

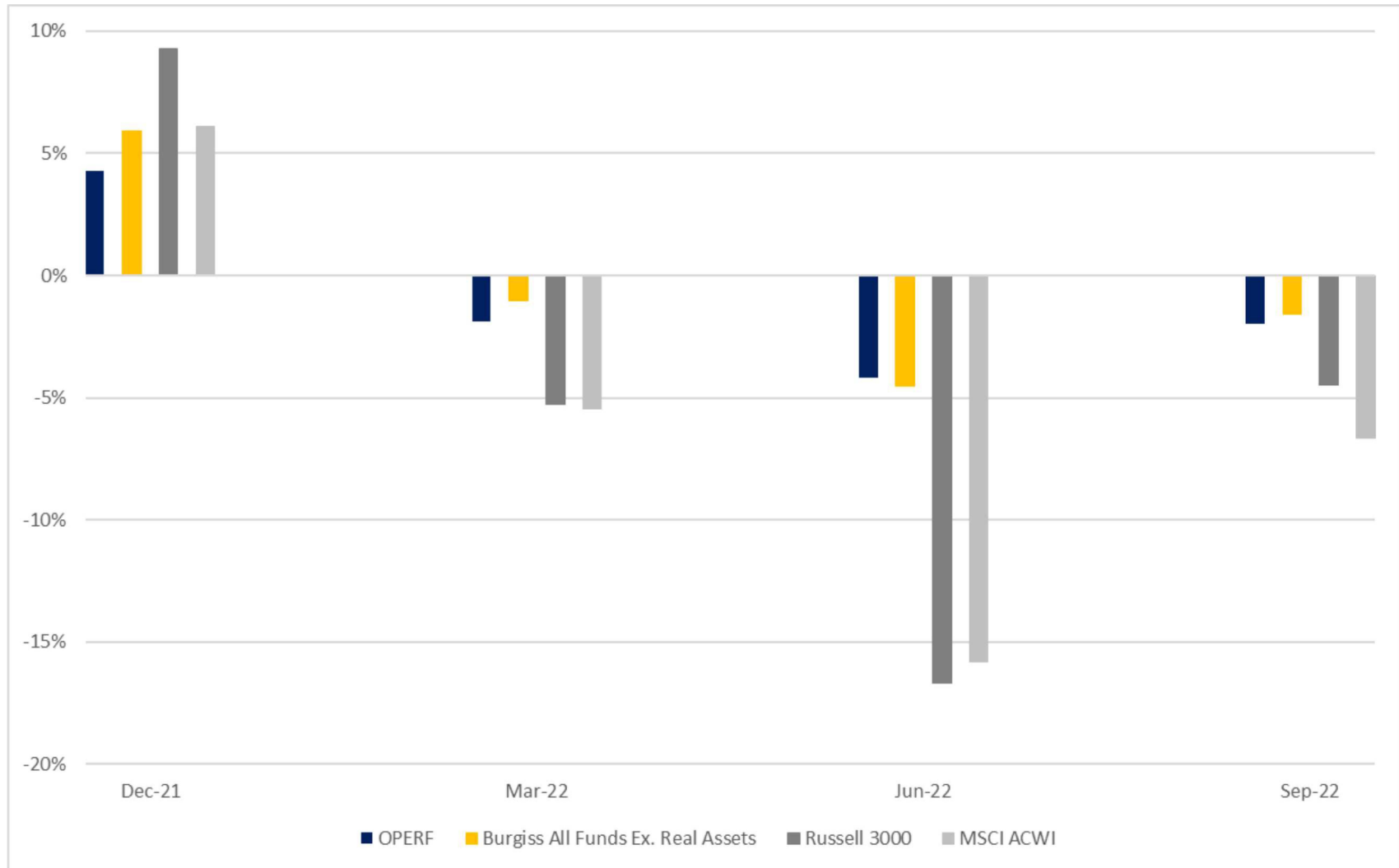
Exhibits 15-28 of 28 to Testimony of Rick Pope in support of HB 2601

February 15, 2023

House Committee on Emergency Management, General Government, and Veterans

Relative Returns – Horizon

There is currently an extreme disconnect between public and private equity markets from a valuation and, consequently, return perspective



Investment Environment

- **M&A Activity**

- Transaction volumes through Q3-22 appear strong on the surface, but 2022 activity is buttressed by deals announced in 2021 and closed in 2022. Quarter-by-quarter results in 2022 reflect a meaningful slowdown in deal activity as the year progressed
- Private equity sponsors account for ~40% of YTD activity, and ~70% of sponsor backed M&A deals are add-on acquisitions for existing platforms

- **Corporate Leveraged Finance**

- New issue volumes are off ~70% from a record 2021, reflecting the realities of higher rates and greater uncertainty
- Likewise, private equity sponsor backed new issue volumes are roughly a third of what they were in 2021

- **Private Equity Returns**

- Due to recent public market volatility and the vagaries of private market valuations, there is a temporary disconnect between the two markets with the private equity asset class down only 2% LTM through 9/30/22
- This phenomenon is most acute in the VC asset class, which is down only 7% for the YE 9/30/22 despite a massive correction in the valuation of unprofitable technology companies in the public markets

- **Private Equity Activity**

- The data suggests continued strength in fundraising, deployment and transaction multiples through the first three quarters of the year, but scrutiny of the quarter-by-quarter data suggest that momentum is coming out of the market meaningfully
- Exits have already started to reflect the realities of the current environment, as suggested by the shuttering of what had been a welcoming market for IPOs

- **Additional materials on investment environment available in the appendix**

Recent momentum is still buttressing 1H-22 data, but the realities of the current environment are starting to come through in the numbers





**OREGON
STATE
TREASURY**

Origination: 02/2002
Last Approved: 10/2021
Last Revised: 10/2021
Next Review: 10/2022
Owner: *Rex Kim: Chief Investment Officer*
Policy Area: *Investments*
References:

INV 1203: Statement of Investment Objectives and Policy Framework for the Oregon Public Employees Retirement Fund

INTRODUCTION & OVERVIEW

Summary Policy Statement

This Statement of Investment Objectives and Policy Framework (the "Statement") summarizes the philosophy, objectives and policies approved by the *Oregon Investment Council* (the "OIC" or the "Council") for the investment of *Oregon Public Employees Retirement Fund* ("OPERF" or the "Fund") assets.

1. The Statement has been prepared with six audiences in mind: 1) incumbent, new and prospective Council members; 2) *Oregon State Treasury* ("OST") staff; 3) the Public Employees Retirement Board ("PERB"); 4) active and retired Oregon Public Employees Retirement System (PERS) members; 5) the Oregon State Legislature and Governor; and 6) agents engaged by the Council to manage and administer Fund assets.
2. The Council approved these objectives and framework after careful consideration of PERS benefit provisions, and the implications of alternative objectives and policies.
3. The Statement summarizes more detailed policy and procedure documents prepared and maintained by staff, and numerous other documents that govern the day-to-day management of OPERF assets including agent agreements, individual investment manager mandates and limited partnership documents.
4. The Council regularly assesses the continued suitability of its approved investment objectives and policies, initiates change as necessary and updates these documents accordingly.

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS Chapter 293.

that the investment policies summarized in this document will provide the highest possible *return* at a level of *risk* that is appropriate for active and retired OPERF members. The Council evaluates risk in terms of both short-term asset price volatility and long-term plan viability.

2. This objective further contemplates a consecutive ten-year forecast horizon, and the Council also understands that estimates of forward-looking OPERF returns are a primary consideration during PERB's biennial determination of its ADR.
3. Historically, PERS members were allowed to direct up to 75% of their annual, employee retirement contributions to the *Variable Account*. While no longer receiving new contributions, the Variable Account's objective remains investment performance consistent with the *MSCI All Country World Investable Market Index*.
4. The Council has established investment objectives for individual asset classes that are also summarized in this Statement.

0.1. Policy Asset Mix, Diversification, and Return Expectations

1. The OIC undertakes a rigorous study of OPERF's assets and liabilities every three to five years (or more frequently, if desired). These asset-liability studies include the following elements for OIC consideration: 1) capital market assumptions by asset class, which include expected returns, volatilities and correlations; 2) proposed asset mixes using various portfolio modeling/construction techniques; 3) OPERF's *liability* structure, *funded status* and liquidity needs; and 4) recommended strategic asset allocation targets and a rebalancing framework. The Council's approved asset mix policy for the Regular Account is summarized in Exhibit 1.
2. Of total Fund assets, 50 percent of OPERF is targeted for investment in *equities*, inclusive of *private equity*. Equity investments have generated the highest returns over long time periods, but can also produce low and even negative returns over shorter time periods. The risk of low returns over shorter time periods makes 100% equity policies unsuitable for most pension funds, including OPERF. By investing across multiple equity asset classes, and in lower return but less risky asset classes, the Council manages and diversifies the Fund's overall risk.
3. Specific asset class exposures are maintained within the ranges outlined in Exhibit 1.

Exhibit 1: Policy Mix for the OPERF Regular Account

Asset Class	Target Allocation (%)	Re-balancing Range (%)
Public Equity	30.0	25.0 - 35.0
Private Equity	20.0	15.0 - 27.5
Total Equity	50.0	45.0 - 55.0
Fixed Income	20.0	15.0 - 25.0
Risk Parity	2.5	0.0 - 3.5
Real Estate	12.5	7.5 - 17.5
Real Assets	7.5	2.5 - 10.0
Diversifying	7.5	2.5 - 10.0

Returns for periods ending 12/31/10

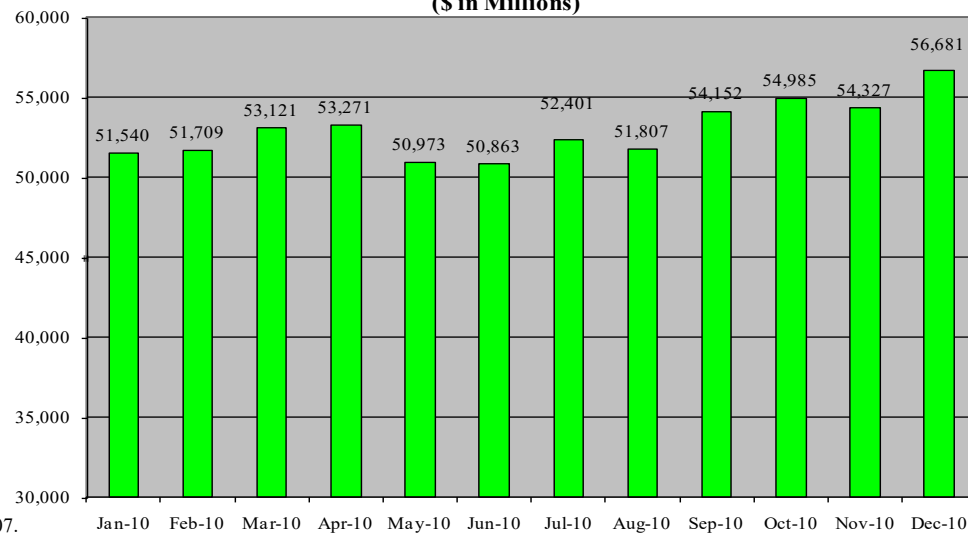
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)					
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
Public Equity	41-51%	46%	\$ 23,078,125	41.4%	15.69	15.69	25.86	(3.11)	(0.25)	3.32
Private Equity	12-20%	16%	11,973,204	21.5%	16.44	16.44	5.53	0.54	6.32	8.14
Total Equity	57-67%	62%	35,051,329	62.9%						
Opportunity Portfolio			1,053,075	1.9%	12.37	12.37	24.29	5.10	4.57	
Total Fixed	22-32%	27%	14,190,991	25.5%	10.78	10.78	18.02	7.88	7.11	6.86
Real Estate	8-14%	11%	5,327,435	9.6%	(1.88)	(1.88)	(5.71)	(8.42)	(4.08)	1.51
Cash	0-3%	0%	74,083	0.1%	0.88	0.88	1.62	1.50	2.46	2.98
TOTAL OPERF Regular Account		100%	\$ 55,696,913	100.0%	12.62	12.62	15.96	(0.60)	1.87	4.43
OPERF Policy Benchmark					11.32	11.32	13.40	(0.34)	2.27	4.68
Value Added					1.30	1.30	2.56	(0.26)	(0.40)	(0.25)
TOTAL OPERF Variable Account			\$ 984,391		14.55	14.55	24.62	(3.31)	(2.12)	1.06

Asset Class Benchmarks:

Russell 3000 Index	16.93	16.93	22.50	(2.01)	(0.27)	2.74
MSCI ACWI Ex US IMI Net	12.73	12.73	27.24	(4.22)	0.72	5.52
MSCI ACWI IMI Net	14.35	14.35	24.89	(3.48)	(0.01)	3.86
Russell 3000 Index + 300 bps--Quarter Lagged	14.27	14.27	6.41	(2.48)	2.64	4.69
BC Universal--Custom FI Benchmark	6.69	6.69	7.33	5.85	5.97	5.73
NCREIF Property Index--Quarter Lagged	5.84	5.84	(9.20)	(4.62)	0.45	3.67
91 Day T-Bill	0.13	0.13	0.17	0.79	1.83	2.43

TOTAL OPERF NAV
(includes variable fund assets)
One year ending December 2010
(\$ in Millions)



¹OIC Policy 4.01.18, as revised September 2007.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF.

Returns for periods ending 12/31/11

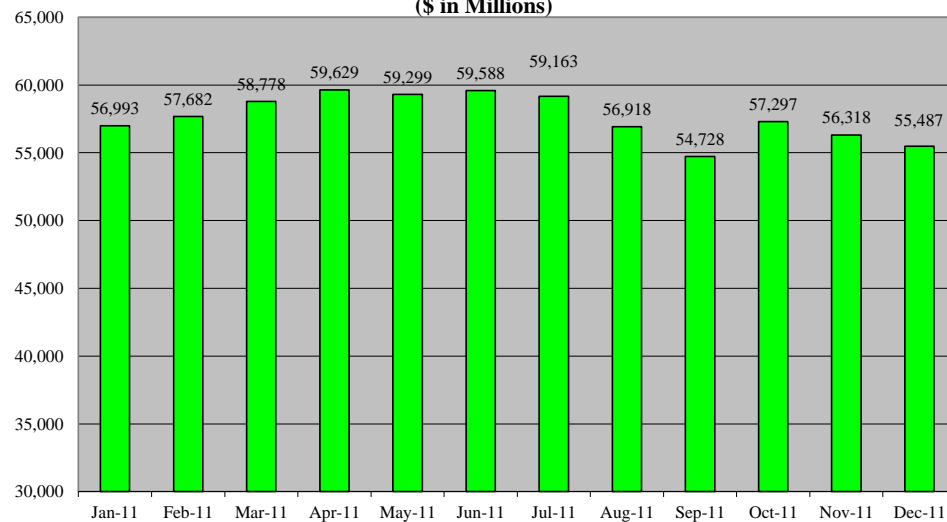
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)					
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
Public Equity	38-48%	43%	\$ 19,214,232	35.1%	(8.23)	(8.23)	3.04	13.28	(4.41)	(1.90)
Private Equity	12-20%	16%	13,399,987	24.5%	11.06	11.06	13.72	7.34	3.07	7.25
Total Equity	54-64%	59%	32,614,219	59.6%						
Opportunity Portfolio			938,553	1.7%	1.50	1.50	6.80	16.17	4.19	3.95
Total Fixed	20-30%	25%	14,151,034	25.9%	6.12	6.12	8.43	13.91	7.44	6.91
Real Estate	8-14%	11%	6,387,079	11.7%	14.44	14.44	5.97	0.57	(3.17)	(0.63)
Alternative Investments	0-8%	5%	375,473	0.7%	N/A					
Cash	0-3%	0%	233,384	0.4%	0.10	0.10	0.49	1.11	1.15	1.99
TOTAL OPERF Regular Account		100%	\$ 54,699,742	100.0%	2.22	2.22	7.29	11.19	0.10	1.94
OPERF Policy Benchmark					0.80	0.80	5.93	9.04	(0.06)	1.97
Value Added					1.42	1.42	1.36	2.15	0.16	(0.03)
TOTAL OPERF Variable Account			\$ 787,516		(7.53)	(7.53)	2.92	12.82	(4.38)	(3.22)

Asset Class Benchmarks:

Russell 3000 Index	1.03	1.03	8.69	14.88	(1.26)	(0.01)
MSCI ACWI Ex US IMI Net	(14.31)	(14.31)	(1.71)	11.53	(6.85)	(2.49)
MSCI ACWI IMI Net	(7.89)	(7.89)	2.63	12.84	(4.60)	(1.64)
Russell 3000 Index + 300 bps--Quarter Lagged	3.57	3.57	8.79	5.45	(1.00)	2.82
Oregon Custom FI Benchmark	5.33	5.33	6.01	6.66	5.72	5.84
NCREIF Property Index--Quarter Lagged	16.10	16.10	10.85	(1.45)	0.19	3.40
91 Day T-Bill	0.10	0.10	0.11	0.14	0.62	1.48

TOTAL OPERF NAV
(includes variable fund assets)
One year ending December 2011
(\$ in Millions)



¹OIC Policy 4.01.18, as revised April 2011.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF.

Returns for periods ending 12/31/12

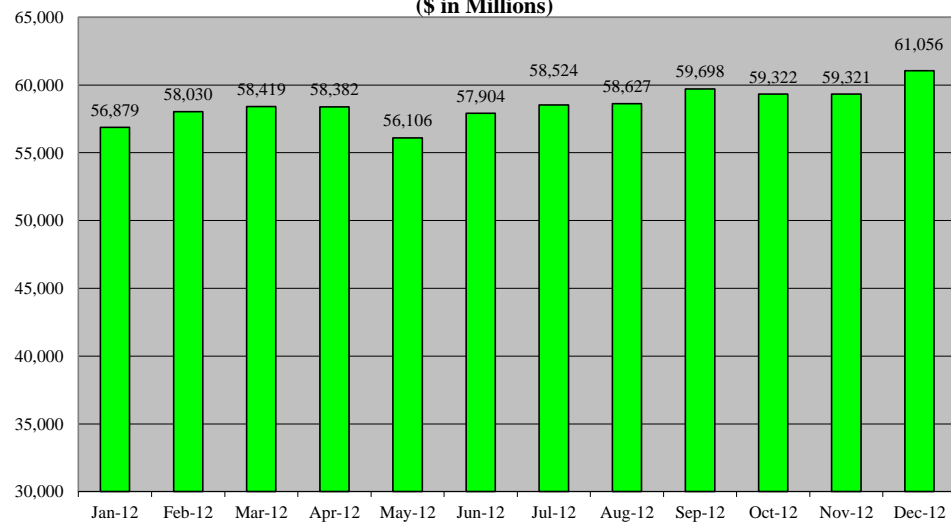
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)					
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS
Public Equity	38-48%	43%	\$ 22,001,434	36.5%	17.47	17.47	3.83	7.64	14.31	(0.39)
Private Equity	12-20%	16%	14,093,044	23.4%	14.41	14.41	12.72	13.95	9.06	5.24
Total Equity	54-64%	59%	36,094,478	59.9%						
Opportunity Portfolio			975,565	1.6%	18.44	18.44	9.64	10.55	16.74	6.89
Total Fixed	20-30%	25%	15,151,206	25.1%	10.33	10.33	8.21	9.06	13.01	8.01
Real Estate	8-14%	11%	7,330,411	12.2%	13.64	13.64	14.04	8.47	3.69	(0.02)
Alternative Investments	0-8%	5%	459,731	0.8%	(0.84)	(0.84)				
Cash	0-3%	0%	243,848	0.4%	1.65	1.65	0.87	0.88	1.25	1.25
TOTAL OPERF Regular Account		100%	\$ 60,255,239	100.0%	14.29	14.29	8.08	9.57	11.95	2.79
OPERF Policy Benchmark					16.57	16.57	8.40	9.36	10.87	3.06
Value Added					(2.28)	(2.28)	(0.32)	0.21	1.08	(0.27)
TOTAL OPERF Variable Account			\$ 800,279		16.98	16.98	4.00	7.41	13.84	(0.45)

Asset Class Benchmarks:

Russell 3000 Index	16.42	16.42	8.45	11.20	15.26	2.04
MSCI ACWI Ex US IMI Net	17.04	17.04	0.15	4.18	12.88	(2.50)
MSCI ACWI IMI Net	16.38	16.38	3.54	7.02	13.72	(0.73)
Russell 3000 Index + 300 bps--Quarter Lagged	34.02	34.02	17.82	16.62	11.97	5.18
Oregon Custom FI Benchmark	8.60	8.60	6.96	6.87	7.14	6.29
NCREIF Property Index--Quarter Lagged	11.00	11.00	13.52	10.90	1.52	2.26
91 Day T-Bill	0.11	0.11	0.11	0.10	0.14	0.52

TOTAL OPERF NAV
(includes variable fund assets)
One year ending December 2012
(\$ in Millions)



¹OIC Policy 4.01.18, as revised April 2011.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF.

Returns for periods ending 12/31/13

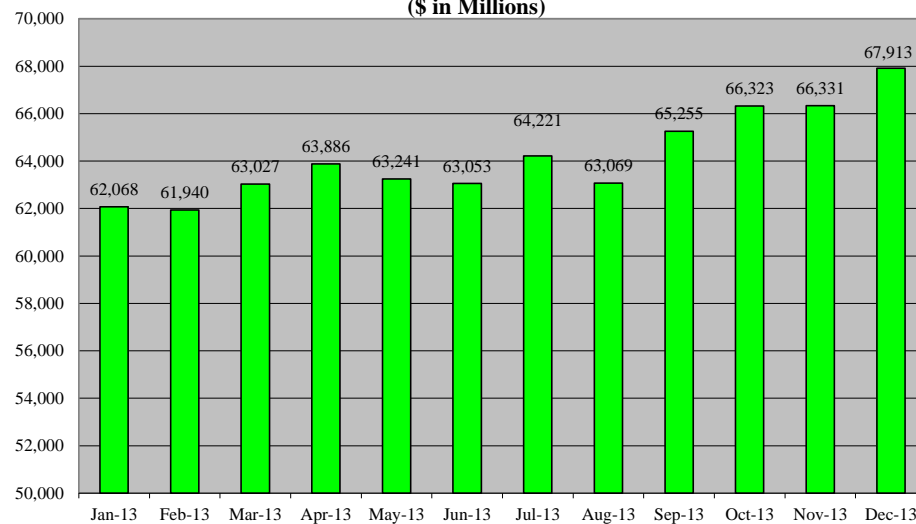
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 28,025,641	41.8%	26.68	26.68	21.99	10.95	12.11	16.69	4.41	7.64
Private Equity	16-24%	20%	14,287,161	21.3%	16.19	16.19	15.30	13.87	14.50	10.45	9.49	14.82
Total Equity	52.5-62.5%	57.5%	42,312,802	63.1%								
Opportunity Portfolio			828,354	1.2%	15.00	15.00	16.71	11.40	11.64	16.39	7.45	
Total Fixed	15-25%	20%	15,338,737	22.9%	1.04	1.04	5.58	5.76	7.00	10.51	6.53	6.14
Real Estate	9.5-15.5%	12.5%	7,473,648	11.1%	12.83	12.83	13.23	13.63	9.54	5.46	3.15	9.77
Alternative Investments	0-10%	10%	870,821	1.3%	6.02	6.02	2.53					
Cash	0-3%	0%	250,256	0.4%	0.66	0.72	1.15	0.80	0.82	1.13	1.75	2.18
TOTAL OPERF Regular Account		100%	\$ 67,074,618	100.0%	15.59	15.59	14.94	10.53	11.05	12.67	5.50	8.07
OPERF Policy Benchmark					15.67	15.67	16.12	10.77	10.91	11.82	5.83	7.78
Value Added					(0.08)	(0.08)	(1.18)	(0.24)	0.14	0.85	(0.33)	0.29
TOTAL OPERF Variable Account			\$ 838,703		23.71	23.71	20.30	10.19	11.27	15.75	2.98	

Asset Class Benchmarks:

Russell 3000 Index	33.55	33.55	24.69	16.24	16.41	18.71	6.50	7.88
MSCI ACWI Ex US IMI Net	15.82	15.82	16.43	5.12	6.97	13.46	2.58	8.00
MSCI ACWI IMI Net	23.55	23.55	19.91	9.82	10.93	15.62	4.09	7.59
Russell 3000 Index + 300 bps--Quarter Lagged	25.19	25.19	29.53	20.22	18.71	14.50	9.83	11.94
Oregon Custom FI Benchmark	0.29	0.29	4.36	4.68	5.18	5.73	5.42	5.07
NCREIF Property Index--Quarter Lagged	11.00	11.00	11.00	12.67	10.92	3.35	5.51	8.66
91 Day T-Bill	0.07	0.07	0.09	0.10	0.10	0.12	1.10	1.69

TOTAL OPERF NAV
(includes variable fund assets)
One year ending December 2013
(\$ in Millions)



¹OIC Policy 4.01.18, as revised October 2013.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

Returns for periods ending 12/31/14

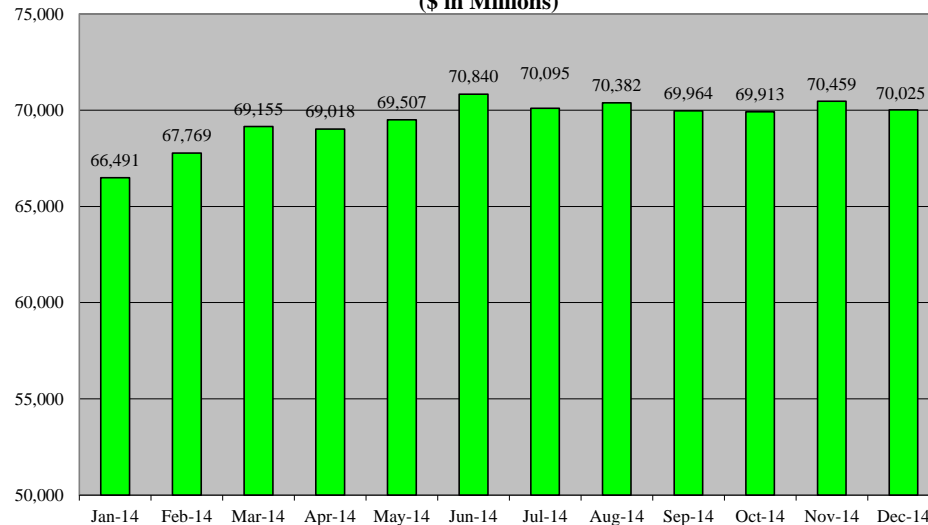
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 27,715,061	40.0%	3.31	3.31	14.40	15.42	8.99	10.30	3.63	6.40
Private Equity	16-24%	20%	14,709,784	21.2%	15.90	15.90	16.04	15.50	14.37	14.78	8.22	13.81
Total Equity	52.5-62.5%	57.5%	42,424,845	61.3%								
Opportunity Portfolio			1,049,655	1.5%	8.81	8.81	11.86	14.01	10.75	11.07	8.29	
Total Fixed	15-25%	20%	16,426,468	23.7%	3.52	3.52	2.27	4.89	5.20	6.29	6.34	5.87
Real Estate	9.5-15.5%	12.5%	7,727,004	11.2%	14.16	14.16	13.49	13.54	13.76	10.45	3.67	9.12
Alternative Investments	0-10%	10%	1,363,285	2.0%	4.44	4.44	5.23	3.16				
Cash	0-3%	0%	265,442	0.4%	0.53	0.53	0.59	0.94	0.73	0.76	1.06	2.09
TOTAL OPERF Regular Account		100%	\$ 69,256,699	100.0%	7.29	7.29	11.36	12.33	9.71	10.28	5.17	7.37
OPERF Policy Benchmark					8.24	8.24	11.86	13.41	10.12	10.36	5.50	7.33
Value Added					(0.95)	(0.95)	(0.50)	(1.08)	(0.41)	(0.08)	(0.33)	0.04
TOTAL OPERF Variable Account			\$ 768,414		4.19	4.19	13.53	14.67	8.66	9.81	3.36	4.68

Asset Class Benchmarks:

Russell 3000 Index	12.56	12.56	22.61	20.51	15.31	15.63	7.54	7.94
MSCI ACWI Ex US IMI Net	(3.89)	(3.89)	5.50	9.22	2.79	4.71	(0.28)	5.51
MSCI ACWI IMI Net	3.84	3.84	13.27	14.30	8.29	9.48	3.08	6.37
Russell 3000 Index + 300 bps--Quarter Lagged	21.24	21.24	23.20	26.71	20.48	19.21	10.04	12.11
Oregon Custom FI Benchmark	3.04	3.04	1.65	3.92	4.27	4.75	4.94	4.87
NCREIF Property Index--Quarter Lagged	11.26	11.26	11.13	11.09	12.32	10.99	4.72	8.55
91 Day T-Bill	0.03	0.03	0.05	0.07	0.08	0.09	0.39	1.56

TOTAL OPERF NAV
(includes variable fund assets)
One year ending December 2014
(\$ in Millions)



¹OIC Policy 4.01.18, as revised October 2013.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

Returns for periods ending DEC-2015

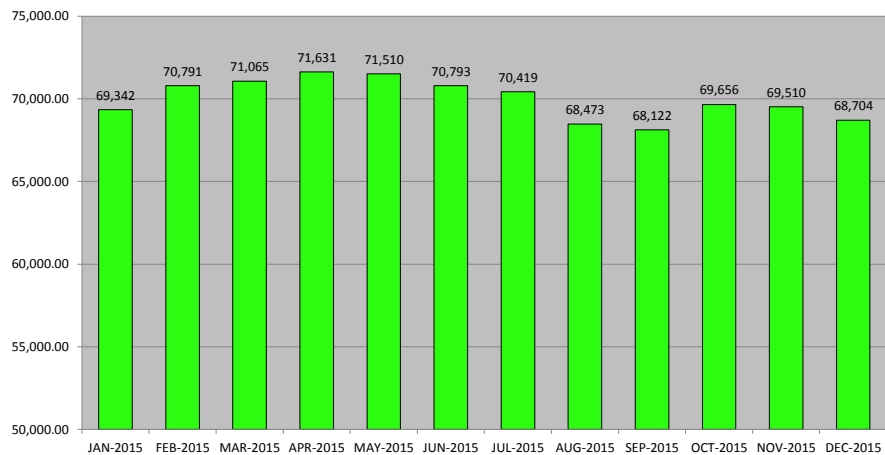
Oregon Public Employees Retirement Fund

OPERF	Regular Account			Historical Performance (Annual Percentage)								
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 26,336,529	38.7%	(1.75)	(1.75)	0.75	8.74	10.86	6.75	11.89	5.02
Private Equity	13.5-21.5%	17.5%	\$ 13,982,582	20.5%	7.79	7.79	11.77	13.23	13.52	13.02	10.83	10.56
Total Equity	50.0-60.0%	55.0%	\$ 40,319,111	59.3%								
Opportunity Portfolio	0-3%	0%	\$ 1,286,288	1.9%	2.14	2.14	5.42	8.52	10.92	8.97	13.14	
Total Fixed	15-25%	20.0%	\$ 15,634,785	23.0%	0.54	0.54	2.02	1.69	3.79	4.25	8.01	5.54
Real Estate	9.5-15.5%	12.5%	\$ 8,208,607	12.1%	9.81	9.81	11.96	12.25	12.59	12.96	7.28	7.08
Alternative Investments	0-12.5%	12.5%	\$ 2,299,979	3.4%	(4.32)	(4.32)	(0.03)	1.94	1.24			
Cash w/Overlay	0-3%	0%	\$ 299,979	0.4%	0.50	0.50	0.51	0.56	0.83	0.69	0.95	1.82
TOTAL OPERF Regular Account		100.0%	\$ 68,048,749	100.0%	2.11	2.11	4.67	8.19	9.68	8.15	10.32	6.27
OPERF Policy Benchmark					1.57	1.57	4.85	8.32	10.33	8.35	9.77	6.50
Value Added					0.55	0.55	(0.18)	(0.13)	(0.64)	(0.20)	0.55	(0.23)
TOTAL OPERF Variable Account			\$ 655,619		(1.79)	(1.79)	1.15	8.17	10.31	6.49	11.38	3.74

Asset Class Benchmarks:

Asset Class	0.48	0.48	6.35	14.74	15.15	12.18	15.04	7.35
Russell 3000	0.48	0.48	6.35	14.74	15.15	12.18	15.04	7.35
OREGON MSCI ACWI EX US IMI NET	(4.60)	(4.60)	(4.25)	2.02	5.59	1.27	8.09	3.37
MSCI ACWI IMI NET	(2.19)	(2.19)	0.78	7.86	9.93	6.11	11.17	4.98
RUSSELL 3000+300 BPS QTR LAG	2.49	2.49	11.47	15.87	20.16	16.64	13.62	10.50
OREGON CUSTOM FI BENCHMARK	0.16	0.16	1.59	1.15	2.97	3.44	4.53	4.58
NCREIF Property Index QTR LAG	13.48	13.48	12.36	11.91	11.68	12.55	5.85	8.02
91 Day Treasury Bill	0.05	0.05	0.04	0.05	0.07	0.07	0.10	1.26

Total OPEF NAV
(includes Variable Fund asset)
One year ending DEC-2015
(\$ in Millions)



¹OIC Policy revised June 2015.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

Returns for periods ending DEC-2016

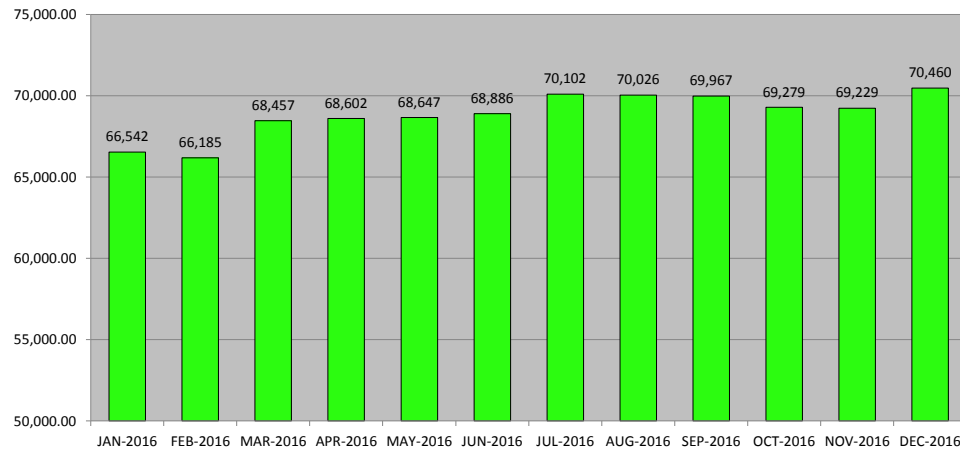
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 26,646,819	38.1%	9.80	9.80	3.86	3.68	9.00	10.65	8.42	4.19
Private Equity	13.5-21.5%	17.5%	\$ 13,873,866	19.9%	6.26	6.26	7.02	9.90	11.44	12.03	12.51	9.62
Total Equity	50.0-60.0%	55.0%	\$ 40,520,685	58.0%								
Opportunity Portfolio	0-3%	0%	\$ 1,472,796	2.1%	2.65	2.65	2.40	4.49	7.02	9.22	8.52	6.55
Total Fixed	15-25%	20.0%	\$ 14,881,965	21.3%	3.07	3.07	1.80	2.37	2.03	3.64	4.99	5.27
Real Estate	9.5-15.5%	12.5%	\$ 8,634,135	12.4%	6.58	6.58	8.23	10.17	10.83	11.38	9.81	5.20
Alternative Investments	0-12.5%	12.5%	\$ 4,033,611	5.8%	6.61	6.61	1.00	2.13	3.09	2.29		
Cash w/Overlay	0-3%	0%	\$ 311,169	0.4%	1.20	1.20	0.85	0.74	0.72	0.91	0.79	1.45
TOTAL OPERF Regular Account		100.0%	\$ 69,854,362	100.0%	6.88	6.88	4.47	5.40	7.86	9.11	8.59	5.47
OPERF Policy Benchmark					9.04	9.04	5.24	6.23	8.50	10.07	8.87	5.94
Value Added					(2.16)	(2.16)	(0.77)	(0.83)	(0.64)	(0.95)	(0.28)	(0.48)
TOTAL OPERF Variable Account			\$ 606,050		8.77	8.77	3.35	3.63	8.32	10.00	7.93	3.18

Asset Class Benchmarks:

Russell 3000	12.74	12.74	6.43	8.43	14.23	14.67	12.92	7.07
OREGON MSCI ACWI EX US IMI NET	4.41	4.41	(0.20)	(1.44)	2.61	5.35	3.28	1.35
MSCI ACWI IMI NET	8.36	8.36	2.95	3.25	7.99	9.61	7.57	3.84
RUSSELL 3000+300 BPS QTR LAG	18.37	18.37	10.15	13.73	16.49	19.80	16.55	10.99
OREGON CUSTOM FI BENCHMARK	2.52	2.52	1.33	1.90	1.49	2.88	3.76	4.35
OREGON CUSTOM REAL ESTATE BENCHMARK	9.62	9.62	11.53	11.44	11.33	11.26	11.15	7.26
CPI +4%	6.15	6.15	5.45	5.23	5.31	5.41	5.62	5.85
91 Day Treasury Bill	0.33	0.33	0.19	0.14	0.12	0.12	0.12	0.80

Total OPERF NAV
(includes Variable Fund asset)
One year ending DEC-2016
(\$ in Millions)



¹OIC Policy revised June 2015.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

Returns for periods ending DEC-2017

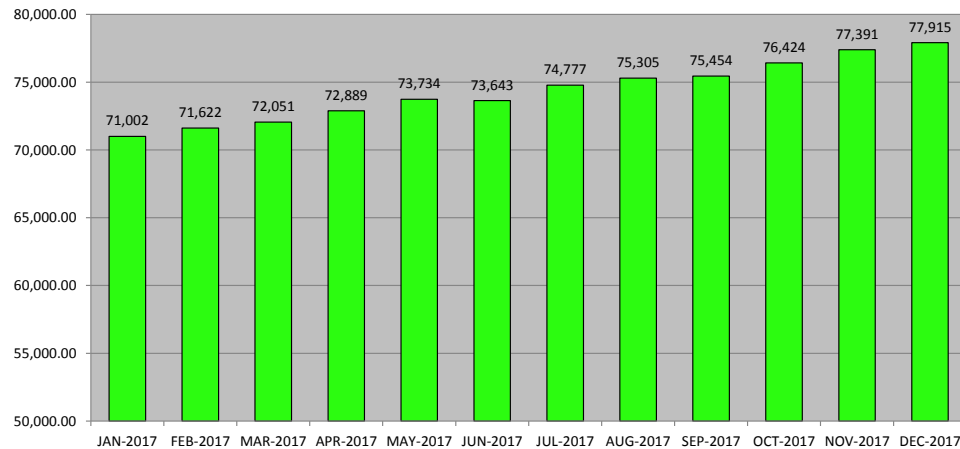
Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance Annual Percentage							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 31,761.6	41.4%	24.46	24.46	16.90	10.32	8.52	11.93	9.56	5.59
Private Equity	13.5-21.5%	17.5%	\$ 14,675.74	10.0%	17.32	17.32	11.66	10.18	11.58	12.49	12.56	8.85
Total Equity	50.0-60.0%	55.0%	\$ 46,677,190	60.4%								
Opportunity Portfolio	0-3%	0%	\$ 1,673,835	2.2%	10.47	10.47	8.28	6.19	6.84	8.42	8.77	7.66
Total Fixed	15-25%	20.0%	\$ 16,034,235	20.7%	3.73	3.73	3.40	2.44	2.71	2.37	4.01	5.15
Real Estate	9.5-15.5%	12.5%	\$ 7,576,062	9.8%	10.05	10.05	8.96	9.27	10.47	10.94	11.82	5.32
Alternative Investments	0-12.5%	12.5%	\$ 5,041,662	6.5%	8.30	8.30	7.45	3.38	3.64	4.11		
Cash w/Overlay	0-3%	0%	\$ 299,296	0.4%	1.34	1.34	1.27	1.01	0.89	0.84	0.85	1.05
TOTAL OPERF Regular Account		100.0%	\$ 77,302,281	100.0%	15.39	15.39	11.17	8.03	7.84	9.35	8.99	6.02
OPERF Policy Benchmark					15.64	15.64	12.24	8.56	8.48	9.87	9.45	6.41
Value Added					(0.25)	(0.25)	(1.07)	(0.54)	(0.64)	(0.52)	(0.46)	(0.39)
TOTAL OPERF Variable Account			\$ 612,505		24.37	24.37	16.30	9.93	8.46	11.36	9.20	5.29

Asset Class Benchmarks:

Russell 3000	21.13	21.13	16.86	11.12	11.48	15.58	13.50	8.60
OREON SCIC I E S I NET	27.81	27.81	15.52	8.38	5.17	7.22	5.15	2.24
SCIC I I NET	23.5	23.5	15.8	5.2	8.07	11.00	8.82	4.7
RUSSE 3000 300 PS TR	22.22	22.22	20.28	14.03	15.7	17.61	17.67	11.23
OREON C STO I ENC R	3.32	3.32	2.2	1.0	2.25	1.86	3.2	4.05
OREON C STO RE EST TE ENC R	6.70	6.70	7.78	6.5	10.05	10.24	11.17	6.18
CPI 4	6.1	6.1	6.17	5.70	5.47	5.48	5.76	5.64
Day Treasury Bill	0.86	0.86	0.5	0.41	0.32	0.27	0.22	0.3

Total OPERF NAV
(includes Variable Fund asset)
One year ending DEC-2017
(\$ in Millions)



¹OIC Policy revised June 2015.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 or with lagged performance, the numbers are 12-month performance. Performance is reflected in Total OPERF. T is not annualized.

Returns for periods ending DEC-2018

Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance Annual Percentage							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	32.5-42.5%	37.5%	\$ 24,348,816	33.7%	(10.47)	(10.47)	5.56	6.95	4.71	4.43	9.17	10.39
Private Equity	13.5-21.5%	17.5%	\$ 16,037,715	22.1%	18.15	18.15	17.73	13.78	12.12	12.87	13.56	11.66
Total Equity	50.0-60.0%	55.0%	\$ 40,432,530	55.8%								
Opportunity Portfolio	0-3%	0%	\$ 1,637,031	2.3%	5.85	5.85	8.13	7.46	6.10	6.64	9.42	11.41
Total Fixed	15-25%	20.0%	\$ 15,293,214	21.1%	0.25	0.25	1.97	2.34	1.89	2.21	3.16	6.28
Real Estate	9.5-15.5%	12.5%	\$ 8,124,547	11.2%	8.03	8.03	9.03	8.65	8.96	9.98	10.90	7.70
Alternative Investments	0-12.5%	12.5%	\$ 6,720,344	9.3%	(2.44)	(2.44)	2.79	4.05	1.89	2.40	2.43	
Cash w/Overlay	0-3%	0%	\$ 249,308	0.3%	2.02	2.02	1.68	1.52	1.26	1.11	1.13	1.12
TOTAL OPERF Regular Account		100.0%	\$ 72,456,974	100.0%	0.48	0.48	7.68	7.49	6.09	6.33	8.72	9.46
OPERF Policy Benchmark					1.22	1.22	8.19	8.44	6.68	6.99	9.51	9.37
Value Added					(0.73)	(0.73)	(0.51)	(0.95)	(0.59)	(0.66)	(0.79)	0.09

Target Date Funds

2,169,445

TOTAL OPERF Variable Account

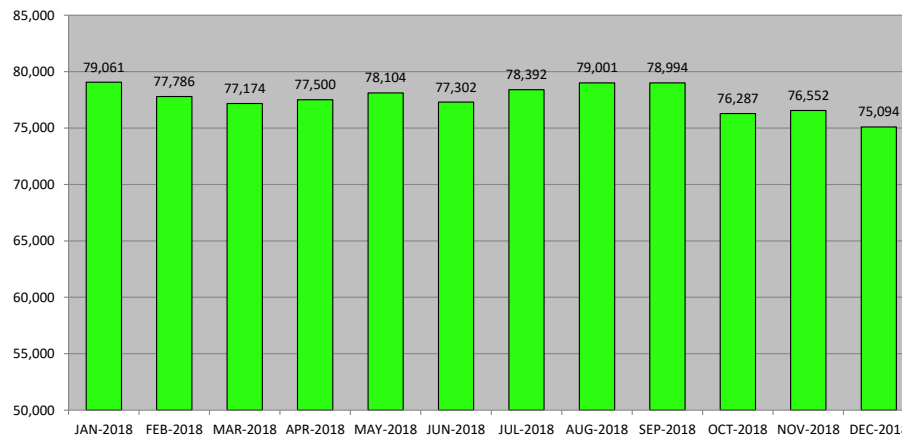
\$ 467,522

	(9.66)	(9.66)	6.00	6.91	4.67	4.57	8.84	10.02
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Asset Class Benchmarks:

Russell 3000	(5.24)	(5.24)	7.14	8.17	6.78	7.11	12.46	13.18
OREGON SCIENCE SOCIETY	(14.76)	(14.76)	4.38	4.31	2.07	0.85	5.07	6.17
SCIENCE SOCIETY	(10.08)	(10.08)	5.57	6.41	4.25	4.17	8.44	11.74
RUSSELL 3000 INDEX	21.06	21.06	21.64	20.54	15.75	16.83	20.33	15.66
OREGON COSTO INDEX	0.31	0.31	1.80	2.04	1.57	1.86	2.57	3.78
OREGON COSTO REAL ESTATE INDEX	7.71	7.71	7.20	7.76	11.16	11.58	11.18	6.42
CPI	5.18	5.18	6.08	6.11	5.77	5.57	5.60	5.83
1 Day Treasury Bill	1.87	1.87	1.36	1.02	0.78	0.63	0.47	0.37

Total OPERF NAV
(includes Variable Fund asset)
One year ending DEC-2018
(\$ in Millions)



¹OIC Policy revised June 2015.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 or with lagged performance, the numbers are N/A. Performance is reflected in Total OPERF. This is not annualized.

Returns for periods ending DEC-2019

Oregon Public Employees Retirement Fund

OPERF	Regular Account			Historical Performance (Annual Percentage)								
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	27.5-37.5%	32.5%	\$ 27,369,151	34.6%	25.25	25.25	5.89	11.75	11.26	8.53	10.17	9.41
Private Equity	13.5-21.5%	17.5%	\$ 17,322,313	21.9%	11.10	11.10	14.57	15.48	13.11	11.92	13.08	13.34
Total Equity	45.0-55.0%	50.0%	\$ 44,691,464	56.5%								
Opportunity Portfolio	0-3%	0%	\$ 1,715,831	2.2%	6.15	6.15	6.00	7.47	7.13	6.11	7.73	8.56
Total Fixed	15-25%	20.0%	\$ 16,149,467	20.4%	8.84	8.84	4.46	4.21	3.93	3.24	2.96	4.75
Risk Parity	0.0-2.5%	2.5%	\$ -	0.0%								
Real Estate	9.5-15.5%	12.5%	\$ 8,728,646	11.0%	7.25	7.25	7.64	8.44	8.30	8.61	9.99	9.53
Alternative Investments	7.5-17.5%	15.0%	\$ 7,688,993	9.7%	(1.32)	(1.32)	(1.88)	1.40	2.68	1.24	2.36	
Cash w/Overlay	0-3%	0%	\$ 91,300	0.1%	3.32	3.32	2.67	2.22	1.96	1.67	1.36	1.21
TOTAL OPERF Regular Account		100.0%	\$ 79,065,699	100.0%	13.56	13.56	6.82	9.60	8.97	7.54	8.62	8.91
OPERF Policy Benchmark					13.99	13.99	7.41	10.09	9.80	8.10	9.16	9.22
Value Added					(0.43)	(0.43)	(0.59)	(0.48)	(0.83)	(0.56)	(0.54)	(0.32)

Target Date Funds

2,516,797

TOTAL OPERF Variable Account

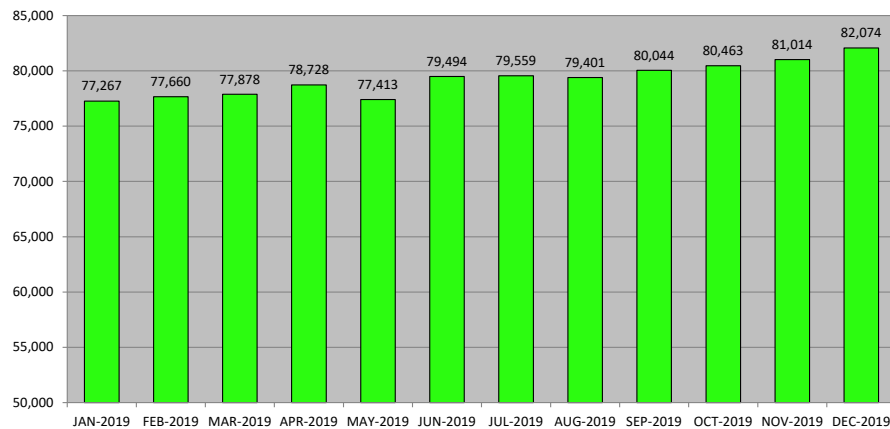
\$ 491,751

26.68	26.68	6.98	12.49	11.54	8.74	10.09	9.28
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Asset Class Benchmarks:

Russell 3000	31.02	31.02	11.42	14.57	14.11	11.24	14.38	13.42
OREGON MSCI ACWI EX US IMI NET	21.63	21.63	1.82	9.84	8.46	5.71	5.65	5.21
MSCI ACWI IMI NET	26.35	26.35	6.59	12.09	11.14	8.34	9.73	8.91
RUSSELL 3000+300 BPS QTR LAG	6.00	6.00	13.28	16.18	16.73	13.73	16.36	16.44
OREGON CUSTOM FI BENCHMARK	8.27	8.27	4.21	3.91	3.56	2.87	2.52	3.81
OREGON CUSTOM REAL ESTATE BENCHMARK	4.64	4.64	6.16	6.34	6.97	8.24	9.06	9.61
CPI +4%	6.37	6.37	6.17	6.18	6.17	5.89	5.68	5.79
91 Day Treasury Bill	2.28	2.28	2.08	1.67	1.33	1.07	0.78	0.58

Total OPERF NAV
(includes Variable Fund assets)
One year ending DEC-2019
(\$ in Millions)



¹OIC Policy revised April 2019.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

Returns for periods ending DEC-2020

Oregon Public Employees Retirement Fund

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy ¹	Target	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	27.5-37.5%	32.5%	\$ 25,260,786	30.8%	12.66	12.66	18.79	8.10	11.98	11.54	8.34	9.12
Private Equity	13.5-21.5%	17.5%	\$ 19,245,718	23.5%	12.74	12.74	11.92	13.96	14.79	13.03	12.59	12.98
Total Equity	45.0-55.0%	50.0%	\$ 44,506,504	54.3%								
Opportunity Portfolio	0-5%	0%	\$ 1,718,880	2.1%	10.15	10.15	8.14	7.37	8.14	7.73	7.07	8.35
Total Fixed	15-25%	20.0%	\$ 16,342,826	19.9%	7.66	7.66	8.24	5.51	5.06	4.66	3.90	4.45
Risk Parity	0.0-2.5%	2.5%	\$ 2,001,324	2.4%								
Real Estate	9.5-15.5%	12.5%	\$ 8,737,169	10.7%	2.66	2.66	4.93	5.95	6.96	7.15	8.51	10.02
Alternative Investments	7.5-17.5%	15.0%	\$ 8,319,181	10.1%	(6.61)	(6.61)	(4.00)	(3.48)	(0.66)	0.75	0.53	
Cash w/Overlay	0-3%	0%	\$ 338,157	0.4%	1.56	1.56	2.44	2.30	2.06	1.88	1.49	1.28
TOTAL OPERF Regular Account		100.0%	\$ 81,964,041	100.0%	7.66	7.66	10.57	7.10	9.11	8.71	7.52	8.42
OPERF Policy Benchmark					12.38	12.38	13.18	9.04	10.66	10.31	8.72	9.33
Value Added					(4.72)	(4.72)	(2.61)	(1.94)	(1.54)	(1.60)	(1.20)	(0.91)

Target Date Funds

2,999,503

TOTAL OPERF Variable Account

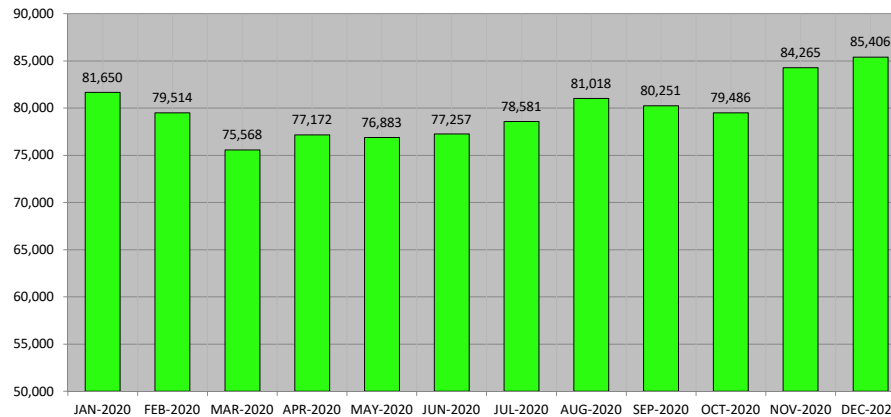
\$ 442,338

16.54	16.54	21.50	10.07	13.49	12.53	9.15	9.46
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Asset Class Benchmarks:

Russell 3000	20.89	20.89	25.85	14.49	16.12	15.43	12.76	13.79
OREGON MSCI ACWI EX US IMI NET	11.12	11.12	16.26	4.83	10.16	8.98	5.03	5.05
MSCI ACWI IMI NET	16.25	16.25	21.20	9.72	13.12	12.15	8.77	9.09
RUSSELL 3000+300 BPS QTR LAG	18.42	18.42	12.04	14.97	16.74	17.06	15.44	16.85
OREGON CUSTOM FI BENCHMARK	7.26	7.26	7.76	5.22	4.74	4.29	3.51	3.86
OREGON CUSTOM REAL ESTATE BENCHMARK	0.52	0.52	2.56	4.25	4.86	5.65	7.52	9.04
CPI +4%	5.41	5.41	5.89	5.92	5.99	6.02	5.66	5.80
91 Day Treasury Bill	0.67	0.67	1.47	1.61	1.42	1.20	0.87	0.64

Total OPERF NAV
(includes Variable Fund assets)
One year ending DEC-2020
(\$ in Millions)



¹OIC Policy revised April 2019.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.

OPERF	Regular Account				Historical Performance Annual Percentage							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
Public Equity	25.0-35.0%	30.0%	\$ 25,734,656	26.7%	20.01	20.01	16.28	19.20	10.97	13.54	10.69	12.09
Private Equity	15.0-27.5%	20.0%	\$ 24,811,036	25.7%	41.78	41.78	26.43	21.10	20.35	19.74	15.88	15.77
Total Equity	45.0-55.0%	50.0%	\$ 50,545,693	52.4%								
Opportunity Portfolio	0-5%	0%	\$ 2,364,484	2.4%	22.92	22.92	16.36	12.86	11.06	10.94	8.95	10.44
Total Fixed	15-25%	20.0%	\$ 20,494,824	21.2%	(0.92)	(0.92)	3.28	5.10	3.87	3.84	3.25	3.74
Risk Parity	0.0-3.5%	2.5%	\$ 2,276,298	2.4%	13.74	13.74						
Real Estate	7.5-17.5%	12.5%	\$ 10,835,224	11.2%	19.07	19.07	10.56	9.45	9.09	9.28	9.17	10.46
Real Assets	2.5-10.0%	7.5%	\$ 6,203,882	6.4%	19.01	19.01	8.01	4.69	4.75	5.46	3.94	3.36
Diversifying Strategies	2.5-10.0%	7.5%	\$ 3,483,088	3.6%	8.66	8.66	(2.26)	(1.83)	(4.34)	(1.99)	(0.48)	1.52
Cash w/Overlay	0-3%	0%	\$ 333,305	0.3%	0.08	0.08	0.82	1.64	1.74	1.66	1.43	1.28
TOTAL OPERF Regular Account		100.0%	\$ 96,536,798	100.0%	20.05	20.05	13.69	13.65	10.20	11.22	9.27	10.17
OPERF Policy Benchmark					15.08	15.08	13.72	13.81	10.52	11.53	9.68	10.79
Value Added					4.97	4.97	(0.03)	(0.17)	(0.32)	(0.31)	(0.41)	(0.61)

Target Date Funds

3,406,363

TOTAL OPERF Variable Account

\$ 438,217

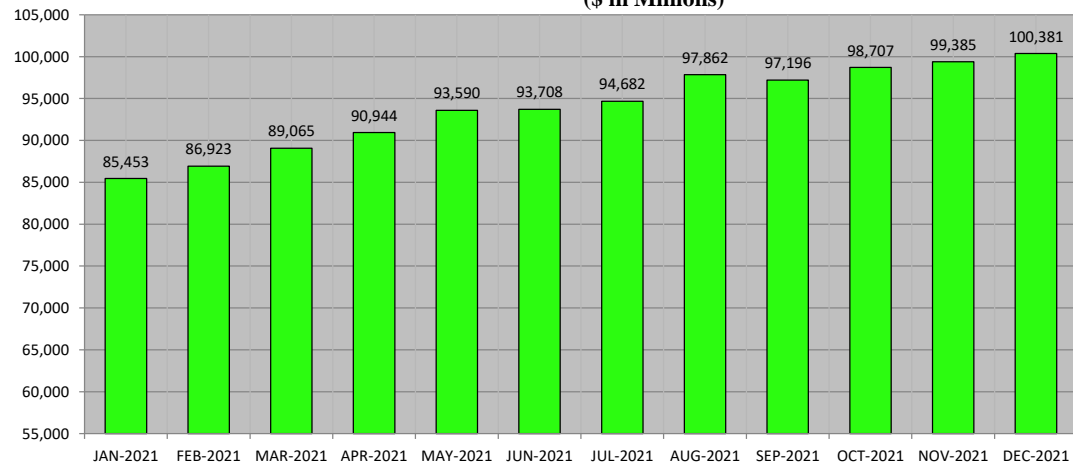
	18.60	18.60	17.57	20.53	12.15	14.49	11.19	12.22
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Asset Class Benchmarks:

SCI INDEX NET	18.22	18.22	17.23	20.20	11.7%	14.12	10.81	11.84
RUSSELL 3000 INDEX	35.74	35.74	26.7%	14.44	18.84	20.31	17.32	20.06
CPI 5%	12.36	12.36	3.35	8.6%	8.27	8.05	7.60	7.23
OREGON COSTO INDEX	(0.88)	(0.88)	3.11	4.80	3.66	3.5%	2.4	3.23
S&P Risk Parity - 12% Target Volatility	18.22	18.22	15.72	14.48	12.64	12.57	10.11	10.28
OREGON COSTO REINVESTED INDEX	2	2	5.11	4.6	5.64	5.85	7.34	8.45
CPI 4%	11.2%	11.2%	8.31	7.66	7.24	7.03	6.57	6.21
CRIO CONSERVATIVE INDEX	7.38	7.38	6.2	6.71	4.77	4.64	3.62	4.03
TREASURY	0.05	0.05	0.36	0.0	1.21	1.14	0.87	0.63

Total OPERF NAV
(includes Variable Fund assets)
One year ending DEC-2021

(\$ in Millions)



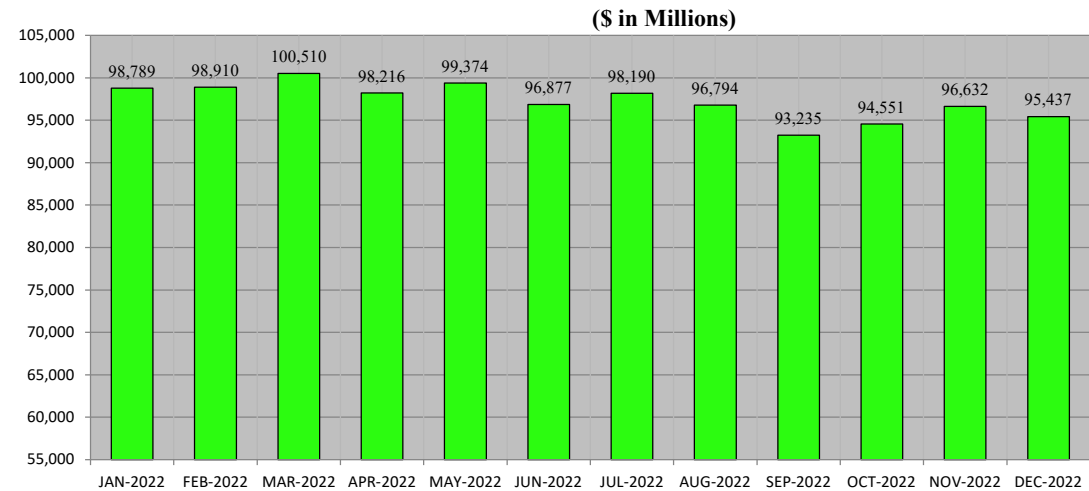
¹OIC Policy revised June 2021. Beginning October 1, 2021 the Alternatives Portfolio has been split up into two portfolios: Real Assets and Diversifying Strategies.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 or with lagged performance numbers are N/A. Performance is reflected in Total OPERF. T is not annualized.

OPERF	Regular Account				Historical Performance (Annual Percentage)							
	Policy ¹	Target ¹	\$ Thousands ²	Actual	Year-To-Date ³	1 YEAR	2 YEARS	3 YEARS	4 YEARS	5 YEARS	7 YEARS	10 YEARS
TOTAL OPERF Regular Account <i>OPERF Policy Benchmark</i>			\$ 91,897,020		(1.55) (8.53)	(1.55) (8.53)	8.72 2.82	8.36 5.91	9.64 7.88	7.74 6.51	8.71 8.12	8.54 8.18
Value Added <i>Oregon 70/30 Reference Benchmark</i>					6.98 (16.61)	6.98 (16.61)	5.89 (3.34)	2.45 2.23	1.76 6.64	1.23 3.77	0.59 6.06	0.37 6.05
Public Equity <i>MSCI ACWI IMI Net</i>	25.0-35.0%	30.0%	\$ 19,589,291	21.3%	(14.29) (18.40)	(14.29) (18.40)	1.42 (1.78)	5.04 3.89	9.76 9.10	5.38 4.96	8.55 7.98	8.61 7.94
Private Equity <i>Russell 3000+300 Bps Qtr Lag</i>	15.0-27.5%	20.0%	\$ 24,443,148	26.6%	1.15 (15.11)	1.15 (15.11)	19.76 7.35	17.37 10.92	15.77 9.67	16.24 11.86	14.91 14.20	14.35 14.70
Total Equity	45.0-55.0%	50.0%	\$ 44,032,439	47.9%								
Total Fixed <i>Oregon Custom Fixed Income Benchmark</i>	15-25%	20.0%	\$ 17,582,185	19.1%	(11.29) (13.01)	(11.29) (13.01)	(6.24) (7.14)	(1.82) (2.57)	0.74 0.03	0.64 0.09	1.42 0.89	1.50 0.97
Risk Parity <i>S&P Risk Parity - 12% Target Volatility</i>	0.0-3.5%	2.5%	\$ 1,362,484	1.5%	(22.62) (19.67)	(22.62) (19.67)	(6.19) (2.55)	2.46	8.19	5.27	7.66	6.15
Real Estate <i>Oregon Custom Real Estate Benchmark</i>	7.5-17.5%	12.5%	\$ 13,888,532	15.1%	20.03 20.96	20.03 20.96	19.55 17.24	13.63 11.38	12.00 9.66	11.20 9.26	10.55 8.84	11.07 9.75
Real Assets <i>CPI +4%</i>	2.5-10.0%	7.5%	\$ 8,061,620	8.8%	18.21 10.69	18.21 10.69	18.61 10.99	11.31 9.10	7.92 8.41	7.31 7.92	7.71 7.42	5.35 6.70
Diversifying Strategies <i>HFRI FOF: Conservative Index</i>	2.5-10.0%	7.5%	\$ 4,262,856	4.6%	21.38 0.45	21.38 0.45	14.85 3.98	5.06 4.80	3.52 5.17	0.33 3.94	1.41 3.67	3.17 3.67
Opportunity Portfolio <i>CPI + 5%</i>	0-5%	0%	\$ 2,552,966	2.8%	1.27 11.75	1.27 11.75	11.57 12.05	11.10 10.14	9.84 9.45	9.03 8.95	8.81 8.45	8.73 7.72
Cash w/Overlay <i>91 Day Treasury Bill</i>	0-3%	0%	\$ 153,938	0.2%	0.50 1.46	0.50 1.46	0.29 0.75	0.71 0.72	1.36 1.11	1.49 1.26	1.43 1.07	1.17 0.76
Target Date Funds			\$ 3,281,047									
TOTAL OPERF Variable Account			\$ 259,035		(18.10)	(18.10)	(1.44)	4.22	9.43	5.32	8.34	8.29

Total OPERF NAV
(includes Variable Fund assets)
One year ending DEC-2022



¹OIC Policy revised June 2021. Beginning October 1, 2021, the Alternatives Portfolio has been split up into two new portfolios: Real Assets and Diversifying Strategies.

²Includes impact of cash overlay management.

³For mandates beginning after January 1 (or with lagged performance), YTD numbers are "N/A". Performance is reflected in Total OPERF. YTD is not annualized.



Current, Actual, and Proposed Portfolios | Asset-only Metrics

	Current Policy	Actual Allocation*	Option #1	Option #2	Option #3
Public Equity	30.0%	23.0%	30.0%	25.0%	20.0%
Fixed Income	20.0%	20.0%	20.0%	25.0%	30.0%
Risk Parity	2.5%	2.0%	---	---	---
Private Equity	20.0%	28.0%	22.5%	22.5%	22.5%
Real Estate	12.5%	14.0%	12.5%	12.5%	12.5%
Real Assets	7.5%	8.0%	7.5%	7.5%	7.5%
Diversifying Strategies	7.5%	5.0%	7.5%	7.5%	7.5%
Expected Max Drawdown*	41.4%	44.7%	43.2%	40.0%	37.0%
Expected Volatility*	11.9%	12.7%	12.3%	11.6%	10.8%
Expected Return*	7.7%	8.0%	7.8%	7.6%	7.5%
Illiquids	40.0%	50.0%	42.5%	42.5%	42.5%

→ All proposed options:

- Eliminate allocation to Risk Parity
- Increase Private Equity target by 2.5%
- Maintain allocations to Real Estate, Real Assets, and Diversifying Strategies

→ *Sole difference: Tradeoff between Public Equity and Fixed Income*

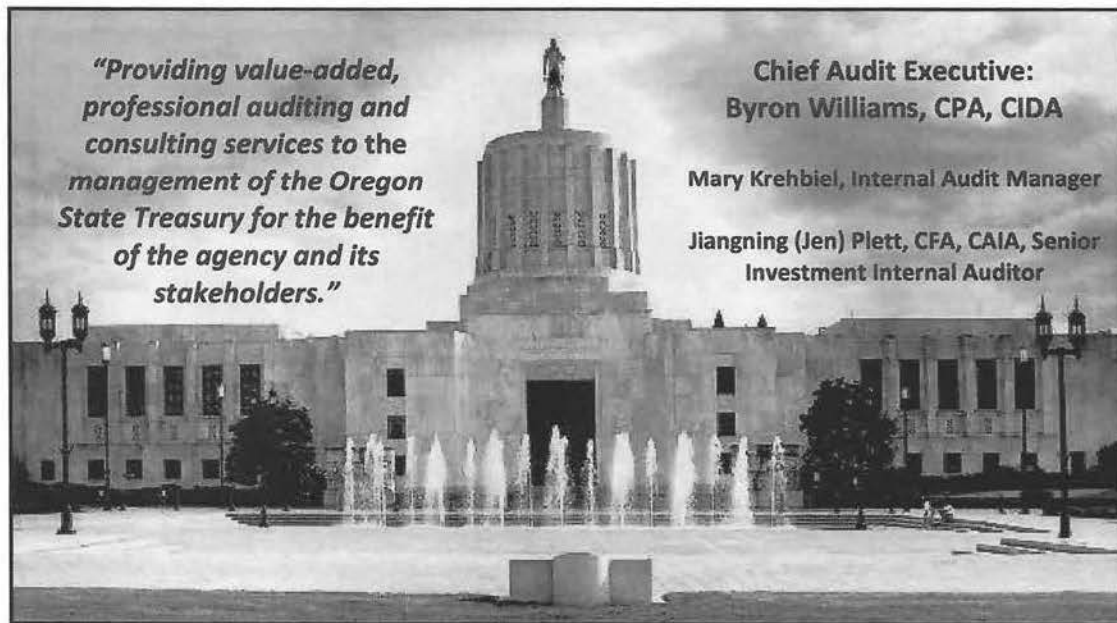
*Actual Allocation as of 11/2/2022 will differ. Detailed allocation is as of August 2022 and is consistent with the September A/L presentation.

**See Appendix for methodology/calculation details

Oregon State Treasury Internal Audit Services

Oregon Investment Council Investment Funds Operational Review

Issued 9/14/2016



Oregon Investment Council Operational Review

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Executive Summary

Audit Results

The Oregon Investment Council (OIC) and Oregon State Treasury (Treasury) oversee the investment of state funds – a major responsibility covering nearly \$90 billion in public funds. This audit, conducted by Treasury Internal Audit Services in response to state law, addresses two key aspects of the current governance and management practices of the OIC and Treasury in connection with the state’s investment program.

- Are the practices **prudent** – that is, do they comply with state requirements and with accepted fiduciary standards?
- Do the practices **promote effectiveness** – that is, do they compare favorably to accepted industry guidance and best practices?

With regard to the first question, based on audit work performed, our opinion is that the OIC and Treasury have managed the investment program prudently. In all respects, current practices complied with the requirements of state law; moreover, current practices also compared favorably with most aspects of a set of nationally accepted fiduciary standards, though opportunities for improvement exist (e.g., better policy clarification, enhanced manager oversight and formalized continuing education and ethics training). In fact, several such items remain open since our last review four years ago.

With regard to the second question, we found that in many respects current practices also compare favorably to industry guidance and best practices for effectiveness. We commend the OIC and Treasury staff for pursuing leadership status in the public pension fund arena. While current practices matched many industry best practices, we did identify opportunities for improvement in the practice areas studied. Specifically:

- OIC Oversight of Alternative Investments – Opportunities exist for the OIC to clarify and document expectations and to consider a review of asset class benchmarks.
- Treasury Staff Investment Due Diligence – Opportunities exist for Treasury staff to better formalize documentation, evaluate the scope and standardization of due diligence efforts, and improve employee development efforts.

The goal of our recommendations is to keep oversight of the state’s investment program strong – and where possible, improve oversight – especially during the significant membership changes the OIC faces in the near future.

The “Summary of Opportunities for Improvement” in Appendix A provides an overview of each opportunity for improvement, our corresponding recommendation, and our estimate of the relative degrees of risk associated with inaction.

Internal Audit Services would like to thank the OIC members and Treasury staff for their participation in this effort. Their assistance and support during our audit was highly beneficial and greatly appreciated.

Management Response

To address the findings noted within this report and the associated management letter, the Deputy State Treasurer has provided the following management response:

“In general, management agrees with the recommendations. We will work with the Council to evaluate individual recommendations and determine appropriate action, recognizing that many of the recommendations require staffing and resources that are currently not available to Treasury.”

Investment Funds Operation Review Report

Background and Audit Approach

Who Oversees State Investments, and What Monies are Involved?

Oversight of state investments is conducted by the following entities:

- **The Oregon Investment Council (OIC).** State statute (ORS 293.706) established the OIC to serve as an independent oversight body for state investments managed by the Oregon State Treasury (Treasury). The OIC ensures that state funds are invested and reinvested as productively as possible, subject to fiduciary standards of prudence. The OIC is a six-member board made up of four gubernatorial appointees and the State Treasurer as voting members. The Executive Director of the Public Employee Retirement System holds the sixth position, in an ex-officio and non-voting capacity. Each gubernatorial appointee serves a four-year term with a two-term limit. The chair and vice chair are elected by the Council biennially. No one individual may be the chairperson for more than four years in any twelve-year period.
- **The Oregon State Treasury (Treasury).** The State Treasurer is the financial leader of the State and sets goals and strategies to help the State and individual Oregonians better manage and invest money. Treasury's Investment Division manages funds on behalf of Oregonians to achieve returns for current and future public retirees, Oregon schoolchildren, worker's compensation claims and various other purposes.

Together, the OIC and Treasury oversee, administer and manage the investment of nearly \$90 billion in state funds. This total is comprised of the following primary funds:

- **The Oregon Public Employee Retirement Fund (OPERF).** At roughly \$68 billion, this fund is by far the state's largest, and is invested in a globally diversified portfolio of common stocks, fixed income instruments, private equity, real estate and other alternative asset investments. Compared with peer funds, OPERF has a heavy allocation to alternative asset investment strategies, and its funded status was approximately 79 percent as of December 31, 2015.
- **The Oregon Short Term Fund (OSTF).** The OSTF is a \$14 billion short-term investment pool used by state agencies and over 1,000 local governments. By pooling moneys from across the state and prudently managing the fund, Treasury is able to provide OSTF investors a stable value investment vehicle with returns that often exceed other short-term deposit or investment options.
- **Other Funds Under OIC Oversight.** Additional funds under OIC oversight include the \$4 billion State Accident Insurance Fund, the \$1 billion Common School Fund, and over \$1 billion in various other state agency investment mandates.

Why We Performed this Audit

Oregon Revised Statute 293.776 requires the OIC to commission an audit of the investment program at least once every four years. To fulfill this requirement, the OIC directs Treasury's Internal Audit Services team to perform an operational review of the structure and activities of both the Council and Treasury investment division relative to similarly sized and configured institutional investment peers. This work and the report thereon fulfill the requirements stated in ORS 293.776.

In compliance with this requirement, we have completed an audit of the operations of the OIC/Treasury investment program for the fiscal year ended June 30, 2016. This audit was conducted in conformance with the *International Standards for the Professional Practice of Internal Auditing*. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. The results of this audit, including auditor observations and recommendations, have been included in this audit report.

Audit Objective, Scope, and Methodology

This audit had the following two specific objectives:

- 1) Determine if the policies and activities of those charged with governance of the investment funds have managed the funds to make them as productive as possible in a prudent manner; and
- 2) Compare current practices related to alternative investment due diligence against peer and best practices.

The audit covered the period from July 1, 2012 through June 30, 2016. The work informing this report consisted primarily of a review of OPERF-related investments and policies. When we use the phrase "the Fund" in this report, we are referring to OPERF unless specifically stated otherwise. All investment funds were subject to other audits during this period, and we reviewed those audits' findings of as part of our work.

To address the first objective, auditors used the framework "Prudent Practices for Investment Stewards", written by fi360, a fiduciary education group, with technical review by the American Institute of Certified Public Accountants (AICPA). This framework contains twenty-two practices substantiated by legislation, case law, and/or regulatory opinions. The specific sources include federal law (the Employee Retirement Income Security Act, or ERISA), and three model laws promulgated by the Uniform Law Commission: the Uniform Prudent Investors Act (UPIA); the Uniform Prudent Management of Institutional Funds Act (UPMIFA); and the Uniform Management of Public Employee Retirement Systems Act (UMPERSA). While only UPIA is legally binding on the OIC and Treasury's

Oregon Investment Council Operational Review

investment operations, the other three acts do provide a useful yardstick for evaluating the management and governance of the OIC/Treasury investment program. A summary of investment practices recommended by these sources has been included in Appendix B, titled "The Periodic Table of Global Fiduciary Practices."

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Overview of Significant Changes Since 2012

The last Operational Review report covered the period December 31, 2008, through June 30, 2012. Since that time, the OIC/Treasury investment program has undergone significant changes. One key risk area highlighted in the previous report was the need to improve and formalize OIC processes, especially in light of multiple OIC members' expected departure. This membership turnover has now begun. When we presented the previous report in January of 2013, the OIC's six members had 39 years of combined Council tenure. Since then, four members have rotated off the Council, reducing its combined tenure to 25 years. The remaining two members, of those original six, are expected to be replaced within the next six months, leaving a combined Council tenure of only 7 years. While each council member meets the statutory experience requirement to serve, the lack of formal process documentation and education and training requirements increases the Council's reliance on "tribal knowledge" transfers. These transfers may or may not be successful, and important institutional knowledge could easily be lost without formalized policy and process documentation, initial and continuing education requirements, and a robust board governance manual.

At the time of the last report, Treasury had 14 investment officers, 5 front office analysts and support staff, and 6 middle and back office positions covering investment accounting and compliance. Treasury now has 16 investment officers, 8 front office analysts and support staff, and 13 middle and back office positions covering investment accounting and compliance. While the number of investment officers did not significantly increase, front office support staff is 60% higher and the combined middle and back-office staff has doubled. These staffing increases have enabled the following significant changes: 1) creation of a bona fide compliance and legal team headed by a Chief Compliance Officer who acts as General Counsel for Treasury on investment issues; and 2) appointment of a new Director of Investment Operations with dedicated data management and operating risk staff. While these staff increases are a good start towards improving the investment program's infrastructure, additional staff is still needed to fortify those functions as they mature. As part of the 2017-2019 budget process, Treasury management is requesting an additional 28 FTE including investments officers in each asset class, as well as more risk, compliance and operational staff.

An analysis of Treasury's internal management activities by Wilshire Associates 2013 identified trading and portfolio management technology as the program's primary weakness and risk. In their report, Wilshire said technology limitations prohibited staff from effectively conducting stress tests, attribution analysis, risk reporting, pre-trade compliance, and other necessary activities. Since then, Treasury implemented BlackRock's Aladdin platform which now serves as the investment program's technology backbone. With Aladdin, Treasury has marshalled all internally- and externally-managed assets onto a single investment platform so that all staff have access to the same information in real time. With Aladdin, staff's investment technology is now best in class, and the platform has enabled significant improvements staff's ability to analyze, manage, and monitor both the overall investment program as well as its thousands of individual constituents. In addition to implementing Aladdin, Treasury retained BlackRock's Trade Support Services (TSS) and Risk Management Services (RMS) units. The TSS unit provides middle office support for internally managed assets, which, along with increased internal staffing, has shifted middle office responsibilities away from investment officers. In turn, this

shift lowers operating risks by creating a clear segregation of duties and improves the division's productivity through better skill/task alignment. The RMS unit provides an outsourced Chief Risk Officer capability for the OIC as well as risk analysis support to the Chief Investment Officer. This service, along with the increased transparency provided by Aladdin, has enabled total plan risk analyses and evaluations, a key element of prudent fiduciary management.

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Objective 1: Evaluation of Practices for Ensuring Prudent Investment Management

Oregon Revised Statute 293.726 requires that the OIC manage investment funds as a prudent investor. In Oregon, the Uniform Prudent Investor Act (UPIA), a model law developed by the National Conference of Commissioners on Uniform Laws, is codified in ORS 130.750 through 130.775. This language contains Oregon's basic requirements for managing funds prudently. However, the requirements in UPIA are not as robust as the legal requirements and case law currently governing private-sector pension plan management. To expand our set of evaluation criteria, and as mentioned in this report's introduction, we supplemented our use of UPIA with guidance from fi360's "Prudent Practices for Investment Stewards." While not all of the criteria contained therein are legally binding on OIC and Treasury investment operations, they do provide a more robust evaluation framework organized into four steps: organize; formalize; implement; and monitor. Our analysis followed these four steps and focused on the OIC's policies and practices in relation to its specific oversight of OPERF.

We discuss each practice separately below, under the step to which it applies. Overall, we found that existing policies and procedures are sufficient to fully comply with, or conform to, most of these practices, but we also noted areas for improvement.

Step 1 – Organize

1.1 Investments are managed in accordance with all applicable laws, trust documents, and written investment policy statements (IPS).

Our finding: fully conforms. We reviewed the applicable laws, trust documents, and IPS and found no instances of non-compliance with the requirements established in these documents.

1.2 The roles and responsibilities of all involved parties (fiduciaries and non-fiduciaries) are defined, documented, and acknowledged.

Our finding: roles and responsibilities can be clarified, and documentation can be improved. The OIC has ultimate responsibility for the investment funds. Consistent with the prudent person standard, the OIC has determined that it is reasonable to delegate a significant portion of the responsibility for carrying out the day-to-day operations to a number of Treasury staff, external advisors, investment managers, and the custodian bank. Many of the roles and responsibilities are contained within the OIC Statement of Fund Governance. This document outlines the responsibilities retained by the Council, those delegated to Treasury staff, and those delegated to investment professionals. We compared this document to peer funds and found that, for the most part, peer documents contained the same elements. However, we noted two improvement opportunities for the OIC in this area.

First, the OIC has retained authority to approve all major contracts, but has not specifically delegated approval authority for other contracts or clarified the difference between major and non-major contracts. Second, for documented roles, no formal, written acknowledgement exists by and among all parties that clearly delineates their respective responsibilities. Requiring written acknowledgement ensures that all parties are clear regarding their specific duties as well as the

an area for which another is responsible, the effectiveness of both is compromised. Adding additional detail to the current roles and responsibilities framework will help ensure all necessary functions are performed, and having all parties review this document annually will help reduce any potential misunderstandings and responsibility gaps.

Recommendation: The OIC should clarify the delegation of authority for contracting decisions between the OIC and Treasury.

Recommendation: The OIC should establish a formal process to document the acknowledgement of duties and responsibilities by all involved parties on an annual basis.

1.3 Fiduciaries and parties in interest are not involved in self-dealing.

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Our finding: opportunities exist to strengthen the ethics program. UPIA, the model law codified in Oregon law, requires that fiduciaries invest and manage trust assets in the sole interest of beneficiaries. The act states that trustees have a duty to abstain from self-dealing. State law also provides additional requirements and guidance, and ethics policies are in place for both the OIC and Treasury staff. Overall, we found these policies relatively comprehensive, with the OIC policy having 15 of 19 applicable elements and the Treasury staff policy containing 17 of 18 applicable elements. We identified no instances in which OIC members or Treasury staff did not comply with their a) internal ethics policies, b) required quarterly filings with the Attorney General or c) annual filings with the Oregon Government Ethics Commission. However, we did note that annual training regarding the ethics program is not required for either OIC members or Treasury staff. Likewise, no annual written or verbal policy acknowledgement or compliance attestation is required.

Recommendation: As part of an overarching OIC education program, members should consider attending annual training on applicable ethics laws and policies.

Recommendation: The OIC should establish a formal process to document its members' acknowledgement of and compliance with the Council's ethics policy on an annual basis.

1.4 Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.

Our finding: delegation of contracting authority can be clarified. Our review of a sample of contracts showed that the OIC materially complies with this requirement. We noted that legal counsel from the Department of Justice had reviewed all investments managers' contracts, Treasury management signed the contracts after approval by the OIC, and Treasury staff reviewed all invoices to ensure that amounts paid to managers agreed with the stipulated contract amounts. Oregon Revised Statute 293.741 gives the OIC authority to contract for services and pay for those services out of the gross interest of the investment funds. The delegation of authority related to investment consultants and investment managers is clear in policy. For other contracts, authority delegation was less clear and not as formalized.

Recommendation: The OIC should clarify in policy the delegation of contracting authority and any associated limits and requirements.

1.5 Assets are within the jurisdiction of appropriate courts, and are protected from theft and embezzlement.

Our finding: fully conforms. The OIC has established State Street Corporation (SST) as the custodian for the funds. SST is a U.S. company and operates within the jurisdiction of U.S. courts. Moreover, Treasury legal counsel reviews all investment contracts for legal sufficiency.

Step 2 – Formalize

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2.1. An investment time horizon has been identified.

Our finding: opportunity to better document liquidity requirements and time horizons for select participants. Understanding the sources, timing, distribution, and uses of cash flows helps to ensure that the OIC has established a time horizon appropriate to match fund investments with liquidity and cash flow requirements. During the asset/liability study, consultants perform an analysis comparing the timing of cash flows in and out of the Fund. This study provides the OIC with valuable information regarding OPERF's projected, long-run cash flow obligations. Consistent with the long-term nature of pension liabilities, the OIC has set a long-term time horizon for fund investments; however, formal documentation does not exist for shorter-term cash flows that affect the Fund. Our discussions with investment staff demonstrated that they are aware of the Fund's typical cash flow requirements and have plans for providing cash when needed. Nonetheless, formal liquidity requirements have not been established, and doing so would help ensure that disruptive trading and associated transactions costs are minimized.

While the aforementioned asset/liability study is sufficient for the Fund, participants in the Individual Account Plan (IAP) are not able to adjust their IAP investment horizon relative to their individual age and circumstances. Since IAP ownership is individual (and not collective like OPERF), participants nearing retirement likely have a different risk profile and investment horizon from those participants just entering state employment. By expanding the scope of OIC oversight to include a detailed analysis of IAP participants' various age and investment horizon profiles, the OIC can ensure that the IAP better meets participants' investment objectives and corresponding risk tolerance preferences.

Recommendation: The OIC should formalize liquidity requirements for each fund it oversees.

Recommendation: The OIC, based on advice from Treasury staff and consultants, should consider changes to the IAP to ensure that suitable investment options exist which reflect participants' different investment horizons and risk tolerance preferences.

2.2 A risk level has been identified.

Our finding: fully conforms. Oregon Revised Statute 293.726 requires that the investment strategy incorporate risk and return objectives reasonably suited for each investment fund. Consistent with best practices, the OIC has incorporated a risk framework into the Investment Policy Statement.

[REDACTED]: (1) the investment risk management system used by the OIC to manage the risks to each investment fund at the portfolio level; and [REDACTED]

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

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For the most part, the OIC's risk management framework appears sound. The risk management framework used by the OIC should be sufficiently granular to manage relevant portfolio risks, but not so complex that the Council need operate at the level of investment staff. In evaluating the OIC's risk management framework for prudence, we looked at two components. The first component was the documentation of requirements. For the OIC, these requirements are contained in the investment policy statement. We reviewed this document and found it contained the standard risks managed by fiduciaries. The second component was how the Council monitored compliance with the established policies. The OIC receives a quarterly performance report that contains the elements outlined in the policy statement. This allows the Council to ensure that the risk levels are appropriate. At each meeting, the Council also receives reports on asset allocation as well as manager performance relative to assigned benchmarks.

2.3 An expected, modeled return to meet investment objectives has been identified.

Our finding: fully conforms. The OIC sets asset allocation targets that when combined with consultants' capital market forecasts, are expected to produce a reasonable probability that OPERF will realize its long-term, assumed rate of return. Currently, the expected return over the next two to three market cycles is 7.6%. The model generating this return expectation currently indicates that the Fund has a 50% chance of meeting its assumed rate of return, 7.75% at the time of our audit, but since reduced to 7.5%.

2.4 Selected asset classes are consistent with the risk, return, and time horizon.

Our finding: asset allocation study requirements can be better documented. Based on the time horizon, risk tolerance, and assumed rate of return for the Fund, the OIC has worked with its general investment consultant, Callan Associates, to develop an asset allocation and expected return model. The OIC reviews OPERF's asset allocation as part of an asset/liability study conducted every three to five years. On an annual basis, staff reviews the Fund's asset allocation with Callan and presents any proposed modifications during a regular policy update presentation. However, the amount of information required and the delineation of responsibility for preparing and documenting this work are not currently contained in policy. Doing so would help ensure that asset allocation practices are consistent across time and that all parties understand their individual and collective responsibilities.

Recommendation: The OIC should work with Treasury staff and consultants to document requirements for the preparation, presentation and modification of asset allocation studies and recommendations.

2.5 Selected asset classes are consistent with implementation and monitoring constraints.

Our finding: additional staffing can improve efficiency and reduce operational risks. In reviewing implementation and monitoring constraints, auditors evaluated two topics: (1) the staff assigned to implement and monitor investment decisions; and (2) the processes used to implement and monitor those decisions. With regard to the first topic, Treasury has done a good job of attracting

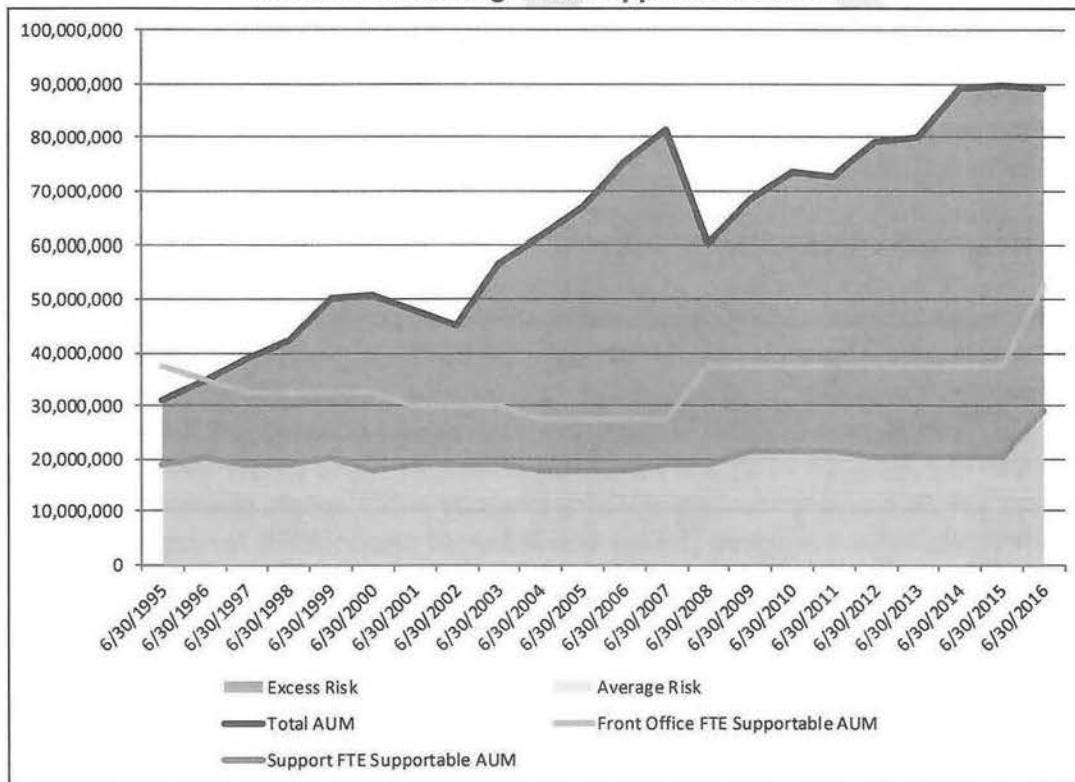
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qualified staff who possess the knowledge and skill required to execute investment strategy as determined by the OIC. However,

. With regard to the second topic, processes currently in place to execute and monitor investment decisions are generally sound. Each year we review a portion of the investment program and its processes. These reviews have not identified any significant deficiencies in staff's decision execution processes, but

We have previously provided all suggestions from these reviews to management and the OIC.

Authorized Staffing Level Supportable Assets



Recommendation: The OIC and Treasury management should seek budget approval from the legislature for additional staff to enable the continued and effective management of the investment program as well as for further implementation of industry best practices and cost saving measures.

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2.6 *There is an Investment Policy Statement which contains the detail to define, implement, and manage a specific investment strategy.*

Our finding: fully conforms. A number of investment policies supplement the Investment Policy Statement (IPS) for OPERF. Taken together, these policies contain the elements necessary to effectively define, implement, and manage OPERF investment strategy. IPS creation and oversight is the most critical function an investment fiduciary performs, as the IPS articulates to all parties the philosophy and structure guiding the fiduciary's oversight activities. The IPS should have sufficient detail to allow a third party to implement the fiduciary's investment strategy and understand its supporting rationale. An investment procedure or operations manual should accompany the IPS to ensure proper and timely strategy implementation.

2.7 [REDACTED].

Our finding: not applicable. The trust documents have not outlined specific targets for socially responsible investments. State law has restricted investments in Sudan. Accordingly, staff does not specifically search for social investing opportunities, and investments in Sudan are restricted. Current OIC policy limits the consideration of investments to a judgment on the expected risk-adjusted returns, seeking to obviate politically-motivated investment initiatives. The Council has done a good job of maintaining its required duty of loyalty to invest in the sole interest of beneficiaries. However, the fund could be subject to political pressures.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. ERISA opinion Letter No. 98-04A provides guidance on reviewing these collateral benefits. Social factors can place pressure on either approving or rejecting an investment proposal. [REDACTED]
[REDACTED]
[REDACTED]

Step 3 – Implement

3.1 *The investment strategy is implemented in compliance with the required level of prudence.*

Our finding: fully conforms. Treasury has adopted an open-door policy regarding potential investment opportunities. Investment officers receive new investment ideas from these meetings, from their own research, and from recommendations made by consultants. Each asset class has its own due diligence process. Multiple processes are needed due to the vastly different types of investments across the various asset classes. We reviewed the initial due diligence processes and found them to be generally sufficient. The investment officers meet with managers proposing a potential investment, perform a site visit to assess the managers' operations, and utilize one of the

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OIC's consultants to perform additional due diligence work as required for the specific investment type.

3.2 Applicable safe harbor provisions are followed.

Our finding: not applicable. The OPERF is not an ERISA plan; therefore, ERISA safe harbor provisions are not applicable.

3.3 Investment vehicles are appropriate for the portfolio size.

Our finding: fully conforms. Based on the asset allocation established by the OIC, the Senior Investment Officer (SIO) for each asset class develops a unique implementation plan. Staff selects specific strategies (e.g., passive versus active management) and implementation structures (e.g., separate or commingled account). Staff also selects specific managers, although the OIC retains final approval over manager and mandate selection. [REDACTED]

["ex ante" means "subjective estimate" per Merriam Webster]

3.4 A due diligence process is followed in selecting service providers, including the custodian.

Our finding: fully conforms. The process for selecting the custodian and other service providers is required to follow statutory purchasing requirements. As these are often large multi-year contracts, a request for proposal (RFP) is issued to determine potential vendors. In the most recent custody search, Treasury retained a consulting firm to assist staff in preparing the RFP and reviewing all subsequent submissions. Using this process, the State Treasurer selects a custodian. Assets held by the custodian are held in trust, and all services provided by the custodian are regularly reviewed for accuracy and cost-effectiveness.

Step 4 – Monitor

4.1 Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.

Our finding: Fully conforms. The OIC has established benchmarks for each OPERF asset class. Based on these asset class benchmarks and an individual manager's stated strategy or style, each manager is assigned a specific benchmark. The OIC receives monthly reports prepared by the custodian showing realized returns for the Fund, its component asset classes and each manager relative to assigned benchmarks. For each Council meeting, staff prepares a report showing the Fund's current allocation to each asset class with corresponding targets and allowable ranges. If an asset class allocation violates its range boundaries, the OIC will determine what actions, if any, are necessary. On a quarterly basis, the OIC's general consultant, Callan Associates, reviews Fund performance with the Council. On an annual basis, the SIO for each asset class reviews asset class strategy and performance with the Council. Watchlist procedures have been established for

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managers using public market strategies, and all activity related to the watchlist is reported to the OIC on a quarterly basis through the CIO.

4.2 Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.

Our finding: ongoing due diligence can be improved. Once a manager has satisfied due diligence requirements and is engaged by the Council following a staff recommendation, investment officers perform regular, post-investment due diligence visits consistent with each asset class's unique manager monitoring schedule. These on-site reviews are supplemented with on-going calls with each manager to discuss performance and other qualitative and quantitative factors. For a portion of the audit period, personnel from the investment division's compliance team also performed on-site visits of public equity and fixed income managers to assess those managers' middle and back office operations.

While these procedures are sound, we identified several opportunities for improvement. First, the due diligence work that had previously been conducted by the compliance team has been suspended due to staff vacancies. Second, due diligence on investment consultants and the custodian is not as formalized as it is for investment managers. Investment officers meet with the OIC's consultants regularly, but a formal monitoring system has not been established. Similarly, staff meet with custodial personnel on at least an annual basis, but formal custodian site visits by staff occur only on an ad-hoc basis. Third, although the custodian shares with Treasury a report on its independently audited internal control review, a process does not exist to evaluate this report and determine if any actions are necessary in response to the report's findings.

Recommendation: The OIC should instruct Treasury staff to establish an ongoing operational due diligence program that covers all asset classes and reviews managers' middle and back office support functions.

Recommendation: The OIC should establish a formal review process for work performed by its investment consultants.

Recommendation: The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the custodian's independent auditors.

4.3 Control procedures are in place to periodically review policies for best execution, "Soft Dollars", and proxy voting.

Our finding: fully conforms. The OIC has established policies regarding best execution and soft dollar activity. (Soft dollar practices are those in which an investment manager receives research or other services that aid the investment process in exchange for sending trades to one or more specific brokerage firms.) Reviewing best execution entails analyzing security transactions (i.e., buys and sells) within a portfolio to determine whether or not these transactions costs have been

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minimized. In the public equity portfolio, the SIO engages a third party to perform a best execution study of all public equity trades periodically. For proxy voting, the OIC has retained a firm to coordinate proxy voting activities and provide the Council with a proxy voting policy. Generally, this firm provides vote recommendations that, absent any objections from staff or managers, it executes on the OIC's behalf.

4.4 Fees for investment management are consistent with agreements and with all applicable laws.

Our finding: opportunity exists to improve transparency. The OPERF annual financial statements document the investment management fees paid by the Fund. Prior to paying a management fee, Treasury staff or consultants review the fee to ensure that it complies with the underlying investment management agreement.

In January of 2016, the Institute of Limited Partners (ILPA) released its suggested guidance for a "Fee Reporting Template." The template provides a standardized reporting format with additional detail regarding fees, expenses, and incentive allocation. Additional formal disclosures from managers will help to ensure the consistent recording and increased understanding of all management fees and expenses.

which staff had contact with a placement agent in connection with an approved investment recommendation.

4.6 There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.

Our finding: opportunity to improve OIC self-assessment. The OIC currently has three primary ways of evaluating its overall effectiveness. The first is its annual policy review, which includes a review of its investment policy statements. Staff conduct this review every April and propose policy changes to the Council. Staff also bring policy changes as needed throughout the calendar year, but neither the annual review nor the as-needed consideration of policy changes is formalized. The second method of self-assessment is the retention of consultants to review specific topics on an ongoing or ad-hoc basis. Examples include CEM's annual absolute and relative cost analysis and the governance review recently completed by Funston Advisory Services.

The OIC has established an annual,

minimized. In the public equity portfolio, the SIO engages a third party to perform a best execution study of all public equity trades periodically. For proxy voting, the OIC has retained a firm to coordinate proxy voting activities and provide the Council with a proxy voting policy. Generally, this firm provides vote recommendations that, absent any objections from staff or managers, it executes on the OIC's behalf.

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In January of 2016, the Institute of Limited Partners (ILPA) released its suggested guidance for a "Fee Reporting Template." The template provides a standardized reporting format with additional detail regarding fees, expenses, and incentive allocation. Additional formal disclosures from managers will help to ensure the consistent recording and increased understanding of all management fees and expenses.

Recommendation: The OIC should formally encourage General Partners (GPs) investing in private equity and other alternative asset classes to adopt the Institutional Limited Partners Association fee transparency template.

4.5 "Finder's Fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.

Our finding: fully conforms. Treasury staff review and record fees paid to third parties. These amounts are disclosed in the Fund's annual financial statements. The OIC also requires that staff prepare, present and post to the Treasury website an annual report documenting all instances in which staff had contact with a placement agent in connection with an approved investment recommendation.

4.6 There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.

Our finding: opportunity to improve OIC self-assessment. The OIC currently has three primary ways of evaluating its overall effectiveness. The first is its annual policy review, which includes a review of its investment policy statements. Staff conduct this review every April and propose policy changes to the Council. Staff also bring policy changes as needed throughout the calendar year, but neither the annual review nor the as-needed consideration of policy changes is formalized. The second method of self-assessment is the retention of consultants to review specific topics on an ongoing or ad-hoc basis. Examples include CEM's annual absolute and relative cost analysis and the governance review recently completed by Funston Advisory Services. The third means of self-assessment is OIC's work with the Internal Audit Services unit. The OIC has established an annual,

Objective 2: Evaluation of Practices for Promoting Effective Operations

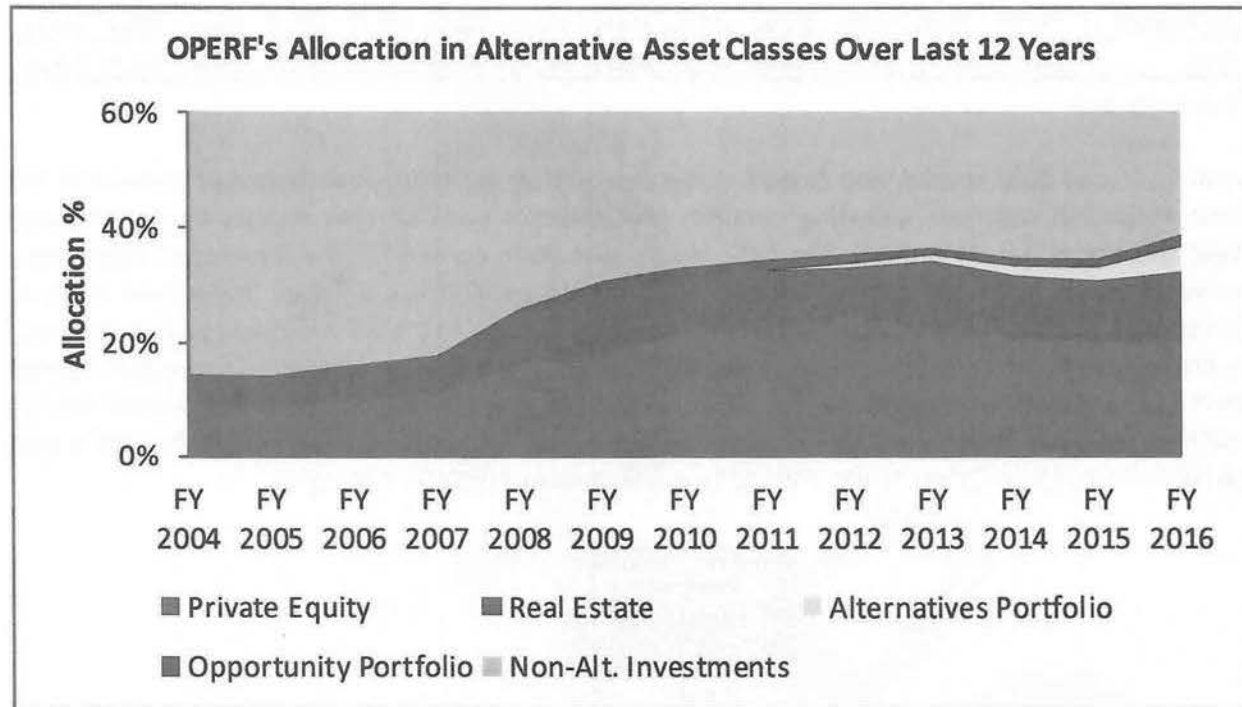
The first objective of our audit—determining if the funds are prudently managed—establishes the degree to which the OIC and Treasury staff are meeting their respective legal requirement baselines. Our second objective goes beyond those baselines to ensure that the investment program not only meets minimum legal requirements and prudence standards, but achieves maximum effectiveness as well.

Evaluating the investment program's current effectiveness involves comparing Oregon's existing processes with peers and industry standards to identify the degree to which best practices are embraced and followed. The OIC operates from a unique position within the investment world. Many of the standards we looked at come from the private pension landscape. Yet the OIC does not operate in the legal framework that exists for private pension plans, nor does it have direct responsibility for the Fund's liabilities as do other public and private governance boards. We recognize that exact comparisons will prove elusive, but do consider these other operating environments instructive in terms of our current OPERF assessments and improvement recommendations.

Overall, we commend the OIC and Treasury staff for seeking a leadership position in public pension fund management. While many current practices matched or exceeded industry standards, we did identify some improvement opportunities in the areas studied. These opportunities are presented in the discussion below and in Appendix A.

Oregon's Alternative Investment History

The OIC has more than three decades of experience in alternative asset class investments. The Alternative Investment Program (AIP) started making investments in private equity in 1981, real estate investments in the late 1980s, opportunity portfolio investments in 2006 and alternatives portfolio investments in 2011. As of June 30, 2016, OPERF had approximately \$68 billion of assets under management, including \$26 billion invested in the AIP.



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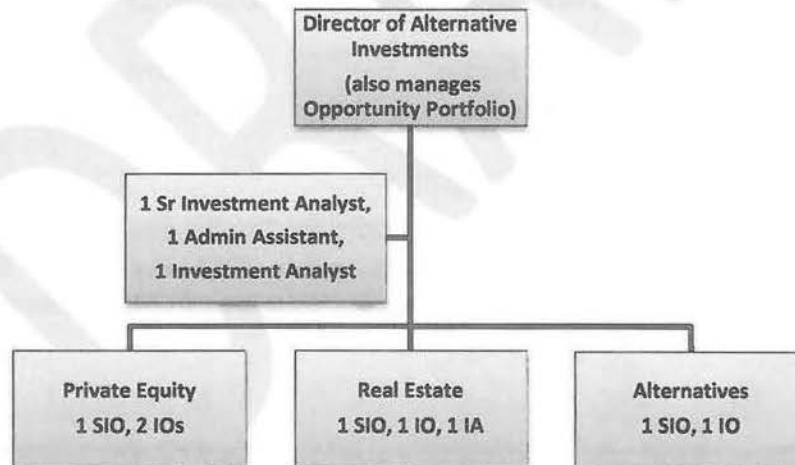
OPERF Alternative Investment Program

As of 6/30 Last 12 FY Ending Market Value in \$Billion

	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	FY 2016
Private Equity	\$4.10	\$4.24	\$5.22	\$6.89	\$9.88	\$8.18	\$11.07	\$13.27	\$14.40	\$14.10	\$14.72	\$14.37	\$13.71
Real Estate	\$2.36	\$2.76	\$3.77	\$4.43	\$5.21	\$4.82	\$4.77	\$6.11	\$4.77	\$7.52	\$7.72	\$7.45	\$8.57
Alternatives Portfolio	-	-	-	-	-	-	-	-	\$0.42	\$0.62	\$1.16	\$1.61	\$3.00
Opportunity Portfolio	-	-	-	\$0.10	\$0.62	\$0.94	\$1.02	\$1.13	\$0.92	\$0.82	\$1.00	\$1.11	\$1.39
Total Alt. Program	\$6.47	\$7.00	\$8.99	\$11.42	\$15.71	\$13.94	\$16.86	\$20.51	\$20.51	\$23.06	\$24.60	\$24.54	\$26.68
Total PERS	\$45.11	\$49.48	\$55.74	\$64.28	\$60.61	\$45.32	\$50.86	\$59.59	\$57.90	\$63.05	\$70.84	\$70.79	\$68.89

Source: custodian bank

Subsequent to our 2013 review, and as part of the overall changes to the investment program, the AIP received additional positions including creation of a Director position that reports to the CIO and oversees the entire AIP. At present, the AIP's investment team consists of the Director of Alternative Investments, three Senior Investment Officers, four Investment Officers, a Senior Investment Analyst, an Investment Analyst, and an Administrative Assistant. In total, 12 staff members out of 24 front office professionals are dedicated to managing OPERF's AIP portfolios. In addition, TorreyCove Capital Partners (TorreyCove) is retained as the OIC's consultant and advises on the AIP's private equity, alternatives, and opportunity portfolios. Pension Consulting Alliance (PCA) serves as the OIC's real estate consultant, while Callan assists with certain alternatives portfolio strategies.



Practices Related to OIC Oversight of Alternative Investments

Clarify and Document Expectations

Defining roles is critical to the success of the program as role definition informs the overall collaboration of the OIC, its consultants and Treasury investment staff. Role definition also guides the adequacy of due diligence, and helps mitigate parties' unintended duplication of efforts and/or justify such duplication as a desired and important parallel process. Without role definition and clarity, staff

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members and consultants may not maximize the collective but ultimately limited resources available to the OIC. By clearly defining staff and consultant roles, the OIC can advance AIP objectives by defining each party's role and how each party's success will be determined and measured. Key elements to consider when defining roles and responsibilities include overall program objectives, strategy, operating and financial goals, and investment and capital allocation priorities.

Define Due Diligence Roles and Responsibilities

Through discussions with Treasury staff and OIC consultants as well as our review of current consulting contracts, [REDACTED] For example,

[REDACTED] While this flexibility is supportive of ad hoc procedures and work flow, it may also create inefficiencies and duplication of effort for both staff and consultants. [REDACTED]

[REDACTED] At the asset class level, investment officers appear to have conflicting views on staff and consultant responsibilities. This dissonance may result in inconsistent due diligence efforts, creating unnecessary work or an unintended duplication of effort.

Based on our review, a significant amount of work is performed by staff and consultants in support of a GP investment proposal. By working with staff to establish and document the breadth and depth of expected due diligence, the OIC can rely that when it receives a GP's investment proposal, all requisite due diligence has been performed.

A strategic review of consultant relationships and objectives would serve the AIP well and result in better interest alignment and more efficient resource utilization. For example, if the objective is to manage a parallel due diligence process, Treasury should define baseline due diligence requirements. In a parallel process, these requirements would be similar or identical for staff and consultants. Upon completion of the parallel process, independent conclusions would be reached and subsequently compared. Currently, the process appears lacking both clarity and parallel structure.

Recommendation: In coordination with the process to establish the allocation of resources, the OIC in consultation with staff and its consultants should establish the minimum and preferred levels of due diligence work required.

Recommendation: The OIC should formalize the roles and responsibilities of all parties with respect to the due diligence process, and should work with staff and consultants to determine a preferred due diligence baseline and optimal resource allocation model.

Benchmarks

Benchmarking provides one measure of an institution's current performance by compiling and comparing performance data, financial results, and other metrics. One challenging benchmark issue is properly defining the peer group against which measurements and comparisons are made. For example, Fund size, portfolio maturity and sector prohibitions may or may not be relevant benchmark

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criteria if an AIP objective is to capture non-correlated return streams with a view to moderating overall Fund volatility.

Comparing results to other institutions with similar objectives, portfolios and risk tolerances, can produce informative peer-relative performance assessments that illuminate areas of program strength and comparative advantage as well as highlight areas and opportunities for improvement. However, [REDACTED] example, two large public pension plans may have similarly-sized alternative investment programs, but not be suitable and comparable peers due to differing investment mandates and program objectives.

Leading practices suggest performing an annual evaluation of benchmarks to confirm continued relevance and program alignment. For example, during the audit period, the real estate benchmark was revised. From our observations, it appears existing real estate benchmarks, as well as those for the other AIP sub-class categories, do not consistently match stated investment objectives. Consequently, use of these benchmarks may not promote or incentivize the desired program changes. Establishing benchmarks that are measurable and compatible to overall program objectives is paramount and should be revisited annually by Treasury and its staff. Many public pensions pursuing a traditional approach to benchmarking seem to lose sight of the fact that attempts to achieve benchmark outperformance may instead drive riskier investment behavior. Of course, benchmark changes will preclude previous year-over-year and certain peer group comparisons.

[REDACTED]

Recommendation: The OIC should work with staff and consultants to establish the types, objectives, and review frequency for benchmarks used to inform investment and Fund management decision making.

Practices Related to Treasury Staff Due Diligence of Alternative Investments

Improve and Formalize Documentation

Documentation provides a written account of activities as they happen, stands as written proof that something was done or said, provides the requisite support for a decision (besides verbal assurances), and supports planned or unplanned succession planning. For Treasury, documentation for due

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diligence performed not only provides an audit trail that allows for repeatability, but more importantly, supports investment decision making. Through our review and the explanations we have received, we understand Treasury staff performs extensive due diligence both with the assistance of consultants and independent thereof.

Establish Documentation Requirements for Investment Decisions

At this time, formal documentation procedures have not been implemented to encourage, increase, or require documentation to the level required to support the portion of the investment process managed by Treasury. [REDACTED]

[REDACTED] In June of 2016, AIP members started using a standardized checklist to capture key documents in the due diligence process.

Recommendation: Based on guidance from the OIC, Treasury staff should consistently determine and document its rationale for each investment recommendation. The requirements of this process should also allow for a necessary level of variance among the various alternative investment types.

Implement Due Diligence Questionnaire Review Form

A preliminary assessment form, documenting staff's review of the consultant's due diligence questionnaire, would provide a useful summary of initial findings, issues and necessary next steps. For example, this form would document staff's initial reaction to the GP's questionnaire responses and note areas for follow-up. Some of the recent investments we examined did include a review document, but this step was not consistently implemented.

The proposed preliminary assessment form (PAF) provides evidence demonstrating that staff have met the prudent investor rule with careful attention and reflection during the initial due diligence phases. The PAF would not only be helpful for auditors and third parties (e.g., consultants and advisors), but it would also become a useful internal reference document (e.g., for future re-ups). We recommend the PAF be completed and filed after receiving the completed due diligence questionnaire regardless of whether or not staff pursues further diligence in support of an investment recommendation. If used properly, the PAF could help focus and expedite the due diligence process and bolster the prudence of staff's underwriting efforts.

Recommendation: Treasury staff should create a preliminary assessment form for all funds subject to initial due diligence efforts.

Implement Consultant Review Form

When working in this leveraged model with a third party, evaluation, review, and re-performance of the consultant's work may serve as a valuable tool for measuring and validating the effectiveness, accuracy, and completeness of work performed. Currently, Treasury staff reviews, evaluates, and re-

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performs certain steps completed by consultants, although this evaluation and re-performance remains primarily undocumented. In the event an investment is subject to *ex post* scrutiny, Treasury staff would most likely need to defer to the consultant given this lack of documentation for internal due diligence and consultant oversight.

Recommendation: As part of its own due diligence process, Treasury staff should develop a standardized process for documenting its review of work performed by the consultant, including documenting what was reviewed, any areas of concern with the GP, and any necessary follow-up actions prior to making a final investment recommendation.

Review the Scope of Initial Due Diligence Review

Establish Operational Due Diligence Review Practices

[REDACTED] Responding to operational inquiries has traditionally been viewed as a back office activity for GPs and not considered in scope for investment due diligence. [REDACTED]

[REDACTED] We also note that regulators (and the SEC in particular) are increasing their scrutiny of private equity, efforts that will likely focus more attention on middle and back office operations.

Recommendation: Treasury staff should expand due diligence practices to encompass all aspects of funds considered for investment. Risks associated with middle and back office operations should not be underestimated.

Perform Background Checks on High Risk Entities and Individuals

[REDACTED] Background checks can be implemented using a risk-based approach. For example, emerging managers or new investment managers could potentially be riskier as opposed to household names with longer standing relationships and higher public profiles. Background checks are becoming a necessary step to meet the prudent investor rule under a variety of circumstances.

Recommendation: Treasury staff should consider implementing a risk-based background check process for investments under consideration. If the decision is made that a background check is not required, the supporting rationale should be documented so that Treasury can demonstrate

a prudent decision was reached with the best knowledge at the time.

Increase Staffing and Consultant Support

In our analysis, the current staffing level is short nine FTE across the investment officer and investment analyst ranks. In addition, many of this report's previous recommendations (specifically, a more robust pre-investment due diligence program) will require additional personnel. Without these resources, the recommended due diligence steps become very difficult to conduct in conjunction with the underwriting and portfolio management activities for which existing staff is currently responsible. Staffing metrics such as AUM or number of GP relationships per individual investment officer should be reasonable to ensure that a) adequate oversight of existing investments is performed and b) all new investments receive a full and thorough review. Meeting these objectives will require additional AIP staff.

Recommendation: Internal audit analysis suggests that AIP management has indicated that it will request approximately eight additional FTE for the 2017-19 biennium to address the resourcing needs.. Should the legislature not approve this request, Treasury staff will need to work with the OIC to determine and plan for an alternative approach.

Improve Employee Development Program

Develop Employee Onboarding Procedures

Alternative investments in today's environment are a key allocation in almost all large pension plans. The need to hire skilled investment professionals in this space and continue developing AIP team members' skills is a crucial component of attracting and retaining talent and ensuring that investment management efforts remain consistent with the prudent person rule. The long-term career trajectory of investment professionals starts with how they are on-boarded into the investment program. As part of the onboarding process, requirements and guidelines should be established with respect to a minimum number of continuing professional development hours. Specifically, a training plan should be developed between employee and supervisor to ensure areas of weakness are addressed and fluency with current industry trends is maintained.

Recommendation: Treasury investment staff should work with HR to develop a new employee orientation and onboarding process that provides the baseline information regarding the State of Oregon, Treasury, the AIP, and specific job assignments and responsibilities. This process will also enable identification of any areas of weakness on which early training efforts should focus.

Create a formal Employee Training Program

The Alternative investments realm, while broad and covering a variety of asset classes, does have the common thread of a continuing education need running through it. All well-founded training programs should offer both general training as part of career development and specific training related to individuals' expertise requirements. A well-structured training program should be developed to meet

the continuing education needs of AIP investment professionals. This training should incorporate internal, as well as external sources, including system and non-system consultants and investment managers.

Recommendation: Treasury investment staff should work with HR to create an employee-training program with suitable courses tailored to each employee's specific needs. As part of the performance management process, this program would ensure staff are and remain current with respect to the specific skills and experience that enable them to operate as prudent investors.

Create a Management Development Program

To ensure the organizational resiliency of the AIP, a strong staff development and succession planning process should be implemented. A program emphasizing both these elements will improve investment management consistency and continuity during periods of staff turnover. Training staff for increasing levels of responsibility fortifies the organization's institutional knowledge base and incentivizes individuals to stay and advance their careers with Treasury.

Recommendation: Treasury staff should establish a management development program that enables the requisite level of organizational resiliency for continued AIP effectiveness.

Current Status of Prior Report Recommendations

The last Operational Review was performed in 2012 and presented to the OIC in January 2013. That report contained 48 improvement recommendations.

and each 2012 recommendation was evaluated as part of the 2016 Operational Review. Recommendations from 2012 that remain outstanding are identified below in the Objective 1 section. While the Objective 1 focus area is virtually identical in the 2012 and 2016 reports, the Objective 2 focus area is completely different between the two reporting periods.

		High	Medium-High	Medium	Low-Medium	Total
		Progress Made/ Total Recommendations				
2013 Objective 1 – Evaluation of Practices for Ensuring Prudent Investment Management						
	Organize	0/0	0/2	0/3	0/1	0/6
	Formalize	1/2	0/0	1/4	1/1	3/7
	Implement	0/0	0/0	0/0	0/0	0/0
	Monitor	0/1	2/2	0/2	0/1	2/6
	<i>Objective 1 Subtotal</i>	1/3	2/4	1/9	1/3	5/19
2013 Objective 2 – Evaluation of Practices for Promoting Effective Operations						
	Council Structure and Authority	0/2	0/1	0/1	0/0	0/4
	Investment Policies	0/1	1/3	1/7	0/1	2/12
	Investment Risk Management	1/1	0/1	0/2	0/0	1/4
	Investment Operations Management	3/5	0/2	1/2	0/0	3/9
	<i>Objective 2 Subtotal</i>	4/9	1/7	2/12	0/1	7/29
Report Total		5/12	3/11	3/21	1/4	12/48

High Risk Recommendations

The 2012 high-risk recommendations that were resolved include the creation of an investment risk management function, and the segregation of key front, middle and back office tasks. These recommendation resolutions were achieved through the implementation of the Aladdin platform, engagement of additional Blackrock Solutions middle office and risk management resources and addition of several new, dedicated Treasury staff positions in operations and compliance roles.

The 2012 Operation Review also recommended that the OIC pursue a new and more autonomous governance structure to ensure its ability to adequately resource the investment function and hence better fulfill the Council’s fiduciary responsibilities. In response to this recommendation, Treasury and

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the OIC championed three legislative attempts to establish the investment program as a distinct and more autonomous operating entity, separate from Treasury. Since each of these attempts proved unsuccessful, the OIC still lacks a reliable means of managing investment division resources and remains dependent on the legislature's biennial budget and approval process.

Among those recommendations under its control, the OIC did not adopt a new education policy as recommended in the 2012 report; moreover, risks related to insufficient board education have increased since the 2012 report. As was noted earlier, the 39 year combined tenure of Council members in January 2013 is expected to fall to 7 years in January 2017. This institutional knowledge loss underscores the urgency for an effective initial and continuing education program. This program should also comprise annual ethics filings and fiduciary training as was previously recommended.

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]. We again recommended that the OIC and Treasury work with legal counsel to develop and adopt appropriate prohibited transactions policies.

[REDACTED]
[REDACTED]. Finally, one noteworthy medium-high recommendation from 2012 (and on which Treasury staff have recently begun work) was creation of an essential skills matrix to help inform the Governor's future Council member selection efforts.

Appendix A – Summary of Opportunities for Improvement

Observation	Recommendation	Risk Ranking ¹	Full Report Page #
Step 1 -Organize			
Ambiguities exist in elements of the delegation of contracting authority.	The OIC should clarify the delegation of authority for contracting decisions between the OIC and Treasury.	Medium	11
For the roles that are documented, there is no formal written acknowledgement by all parties of their duties and responsibilities.	The OIC should establish a formal process to document the acknowledgement of duties and responsibilities by all involved parties on an annual basis.	Medium High	11
Annual training regarding the ethics program is not required.	As part of the overarching OIC education program, members should consider attending annual training on applicable ethics laws and policies.	Medium High	12
Annual written or verbal acknowledgement of the ethics policy and attestation of compliance with the policy is not required.	The OIC should establish a formal process to document its members' acknowledgement of and compliance with the Council's ethics policy on an annual basis.	Medium	12
The delegation of authority for investment consultant and management contracts is clearly defined, but the delegation for other contracts is not formalized.	The OIC should clarify in policy the delegation of contracting authority and any associated limits and requirements.	Medium	12
Step 2 - Formalize			
Formal liquidity requirements have not been established to minimize disruptive trading and	The OIC should formalize liquidity requirements		

¹ We evaluated the potential likelihood and impact of each observation to determine the level of risk implicitly accepted if no action is taken.

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Observation	Recommendation	Risk Ranking ¹	Full Report Page #
The focus of the asset allocation plan has been on the defined benefit plan, and has not included an analysis and consideration of Individual Account Plan (IAP) participants' varying time horizons.	The OIC, based on advice from Treasury staff and consultants, should consider changes to the IAP to ensure that suitable investment options exist which reflect participants' different time horizons and risk tolerance preferences.	Medium High	13
Staff reviews OPERF asset allocation annually with the OIC's general consultant and present any proposed modifications during a regular policy update presentation. However, the amount of information required, and the delineation of responsibility for preparing and documenting this work are not currently contained in policy.	The OIC should work with Treasury staff and consultants to document requirements for the preparation, presentation and modification of asset allocation studies and recommendations.	High	14
Staffing constraints limit the level and type of internal management mandates as well as the timely implementation of this report's recommendations.	The OIC and Treasury management should seek budget approval from the legislature for additional staff to enable the continued and effective management of the investment program as well as for further implementation of industry best practices and cost saving measures.	High	15
Step 4 - Monitor			
The Due Diligence work that had previously been conducted by the compliance team has been	The OIC should instruct Treasury staff to establish an ongoing operational due diligence program that	High	18
has not been established.	for work performed by its investment consultants.	Medium	--
A process does not exist to review the custodian's internal control report and determine if any actions are necessary in response to the report's findings.	The OIC should instruct staff to establish a formal review process for work performed by the custodian, including a process to review the internal control reports from the custodian's independent auditors.	Medium	18

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Observation	Recommendation	Risk Ranking ¹	Full Report Page #
In January 2016, the Institute of Limited Partners (ILPA) released its suggested guidance regarding fee reporting by General Partners (GPs).	The OIC should formally encourage General Partners (GPs) investing in private equity and other alternative asset classes to adopt the Institutional Limited Partners Association fee transparency template.	Medium	19
The OIC has established requirements for an annual review of the Treasury-staffed investment program, but the Council does not perform a self-evaluation of its own performance and effectiveness.	The OIC should adopt and conduct an annual self-assessment to evaluate its own performance and effectiveness.	Medium	20
Practices Related to OIC Oversight of the Alternative Investment Program (AIP)			
By working with staff to establish and document the breadth and depth of expected due diligence, the OIC can rely that when it receives a GPs investment proposal, all requisite due diligence work has been performed.	In coordination with the process to establish the allocation of resources, the OIC in consultation with staff and its consultants should establish the minimum and preferred levels of due diligence work required.	Medium High	24
A strategic review of consultant relationships and objectives would serve AIP well and result in better interest alignment and more efficient resource utilization.	The OIC should formalize the roles and responsibilities of all parties with respect to the due diligence process, and should work with staff and consultants to determine a preferred due diligence baseline and optimal resource allocation model.	Medium	24
An annual evaluation should be considered to confirm that AIP benchmarks maintain their relevance and continue to incentivize the desired direction of the program.	The OIC should work with staff and consultants to establish the types, objectives, and review frequency for benchmarks used to inform investment and Fund management decision making.	Medium	25
Practices Related to OST Staff and AIP Due Diligence			

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Observation	Recommendation	Risk Ranking ¹	Full Report Page #
At this time, formal documentation procedures have not been implemented to encourage, increase, or require documentation to support the portion of the investment process managed by Treasury.	Based on guidance from the OIC, Treasury staff should consistently determine and document its rationale for each investment recommendation. The requirements of this process should also allow for a necessary level of variance among the various alternative investment types.	Medium High	26
A Preliminary Assessment Form (PAF), documenting staff's review of the due diligence questionnaire, would provide a useful summary of staff's initial findings, issues, and conclusions.	Treasury staff should create a preliminary assessment form for all funds subject to initial due diligence efforts.	Medium	26
Treasury staff currently reviews, evaluates, and re-performs certain steps completed by consultants, but this work is largely undocumented.	As part of its own due diligence process, Treasury staff should develop a standardized process for documenting its review of work performed by the consultant, including documenting what was reviewed, any areas of concern with the GP, and any necessary follow-up actions prior to making a final investment recommendation.	Medium	27
Requesting information about a GP's middle- and back-office operations is a standard practice and should be contained in the due diligence questionnaire, yet our understanding is that Treasury staff and consultants are not consistently including these types of inquiries in their due diligence questionnaires or requesting or receiving this information.	Treasury staff should expand due diligence practices to encompass all aspects of funds considered for investment. Risks associated with middle and back office operations should not be underestimated.	Medium High	27

Oregon Investment Council Operational Review

Observation	Recommendation	Risk Ranking ¹	Full Report Page #
<p>A standard step in today's investment environment particularly in the alternative assets space is the utilization of background checks to ensure that investors are aware of any legal or headline risks. We noted that the legal team is conducting legal research, and consultants are performing online searches, but currently there is no formal background check process.</p>	<p>Treasury staff should consider implementing a risk-based background check process for investments under consideration. If the decision is made that a background check is not required, the supporting rationale should be documented so that Treasury can demonstrate a prudent decision was reached with the best knowledge at the time.</p>	<p>Medium</p>	<p>27</p>
<p>Current staffing levels for the AIP are below peer benchmarks for both assets under management and the number of GP relationships per staff. In our analysis, the current staffing level is short nine FTE across the investment officer and investment analyst ranks.</p>	<p>Internal audit analysis suggests that additional resources are necessary to meet due diligence needs. AIP management has indicated that it will request approximately eight additional FTE for the 2017-19 biennium to address the resourcing needs. Should the legislature not approve this request, Treasury staff will need to work with the OIC to determine and plan for an alternative approach.</p>	<p>Medium High</p>	<p>28</p>
<p>The long-term career trajectory of investment professionals starts with how they are on boarded into the investment program. As part of the onboarding process, requirements and guidelines should be established with respect to a minimum number of continuing professional development hours.</p>	<p>Treasury investment staff should work with HR to develop a new employee orientation and onboarding process that provides the baseline information regarding the State of Oregon, Treasury, the AIP, and specific job assignments and responsibilities. This process will also enable identification of any areas of weakness on which early training efforts should focus.</p>	<p>Medium</p>	<p>28</p>

Oregon Investment Council Operational Review

Observation	Recommendation	Risk Ranking ¹	Full Report Page #
<p>The Alternative investments realm, while broad and covering a variety of asset classes, does have the common thread of a continuing education need running through it. All well-founded training programs should offer both general training as part of career development and specific training related to individuals' expertise requirements.</p>	<p>Treasury investment staff should work with HR to create an employee-training program with suitable courses tailored to each employee's specific needs. As part of the performance management process, this program would ensure staff are and remain current with respect to the specific skills and experience that enable them to operate as prudent investors.</p>	<p>Medium High</p>	<p>29</p>
<p>To ensure the organizational resiliency of the AIP, a strong staff development and succession planning process should be implemented.</p>	<p>Treasury staff should establish a management development program that enables the requisite level of organizational resiliency for continued AIP's effectiveness.</p>	<p>Medium</p>	<p>29</p>

Oregon Investment Council Operational Review

<p>Practice SA-1.1 Investments are managed in accordance with applicable laws, trust documents, and written IPS.</p>	<p>Practice SA-1.2 The Roles and responsibilities of all involved parties are defined, documented, and acknowledged.</p>	<p>Practice SA-2.1 An investment time horizon has been identified.</p>	<p>Practice SA-2.2 ↑ A risk level has been identified.</p>
<p>Practice SA-1.3 Fiduciaries and parties in interest are not involved in self-dealing.</p>	<p>Practice SA-1.4 Service agreements and contracts are in writing, and do not contain provisions that conflict with fiduciary standards of care.</p>	<p>Practice SA-2.3 An expected, modeled return to meet investment objectives has been identified.</p>	<p>Practice SA-2.4 Selected asset classes are consistent with the identified risk, return, and time horizon.</p>
<p>Practice SA-1.5 Assets are within the jurisdiction of courts, and are protected from theft and embezzlement.</p>	<p>1 ORGANIZE</p> <p>↑ - Better rating than Last Report no arrow - Same rating as Last Report ↓ - Worse rating than Last Report</p>		<p>Practice SA-2.5 Selected asset classes are consistent with implementation and monitoring constraints.</p>
<p>Practice SA-4.1 Periodic reports compare investment performance against appropriate index, peer group, and IPS objectives.</p>	<p>2 FORMALIZE</p>		<p>Practice SA-2.6 ↑ There is an IPS which contains the detail to define, implement, and manage a specific investment strategy.</p>
<p>Practice SA-4.2 Periodic reviews are made of qualitative and/or organizational changes of investment decision-makers.</p>	<p>3 IMPLEMENT</p> <p>■ - Fully Conforms ■ - Opportunity for Improvement ■ - Non Conformance</p>		<p>Practice SA-2.7 The IPS defines appropriately structured, socially responsible investment (SRI) strategies (where applicable).</p>
<p>Practice SA-4.3 ↑ Control procedures are in place to periodically review and update the investment strategy.</p>	<p>Practice SA-4.4 ↓ Fees for investment management</p>	<p>Practice SA-3.1 The investment strategy is</p>	<p>Practice SA-3.2 Applicable "safe harbor"</p>
<p>"Finder's Fees" or other forms of compensation that may have been paid for asset placement are appropriately applied, utilized, and documented.</p>	<p>There is a process to periodically review the organization's effectiveness in meeting its fiduciary responsibilities.</p>	<p>Practice SA-3.3 Investment vehicles are appropriate for the portfolio size.</p>	<p>Practice SA-3.4 A due diligence process is followed in selecting service providers, including the custodian.</p>

The Periodic Table of Global Fiduciary Practices



Status **Active** PolicyStat ID **5449662**



**OREGON
STATE
TREASURY**

Origination 10/2013
Last Approved 10/2018
Last Revised 10/2016
Next Review 10/2019

Owner **Michael Makale**
Policy Area **Administrative**

ADM 802: Internal Audit Services

INTRODUCTION & OVERVIEW

Summary Policy Statement

The Oregon State Treasury (OST) supports Internal Audit Services as an independent, objective assurance and consulting activity designed to add value and improve OST operations. Internal Audit Services assists OST to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control, and governance processes.

Purpose and Goals

In this policy, OST establishes and maintains an Internal Audit Services Charter addressing the mission, organization, authority, and operation of the internal audit function.

Applicability

Classified represented, management service, unclassified executive service

Authority

ORS 184.360

Attachments

[IA Charter 2018_09.pdf](#)

Approval Signatures

Step Description	Approver	Date
	Darren BOND: Deputy State Treasurer	10/2018
	Carmen Leiva: Operations Analyst	09/2018
Chief Audit Executive	Susan Wilson: Chief Audit Executive	09/2018
	Jenny Dalto: Senior Internal Auditor	09/2018

COPY

OREGON STATE TREASURY **AUDIT COMMITTEE CHARTER**

PURPOSE:

To ensure that Internal Audit Services is fulfilling its stated mission to evaluate and improve the effectiveness of OST's risk management processes, identify internal control and compliance concerns, and provide OST management with information that is useful in the governance of the agency.

AUTHORITY:

The Audit Committee has authority to conduct or authorize investigations into any matters within its scope of responsibility. It is empowered to:

- Approve all auditing and permitted non-auditing services performed by OST's Internal Audit Services.
- Seek any information it requires from employees—all of whom are directed to cooperate with the committee's requests.
- Meet with agency's executive management, boards, external auditors, or legal counsel as necessary.
- Resolve any disagreements between management and auditors regarding audit results.

COMPOSITION:

The Audit Committee will consist of at least three and not more than seven members approved by the State Treasurer. At least three members must be external and independent to the Oregon State Treasury. In addition, the Deputy State Treasurer shall be a non-voting member of the committee. The Audit Committee shall select the committee chair from among the voting members and confirm appointment as a part of the regular review process.

MEETINGS:

The committee will meet at least four times a year, with authority to convene additional meetings as circumstances require. All committee members are expected to attend each meeting, in person or via telephone or video conference. The committee will invite members of management, auditors or others to attend meetings to provide pertinent information, as necessary. The CAE will provide meeting agendas and supporting material to the committee members at least two weeks in advance of each meeting, or on a timeframe agreed to by the Audit Committee Chair. Minutes will be prepared for each meeting and made available to Audit Committee members.

RESPONSIBILITIES:

1. Evaluate the effectiveness of the agency's internal control system, including information technology, and information security through Internal Audit Services engagements.
2. Understand the scope of internal and external auditors' review of internal controls and review reports on significant findings and recommendations, together with management's responses.
3. Monitor resolution of significant findings, and take appropriate action to address situations where corrective action is not completed in a timely manner.
4. Review with management and the CAE the charter, audit and consulting plans, activities, staffing, and organizational structure of the internal audit function.

5. Review proposed projects of Internal Audit Services and jointly establish priorities for the Internal Audit work plan to assure completeness of coverage, reduction of redundant efforts, and the effective use of audit resources. Throughout the year, monitor the completion of the work plan and approve significant plan changes.
6. Ensure there is no unjustified restriction or limitation on the audit function, and provide input to management on the appointment, replacement, or dismissal of the CAE.
7. Ensure the effectiveness of the internal audit function, including compliance with the Institute of Internal Auditor's *Standards for the Professional Practice of Internal Auditing*, through review of the results of Internal Audit Services' Quality Assurance and Improvement Program.
8. To promote effective and ongoing communication, meet individually with the CAE or the Senior Internal Auditor to discuss any emerging issues that may arise between meetings.
9. Review and assess the adequacy of the Audit Committee Charter at least annually.
10. Self-declare to the Audit Committee Chair, and in the case of the Audit Committee Chair, the CAE or Deputy Treasurer, any conflict of interest with respect to the work product of the OST Internal Audit Services function and/or subject matter of Audit Committee meetings, and recuse from voting, if applicable.

Approval

Approved this sixth day of September 2018

/SW/official signature on file

/DB/official signature on file

/GG/official signature on file

Susan Wilson
Chief Audit Executive

Darren Bond
Deputy State Treasurer

Geoff Guilfooy
Audit Committee Chair

OREGON STATE TREASURY INTERNAL AUDIT SERVICE CHARTER

MISSION:

The mission of Internal Audit Services is to provide value-added, professional internal audit and consulting services to the management of OST for the benefit of the agency and its stakeholders. OST's audit and consulting services are designed to evaluate and improve the effectiveness of OST's risk management processes, identify internal control and compliance concerns, and provide OST management with information that is useful in the governance of the agency.

ORGANIZATION:

The Chief Audit Executive (CAE) will report functionally to the Audit Committee and administratively to the State Treasurer, through the Deputy State Treasurer. The CAE is responsible for the development, review and modification of policies, procedures, and goals for the conduct of audit and consulting engagements. Internal Audit Services has adopted the Institute of Internal Auditors (IIA) *International Standards for the Professional Practice of Internal Auditing*. These standards address the characteristics of organizations and parties performing audit activities, describe the nature of audit activities, and provide quality criteria against which the performance of these services can be evaluated. Auditors must also comply with all requirements of Oregon Revised Statute (ORS) 184.360 and Oregon Administrative Rule (OAR) 125.700.

AUDIT COMMITTEE:

OST has established an Audit Committee to help promote strong governance. The Audit Committee provides oversight for the agency's control environment by ensuring information provided by its internal and external auditors and consultants is useful and timely and that recommendations are properly implemented. Audit Committee members are appointed by the State Treasurer, and membership is not subject to any term limit. The various responsibilities of the Audit Committee are detailed in OST Policy ADM 802. Internal Audit Services serves as staff to the OST Audit Committee.

The CAE will annually discuss with the Audit Committee the results of the internal audit quality assurance and improvement program by which the CAE assures the effective operation of internal audit activities.

Any differences of opinion between Internal Audit Services and the Audit Committee that cannot be resolved in the normal course of operations will be presented to the State Treasurer for a final decision.

INDEPENDENCE AND OBJECTIVITY:

Internal Audit Services is subject to the independence and objectivity standards of the Institute of Internal Auditors (IIA) *International Standards for the Professional Practice of Internal Auditing*. The CAE will confirm to the board, at least annually, the organizational independence of the internal audit activity.

All internal auditors must remain objective by keeping an impartial and unbiased attitude. All internal audit activities shall remain free of influence by any element in the organization, including matters of audit selection, scope, procedures, frequency, timing, conclusions, or report content to permit maintenance of an independent and objective mental attitude necessary in rendering reports.

To maintain adequate organizational independence, Internal Auditors shall **not**:

- Have direct operational responsibility or authority over any of the activities they review;
- Develop or install systems or procedures, prepare records, or engage in any other activity which would normally be audited;
- Direct the activities of Department employees outside the Internal Audit Section;
- Initiate or approve any accounting transactions external to the Internal Audit Section.

In some situations Internal Audit Services may provide services to OST that would not be considered independent under these standards. Formal audit reports provided to OST management will reference the above standard and clearly identify any audit or consulting areas where Internal Audit Services would not be considered “independent” under the *Standards*. Internal Audit Services may perform consulting work for operations that they had previous responsibility.

Review by Internal Audit Services does not in any way relieve other persons in OST of the oversight and monitoring responsibilities assigned to them.

AUTHORITY AND RESPONSIBILITIES:

Internal Audit Services has the authority to review all parts of OST and shall have full and complete access to any of the organization's records, physical properties, and personnel relevant to the performance of an audit or consulting engagement. Internal Audit Services is also granted the authority to request information of and meet with third parties providing services to OST, including the authority to access the work of other internal and external assurance providers. Internal auditors shall have access to OST Board and Council members as needed to complete assigned engagements and report on the results of those engagements, if required.

Documents and information given to internal auditors will be handled in the same prudent manner as by those employees normally accountable for them. Internal Audit Services will make special efforts to accommodate OST daily operations in scheduling and conducting work.

ENGAGEMENT SCOPE:

The scope of Internal Audit encompasses the examination and evaluation of the adequacy and effectiveness of the organization's governance, risk management, and internal control processes. It includes:

- Reviewing the reliability and integrity of financial and operational information and the means used to identify, measure, classify, and report such information.
- Reviewing the systems established to ensure compliance with those policies, plans, procedures, laws, and regulations which could have a significant impact on operations and reports and whether the organization is in compliance.
- Reviewing the means of safeguarding assets and, as appropriate, verifying the existence of such assets.
- Reviewing and appraising the economy and efficiency with which resources are employed.
- Reviewing operations or programs to ascertain whether results are consistent with established objectives and goals and whether the operations or programs are being carried out as planned.
- Reviewing specific operations at the request of the Audit Committee or management, as appropriate.

- Monitoring and evaluating the effectiveness of the organization's risk management and governance systems.
- Interaction with the various governance groups occurs as needed.
- Significant legislative or regulatory issues impacting the organization are recognized and addressed properly.
- External audits are appropriately coordinated and recommendations implemented timely.

CONSULTING

In addition to audit engagements, Internal Audit Services may provide advisory or other consulting services, as appropriate or at the request of OST's executive managers. Informal engagements, those with a limited scope and typically requiring less than 40 hours of work, will be approved by the CAE. Formal engagements, typically those that will require more than 40 hours of work and result in a written report, will be approved by the Audit Committee. The nature and scope of these activities will be agreed upon with management. These types of services may include but are not limited to:

- Conducting special projects, reviews or investigations;
- Performing research, i.e. of best practices;
- Providing training on audit related topics such as risk assessment/management, ethics and internal controls;
- Providing counsel and advice, i.e. on the adequacy of draft policies or process design;
- Participating in a non-voting role on OST and statewide committees; and
- Providing consulting concerning the design of controls for newly implemented and/or significantly revised processes and/or application implementations.

ENGAGEMENT PLANNING

Internal Audit Services completes an annual assessment of OST's governance, risk management, and internal control processes based on the Committee of Sponsoring Organizations (COSO) Internal Control – Integrated Framework. The results of this assessment are used to develop Internal Audit Services' Annual Audit Plan.

The Annual Audit Plan is presented to the Audit Committee for review and approval prior to the beginning of the plan year. The Audit Committee may add, subtract, or modify engagements in consultation with the CAE to address risk factors, resource constraints, and other concerns. Once the Audit Committee and the CAE have come to agreement, the Annual Audit Plan will be approved and work will begin for the next year.

Internal Audit Services will report progress toward the completion of the Annual Audit Plan at each quarterly Audit Committee meeting, and otherwise at the request of the Audit Committee or OST senior management. Any significant deviation from the approved engagement plan shall be brought to the attention of OST senior management and be approved by the Audit Committee.

ENGAGEMENT REPORTING:

A written report will be prepared and issued by Internal Audit Services following the conclusion of each assurance audit engagement. OST management will be provided with an opportunity to review and comment on the written report, and will be asked to submit a management response and corrective action

plan for each finding and recommendation noted. Management's response and corrective action plan will be included with the written report when it is provided to the OST Audit Committee for acceptance.

For all consulting engagements a written report or audit memorandum may be prepared based on the judgment of the Chief Audit Executive. Based on the nature of the consulting engagement the Chief Audit Executive may also choose to verbally debrief management with their comments and recommendations.

Once a written report has been formally accepted or abandoned by the OST Audit Committee, that report and any associated work papers become subject to public record requests per ORS 192.420 and 192.502 . All public record requests for Internal Audit Services reports and/or work papers will be reviewed by the CAE, who will ensure that any restricted information is removed before the requested materials are sent to the Information Assurance Officer for distribution.

Internal Audit Services will follow-up quarterly to ensure that corrective action plans are completed for all relevant findings and recommendations. A report addressing management's progress in resolving outstanding findings and recommendations will be prepared quarterly by Internal Audit Services and submitted to OST senior management and the Audit Committee.

CODE OF ETHICS:

Internal Audit Services staff have a responsibility to conduct themselves so that their good faith and integrity are not open to question. Standards of professional behavior are based upon the *Code of Ethics* issued by the Institute of Internal Auditors and the *Ethical Principles* outlined in the Government Auditing Standards issued by the Government Accountability Office as summarized below:

1. Integrity and Professional Behavior

Internal auditors shall perform their work with honesty, diligence, and responsibility. They shall observe the law and make disclosures expected by the law and the profession, and not knowingly be a party to any illegal activity, or engage in acts that are discreditable to the profession of internal auditing or to the organization. Internal auditors shall respect and contribute to the legitimate and ethical objectives of the organization.

2. Objectivity

Internal auditor shall not participate in any activity or relationship that may impair or be presumed to impair their unbiased assessment. This participation includes those activities or relationships that may be in conflict with the interests of the organization. Internal auditors shall not accept anything that may impair or be presumed to impair their professional judgment, or disclose any material facts known to them that, if not disclosed, would distort the reporting of activities under review.

3. Confidentiality

Internal auditors shall be prudent in the use and protection of information acquired in the course of their duties, and shall not use information for any personal gain or in any manner that would be contrary to the law or detrimental to the legitimate and ethical objectives of the organization.

4. Competency

Internal auditors shall engage only in those services for which they have the necessary knowledge, skills, and experience. They shall perform internal auditing services in accordance with the *International Standards for*

the Professional Practice of Internal Auditing, and continually improve their proficiency and the effectiveness and quality of their services.

5. Public Interest

Observing integrity, objectivity, and independence in performing their professional responsibilities is central to auditors serving the public interest.

6. Proper Use of Government Information, Resources, and Positions

Government information, resources, and positions are to be used for official purposes and not inappropriately for the auditor’s personal gain. The public’s right to transparency of government information has to be balanced with the proper use of that information.

PERIODIC ASSESSMENT

The CAE will annually assess the accuracy and continued applicability of this charter, and will provide any proposed changes to OST senior management and the Audit Committee for review and approval.

Approval

Approved this 6th day of September, 2018

/SW/official signature on file

Susan Wilson
Chief Audit Executive

/DB/official signature on file

Darren Bond
Deputy State Treasurer

/GG/official signature on file

Geoff Guilfooy
Audit Committee Chair

View Message

Subject: Public Records Request :: R000307-020123

Body:



Records Available

REQUESTER Rick Pope
DATE February 07, 2023
REFERENCE NO. R000307-020123

You submitted the following request for public records held by the State Treasurer:

The most recent three sets of agendas, supporting materials and minutes of the Oregon State Treasury Audit Committee.

Hi Rick,

The Oregon State Treasury has completed your request. Please log in to the Public Records Center at the below link to retrieve the appropriate responsive documents. At this time we're sharing the below documents.

- December 2018 - Audit Committee Meeting Packet
- September 2018 – Audit Committee Meeting Packet & Minutes
- June 2018 – Audit Committee Meeting Packet & Minutes

[Public Records Request - R000307-020123](#)

The meeting packets include the meeting agendas. Within these documents, we've made redactions due to information related to IT security vulnerabilities, per ORS 192.345(23).

We'd like to note the Audit Committee has not held a meeting since your previous request for these materials submitted in August 2022, however the Committee anticipates holding a meeting in the next 1-2 months. If you have any questions, please let us know.

Sincerely,
Treasury Public Records Team
867 Hawthorne Ave. SE | Salem, OR 97301-5241
P: 503-373-7609

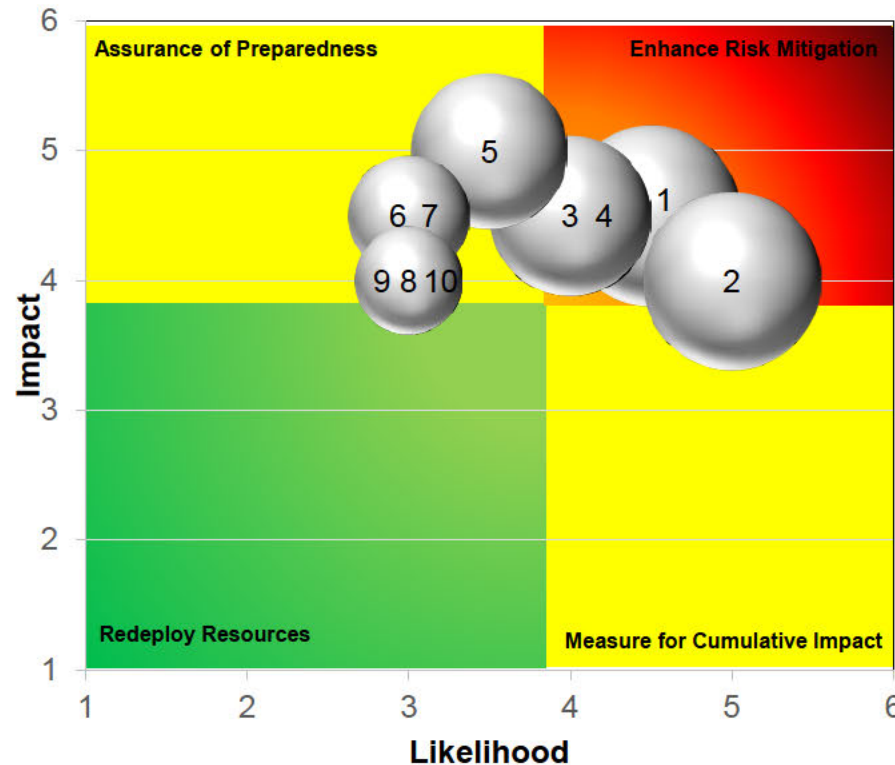
Heat Map

Internal Audit Assessment Focus Areas

Risk ID	Risk Name	I	L	I x L
1	Launch of OregonSaves	4.5	4.5	20.25
2	Chief Audit Executive Vacancy	4	5	20
3	IT Assessment	4.5	4	18
4	Migration of Banking Provider to Key Bank	4.5	4	18
5	Increase in In-House Investment Operations	5	3.5	17.5
6	529 and ABLE Programs	4.5	3	13.5
7	Transition of LGIP to PFM Asset Management	4.5	3	13.5
8	Lack of Fraud Risk Assessment	4	3	12
9	Valuation of Private Equity Investments	4	3	12
10	Benchmarking of Investment Performance Management	4	3	12

- Internal audit assessment focus area for current year
- Internal audit assessment focus area for future years
- Accepted risk, no audit plan

MARCI Chart



From: ENGELSON Eric <Eric.Engelson@ost.state.or.us>
Date: Wed, Aug 31, 2022, 3:35 PM
Subject: RE: ESG questions
To: jschramm@divestoregon.org <jschramm@divestoregon.org>

Good afternoon, Jenifer.

My name is Eric Engelson and I am the Treasury's new Public Information Director. I'm looking forward to working with you on this request moving forward and, in the future, as well. Thank you for your questions. An investment funds audit has not been completed and presented to the OIC since 2016. Completing the investment funds audit and other internal audits in recent years has been complicated due to difficulties related to recruiting a Chief Audit Executive, COVID-19, and staffing turnover in our internal audits division. With the hiring of our current Chief Audit Executive and continued development of the internal audits program, leadership is confident in our ability to complete these audits and bring the program into compliance.

I'd like to note, Treasury continues to participate in various investment-related audits, such as the Oregon Short-Term Fund and the Oregon Intermediary Term Pool, in coordination with the Secretary of State (SOS). These audits are available on the [Secretary of State website here](#). Additionally, we also provide information and answers to the State of Oregon's Department of Administrative Services for the state's Annual Comprehensive Financial Report, which is audited by the SOS, and PERS' annual audit, which is also available on the SOS site.

Best,

Eric Engelson

Public Information Director

oregon.gov/treasury

P 503-373-7609

This message (including any attachments) may contain sensitive information intended for a specific individual and purpose. If you are not the intended recipient, please notify me and delete this message immediately.

To Postpone and Reconsider as part of FY 2020 Risk Assessment and Audit Plan

1	OST IT Penetration "Pen" Testing	Medium	Not Started	IT	Assurance	Deloitte	3.00
2	Travel & Entertainment Expenses (Advisory Board Expenses)	Medium	Not Started	Investments Division	Advisory	IA	2.14
3	OIC Functions	Low	Not Started	OIC	Advisory	IA	2.57
4	Deloitte Decision Project	Low	Not Started	All	Advisory	IA	2.00
5	Analytics of and Valuation Policies for Private Equity Investments	High	Not Started	Investments Division	Assurance	JD/Co-source	2.43



**OREGON
STATE
TREASURY**

Origination: 05/2019
Last Approved: 08/2021
Last Revised: 01/2020
Next Review: 08/2023
Owner: *Geoff Nolan: Senior Investment Officer*
Policy Area: *Investments*
References:

INV 407: Public Universities Common Policy

PUBLIC UNIVERSITIES COMMON POLICY

INTRODUCTION & OVERVIEW

Summary Policy Statement

Oregon law allows "public universities" as defined in ORS Chapter 352 (each, a "University"), to enter into agreements with the Oregon State Treasury ("OST") to establish a separate or commingled fund (each, "University Invested Moneys" or "Invested Moneys") in order for OST to receive, hold, keep, manage and invest moneys of such University. OST offers internal investment management services, as well as a limited selection of external investment management options, for the University Invested Moneys.

Invested Moneys invested pursuant to this policy are expected to follow a long-term investment strategy. This policy establishes a coordinated program for investing and spending to minimize the risk to the principal of any Invested Moneys, and to produce a reasonable total return.

Purpose and Goals

The purpose of this policy is to provide guidance to OST investment staff regarding the investment, exchange, liquidation and reinvestment of Invested Moneys per the request of any University that has also entered into an agreement with OST pursuant to ORS 352.410(10)(a) and ORS 352.135. These rules are established under the authority of, and do not supersede, ORS Chapter 293 and ORS Chapter 352. All modifications to this policy will be made in writing and approved by the OIC.

Applicability

Classified represented, management service, unclassified executive service.

Authority

ORS Chapter 293.

ORS Chapter 352.

POLICY PROVISIONS

Definitions

None.

Policy Statements and Strategies

A. OBJECTIVES

The investment objective of each participating University is to seek consistency of investment returns with emphasis on capital appreciation, while meeting liquidity needs, over long periods of time. Universities may work with OST to develop custom investment guidelines provided that such guidelines are no less restrictive than this policy. OST may limit investment programs or options in its discretion.

B. ASSET ALLOCATION

1. OST may invest University Invested Moneys within the following exposure ranges:

Asset Class	Minimum	Maximum
Public Equity	0%	65%
U.S. Public Equity	0%	65%
International Public Equity " Developed	0%	40%
Emerging Markets Public Equity	0%	20%
Fixed Income	35%	100%
Investment Grade	35%	100%
Below Investment Grade	0%	20%

OST, in conjunction with the University, will establish target asset allocations within the ranges noted above to achieve the investment goals of the Invested Moneys, taking into consideration the appropriate level of portfolio risk. The University is expected to provide broad investment goals to OST staff, including spending rate information and other information necessary to provide input into the asset allocation process.

2. Limitations: Not more than sixty-five percent (65%) of the moneys contributed to endowment funds managed by OST may be invested in common stock and mutual funds, in the aggregate.

C. STRATEGIES

1. INTERNALLY-MANAGED PROGRAMS

- a. Deposits and Distributions. The University will adopt and communicate to OST a policy on investment inflows and amounts necessary for distribution from the University Invested Moneys for spending purposes.
- b. Custodian Bank. OST will determine custodial responsibility and the selection of a securities lending agent for all securities.
- c. Asset Class Mandates.
 - i. Equity: None
 - ii. Fixed Income: Actively managed intermediate term core bond fund, such as the Public University Core Bond Fund (see Appendix A) and the Oregon Intermediate Term Pool (Policy Inv 404).

2. **EXTERNALLY MANAGED PROGRAMS.** Universities will have access to investment products offered by external investment managers who have previously entered into an investment management agreement with the OIC ("IMA").
 - a. External investment managers will have discretionary authority to direct investments of University Invested Moneys.
 - b. OST will have full discretion over external investment managers, including their selection, and asset class strategies. Manager selection and asset class strategies are subject to OST fiscal and staffing constraints and OST staff fiduciary obligations.
 - c. Once the manager is selected, the investment guidelines attached to its IMA will be applied as the investment strategy for the University Invested Moneys.
 - d. Asset Class Mandates.
 - i. Equity: Passive ACWI IMI index
 - ii. Fixed Income: Actively managed Core+ bond fund

D. COMPLIANCE

The OST Compliance program will a) monitor and evaluate portfolios and asset classes and determine compliance with OST policies and contractual obligations; b) identify instances of non-compliance and develop and execute appropriate resolution strategies; c) provide relevant compliance information and reports to OST management and the University, as appropriate; and d) when applicable, verify resolution by the appropriate individual or manager within the appropriate time frame.

E. REPORTING REQUIREMENTS

1. OST investment staff will monitor investment results on a quarterly basis. Such review will include, but is not limited to: a) performance relative to objectives; b) compliance with policy and guidelines; and c) trading activity. OST staff will report investment results, or other information to the University upon request.
2. For any University in an externally managed investment program, a representative of OST will meet with the University at least annually, to review the following with respect to each external manager: (i) past performance; (ii) asset allocation and returns; and (iii) risk profile.

Exceptions

None.

Failure to Comply

Implementation of this Policy, including investment manager selection, shall be the responsibility of OST staff subject to the necessary approvals from the OIC. Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

PROCEDURES AND FORMS

Appendix A: Public University Core Bond Fund Investment Program Guidelines

Appendix B: Southern Oregon University Investment Program Guidelines

Appendix C: Western Oregon University Investment Program Guidelines

ADMINISTRATION

Review

OST staff will review this policy at least every two years, and will bring any modifications to the OIC. OST staff will notify the OIC of any new appendices.

Feedback

Your comments are extremely important to improving the effectiveness of this policy. If you would like to comment on the provisions of this policy, you may do so by e-mailing the Policy Analyst. To ensure your comments are received without delay, *please list the policy number and name in your e-mail's subject*. Your comments will be reviewed during the policy revisions process and may result in changes to the policy.

Attachments

[Appendix A: Oregon Public University Core Bond Fund Investment Program Guidelines](#)

[Appendix B: Southern Oregon University Investment Program Guidelines](#)

[Appendix C: Western University Endowment Fund Investment Program Guidelines](#)

Approval Signatures

Step Description	Approver	Date
OIC	Rex Kim: Chief Investment Officer	08/2021
	Deena Bothello: General Counsel	08/2021
PolicyStat Admin	Carmen Leiva: Operations Analyst	06/2021
	Geoff Nolan: Senior Investment Officer	06/2021



Oregon State University Public University Fund Investment Policy

I. Purpose

The purpose of this document is to identify the policies for prudent investment of the Public University Fund assets by providing guidelines for suitable investments consistent with the objectives identified in Section III.

The investment policies and practices are based on state law and prudent money management. All funds will be deposited and invested in accordance with this Policy and all statutes and policies governing the Designated University, Public University Fund, Oregon State Treasury and the Oregon Investment Council.

II. Scope

These rules apply to the investment of funds from all eligible and approved Public University Fund (PUF) participants, and are established under the authority of, and shall not supersede, the requirements established under ORS Chapter 293, ORS 352.450 and the Oregon Investment Council Common University (OIC) Policy INV 407.

III. Objective

The primary objective of the PUF is capital preservation with a secondary objective to maximize total return over a long-term horizon within stipulated risk parameters.

The PUF should provide adequate liquidity for PUF participants' cash flow requirements based upon participant's annual cash flow forecast submissions for assets on deposit in the PUF. Cash balances in excess of forecast liquidity needs shall be invested into longer dated fixed income securities with the objective to maximize total return over the long term.

IV. Portfolio Allocation

Portfolio allocation parameters listed in the following table are intended as general guidelines and subject to review by the Designated University staff and their delegates including investment consultants and investment managers.

Portfolio	Objective	Allocation
Liquidity	Capital preservation to assure adequate cash for liquidity requirements.	<u>Short-Term</u> Funds invested in the Oregon Short Term Fund (OSTF). Target allocation of funds based upon aggregated university participant annual cash flow forecasts. Absent cash flow forecasts, the target allocation will be based upon a minimum of six months estimated operating expenses.
Core	Actively managed to achieve a diversified portfolio of investment grade bonds invested over longer horizons than permitted in OSTF. Based on historical market performance, total returns generated over extended periods are anticipated to be greater than returns realized in shorter-maturity strategies.	<u>Intermediate</u> Investments with a maturity or weighted average life from three years and above.

V. Permitted Holdings

1. Securities included in the designated performance benchmark(s) unless explicitly restricted in this policy.
2. The Oregon Short-Term Fund (OSTF). Underlying investments of the OSTF are excluded from restrictions in this policy. The OSTF is governed by the OIC and OST-adopted policies and guidelines as documented in OIC Policy INV 303.
3. Obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities, including inflation-indexed obligations.
4. Non-U.S. government securities and Instrumentalities with a minimum long-term rating of Aa2/AA/AA as rated by two or more of the following rating agencies: Moody's Investors Services, Standard & Poor's DBRS or Fitch Ratings (each a "Rating Agency", collectively "Rating Agencies"), at the time of purchase.
5. Municipal debt with a minimum rating of A3/A-/A- as rated by one or more of the Rating Agencies, at the time of purchase.

6. Corporate indebtedness with minimum investment grade ratings by one or more of the Rating Agencies. For avoidance of doubt, no rating from any of the Rating Agencies may be non-investment grade at the time of purchase.
7. Asset-backed securities with minimum investment grade ratings by one or more of the Rating Agencies (Baa3/BBB-/BBB-). For avoidance of doubt, no rating from any of the Rating Agencies may be non-investment grade at the time of purchase.
8. Commercial mortgage-backed securities (CMBS) with minimum investment grade ratings by one or more of the Rating Agencies (Baa3/BBB-/BBB-). For avoidance of doubt, no rating from any of the Rating Agencies may be non-investment grade at the time of purchase.
9. U.S. agency residential mortgage-backed securities (MBS), U.S. agency commercial mortgage-backed securities (ACMBS) and U.S. agency commercial mortgage-backed obligations (CMO).
10. Collateralized loan obligations (CLO) rated AAA (or equivalent rating by one or more of the Rating Agencies) at the time of purchase.

VI. Diversification

The portfolio should be adequately diversified consistent with the following parameters:

1. No more than 3% of portfolio par value may be invested in a single security except for obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities; and
2. No more than 5% of portfolio par value may be invested in the securities of a single issuer except for obligations issued or guaranteed by the U.S. Treasury or by U.S. federal agencies and instrumentalities.

Maximum market value exposures shall be limited as follows:

• U.S. Agency Obligations	50%
• U.S. Corporate Indebtedness	50%
• Municipal Indebtedness	30%
• Asset-backed Securities (ABS)	25%
• Mortgage-backed Securities (MBS)	25%
• U.S agency commercial mortgage-backed securities (ACMBS)	25%
• Commercial Mortgage-backed Securities (CMBS)	25%
• Collateralized loan obligations (CLOs)	15%
• Structured Securities (Combined ABS, MBS, ACMBS, CMBS, and CLOs)	50%

3. Issuer, security, and sector-level restrictions shall not apply to OSTF holdings.

VII. Counterparties

A list of all broker/dealer and custodian counterparties shall be provided upon request.

VIII. Risk

1. Maintain a minimum-weighted, average long-term portfolio credit quality no less than A3/A-.
2. Maintain an average modified duration level of +/-10% of the custom benchmark.

IX. Investment Restrictions

1. All investments will be in U.S. dollar denominated securities.
2. All investments will be non-convertible to equity.
3. Collateralized debt obligations (CDO) and Z-tranche investments are not permitted.
4. Investments in Alt-A, non-agency, sub-prime, limited documentation or other "sub-prime" residential mortgage pools are not permitted. No derivative securities are allowed. Structured securities such as ABS, MBS, CMBS, ACMBS and CLOs shall not be considered as using leverage.
5. Investments in issuers identified by the Carbon Underground 200 published by the Fossil Free Indexes LLC (FFI).
 - This restricted security list will be updated annually at calendar year-end and enforced for all new security purchases.
 - Exposures to issuers added to the Carbon Underground 200 subsequent to purchase may be held to maturity.

X. Policy Compliance

1. OST Investment Staff will submit a written action plan to the Designated University (as defined in ORS 352.450(3) (a)) regarding any investment downgraded by at least one rating agency to below investment grade within 10 business days of the downgrade. The plan may indicate why the investment should continue to be held and/or outline an exit strategy.
2. OST Staff will consult with the Designated University, on a pre-trade basis, if an investment trade or trades will result in a cumulative net loss greater than 1% over 3 months prior to trade settlement date.

XI. Safekeeping and Custody

The assets held in the PUF shall be secured through third-party custody and safekeeping procedures. Bearer instruments shall be held only through third-party institutions.

XII. Performance Expectations and Reviews

1. Excluding the short-term allocation, the Core allocation is expected to perform in-line with the following custom benchmark:
 - Bloomberg Barclays Intermediate Government/Credit Total Return Index.
2. OST will provide the Designated University with a monthly report of all non-passive compliance violations of this policy's guidelines.
3. Investment reviews between OST investment staff and the Designated University will occur quarterly and focus on the following elements:
 - Performance relative to objectives;
 - Adherence to this policy; and
 - Trading activity.

XIII. Exceptions

None.

XIV. Failure to Comply

Failure to comply with this policy may be cause for disciplinary action up to and including dismissal.

Document History

- Adopted by the Board of Trustees, October 17, 2014
- Amended October 16, 2015
- Amended January 20, 2017
- Amended October 18, 2019
- Amended January 29, 2021