084	\$ 894,752	\$ 2,771,704	100.0%	100.0%	100.0%
June 30, 2015	0	1,870,987	806,406	2,686,272	100.0%	100.0%	100.0%
June 30, 2014 ^{1 2}	0	2,008,223	911,447	2,248,135	100.0%	100.0%	26.3%
June 30, 2013	0	2,012,114	990,440	1,803,763	100.0%	89.6%	0.0%
June 30, 2012	0	1,933,288	1,013,379	1,674,160	100.0%	86.6%	0.0%
June 30, 2011	0	1,879,564	1,053,127	1,591,988	100.0%	84.7%	0.0%
June 30, 2010 ¹	0	1,755,961	1,084,846	1,479,260	100.0%	84.2%	0.0%
June 30, 2009	0	1,477,788	905,739	1,357,239	100.0%	91.8%	0.0%
June 30, 2008 ¹	0	1,480,864	906,660	1,266,890	100.0%	85.6%	0.0%
June 30, 2007	0	1,344,131	801,824	982,532	100.0%	73.1%	0.0%
June 30, 2006 ^{1 2}	0	1,493,219	877,296	844,766	100.0%	56.6%	0.0%
June 30, 2005	0	1,493,837	670,134	773,963 ³	100.0%	51.8%	0.0%

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

¹ Change in Assumptions

² Change in Methods

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

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

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

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

¹ Change in Assumptions

² Change in Methods

³ Change in Asset Valuation Method

Section 4 Projections

Section 4.1 Projection Assumptions and Methods

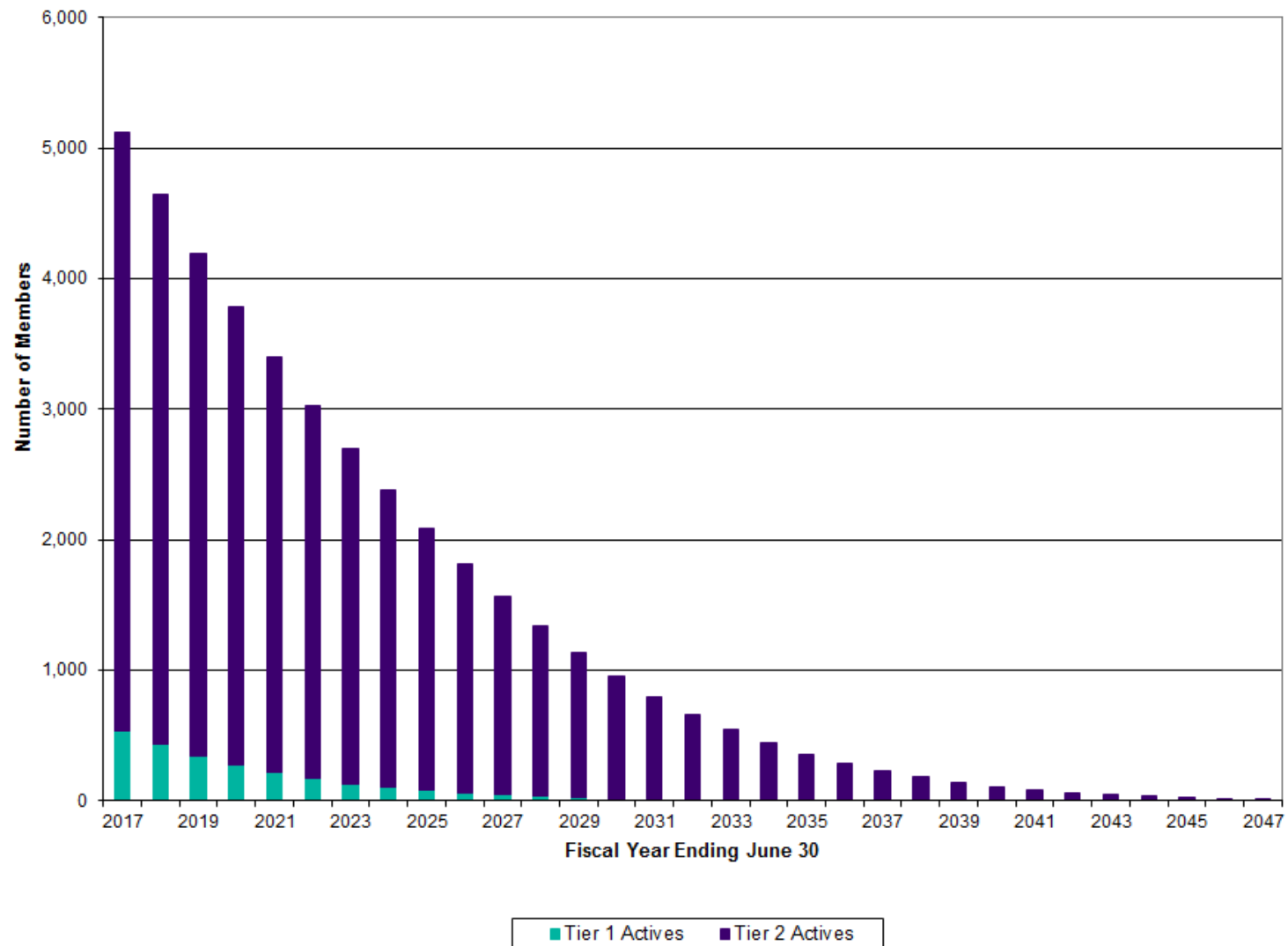
Key Assumptions

- 8.00% investment return on the Fair Value of Assets in all future years.
- The Actuarial Value of Assets was re-initialized to Fair Value as of June 30, 2014. The Actuarial Value of Assets after June 30, 2014 reflects the deferred gains and losses generated by the smoothing method. The current deferred amount is recognized in the first four years of the projections.
- Actuarial assumptions and methods as described in Section 6. All future demographic experience is assumed to be exactly realized.
- The actuarially calculated contribution rate using a two-year lag roll-forward approach adopted each year.
- No new DB Plan members enter Tiers 1 or 2.
- Projections assume a 0% increase in the total active member population. All new members are expected to enter the DCR plan and contribution rates are determined as a percent of total DB and DCR payroll, combined.
- For the Sensitivity Analysis, all assumptions and methods are the same except investment returns on the Fair Value of Assets are assumed as follows:
 - Base Case: 8.00% for all future years
 - Optimistic: 8.75% for all future years
 - Pessimistic: 7.25% for all future years

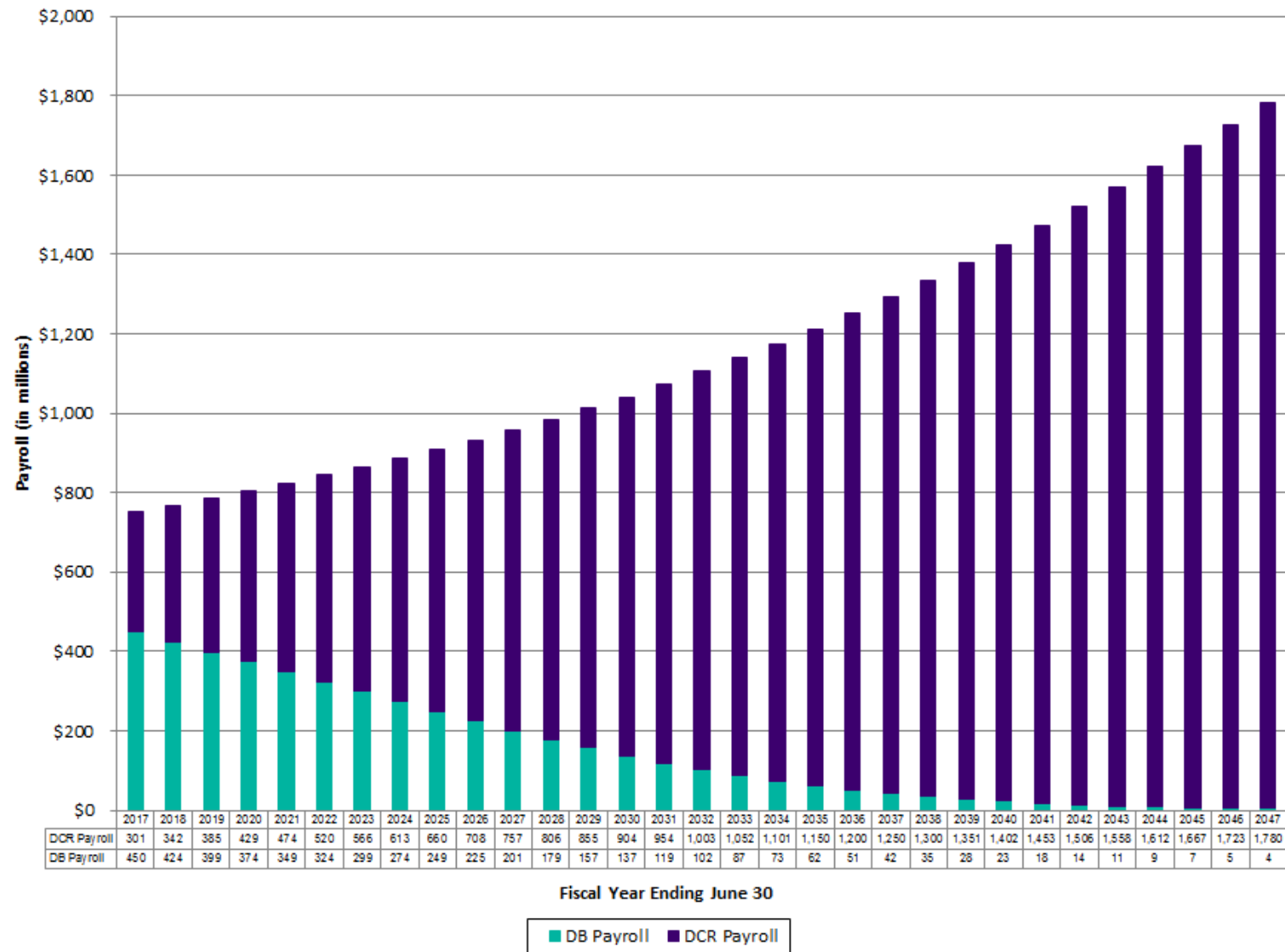
In each case, liabilities have been projected using 8.00% as the discount rate for future benefit payments. These scenarios are intended to illustrate the impact if investment rates of return are different than the 8.00% assumed investment return. They do not illustrate the effect of changing the assumed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

Section 4.2 Membership Projection

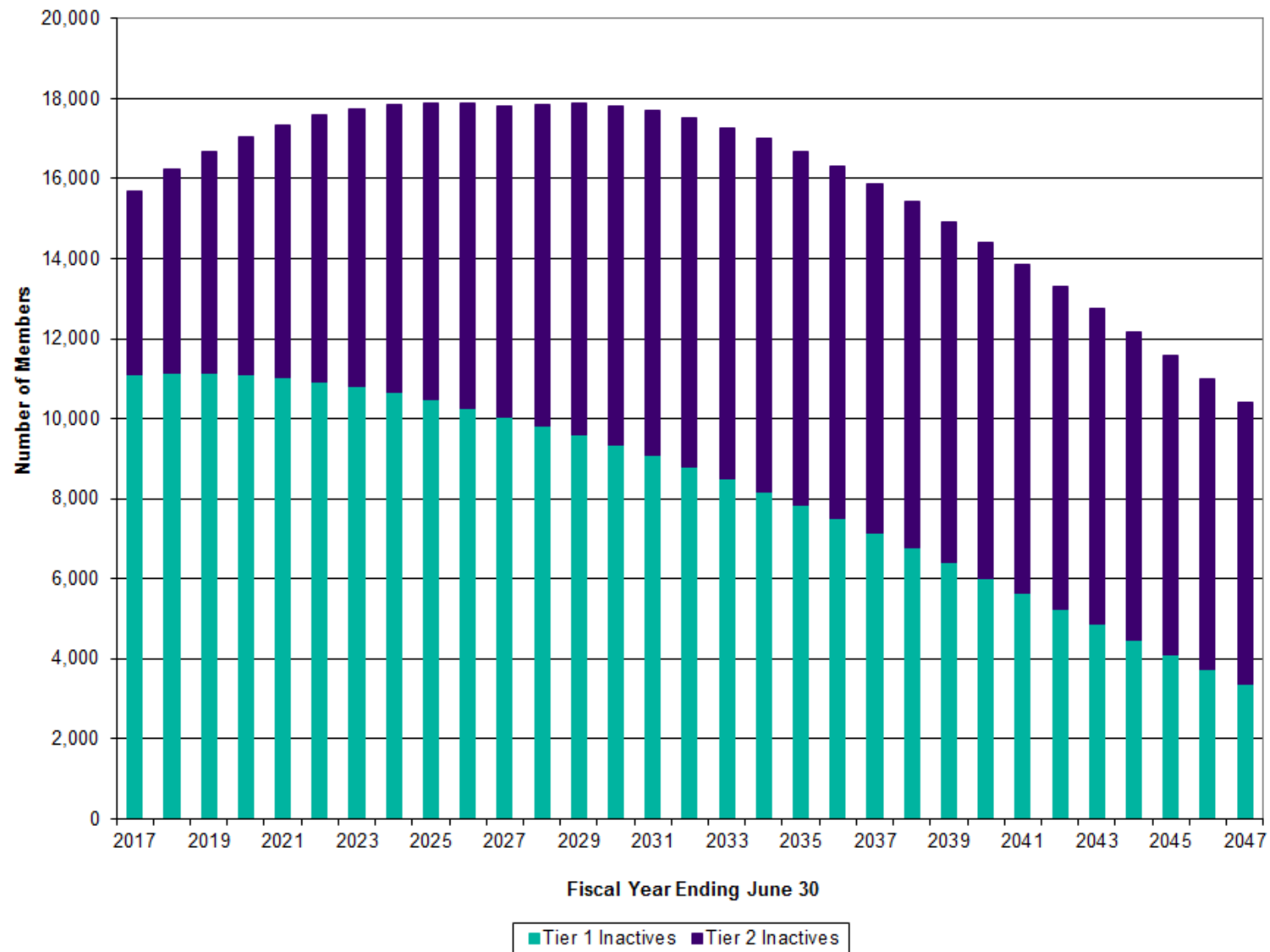
Projected Active Member Count



Projected DB and DCR Payroll

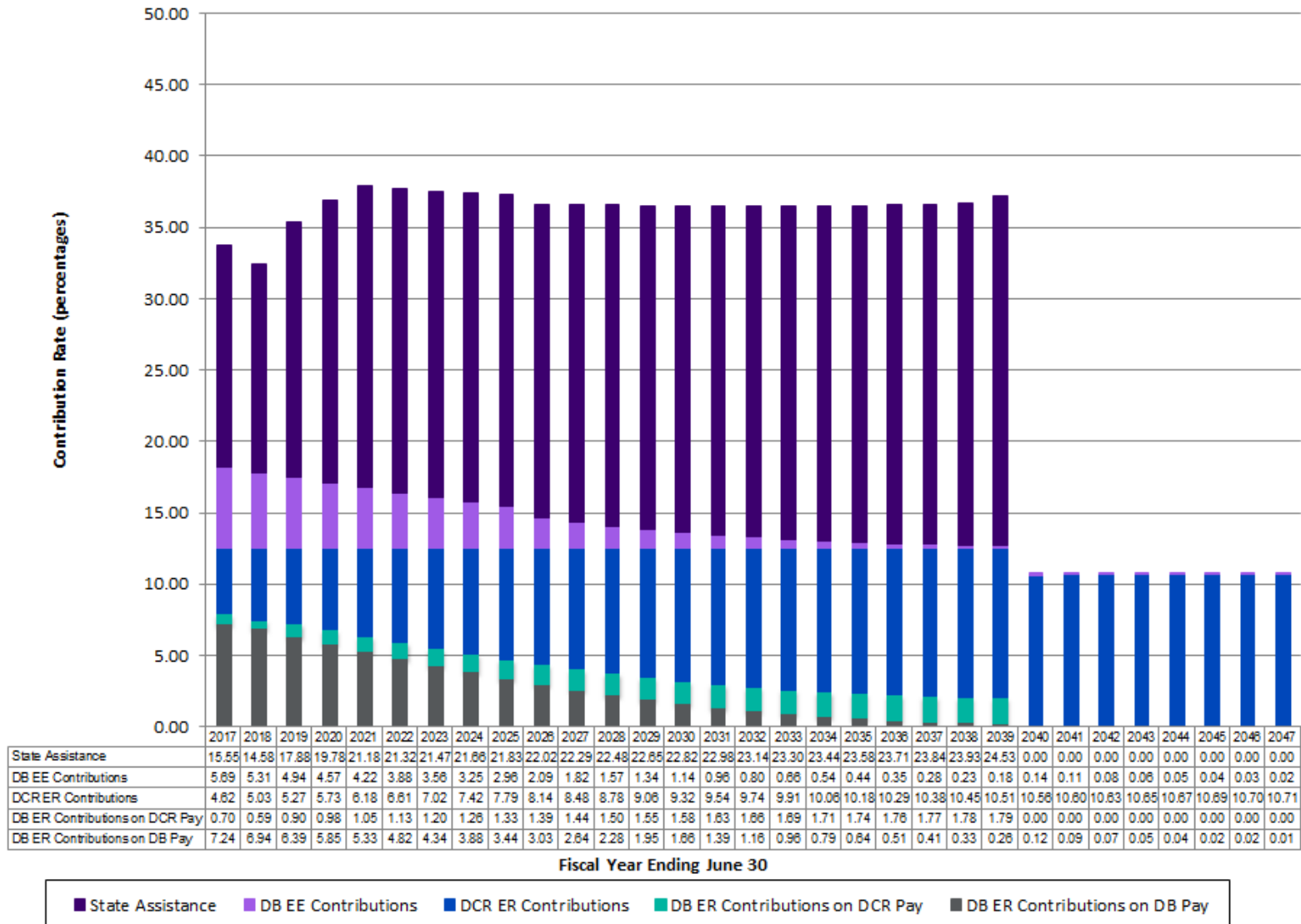


Projected Inactive Member Count

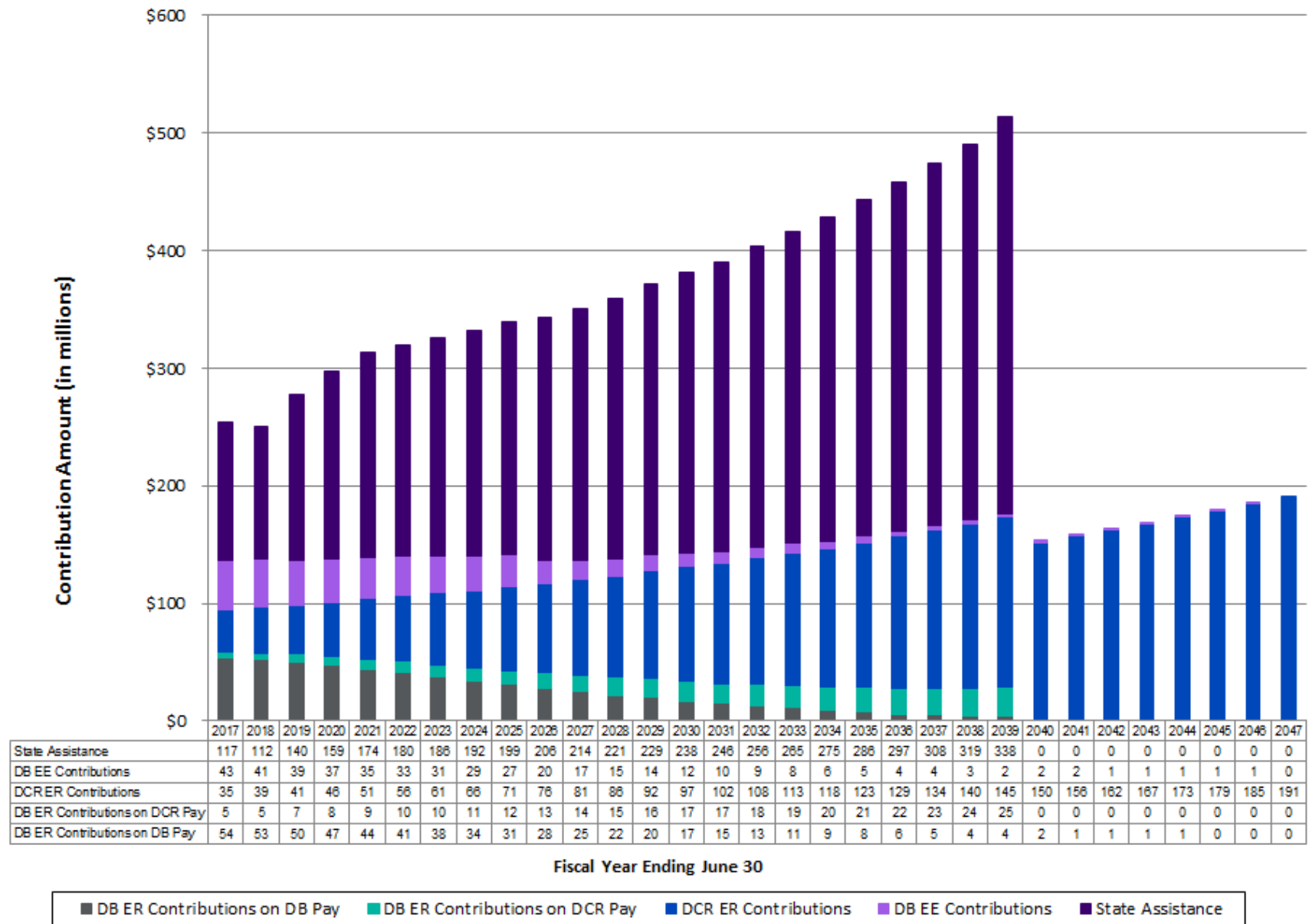


Section 4.3 Projection of Employer/State Contribution Rates

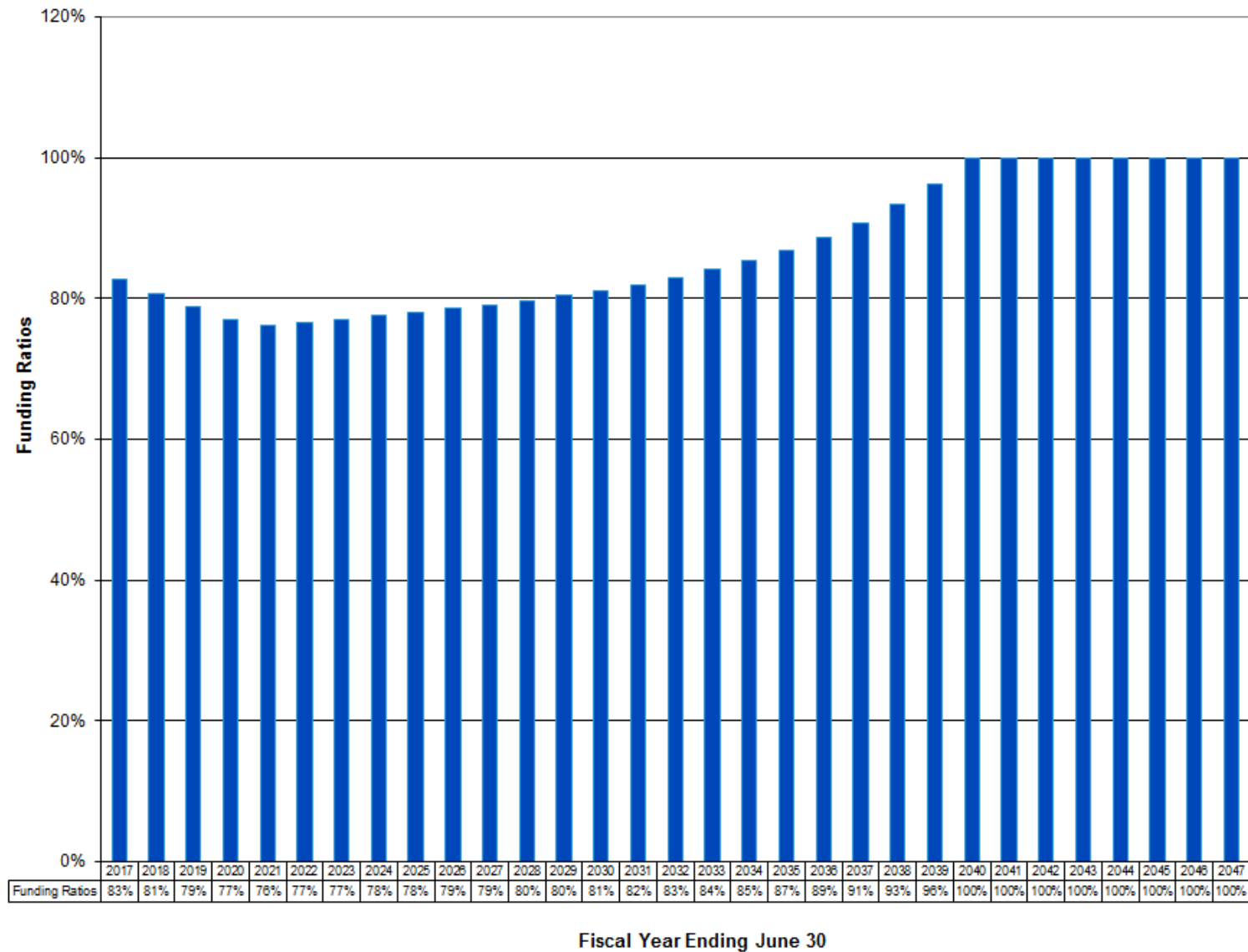
Based on Total DB and DCR Payroll



Section 4.4 Projection of Employer/State Contribution Amounts



Section 4.5 Projection of Funded Ratios



Section 4.6 Table of Projected Actuarial Results

**State of Alaska TRS
Financial Projections (\$ in Thousands)
Based on 2016 Actuarial Valuation Results, 0% Population Growth for Payroll
Baseline**

Fiscal Year End	FY 17 Investment Return				Investment Return of 8.00% for FY 17 and beyond.														Deferred Asset Gain/(Loss)	Ending Actuarial Assets
	Valuation Amounts on July 1 (Beginning of Fiscal Year)				Flow Amounts During Following 12 Months															
	Actuarial Assets	Accrued Liability	Funding Ratio	Surplus (Deficit)	Total Salaries	Er/State Ctb Rate	DCR Ctb Rate	Total Ctb Rate	DB Contributions				Benefit Payments	Net Contribs	Investment Earnings					
									Employer	State Assistance	Employee	Total								
2017	\$8,200,391	\$9,907,624	82.8%	(\$1,707,233)	\$750,379	23.49%	4.62%	28.11%	\$59,580	\$116,700	\$42,732	\$219,012	\$597,910	(\$378,898)	\$582,758	(\$533,895)	\$8,203,535			
2018	8,203,535	10,171,519	80.7%	(1,967,984)	766,672	22.11%	5.03%	27.14%	57,730	111,757	40,682	210,169	628,156	(417,987)	599,633	(333,180)	8,184,466			
2019	8,184,466	10,418,656	78.6%	(2,234,190)	784,419	25.17%	5.27%	30.44%	57,184	140,254	38,729	236,167	658,306	(422,139)	615,063	(132,465)	8,176,675			
2020	8,176,675	10,614,298	77.0%	(2,437,623)	803,325	26.61%	5.73%	32.34%	54,867	158,898	36,696	250,461	687,840	(437,379)	630,561	0	8,237,392			
2021	8,237,392	10,814,630	76.2%	(2,577,238)	823,180	27.56%	6.18%	33.74%	52,519	174,350	34,727	261,596	717,281	(455,685)	645,829	0	8,427,535			
2022	8,427,535	10,995,667	76.6%	(2,568,132)	843,788	27.27%	6.61%	33.88%	50,205	179,896	32,734	262,835	747,153	(484,318)	660,043	0	8,603,260			
2023	8,603,260	11,155,088	77.1%	(2,551,828)	865,043	27.01%	7.02%	34.03%	47,923	185,726	30,797	264,446	776,449	(512,003)	673,155	0	8,764,412			
2024	8,764,412	11,292,040	77.6%	(2,527,628)	886,885	26.80%	7.42%	34.22%	45,586	192,099	28,834	266,519	805,608	(539,089)	685,147	0	8,910,471			
2025	8,910,471	11,405,470	78.1%	(2,494,999)	909,681	26.60%	7.79%	34.39%	43,392	198,583	26,945	268,920	836,025	(567,105)	695,895	0	9,039,261			
2026	9,039,261	11,492,490	78.7%	(2,453,229)	933,474	26.44%	8.14%	34.58%	41,260	205,551	19,510	266,321	865,403	(599,082)	705,130	0	9,145,309			
2027	9,145,309	11,552,065	79.2%	(2,406,756)	958,001	26.37%	8.48%	34.85%	39,086	213,539	17,436	270,061	886,928	(616,867)	713,170	0	9,241,612			
2028	9,241,612	11,583,597	79.8%	(2,341,985)	984,505	26.26%	8.78%	35.04%	37,214	221,317	15,457	273,988	915,362	(641,374)	720,135	0	9,320,374			
2029	9,320,374	11,584,396	80.5%	(2,264,022)	1,012,545	26.15%	9.06%	35.21%	35,439	229,342	13,568	278,349	943,592	(665,243)	725,733	0	9,380,863			
2030	9,380,863	11,551,991	81.2%	(2,171,128)	1,041,743	26.06%	9.32%	35.38%	33,752	237,727	11,876	283,355	970,087	(686,732)	729,982	0	9,424,113			
2031	9,424,113	11,485,988	82.0%	(2,061,875)	1,072,511	26.00%	9.54%	35.54%	32,390	246,463	10,296	289,149	993,326	(704,177)	733,036	0	9,452,973			
2032	9,452,973	11,388,245	83.0%	(1,935,272)	1,104,897	25.96%	9.74%	35.70%	31,158	255,673	8,839	295,670	1,014,313	(718,643)	735,083	0	9,469,413			
2033	9,469,413	11,258,345	84.1%	(1,788,932)	1,138,986	25.95%	9.91%	35.86%	30,183	265,384	7,517	303,084	1,033,792	(730,708)	736,256	0	9,474,961			
2034	9,474,961	11,095,375	85.4%	(1,620,414)	1,174,509	25.94%	10.06%	36.00%	29,363	275,305	6,342	311,010	1,047,262	(736,252)	736,842	0	9,475,551			
2035	9,475,551	10,903,137	86.9%	(1,427,586)	1,211,784	25.96%	10.18%	36.14%	28,840	285,739	5,332	319,911	1,055,813	(735,902)	737,300	0	9,476,948			
2036	9,476,948	10,684,639	88.7%	(1,207,691)	1,251,042	25.98%	10.29%	36.27%	28,399	296,621	4,379	329,399	1,062,163	(732,764)	737,957	0	9,482,141			
2037	9,482,141	10,440,354	90.8%	(958,213)	1,291,963	26.02%	10.38%	36.40%	28,165	308,004	3,617	339,786	1,064,745	(724,959)	739,134	0	9,496,316			
2038	9,496,316	10,172,427	93.4%	(676,111)	1,334,809	26.04%	10.45%	36.49%	28,164	319,420	3,070	350,654	1,062,631	(711,977)	741,250	0	9,525,589			
2039	9,525,589	9,884,018	96.4%	(358,429)	1,378,969	26.58%	10.51%	37.09%	28,269	338,261	2,482	369,012	1,058,894	(689,882)	745,239	0	9,580,946			
2040	9,580,946	9,575,368	100.0%	5,578	1,424,452	0.12%	10.56%	10.68%	1,709	0	1,994	3,703	1,051,489	(1,047,786)	721,861	0	9,255,021			
2041	9,255,021	9,248,855	100.0%	6,166	1,471,516	0.09%	10.60%	10.69%	1,324	0	1,619	2,943	1,038,723	(1,035,780)	696,300	0	8,915,541			
2042	8,915,541	8,908,763	100.0%	6,778	1,519,945	0.07%	10.63%	10.70%	1,064	0	1,216	2,280	1,021,786	(1,019,506)	669,837	0	8,565,872			
2043	8,565,872	8,558,482	100.0%	7,390	1,569,757	0.05%	10.65%	10.70%	785	0	942	1,727	999,512	(997,785)	642,790	0	8,210,877			
2044	8,210,877	8,202,854	100.0%	8,023	1,620,927	0.04%	10.67%	10.71%	648	0	810	1,458	973,867	(972,409)	615,471	0	7,853,940			
2045	7,853,940	7,845,062	100.0%	8,878	1,673,593	0.02%	10.69%	10.71%	334	0	669	1,003	945,399	(944,396)	588,110	0	7,497,654			
2046	7,497,654	7,487,955	100.0%	9,699	1,727,946	0.02%	10.70%	10.72%	346	0	518	864	916,225	(915,361)	560,844	0	7,143,137			
Totals:									\$926,879	\$5,156,609	\$450,365	\$6,533,852								

The FY17 Employer/State contribution rates don't match the October 7, 2015 Allocation of Additional Contribution letter due to updated projected Total Salaries

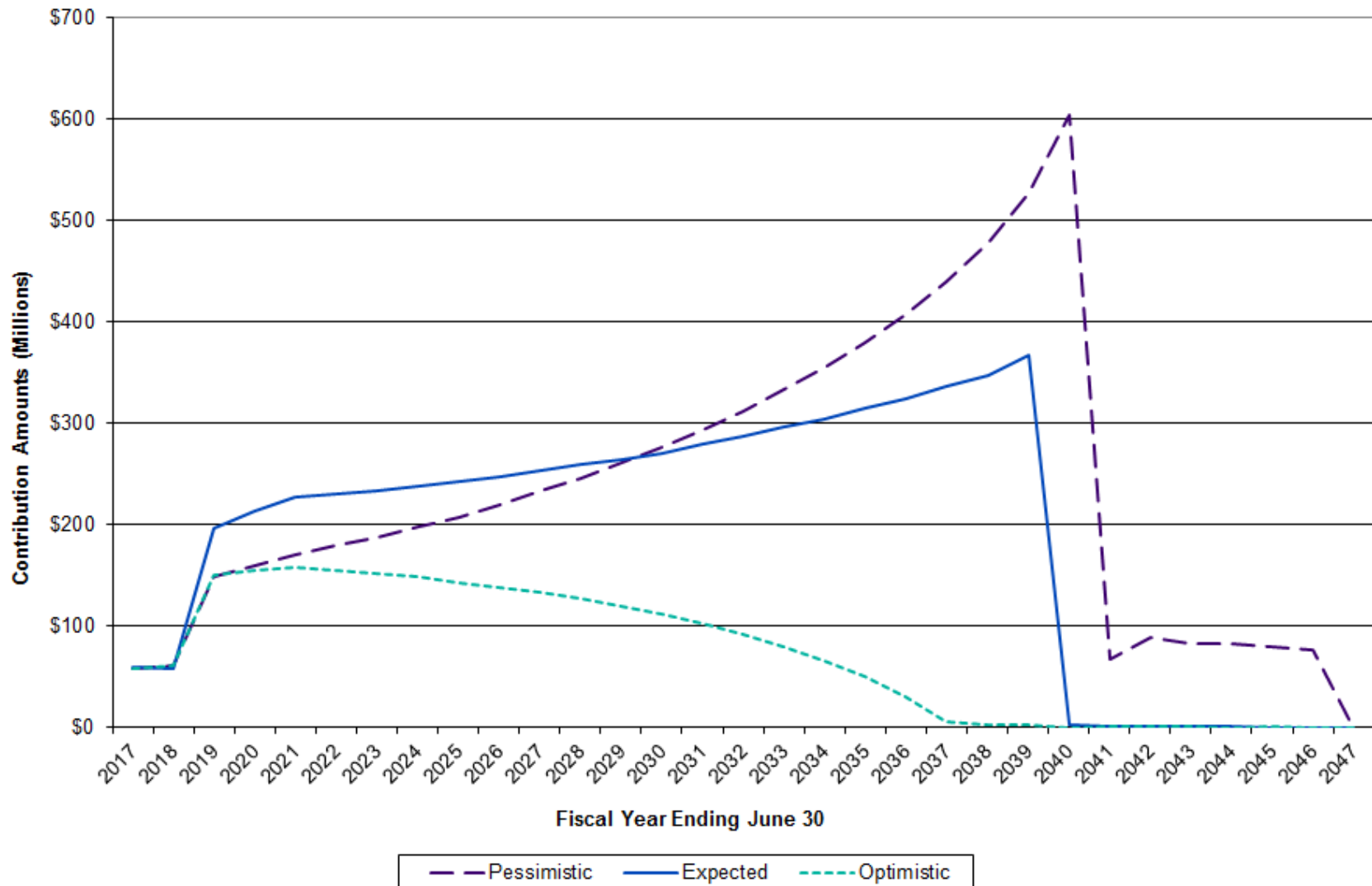
The FY17 State assistance contribution was allocated 100% to pension

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

The employer contribution rate for Occupational Death & Disability and Retiree Medical is 0.73%, determined as of June 30, 2016

Section 4.7 Sensitivity Analysis

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



Section 5 Member Data

Section 5.1 Summary of Members Included

As of June 30	2012	2013	2014	2015	2016 ¹
Active Members					
1. Number	6,845	6,352	5,861	5,502	5,123
Average Age	49.03	49.45	49.79	50.09	50.50
Average Credited Service	15.16	15.80	16.43	16.94	17.53
Average Entry Age	33.87	33.65	33.36	33.15	32.97
Average Annual Earnings	\$ 77,351	\$ 79,386	\$ 81,023	\$ 82,995	\$ 84,954
Number Vested	5,918	5,880	5,586	5,297	4,966
Percent Who Are Vested	86.5%	92.6%	95.3%	96.3%	96.9%
Retirees, Disabilitants and Beneficiaries					
1. Number	11,301	11,705	11,750	12,418	12,726
Average Age	67.88	68.38	69.09	69.35	69.85
Average Years Since Retirement	N/A	N/A	N/A	13.50	13.78
Average Monthly Pension Benefit					
Base	\$ 2,085	\$ 2,111	\$ 2,110	\$ 2,175	\$ 2,204
C.O.L.A. ²	127	127	126	129	260
P.R.P.A. ²	527	528	567	550	582
Adjustment	0	0	0	-	0
Sick	52	54	57	58	60
Total	\$ 2,791	\$ 2,820	\$ 2,860	\$ 2,913	
Vested Terminations (vested at time of termination, not refunded contributions or commenced benefit)					
1. Number	868	906	1,274 ³	890	875
Average Age	49.70	49.68	52.56	50.09	50.25
Average Monthly Pension Benefit	\$ 1,188	\$ 1,283	\$ 1,916	\$ 1,273	\$ 1,352
Non-Vested Terminations (not vested at termination, not refunded contributions)					
1. Number	2,559	2,448	2,328	2,218	2,103
Average Account Balance	\$ 17,266	\$ 17,866	\$ 18,452	\$ 18,962	\$ 19,728
Total Number of Members	21,573	21,411	21,213	21,028	20,827

¹ 41 members who were terminated before the valuation date were subsequently rehired, per client data as of October 1, 2016.

These members were valued as active as of the valuation date.

² Beginning with 2016, calculated by taking the average of the data field, as provided by the State of Alaska, for all participants in the group.

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

Summary of Members Included

As of June 30, 2016		DB			DCR Tier 3	Grand Total
		Tier 1	Tier 2	Total		
Active Members						
1.	Numbers	542	4,581	5,123	4,383	9,506
2.	Average Age	59.55	49.43	50.50	39.57	45.46
3.	Average Credited Service	27.05	16.41	17.53	4.50	11.52
4.	Average Entry Age	32.50	33.02	32.97	35.07	33.94
5.	Annual Earnings					
	a. Amount	\$ 51,053,929	\$384,167,580	\$435,221,508	\$285,853,871	\$721,075,379
	b. Average	\$ 94,195	\$ 83,861	\$ 84,954	\$ 65,219	\$ 75,855

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

As of June 30, 2016	Tier 1	Tier 2	Total
Retirees, Disabilitants and Beneficiaries			
1. Numbers	10,718	2,008	12,726
2. Average Age	70.78	64.91	69.85
3. Average Years Since Retirement	15.51	4.56	13.78
4. Average Monthly Pension Benefit			
Base	\$ 2,270	\$ 1,847	\$ 2,204
C.O.L.A.	266	178	260
P.R.P.A.	659	90	582
Adjustment	0	0	0
Sick	62	51	60

Summary of Members Included

As of June 30, 2016	Retiree	Covered Spouse	Covered Children / Dependent	Total
Retiree Medical Participants				
1. Retiree Coverage Only	6,960	0	0	6,960
2. Retiree + Spouse	3,785	3,785	0	7,570
3. Retiree + Children / Other Dependent	123	0	165	288
4. Family	<u>466</u>	<u>466</u>	<u>681</u>	<u>1,613</u>
5. Total	11,334	4,251	846	16,431

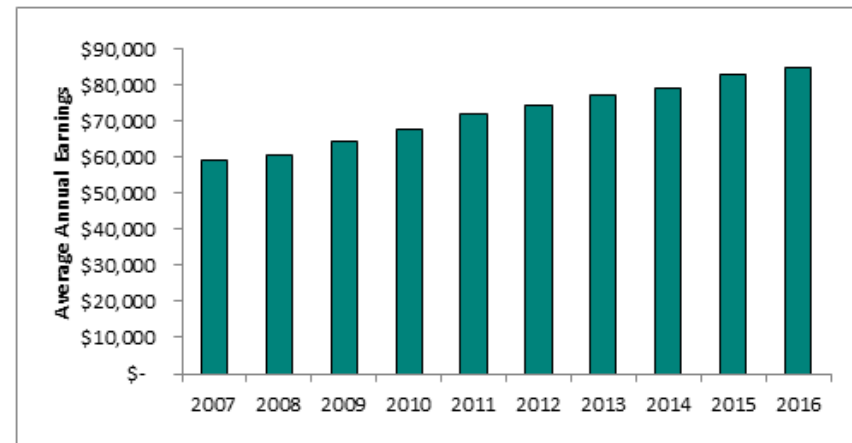
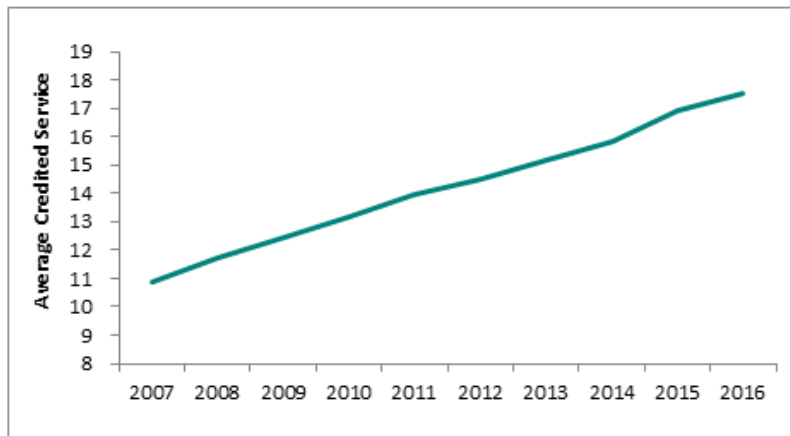
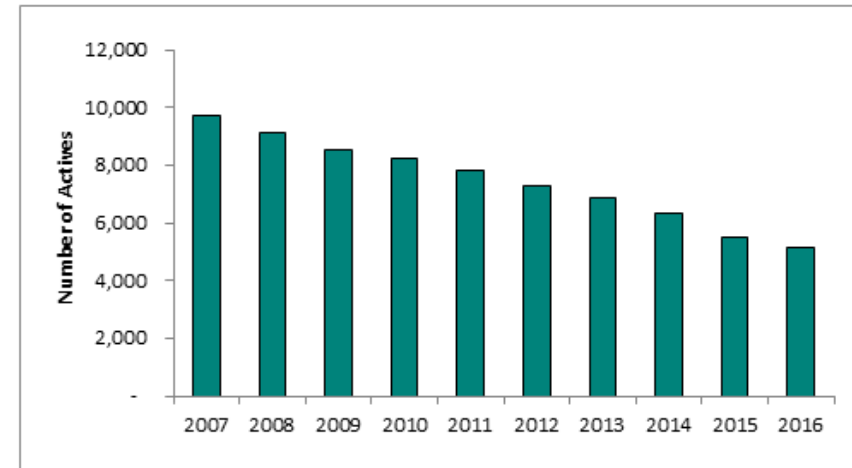
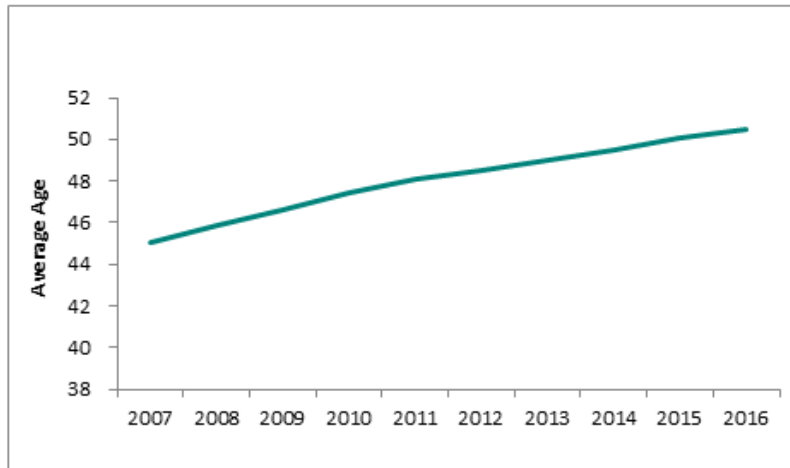
Retiree Medical Participants as of June 30, 2016		
	Retirees	All Members
Pre-Medicare	3,197	5,363
Medicare Part A & B	7,964	10,867
Medicare Part B Only	<u>173</u>	<u>201</u>
Total	11,334	16,431

As of June 30, 2016	Retiree
Summary of Retiree Medical Data Received	
1. Retiree records on pension data	21,135
2. Records closed / excluded for healthcare data*	3,727
3. Records closed as not eligible/participating in retiree plan	2,372
4. Records with coverage decreases (due to duplicate coverage)	3,492
5. Records not in Aetna data **	<u>210</u>
6. Records valued for retiree medical	11,334
7. Records in Aetna data but not on pension data **	585

* Records closed for multiple pension benefits across all Alaska plans or ineligible pension status.

** These represent a small portion of the total population. Where records did not appear with a medical enrollment (210), we deemed that member as not enrolled. Where enrolled members were not found on the census data (585), we considered that a data issue that is likely due to timing or a mismatch on unique identifiers that will resolve for the next valuation. These were not deemed to significantly impact valuation results. Note that in the above table, item 5 consists of the total PERS and TRS population.

Summary of Members Included - Active Members at June 30



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

Section 5.2 Age and Service Distribution of Active Members

Annual Earnings by Age

Age	Number	Total Annual Earnings	Average Annual Earnings
0 – 19	0	\$ 0	\$ 0
20 – 24	0	0	0
25 – 29	0	0	0
30 – 34	56	4,012,893	71,659
35 – 39	512	39,480,318	77,110
40 – 44	907	73,989,225	81,576
45 – 49	1,096	93,287,822	85,117
50 – 54	988	85,802,718	86,845
55 – 59	847	73,364,031	86,616
60 – 64	467	42,120,746	90,194
65 – 69	207	19,006,763	91,820
70 – 74	33	3,158,392	95,709
75+	10	998,600	99,860
Total	5,123	\$ 435,221,508	\$ 84,954

Annual Earnings by Credited Service

Years of Service	Number	Total Annual Earnings	Average Annual Earnings
0	0	\$ 0	\$ 0
1	3	182,541	60,847
2	7	475,310	67,901
3	13	844,806	64,985
4	12	759,813	63,318
0 – 4	35	2,262,470	64,642
5 – 9	242	17,373,865	71,793
10 – 14	1,604	127,620,554	79,564
15 – 19	1,685	143,790,002	85,335
20 – 24	912	82,001,384	89,914
25 – 29	467	43,842,117	93,880
30 – 34	121	12,160,818	100,503
35 – 39	37	3,927,829	106,158
40+	20	2,242,470	112,124
Total	5,123	\$ 435,221,509	\$ 84,954

Years of Credited Service by Age

Age	Years of Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0 – 19	0	0	0	0	0	0	0	0	0	0
20 – 24	0	0	0	0	0	0	0	0	0	0
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	1	13	41	1	0	0	0	0	0	56
35 – 39	11	60	376	65	0	0	0	0	0	512
40 – 44	10	63	377	411	46	0	0	0	0	907
45 – 49	5	44	293	463	251	40	0	0	0	1,096
50 – 54	5	22	200	301	290	160	10	0	0	988
55 – 59	2	20	155	268	202	140	52	8	0	847
60 – 64	1	14	111	123	81	86	34	14	3	467
65 – 69	0	5	42	44	38	34	20	11	13	207
70 – 74	0	1	9	5	2	5	4	4	3	33
75+	0	0	0	4	2	2	1	0	1	10
Total	35	242	1,604	1,685	912	467	121	37	20	5,123

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

Section 5.3 Member Data Reconciliation

	Active Members	Inactive Members					Total
		Due a Refund	With Deferred Benefits	Retired Members	Disabled Members	Bene- ficiaries	
As of June 30, 2015	5,502	2,218	890	11,287	29	1,102	21,028
Vested Terminations	(146)	(1)	147	0	0	0	0
Non-vested Terminations	(17)	19	(2)	0	0	0	0
Cash-outs	(2)	(73)	(4)	0	0	0	(79)
Disability Retirements	(1)	(2)	(1)	0	4	0	0
Age Retirements	(304)	(16)	(102)	425	(3)	N/A	0
Deaths With Beneficiary	(3)	0	0	(75)	(1)	79	0
Deaths Without Beneficiary	(2)	(5)	(2)	(101)	(1)	(33)	(144)
Data Corrections	(1)	0	0	0	0	(3) ¹	(4)
Transfers Out	0	0	0	0	0	0	0
Rehires	97	(37)	(51)	(9)	0	0	0
Pick Ups*	0	0	0	0	0	26	26
Net Change	(379)	(115)	(15)	240	(1)	69	(201)
As of June 30, 2016	5,123	2,103	875	11,527	28	1,171	20,827

*Pickup beneficiaries are primarily new DROs.

¹ Expiration of two dependent benefits and one DRO participant who became a beneficiary.

Section 5.4 Schedule of Active Member Data

Valuation Date	Number	Annual Earnings (000's)	Annual Average Earnings	Percent Increase/ (Decrease) in Average Earnings	Number of Participating Employers
June 30, 2016	5,123	\$ 435,222	\$ 84,954	2.4%	58
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

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

Section 5.5 Active Member Payroll Reconciliation

Payroll Field	Payroll Data (000s)
a) DRB actual reported salaries FY16 – employer list	\$ 773,291
b) DRB actual reported salaries FY16 – valuation data	694,948
c) Include October data adjustment for rehires	707,437
d) Annualized valuation data	721,075
e) Valuation payroll as of June 30, 2016	759,663
f) Rate payroll for FY17	750,379
g) Rate payroll for FY19	784,420

- a) Actual reported salaries from DRB employer listing showing all payroll paid during FY16, including those who were not active as of June 30, 2016
- b) Payroll from valuation data for people who are in active status as of June 30, 2016
- c) Payroll from (b) including additional people added who were listed as active as of October 1, 2016 and were run as active in the valuation
- d) Payroll from (c) annualized for both new entrants and part-timers
- e) Payroll from (d) with one year of salary scale applied to estimate salaries payable for the upcoming year
- f) Payroll from (e) with the part-timer annualization removed
- g) Payroll from (f) with two years of assumed decrements and salary scale, and 0% population growth

Section 5.6 Summary of New Pension Benefit Recipients

During the Year Ending June 30	2012	2013	2014	2015	2016
Service					
1. Number	426	461	146	791	422
Average Age at Commencement	59.41	59.88	60.43	59.87	60.32
Average Monthly Pension Benefit	\$ 3,100	\$ 3,084	\$ 2,433	\$ 3,363	\$ 3,190
Survivor (including surviving spouse and DROs)					
1. Number	39	108	76	89	104
Average Age at Commencement	66.09	68.46	70.21	70.22	72.15
Average Monthly Pension Benefit	\$ 1,945	\$ 1,561	\$ 1,658	\$ 1,715	\$ 1,633
Disability					
1. Number	8	7	4	8	4
Average Age at Commencement	52.95	49.61	50.80	53.62	50.48
Average Monthly Pension Benefit	\$ 3,615	\$ 3,625	\$ 3,945	\$ 3,808	\$ 3,616
Total					
1. Number	473	576	226	888	530
Average Age at Commencement	59.85	61.36	63.55	60.85	62.56
Average Monthly Pension Benefit	\$ 3,013	\$ 2,805	\$ 2,199	\$ 3,202	\$ 2,888

Summary of New Pension Benefit Recipients

Average Pension Benefit Payments

	Years of Credited Service						
	0 – 4	5 – 9	10 – 14	15 – 19	20 – 24	25 – 29	30+
Period 7/1/15 – 6/30/16: ¹							
Average Monthly Pension Benefit	\$ 245	\$ 1,002	\$ 1,535	\$ 2,540	\$ 3,445	\$ 4,472	\$ 6,168
Number of Recipients	11	31	82	69	105	74	54
Period 7/1/14- 6/30/15: ¹							
Average Monthly Pension Benefit	\$ 349	\$ 1,041	\$ 1,342	\$ 2,205	\$ 3,267	\$ 4,220	\$ 5,900
Number of Recipients	11	33	70	67	137	125	94
Period 7/1/13- 6/30/14: ¹							
Average Monthly Pension Benefit	\$ 235	\$ 904	\$ 1,435	\$ 2,398	\$ 3,016	\$ 4,073	\$ 7,485
Number of Recipients	8	31	31	28	22	18	12
Period 7/1/12- 6/30/13: ¹							
Average Monthly Pension Benefit	\$ 253	\$ 1,030	\$ 1,496	\$ 2,450	\$ 3,281	\$ 4,384	\$ 6,052
Number of Recipients	10	57	67	90	101	79	64
Period 7/1/11- 6/30/12: ¹							
Average Monthly Pension Benefit	\$ 353	\$ 1,064	\$ 1,512	\$ 2,241	\$ 3,276	\$ 4,320	\$ 5,739
Number of Recipients	11	43	62	61	118	81	58
Period 7/1/10- 6/30/11: ¹							
Average Monthly Pension Benefit	\$ 146	\$ 902	\$ 1,432	\$ 2,328	\$ 3,131	\$ 4,283	\$ 5,496
Number of Recipients	5	68	63	77	118	104	67
Period 7/1/09- 6/30/10: ¹							
Average Monthly Pension Benefit	\$ 482	\$ 1,020	\$ 1,343	\$ 2,263	\$ 2,992	\$ 4,120	\$ 6,263
Number of Recipients	14	50	63	85	109	79	49
Period 7/1/08- 6/30/09: ¹							
Average Monthly Pension Benefit	\$ 230	\$ 950	\$ 1,168	\$ 2,239	\$ 2,957	\$ 3,897	\$ 4,860
Number of Recipients	13	35	64	52	67	54	18
Period 7/1/07- 6/30/08: ¹							
Average Monthly Pension Benefit	\$ 209	\$ 945	\$ 1,248	\$ 2,226	\$ 2,966	\$ 3,832	\$ 5,057
Number of Recipients	13	44	62	92	95	87	33

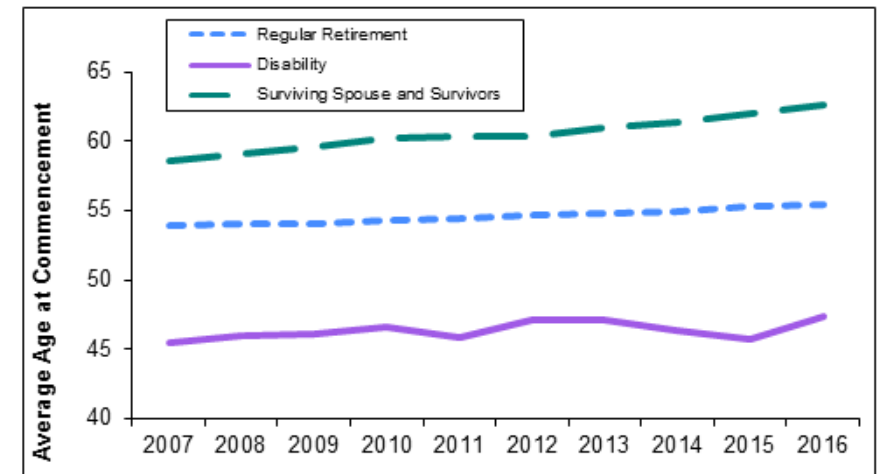
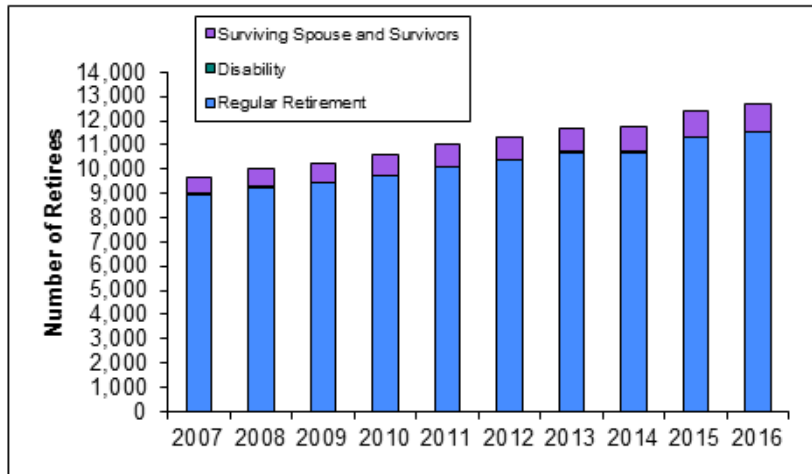
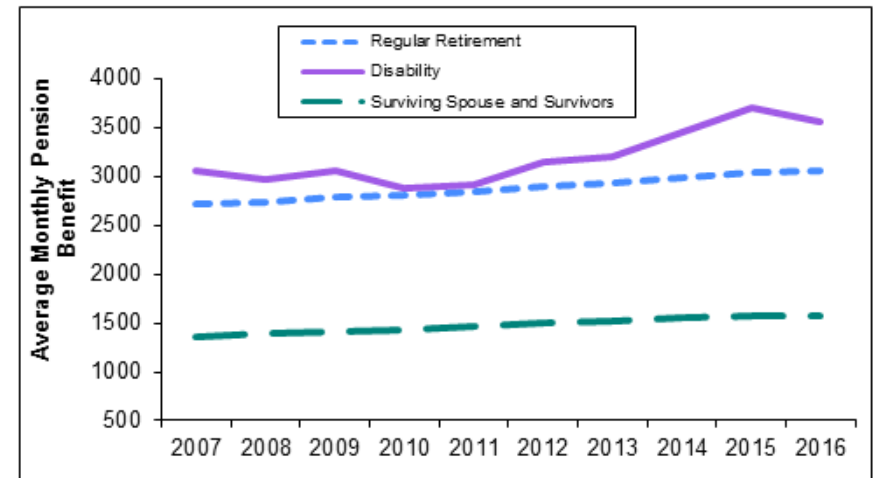
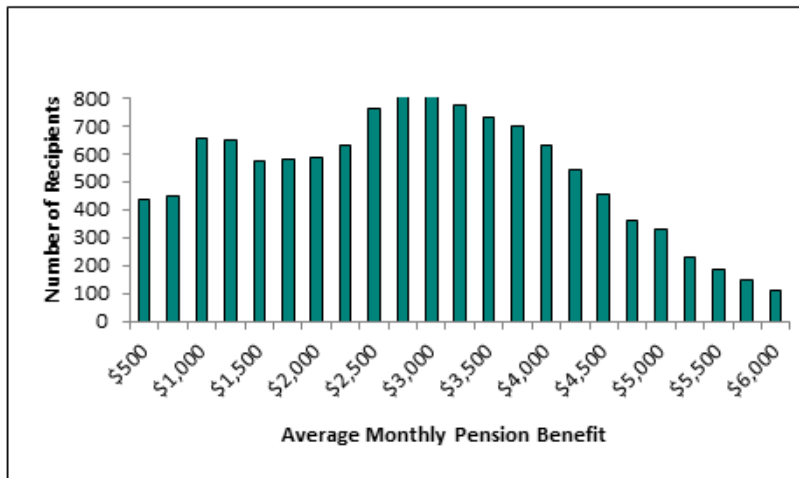
"Average Monthly Pension Benefit" includes postretirement pension adjustments and cost-of-living increases

¹ Does not include beneficiaries.

Section 5.7 Summary of All Pension Benefit Recipients

As of June 30 Service	2012	2013	2014	2015	2016
1. Number, Fiscal Year Start	10,094	10,371	10,688	10,681	11,287
Net Change	277	317	(7)	606	240
Number, Fiscal Year End	10,371	10,688	10,681	11,287	11,527
Average Age at Commencement	54.65	54.87	54.91	55.28	55.43
Average Current Age	67.67	68.17	68.87	69.09	69.58
Average Monthly Pension Benefit	\$ 2,901	\$ 2,939	\$ 2,986	\$ 3,040	\$ 3,056
Surviving Spouse's Benefits (includes DROs)					
1. Number, Fiscal Year Start	882	893	980	1,034	1,096
Net Change	11	87	54	62	72
Number, Fiscal Year End	893	980	1,034	1,096	1,168
Average Age at Commencement	60.45	61.07	61.47	62.04	62.66
Average Current Age	71.04	71.40	71.98	72.54	73.07
Average Monthly Pension Benefit	\$ 1,504	\$ 1,517	\$ 1,548	\$ 1,576	\$ 1,580
Survivor's Benefits (other than spouses)					
1. Number, Fiscal Year Start	6	4	5	5	6
Net Change	(2)	1	0	1	(3)
Number, Fiscal Year End	4	5	5	6	3
Average Age at Commencement	31.90	38.32	39.19	49.91	52.81
Average Current Age	35.71	42.20	44.07	54.06	57.22
Average Monthly Pension Benefit	\$ 711	\$ 1,272	\$ 1,302	\$ 1,128	\$ 746
Disabilities					
1. Number, Fiscal Year Start	34	33	32	30	29
Net Change	(1)	(1)	(2)	(1)	(1)
Number, Fiscal Year End	33	32	30	29	28
Average Age at Commencement	47.16	47.13	46.32	45.67	47.34
Average Current Age	51.61	50.99	50.40	49.16	51.56
Average Monthly Pension Benefit	\$ 3,154	\$ 3,213	\$ 3,461	\$ 3,699	\$ 3,568
Total					
1. Number, Fiscal Year Start	11,016	11,301	11,705	11,750	12,418
Net Change	285	404	45	668	308
Number, Fiscal Year End	11,301	11,705	11,750	12,418	12,726
Average Age at Commencement	55.08	55.36	55.45	55.85	56.07
Average Current Age	67.88	68.38	69.09	69.35	69.85
Average Monthly Pension Benefit	\$ 2,791	\$ 2,820	\$ 2,860	\$ 2,912	\$ 2,921

Summary of All Pension Benefit Recipients



Summary of All Pension Benefit Recipients

Distribution of Annual Pension Benefits for Benefit Recipients

Annual Pension Benefit by Age

Age	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0 – 19	0	\$ 0	\$ 0
20 – 24	0	0	0
25 – 29	0	0	0
30 – 34	0	0	0
35 – 39	3	82,047	27,349
40 – 44	4	150,690	37,673
45 – 49	59	2,068,313	35,056
50 – 54	285	10,681,410	37,479
55 – 59	966	35,246,029	36,487
60 – 64	2,397	78,784,328	32,868
65 – 69	3,278	108,858,697	33,209
70 – 74	2,619	94,150,648	35,949
75+	3,115	116,061,613	37,259
Total	12,726	\$ 446,083,775	\$ 35,053

Annual Pension Benefit by Years Since Commencement

Years Since Commencement	Number	Total Annual Pension Benefit	Average Annual Pension Benefit
0	489	\$ 16,877,828	\$ 34,515
1	571	21,396,743	37,472
2	529	18,945,677	35,814
3	539	19,278,886	35,768
4	481	17,294,170	35,955
0 – 4	2,609	93,793,304	35,950
5 – 9	2,235	73,313,188	32,802
10 – 14	2,320	72,107,778	31,081
15 – 19	2,358	80,414,189	34,103
20 – 24	1,392	53,176,079	38,201
25 – 29	1,134	47,317,290	41,726
30 – 34	454	18,662,802	41,107
35 – 39	179	5,970,554	33,355
40+	45	1,328,591	29,524
Total	12,726	\$ 446,083,775	\$ 35,053

Years Since Commencement by Age

Age	Years Since Commencement									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	
0 – 19	0	0	0	0	0	0	0	0	0	0
20 – 24	0	0	0	0	0	0	0	0	0	0
25 – 29	0	0	0	0	0	0	0	0	0	0
30 – 34	0	0	0	0	0	0	0	0	0	0
35 – 39	2	1	0	0	0	0	0	0	0	3
40 – 44	3	0	1	0	0	0	0	0	0	4
45 – 49	49	7	1	2	0	0	0	0	0	59
50 – 54	188	73	22	2	0	0	0	0	0	285
55 – 59	509	281	141	31	3	1	0	0	0	966
60 – 64	962	702	470	235	26	1	0	0	1	2,397
65 – 69	530	716	981	745	236	66	2	1	1	3,278
70 – 74	183	303	482	874	466	286	19	5	1	2,619
75+	183	152	222	469	661	780	433	173	42	3,115
Total	2,609	2,235	2,320	2,358	1,392	1,134	454	179	45	12,726

Section 5.8 Schedule of Pension Benefit Recipients by Type of Pension Benefit and Option Elected

Amount of Monthly Pension Benefit	Number of Recipients	Type of Pension Benefit			Option Selected			
		1	2	3	1	2	3	4
\$ 1 – \$ 300	218	154	64	0	132	44	35	7
301 – 600	380	274	106	0	194	78	88	20
601 – 900	660	528	132	0	347	140	136	37
901 – 1,200	798	647	151	0	448	176	141	33
1,201 – 1,500	720	565	155	0	387	160	149	24
1,501 – 1,800	699	559	140	0	372	155	145	27
1,801 – 2,100	698	584	114	0	344	160	168	26
2,101 – 2,400	826	731	95	0	370	199	231	26
2,401 – 2,700	1,018	939	78	1	460	240	287	31
2,701 – 3,000	1,001	951	48	2	421	237	310	33
3,001 – 3,300	942	900	33	9	397	208	312	25
3,301 – 3,600	867	848	15	4	363	176	306	22
3,601 – 3,900	811	786	18	7	344	165	272	30
3,901 – 4,200	654	646	7	1	288	111	242	13
Over \$4,200	2,434	2,415	15	4	933	391	1,037	73
Totals	12,726	11,527	1,171	28	5,800	2,640	3,859	427

Type of Pension Benefit

1. Regular retirement
2. Survivor payment
3. Disability

Option Selected

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

Section 5.9 Pension Benefit Recipients Added to and Removed from Rolls

Year Ended	Added to Rolls		Removed from Rolls		Rolls – End of Year		Percent Increase in Annual Pension Allowances	Average Annual Pension Allowance
	No. ¹	Annual Pension Allowances ¹	No. ¹	Annual Pension Allowances ¹	No.	Annual Pension Allowances		
June 30, 2016	530	\$18,364,581	222	\$6,144,109	12,726	\$446,083,775	2.82%	\$35,053
June 30, 2015	888	34,120,658	220	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

¹ Numbers are estimated, and include other internal transfers.

Section 6 Basis of the Actuarial Valuation

Section 6.1 Summary of Plan Provisions

1. Effective Date

July 1, 1955, with amendments through June 30, 2016. 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 57 employers participating in the TRS, including the State of Alaska, 53 school districts, and three other eligible organizations.

4. Membership

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

- certificated full-time and part-time elementary and secondary teachers, certificated school nurses, and certificated employees in positions requiring teaching certificates;
- positions requiring a teaching certificate as a condition of employment in the Department of Education and Early Development and the Department of Labor and Workforce Development;
- University of Alaska full-time and part-time teachers, and full-time administrative employees in positions requiring academic standing if approved by the TRS administrator;
- certain full-time or part-time teachers of Alaska Native language or culture who have elected to be covered under the TRS;
- members on approved sabbatical leave under AS 14.20.310;
- certain State legislators who have elected to be covered under the TRS; and

- a teacher who has filed for worker's compensation benefits due to an on-the-job assault and who, as a result of the physical injury, is placed on leave without pay.

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

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

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

5. Credited Service

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

Members may claim other types of service, including:

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

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

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

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

6. Employer Contributions

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

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

The past service rate is a uniform rate for all participating employers to amortize the unfunded past service liability with payments that are a level percentage of payroll amount over a closed 25-year period starting June 30, 2014.

Employer rates cannot be less than the normal cost rate.

7. Additional State Contribution

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

8. Member Contributions

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

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

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

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

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

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

9. Retirement Benefits

Eligibility:

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

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

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

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

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

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

10. Reemployment of Retired Members

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

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

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

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

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

11. Postemployment Healthcare Benefits

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

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

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

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

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

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

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

12. Disability Benefits

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

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

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

13. Death Benefits

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

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

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

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

to a maximum of \$3,000. An additional \$500 may be payable if the member is survived by dependent children.

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

- a. **Survivor's Allowance:** If the member is survived by dependent children, the surviving spouse and dependent children are entitled to a survivor's allowance. The allowance for the spouse is equal to 35% of the member's base salary at the time of death or disability, plus 10% for each dependent child up to a maximum of 40%. The allowance terminates and a spouse's pension becomes payable when there is no longer an eligible dependent child.
- b. **Spouse's Pension:** The spouse's pension is equal to 50% of the retirement benefit that the deceased member was receiving or the unreduced retirement benefit that the deceased member would have received if retired at the time of death. The spouse's pension begins on the first of the month after the member's death or termination of the survivor's allowance.
- c. **Death After Retirement:** If a joint and survivor option was selected at retirement, the eligible spouse receives continuing, lifetime monthly benefits after the member dies. A survivor's allowance or spouse's pension may be payable if the member participated in the supplemental contributions provision. If a joint and survivor option was not selected and benefits are not payable under the supplemental contributions provision, the designated beneficiary receives the member's contribution account, less any benefits already paid and the member's last benefit check.

14. Postretirement Pension Adjustments

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

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

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

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

15. Alaska Cost of Living Allowance

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

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

16. Changes in Benefit Provisions Since the Prior Valuation

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

Section 6.2 Description of Actuarial Methods and Valuation Procedures

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

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

Actuarial Method – Entry Age Normal 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 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.

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.

Valuation of Medical and Prescription Drug Benefits

This section outlines the detailed methodology used to develop the initial per capita claims cost rates for PERS postemployment healthcare plan. Note that methodology reflects the results of our annual experience rate update for the period July 1, 2016 to June 30, 2017. Healthcare cost trend and retiree contribution increase assumptions for the period after June 30, 2017 remain unchanged from the June 30, 2014 valuation.

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

Benefits

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 for those Medicare-eligible. 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. Conduent relies upon rates set by a third-party for the DVA benefits. Conduent reviewed historical rate-setting information and believes that contribution rate adjustments made are not unreasonable.

Administration and Data Sources

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.

- Claims incurred and enrollment data for July 2012 through June 2016 (FY13 through FY16), with claims paid through July 2016 were provided by HealthSmart and Aetna and are included in our analysis.
- Aetna provided census information identifying Medicare Part B only participants. These participants are identified when hospital claims are denied by Medicare; Aetna then flags that participant as a Part B only participant. Conduent added newly identified participants to our list of Medicare Part B only participants. Conduent assumes that once identified as Part B only, that participant remains in that status until we are notified otherwise.

For the June 30, 2016 valuation, Aetna provided a snapshot file as of July 1, 2016 of retirees and dependents that included a coverage level indicator. After analysis of this file during the valuation census data preparation, Conduent learned that dual coverage participants are reflected in eligibility files multiple times to administer coordination of benefits. This method carries over to enrollment reporting. This resulted in higher per capita costs to address the removal of the dual coverage membership and to cover the value of any additional coordinated benefits. This was offset by a reduction in the number of unique members valued.

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 more recent cost data by Medicare status. Aetna does provide separate experience by Medicare status and is incorporated into per capita rate development for each year of experience included in our claim base with corresponding weights applied in the final per capita cost.

Methodology

Conduent developed per capita costs and projected historic claim data to fiscal 2017 for retirees using the following summarized steps:

1. Develop historic annual incurred claim cost rates – an analysis of medical costs was completed based on claims information and enrollment data provided by Aetna and HealthSmart for each year in the experience period of fiscal 2013 through fiscal 2016.
 - Costs for medical services and prescriptions were analyzed separately, and separate trend rates were developed to project expected future medical and prescription costs for the upcoming year (e.g. from the experience period up through fiscal 2017).
 - Conduent applied an estimate to the medical claims in fiscal year 2016 to estimate incurred but not reported claims based upon a review of claim lags through July 2016. Pharmacy claims are deemed fully incurred.
 - An offset for costs expected to be reimbursed by Medicare was incorporated beginning at age 65. Available management level reporting does indicate claims and enrollment separately for Medicare and pre-Medicare plan participants, but only since January 1, 2014. HealthSmart data does not, but we did have overall statistics as to the percentage of claims and enrollment attributable to both groups. 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 the “no-Part A” individuals who are required to enroll in Medicare Part B, the State is the primary payer for hospital bills and other Part A services. Claim experience is not available separately for participants with both Medicare Parts A and B and those with Part B only. For Medicare Part B only participants, a lower average claims cost was applied to retirees covered by both Medicare Part A and B vs. retirees covered only by Medicare Part B based upon manual rate models that estimate the Medicare covered proportion of medical costs. 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.
 - Based on census data received from Aetna, 0.39% of the current retiree population was identified as having coverage only under Medicare Part B. For future retirees, we assume their Part A eligible status based on a combination of date of hire and/or re-hire, date of birth, tier, etc.
 - Based upon a reconciliation of valuation census data to the Aetna July 1, 2016 snapshot eligibility file, Conduent adjusted member counts used for duplicate records where participants have dual coverage; i.e. primary coverage as a retiree and secondary coverage as the covered spouse of another retiree. This is to reflect the total cost per distinct individual/member which is then applied to distinct members in the valuation census.
 - Conduent understands that pharmacy claims reported do not reflect rebates. Based upon reported rebates in proportion to incurred claims for State of Alaska retiree plans, Conduent

reduced reported pharmacy incurred claims by 9% to estimate the rebates for the retiree population beginning January 1, 2014. We reduced historic pharmacy incurred claims by 5.5% to reflect rebates on experience prior to January 1, 2014. These estimates were based upon reported rebates for retirees from Aetna and Envision Rx.

2. Develop estimated Retiree Drug Subsidy reimbursement - actual subsidy payments to the State were received for CY2009-CY2015, and the first six months of CY2016. Conduent obtained this information based upon recorded and available information in the RDS Subsidy website and as provided by the State. The projected subsidy for FY 2017 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.
3. Adjust for network change – based upon additional experience and updated reporting from Aetna (through March 31, 2016), we updated the adjustment to reflect the impact of the better network discounts realized. Conduent referenced administrator reports provided by Alaska to compare the proportion of network savings to covered charges under Aetna and the prior administrator. We found the discounts to be approximately 6% higher under Aetna as a proportion of covered charges as compared to the prior administrator.
4. Adjust for claim fluctuation, anomalous experience, etc. – explicit adjustments are often made for anticipated large claims or other anomalous experience. Due to group size and demographics, we did not make any large claim adjustments. We do blend both Alaska plan-specific and national trend factors as described below. Conduent compared data utilized to lag reports and quarterly plan experience presentations provided by the State and Aetna to assess accuracy and reasonableness of data.
5. Trend all data points to the projection period – project prior years' experience forward to fiscal 2017 for retiree benefits on an incurred claim basis. Trend factors derived from historic Alaska-specific experience and national trend factors are shown in the table in item 6 below.
6. Apply credibility to prior experience – adjust prior year's data by assigning weight to recent periods, as shown at the right of the table below. Greater credibility is given to the past 24 months' experience. We have some run-out claims data, thus less estimation for complete claims in fiscal 2016 that is consistent with last year. We did not adjust the credibility weight further. Note also that we averaged projected plan costs using Alaska-specific trend factors and national trend factors, assigning 75% weight to Alaska-specific trends and 25% to national trends:

Alaska-Specific and National Average Weighted Trend from Experience Period to Valuation Year			
Experience Period	Medical	Prescription	Weighting Factors
FY2013 to FY2014	8.9%	7.1%	10%
FY2014 to FY2015	7.7%	6.5%	20%
FY2015 to FY2016	6.4%	7.1%	35%
FY2016 to FY2017	5.3%	8.5%	35%

Trend assumptions used for rate development are assessed annually and as additional/improved reporting becomes available, we will incorporate into rate development as appropriate. Based upon recent experience trending up (mitigating historic gains), we are not proposing an update to the valuation healthcare cost trend assumption.

7. Develop separate administration costs – no adjustments were made for internal administrative costs. Third party retiree plan administration fees for fiscal 2017 are based upon rates in effect at the midpoint of the year, January 2017, based upon negotiations with Aetna as communicated by the State. Medical fees increased 1.4% and pharmacy admin was reduced to \$0. We included a small fee for estimated fees that occur on a per occurrence basis (i.e. prior authorization, retiree direct bill). We also include PCORI fees under the Affordable Care Act. We estimated the 2017 rates based upon the 2016 rate of \$2.26 per member per year increased by 4%. The annual per participant per year administrative cost rate for medical and prescription benefits (including PCORI) is \$206.88.
8. Healthcare Reform legislation passed on March 23, 2010 included several provisions with potential implications for the State of Alaska Retiree Health Plan liability. Conduent evaluated the impact of the following provisions; however, none of the impacts have been included in the valuation results.
 - Because the State plan is retiree-only, and was in effect at the time the legislation was enacted, not all provisions of the health reform legislation apply to the State plan. 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.
 - As Transitional Reinsurance fees are only in effect until 2016, we excluded these for valuation purposes.
 - 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. Based upon guidance available at the valuation date, Conduent 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 tax cost thresholds in each projection year. Projected enrollment was based upon the 2016 enrollment data provided by Aetna, and 2016 valuation headcount projections for future years.
 - We included administrative fees and applied Retiree Drug Subsidy reimbursements to the Medicare rates.
 - We assumed claim costs would increase according to valuation trend assumptions from the June 30, 2016 valuation, and that the tax cost thresholds would increase at 3.0%. The first year increased at 4% to reflect the additional 1% over inflation assumption.
 - Conduent determined the impact to be less than \$275,000 (0.01%) of the projected June 30, 2016 healthcare actuarial accrued liability for the defined benefit plans. In addition, any additional per capita costs due to the tax were not expected to significantly impact trend over the long term.

The Trump administration has clearly announced its intention to repeal Healthcare Reform. As one of his first acts in office, President Trump issued an executive order that states that federal agencies can grant waivers, exemptions, and delays of “Obamacare” provisions that would impose costs on states or individuals. On February 15, 2016, CMS issued proposed rules that are intended to

minimize adverse selection, but which might disrupt the fragile balance of the healthcare exchanges. We can expect more information about what is being altered.

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

The following table summarizes data sources and assumptions and the relative impact changes in each have on healthcare cost projections for 2016 as compared to 2015:

Healthcare Cost Rate Data Source or Assumption Change, 2016 vs. 2015	Gain / Loss Impact on 2015 Valuation Results
Claim lag specific to medical and prescription experience	Small
Individual claims level data	– No impact on cost data used for 2016, though potentially a source of future modifications – No impact on morbidity assumptions used for 2016, though potentially a source of future modifications
Explicit TPA fees	Negligible
Actual RDS payments received	Negligible
Aggregate claims data	Loss due to adjustment for removal of dual coverage/duplicate members in reported enrollment counts, offset by gain due to experience
Census Data	Small gain due to updated census

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, which for people currently in receipt of healthcare benefits was supplemented by coverage data from the healthcare claims administrator (Aetna)
- Certain adjustments and assumptions were made to prepare the data for valuation:
 - Some records provided on the Aetna data were associated with a participant social security number not listed on the RIN-to-SSN translation file. We did not add these records to the retiree medical valuation data as they were unable to tie with our pension valuation data (and therefore were unable to be associated with a specific plan or participant).
 - Some in pay participants and beneficiaries on the pension valuation data who were previously assumed to be receiving medical benefits were not listed on the provided Aetna data. We have updated these records to only be valued under the pension valuation.
 - Some records in the Aetna data were duplicates due to the dual coverage (i.e. coverage as a retiree and as a spouse of another retiree) allowed under the Plan. Records were changed for these members so that each member was only valued once. Any additional value of the dual coverage (due to coordination of benefits) is small and reflected in the per capita costs.
 - Covered children included in the Aetna data were valued until age 23, unless handicapped. We assumed that those dependents over 23 were only eligible and included due to being handicapped.

- Conduent understands that retiree medical coverage/eligibility is in place while a pension benefit is payable. If a participant dies, dependent coverage is only assumed to continue if they have ongoing pension/survivor benefits.
- 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: Excluded records due to file mismatches are noted above but not are expected to have a material impact on the results.

Unresolved matters: None.

Description of Actuarial Methods and Valuation Procedures

June 30, 2016 Valuation – FY 2017 Claims Cost Rates

	Medical			Prescription Drugs			Total
	Pre-Medicare	Medicare A&B	Medicare B Only	Pre-Medicare	Medicare A&B	Medicare B Only	
Fiscal 2013 Incurred Claims	\$ 239,986,289	\$ 73,469,050	\$ 1,901,151	\$ 49,738,435	\$ 93,999,808	\$ 538,020	\$ 459,632,753
Membership	23,522	32,984	217	23,522	32,984	217	56,723
Paid Claims Cost Rate	\$ 10,203	\$ 2,227	\$ 8,761	\$ 2,115	\$ 2,850	\$ 2,479	\$ 8,103
Trend to FY2017	1.313	1.313	1.313	1.325	1.325	1.325	
FY 2017 Paid Cost Rate	\$ 13,399	\$ 2,925	\$ 11,506	\$ 2,801	\$ 3,775	\$ 3,284	\$ 10,670
Manual Adjustment*	0.940	0.940	0.940	0.934	0.934	0.934	
FY 2017 Incurred Cost Rate	\$ 12,595	\$ 2,750	\$ 10,815	\$ 2,616	\$ 3,526	\$ 3,067	\$ 10,010
Fiscal 2014 Incurred Claims	\$ 224,167,427	\$ 68,834,329	\$ 2,428,446	\$ 39,572,896	\$ 115,011,779	\$ 605,633	\$ 450,620,510
Membership	21,322	36,843	223	21,322	36,843	223	58,388
Paid Claims Cost Rate	\$ 10,514	\$ 1,868	\$ 10,890	\$ 1,856	\$ 3,122	\$ 2,716	\$ 7,718
Trend to FY2017	1.205	1.205	1.205	1.237	1.237	1.237	
FY 2017 Paid Cost Rate	\$ 12,673	\$ 2,252	\$ 13,126	\$ 2,295	\$ 3,861	\$ 3,359	\$ 9,386
Manual Adjustment*	0.970	0.970	0.970	0.967	0.967	0.967	
FY 2017 Incurred Cost Rate	\$ 12,293	\$ 2,184	\$ 12,733	\$ 2,220	\$ 3,733	\$ 3,248	\$ 9,095
Fiscal 2015 Incurred Claims	\$ 222,942,485	\$ 73,220,895	\$ 3,066,493	\$ 55,314,988	\$ 118,431,447	\$ 651,667	\$ 473,627,975
Membership	20,920	38,263	242	20,920	38,263	242	59,425
Paid Claims Cost Rate	\$ 10,657	\$ 1,914	\$ 12,671	\$ 2,644	\$ 3,095	\$ 2,693	\$ 7,970
Trend to FY2017	1.120	1.120	1.120	1.162	1.162	1.162	
FY 2017 Paid Cost Rate	\$ 11,940	\$ 2,144	\$ 14,197	\$ 3,071	\$ 3,595	\$ 3,128	\$ 9,050
Manual Adjustment*	1.000	1.000	1.000	1.000	1.000	1.000	
FY 2017 Incurred Cost Rate	\$ 11,940	\$ 2,144	\$ 14,197	\$ 3,071	\$ 3,595	\$ 3,128	\$ 9,050
Fiscal 2016 Incurred Claims	\$ 225,325,571	\$ 83,147,336	\$ 1,892,894	\$ 57,222,142	\$ 135,947,721	\$ 803,500	\$ 504,339,164
Membership	20,049	40,480	275	20,049	40,480	275	60,804
Paid Claims Cost Rate	\$ 11,239	\$ 2,054	\$ 6,883	\$ 2,854	\$ 3,358	\$ 2,922	\$ 8,295
Trend to FY2017	1.053	1.053	1.053	1.085	1.085	1.085	
FY 2017 Paid Cost Rate	\$ 11,830	\$ 2,162	\$ 7,245	\$ 3,096	\$ 3,643	\$ 3,169	\$ 8,833
Manual Adjustment*	1.000	1.000	1.000	1.000	1.000	1.000	
FY 2017 Incurred Cost Rate	\$ 11,830	\$ 2,162	\$ 7,245	\$ 3,096	\$ 3,643	\$ 3,169	\$ 8,833
Weighted Average 7/1/2016-6/30/2017 Incurred Claims Cost Rates:							
At average age	\$ 12,037	\$ 2,219	\$ 11,133	\$ 2,864	\$ 3,632	\$ 3,160	\$ 9,079
At age 65	\$ 14,380	\$ 1,707	\$ 8,562	\$ 3,320	\$ 3,320	\$ 3,320	\$ 8,783

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

Description of Actuarial Methods and Valuation Procedures

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

Below are the results of this analysis:

**Distribution of Per Capita Claims Cost by Age
for the Period July 1, 2016 through June 30, 2017**

Age	Medical and Medicare Parts A & B	Medical and Medicare Part B Only	Prescription Drug	Medicare Retiree Drug Subsidy
45	\$ 7,964	\$ 7,964	\$ 1,751	\$ -
50	9,010	9,010	2,080	-
55	10,194	10,194	2,470	-
60	12,108	12,108	2,864	-
65	1,707	8,562	3,320	614
70	2,077	10,417	3,577	661
75	2,466	12,369	3,815	706
80	2,657	13,325	3,911	723

Changes in Methods Since the Prior Valuation

There were no changes in valuation methods except for the changes described in the healthcare sections above.

Section 6.3 Summary of Actuarial Assumptions

The demographic and economic assumptions used in the June 30, 2016 valuation are described below. These assumptions were adopted by the Board in December 2014. These assumptions were the result of an experience study performed as of June 30, 2013.

Investment Return / Discount Rate	8.00% per year (geometric), compounded annually, net of expenses.
Salary Scale	Inflation – 3.12% per year. Productivity – 0.50% per year. See Table 1 for salary scale rates.
Payroll Growth	3.62% per year. (Inflation + Productivity).
Total Inflation	Total inflation as measured by the Consumer Price Index for urban and clerical workers for Anchorage is assumed to increase 3.12% annually.
Mortality (Pre-termination)*	Based upon the 2010-2013 actual experience. (See Table 2). 68% of male rates and 60% of female rates of post-termination mortality. Deaths are assumed to result from non-occupational causes 85% of the time.
Mortality (Post-termination)*	Based upon the 2010-2013 actual experience. (See Table 3). 94% of male and 97% of female rates of RP-2000, 2000 Base Year projected to 2018 with Projection Scale BB, with a 3-year setback for males and a 4-year setback for females.
Turnover	Select and ultimate rates based upon the 2010-2013 actual withdrawal experience. (See Table 4).
Disability	Incidence rates based upon the 2010-2013 actual experience, in accordance with Table 5. Post-disability mortality in accordance with the RP-2000 Disabled Retiree Mortality Table, 2000 Base Year, projected to 2018 with Projection Scale BB. (See Table 7).
Retirement	Retirement rates based upon the 2010-2013 actual experience in accordance with Table 6. Deferred vested members are assumed to retire at their earliest unreduced retirement date. The modified cash refund annuity is valued as a three-year certain and life annuity.
Marriage and Age Difference	Wives are assumed to be three years younger than husbands. 85% of male members and 75% of female members are assumed to be married.
Dependent Children	Benefits for dependent children have been valued only for members currently covering their dependent children. These benefits are only valued through the dependent children's age 23 (unless the child is disabled).
Contribution Refunds	5% of terminating members with vested benefits are assumed to have their contributions refunded. 100% of those with non-vested benefits are assumed to have their contributions refunded.
Imputed Data	Data changes from the prior year which are deemed to have an immaterial impact on liabilities and contribution rates are assumed to be correct in the current year's client data. Nonvested terminations with appropriate refund dates are assumed to have received a full refund of contributions. Active members with missing salary and service are assumed to be terminated with status based on their vesting percentage.
Active Rehire Assumption	Starting with the June 30, 2016 valuation, the Normal Cost used for determining contribution rates and in the projections includes a rehire assumption to account for anticipated rehires. The Normal Cost shown in the report includes the following % loads (which were developed based on the prior 5 years of rehire loss experience): - Pension: 18.49% - Healthcare: 10.39%
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 as of June 30.

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

COLA	Of those benefit recipients who are eligible for the COLA, 60% are assumed to remain in Alaska and receive the COLA.																		
Sick Leave	4.5 days of unused sick leave for each year of service are assumed to be available to be credited once the member is retired, terminates or dies.																		
Postretirement Pension Adjustment	50% and 75% of assumed inflation, or 1.56% and 2.34% respectively, is valued for the annual automatic Postretirement Pension Adjustment (PRPA) as specified in the statute.																		
Expenses	The investment return assumption is net of all expenses.																		
Part-time Status	Part-time employees are assumed to earn 0.75 years of credited service per year.																		
Re-employment Option	We assume all re-employed retirees return to work under the Standard Option.																		
Service	Total credited service is provided by the State. We assume that this service is the only service that should be used to calculate benefits. Additionally, the State provides claimed service (including Bureau of Indian Affairs Service). Claimed service is used for vesting and eligibility purposes as described in Section 2.1.																		
Final Average Earnings	Final Average Earnings is provided on the data for active members. This amount is used as a minimum in the calculation of the average earnings in the future.																		
Per Capita Claims Cost	Sample claims cost rates adjusted to age 65 for FY17 medical benefits are shown below: <table><tr><td></td><td></td><td>Prescription</td></tr><tr><td></td><td>Medical</td><td>Drugs</td></tr><tr><td>Pre-Medicare</td><td>\$ 14,380</td><td>\$ 3,320</td></tr><tr><td>Medicare Parts A & B</td><td>\$ 1,707</td><td>\$ 3,320</td></tr><tr><td>Medicare Part B Only</td><td>\$ 8,562</td><td>\$ 3,320</td></tr><tr><td>Medicare Part D</td><td>N/A</td><td>\$ 614</td></tr></table>			Prescription		Medical	Drugs	Pre-Medicare	\$ 14,380	\$ 3,320	Medicare Parts A & B	\$ 1,707	\$ 3,320	Medicare Part B Only	\$ 8,562	\$ 3,320	Medicare Part D	N/A	\$ 614
		Prescription																	
	Medical	Drugs																	
Pre-Medicare	\$ 14,380	\$ 3,320																	
Medicare Parts A & B	\$ 1,707	\$ 3,320																	
Medicare Part B Only	\$ 8,562	\$ 3,320																	
Medicare Part D	N/A	\$ 614																	
Third Party Administrator Fees	\$206.88 per person per year; assumed trend rate of 5% per year.																		
Medicare Part B Only	For actives and retirees not yet Medicare-eligible, participation is set based on whether the employee/retiree will have 40 quarters of employment after March 31, 1986, depending upon date of hire and/or re-hire.																		

Health Cost Trend

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 8.8% is applied to the FY17 pre-Medicare medical claims cost to get the FY18 medical claims cost.

	Medical Pre-65	Medical Post-65	Prescription Drugs
FY17	8.8%	5.8%	5.4%
FY18	8.2%	5.7%	5.1%
FY19	7.6%	5.6%	4.8%
FY20	7.0%	5.6%	4.6%
FY21	6.5%	5.6%	4.4%
FY22	6.0%	5.6%	4.2%
FY23	5.6%	5.6%	4.0%
FY26	5.6%	5.6%	4.0%
FY51	4.4%	4.0%	4.0%
FY101	4.4%	4.0%	4.0%

For the June 30, 2014 valuations and later, the updated Society of Actuaries' Healthcare Cost Trend Model is used to project medical and prescription drug costs. This model effectively begins estimating trend amounts beginning in 2014 and projects out to 2090. The model has been populated with assumptions that are specific to the State of Alaska.

Aging Factors*

Age	Medical	Prescription Drugs
0-44	2.0%	4.5%
45-54	2.5%	3.5%
55-64	3.5%	3.0%
65-74	4.0%	1.5%
75-84	1.5%	0.5%
85-95	0.5%	0.0%
96+	0.0%	0.0%

- * Note that pre-65 the factor represents the amount to increase from the ages noted to the next age. However post-65, the factor represents the adjustment to get to the ages noted up to age in the range. That is, 2.5% is used to age from 54 to 55, but 1.5% is used to age from 83 to 84.

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 FY17 contributions based on monthly rates shown below for calendar 2016 and 2017 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. For dependent children, we value 1/3 of the annual retiree contribution to estimate the per child rate based upon the assumed number of children in rates where children are covered:

Coverage Category	Calendar 2017 Annual Contribution	Calendar 2017 Monthly Contribution	Calendar 2016 Monthly Contribution
Retiree Only	\$ 9,324	\$ 777	\$ 777
Retiree and Spouse	\$ 18,648	\$ 1,554	\$ 1,554
Retiree and Child(ren)	\$ 13,164	\$ 1,097	\$ 1,097
Retiree and Family	\$ 22,500	\$ 1,875	\$ 1,875
Composite	\$ 13,848	\$ 1,154	\$ 1,154

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, 6.2% is applied to the FY17 retired member medical contributions to get the FY18 retired member medical contributions.

Trend Assumptions	
FY17	6.2%
FY18	5.8%
FY19	5.4%
FY20	5.0%
FY21	4.7%
FY22	4.4%
FY26	4.1%
FY51	4.0%
FY101	4.0%

Graded trend rates for retired member medical contributions were reinitialized for the June 30, 2014 valuation. Note that actual FY17 retired member medical contributions are reflected in the valuation so trend on such contribution during FY17 is not applicable.

Healthcare Participation

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

Table 1
Alaska TRS
Salary Scale

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

Table 2
Alaska TRS
Mortality Table (Pre-termination)

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

Table 3
Alaska TRS
Mortality Table (Post-termination)

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

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

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

Ultimate Rates of Turnover After the First 8 Years of Employment

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

Table 5
Alaska TRS
Disability Table

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

Table 6
Alaska TRS
Retirement Table

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

Table 7
Alaska TRS
Disabled Mortality Rates

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

Glossary of Terms

Actuarial Accrued Liability	Total accumulated cost to fund pension or postemployment benefits arising from service in all prior years.
Actuarial Cost Method	Technique used to assign or allocate, in a systematic and consistent manner, the expected cost of a pension or postemployment plan for a group of plan members to the years of service that give rise to that cost.
Actuarial Present Value of Projected Benefits	Amount which, together with future interest, is expected to be sufficient to pay all future benefits.
Actuarial Valuation	Study of probable amounts of future pension or postemployment benefits and the necessary amount of contributions to fund those benefits.
Actuary	Person who performs mathematical calculations pertaining to pension and insurance benefits based on specific procedures and assumptions.
Annual Required Contribution (ARC)	Disclosure measure of annual postretirement benefit cost under GASB 43 and 45.
GASB 25 and 27	Governmental Accounting Standards Board Statement Number 25, which specifies how the Annual Required Contribution (ARC) is to be calculated, and Number 27, which specifies Employer reporting of Pension Cost.
GASB 43 and 45	Governmental Accounting Standards Board Statement Number 43, which specifies how the ARC is to be calculated, and Number 45, which specifies Employer reporting of Other Postemployment Benefit (OPEB) Cost.
GASB 67 and 68	Governmental Accounting Standards Board Statement Number 67 amends Number 25 effective for the fiscal year beginning after June 15, 2013, and defines new financial reporting requirements for public pension plans. Governmental Accounting Standards Board Statement Number 68 amends Number 27 effective for fiscal years beginning after June 15, 2014 and defines new accounting and financial reporting requirements for employers sponsoring public pension plans.
GASB 74 and 75	Governmental Accounting Standards Board Statement Number 74 amends Number 43 effective for the fiscal year beginning after June 15, 2016, and defines new financial reporting requirements for public postemployment benefit plans. Governmental Accounting Standards Board Statement Number 75 amends Number 45 effective for fiscal years beginning after June 15, 2017, and defines new accounting and financial reporting requirements for employers sponsoring public postemployment benefit plans.
Liquidity Factor	Is calculated as the average annual Fair Value of Assets divided by the total annual benefit payments. This measures the approximate number of years that assets will cover benefit payments without contributions or investment return. Trend shows solvency risk.

Maturity Ratio	The ratio of the actuarial accrued liability for members who are no longer active to the total actuarial accrued liability. A ratio of over 50% indicates a mature plan. The higher the maturity ratio, the more volatile the contribution rate will be from year to year given actuarial gains and losses.
Normal Cost	That portion of the actuarial present value of benefits assigned to a particular year in respect to an individual participant or the plan as a whole.
Rate Payroll	Members' earnings used to determine contribution rates.
Unfunded Actuarial Accrued Liability (UAAL)	The portion of the actuarial accrued liability not offset by plan assets.
Valuation Payroll	Members' earnings used to determine Normal Cost and Actuarial Accrued Liability.
Vested Benefits	Benefits which are unconditionally guaranteed regardless of employment