

Regional University System of Oklahoma Post-Retirement
Medical Plan

AGENDA

- Asset Allocation Breakdown-Current
- Risk Decomposition-Current
- Asset Allocation & Breakdown-Proposed
- Asset Allocation Analysis-Proposed
- Risk Decomposition-Proposed
- Key Observations

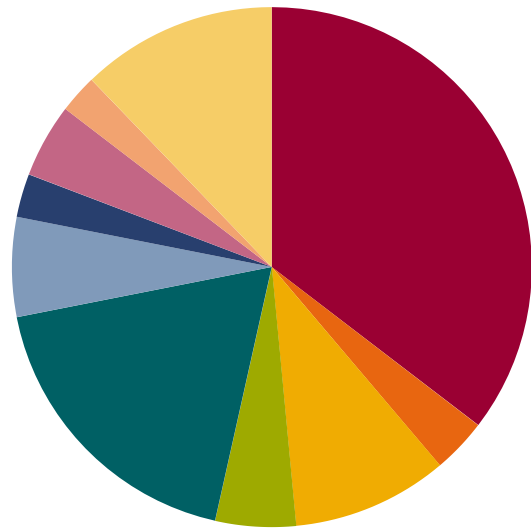
Current Asset Allocation Breakdown-OPEB Plan

Ticker	Fund Name	Morningstar Category	UCO	ECU	SEOSU	NWOSU	NESU	SWOSU	ADMIN OFF	OVERALL % Allocation
IWB	iShares Russell 1000 ETF	US Fund Large Blend	2,439,776.24	1,240,801.44	488,421.84	345,611.36	1,569,915.44	1,310,290.32	16,330.72	35.4%
PRJIX	T. Rowe Price New Horizons I	US Fund Mid-Cap Growth	88,177.05	44,841.71	17,609.89	12,459.15	56,714.35	47,317.57	562.41	1.3%
DFSVX	DFA US Small Cap Value I	US Fund Small Value	72,139.29	36,678.80	14,438.93	10,203.22	46,422.19	38,745.92	481.90	1.0%
VSCIX	Vanguard Small Cap Index I	US Fund Small Blend	76,169.05	38,729.98	15,294.15	10,839.84	49,031.30	40,919.09	491.30	1.1%
DODFX	Dodge & Cox International Stock	US Fund Foreign Large Value	216,963.14	110,334.66	43,411.74	30,707.67	139,632.74	116,538.76	1,445.38	3.1%
VTMGX	Vanguard Developed Markets Index Admiral	US Fund Foreign Large Blend	223,597.02	113,715.13	44,755.35	31,674.21	143,886.08	120,086.75	1,490.50	3.2%
MIDLX	MFS International New Discovery R6	US Fund Foreign Small/Mid Growth	229,069.39	116,498.26	45,830.70	32,431.38	147,392.29	123,011.09	1,530.51	3.3%
ODVIX	Invesco Oppenheimer Developing Mkts R6	US Fund Diversified Emerging Mkts	339,191.42	172,483.65	67,903.51	48,017.94	218,267.51	182,180.69	2,246.26	4.9%
BAGIX	Baird Aggregate Bond Inst	US Fund Intermediate Core Bond	714,829.56	363,526.27	143,063.02	101,265.75	459,888.61	383,803.10	4,773.12	10.4%
MWTIX	Metropolitan West Total Return Bd I	US Fund Intermediate Core-Plus Bond	553,204.28	281,353.78	110,749.65	78,385.81	355,990.39	297,131.85	3,679.85	8.0%
FIHLX	Federated Instl High Yield Bond R6	US Fund High Yield Bond	118,336.42	60,493.69	23,870.92	16,870.53	74,702.70	64,040.70	800.38	1.7%
PIMIX	PIMCO Income Instl	US Fund Multisector Bond	306,528.23	155,895.51	61,364.86	43,427.16	197,246.68	164,631.04	2,043.87	4.5%
PFORX	PIMCO International Bond (USD-Hdg) Instl	US Fund World Bond-USD Hedged	188,873.97	96,053.19	37,805.07	26,756.50	121,512.40	101,404.49	1,264.84	2.7%
TRPXX	Invesco Shrt-Trm Inv Treasury Instl	US Fund Money Market - Taxable	319,031.42	167,154.44	63,890.65	45,328.01	207,493.61	171,466.86	2,149.34	4.6%
VGSLX	Vanguard Real Estate Index Admiral	US Fund Real Estate	163,086.49	82,881.57	32,580.84	23,020.22	104,942.08	87,555.22	1,095.89	2.4%
CMNIX	Calamos Market Neutral Income I	US Fund Market Neutral	423,953.14	215,624.20	84,873.16	60,065.05	272,817.56	227,703.77	2,836.10	6.2%
SGIIX	First Eagle Global I	US Fund World Allocation	420,050.70	213,595.49	84,041.14	59,479.96	270,288.00	225,594.47	2,781.79	6.0%
	TOTAL		6,892,976.81	3,510,661.77	1,379,905.42	976,543.76	4,436,143.93	3,702,421.69	46,004.16	100.0%

Current Asset Allocation Analysis-OPEB



Portfolio Allocations



- ◆ US Equity- Large Cap
- ◆ US Equity- Small/Mid Cap
- ◆ Non-US Equity- Developed
- ◆ Non-US Equity- Emerging
- ◆ US Corporate Bonds- Core
- ◆ US Corp. Bonds- High Yield
- ◆ Non-US Debt- Developed
- ◆ US Treasuries (Cash Equivalent)
- ◆ Real Estate
- ◆ Hedge Funds

Composition

	US Equity- Large Cap	US Equity- Small/Mid Cap	Non-US Equity- Developed	Non-US Equity- Emerging	US Corporate Bonds- Core	US Corporate Bonds- High Yield	Non-US Debt- Developed	US Treasuries (Cash Equivalent)	Real Estate	Hedge Funds
RUSO VEBA- OPEB Asset Allocation	35.40	3.40	9.70	5.00	18.40	6.20	2.70	4.60	2.40	12.20

Risk Decomposition-Current Asset Allocation

Asset Mix, Asset Class	Asset Mix Weight	Contribution to Asset Mix SD	Percentage Contribution to Asset Mix SD	Marginal Contribution to Asset Mix SD	Asset Mix Return	Percentage Contribution to Asset Mix Return
RUSO VEBA- OPEB Asset Allocation	100.00	9.37	100.00	N/A	6.78	100.00
US Equity- Large Cap	35.40	4.92	52.54	13.90	8.14	42.51
US Equity- Small/Mid Cap	3.40	0.53	5.65	15.56	8.36	4.19
Non-US Equity- Developed	9.70	1.54	16.49	15.92	10.46	14.97
Non-US Equity- Emerging	5.00	0.91	9.74	18.24	12.43	9.17
US Corporate Bonds- Core	18.40	0.07	0.78	0.40	2.86	7.76
US Corporate Bonds- High Yield	6.20	0.40	4.27	6.46	7.21	6.59
Non-US Debt- Developed	2.70	0.04	0.48	1.66	2.60	1.04
US Treasuries (Cash Equivalent)	4.60	0.00	-0.01	-0.02	1.60	1.09
Real Estate	2.40	0.27	2.90	11.34	9.07	3.21
Hedge Funds	12.20	0.67	7.16	5.50	5.26	9.47

Current Asset Allocation Analysis



Capital Market Assumptions

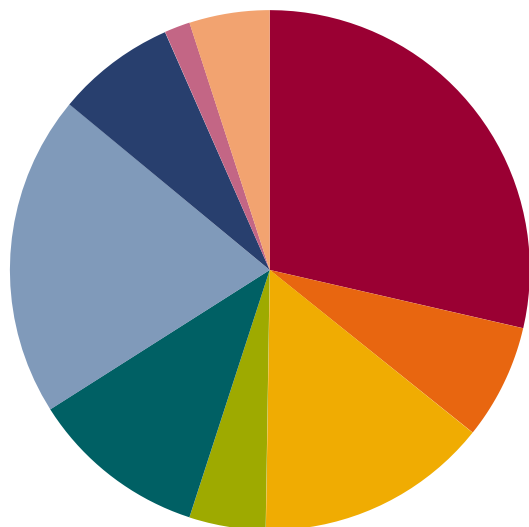
	Arithmetic Mean	Standard Deviation
US Equity- Large Cap	8.14	14.34
US Equity- Small/Mid Cap	8.36	17.63
Non-US Equity- Developed	10.46	16.81
Non-US Equity- Emerging	12.43	21.12
US Corporate Bonds- Core	2.86	3.42
US Corporate Bonds- High Yield	7.21	8.22
Non-US Debt- Developed	2.60	6.43
US Treasuries (Cash Equivalent)	1.60	0.46
Real Estate	9.07	15.42
Hedge Funds	5.26	7.37

Asset Class Correlations

Asset Class	1	2	3	4	5	6	7	8	9	10
1 US Equity- Large Cap	1.00									
2 US Equity- Small/Mid Cap	0.88	1.00								
3 Non-US Equity- Developed	0.88	0.81	1.00							
4 Non-US Equity- Emerging	0.76	0.72	0.87	1.00						
5 US Corporate Bonds- Core	0.00	-0.10	0.10	0.13	1.00					
6 US Corporate Bonds- High Yield	0.69	0.70	0.74	0.72	0.17	1.00				
7 Non-US Debt- Developed	0.12	0.06	0.29	0.30	0.70	0.28	1.00			
8 US Treasuries (Cash Equivalent)	-0.06	-0.06	-0.02	0.05	0.10	-0.11	0.02	1.00		
9 Real Estate	0.72	0.65	0.65	0.55	0.27	0.61	0.26	-0.05	1.00	
10 Hedge Funds	0.67	0.64	0.71	0.69	-0.10	0.64	0.14	-0.10	0.34	1.00

Proposed Asset Allocation Analysis 3(38)

Portfolio Allocations



- ◆ US Equity- Large Cap
- ◆ US Equity- Small/Mid Cap
- ◆ Non-US Equity- Developed
- ◆ Non-US Equity-Emerging
- ◆ US Corporate Bonds- Core
- ◆ US Corporate Bonds-Long Duration
- ◆ Multisector Bonds
- ◆ US Treasuries (Cash Equivalent)
- ◆ Real Estate

Composition

	US Equity- Large Cap	US Equity- Small/Mid Cap	Non-US Equity- Developed	Non-US Equity- Emerging	US Corporate Bonds- Core	US Corporate Bonds-Long Duration	Multisector Bonds	US Treasuries (Cash Equivalent)	Real Estate
RUSO VEBA- OPEB Proposed Allocation	28.60	7.15	14.50	4.75	11.00	20.00	7.40	1.60	5.00

Risk Decomposition-Proposed Asset Allocation 3(38)

Asset Mix, Asset Class	Asset Mix Weight	Contribution to Asset Mix SD	Percentage Contribution to Asset Mix SD	Marginal Contribution to Asset Mix SD	Asset Mix Return	Percentage Contribution to Asset Mix Return
RUSO VEBA- OPEB Proposed Allocation	100.00	9.93	100.00	N/A	6.85	100.00
US Equity- Large Cap	28.60	3.81	38.34	13.31	8.14	33.96
US Equity- Small/Mid Cap	7.15	1.07	10.77	14.96	8.36	8.72
Non-US Equity- Developed	14.50	2.29	23.08	15.81	10.46	22.13
Non-US Equity- Emerging	4.75	0.86	8.62	18.01	12.43	8.61
US Corporate Bonds- Core	11.00	0.10	1.02	0.92	2.86	4.59
US Corporate Bonds-Long Duration	20.00	1.06	10.72	5.32	3.87	11.29
Multisector Bonds	7.40	0.14	1.43	1.92	3.43	3.70
US Treasuries (Cash Equivalent)	1.60	0.00	0.00	-0.02	1.60	0.37
Real Estate	5.00	0.60	6.02	11.96	9.07	6.62

Proposed Asset Allocation Analysis 3(38)



Capital Market Assumptions

	Arithmetic Mean	Standard Deviation
US Equity- Large Cap	8.14	14.34
US Equity- Small/Mid Cap	8.36	17.63
Non-US Equity- Developed	10.46	16.81
Non-US Equity- Emerging	12.43	21.12
US Corporate Bonds- Core	2.86	3.42
US Corporate Bonds-Long Duration	3.87	9.89
Multisector Bonds	3.43	4.71
US Treasuries (Cash Equivalent)	1.60	0.46
Real Estate	9.07	15.42

Asset Class Correlations

Asset Class	1	2	3	4	5	6	7	8	9
1 US Equity- Large Cap	1.00								
2 US Equity- Small/Mid Cap	0.88	1.00							
3 Non-US Equity- Developed	0.88	0.81	1.00						
4 Non-US Equity- Emerging	0.76	0.72	0.87	1.00					
5 US Corporate Bonds- Core	0.00	-0.10	0.10	0.13	1.00				
6 US Corporate Bonds-Long Duration	0.25	0.18	0.37	0.37	0.80	1.00			
7 Multisector Bonds	0.14	0.11	0.36	0.32	0.71	0.64	1.00		
8 US Treasuries (Cash Equivalent)	-0.06	-0.06	-0.02	0.05	0.10	-0.05	0.02	1.00	
9 Real Estate	0.72	0.65	0.65	0.55	0.27	0.41	0.32	-0.05	1.00

Proposed 3(38) Asset Allocation -OPEB Plan

Fund Name	Equities:	60%
Vanguard 500 Index Admiral	US Equity- Large Cap	28.60%
Vanguard Extended Market Admiral	US Equity- Small/Mid Cap	7.15%
Vanguard Developed Markets Index Adm	Non-US Equity-Developed	14.50%
Invesco Oppenheimer Developing Mkts R6	Non-US Equity-Emerging	4.75%
Cohen & Steers Realty Shares Z	Real Estate	5.00%
	Fixed Income:	40%
Western Asset Core Bond IS	US Corporate/Govt. Bonds-Core	11.00%
PIMCO Long Duration Total Return Instl	US Corporate/Govt. Bonds-Long Duration	20.00%
PIMCO Diversified Inc Instl	US Corporate Bonds-High Yield	3.20%
	Non-US Debt-Developed	3.00%
	Non-US Debt-Emerging	1.20%
Invesco Shrt-Trm Inv Treasury Instl (BOK)	US Treasuries/Short-term Bonds (Cash)	1.60%

Proposed 3(21) Asset Allocation -OPEB Plan

Simplifies the current lineup, retains many of the funds within the Plan for continuity

Fund Name	Equities:	60%
Vanguard 500 Index Admiral	US Equity- Large Cap	31%
T.Rowe Price New Horizons	US Equity- Mid Cap Growth	4%
Vanguard Small Cap Index	Vanguard Small Cap Index I	3%
Vanguard Developed Markets Index Adm	Non-US Equity-Developed	15%
Invesco Oppenheimer Developing Mkts R6	Non-US Equity-Emerging	5%
Vanguard Real Estate Index Admiral	Real Estate	2%
	Fixed Income:	40%
Baird Aggregate Bond Inst	US Corporate/Govt. Bonds-Core	10%
PIMCO Long Duration Total Return Instl	US Corporate/Govt. Bonds-Long Duration	20%
PIMCo Income Inst	US Corporate Bonds-High Yield	5%
PIMCo International Bond (USD-Hedged) Inst	Non-US Debt-Developed	3%
Invesco Shrt-Trm Inv Treasury Instl (BOK)	US Treasuries/Short-term Bonds (Cash)	2%

Proposed 3(21) Fund Re-Mapping - OPEB Plan

Simplifies the current lineup, retains many of the funds within the Plan for continuity

Asset Class	Sub-Asset Class	RUSO VEBA- OBEB Current Plan	Fund Ticker	Exp Ratio	6/30/2020 Assets	Pct Assets	RUSO VEBA- OBEB New Plan	Ticker	Exp Ratio	6/30/2020 Assets	Pct Assets
U.S. Equities	US Large Cap Blend	iShares Russell 1000 ETF	IWB	0.15%	\$ 2,439,776	35%	Vanguard S&P 500 Index Admiral	VFIAX	0.04%	\$ 2,136,823	31%
U.S. Equities	US Mid Cap Growth	T.Rowe Price New Horizons I	PRJIX	0.65%	\$ 88,177	1%	T.Rowe Price New Horizons I	PRJIX	0.65%	\$ 275,719	4%
U.S. Equities	US Small Cap Value	DFA US Small Cap Value I	DFSVX	0.51%	\$ 72,139	1%	Vanguard Small Cap Index i	VSCIX	0.04%	\$ 206,789	3%
U.S. Equities	US Small Cap Blend	Vanguard Small Cap Index Fund I	VSCIX	0.04%	\$ 76,169	1%					
U.S. Equities	Real Estate	Vanguard Real Estate Index Admiral	VGSLX	0.12%	\$ 163,086	2%	Vanguard Real Estate Index Admiral	VGSLX	0.12%	\$ 137,860	2%
Total					\$ 2,839,348	41%				\$ 2,757,191	40%
Non-U.S. Equities	International Value	Dodge & Cox International Stock	DODFX	0.63%	\$ 216,963	3%	Vanguard Developed Markets Index Admiral	VTMGX	0.07%		
Non-U.S. Equities	International Blend	Vanguard Developed Markets Index Admiral	VTMGX	0.07%	\$ 223,597	3%	Vanguard Developed Markets Index Admiral	VTMGX	0.07%	\$ 1,033,947	15%
Non-U.S. Equities	International Mid-Small	MFS International New Discovery R6	MIDLX	0.93%	\$ 229,069	3%	Vanguard Developed Markets Index Admiral	VTMGX	0.07%		
Non-U.S. Equities	Emerging Markets	Invesco Oppenheimer Developing Markets R6	ODVIX	0.83%	\$ 339,191	5%	Invesco Oppenheimer Developing Markets R6	ODVIX	0.83%	\$ 344,649	5%
Total					\$ 1,008,821	15%				\$ 1,378,595	20%
Total EQUITIES					\$ 3,848,169	56%				\$ 4,135,786	60%
Non-Traditional Asset Allocation	Hedge Funds-Market Neutral	Calamos Market Neutral Inc. I	CMNIX	1.01%	\$ 423,953	6%					0%
	World Allocation	First Eagle Global I	SGIIX	0.85%	\$ 420,051	6%					0%
Fixed Income	Intermediate Bonds	Baird Aggregate Bond Inst	BAGIX	0.30%	\$ 714,830	10%	Baird Aggregate Bond Inst	BAGIX	0.30%	\$ 689,298	10%
Fixed Income	Intermediate Bonds	Metropolitan West Total Return Bond I	MWTIX	0.44%	\$ 553,204	8%	PIMCO Long Duration Total Return Inst			\$ 1,378,595	20%
Fixed Income	High Yield	Federated Inst High Yield Bond R6	FIHLX	0.49%	\$ 118,336	2%	PIMCO Income Inst	PIMIX	1.05%	\$ 344,649	5%
Fixed Income	Multisector Bonds	PIMCO Income Inst	PIMIX	1.05%	\$ 306,528	4%					
Fixed Income	World Bond	PIMCO International Bond (USD-Hedged) Inst	PFORX	0.55%	\$ 188,874	3%	PIMCO International Bond (USD-Hedged) Inst	PFORX	0.55%	\$ 206,789	3%
Fixed Income	Money Market	Invesco Short-Term Inv Treasury Inst	TRPXX	0.18%	\$ 319,031	5%	Invesco Short-Term Inv Treasury Inst	TRPXX	0.18%	\$ 137,860	2%
Total					\$ 2,200,804	32%				\$ 2,757,191	40%
TOTAL ASSETS					\$ 6,892,977	100%				\$ 6,892,977	100%

Red font- Current fund to be mapped out

Green shading- New fund and sub-asset class

Proposed fund and asset allocation changes - OPEB Plan

- I. The proposed strategic asset allocation of 60% to global equities and 40% fixed income is consistent with the current Plan asset allocation under either the 3(21) or 3(38) models, however, each new model offers several advantages:
 - a. Lower expense ratios (removing higher fee funds such as iShares Russell 1000 ETF)
 - b. Simplifies asset allocation (removing asset allocation funds such as First Eagle Global to make equities vs fixed income more distinct and measurable)
 - c. Enhances fund performance (map current funds to similar funds that have consistently performed better with lower expense ratios)
 - d. Strengthens sub-asset class allocations without reducing diversification (e.g., removing International Value)

- II. Global Equities and Fixed Income Allocations
 - a. Both models increase mid-caps and small caps to an institutional weighting (e.g., Russell 3000 index consists roughly of 80% large caps, 12% mid caps, 8% small caps), the current plan is significantly underweight (6% combined in mid/small caps)
 - b. Both models increase international equities which was significantly underweight (currently 80% U.S. vs 20% non-U.S.) to about 65% to 68% U.S. equities
 - c. The proposed new international equities still retains an overweight to U.S. equities relative to global benchmarks (approximately 60% U.S. equities)
 - d. Due to the longevity of Plan liabilities, it would be prudent to add a longer-term bond fund to the lineup as a core fixed income allocation

Comparing 3(21) and 3(38) Allocation and Fund Changes - OPEB Plan

Similarities

- I. Replace the iShares Russell 1000 ETF (0.15% expense ratio) with an S&P 500 fund (0.04%)
- II. Retain the Vanguard Developed Markets fund (which tracks MSCI EAFE Index) and the Invesco Oppenheimer Developing Markets R6
- III. Remove the First Eagle Global and Calamos Market Neutral
- IV. Add a long-term bond to broaden the fixed income mandate and remove high yield bonds
- V. Money market fund with Invesco Short-Term remains in either model

Differences

- I. U.S. Equities: Mid-Cap and U.S. Small Cap
 - a. With 3(21), keep the T.Rowe Price New Horizons (for continuity, good performance, provides growth tilt) whereas the 3(38) would have the passive Vanguard Extended Market Index, which is a comprehensive/passive fund covering both mid-cap and small-cap blends
 - b. The 3(21) would retain the Vanguard Small Cap Index and remove the DFA US Small Cap
- II. Real Estate
 - a. Keep Vanguard under the 3(21), but 3(38) the preferred fund is Cohen & Steers (higher expense ratio, but more specialized real estate fund)
- III. Fixed Income- Intermediate Bonds
 - a. The Baird Aggregate and Metropolitan are similar funds in the current lineup (both have performed well), under 3(21) keep Baird; under 3(38) replace both funds with Western Asset Core Bond
- IV. Fixed Income- Multisector Bonds and World Bonds
 - a. Retain the PIMCo Income and PIMCo International Bond funds under 3(21), but under 3(38), remove these funds and replace with the PIMCo Diversified Income