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September 14, 2016

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, 2016.

Callan Associates Inc. (Callan) independently 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, the Townsend Group, calculates returns for the real estate segment of the portfolio. Callan incorporates that data into the total plan returns.

Callan serves as ARMB's 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 were made using methodology similar to Global Investment Performance Standards.

ARMB's primary investment objective is to prudently and expertly invest assets, in accordance with governing law and industry practices, in a manner that will help ensure assets under supervision are sufficient to pay promised benefits to its members and their beneficiaries. In pursuit of this objective, ARMB periodically evaluates liabilities, expected contributions and potential earnings. This analysis is used to consider a wide range of potentially viable investment strategies. 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 asset allocation policy. This policy benchmark is a custom index comprised of equity, fixed income, real estate and other market indices weighted in the same proportions as ARMB's investment policy.

Equity markets in the U.S. recovered slowly but surely after a rough start to fiscal year 2016. The Russell 3000 Index, a measure of broad U.S. equity, clawed its way back from a 7.25% deficit at the end of September and finished June up 2.14% for the trailing 12 months. Returns for equities outside of the U.S. did not fare as well. International stocks, as measured by the MSCI ACWI ex-U.S. Index, lost 10.24% for the fiscal year. A broad measure of the total global equity market (MSCI All Country World Index) fell 3.73%.

# Investment Section

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A flattening yield curve during the period boosted fixed income performance. The Barclays Capital Aggregate Bond Index, a widely used gauge of the investment grade domestic bond market, gained 6.00%. Some absolute return strategies, such as hedge fund-of-funds, posted losses for much of the fiscal year. The Callan Absolute Return Hedge Fund-of-Funds Style median return was -3.24% (net-of-fee). Private real estate investments (NCREIF Property Index) turned in another solid year, returning 10.64%. Publicly traded real estate, as measured by the NAREIT Equity Index, performed over twice as well and increased 23.62%.

ARMB's various asset groups performed as follows:

Domestic stocks	1.01%
Int'l Stocks	-9.63%
Alternative Equity	3.54%
Fixed Income	5.14%
Real Assets	4.81%
Private Equity	4.71%
Absolute Return	-3.09%

For the fiscal year, the Public Employees Retirement System (PERS) had a time-weighted total return of -0.36% and the Teachers Retirement System (TRS) also had a time-weighted total return of -0.36%. Both systems underperformed their strategic policy benchmark target return of 0.05% and the median return for Callan's Public Fund database of 0.54%.

Over longer-term periods, PERS and TRS have closely tracked their target index returns. For example, PERS' 7-year annualized return was 9.28% while TRS's return was slightly higher at 9.35%. These returns were in line, but slightly above, their target return of 9.14%. Over the longest period for which Callan has detailed data (24.75 years), PERS and TRS have achieved annualized total returns of 7.50% and 7.55%, respectively, while the policy benchmark return was 7.47%.

Both systems are well diversified and currently have asset allocation policies that, in our opinion, are consistent with achievement of a long-term "real" return of 4.5% or better.

In summary, fiscal 2016 was a year in which asset class returns were varied. The well-diversified portfolio produced a 70th percentile ranking within the Public Fund peer group, but is on track over the long-term to produce the desired results.

Sincerely,



Paul Erlendson  
Senior Vice President

## Department of Revenue Treasury Division Staff As of June 30, 2016

<b>Commissioner</b> Randall Hoffbeck	<b>Chief Investment Officer</b> Gary Bader	<b>Investment Officers</b> Bob G. Mitchell Stephen R. Sikes Zachary Hanna Steve Verschoor Shane Carson Sean Howard	Casey Colton Nicholas Orr Victor Djajalie Michael Barnhill Kevin Lui Emily Peyton Ross Alexander
<b>Deputy Commissioner</b> Jerry Burnett	<b>Comptroller</b> Scott Jones, CPA		
<b>Director</b> Pamela Leary, CPA	<b>Cash Management</b> Michelle M. Prebula, MBA, CPA, CCM	<b>ARMB Liaison Officer</b> Judy Hall	

## External Money Managers and Consultants

### Domestic Equity Large Capitalization

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

### Domestic Equity Small Capitalization

Barrow, Hanley, Mewhinney & Strauss  
*Dallas, TX*  
Frontier Capital Management  
*Boston, MA*  
Jennison Associates LLC  
*New York, NY*  
Lord Abbett & Co.  
*Jersey City, NJ*  
Luther King Capital Management  
*Fort Worth, TX*  
State Street Global Advisors  
*San Francisco, CA*  
Sycamore Capital Management  
*St. Louis, MO*

### Domestic Equity MicroCap

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

### Domestic Equity Index Fund

State Street Global Advisors  
*San Francisco, CA*

### International Small Cap

Mondrian Investment Partners  
*London, England*  
Schroders Investment Management NA  
*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 Guardian Trust Co.  
*Los Angeles, CA*  
Lazard Asset Management  
*New York, NY*  
McKinley Capital Management, Inc.  
*Anchorage, AK*  
Parametric Clifton  
*Seattle, WA*  
State Street Global Advisors  
*San Francisco, CA*

### Emerging Market Income

Lazard Asset Management  
*New York, NY*  
NFJ Investment Group  
*Dallas, TX*

### International Fixed Income

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

### High Yield/Convertible Bond/Tactical Bond

Advent Capital Management  
*New York, NY*  
Columbia Threadneedle Investment Management  
*Boston, MA*  
Eaton Vance Trust Company  
*Boston, MA*  
Fidelity Investment Asset Management  
*Smithfield, RI*  
MacKay Shields LLC  
*New York, NY*

# Investment Section

## External Money Managers and Consultants (cont.)

### Taxable Municipal Bonds

Guggenheim Partners LLC  
*Santa Monica, CA*  
Western Asset Management Company  
*Pasadena, CA*

### Master Limited Partnerships

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

### Absolute Return

Allianz Global Investors  
*New York, NY*  
Crestline Investors, Inc.  
*Fort Worth, TX*  
Global Assets Management Inc.  
*Los Angeles, CA*  
KKR  
*New York, NY*

### Private Equity

Abbott Capital Management, L.P.  
*New York, NY*  
Pathway Capital Management, LLC  
*Irvine, CA*

### Real Assets – Real Estate Core Separate Accounts

LaSalle Investment Management  
*Chicago, IL*  
Sentinel Real Estate Corporation  
*New York, NY*  
UBS Realty Investors, LLC  
*San Francisco, CA*

### Real Assets – Commingled Real Estate Funds

Almanac Realty Investors  
*Alpharetta, GA*  
BlackRock Realty  
*San Francisco, CA*  
Colony Capital  
*Los Angeles, CA*  
Coventry Real Estate Fund II, LLC  
*New York, NY*  
Clarion Partners  
*New York, NY*  
J.P. Morgan Investment Management Inc.  
*New York, NY*  
Silverpeake Real Estate Partners  
*New York, NY*  
Lowe Hospitality Investment Partners, LLC  
*Los Angeles, CA*  
Sentinel Real Estate Corporation  
*New York, NY*  
Tishman Speyer Properties  
*New York, NY*  
UBS Realty Investors, LLC  
*Hartford, CT*

### Real Assets – Energy

EIG Global Energy Partners  
*Washington, DC*

### Real Assets – Infrastructure

Brookfield Investment Management  
*Encinitas, CA*  
Industry Funds Management  
*New York, NY*  
JP Morgan Asset Management  
*San Francisco, CA*  
Lazard Asset Management  
*New York, NY*

### Real Assets – Farmland and Timber

Hancock Agricultural Investment Group  
*Boston, MA*  
UBS AgriVest, LLC  
*Hartford, CT*  
Hancock Timber Resource Group  
*Charlotte, NC*  
Timberland Investment Resources LLC  
*Brookline, MA*

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

BlackRock  
*San Francisco, CA*  
Allianz Global Investors  
*San Francisco, CA*  
State Street Global Advisors  
*Boston, MA*  
T. Rowe Price Investment Services  
*Baltimore, MD*  
Brandes Investment Partners  
*San Diego, CA*

### Global Master Custodian

State Street Bank & Trust Co.  
*Boston, MA*

### Investment Consultants

Callan Associates, Inc.  
*Denver, CO*  
The Townsend Group  
*San Francisco, CA*

### Investment Advisory Council

William Jennings  
*Colorado Springs, CO*  
Jerrold Mitchell  
*Wayland, MA*  
Robert Shaw  
*San Francisco, CA*

### Independent Auditors

KPMG, LLP  
*Anchorage, AK*

### Actuaries

Buck Consultants  
*Denver, CO*  
Gabriel Roeder Smith  
*Denver, CO*

## Public Employees' Retirement System Investment Report

### INVESTMENTS

The investment goals of the State of Alaska Public Employees' Retirement System (PERS) 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., alternative equity strategies, 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
Alternative Equities Strategies	50% S&P 500 Index 30% CBOE Buy Write Index 20% Bank of America Yield Alternative Index
Private Equity	1/3 S&P 500 Index 1/3 Russell 2000 Index 1/3 MSCI EAFE Index
Real Assets	50% NCREIF Property Index 15% Barclays TIPS Index 10% NCREIF Farmland Index 10% NCREIF Timberland Index 5% FTSE NAREIT All Equity REIT Index 10% S&P Global Infrastructure
Fixed Income	80% Barclays Intermediate Treasury Index 10% Bank of America Merrill Lynch US High Yield Master II Constrained Index 7% Citigroup World Gov. Bond Ex-U.S. Index 3% JP Morgan Global Bond Index - Emerging Markets Global Diversified Index
Absolute Return	91 Day Treasury Bill + 5%
Cash Equivalents	91 Day Treasury Bill

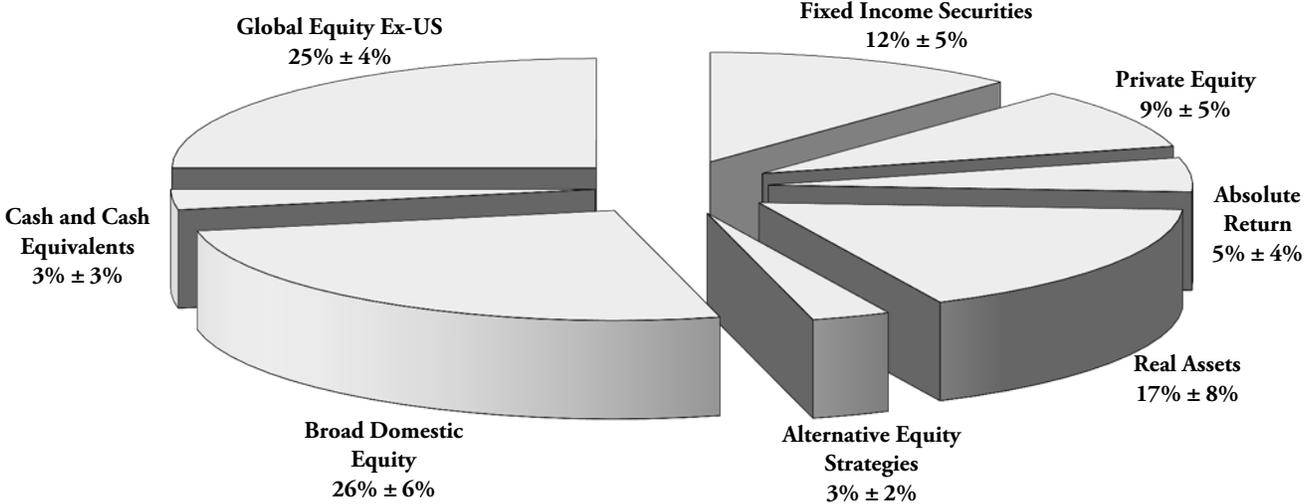
The target asset allocation is determined by the ARMB, utilizing capital market assumptions provided by its independent general investment consultant, Callan Associates. During the 2016 fiscal year, the ARMB's target asset allocation was 26% domestic equities, 25% global equities ex-U.S., 3% alternative equity strategies, 9% private equity, 17% real assets, 12% fixed income, 5% absolute return, and 3% cash equivalents. The target asset allocation is expected to generate a return of 7.2% with a standard deviation of 15.3%.

# Investment Section

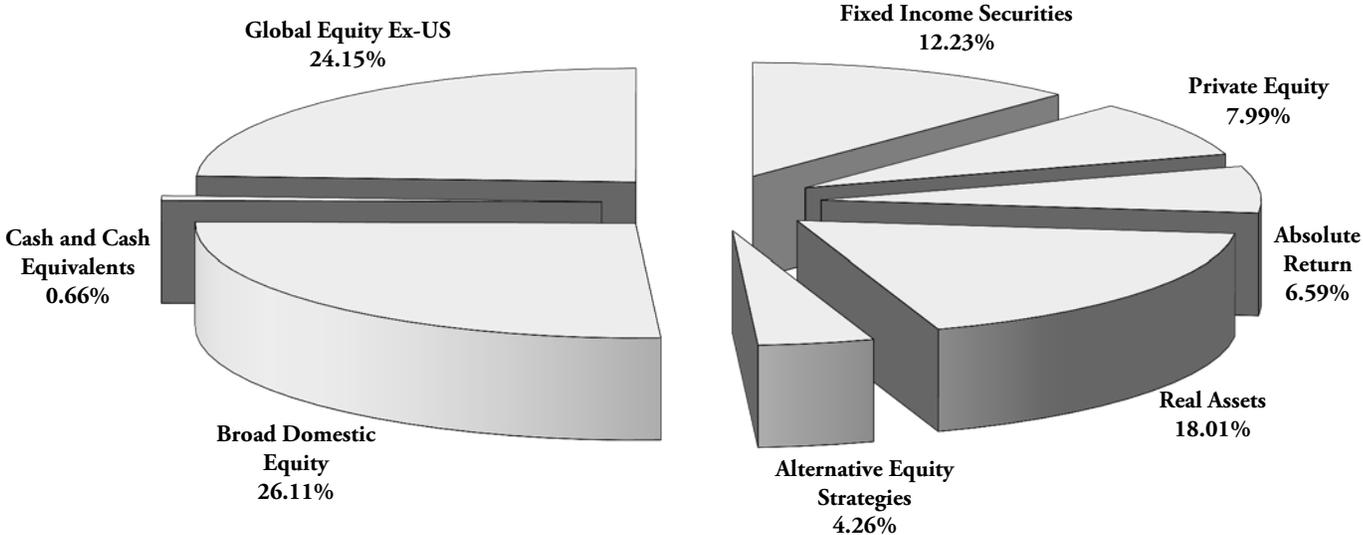
Public Employees' Retirement System Schedule of Investment Results Fiscal Years Ended June 30							
	2012	2013	2014	2015	2016	Annualized	
						3 Year	5 Year
<b>Total Fund</b>							
PERS	0.46%	12.50%	18.56%	3.29%	(0.36%)	6.86%	6.64%
<i>Actuarial Earnings Rate</i>	8.00	8.00	8.00	8.00	8.00	8.00	8.00
<b>U.S. Common Stock Returns</b>							
PERS Domestic Equities	1.80	21.23	25.81	7.84	0.58	10.92	10.99
<i>Custom Composite Index</i>	3.84	21.46	25.22	7.29	2.14	11.13	11.60
<b>Fixed Income</b>							
PERS	4.90	0.57	5.14	(0.74)	5.15	3.15	2.97
<i>Custom Composite Index</i>	5.08	(0.04)	3.31	0.41	4.79	2.82	2.69
<b>Real Assets</b>							
PERS	10.46	10.47	13.28	3.70	4.76	7.16	8.47
<i>Custom Composite Index</i>	11.41	8.35	10.98	7.99	8.87	9.27	9.51
<b>International Stock Returns</b>							
PERS International Equities	(13.67)	15.01	23.43	(3.32)	(9.15)	2.73	1.48
<i>MSCI ACWI ex-US</i>	(14.15)	14.14	22.27	(4.85)	(9.80)	1.62	0.56
<b>Private Equity</b>							
PERS	9.44	11.61	24.19	13.77	4.71	13.95	12.56
<i>Custom Composite Index</i>	(3.61)	21.24	24.01	3.33	(4.41)	7.00	7.44
<b>Absolute Return</b>							
PERS	(2.05)	8.41	6.51	9.24	(3.09)	4.08	3.67
<i>3-month Treasury Bill +5%</i>	5.06	5.11	5.05	5.02	5.19	5.09	5.09
<b>Alternative Equity</b>							
PERS	—	—	22.36	(0.89)	3.41	7.84	—
<i>Custom Composite Index</i>	—	—	18.70	4.26	2.09	8.11	—
<b>Cash Equivalents</b>							
PERS	0.44	0.25	0.27	0.28	0.55	0.36	0.36
<i>3-month Treasury Bill</i>	0.06	0.11	0.05	0.02	0.19	0.09	0.09
<p>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.</p>							

**Public Employees' Retirement System  
Asset Allocation  
June 30, 2016**

**Policy**



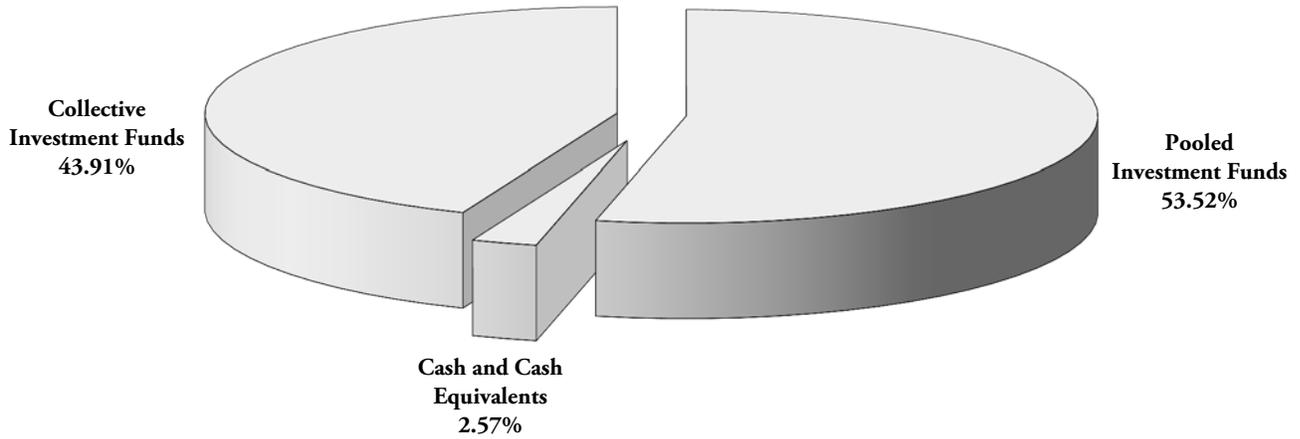
**Actual – Defined Benefit Pension**



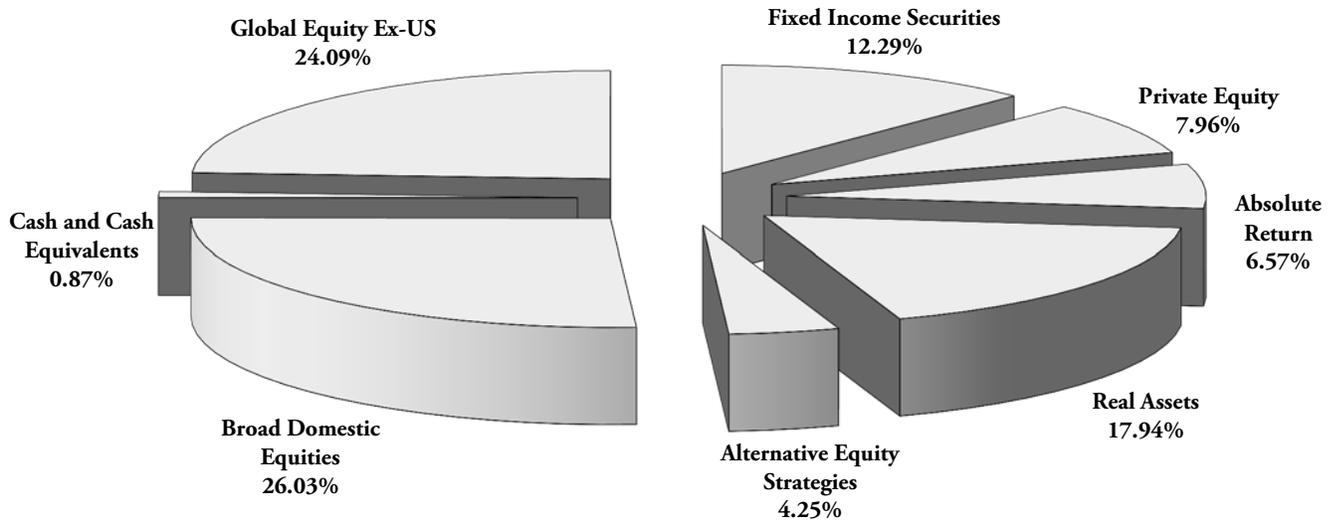
# Investment Section

## Public Employees' Retirement System Asset Allocation June 30, 2016

### Actual – Defined Contribution Participant Directed

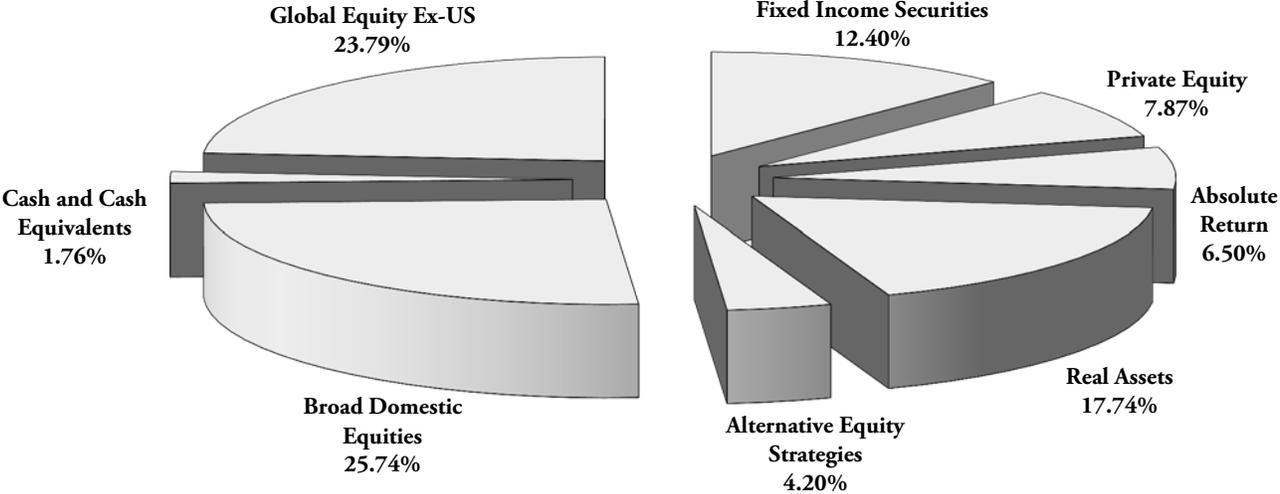


### Actual – Defined Benefit Alaska Retiree Healthcare Trust

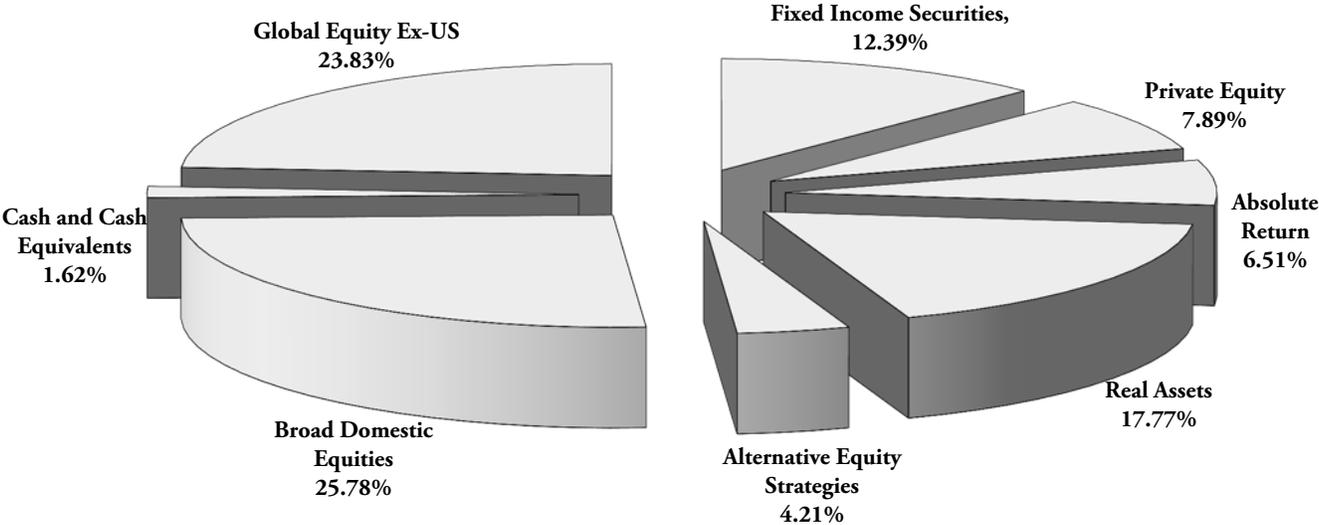


**Public Employees' Retirement System  
Asset Allocation  
June 30, 2016**

**Actual — Health Reimbursement Arrangement**



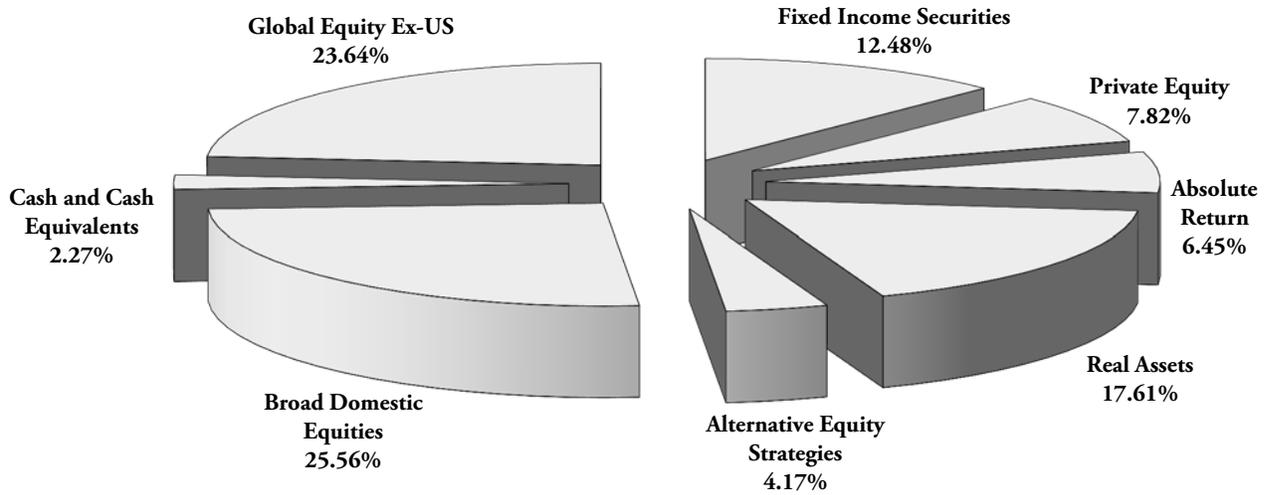
**Actual — Occupational Death & Disability**



# Investment Section

**Public Employees' Retirement System  
Asset Allocation  
June 30, 2016**

**Actual — Retiree Medical Plan**



**Alaska Retirement Management Board  
Top Ten Holdings by Asset Type  
June 30, 2016**

Invested assets under the fiduciary responsibility of the Alaska Retirement Management Board (ARMB) have been commingled in various investment pools to minimize costs and maximize returns. Treasury Division has created twenty-six different mutual fund-like pools to accomplish the investment asset allocation policies of the ARMB. 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 1.25% 2/29/2020	\$102,679,868	\$101,170,206
2	US Treasury 2.125% 5/15/2025	61,539,657	58,260,246
3	US Treasury 2.625% 11/15/2020	54,134,852	50,526,926
4	US Treasury 1.75% 9/30/2019	37,104,644	35,978,900
5	US Treasury 1.5% 5/31/2020	35,923,229	35,105,928
6	US Treasury 0.0% 8/15/2019	31,745,086	32,543,975
7	US Treasury 1.625% 7/31/2020	30,527,550	29,686,819
8	US Treasury 1.375% 8/31/2020	28,291,063	27,782,095
9	US Treasury 1.25% 1/31/2020	28,241,447	27,834,808
10	US Treasury 0.875% 12/31/2016	23,259,948	23,206,387

## Equities

<u>Rank</u>	<u>Largest Equity Holdings</u>	<u>Fair Value</u>
1	Apple Inc.	\$91,303,237
2	Microsoft Corp.	75,137,721
3	Johnson & Johnson	65,542,579
4	Exxon Mobil Corp.	63,813,281
5	Verizon Communications Inc.	52,033,806
6	Pfizer Inc.	51,572,252
7	Amazon.com Inc.	45,390,100
8	Procter & Gamble Co./The	44,853,496
9	AT&T Inc.	44,564,247
10	Facebook Inc.	43,948,034

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

# Investment Section

## Public Employees' Retirement System Schedule of Investment Management Fees Year Ended June 30, 2016

	Total Fair Value	Fees
<b>Fixed Income</b>		
<b>Municipal Bond Pool</b>		
* Guggenheim Partners	\$ 88,348,746	\$ 171,825
* Western Asset Management	84,705,510	183,471
Total Municipal Bond Pool	173,054,256	355,296
<b>High Yield Pool</b>		
* Mackay Shields, LLC	147,375,435	1,036,359
* Eaton Vance High Yield	140,847,518	297,847
* Columbia Threadneedle	142,039,966	212,543
Total High Yield	430,262,919	1,546,749
<b>Emerging Debt Pool</b>		
** Lazard Emerging Income	104,249,120	762,903
<b>Alternative Fixed Income</b>		
* Pyramis Global Advisors	85,317,600	283,528
<b>International Fixed Income</b>		
* Mondrian Investment Partners	243,305,669	963,173
<b>Broad Domestic Equity Pools</b>		
* Allianz Global Investors	230,784,510	692,817
* Barrow, Hanley, Mewhinney & Strauss, INC (LC)	220,466,665	798,955
* Barrow, Hanley, Mewhinney & Strauss, INC (SC)	56,365,988	314,232
* DePrince, Race & Zollo Inc.-Micro Cap	51,206,113	487,070
* Fidelity (FIAM) Small Company	132,483,045	192,730
* Frontier Capital Management	59,757,909	500,959
* Jennison Associates LLC	55,545,570	459,188
* Lazard Asset Management	234,316,885	612,586
* Lord Abbett & Co. (Micro)	50,442,529	518,652
* Lord Abbett & Co. (SC)	47,603,332	380,110
* Luther King Cap. Management	52,659,558	290,600
* McKinley Capital	225,876,227	776,479
* Quantitative Management Associates	216,361,091	598,656
* SSgA Future Small Cap	7,609,826	7,358
* SSgA Futures Large Cap	9,951,596	9,448
* SSgA Russell 1000 Growth	692,787,177	80,825
* SSgA Russell 1000 Value	635,778,268	85,756
* SSgA Russell 200	540,773,170	56,827
* SSgA Russell 2000 Growth	11,789,956	5,892
* SSgA Russell 2000 Value	20,709,488	10,782
* SSgA Volatility - Russell 1000	58,221,188	52,788
* SSgA Volatility - Russell 2000	38,904,609	39,993
* Sycamore Capital Management	65,715,246	510,954
* Zebra Capital Management	48,398,020	269,910
Total Domestic Equities	3,764,507,966	7,753,567
<b>Global Equity Ex-U.S.</b>		
* Allianz Global Investors	162,667,356	801,158
* Arrow Street Capital	193,660,876	803,731
* Baillie Gifford Overseas Limited	241,941,466	925,952
* Blackrock ACWI Ex-US IMI	505,483,614	227,822
* Brandes Investment Partners	438,115,115	2,136,732
* Capital Guardian Trust Co.	445,504,620	1,727,203
* Lazard Freres	225,570,242	428,319
* McKinley Capital Mgmt.	321,614,858	1,557,607
* Mondrian Investment Partners	101,726,234	731,404
* Schroder Investment Management	104,888,583	846,241
* State Street Global Advisors	507,725,844	305,755
Total International Equities	3,248,898,808	10,491,924
<b>Alternative Equity Strategies</b>		
<b>Alternative Equity Pool</b>		
* Analytic SSgA Account	201,156,906	260,336
* Quantitative Management Associates MPS	132,854,106	324,249
** Relational Investors, LLC	717,640	-
Total Alternative Equity	334,728,652	584,585
<b>Convertible Bond Pool</b>		
* Advent Capital	130,706,112	768,859
<b>Private Equity Pool</b>		
* Abbott Capital Management	511,065,558	1,311,819
** Angelo Gordon & Co.	2,338,712	55,937
** BlumCapital Partners-Strategic	-	9,375
** Glendon Opportunities	15,215,806	289,858
** Lexington Partners	32,801,042	953,266
** Merit Capital Partners	12,216,608	102,636
** Neuberger Berman Secondary Opportunities	14,373,102	414,992
** New Mountain Partners	8,358,507	225,327
** NGP XI	6,450,307	405,406
** Onex Partners	13,861,926	67,518
* Pathway Capital Management	543,972,751	1,694,215
** Resolute	5,023,203	185,507
** Warburg Pincus	31,896,004	464,865
Total Private Equities	1,197,573,526	6,180,721

**Public Employees' Retirement System**  
**Schedule of Investment Management Fees (cont.)**  
**Year Ended June 30, 2016**

	Total Fair Value	Fees
<b>Absolute Return Pool</b>		
** Allianz Global Investors	\$ 153,237,820	\$ 9,408,818
** Crestline Investors Inc.	235,128,244	1,458,141
** Global Asset Management	201,076,877	1,657,383
** Prisma Capital Partners	272,785,259	2,016,345
** Crestline Specialty	12,760,651	348,593
** KKR Apex Equity	64,869,010	724,506
** Zebra Global Equity	46,514,635	21,240
** Zebra Global Equity Advantage	19,910,782	7,334
Total Absolute Return	1,006,283,278	15,642,360
<b>Real Assets</b>		
<b>Real Estate Pool</b>		
** Almanac Realty Securities IV	37,616	50
** Almanac Realty Securities V	6,022,969	118,703
** Almanac Realty Securities VII	8,392,695	359,669
** BlackRock Diamond	2,162,095	101,971
** Colony Investors VIII, L.P.	9,130,706	269,597
** Cornerstone Apartment Venture III	32,451	-
** Coventry	1,382,850	185,782
** Clarion Development Venture III	6,186,610	24,224
** Clarion Development Venture 4	29,065,224	75,393
** JPM Strategic	147,598,032	1,245,139
** KKR	30,512,417	389,798
** LaSalle Separate	146,325,834	687,750
** LaSalle Medical Office Fund II	138,363	13,097
** Lowe Hospitality	657,099	5,935
** Sentinel Separate	148,740,298	775,893
** Silverpeak Real Estate Partners II	10,516,750	496,072
** Silverpeak Real Estate Partners III	4,880,622	56,010
** Tishman Speyer Fund VI	25,185,116	139,473
** Tishman Speyer Fund VII	5,228,195	76,116
** UBS Consolidated	65,217,035	678,615
** UBS Separate	323,714,740	1,485,985
Total Real Estate	971,127,717	7,185,272
<b>Infrastructure Public Pool</b>		
* Brookfield Investment Management	64,563,118	475,626
* Lazard Asset Management	72,827,567	513,866
Total Infrastructure Public Pool	137,390,685	989,492
<b>Infrastructure Private Pool</b>		
* IFM Global Infrastructure Fund	145,784,511	1,336,503
<b>Master Limited Partnerships Pool</b>		
* Advisory Research Inc	151,000,598	643,346
* Tortoise MLP	172,194,034	928,383
Total Master Limited Partnerships Pool	323,194,632	1,571,729
<b>Energy Pool</b>		
** EIG Energy Fund XV	21,382,340	262,043
** EIG Energy Fund XD	2,555,322	46,692
** EIG Energy Fund XIV-A	7,031,088	417,509
** EIG Energy Fund XVI	16,530,562	400,490
Total Energy Pool	47,499,312	1,126,734
<b>Farmland Pool</b>		
** Hancock Agriculture Investment Group	358,908,333	1,357,112
** UBS Agrivest	177,179,023	2,899,195
Total Farmland	536,087,356	4,256,307
<b>Timber Pool</b>		
** Hancock Natural Resource Group	65,000,585	447,356
** Timberland Investment Resources	185,027,265	1,533,241
Total Timber Pool	250,027,850	1,980,597
<b>Custodian</b>		
* State Street Bank		742,410
<b>Investment Advisory</b>		
* Callan Associates		154,081
* Investment Advisory Council		54,917
* Townsend Group		66,100
Total Investment Advisory		275,098
<b>Investment Performance</b>		
* Callan Associates		186,013
<b>Total External Management Fees</b>		<b>\$ 64,983,820</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

# Investment Section

## Public Employees' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Defined Benefit - Pension			% of Total Assets
	Asset Allocation		Fair Value	
	Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 54,114,725	
Total Cash and Cash Equivalents			54,114,725	0.66%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			378,535,393	
Taxable Municipal Bond Pool			93,078,909	
Tactical Fixed Income			55,775,560	
High Yield Pool			289,363,425	
International Fixed Income Pool			130,864,314	
Emerging Debt Pool			56,071,399	
Total Fixed Income Securities	12.00%	± 5%	1,003,689,000	12.23%
<b>Broad Domestic Equity</b>				
Large Cap Pool			1,767,873,512	
Small Cap Pool			376,066,771	
Total Broad Domestic Equity	26.00%	± 6%	2,143,940,283	26.11%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			1,636,321,975	
International Equity Small Cap Pool			111,129,785	
Emerging Markets Equity Pool			235,156,494	
Total Global Equity Ex-U.S.	25.00%	± 4%	1,982,608,254	24.15%
<b>Alternative Equity Strategies</b>				
Alternative Equity Strategies			279,634,774	
Convertible Bond Pool			70,301,553	
Total Alternative Equities	3.00%	± 2%	349,936,327	4.26%
<b>Private Equity</b>				
Private Equity Pool			655,867,190	
Total Private Equity	9.00%	± 5%	655,867,190	7.99%
<b>Absolute Return</b>				
Absolute Return Pool			541,239,227	
Total Absolute Return	5.00%	± 4%	541,239,227	6.59%
<b>Real Assets</b>				
Real Estate Pool			522,700,219	
Real Estate Investment Trust Pool			125,518,793	
Infrastructure Private Pool			114,140,987	
Infrastructure Public Pool			73,896,912	
Master Limited Partnership Pool			173,833,368	
Energy Pool			25,547,964	
Farmland Pool			288,339,787	
Timber Pool			134,479,904	
Treasury Inflation Protected Securities Pool			19,834,383	
Total Real Assets	17.00%	± 8%	1,478,292,317	18.01%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 8,209,687,323</b>	<b>100.00%</b>

# Investment Section

## Public Employees' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Defined Contribution - Participant Directed		Fair Value	% of Total Assets
	Asset Allocation Policy	e		
<b>Cash and Cash Equivalents</b>				
Short-term Fixed Income Pool	100.00%	0%	\$ 17,610,042	
Total Cash and Cash Equivalents			17,610,042	2.57%
<b>Pooled Investment Funds (1)</b>				
T. Rowe Price				
Target 2010 Trust			2,068,390	
Target 2015 Trust			8,855,496	
Target 2020 Trust			21,419,280	
Target 2025 Trust			31,032,547	
Target 2030 Trust			32,173,010	
Target 2035 Trust			37,278,646	
Target 2040 Trust			44,536,778	
Target 2045 Trust			55,057,772	
Target 2050 Trust			64,930,207	
Target 2055 Trust			42,618,856	
Target 2060 Trust			25,530	
Alaska Balanced Fund			15,125,556	
Long-Term Balanced Fund			11,545,670	
Total Pooled Investment Funds			366,667,738	53.52%
<b>Collective Investment Funds (1)</b>				
State Street Global Advisors				
Money Market Fund			3,004,366	
Alaska Money Market			8,432,948	
S&P Stock Index Fund			47,054,377	
Russell 3000 Index			39,728,972	
Real Estate Investment Trust Index			16,166,313	
World Equity Ex-U.S. Index			35,946,157	
Long U.S. Treasury Bond Index			1,406,209	
Treasury Inflation Protected Securities			9,635,408	
World Government Bond Ex-U.S. Index			4,784,760	
Global Balanced Fund			6,932,448	
Barclays				
Daily Government/Corporate Bond Fund			30,470,589	
Intermediate Bond Fund			10,939,724	
Brandes Institutional				
Alaska International Equity Fund			25,171,585	
RCM				
Socially Responsible Fund			3,087,197	
T. Rowe Price				
Small-Cap Fund			58,094,337	
Total Collective Investment Funds			300,855,390	43.91%
<b>Total Invested Assets</b>			<b>\$685,133,170</b>	<b>100.00%</b>

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

# Investment Section

## Public Employees' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Asset Allocation		Fair Value	% of Total Assets
	Policy	Range		
<b>Defined Benefit - Alaska Retiree Health Care Trust</b>				
<b>Cash and Cash Equivalents</b>				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 58,916,551	
Total Cash and Cash Equivalents			58,916,551	0.87%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			311,352,787	
Taxable Municipal Bond Pool			76,559,231	
Tactical Fixed Income			53,044,847	
High Yield Pool			238,007,094	
International Fixed Income Pool			107,638,467	
Emerging Debt Pool			46,119,828	
Total Fixed Income Securities	12.00%	± 5%	832,722,254	12.29%
<b>Broad Domestic Equity</b>				
Large Cap Pool			1,454,110,633	
Small Cap Pool			309,322,292	
Total Broad Domestic Equity	26.00%	± 6%	1,763,432,925	26.03%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			1,345,906,915	
International Equity Small Cap Pool			91,406,425	
Emerging Markets Equity Pool			193,420,826	
Total Global Equity Ex-U.S.	25.00%	± 4%	1,630,734,166	24.09%
<b>Alternative Equity Strategies</b>				
Alternative Equity Strategies			230,005,084	
Convertible Bond Pool			57,824,403	
Total Alternative Equities	3.00%	± 2%	287,829,487	4.25%
<b>Private Equity</b>				
Private Equity Pool			539,463,625	
Total Private Equity	9.00%	± 5%	539,463,625	7.96%
<b>Absolute Return</b>				
Absolute Return Pool			445,179,882	
Total Absolute Return	5.00%	± 4%	445,179,882	6.57%
<b>Real Assets</b>				
Real Estate Pool			429,273,097	
Real Estate Investment Trust Pool			103,241,668	
Infrastructure Private Pool			93,883,204	
Infrastructure Public Pool			60,781,662	
Master Limited Partnership Pool			142,981,357	
Energy Pool			21,013,703	
Farmland Pool			237,165,132	
Timber Pool			110,612,361	
Treasury Inflation Protected Securities Pool			16,314,171	
Total Real Assets	17.00%	± 8%	1,215,266,355	17.94%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 6,773,545,245</b>	<b>100.00%</b>

**Public Employees' Retirement System**  
**Investment Summary Schedule**  
**June 30, 2016**

<u>Investments (at Fair Value)</u>	<u>Health Reimbursement Arrangement</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	3.00%	± 3%	\$ 3,949,723	
Total Cash and Cash Equivalents			<u>3,949,723</u>	1.76%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			10,216,040	
Taxable Municipal Bond Pool			2,512,045	
Tactical Fixed Income			2,302,747	
High Yield Pool			7,809,437	
International Fixed Income Pool			3,531,810	
Emerging Debt Pool			1,513,274	
Total Fixed Income Securities	12.00%	± 5%	<u>27,885,353</u>	12.40%
<b>Broad Domestic Equity</b>				
Large Cap Pool			47,711,962	
Small Cap Pool			10,149,416	
Total Broad Domestic Equity	26.00%	± 6%	<u>57,861,378</u>	25.74%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			44,161,605	
International Equity Small Cap Pool			2,999,208	
Emerging Markets Equity Pool			6,346,482	
Total Global Equity Ex-U.S.	25.00%	± 4%	<u>53,507,295</u>	23.79%
<b>Alternative Equity Strategies</b>				
Alternative Equity Strategies			7,546,877	
Convertible Bond Pool			1,897,321	
Total Alternative Equities	3.00%	± 2%	<u>9,444,198</u>	4.20%
<b>Private Equity</b>				
Private Equity Pool			17,700,763	
Total Private Equity	9.00%	± 5%	<u>17,700,763</u>	7.87%
<b>Absolute Return</b>				
Absolute Return Pool			14,607,146	
Total Absolute Return	5.00%	± 4%	<u>14,607,146</u>	6.50%
<b>Real Assets</b>				
Real Estate Pool			14,085,216	
Real Estate Investment Trust Pool			3,387,544	
Infrastructure Private Pool			3,080,475	
Infrastructure Public Pool			1,994,354	
Master Limited Partnership Pool			4,691,473	
Energy Pool			689,498	
Farmland Pool			7,781,810	
Timber Pool			3,629,389	
Treasury Inflation Protected Securities Pool			535,297	
Total Real Assets	<u>17.00%</u>	± 8%	<u>39,875,056</u>	17.74%
<b>Total Invested Assets</b>	<b><u>100.00%</u></b>		<b><u>\$ 224,830,912</u></b>	<b><u>100.00%</u></b>

# Investment Section

## Public Employees' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Occupational Death and Disability		Fair Value	% of Total Assets
	Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 352,798	
Total Cash and Cash Equivalents			352,798	1.62%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			988,783	
Taxable Municipal Bond Pool			243,134	
Tactical Fixed Income			214,917	
High Yield Pool			755,854	
International Fixed Income Pool			341,834	
Emerging Debt Pool			146,465	
Total Fixed Income Securities	12.00%	± 5%	2,690,987	12.39%
<b>Broad Domestic Equity</b>				
Large Cap Pool			4,617,910	
Small Cap Pool			985,334	
Total Broad Domestic Equity	26.00%	± 6%	5,603,244	25.78%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			4,274,281	
International Equity Small Cap Pool			290,285	
Emerging Markets Equity Pool			614,259	
Total Global Equity Ex-U.S.	25.00%	± 4%	5,178,825	23.83%
<b>Alternative Equity Strategies</b>				
Alternative Equity Strategies			730,441	
Convertible Bond Pool			183,636	
Total Alternative Equities	3.00%	± 2%	914,077	4.21%
<b>Private Equity</b>				
Private Equity Pool			1,713,208	
Total Private Equity	9.00%	± 5%	1,713,208	7.89%
<b>Absolute Return</b>				
Absolute Return Pool			1,413,785	
Total Absolute Return	5.00%	± 4%	1,413,785	6.51%
<b>Real Assets</b>				
Real Estate Pool			1,363,269	
Real Estate Investment Trust Pool			327,870	
Infrastructure Private Pool			298,150	
Infrastructure Public Pool			193,028	
Master Limited Partnership Pool			454,076	
Energy Pool			66,735	
Farmland Pool			753,180	
Timber Pool			351,279	
Treasury Inflation Protected Securities Pool			51,809	
Total Real Assets	17.00%	± 8%	3,859,396	17.77%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ 21,726,320</b>	<b>100.00%</b>

# Investment Section

## Public Employees' Retirement System Investment Summary Schedule June 30, 2016

Investments (at Fair Value)	Retiree Medical Plan		Fair Value	% of Total Assets
	Asset Allocation Policy	Range		
<b>Cash and Cash Equivalents</b>				
Short-term Fixed Income Pool	3.00%	± 3%	\$ 1,351,730	
Total Cash and Cash Equivalents			<u>1,351,730</u>	2.27%
<b>Fixed Income Securities</b>				
U.S. Treasury Fixed Income Pool			2,687,911	
Taxable Municipal Bond Pool			660,937	
Tactical Fixed Income			702,632	
High Yield Pool			2,054,718	
International Fixed Income Pool			929,243	
Emerging Debt Pool			398,153	
Total Fixed Income Securities	12.00%	± 5%	<u>7,433,594</u>	12.48%
<b>Broad Domestic Equity</b>				
Large Cap Pool			12,553,348	
Small Cap Pool			2,670,382	
Total Broad Domestic Equity	26.00%	± 6%	<u>15,223,730</u>	25.56%
<b>Global Equity Ex-U.S.</b>				
International Equity Pool			11,619,225	
International Equity Small Cap Pool			789,112	
Emerging Markets Equity Pool			1,669,803	
Total Global Equity Ex-U.S.	25.00%	± 4%	<u>14,078,140</u>	23.64%
<b>Alternative Equity Strategies</b>				
Alternative Equity Strategies			1,985,636	
Convertible Bond Pool			499,198	
Total Alternative Equities	3.00%	± 2%	<u>2,484,834</u>	4.17%
<b>Private Equity</b>				
Private Equity Pool			4,657,193	
Total Private Equity	9.00%	± 5%	<u>4,657,193</u>	7.82%
<b>Absolute Return</b>				
Absolute Return Pool			3,843,242	
Total Absolute Return	5.00%	± 4%	<u>3,843,242</u>	6.45%
<b>Real Assets</b>				
Real Estate Pool			3,705,918	
Real Estate Investment Trust Pool			891,286	
Infrastructure Private Pool			810,495	
Infrastructure Public Pool			524,728	
Master Limited Partnership Pool			1,234,359	
Energy Pool			181,412	
Farmland Pool			2,047,449	
Timber Pool			954,917	
Treasury Inflation Protected Securities Pool			140,840	
Total Real Assets	17.00%	± 8%	<u>10,491,404</u>	17.61%
<b>Total Invested Assets</b>	<b>100.00%</b>		<b>\$ <u>59,563,867</u></b>	<b>100.00%</b>

# Investment Section

## Public Employees' Retirement System Recaptured Commission Fees Year Ended June 30, 2016

<u>Fund</u>	<u>Broad Domestic Equity Pool</u>	<u>Global Equity Ex-U.S.</u>	<u>Total</u>
Defined Benefit Plan - Pension	\$47,880	\$29,388	\$77,268
Postemployment Benefit - Alaska Retiree Healthcare Trust	39,020	23,942	62,962
Postemployment Benefit - Occupational Death & Disability	112	68	180
Postemployment Benefit - Retiree Medical Pan	275	163	438
Postemployment Benefit - Health Reimbursement Arrangement	1,139	686	1,825
<b>Total Recapture Commission Fees</b>	<b>\$88,426</b>	<b>\$54,247</b>	<b>\$142,673</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.