



TEACHERS' RETIREMENT SYSTEM

of the State of Kentucky

BOARD OF TRUSTEES

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GARY L. HARBIN, CPA
Executive Secretary

Quarterly Meeting of the TRS Board of Trustees

A G E N D A

Monday, December 21, 2020, 12:30 p.m. ET

- Meeting Called to Order
- Roll Call
 1. Reports for Consent
 - 1.1. Consideration/Approval of Minutes
 - 1.1.1. Quarterly Meeting, Board of Trustees, September 21, 2020
 - 1.1.2. Special Meeting, Board of Trustees, November 23, 2020
 - 1.1.3. Special Meeting, Insurance Committee, September 21, 2020
 - 1.1.4. Special Meeting, Governance & Audit Committee, September 21, 2020
 - 1.1.5. Special Meeting, Governance & Audit Committee, November 13, 2020
 - 1.1.6. Special Meeting, Personnel Committee, November 23, 2020
 - 1.2. Applications for Retirement and Annuity
 - 1.3. Survivor Benefits
 - 1.4. Life Insurance Benefits
 - 1.5. Refunds
 - 1.6. Interim Financial Statements
 2. Report of the Investment Committee
 3. Report of the Governance and Audit Committee
 4. Report of the Personnel Committee
 5. Report of the Scholarship Committee
 6. Report of the Insurance Committee
 7. Executive Secretary's Observations and Comments
- General Discussion
- Adjournment

The meeting will be conducted by live video teleconference.
Information on accessing the meeting will be provided on TRS's website at:

<https://trs.ky.gov/administration>

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Reports for Consent

1.1. Consideration/Approval of Minutes

1.1.1. Quarterly Meeting, Board of Trustees, September 21, 2020

1.1.2. Special Meeting, Board of Trustees, November 23, 2020

1.1.3. Special Meeting, Insurance Committee, September 21, 2020

1.1.4. Special Meeting, Governance and Audit Committee, September 21, 2020

1.1.5. Special Meeting, Governance and Audit Committee, November 13, 2020

1.1.6. Special Meeting, Personnel Committee, November 23, 2020

1.2. Applications for Retirement and Annuity

The list of members who retired September, October and November 2020 is included in the board materials. Attached is a summary of the particular payments and a comparison to the same period last year. Initial retirements for the period included 447 retirees with monthly payments totaling \$1,246,180.06. During the same period last year, there were 340 retirements with monthly payments totaling \$938,792.80.

Recommendation: The board is requested to approve the initial retirement payments as reported.

1.3. Survivor Benefits

The list of persons qualifying for survivor benefit payments for the quarter July 1, 2020, through September 30, 2020, is included in the board materials. During the period, there were 10 survivor benefits with a total monthly payment of \$9,760.70.

Recommendation: The board is requested to approve the survivor benefit payments as reported.

1.4. Life Insurance Benefits

The list of payments of life insurance benefits due to death of active and retired teachers for the period July 1, 2020, through September 30, 2020, is included in the board materials. There were 8 payments to the estates or beneficiaries of active teachers and 284 payments to the estates or beneficiaries of retired teachers for total payments of \$1,436,000. During the same quarter in 2019, there were 278 payments in the amount of \$1,345,000.

Recommendation: The board is requested to approve the payment of life insurance benefits as reported.

1.5. Refunds

The report of refunds for the quarter ended September 30, 2020, is also attached. There were 494 refunds during the period July 1 through September 30, 2020, totaling \$6,530,796.05. The refunds are for the following categories:

Regular withdrawals	470	\$5,963,502.06
Deaths	<u>24</u>	<u>\$ 567,293.99</u>
Totals	494	\$6,530,796.05

During the same period in 2019, there were 654 refunds totaling \$9,301,819.33.

The report of refunds for the period is attached.

Recommendation: The board is requested to approve the payment of refunds as reported.

1.6. Interim Financial Statements

Attached are the Interim Financial Statements for the quarter ended September 30, 2020.

Recommendation: The Interim Financial Statements are provided for informational purposes only and require no action by the board.

Teachers' Retirement System of Kentucky
Initial Applications for Retirement and Annuity
2020

	September	October	November	Total	Same Period 2019
Handicapped Child	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00	<i>0</i> \$0.00
Disability Retirement	<i>17</i> \$43,773.37	<i>7</i> \$18,930.29	<i>4</i> \$8,108.28	<i>28</i> \$70,811.94	<i>28</i> \$70,282.09
Service Retirement	<i>157</i> \$452,130.15	<i>150</i> \$420,053.27	<i>111</i> \$300,144.56	<i>418</i> \$1,172,327.98	<i>308</i> \$850,885.29
Beneficiary of Member Eligible to Retire	<i>0</i> \$0.00	<i>1</i> \$3,040.14	<i>0</i> \$0.00	<i>1</i> \$3,040.14	<i>4</i> \$17,625.42
TOTALS	<i>174</i> \$495,903.52	<i>158</i> \$442,023.70	<i>115</i> \$308,252.84	<i>447</i> \$1,246,180.06	<i>340</i> \$938,792.80

Reports for Consent
Member Account Refunds
For the period July 2020 - September 2020

Active Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
July	183	1,578,594.45	376,603.80	789,561.06	2,744,759.31
August	147	689,545.35	153,664.55	671,941.14	1,515,151.04
September	141	835,805.79	206,918.89	660,867.03	1,703,591.71
Total	470				5,963,502.06

Deceased Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
July	4	45,354.06	127.87	0.00	45,481.93
August	11	157,731.05	39,221.47	120,992.10	317,944.62
September	9	145,795.05	35,237.49	22,834.90	203,867.44
Total	24				567,293.99

Total Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
July	187	1,623,948.51	376,731.67	789,561.06	2,790,241.24
August	158	847,276.40	192,886.02	792,933.24	1,833,095.66
September	150	981,600.84	242,156.38	683,701.93	1,907,459.15
Total	494				6,530,796.05

TEACHERS' RETIREMENT SYSTEM

OF THE STATE OF KENTUCKY



INTERIM FINANCIAL STATEMENTS

QUARTER ENDED SEPTEMBER 30, 2020

(FAIR VALUE - UNAUDITED)

Statements of Plan Net Assets
as of September 30, 2020 and 2019
(Fair Value - Unaudited)

	Retirement Annuity Trust		Health Insurance Trust		Life Insurance Trust		Other Funds		TOTAL	
	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020
ASSETS										
Cash	\$ 122,374,151	\$ 107,660,416	\$ 37,623,087	\$ 43,171,584	\$ 379,098	\$ 153,135	\$ 140,585	\$ 185,085	\$ 160,516,921	\$ 151,170,220
Receivables										
Contributions	53,939,286	38,277,522	25,205,437	22,738,889	13,058	19,353			79,157,781	61,035,764
State of Kentucky	-	-	-	826,203	148,031	120,308			148,031	946,511
Investment Income	42,747,821	51,446,307	2,942,288	2,420,395	273,122	325,174	2,682	3,345	45,965,913	54,195,221
Investment Sales Receivable	35,912,307	62,745,394	1,538,304	1,426,567	8,569	-			37,459,180	64,171,961
Installment Account Receivable	78,885	130,383							78,885	130,383
Other Receivables	3,692	26,869	31,410,332	27,670,667					31,414,024	27,697,536
Due from Other Funds	2,084,771	1,835,025							2,084,771	1,835,025
Total Receivables	134,766,762	154,461,500	61,096,361	55,082,721	442,780	464,835	2,682	3,345	196,308,585	210,012,401
Investments at Market Value										
Short Term Investments	953,227,892	515,645,822	81,260,599	49,482,287	10,764,421	15,952,943	354,660	357,244	1,045,607,572	581,438,296
Bonds and Mortgages	3,078,386,449	3,225,333,334	129,868,315	108,209,951	18,166,843	17,190,266	312,782	281,898	3,226,734,389	3,351,015,449
Stocks	13,266,052,059	12,334,920,534	1,000,193,534	866,402,551	57,680,770	48,274,749	378,079	338,087	14,324,304,442	13,249,935,921
Alternative Investments	1,529,183,066	1,390,262,833	119,967,663	107,155,094	457,022	97,786			1,649,607,751	1,497,515,713
Real Estate	1,218,832,116	1,222,703,029	82,880,676	79,880,072	2,422,625	2,248,463			1,304,135,417	1,304,831,564
Additional Categories	1,600,821,190	1,445,391,958	277,490,320	206,425,577	2,102,759	1,357,376			1,880,414,269	1,653,174,911
Total Investments	21,646,502,772	20,134,257,510	1,691,661,107	1,417,555,532	91,594,440	85,121,583	1,045,521	977,229	23,430,803,840	21,637,911,854
Capital Assets	12,072,094	14,087,302							12,072,094	14,087,302
(net of accumulated depreciation)										
Total Assets	21,915,715,779	20,410,466,728	1,790,380,555	1,515,809,837	92,416,318	85,739,553	1,188,788	1,165,659	23,799,701,440	22,013,181,777
LIABILITIES										
Liabilities										
Accrued Expenses and Other Liabilities	6,807,099	5,026,724	9,039,424	5,920,066					15,846,523	10,946,790
State of Kentucky			14,969,569						14,969,569	-
Contributions Not Posted	14,118,833	19,794,320	291,343	-					14,410,176	19,794,320
Investment Purchases Payable	47,762,082	84,828,681	4,372,812	2,993,505	38,807	-	-	-	52,173,701	87,822,186
Investment Fees Payable	16,422,249	14,728,037	2,859,798	1,304,530	27,685	19,654	-	-	19,309,732	16,052,221
Due to Other Funds	-	-	2,047,237	1,803,191	35,980	30,392	1,554	1,442	2,084,771	1,835,025
Total Liabilities	85,110,263	124,377,762	33,580,183	12,021,292	102,472	50,046	1,554	1,442	118,794,472	136,450,542
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 21,830,605,516	\$ 20,286,088,966	\$ 1,756,800,372	\$ 1,503,788,545	\$ 92,313,846	\$ 85,689,507	\$ 1,187,234	\$ 1,164,217	\$ 23,680,906,968	\$ 21,876,731,235

Statements of Changes in Plan Net Assets
For the Three Months Ended September 30, 2020 and 2019
(Fair Value - Unaudited)

	Retirement Annuity Trust		Health Insurance Trust		Life Insurance Trust		Other Funds		TOTAL	
	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020	FY 2021	FY 2020
ADDITIONS										
Contributions										
Employer- State Paid	\$ 254,176,491	\$ 244,308,710	\$ 20,575,739	\$ 74,739,303	\$ 346,873	\$ 280,518	\$ -	\$ -	\$ 275,099,103	\$ 319,328,531
Employer- LSD, Other	17,458,820	16,194,196	24,328,342	22,182,863	65,533	53,595	144,494	-	41,997,189	38,430,654
Member- Active	74,896,069	66,673,053	29,982,198	27,272,907					104,878,267	93,945,960
Member- Retired			15,534,019	14,789,450					15,534,019	14,789,450
Recovery Income			21,588,241	21,247,264					21,588,241	21,247,264
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Total Contribution	346,531,380	327,175,959	112,008,539	160,231,787	412,406	334,113	144,494	-	459,096,819	487,741,859
Investment Income/(Loss)										
Net Appreciation/(Depreciation) in Fair Value of Investments	1,265,923,952	43,824,804	104,739,139	4,125,663	5,655,962	533,112	26,696	16,776	1,376,345,749	48,500,355
Interest	25,283,311	46,017,872	1,319,833	2,386,214	122,633	250,322	164	2,874	26,725,941	48,657,282
Dividends	53,305,699	57,332,911	2,466,723	1,910,294	173,033	159,723	1,435	1,503	55,946,890	59,404,431
Rental Income, Net	6,748,849	7,118,817							6,748,849	7,118,817
Securities Lending, Net	628,999	564,185			13,570	6,680	196	80	642,765	570,945
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Gross Investment Income	1,351,890,810	154,858,589	108,525,695	8,422,171	5,965,198	949,837	28,491	21,233	1,466,410,194	164,251,830
Less Investment Expense	(16,558,135)	(14,059,782)	(1,467,822)	(1,165,637)	(20,649)	(12,722)	-	-	(18,046,606)	(15,238,141)
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Net Investment Income	1,335,332,675	140,798,807	107,057,873	7,256,534	5,944,549	937,115	28,491	21,233	1,448,363,588	149,013,689
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Total Additions	1,681,864,055	467,974,766	219,066,412	167,488,321	6,356,955	1,271,228	172,985	21,233	1,907,460,407	636,755,548
DEDUCTIONS										
Benefits	558,561,844	541,234,671			1,411,000	1,340,000	38,139	57,044	560,010,983	542,631,715
Refunds of Contributions	6,677,754	9,798,149							6,677,754	9,798,149
Under 65 Insurance Expenses			26,158,345	27,811,332					26,158,345	27,811,332
Over 65 Insurance Expenses			52,782,955	49,908,500					52,782,955	49,908,500
Administrative Expense	3,019,265	2,762,885	-	-	-	-	-	-	3,019,265	2,762,885
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Total Deductions	568,258,863	553,795,705	78,941,300	77,719,832	1,411,000	1,340,000	38,139	57,044	648,649,302	632,912,581
Net Increase (Decrease)										
	1,113,605,192	(85,820,939)	140,125,112	89,768,489	4,945,955	(68,772)	134,846	(35,811)	1,258,811,105	3,842,967
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS										
Beginning of year	20,717,000,324	20,371,909,905	1,616,675,260	1,414,020,056	87,367,891	85,758,279	1,052,388	1,200,028	22,422,095,863	21,872,888,268
Ending of period	\$ 21,830,605,516	\$ 20,286,088,966	\$ 1,756,800,372	\$ 1,503,788,545	\$ 92,313,846	\$ 85,689,507	\$ 1,187,234	\$ 1,164,217	\$ 23,680,906,968	\$ 21,876,731,235
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TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Report of the Investment Committee

1. Investment Committee Meeting and Actions: New investments presented at the November 19, 2020, Investment Committee meeting were as follows: a commitment of up to \$50 million from the TRS Retirement Annuity Trust, up to \$10 million from the TRS Health Insurance Trust and up to \$500,000 from the TRS Life Insurance Trust to the AlpInvest Co-Investment Fund VIII; a commitment of up to \$35 million from the TRS Retirement Annuity Trust and up to \$5 million from the TRS Health Insurance Trust to the KKR Health Care Strategic Growth Fund II fund. Outside managers Baillie Gifford & Co. and State Street Global Advisors presented on their respective portfolios.

2. Purchases and Disposals: The Report of the Investment Committee for the quarter ended September 30, 2020, is presented for review and approval. During this quarter, there were 2,722 purchases amounting to \$3,857,005,111.17 and 2,901 disposals amounting to \$3,478,752,309.09. The disposals consisted of 2,520 sales, 335 principal payments and 46 redemptions. While the TRS investment office initiates each of these transactions, the custodian of securities is responsible for handling and securing each stock, bond or other type of investment. At the end of the quarter, the system's invested securities had a book value of \$16,436,417,908.94 and a market value of \$21,646,812,238.60.

3. Staff's Comments on Economic and Market Conditions: After strong results in the first two months of the calendar third quarter 2020, returns from risk assets reversed in September, due to growing concerns over a stagnating recovery and reduced confidence that the US Congress could agree on further fiscal stimulus. In addition, the upcoming US presidential and congressional elections offered another source of uncertainty affecting investors' expectations and sentiment. For the full quarter, global equity returns were generally positive and primarily driven by strong results from US large cap, international small cap, and emerging markets equities. In debt markets, Treasury yields across the maturity spectrum remained near depressed levels reached in the second quarter, with spreads tightening for some higher-yielding securities even as debt issuance continued to outpace levels from a year earlier. Oil prices were relatively stable during the third quarter, as compared to the sharp drop and rebound experienced in the second quarter, with most other commodity groups recovering some ground during the period. The Federal Open Market Committee (FOMC) maintained its accommodative stance and boosted sentiment further by announcing that it will move to average inflation targeting, indicating that it could accept future inflation levels above its stated 2% target. Market participants largely saw this as an indication that policy could remain supportive for

longer than previously expected. Partly driven by the FOMC policy change, forecasts of future inflation incrementally increased during the third quarter, with 5-year breakeven inflation increasing from 1.2% to 1.5%. Unemployment levels remain a key focus of the FOMC given its mandate to maintain full employment. The unemployment rate continued to decline from its April peak of 14.7%, but the reported September rate remained elevated at 7.9%.

In the third quarter, US markets continued their climb following the first quarter selloff, with sentiment bolstered by substantial pent-up consumer demand being released as businesses re-opened across parts of the country, continued accommodative monetary policy and support from past stimulus measures. Domestic equities delivered strong performance, albeit to a lesser extent than in the second quarter. The S&P 500 ended the quarter up 8.9%, while the Russell 2000 and Mid Cap indexes returned 4.9% and 7.5%, respectively. Growth again led value across all market caps by a significant margin. The Russell 1000 Growth returned 13.2% and the Russell 1000 Value returned 5.6%, while the Russell 2000 Growth and Value indexes finished up 7.2% and 2.6%, respectively. Amazon, Apple, Facebook, Google, and Microsoft have been the primary drivers of the overall return of the S&P 500, with combined returns of 8.5% while the remaining 495 stocks collectively lost -2.9%. This differentiation maintained, and accelerated, a trend of technology-related mega cap stocks dominating overall market returns. Active management largely struggled in the quarter as many large and mid-cap managers failed to keep pace with the strong market performance. However, large cap value and mid cap growth managers were generally more successful than active managers in other segments. Small cap growth managers were a bright spot, with the majority outpacing their benchmark during the quarter.

Developed international markets had a strong quarter, although the segment remained in negative territory for calendar year to date. Growth stocks outperformed value, while small stocks outpaced larger ones. Most developed market countries had positive returns for the quarter, with a few European countries leading the pack with double digit performance. Among sectors, only energy and financials posted negative returns as cyclical stocks continued to lag. Active management fared well this quarter, with a majority of developed international equity managers beating their benchmarks in both the large and small cap universes. Emerging markets outpaced developed markets during the quarter. Similar to the developed international space, value stocks underperformed growth and small stocks outperformed large. Among regions, Asia and the Middle East saw double digits returns while Latin America and Eastern Europe delivered negative returns. In China, stocks appreciated strongly, as its economy continued to recover at a pace suggesting the country will experience low-to-moderate growth for the calendar year. Active manager results in emerging markets were mixed, with roughly half outpacing their benchmarks during the quarter.

The Bloomberg US Government/Credit Index returned a modest 0.8% in for the quarter as Treasury yields remained at historic lows and credit spreads neared pre-pandemic levels. Although yields initially declined across the Treasury curve in the early part of the quarter, the curve steepened as longer maturity yields rose modestly in August amid a

record issuance of Treasury debt and the announcement of the new FOMC policy to shift to average inflation targeting. Credit markets extended their rally as the hunt for yield continued, and the Bloomberg US Corporate Investment Grade Index returned 1.5% for the quarter despite record-setting issuance. With corporations seeking to take advantage of low rates, new supply reached \$1.35 trillion for the year by mid-August, surpassing the previous full year high with more than four months left in 2020. Non-investment grade issuance was also robust, setting its own record of \$330 billion by the end of September, and the Bloomberg US High Yield Index returned 4.6%.

Core private real estate returned 0.5% during the third quarter, as reported by the NFI-ODCE Index, with the total return comprised of a positive contribution of 1.0% from income and a negative contribution of 0.5% from price appreciation. While the income component remained relatively healthy and in-line with historical levels, price appreciation experienced a further decrease, albeit to a lesser degree relative to the prior quarter. While the total return for core real estate remained subdued, it did improve from its low in the second quarter despite continued uncertainty from the pandemic. Much of the upward trend in total returns can be attributed to the improved rent collection environment. Among the primary sectors, industrial, multifamily, and office have performed well and maintained high levels of collections. The noticeable exception has been in the retail sector, where rent collections plummeted in April—although the rate has steadily improved since bottoming. Current indications of rent collections within retail are close to 70%, which is a positive sign of recovery as more restrictions are relaxed nationwide.

4. Performance: Investment performance was strong for the quarter ending September 30, 2020. The Retirement Annuity Trust Fund's portfolio appreciated 6.51%, outperforming the Policy Index which increased 5.79%. The System's domestic equities increased 9.21%, outgaining the S&P 1500 Stock index which increased 8.56% for the quarter. The System's international stocks returned 9.07% outperforming the MSCI All Country ex US index which had a return of 6.36% for the quarter. Alternatives and Additional Categories made positive contributions as Private Equity was up 5.95% while Additional Categories returned 4.97%. The System's Fixed Income returned 1.13%, outperforming the Bloomberg Barclays Gov/Credit Bond index which returned .78% for the quarter. Real Estate was flat for the third quarter.

Recommendation: The executive secretary recommends that the board accept and ratify the Report of the Investment Committee.

*Teachers' Retirement System of the State of Kentucky
Retirement Annuity Trust
Quarterly Investment Performance
Gross Returns
For the Period Ended September 30, 2020*

FINAL

	<u>Market Value</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1-Year</u>	<u>3-Year*</u>	<u>5-Year*</u>	<u>10-Year*</u>	<u>20-Year*</u>
TOTAL PLAN	\$21,646,812,238.60	6.51	6.51	11.88	8.15	9.87	9.36	6.35
<i>Policy Benchmark</i>		5.79	5.79	9.19	7.60	9.64	8.93	-
<u>Total Equity</u>	\$13,357,962,204.94	9.15	9.15	16.26	9.11	12.06	11.46	6.05
<u>Domestic Equity</u>	\$ 8,627,229,742.15	9.21	9.21	15.53	10.84	12.96	13.31	6.85
<i>S&P 1500 Index</i>		8.56	8.56	13.42	11.34	13.59	13.46	6.35
<u>All-Cap Equities</u>	\$ 411,006,143.25	11.70	11.70	23.51	12.44	-	-	-
<i>Russell 3000 Index</i>		9.21	9.21	15.00	11.65	-	-	-
<u>Large-Cap Equities</u>	\$ 7,184,862,675.77	9.78	9.78	17.45	11.72	13.46	13.51	-
<i>S&P 500 Index</i>		8.93	8.93	15.15	12.28	14.15	13.74	-
<u>Mid-Cap Equities</u>	\$ 651,639,088.02	4.68	4.68	2.88	6.77	10.49	12.04	-
<i>S&P 400 Index</i>		4.77	4.77	-2.16	2.90	8.11	10.49	-
<u>Small-Cap Equities</u>	\$ 379,721,835.11	4.18	4.18	-2.29	1.54	8.28	11.54	-
<i>S&P 600 Index</i>		3.17	3.17	-8.29	-0.33	7.20	10.57	-
<u>International Equity</u>	\$ 4,730,732,462.79	9.07	9.07	17.51	6.04	10.34	6.86	-
<i>MSCI AC World Ex US</i>		6.36	6.36	3.45	1.65	6.74	4.48	-
<u>Fixed Income</u>	\$ 3,266,881,982.31	1.13	1.13	8.80	6.38	5.13	4.53	5.81
<i>Bloomberg Barclays Govt/Credit Index</i>		0.78	0.78	8.03	5.86	4.66	3.87	5.20
<u>Real Estate</u>	\$ 1,218,832,116.37	0.14	0.14	3.29	7.24	8.99	8.60	9.06
<u>In House Real Estate Equity</u>	\$ 403,430,071.63	0.33	0.33	4.07	6.33	8.46	8.05	8.52
<i>CPI plus 2%</i>		1.67	1.67	3.44	3.86	3.88	3.81	4.04
<u>Core Real Estate</u>	\$ 497,372,399.42	-0.57	-0.57	4.11	6.96	8.21	10.83	-
<i>NCREIF ODCE (VW) Index</i>		0.48	0.48	1.39	5.18	6.64	10.27	-
<u>Non-Core Real Estate</u>	\$ 318,029,645.32	1.01	1.01	1.19	8.73	10.79	-	-
<i>NCREIF Property Index</i>		0.74	0.74	2.00	5.11	6.28	-	-
<u>Private Equity</u>	\$ 1,271,112,070.98	5.95	5.95	2.99	10.29	10.18	12.19	-
<u>Mature Private Equity</u>	\$ 732,917,940.58	4.74	4.74	0.18	7.39	7.04	-	-
<i>S&P 500 Index plus 3%</i>		9.74	9.74	18.60	15.65	17.57	-	-
<u>Private Equity < 5 Years</u>	\$ 538,194,130.40	8.51	8.51	6.69	13.04	13.02	-	-
<u>Timberland</u>	\$ 258,070,994.56	2.20	2.20	5.55	0.79	2.30	4.17	-
<i>NCREIF Timberland Index</i>		0.04	0.04	0.19	2.09	2.56	4.40	-
<u>Additional Categories</u>	\$ 1,636,293,889.16	4.97	4.97	0.70	4.05	4.93	6.21	-
<i>B of A Merrill Lynch U.S. High Yield Master II Index</i>		4.71	4.71	2.30	3.83	6.61	6.28	-
Cash (Unallocated)	\$ 637,658,980.28	0.01	0.01	0.78	1.58	1.16	0.63	1.69
<i>90 Day T-Bill</i>		0.04	0.04	1.10	1.69	1.18	0.62	1.51

Total Trust Gross Return for 30-year 8.32

*Returns are annualized for periods longer than one year

** Prior to July 1, 2008, TRS did not benchmark overall fund performance. Effective July 1, 2008, the Board of Trustees approved a Policy Index that represents the returns of appropriate benchmarks for the various asset classes weighted by the mid-point of the strategic range for the current fiscal year.

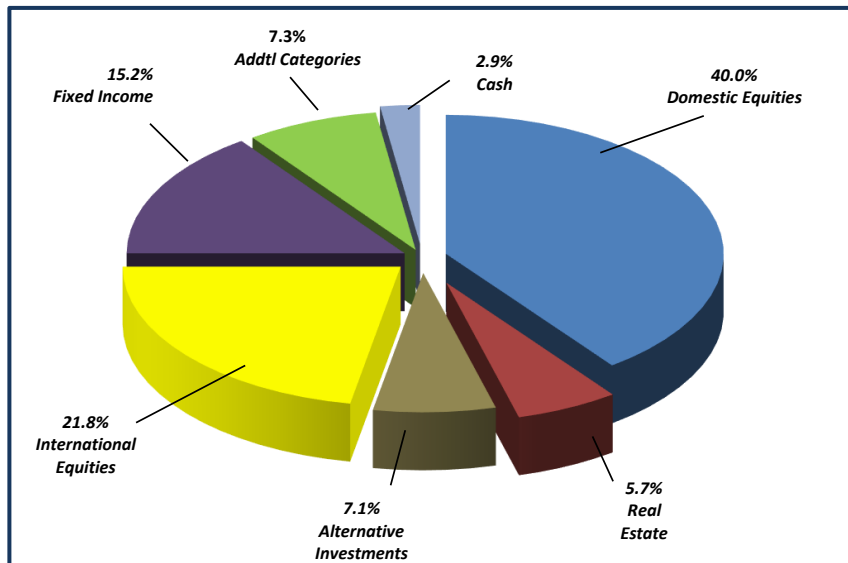
Teachers' Retirement System of Kentucky

Quarterly Investment Update

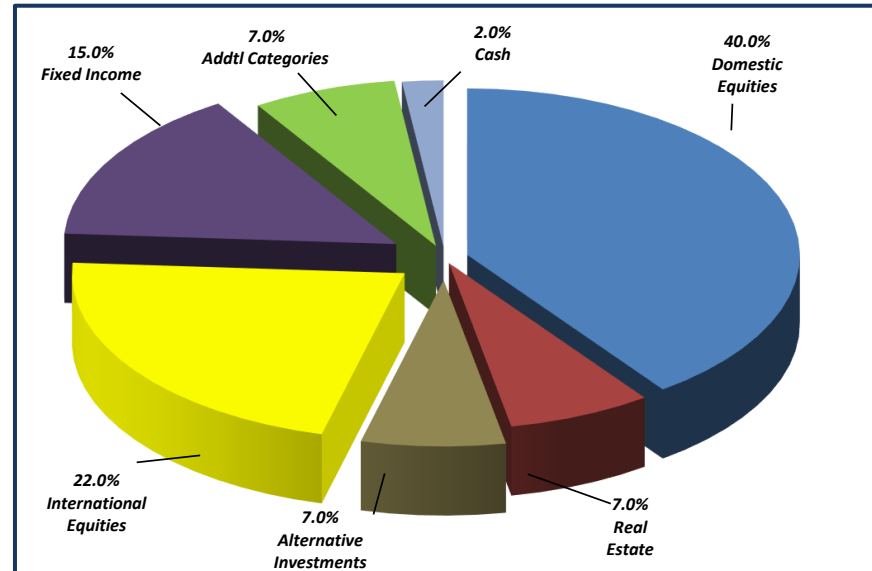
For the period ended September 30, 2020

(\$ in millions)	\$'s	9/30/2020 Actual %	6/30/2020 Actual %	Target %	Strategic Ranges
Domestic Equities	\$8,627.2	40.0%	39.8%	40.0%	34.0 - 48.0%
Real Estate	1,218.8	5.7%	6.0%	7.0%	4.0 - 10.0%
Alternative Inv.	1,529.2	7.1%	7.1%	7.0%	4.0 - 10.0%
International Equities	4,730.7	21.8%	22.1%	22.0%	18.0 - 25.0%
Fixed Income	3,266.9	15.2%	15.0%	15.0%	8.0 - 22.0%
Addtl Categories	1,636.3	7.3%	7.7%	7.0%	4.0 - 15.0%
Cash	637.7	2.9%	2.3%	2.0%	1.0 - 5.0%
Total	\$21,646.8	100.0%	100.0%	100.0%	

ACTUAL %



TARGET %



Teachers' Retirement System of the State of Kentucky
Health Insurance Trust
Quarterly Investment Performance
Gross Returns
For the Period Ended September 30, 2020

FINAL

	<u>Market Value</u>	<u>Last Qtr</u>	<u>FYTD</u>	<u>1-Year</u>	<u>3-Year*</u>	<u>5-Year*</u>
<u>TOTAL PLAN</u>	\$ 1,691,661,105.77	6.95	6.95	9.16	7.09	9.12
<i>Policy Benchmark</i>		6.15	6.15	8.21	6.51	8.96
<u>Total Equity</u>	\$ 1,002,175,418.87	9.55	9.55	13.54	7.88	10.90
<u>All Cap Equities</u>	\$ 123,638,922.97	20.43	20.43	41.81	17.02	-
<i>Russell 3000</i>		9.21	9.21	15.00	11.65	-
<u>Global Equities</u>	\$ 878,536,495.90	8.17	8.17	10.30	6.79	10.35
<i>MSCI AC World IMI (Net)</i>		8.11	8.11	9.57	6.47	9.97
<u>Fixed Income</u>	\$ 134,449,862.80	0.90	0.90	9.01	5.94	4.52
<i>Barclays Government Credit</i>		0.78	0.78	8.03	5.86	4.66
<u>Real Estate:</u>	\$ 82,880,676.29	0.92	0.92	4.48	8.71	12.05
<u>Core Real Estate</u>	\$ 37,600,978.17	0.24	0.24	5.08	7.52	7.04
<i>NCREIF ODCE (VW)</i>		0.48	0.48	1.39	5.18	6.64
<u>Non-Core Real Estate</u>	\$ 45,279,698.12	1.50	1.50	4.02	9.62	12.94
<i>NCREIF Property Index</i>		0.74	0.74	2.00	5.11	6.28
<u>Private Equity</u>	\$ 119,967,662.81	3.74	3.74	0.17	8.69	11.71
<u>Mature Private Equity</u>	\$ 38,447,421.12	-0.33	-0.33	-5.52	8.47	10.92
<i>S&P 500 plus 3%</i>		9.74	9.74	18.60	15.65	17.57
<u>Private Equity < 5 Years</u>	\$ 7,156,649.00	3.84	3.84	-5.94	6.66	9.26
<u>Additional Categories:</u>	\$ 284,732,923.73	5.61	5.61	1.05	3.91	5.44
<i>B of A Merrill Lynch High Yield Master II</i>		4.71	4.71	2.30	3.83	6.61
<u>Cash (Unallocated)</u>	\$ 67,454,561.27	0.02	0.02	0.80	1.66	1.19
<i>90 Day T-Bill</i>		0.04	0.04	1.10	1.69	1.18

*Returns are annualized for periods longer than one year

** Prior to July 1, 2015, TRS did not benchmark overall fund performance. Effective July 1, 2015, the Board of Trustees approved a Policy Index that represents the returns of appropriate benchmarks for the various asset classes weighted by the mid point of the strategic range for the current fiscal year.

Teachers' Retirement System of Kentucky

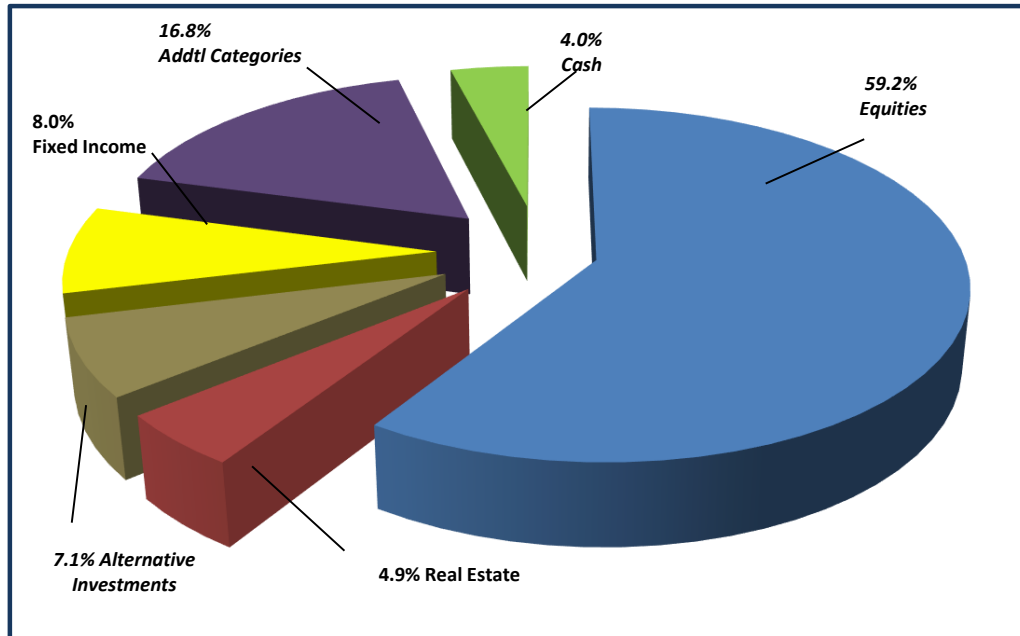
Insurance Trust Fund

Quarterly Investment Update

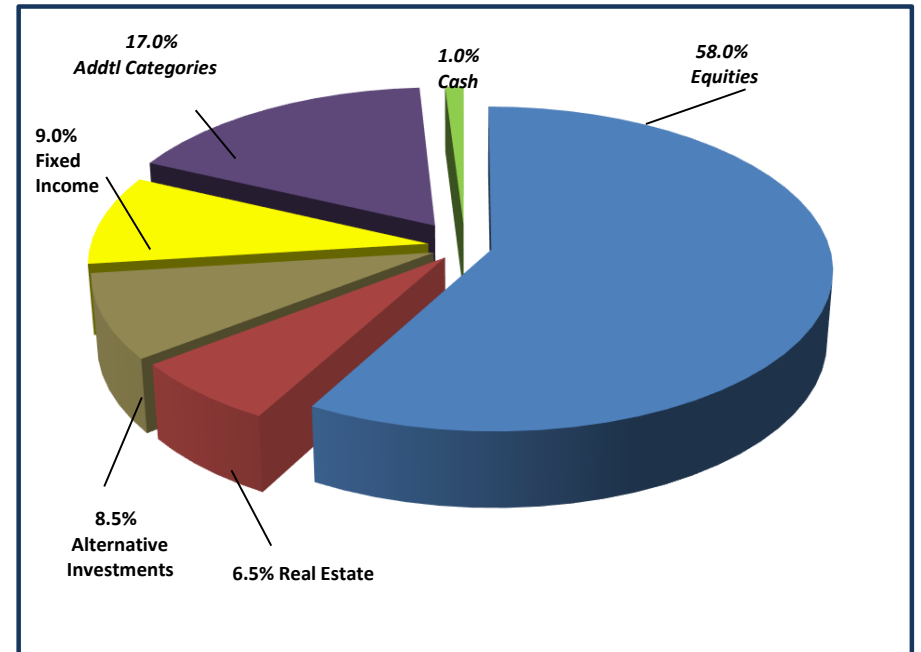
For the period ended September 30, 2020

(\$ in thousands)	\$'s	9/30/2020 Actual %	6/30/2020 Actual %	Target %	Strategic Ranges
Equities	\$1,002,175.3	59.2%	59.8%	58.0%	51.0 - 64.0%
Real Estate	\$82,880.7	4.9%	5.4%	6.5%	4.0 - 12.0%
Alternative Inv.	\$119,967.7	7.1%	7.5%	8.5%	5.0 - 12.0%
Fixed Income	\$134,449.9	8.0%	8.6%	9.0%	6.0 - 12.0%
Addtl Categories	\$284,732.9	16.8%	17.6%	17.0%	14.0 - 21.0%
Cash	\$67,454.6	4.0%	1.1%	1.0%	0.0 - 4.0%
Total	<u>\$1,691,661.1</u>	<u>100.0%</u>	<u>100.0%</u>	<u>100.0%</u>	

ACTUAL %



TARGET %



TOTAL BV INVESTED AT 06/30/20

\$ 16,058,165,106.86

July Activity

Purchases	453,740,239.72	
Disposals	(499,166,790.79)	
Paydowns	(2,199,691.46)	
Redemptions	(28,382,795.81)	
Short-Term Pool Net	<u>275,617,886.41</u>	199,608,848.07

August Activity

Purchases	653,215,482.16	
Disposals	(414,365,403.96)	
Paydowns	(2,128,359.49)	
Redemptions	(7,230,798.33)	
Short-Term Pool Net	<u>(54,849,047.92)</u>	174,641,872.46

September Activity

Purchases	942,572,164.59	
Disposals	(861,610,819.94)	
Paydowns	(6,097,520.42)	
Redemptions	(42,058,155.12)	
Short-Term Pool Net	<u>(28,803,587.56)</u>	4,002,081.55

TOTAL BV INVESTED AT 09/30/20

\$ 16,436,417,908.94

* TRS recognizes investment transactions on the date they occur. Transaction settlements, generally, occur days following transactions. The interim period between transaction date and settlement date represents a "pending period". At the time this statement was produced, (\$11,849,769.81) in net transactions had occurred but had not settled. The statement does not include either expected cash receipts or disbursements associated with these pending trades. Upon settlement of these pending transactions, the net effect would be as follows:

Total Short Term	953,537,356
- Pending Payable	<u>11,849,770</u>
Net	<u><u>941,687,586</u></u>

INVESTMENT ACTIVITY

July 1, 2020 -- September 30, 2020

Total Book Value Invested @ 7/1/20 \$ 16,058,165,106.86

Purchases:

380	Cash Equivalents	\$ 1,806,492,729.87	
82	Fixed Income Securities	351,614,696.17	
1	Principal Paydowns	0.14	
2	Redemptions / Maturities	984,494.69	
1886	Equity Securities	1,233,427,811.79	
26	Real Estate	13,308,278.98	
88	Alternative Investments	167,099,824.43	
257	Additional Categories	284,077,275.10	
2722	Total Purchases		\$ 3,857,005,111.17

Disposals:

357	Cash Equivalents	\$ 1,614,527,478.94	
60	Fixed Income Securities	147,192,587.80	
335	Principal Paydowns	10,425,571.51	
32	Redemptions / Maturities	67,804,164.45	
1717	Equity Securities	1,186,941,671.21	
43	Real Estate	14,889,379.01	
152	Alternative Investments	153,892,863.63	
191	Additional Categories	272,226,513.04	
0	Additional Principal Paydowns	-	
14	Additional Redemptions / Maturities	10,852,079.50	
2901	Total Disposals		\$ 3,478,752,309.09

Total Book Value Invested @ 09/30/20 \$ 16,436,417,908.94

Total Par Value Invested @ 09/30/20 \$ 16,434,726,306.64

Total Market Value Invested @ 09/30/20 \$ 21,646,812,238.60

* TRS recognizes investment transactions on the date they occur. Transaction settlements, generally, occur days following transactions. The interim period between transaction date and settlement date represents a "pending period". At the time this statement was produced, (\$11,849,769.81 in net transactions had occurred but had not settled. The statement does not include either expected cash receipts or disbursements associated with these pending trades. Upon settlement of these pending transactions, the net effect would be as follows:

Total Short Term	953,537,356
- Pending Payable	11,849,770
Net	941,687,586

TO: Board of Trustees of the
Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Report of the Governance and Audit Committee

The Governance and Audit Committee had a special meeting on Nov. 13. The following is a summary of significant actions taken by the committee.

1. Independent Actuary's Valuations: Cavanaugh Macdonald Consulting presented the pension and OPEB valuations as of June 30, 2020.

Pension: The Retirement Annuity Trust's funded ratio improved to 58.4% as of June 30, 2020, from 58.1% a year earlier. The \$14.78 billion unfunded accrued liability increased slightly from the prior fiscal year. TRS received 100% of the actuarially required contribution for the fiscal year.

Retiree Medical: The Health Insurance Trust's funded ratio improved to 61.7% compared to 46% the prior year. In 2010, when Shared Responsibility was enacted, the funded ratio was 7.5%.

Committee Action: The committee unanimously accepted the independent actuary's pension and OPEB valuations.

2. External Audit Report: Blue & Co. reported to the committee on the audit of the financial statements for the fiscal years ended June 30, 2020 and 2019. The auditor also reported to the committee concerning internal controls and compliance at TRS.

Blue & Co. expressed the opinion that the financial statements "... present fairly, in all material respects, the fiduciary net position of TRS ... and the changes in fiduciary net position for the year then ended in accordance with accounting principles generally accepted in the United States of America."

Additionally, concerning internal control and compliance, Blue & Co. reported "... during our audit we did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses"

Committee Action: The committee unanimously accepted the external audit report.

3. Report on Request for Proposals (RFP): Mr. Harbin reported to the committee on the RFP for online payroll services.

Committee Action: The committee voted unanimously to accept staff's recommendation to continue the contract for online payroll services with the current vendor, ADP, for the next calendar year.

Recommendation: The executive secretary recommends that the board accept and ratify the Report of the Governance and Audit Committee.

TO: Board of Trustees of the
Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Report of the Personnel Committee

The Personnel Committee met November 23, 2020, to review the performance of the executive secretary.

Recommendation: The Personnel Committee recommends that the full board amend the executive secretary's contract to replace the current four-year term with a four-year term from January 1, 2021, through December 31, 2024. Additionally, the executive secretary will receive the same salary increases as TRS employees.

TO: Board of Trustees of the
Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Scholarship Committee

The Scholarship Committee will meet on Monday, December 21, 2020, prior to the board meeting to consider scholarship awards for school year 2021-2022.

Background: Ms. Junita Losey was a retired teacher from Northern Kentucky who taught for 30 years in the Campbell County school district. Ms. Losey passed away in 1997, but during her retired years she was most appreciative of the benefits she received from TRS and left more than \$400,000 to TRS in her will. The Board of Trustees used these funds to establish a scholarship fund in Ms. Losey's name.

In the past, the board awarded a \$2,000 scholarship to each of the eight public universities in Kentucky (for a total of \$16,000 per year). The universities select the recipient who is to be a student majoring in education who:

1. Is a graduate of a Kentucky public high school;
2. Is a junior or senior in college majoring in education;
3. Is a full-time student;
4. Maintains a GPA of 2.8 on a 4.0 scale

Additionally, the board has also awarded a \$2,000 scholarship for tuition, books and fees to a Campbell County High School senior who intends to major in education in a Kentucky public university. This student must have an average GPA in high school of 2.8 on a 4.0 scale.

The committee will also receive a report from investment staff concerning funds available for scholarship awards.

The committee will make a report and recommendations to the board concerning scholarships at the board meeting.

Recommendation: This report is for the information of the board.

TO: Board of Trustees of the Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Report of the Insurance Committee

The Insurance Committee will have a special meeting on December 21, 2020, prior to the quarterly board meeting. The committee will present a report to the board during the quarterly meeting.

TO: Board of Trustees of the
Teachers' Retirement System of the State of Kentucky

FROM: Gary L. Harbin, CPA
Executive Secretary

DATE: December 21, 2020

SUBJECT: Executive Secretary's Observations and Comments

1. 2020 Award For Funding and Administration from the Public Pension Coordinating Council:

The Public Pension Coordinating Council awarded the Certificate of Achievement to the Teachers' Retirement System (TRS) for 2020 for implementing and maintaining high professional standards for plan funding and administering the affairs of the system. The award is based on compliance with principles judged to underlie exemplary retirement system achievements in the areas of funding, investment, disclosure, actuarial valuation, financial reporting and benefits. These principles are widely acknowledged to be marks of excellence for retirement systems and represent the highest standards of excellence in the public pension industry.

This year, in addition to the certificate of achievement in administration, TRS was awarded the certificate of achievement for funding. For several years, TRS was not awarded the certificate of achievement for funding because the state's history of underfunding the retirement annuity fund. The renewed emphasis on funding by the legislature demonstrated in the current and past budgets qualified the plan for the funding award this year.

The Public Pension Coordinating Council is a confederation of the National Council on Teacher Retirement, the National Association of State Retirement System Administrators and the National Conference on Public Employee Retirement Systems.

2. Certificate of Achievement for Excellence in Financial Reporting: On August 18, 2020, TRS received notice that, for the 32nd consecutive year, it received an Award for Financial Reporting Achievement for its Comprehensive Annual Financial Report (CAFR). This award, presented by the Government Finance Officers Association of the United States and Canada, is given to those governmental units and retirement systems that achieve the highest standards in government accounting and financial reporting. This certificate highlights the standards used in providing transparent information that is comparable to that information presented by other public plans.

3. Executive Secretary's Meetings: The executive secretary has had meetings with several groups recently and will report to the board concerning the following:

September 30, 2020	Teleconference with Bellwether Enterprise
October 1, 2020	Teleconference with public relations consultant
October 2, 2020	Teleconference with JCTA President
Oct. 12-14, 2020	Attended NCTR virtual conference
October 20, 2020	Teleconference with Molpus Timberland

October 26, 2020	Teleconference with Wal-Mart benefits manager regarding personalized medicine
October 27, 2020	Teleconference with Todd Asset Management
November 9, 2020	Teleconference with KRTA Legislative Committee
November 9-11, 2020	Attended PSHCR virtual conference
November 9, 2020	Attended NIRS virtual webinar
November 17, 2020	Teleconference with Flick Forna, Pension Trustee Advisors
November 17, 2020	Ft. Washington Advisory Board conference call
December 1, 2020	Virtual meeting with KASA
December 1, 2020	Know Your Rx Coalition virtual board meeting
December 2, 2020	Ft. Washington Advisory Board follow-up call
December 3, 2020	Teleconference with Public Sector Healthcare Roundtable members
December 9, 2020	Teleconference with Coriell Life Sciences
December 10, 2020	Teleconference with Ice Miller
December 15, 2020	Teleconference with public relations consultant
December 16, 2020	Teleconference with prospective investment manager
December 17, 2020	Meeting with Senator-elect Storm and Ray Roundtree
December 18, 2020	TRS Trustee Orientation with Matthew Ross

4. Benefits and Funding Committee: The committee met prior to the quarterly board meeting for briefings by staff regarding legislative developments.

5. 2021 Board of Trustees Meeting Dates: Dates for the Board of Trustees meetings for 2021 are listed below. The meetings will begin at 12:30 p.m., Eastern Time, unless otherwise announced, and will be conducted by live video conference.

Monday, March 15

Monday, June 21

Monday, September 20

Monday, December 20