



# INVESTMENT SECTION



ALASKA DIVISION OF  
**Retirement  
and Benefits**



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October 29, 2018

Alaska Retirement Management Board  
State of Alaska, Department of Revenue  
Treasury Division  
333 Willoughby Avenue, 11th Floor  
Juneau, Alaska 99801

Dear Board Members:

This letter reviews the investment performance of the Alaska Retirement Management Board (ARMB) for the fiscal year ended June 30, 2018.

Callan LLC (Callan) calculates time-weighted performance statistics based on underlying custodial data provided by the Board's custodian, State Street Bank and Trust Company. The performance calculations were made using a time-weighted return methodology based upon current market values. ARMB's real estate consultant, Townsend Group, calculates returns for the real estate segment of the portfolio. The Townsend data has been incorporated into ARMB's Total Fund returns.

Callan serves as the ARMB Board's (Board) independent general investment consultant and evaluates ARMB's performance in relation to market benchmarks, appropriate manager peer groups and other public pension systems. The performance calculations are made using a methodology broadly similar to the Global Investment Performance Standards.

ARMB purposely seeks to invest assets prudently, expertly, and according to governing law and industry practices. The objective of this approach is that assets under supervision be sufficient to pay promised benefits to members and beneficiaries. In pursuit of these objectives, the ARMB periodically evaluates liabilities, expected contributions and potential earnings. This analysis considers a wide range of potentially viable investment strategies. With thoughtful consideration of multiple factors, the Board selects a strategic investment policy that balances long-term growth potential and acceptable risk. A policy benchmark is constructed that mirrors the Board's strategic decision regarding asset allocation policy. The custom policy benchmark comprises equity, fixed income, real estate and other market indices weighted in proportions corresponding to the ARMB's investment policy.

### **2018 Fiscal Year Market Overview**

Equity markets followed an extremely strong 2017 with further gains in fiscal year 2018. The Russell 3000 Index, a measure of broad U.S. equity, returned 14.78% in the period. Non-U.S. stocks trailed their U.S. counterparts as political developments including potential trade tariffs weighed on stocks outside of the U.S. International stocks, as measured by the MSCI ACWI ex-U.S. Index, gained 7.28% for the fiscal year. A broad measure of the total global equity market (MSCI All Country World Index) rose 10.73%.

# Investment Section

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Rising interest rates impaired fixed income performance. The Bloomberg U.S. Aggregate Bond Index, a widely-used gauge of the investment grade domestic bond market, fell 0.40% in the year after falling 0.31% the prior year. Absolute return strategies significantly trailed the equity markets; the Callan Absolute Return Hedge Fund-of-Funds Style median return was 5.30% (net-of-fees). Private real estate, as measured by the NCREIF Property Index, was positive for the eighth year in a row. In fiscal year 2018, the NCREIF Property Index returned 7.19%. Publicly traded real estate, as measured by the FTSE NAREIT All Equity Index, lagged the private markets but still gained 4.93%.

ARMB's actual asset groupings delivered the following one-year returns through June 30, 2018:

|                  |         |
|------------------|---------|
| Domestic Stocks: | 15.22%  |
| Int'l Stocks:    | 9.02%   |
| Opportunistic:   | 5.23%   |
| Fixed Income:    | (0.71%) |
| Real Assets:     | 7.59%   |
| Private Equity:  | 26.65%  |
| Absolute Return: | 4.78%   |

For the fiscal year ended 30 June 2018, the Public Employees Retirement System (PERS) had a time-weighted total return of 9.61%. The Teachers Retirement System (TRS) had a time-weighted total return of 9.62%. Both systems' gross return exceeded their strategic policy target return of 8.25% and the median return for Callan's Public Fund Sponsor database of 8.23%.

Over most trailing periods, PERS and TRS have outperformed their target index returns. Both funds' 5-year annualized return was 8.68% versus a benchmark of 8.10%. The seven-year annualized return for PERS was 7.99% and 8.02% for TRS. Both were above the 7-year target return of 7.64%. Over 26.75 years – the longest period for which we have data – PERS and TRS achieved annualized total returns of 7.79% and 7.84%, respectively, while the policy benchmark return was 7.71%.

Both systems are well diversified and currently have asset allocation policies that, in Callan's opinion, are consistent with achieving a long-term "real" (above inflation) return of 4.5%.

In summary, fiscal 2018 was the second year in a row during which the ARMB's asset class returns had strong showings. Only the fixed income composite posted a negative return. PERS and TRS produced returns well above the average public fund, both ranking in the 18th percentile within the Public Fund Sponsor peer group for the one-year period ended June 30, 2018.

Sincerely,



Paul Erlendson  
Senior Vice President

## Department of Revenue Treasury Division Staff As of June 30, 2018

|   |  |  |  |
|---|--|--|--|
| <b>Commissioner</b><br>Sheldon Fisher       | <b>Chief Investment Officer</b><br>Bob G. Mitchell           | <b>Investment Officers</b><br>Casey Colton<br>Emily Howard<br>Josh McLin<br>Kekama Tuiofu<br>Kevin Buckland<br>Kevin Liu<br>Mackenzie Willems<br>Mark Moon | Nicholas Orr<br>Ross Alexander<br>Sean Howard<br>Shane Carson<br>Stephanie Pham<br>Stephen Sikes<br>Steve Verschoor<br>Victor Djajalie |
| <b>Deputy Commissioner</b><br>Mike Barnhill | <b>Comptroller</b><br>Scott Jones, CPA                       |  |  |
| <b>Director</b><br>Pamela Leary, CPA        | <b>Cash Management</b><br>Michelle M. Prebula, MBA, CPA, CCM |  |  |
|   | <b>ARMB Liaison Officer</b><br>Stephanie Alexander           |  |  |

## External Money Managers and Consultants

### Domestic Equity Large Capitalization

Allianz Global Investors  
*San Francisco, CA*  
Barrow, Hanley, Mewhinney & Strauss  
*Dallas, TX*  
McKinley Capital Management, Inc.  
*Anchorage, AK*  
Quantitative Management Associates  
*Newark, NJ*  
State Street Global Advisors  
*San Francisco, CA*

### Domestic Equity Small Capitalization

ArrowMark Partners  
*Denver, CO*  
Barrow, Hanley, Mewhinney & Strauss  
*Dallas, TX*  
BMO Global Asset Management  
*Chicago, IL*  
Fidelity Investments  
*Smithfield, RI*  
Frontier Capital Management  
*Boston, MA*  
Jennison Associates LLC  
*New York, NY*  
Lord Abbett & Co.  
*Jersey City, NJ*  
State Street Global Advisors  
*San Francisco, CA*  
Sycamore Capital Management  
*Cincinnati, OH*  
T. Rowe Price Investment  
*Baltimore, MD*

### Domestic Equity Micro Capitalization

DePrince, Race & Zollo, Inc.  
*Winter Park, FL*  
Lord Abbett & Co.  
*Jersey City, NJ*  
Zebra Capital Management  
*Mitford, CT*

### International Small Capitalization

Mondrian Investment Partners  
*London, England*  
Schroders Investment Management NA  
*London, England*

### Emerging Market Income

Lazard Asset Management  
*New York, NY*

### International Equity – EAFE, Emerging Markets Non U.S., and Global Equity

Allianz Global Investors  
*San Francisco, CA*  
Arrowstreet Capital, LP  
*Boston, MA*  
BlackRock  
*San Francisco, CA*  
Baillie Gifford Overseas Ltd.  
*Edinburgh, Scotland*  
Brandes Investment Partners, L.P.  
*San Diego, CA*  
Capital Group Trust Co.  
*Los Angeles, CA*  
DePrince, Race & Zollo, Inc  
*Winter Park, FL*  
Lazard Asset Management  
*New York, NY*  
McKinley Capital Management, Inc.  
*Anchorage, AK*  
Parametric Clifton  
*Seattle, WA*  
State Street Global Advisors  
*San Francisco, CA*

### International Fixed Income

Lazard Asset Management  
*New York, NY*  
Mondrian Investment Partners  
*London, England*  
Schroders Investment Management NA  
*New York, NY*

### High Yield/Convertible Bond/Tactical Bond

Fidelity Investment Asset Management  
*Smithfield, RI*  
MacKay Shields LLC  
*New York, NY*

### Alternative Equity

Analytic Investors  
*Los Angeles, CA*  
Quantitative Management Associates  
*Newark, NJ*  
State Street Global Advisors  
*San Francisco, CA*

### Master Limited Partnerships

Advisory Research  
*St. Louis, MO*  
Tortoise Capital Advisors LLC  
*Leawood, KS*

# Investment Section

## External Money Managers and Consultants (cont.)

### Private Equity

Abbott Capital Management, L.P.

*New York, NY*

Angelo, Gordon & Co.

*New York, NY*

Advent International,

*Boston, MA*

Dyal Capital Partners

*New York, NY*

Glendon Capital

*Santa Monica, CA*

KKR Lending Partners

*New York, NY*

Lexington Partners

*New York, NY*

Merit Capital Partners

*Chicago, IL*

Neuberger Berman

*New York, NY*

New Mountain Partners

*New York, NY*

NGP

*Irvine, TX*

Onex

*New York, NY*

Pathway Capital Management, LLC

*Irvine, CA*

Summit Partners

*Boston, MA*

The Jordan Company

*New York, NY*

Warburg Pincus

*New York, NY*

### Investment Consultants

Callan Associates, Inc.

*Denver, CO*

The Townsend Group

*San Francisco, CA*

### Investment Advisory Council

Jerrold Mitchell

*Wayland, MA*

Robert Shaw

*San Francisco, CA*

William Jennings

*Colorado Springs, CO*

### Independent Auditors

KPMG, LLP

*Anchorage, AK*

### Actuaries

Conduent HR Consulting, LLC

*Denver, CO*

Gabriel Roeder Smith

*Denver, CO*

### Taxable Municipal Bonds

Western Asset Management Company

*Pasadena, CA*

### Tactical Fixed Income

Fidelity Investment Asset Management

*Merrimack, NH*

### Global Master Custodian

State Street Bank & Trust Co.

*Boston, MA*

### Absolute Return

Allianz Global Investors

*New York, NY*

Crestline Investors, Inc.

*Fort Worth, TX*

Global Assets Management Inc.

*New York, NY*

J.P. Morgan Asset Management

*New York, NY*

Man Group

*London, UK*

Prisma Capital

*New York, NY*

Zebra Capital Management

*Stanford, CT*

### Supplemental Benefits System, Deferred Compensation Plan and Defined Contribution Plan

Allianz Global Investors

*San Francisco, CA*

BlackRock

*San Francisco, CA*

Brandes Investment Partners

*San Diego, CA*

Russell Investment Implementation Services

*Seattle, WA*

State Street Global Advisors

*Boston, MA*

T. Rowe Price Investment Services

*Baltimore, MD*

### Real Assets – Real Estate Core Separate Accounts

LaSalle Investment Management

*Chicago, IL*

Sentinel Real Estate Corporation

*New York, NY*

UBS Realty Investors, LLC

*Hartford, CT*

### Real Assets – Energy

EIG Global Energy Partners

*Washington, DC*

### Real Assets – Infrastructure

Brookfield Investment Management

*New York, NY*

Industry Funds Management

*New York, NY*

JP Morgan Asset Management

*New York, NY*

Lazard Asset Management

*New York, NY*

### Real Assets – Farmland and Timber

Hancock Agricultural Investment Group

*Boston, MA*

Hancock Timber Resource Group

*Boston, MA*

Timberland Investment Resources LLC

*Atlanta, GA*

UBS Farmland Investors, LLC

*Hartford, CT*

## External Money Managers and Consultants (cont.)

### Real Estate – Commingled Real Estate Funds

Almanac Realty Investors

*New York, NY*

Baring Real Estate Advisors

*Hartford, CT*

BlackRock Realty

*New York, NY*

Clarion Partners

*New York, NY*

Colony NorthStar Capital

*Los Angeles, CA*

Coventry Real Estate Fund II, LLC

*New York, NY*

J.P. Morgan Investment Management Inc.

*New York, NY*

KKR & Co.

*New York, NY*

LaSalle Investment Management

*Chicago, IL*

Lowe Hospitality Investment Partners, LLC

*Los Angeles, CA*

Silverpeak Real Estate Partners

*New York, NY*

Tishman Speyer Properties

*New York, NY*

UBS Realty Investors, LLC

*Hartford, CT*

# Investment Section

## Teachers' Retirement System Investment Report

### INVESTMENTS

The investment goals of the State of Alaska Teachers' Retirement System (TRS) are the long-term return and sustainability of the pension funds under management. Annually, the Alaska Retirement Management Board (ARMB) sets its asset allocation strategy in order to reflect changes in the marketplace while still retaining an expected optimal risk/return level within the set constraints and objectives of the ARMB.

The ARMB categorizes its investments into eight asset classes: domestic equities, global equities ex-U.S., opportunistic, private equity, real assets, fixed income, absolute return, and cash equivalents. The performance of each asset class is compared with a benchmark comprised of one or more market indices. The performance for the total portfolio is compared

with its policy portfolio, determined by calculating the weighted performance of the underlying asset class benchmarks at the portfolio's target asset allocation. The asset class benchmarks are illustrated below:

| Asset Class             | Benchmark   |
|-------------------------|---|
| Domestic Equity         | Russell 3000 Index  |
| Global Equities Ex-U.S. | MSCI All Country World Ex-U.S. Index  |
| Opportunistic           | 60% Russell 1000 Index<br>40% Bloomberg Barclays Aggregate Index  |
| Private Equity          | 1/3 S&P 500 Index<br>1/3 Russell 2000 Index<br>1/3 MSCI EAFE Index  |
| Real Assets             | 31% NCREIF Total Property Index<br>25% NCREIF Farmland Index<br>10% NCREIF Timberland Index<br>17.5% S&P Global Infrastructure Index<br>12.5% Alerian MLP Index<br>4% FTSE NAREIT All Equity REIT Index |
| Fixed Income            | Bloomberg Barclays Intermediate Treasury Index  |
| Absolute Return         | HFRI Fund of Funds Composite Index  |
| Cash Equivalents        | 91 Day Treasury Bill  |

The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan Associates. During the 2018 fiscal year, the ARMB's target asset allocation was 24% domestic equities, 22% global equities ex-U.S., 10% opportunistic, 9% private equity, 17% real assets, 10% fixed income, 7% absolute return, and 1% cash equivalents. Over the next 10 years, the target asset allocation is expected to generate a return of 6.6% with a standard deviation of 14.7%.

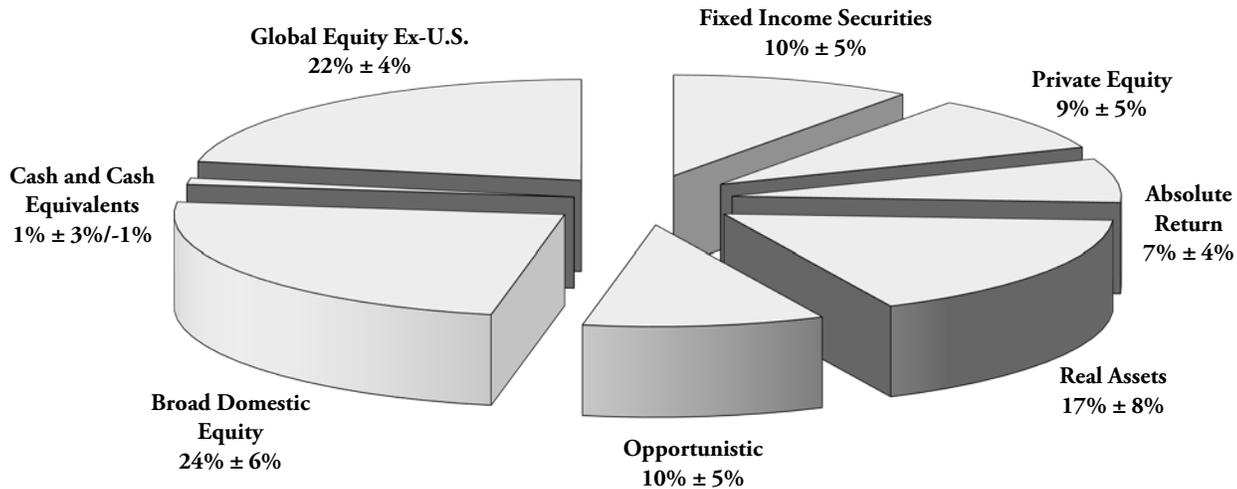
| Teachers' Retirement System<br>Schedule of Investment Results<br>Fiscal Years Ended June 30 |        |        |         |        |        |            |        |
|---|--------|--------|---------|--------|--------|------------|--------|
|   | 2014   | 2015   | 2016    | 2017   | 2018   | Annualized |        |
|   |        |        |         |        |        | 3 Year     | 5 Year |
| <b>Total Fund</b>   |        |        |         |        |        |            |        |
| TRS   | 18.46% | 3.30%  | (0.36%) | 13.36% | 9.62%  | 7.38%      | 8.68%  |
| <i>Actuarial Earnings Rate</i>  | 8.00   | 8.00   | 8.00    | 8.00   | 8.00   | 8.00       | 8.00   |
| <b>Broad Domestic Equity</b>  |        |        |         |        |        |            |        |
| TRS   | 25.45  | 7.85   | 0.58    | 18.55  | 15.22  | 11.17      | 13.26  |
| <i>Custom Composite Index</i>   | 25.22  | 7.29   | 2.14    | 18.51  | 14.78  | 11.58      | 13.29  |
| <b>Fixed Income</b>   |        |        |         |        |        |            |        |
| TRS   | 5.14   | (0.73) | 5.15    | 2.91   | (0.71) | 2.42       | 2.32   |
| <i>Custom Composite Index</i>   | 3.31   | 0.41   | 4.79    | 0.02   | (0.76) | 1.22       | 1.33   |
| <b>Opportunistic</b>  |        |        |         |        |        |            |        |
| TRS   | -      | -      | -       | -      | 5.63   | -          | -      |
| <i>Custom Composite Index</i>   | -      | -      | -       | -      | 8.39   | -          | -      |
| <b>Real Assets</b>  |        |        |         |        |        |            |        |
| TRS   | 12.71  | 3.69   | 4.76    | 5.98   | 7.53   | 6.09       | 7.00   |
| <i>Custom Composite Index</i>   | 10.98  | 7.99   | 8.87    | 5.66   | 4.29   | 6.25       | 7.53   |
| <b>Global Equity Ex-US</b>  |        |        |         |        |        |            |        |
| TRS   | 23.41  | (3.28) | (9.15)  | 20.42  | 7.95   | 5.70       | 7.11   |
| <i>MSCI ACWI ex-US</i>  | 22.27  | (4.85) | (9.80)  | 21.00  | 7.75   | 5.55       | 6.47   |
| <b>Private Equity</b>   |        |        |         |        |        |            |        |
| TRS   | 24.19  | 13.77  | 4.71    | 17.04  | 26.65  | 15.79      | 17.01  |
| <i>Custom Composite Index</i>   | 24.01  | 3.33   | (4.41)  | 21.04  | 12.92  | 9.32       | 10.86  |
| <b>Absolute Return</b>  |        |        |         |        |        |            |        |
| TRS   | 6.51   | 9.24   | (3.09)  | 8.47   | 4.78   | 3.27       | 5.09   |
| <i>3-month Treasury Bill +5%</i>  | 5.05   | 5.02   | 5.19    | 5.49   | 5.18   | 5.28       | 5.18   |
| <b>Alternative Equity</b>   |        |        |         |        |        |            |        |
| TRS   | 24.55  | (0.88) | 3.41    | 11.38  | -      | -          | -      |
| <i>Custom Composite Index</i>   | 18.70  | 4.26   | 2.09    | 15.07  | -      | -          | -      |
| <b>Cash Equivalents</b>   |        |        |         |        |        |            |        |
| TRS   | 0.26   | 0.27   | 0.55    | 0.80   | 1.53   | 0.96       | 0.68   |
| <i>3-month Treasury Bill</i>  | 0.05   | 0.02   | 0.19    | 0.49   | 1.36   | 0.68       | 0.42   |

MSCI ACWI =Morgan Stanley Capital International All Country World Index  
Returns for periods longer than one year are reported on an annualized basis.  
Basis of calculation: Time-Weighed rate of return based on the market rate of return.

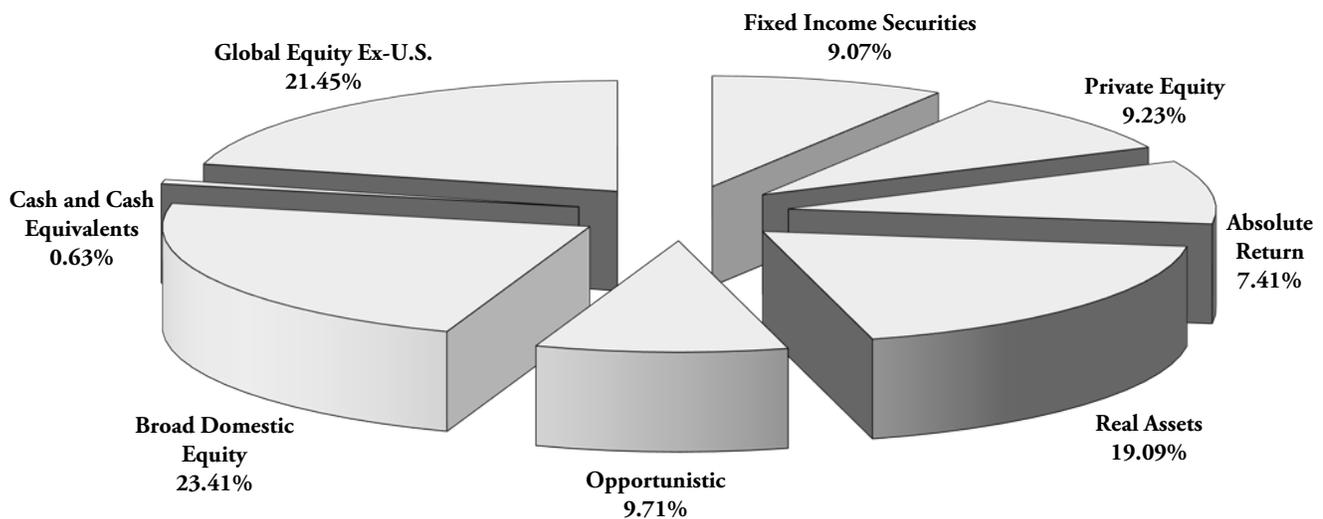
# Investment Section

## Teachers' Retirement System Asset Allocation June 30, 2018

### Policy

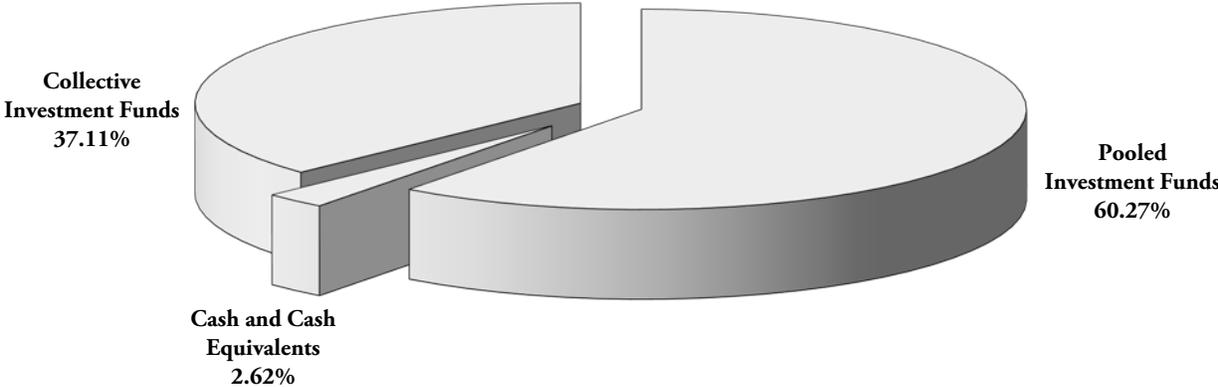


### Actual — Defined Benefit Pension

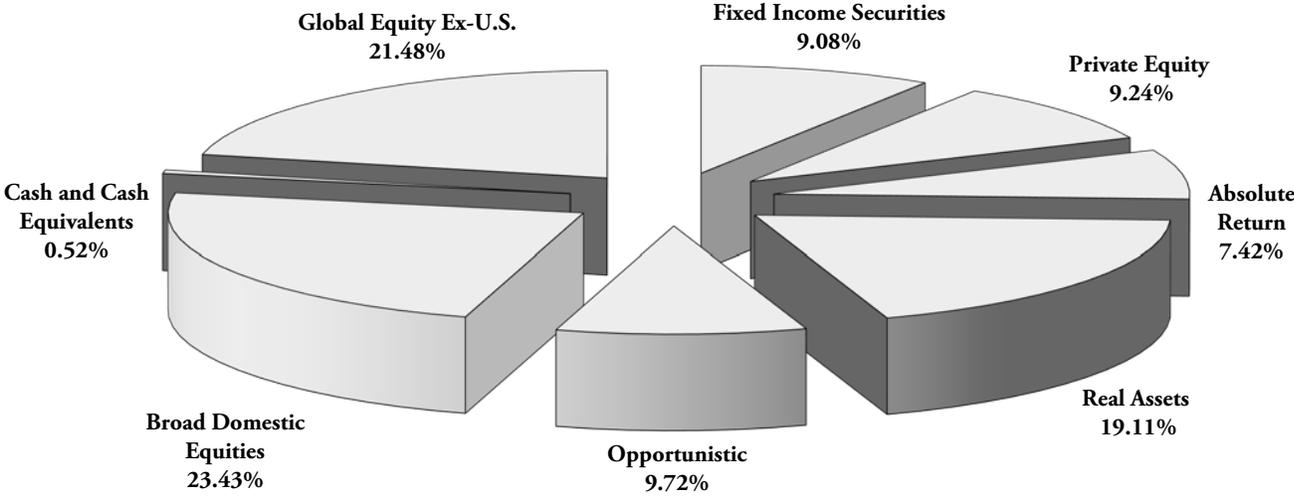


Teachers' Retirement System  
Asset Allocation  
June 30, 2018

Actual — Defined Contribution Participant Directed



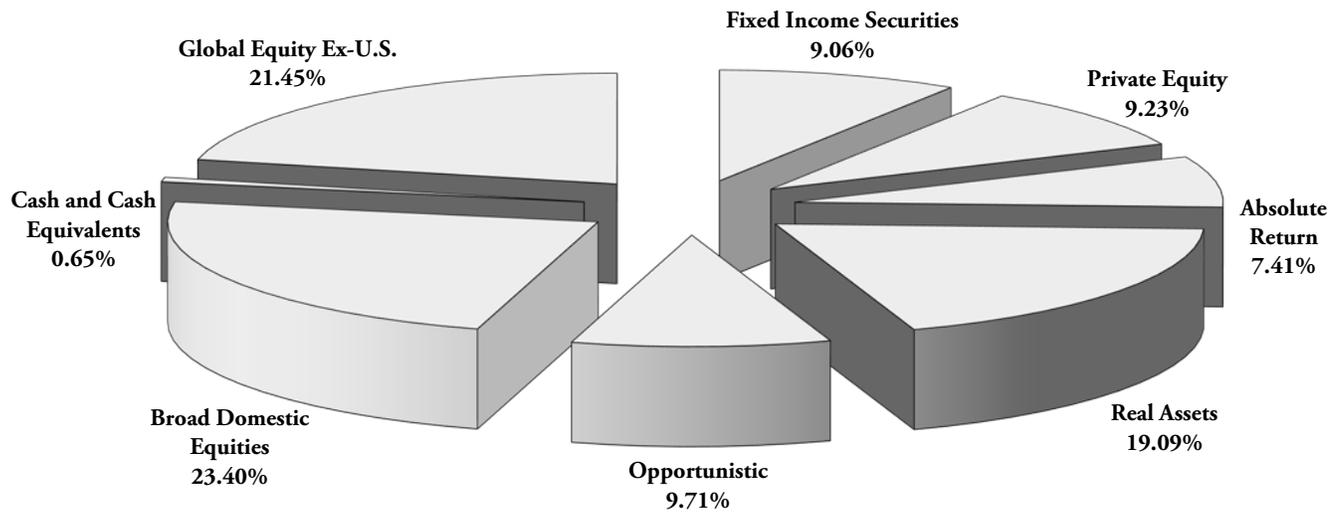
Actual — Defined Benefit Alaska Retiree Healthcare Trust



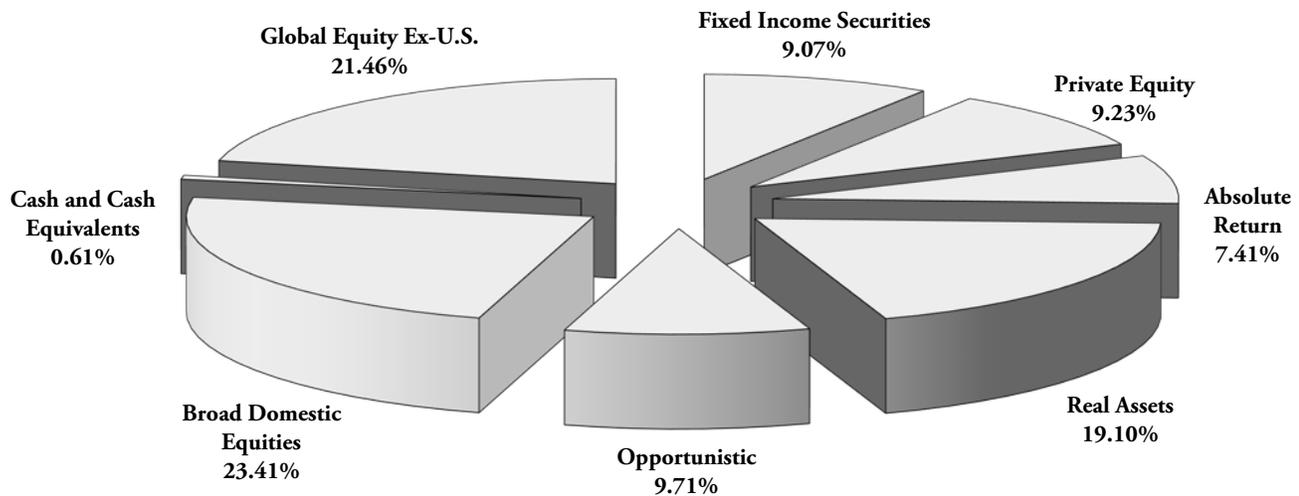
# Investment Section

## Teachers' Retirement System Asset Allocation June 30, 2018

### Actual — Health Reimbursement Arrangement

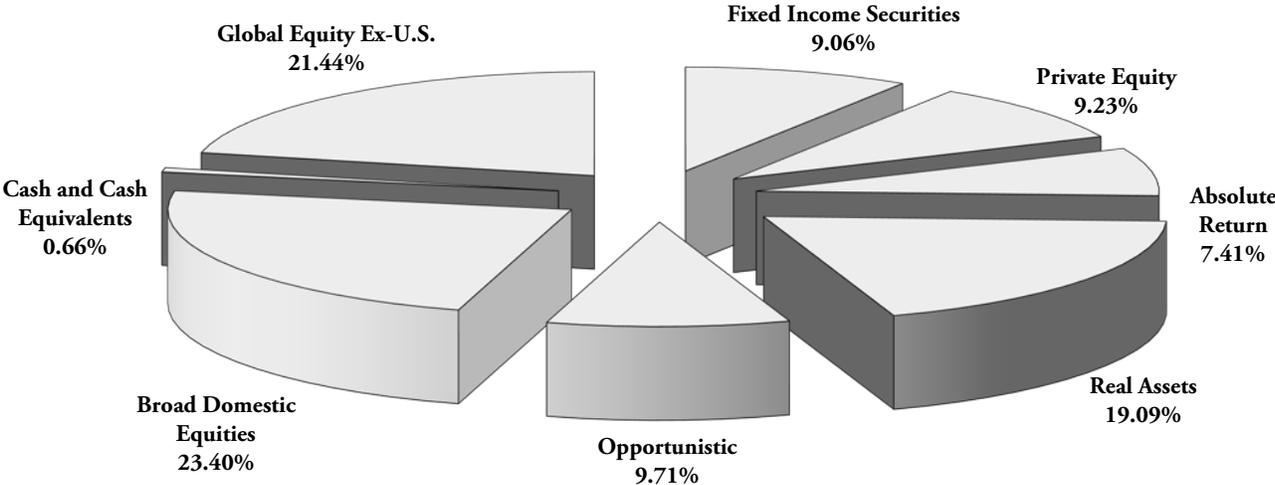


### Actual — Occupational Death & Disability



Teachers' Retirement System  
Asset Allocation  
June 30, 2018

Actual — Retiree Medical Plan



# Investment Section

## Alaska Retirement Management Board Top Ten Holdings by Asset Type June 30, 2018

Invested assets under the fiduciary responsibility of the Alaska Retirement Management Board (ARMB) have been commingled in various investment pools to manage the overall cost of the program. Using investment pools increases investment efficiency in three ways. First, combining individual funds' cash inflows and outflows to offset each other reduces the amount of cash on hand needed to support daily operations. Second, pooling investments significantly reduces accounting, budgeting, and administrative costs. Finally, the ARMB can achieve economies of scale by making available investment options that could not otherwise be practically provided for smaller retirement funds. Below are the ten largest fixed income and equity holdings.

### Fixed Income

| <u>Rank</u> | <u>Largest Fixed Income Holdings</u> | <u>Fair Value</u> | <u>Par Value</u> |
|-------------|--------------------------------------|-------------------|------------------|
| 1           | US Treasury 2.125% 12/31/2022        | \$72,425,154      | \$74,291,138     |
| 2           | US Treasury 1.375% 8/31/2020         | 34,264,264        | 35,137,204       |
| 3           | US Treasury 1.875% 4/30/2022         | 32,982,883        | 33,990,653       |
| 4           | US Treasury 2.000% 8/15/2025         | 31,922,751        | 33,699,894       |
| 5           | US Treasury 2.750% 5/31/2023         | 27,658,277        | 27,623,747       |
| 6           | US Treasury 2.125% 5/15/2025         | 27,498,540        | 28,736,687       |
| 7           | US Treasury 2.375% 8/15/2024         | 22,657,891        | 23,210,036       |
| 8           | US Treasury 2.375% 5/15/2027         | 21,313,264        | 22,131,974       |
| 9           | US Treasury 1.750% 2/28/2022         | 19,254,115        | 19,898,483       |
| 10          | US Treasury 1.125% 7/31/2021         | 18,481,898        | 19,341,696       |

### Equities

| <u>Rank</u> | <u>Largest Equity Holdings</u> | <u>Market Value</u> | <u>Par Value</u> |
|-------------|--------------------------------|---------------------|------------------|
| 1           | Apple Inc.                     | \$53,026,477        | \$286,459        |
| 2           | Microsoft Corp.                | 44,482,132          | 451,091          |
| 3           | Amazon.com Inc.                | 37,501,302          | 22,062           |
| 4           | Exxon Mobil Corp.              | 27,467,053          | 332,008          |
| 5           | Facebook Inc.                  | 25,319,678          | 130,299          |
| 6           | Alphabet, Inc.                 | 22,840,805          | 20,228           |
| 7           | Pfizer Inc.                    | 21,322,240          | 587,713          |
| 8           | Johnson & Johnson              | 19,861,011          | 163,681          |
| 9           | Home Depot Inc.                | 19,257,613          | 98,706           |
| 10          | Procter & Gamble Co./The       | 19,175,835          | 245,655          |

Additional investment information may be obtained from the Alaska Department of Revenue, Treasury Division, P.O. Box 110405, Juneau, Alaska 99811-0405.

# Investment Section

## Teachers' Retirement System Schedule of Investment Management Fees Year Ended June 30, 2018

|  | Total Fair Value | Fees       |
|--|------------------|------------|
| <b>Opportunistic</b>                                     |                  |            |
| ** Advent Capital Management Convertible Bond Fund       | N/A              | \$ 280,018 |
| ** Analytic Buy Write Account                            | \$ 8,714,967     | 140,557    |
| ** Analytic SSgA Index Account - Index Fund              | 226,268,216      | 13,241     |
| ** ARMB STOXX Min Var                                    | 195,357,963      | 28,273     |
| ** Columbia Threadneedle                                 | N/A              | 149,670    |
| ** Eaton Vance High Yield                                | 98,390           | 125,343    |
| ** Fidelity Institute Asset Management                   | 65,691,281       | 170,499    |
| ** Fidelity Institute Asset Management High Yield        | 49,412,260       | 465,200    |
| ** Guggenheim Partners                                   | N/A              | 58,927     |
| ** Lazard Emerging Income                                | 53,280,611       | 414,435    |
| ** MacKay Shields  | 50,713,934       | 201,463    |
| ** Mondrian Investment Partners                          | 31,909,682       | 203,125    |
| ** Quantitative Management Associates MPS                | N/A              | 105,285    |
| ** Schroders Insurance Linked Securities                 | 109,634,529      | 513,587    |
| ** SSgA Managed Volatility-Russell 1000                  | N/A              | 13,141     |
| ** Western Asset Management Company                      | 34,593,588       | 89,677     |
| Total Opportunistic                                      | 825,675,421      | 2,972,441  |
| <b>Broad Domestic Equity</b>                             |                  |            |
| ** Allianz Global Investors                              | N/A              | 119,686    |
| ** ARMB Equity Yield                                     | 116,375,858      | 3,472      |
| ** ARMB Russell 1000 Growth                              | 505,979,485      | 22,723     |
| ** ARMB Russell 1000 Value                               | 437,503,139      | 19,311     |
| ** ARMB Russell Top 200                                  | 124,917,002      | 7,394      |
| ** ARMB S&P 600  | 86,012,155       | 3,056      |
| ** ARMB S&P 500 Equal Weight                             | 118,813,610      | 5,040      |
| ** ARMB Scientific Beta                                  | 120,742,717      | 65,037     |
| ** Arrowmark   | 28,212,209       | 114,326    |
| ** Barrow, Hanley, Mewhinney & Strauss (Large Cap)       | N/A              | 202,565    |
| ** Barrow, Hanley, Mewhinney & Strauss (Small Cap)       | N/A              | 143,953    |
| ** BMO DSCC  | 28,957,063       | 156,760    |
| ** DePrince, Race & Zollo Inc.                           | 39,869,284       | 364,791    |
| ** Fidelity Institutional Asset Management Small Company | N/A              | 307,286    |
| ** Frontier Capital Management Company                   | 54,488,061       | 442,674    |
| ** Jennison Associates                                   | 39,567,901       | 279,872    |
| ** Lazard Asset Management                               | 107,136,138      | 251,688    |
| ** Lord Abbett Small Cap Growth                          | N/A              | 82,865     |
| ** Lord Abbett & Co. - Micro Cap                         | 38,470,384       | 286,583    |
| ** McKinley Capital                                      | N/A              | 172,962    |
| ** Portable Alpha  | 13,311,105       | 133,051    |
| ** Quantitative Management Associates                    | N/A              | 161,609    |
| ** SSgA Futures Large Cap                                | 1,095,364        | 1,058      |
| ** SSgA Futures Small Cap                                | 607,773          | 622        |
| ** SSgA Managed Volatility Russell 2000                  | 51,553           | 17,556     |
| ** T.Rowe Small Cap Growth                               | 24,958,512       | 52,854     |
| ** Victory Capital Management                            | 65,156,148       | 396,129    |
| ** Zebra Capital Management, LLC                         | 36,880,159       | 189,888    |
| Total Broad Domestic Equity                              | 1,989,105,620    | 4,004,811  |
| <b>Global Equity Ex-U.S.</b>                             |                  |            |
| ** Allianz Global Investors (International Large Cap)    | 325,611          | 255,010    |
| ** Arrowstreet Capital, Limited Partnership              | 124,543,572      | 580,644    |
| ** Baillie Gifford Overseas Limited                      | 124,851,806      | 626,878    |
| ** BlackRock ACWI Ex-US IMI                              | 200,985,806      | 102,158    |
| ** Brandes Investment Partners                           | 261,028,981      | 850,784    |
| ** Capital Guardian Trust                                | 185,700,317      | 718,607    |
| ** DePrince, Race, and Zollo (Emerging Markets)          | 88,850,924       | 43,636     |
| ** Eaton Vance (Emerging Markets)                        | 28,075,691       | 1,076,268  |
| ** Lazard Asset Management (Emerging Markets)            | 129,455,237      | 1,153,795  |
| ** Lazard Asset Management (International Large Cap)     | 106,886,396      | 120,091    |
| ** McKinley Capital (International Large Cap)            | 117,146,039      | 835,614    |
| ** Mondrian Investment Partners, Ltd                     | 62,811,203       | 436,944    |
| ** Schroder Investment Management                        | 68,946,413       | 528,626    |
| ** State Street Global Advisors                          | 323,941,402      | 197,644    |
| Total Global Equity Ex-U.S.                              | 1,823,549,398    | 7,526,699  |

# Investment Section

## Teachers' Retirement System Schedule of Investment Management Fees (continued) Year Ended June 30, 2018

|   | Total Fair Value | Fees                 |
|---|------------------|----------------------|
| <b>Private Equity</b>                             |                  |                      |
| Abbott Capital Management                         | 303,634,573      | 709,921              |
| Advent International GPE Fund VIII-B              | 4,161,352        | 122,556              |
| Angelo, Gordon & Co.                              | N/A              | 3,056                |
| Dyal Capital Partners III                         | 7,146,799        | 326,638              |
| Glendon Opportunities                             | 12,062,169       | 204,234              |
| KKR Lending Partners II                           | 19,118,392       | 173,737              |
| Lexington Capital Partners VII                    | 8,052,425        | 107,562              |
| Lexington Capital Partners VIII                   | 9,225,620        | 129,455              |
| Merit Capital Partners                            | 4,561,147        | 32,272               |
| Neuberger Berman Secondary Opportunities Fund III | 9,765,714        | 114,409              |
| Neuberger Berman Secondary Opportunities Fund IV  | 1,761,730        | 204,149              |
| New Mountain Partners IV                          | 7,250,930        | 23,400               |
| New Mountain Partners V                           | 3,988,507        | 219,041              |
| NGP XI  | 15,905,561       | 228,864              |
| Onex Partners III L.P.                            | 4,471,001        | 34,256               |
| Pathway Capital Management                        | 337,141,321      | 921,154              |
| Resolute Fund III                                 | 6,028,086        | 67,374               |
| Warburg Pincus X                                  | 4,483,926        | 26,011               |
| Warburg Pincus XI                                 | 8,994,979        | 60,107               |
| Warburg Pincus XII                                | 12,281,088       | 297,241              |
| Total Private Equity                              | 780,035,320      | 4,005,437            |
| <b>Absolute Return</b>                            |                  |                      |
| Allianz Global Investors (Absolute Return)        | 124,780,824      | 2,082,012            |
| Crestline (Blue Glacier)                          | 144,795,932      | 1,269,868            |
| Crestline Specialty Fund                          | 12,490,688       | 155,539              |
| Crestline Specialty II                            | 3,687,315        | 6,218                |
| Global Asset Management (Glacier Bear)            | 428,376          | 18,905               |
| JPM Systematic Alpha                              | 59,028,868       | 154,022              |
| KKR Apex Equity Fund                              | 32,058,218       | 397,168              |
| Man Group Alternative Risk Premia                 | 69,986,494       | 447,141              |
| Prisma Capital (Polar Bear)                       | 137,871,527      | 891,937              |
| Zebra Global Equity Advantage Fund                | 14,768,080       | 190,698              |
| Zebra Global Equity Fund                          | 30,204,061       | 363,539              |
| Total Absolute Return                             | 630,100,383      | 5,977,047            |
| <b>Real Assets</b>                                |                  |                      |
| Advisory Research MLP                             | 156,871,063      | 447,812              |
| Almanac Realty Securities V                       | 728,678          | 17,914               |
| Almanac Realty Securities VII, L.P.               | 9,913,833        | 157,654              |
| ARMB REIT   | 65,630,063       | 5,814                |
| ** Brookfield Investment Management               | 34,495,795       | 235,618              |
| Colony Investors VIII, L.P.                       | 593,403          | 14,425               |
| EIG Energy Fund XD                                | N/A              | 328                  |
| EIG Energy Fund XIV-A                             | 3,713,598        | 189,595              |
| EIG Energy Fund XV                                | 9,482,958        | 149,260              |
| EIG Energy Fund XVI                               | 19,143,905       | 296,686              |
| Hancock   | 86,262,788       | 722,853              |
| Hancock Natural Resource Group                    | 31,423,459       | 221,190              |
| IFM Global Infrastructure Fund                    | 127,981,418      | 740,654              |
| ING Clarion Ventures IV, L.P.                     | 7,018,423        | 40,059               |
| JP Morgan   | 93,808,114       | 799,824              |
| JPM Infrastructure Fund                           | 38,089,368       | 323,201              |
| KKR Real Estate Partners Americas II              | 671,301          | 15,366               |
| KKR Real Estate Partners Americas                 | 9,895,857        | 146,017              |
| LaSalle Investment Management                     | 63,513,750       | 363,279              |
| ** Lazard Asset Management Infrastructure Fund    | 48,824,202       | 318,020              |
| Sentinel Separate Account                         | 64,257,998       | 306,150              |
| Silverpeak Real Estate Partners II (Lehman)       | 1,964,000        | 61,423               |
| Silverpeak Real Estate Partners III (Lehman)      | 1,657,624        | 20,046               |
| Timberland  | 88,901,242       | 705,643              |
| Tishman Speyer Fund VI                            | 7,087,893        | 52,195               |
| Tishman Speyer Fund VII                           | 399,582          | 21,736               |
| ** Tortoise MLP                                   | 170,935,216      | 642,797              |
| UBS Agrinvest                                     | 186,117,978      | 1,497,282            |
| UBS Realty Trumbull Property Fund                 | 48,937,422       | 470,642              |
| UBS Realty Separate Account                       | 160,392,259      | 764,679              |
| Total Real Assets                                 | 1,538,713,190    | 9,748,162            |
| <b>Custodian</b>                                  |                  |                      |
| * State Street Bank                               |                  | 395,132              |
| <b>Investment Advisory</b>                        |                  |                      |
| * Callan Associates                               |                  | 68,621               |
| * Investment Advisory Council                     |                  | 27,398               |
| * Townsend Group                                  |                  | 52,288               |
| Total Investment Advisory                         |                  | 148,307              |
| <b>Investment Performance</b>                     |                  |                      |
| * Callan Associates                               |                  | 81,735               |
|   |                  | <b>\$ 34,859,771</b> |

\*These fees are paid through the Integrated Resource Information System (IRIS)

\*\*These fees are deducted from earnings by the fund manager and are not directly recorded in IRIS

N/A indicates a closed fund during the fiscal year or an immaterial balance at year-end.

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| Investments (at Fair Value)                  | Defined Benefit - Pension |             |                         | % of Total Assets |
|--|---------------------------|-------------|-------------------------|-------------------|
|  | Policy                    | Range       | Fair Value              |                   |
| <b>Cash and Cash Equivalents</b>             |                           |             |                         |                   |
| Short-Term Fixed Income Pool                 |                           |             | \$ 33,401,577           |                   |
| Securities Lending Income                    |                           |             | 44,559                  |                   |
| Total Cash and Cash Equivalents              | 1.00%                     | ± 3% / - 1% | 33,446,136              | 0.63%             |
| <b>Fixed Income Securities</b>               |                           |             |                         |                   |
| U.S. Treasury Fixed Income Pool              |                           |             | 495,641,439             |                   |
| Total Fixed Income Securities                | 10.00%                    | ± 5%        | 495,641,439             | 9.07%             |
| <b>Opportunistic</b>                         |                           |             |                         |                   |
| Alternative Equity Strategies                |                           |             | 276,690,471             |                   |
| Tactical Allocation Strategies               |                           |             | 64,138                  |                   |
| Opportunistic Fixed Income                   |                           |             | 183,695,083             |                   |
| Other Opportunities                          |                           |             | 70,515,505              |                   |
| Convertible Bond Pool                        |                           |             | (694)                   |                   |
| Total Opportunistic                          | 10.00%                    | ± 5%        | 530,964,503             | 9.71%             |
| <b>Broad Domestic Equity</b>                 |                           |             |                         |                   |
| Large Cap Pool                               |                           |             | 1,075,693,911           |                   |
| Small Cap Pool                               |                           |             | 203,689,889             |                   |
| Total Broad Domestic Equity                  | 24.00%                    | ± 6%        | 1,279,383,800           | 23.41%            |
| <b>Global Equity Ex-U.S.</b>                 |                           |             |                         |                   |
| International Equity Pool                    |                           |             | 929,668,893             |                   |
| International Equity Small Cap Pool          |                           |             | 84,744,787              |                   |
| Emerging Markets Equity Pool                 |                           |             | 158,469,607             |                   |
| Total Global Equity Ex-U.S.                  | 22.00%                    | ± 4%        | 1,172,883,287           | 21.45%            |
| <b>Private Equity</b>                        |                           |             |                         |                   |
| Private Equity Pool                          |                           |             | 504,738,980             |                   |
| Total Private Equity                         | 9.00%                     | ± 5%        | 504,738,980             | 9.23%             |
| <b>Absolute Return</b>                       |                           |             |                         |                   |
| Absolute Return Pool                         |                           |             | 405,272,382             |                   |
| Total Absolute Return                        | 7.00%                     | ± 4%        | 405,272,382             | 7.41%             |
| <b>Real Assets</b>                           |                           |             |                         |                   |
| Real Estate Pool                             |                           |             | 345,064,184             |                   |
| Real Estate Investment Trust Pool            |                           |             | 42,212,404              |                   |
| Infrastructure Private Pool                  |                           |             | 106,814,572             |                   |
| Infrastructure Public Pool                   |                           |             | 53,590,339              |                   |
| Master Limited Partnership Pool              |                           |             | 210,840,741             |                   |
| Energy Pool                                  |                           |             | 20,800,965              |                   |
| Farmland Pool                                |                           |             | 175,191,771             |                   |
| Timber Pool                                  |                           |             | 77,391,285              |                   |
| Treasury Inflation Protected Securities Pool |                           |             | 11,820,200              |                   |
| Total Real Assets                            | 17.00%                    | ± 8%        | 1,043,726,461           | 19.09%            |
| <b>Total Invested Assets</b>                 | <b>100.00%</b>            |             | <b>\$ 5,466,056,988</b> | <b>100.00%</b>    |

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| <u>Investments (at Fair Value)</u>                 | <u>Asset Allocation</u> |              | <u>Fair Value</u>     | <u>% of Total Assets</u> |
|--|-------------------------|--------------|-----------------------|--------------------------|
|  | <u>Policy</u>           | <u>Range</u> |                       |                          |
| <b>Cash and Cash Equivalents</b>                   |                         |              |                       |                          |
| Short-Term Fixed Income Pool                       | 100.00%                 | 0%           | \$ 11,910,308         |                          |
| Total Cash and Cash Equivalents                    |                         |              | <u>11,910,308</u>     | 2.62%                    |
| <b>Pooled Investment Funds (1)</b>                 |                         |              |                       |                          |
| T. Rowe Price                                      |                         |              |                       |                          |
| Alaska Balanced Trust                              |                         |              | 11,134,142            |                          |
| Long-Term Balanced Fund                            |                         |              | 10,116,972            |                          |
| Target 2010 Trust                                  |                         |              | 709,583               |                          |
| Target 2015 Trust                                  |                         |              | 3,307,624             |                          |
| Target 2020 Trust                                  |                         |              | 9,809,618             |                          |
| Target 2025 Trust                                  |                         |              | 16,399,142            |                          |
| Target 2030 Trust                                  |                         |              | 19,647,768            |                          |
| Target 2035 Trust                                  |                         |              | 28,683,070            |                          |
| Target 2040 Trust                                  |                         |              | 30,269,871            |                          |
| Target 2045 Trust                                  |                         |              | 47,234,475            |                          |
| Target 2050 Trust                                  |                         |              | 65,690,351            |                          |
| Target 2055 Trust                                  |                         |              | 30,580,264            |                          |
| Target 2060 Trust                                  |                         |              | 162,851               |                          |
| Total Pooled Investment Funds                      |                         |              | <u>273,745,731</u>    | 60.27%                   |
| <b>Collective Investment Funds (1)</b>             |                         |              |                       |                          |
| State Street Global Advisors                       |                         |              |                       |                          |
| Alaska Money Market                                |                         |              | 1,842,925             |                          |
| SSgA Treasury Money Market Fund                    |                         |              | 711,876               |                          |
| S&P Stock Index Fund                               |                         |              | 39,977,354            |                          |
| Russell 3000 Index                                 |                         |              | 3,489,922             |                          |
| U.S. Real Estate Investment Trust Index            |                         |              | 6,727,107             |                          |
| World Equity Ex-U.S. Index                         |                         |              | 20,637,010            |                          |
| Long U.S. Treasury Bond Index                      |                         |              | 306,677               |                          |
| U.S. Treasury Inflation Protected Securities Index |                         |              | 5,260,981             |                          |
| World Government Bond Ex-U.S. Index                |                         |              | 2,745,524             |                          |
| Barclays   |                         |              |                       |                          |
| Government/Credit Bond Fund                        |                         |              | 19,894,058            |                          |
| Intermediate Bond Fund                             |                         |              | 8,454,233             |                          |
| Brandes Institutional                              |                         |              |                       |                          |
| Alaska International Equity Fund                   |                         |              | 19,679,815            |                          |
| RCM  |                         |              |                       |                          |
| Sustainable Core Opportunities Fund                |                         |              | 4,626,584             |                          |
| T. Rowe Price                                      |                         |              |                       |                          |
| Small-Cap Stock Fund                               |                         |              | 34,181,779            |                          |
| Total Collective Investment Funds                  |                         |              | <u>168,535,845</u>    | 37.11%                   |
| <b>Total Invested Assets</b>                       |                         |              | <u>\$ 454,191,884</u> | <u>100.00%</u>           |

(1) Pooled Investment Funds and Collective Investment Funds are participant directed and therefore are not subject to an asset allocation.

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| Investments (at Fair Value)                  | Defined Benefit - Alaska Retiree Health Care Trust |            |                         | % of Total Assets |
|--|--|------------|-------------------------|-------------------|
|  | Policy   | Range      | Fair Value              |                   |
| <b>Cash and Cash Equivalents</b>             |  |            |                         |                   |
| Short-Term Fixed Income Pool                 |  |            | \$ 14,886,799           |                   |
| Securities Lending Income                    |  |            | 23,477                  |                   |
| Total Cash and Cash Equivalents              | 1.00%  | ± 3%/ - 1% | 14,910,276              | 0.52%             |
| <b>Fixed Income Securities</b>               |  |            |                         |                   |
| U.S. Treasury Fixed Income Pool              |  |            | 261,743,688             |                   |
| Total Fixed Income Securities                | 10.00%   | ± 5%       | 261,743,688             | 9.08%             |
| <b>Opportunistic</b>                         |  |            |                         |                   |
| Alternative Equity Strategies                |  |            | 146,117,695             |                   |
| Tactical Allocation Strategies               |  |            | 33,871                  |                   |
| Opportunistic Fixed Income                   |  |            | 97,007,685              |                   |
| Other Opportunities                          |  |            | 37,238,590              |                   |
| Convertible Bond Pool                        |  |            | (367)                   |                   |
| Total Opportunistic                          | 10.00%   | ± 5%       | 280,397,474             | 9.72%             |
| <b>Broad Domestic Equity</b>                 |  |            |                         |                   |
| Large Cap Pool                               |  |            | 568,064,067             |                   |
| Small Cap Pool                               |  |            | 107,566,758             |                   |
| Total Broad Domestic Equity                  | 24.00%   | ± 6%       | 675,630,825             | 23.43%            |
| <b>Global Equity Ex-U.S.</b>                 |  |            |                         |                   |
| International Equity Pool                    |  |            | 490,949,597             |                   |
| International Equity Small Cap Pool          |  |            | 44,752,943              |                   |
| Emerging Markets Equity Pool                 |  |            | 83,686,343              |                   |
| Total Global Equity Ex-U.S.                  | 22.00%   | ± 4%       | 619,388,883             | 21.48%            |
| <b>Private Equity</b>                        |  |            |                         |                   |
| Private Equity Pool                          |  |            | 266,548,016             |                   |
| Total Private Equity                         | 9.00%  | ± 5%       | 266,548,016             | 9.24%             |
| <b>Absolute Return</b>                       |  |            |                         |                   |
| Absolute Return Pool                         |  |            | 214,020,620             |                   |
| Total Absolute Return                        | 7.00%  | ± 4%       | 214,020,620             | 7.42%             |
| <b>Real Assets</b>                           |  |            |                         |                   |
| Real Estate Pool                             |  |            | 182,241,273             |                   |
| Real Estate Investment Trust Pool            |  |            | 22,291,983              |                   |
| Infrastructure Private Pool                  |  |            | 56,407,794              |                   |
| Infrastructure Public Pool                   |  |            | 28,300,566              |                   |
| Master Limited Partnership Pool              |  |            | 111,343,057             |                   |
| Energy Pool                                  |  |            | 10,984,798              |                   |
| Farmland Pool                                |  |            | 92,517,164              |                   |
| Timber Pool                                  |  |            | 40,869,626              |                   |
| Treasury Inflation Protected Securities Pool |  |            | 6,242,139               |                   |
| Total Real Assets                            | 17.00%   | ± 8%       | 551,198,400             | 19.11%            |
| <b>Total Invested Assets</b>                 | <b>100.00%</b>                                     |            | <b>\$ 2,883,838,182</b> | <b>100.00%</b>    |

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| Investments (at Fair Value)                  | Health Reimbursement Arrangement |             |                              | % of Total Assets |
|--|----------------------------------|-------------|------------------------------|-------------------|
|  | Asset Allocation                 |             | Fair Value                   |                   |
|  | Policy                           | Range       |                              |                   |
| <b>Cash and Cash Equivalents</b>             |                                  |             |                              |                   |
| Short-Term Fixed Income Pool                 | 1.00%                            | ± 3% / - 1% | \$ 689,695                   |                   |
| Securities Lending Income                    |                                  |             | 846                          |                   |
| Total Cash and Cash Equivalents              |                                  |             | <u>690,541</u>               | 0.65%             |
| <b>Fixed Income Securities</b>               |                                  |             |                              |                   |
| U.S. Treasury Fixed Income Pool              |                                  |             | <u>9,577,302</u>             |                   |
| Total Fixed Income Securities                | 10.00%                           | ± 5%        | <u>9,577,302</u>             | 9.06%             |
| <b>Opportunistic</b>                         |                                  |             |                              |                   |
| Alternative Equity Strategies                |                                  |             | 5,346,503                    |                   |
| Tactical Allocation Strategies               |                                  |             | 1,239                        |                   |
| Opportunistic Fixed Income                   |                                  |             | 3,549,549                    |                   |
| Other Opportunities                          |                                  |             | 1,362,574                    |                   |
| Convertible Bond Pool                        |                                  |             | (13)                         |                   |
| Total Opportunistic                          | 10.00%                           | ± 5%        | <u>10,259,852</u>            | 9.71%             |
| <b>Broad Domestic Equity</b>                 |                                  |             |                              |                   |
| Large Cap Pool                               |                                  |             | 20,785,683                   |                   |
| Small Cap Pool                               |                                  |             | <u>3,935,909</u>             |                   |
| Total Broad Domestic Equity                  | 24.00%                           | ± 6%        | <u>24,721,592</u>            | 23.40%            |
| <b>Global Equity Ex-U.S.</b>                 |                                  |             |                              |                   |
| International Equity Pool                    |                                  |             | 17,964,035                   |                   |
| International Equity Small Cap Pool          |                                  |             | 1,637,527                    |                   |
| Emerging Markets Equity Pool                 |                                  |             | <u>3,062,115</u>             |                   |
| Total Global Equity Ex-U.S.                  | 22.00%                           | ± 4%        | <u>22,663,677</u>            | 21.45%            |
| <b>Private Equity</b>                        |                                  |             |                              |                   |
| Private Equity Pool                          |                                  |             | <u>9,753,094</u>             |                   |
| Total Private Equity                         | 9.00%                            | ± 5%        | <u>9,753,094</u>             | 9.23%             |
| <b>Absolute Return</b>                       |                                  |             |                              |                   |
| Absolute Return Pool                         |                                  |             | <u>7,831,097</u>             |                   |
| Total Absolute Return                        | 7.00%                            | ± 4%        | <u>7,831,097</u>             | 7.41%             |
| <b>Real Assets</b>                           |                                  |             |                              |                   |
| Real Estate Pool                             |                                  |             | 6,668,278                    |                   |
| Real Estate Investment Trust Pool            |                                  |             | 815,672                      |                   |
| Infrastructure Private Pool                  |                                  |             | 2,063,983                    |                   |
| Infrastructure Public Pool                   |                                  |             | 1,035,529                    |                   |
| Master Limited Partnership Pool              |                                  |             | 4,074,085                    |                   |
| Energy Pool                                  |                                  |             | 401,938                      |                   |
| Farmland Pool                                |                                  |             | 3,385,239                    |                   |
| Timber Pool                                  |                                  |             | 1,495,435                    |                   |
| Treasury Inflation Protected Securities Pool |                                  |             | <u>228,402</u>               |                   |
| Total Real Assets                            | 17.00%                           | ± 8%        | <u>20,168,561</u>            | 19.09%            |
| <b>Total Invested Assets</b>                 | <b>100.00%</b>                   |             | <b><u>\$ 105,665,716</u></b> | <b>100.00%</b>    |

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| <u>Investments (at Fair Value)</u>           | <u>Occupational Death and Disability</u> |              |                     | <u>% of Total Assets</u> |
|--|--|--------------|---------------------|--------------------------|
|  | <u>Asset Allocation</u>                  |              | <u>Fair Value</u>   |                          |
|  | <u>Policy</u>                            | <u>Range</u> |                     |                          |
| <b>Cash and Cash Equivalents</b>             |  |              |                     |                          |
| Short-Term Fixed Income Pool                 |  |              | \$ 23,084           |                          |
| Securities Lending Income                    |  |              | 31                  |                          |
| Total Cash and Cash Equivalents              | 1.00%                                    | ± 3% / - 1%  | <u>23,115</u>       | 0.61%                    |
| <b>Fixed Income Securities</b>               |  |              |                     |                          |
| U.S. Treasury Fixed Income Pool              |  |              | 344,378             |                          |
| Total Fixed Income Securities                | 10.00%                                   | ± 5%         | <u>344,378</u>      | 9.07%                    |
| <b>Opportunistic</b>                         |  |              |                     |                          |
| Alternative Equity Strategies                |  |              | 192,248             |                          |
| Tactical Allocation Strategies               |  |              | 45                  |                          |
| Opportunistic Fixed Income                   |  |              | 127,634             |                          |
| Other Opportunities                          |  |              | 48,995              |                          |
| Total Opportunistic                          | 10.00%                                   | ± 5%         | <u>368,922</u>      | 9.71%                    |
| <b>Broad Domestic Equity</b>                 |  |              |                     |                          |
| Large Cap Pool                               |  |              | 747,406             |                          |
| Small Cap Pool                               |  |              | 141,526             |                          |
| Total Broad Domestic Equity                  | 24.00%                                   | ± 6%         | <u>888,932</u>      | 23.41%                   |
| <b>Global Equity Ex-U.S.</b>                 |  |              |                     |                          |
| International Equity Pool                    |  |              | 645,946             |                          |
| International Equity Small Cap Pool          |  |              | 58,882              |                          |
| Emerging Markets Equity Pool                 |  |              | 110,107             |                          |
| Total Global Equity Ex-U.S.                  | 22.00%                                   | ± 4%         | <u>814,935</u>      | 21.46%                   |
| <b>Private Equity</b>                        |  |              |                     |                          |
| Private Equity Pool                          |  |              | 350,699             |                          |
| Total Private Equity                         | 9.00%                                    | ± 5%         | <u>350,699</u>      | 9.23%                    |
| <b>Absolute Return</b>                       |  |              |                     |                          |
| Absolute Return Pool                         |  |              | 281,588             |                          |
| Total Absolute Return                        | 7.00%                                    | ± 4%         | <u>281,588</u>      | 7.41%                    |
| <b>Real Assets</b>                           |  |              |                     |                          |
| Real Estate Pool                             |  |              | 239,776             |                          |
| Real Estate Investment Trust Pool            |  |              | 29,330              |                          |
| Infrastructure Private Pool                  |  |              | 74,216              |                          |
| Infrastructure Public Pool                   |  |              | 37,235              |                          |
| Master Limited Partnership Pool              |  |              | 146,495             |                          |
| Energy Pool                                  |  |              | 14,453              |                          |
| Farmland Pool                                |  |              | 121,725             |                          |
| Timber Pool                                  |  |              | 53,772              |                          |
| Treasury Inflation Protected Securities Pool |  |              | 8,213               |                          |
| Total Real Assets                            | <u>17.00%</u>                            | ± 8%         | <u>725,215</u>      | 19.10%                   |
| <b>Total Invested Assets</b>                 | <u>100.00%</u>                           |              | <u>\$ 3,797,784</u> | <u>100.00%</u>           |

# Investment Section

## Teachers' Retirement System Investment Summary Schedule June 30, 2018

| Investments (at Fair Value)                  | Retiree Medical Plan |             |                      | % of Total Assets |
|--|----------------------|-------------|----------------------|-------------------|
|  | Policy               | Range       | Fair Value           |                   |
| <b>Cash and Cash Equivalents</b>             |                      |             |                      |                   |
| Short-Term Fixed Income Pool                 |                      |             | \$ 234,607           |                   |
| Securities Lending Income                    |                      |             | 291                  |                   |
| Total Cash and Cash Equivalents              | 1.00%                | ± 3% / - 1% | 234,898              | 0.66%             |
| <b>Fixed Income Securities</b>               |                      |             |                      |                   |
| U.S. Treasury Fixed Income Pool              |                      |             | 3,295,569            |                   |
| Total Fixed Income Securities                | 10.00%               | ± 5%        | 3,295,569            | 9.06%             |
| <b>Opportunistic</b>                         |                      |             |                      |                   |
| Alternative Equity Strategies                |                      |             | 1,839,742            |                   |
| Tactical Allocation Strategies               |                      |             | 426                  |                   |
| Opportunistic Fixed Income                   |                      |             | 1,221,407            |                   |
| Other Opportunities                          |                      |             | 468,865              |                   |
| Convertible Bond Pool                        |                      |             | (5)                  |                   |
| Total Opportunistic                          | 10.00%               | ± 5%        | 3,530,435            | 9.71%             |
| <b>Broad Domestic Equity</b>                 |                      |             |                      |                   |
| Large Cap Pool                               |                      |             | 7,152,395            |                   |
| Small Cap Pool                               |                      |             | 1,354,354            |                   |
| Total Broad Domestic Equity                  | 24.00%               | ± 6%        | 8,506,749            | 23.40%            |
| <b>Global Equity Ex-U.S.</b>                 |                      |             |                      |                   |
| International Equity Pool                    |                      |             | 6,181,460            |                   |
| International Equity Small Cap Pool          |                      |             | 563,476              |                   |
| Emerging Markets Equity Pool                 |                      |             | 1,053,680            |                   |
| Total Global Equity Ex-U.S.                  | 22.00%               | ± 4%        | 7,798,616            | 21.44%            |
| <b>Private Equity</b>                        |                      |             |                      |                   |
| Private Equity Pool                          |                      |             | 3,356,059            |                   |
| Total Private Equity                         | 9.00%                | ± 5%        | 3,356,059            | 9.23%             |
| <b>Absolute Return</b>                       |                      |             |                      |                   |
| Absolute Return Pool                         |                      |             | 2,694,696            |                   |
| Total Absolute Return                        | 7.00%                | ± 4%        | 2,694,696            | 7.41%             |
| <b>Real Assets</b>                           |                      |             |                      |                   |
| Real Estate Pool                             |                      |             | 2,294,568            |                   |
| Real Estate Investment Trust Pool            |                      |             | 280,674              |                   |
| Infrastructure Private Pool                  |                      |             | 710,221              |                   |
| Infrastructure Public Pool                   |                      |             | 356,327              |                   |
| Master Limited Partnership Pool              |                      |             | 1,401,901            |                   |
| Energy Pool                                  |                      |             | 138,308              |                   |
| Farmland Pool                                |                      |             | 1,164,867            |                   |
| Timber Pool                                  |                      |             | 514,582              |                   |
| Treasury Inflation Protected Securities Pool |                      |             | 78,594               |                   |
| Total Real Assets                            | 17.00%               | ± 8%        | 6,940,042            | 19.09%            |
| <b>Total Invested Assets</b>                 | <b>100.00%</b>       |             | <b>\$ 36,357,064</b> | <b>100.00%</b>    |

**Teachers' Retirement System  
Recaptured Commission Fees  
Year Ended June 30, 2018**

| <b>Fund</b>   | <b>Broad<br/>Domestic<br/>Equity<br/>Pool</b> | <b>Global Equity<br/>Ex-U.S.</b> | <b>Total</b>    |
|---|---|----------------------------------|-----------------|
| Defined Benefit Plan – Pension                            | \$15,405                                      | \$13,462                         | \$28,867        |
| Postemployment Benefit – Alaska Retiree Healthcare Trust  | 7,969   | 6,971                            | 14,940          |
| Postemployment Benefit – Occupational Death & Disability  | 10  | 9                                | 19              |
| Postemployment Benefit – Retiree Medical Plan             | 91  | 81                               | 172             |
| Postemployment Benefit – Health Reimbursement Arrangement | 263   | 232                              | 495             |
| <b>Total Recapture Commission Fees</b>                    | <b>\$23,738</b>                               | <b>\$20,755</b>                  | <b>\$44,493</b> |

The ARMB's Commission Recapture program has been in place since 1995, first working with various brokers then switching to the State Street program in 2005. Under a commission recapture program a portion of the commissions and mark-ups on trades (placed through the State Street broker network) flow directly back to the fund.

The program allows managers to place trades for commission recapture purposes. The ARMB has established direction percentages for the managers to strive for, but is only requiring best efforts to meet them given their fiduciary obligation to achieve best execution of transactions.

The current rebate arrangement with State Street Global Markets (SSGM) is: 90% of the commissions received in excess of executing the brokers' execution-only rates; 100% of commissions in excess of its execution-only rates for all trading directed through SSGM.



ALASKA DIVISION OF  
**Retirement  
and Benefits**