

TEACHERS' RETIREMENT SYSTEM OF KENTUCKY

BOARD OF TRUSTEES

ARTHUR GREEN
Chairperson, Elkton
JAY MORGAN, Ph.D.
Vice Chairperson, Murray
MARY ADAMS
Brodhead
HOLLIS GRITTON
Union
RONALD L. SANDERS
Hodgenville
QUIN T. SUTTON
Eddyville
ALISON WRIGHT
Georgetown
EX OFFICIO
State Treasurer
Chief State School Officer



GARY L. HARBIN, CPA
Executive Secretary
(502) 848-8500

Serving Kentucky Teachers Since 1940

Regular Quarterly Meeting of the Board of Trustees
of the Teachers' Retirement System of Kentucky

A G E N D A

March 21, 2016, 12:30 p.m.

Board Called to Order
Roll Call

1. Reports for Consent

1.1. Consideration/Approval of Minutes

- 1.1.1. Regular Quarterly Meeting of the Board of Trustees held December 21, 2015
- 1.1.2. Special Meeting of the Board of Trustees held January 21, 2016
- 1.1.3. Special Meeting of the Scholarship Committee held December 21, 2015
- 1.1.4. Special Meeting of the Legislative Committee held December 21, 2015
- 1.1.5. Special Meeting of the Benefits and Funding Committee held January 21, 2016

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. Consideration of Personal Service Contracts for FY 2016-2017

4. Legislative Report

5. Executive Secretary's Observations and Comments

General Discussion
Adjournment

The meeting will take place in the Board Room at the offices of the
Kentucky Teachers' Retirement System, 479 Versailles Road, Frankfort, Kentucky.

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

FROM: Gary L. Harbin, CPA

DATE: March 21, 2016

SUBJECT: Reports for Consent

1.1. Consideration/Approval of Minutes

- 1.1.1. Quarterly Meeting of the Board of Trustees held December 21, 2015
- 1.1.2. Special Meeting of the Board of Trustees held January 21, 2016
- 1.1.3. Special Meeting of the Scholarship Committee held December 21, 2015
- 1.1.4. Special Meeting of the Legislative Committee held December 21, 2015
- 1.1.5. Special Meeting of the Benefits and Funding Committee held January 21, 2016

1.2. Applications for Retirement and Annuity

The lists of members who retired in December 2015, January and February 2016 will be available for examination at the meeting. Attached is a summary of the particular payments and a comparison to the same period last year. Initial retirements for the period included 289 retirees with monthly payments totaling \$791,299.69.

Recommendation: The Board is requested to approve the initial payments listed in the report.

During the same period last year, there were 290 retirements with monthly payments totaling \$785,132.59.

1.3. Survivor Benefits

The list of persons qualifying for survivor benefit payments for the quarter October 1, 2015 through December 31, 2015 will be available for examination at the meeting. During the period, there were 15 survivor benefits with a total monthly payment of \$2,540.

Recommendation: The Board is requested to approve the survivor benefit payments for the period October 1, 2015 through December 31, 2015 as listed in the report.

1.4. Life Insurance Benefits

The list of payments of life insurance benefits due to death of active and retired teachers for the period October 1, 2015 through December 31, 2015 will be available for examination at the meeting. There were 7 payments to the estates or beneficiaries of active teachers and 225 payments to the estates or beneficiaries of retired teachers for total payments of \$1,139,000.

Recommendation: The Board is requested to approve the payment of life insurance benefits as listed in the report.

During the same quarter in 2014, there were 204 payments in the amount of \$996,000.

1.5. Refunds

The report of refunds for the quarter ended December 31, 2015 is attached. There were 655 refunds for the quarter October 1, 2015 through December 31, 2015, and the amount refunded was \$7,091,113.15. The refunds are for the following categories:

Regular withdrawals	624	\$6,265,016.52
Deaths	<u>31</u>	<u>\$ 826,096.63</u>
Totals	655	\$7,091,113.15

Recommendation: The Board is requested to approve the payment of refunds as listed in the report.

During the same quarter in 2014 there were 465 refunds totaling \$4,842,039.

1.6. Interim Financial Statements

Attached are the Interim Financial Statements for the quarter ended December 31, 2015.

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

Kentucky Teachers' Retirement System
Initial Applications for Retirement and Annuity
2015-2016

	December	January	February	Total	Same Period 2015
<i>Status 19</i> 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
<i>Status 21</i> Disability Retirement	<i>10</i> \$27,151.47	<i>12</i> \$31,110.62	<i>13</i> \$34,913.06	<i>35</i> \$93,175.15	<i>32</i> \$84,774.83
<i>Status 23</i> Service Retirement	<i>42</i> \$122,003.58	<i>157</i> \$457,725.92	<i>53</i> \$114,073.85	<i>252</i> \$693,803.35	<i>253</i> \$695,246.61
<i>Status 25</i> Beneficiary of Member Eligible to Retire	<i>1</i> \$1,434.36	<i>1</i> \$2,886.83	<i>0</i> \$0.00	<i>2</i> \$4,321.19	<i>5</i> \$5,111.15
TOTALS	<i>53</i> \$150,589.41	<i>170</i> \$491,723.37	<i>66</i> \$148,986.91	<i>289</i> \$791,299.69	<i>290</i> \$785,132.59

Reports for Consent
Member Account Refunds
For the period October 2015 - December 2015

Active Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	277	1,230,741.77	308,132.91	1,019,557.87	2,558,432.55
November	200	944,872.49	234,707.29	870,895.18	2,050,474.96
December	147	808,258.37	201,919.42	645,931.22	1,656,109.01
Total	624				6,265,016.52

Deceased Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	11	320,943.87	47,101.77	10,886.48	384,932.12
November	9	147,409.50	29,926.16	1,082.87	178,418.53
December	11	138,397.08	34,599.27	45,749.63	262,745.98
Total	31				826,096.63

Total Refunds	Count	Net Refund	Taxes Withheld	Rollovers	Total
October	288	1,551,685.64	355,234.68	1,030,444.35	2,943,364.67
November	209	1,092,281.99	264,633.45	871,978.05	2,228,893.49
December	158	946,655.45	236,518.69	691,680.85	1,918,854.99
Total	655				7,091,113.15

TEACHERS' RETIREMENT SYSTEM

OF THE STATE OF KENTUCKY



INTERIM FINANCIAL STATEMENTS

QUARTER ENDED DECEMBER 31, 2015
(UNAUDITED)

KTRS Board of Trustees Quarterly Meeting - Reports for Consent

	Defined Benefit Plan		Health Insurance Plans		Life Insurance Plan		Other Funds		TOTAL	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
ASSETS										
Cash	\$ 158,602,256	\$ 113,135,177	\$ 42,496,492	\$ 16,634,728	\$ 259,449	\$ 368,262	\$ 33,795	\$ 20,036	\$ 201,391,992	\$ 130,158,203
Receivables										
State of Kentucky	26,885,159	15,503,936	2,580,839	2,089,744	61,789	24,849			29,527,787	17,618,529
Investment Income	40,683,260	43,911,194	1,289,669	1,149,162	999,217	939,004	2,434	2,146	42,974,580	46,001,506
Investment Sales Receivable	14,730,288	16,108,634	242,149	594,589					14,972,437	16,703,223
Installment Account Receivable	515,291	1,448,695							515,291	1,448,695
Other Receivables	96,208	75,743	3,864						100,072	75,743
Due from Other Funds	4,248,808	1,177,057							4,248,808	1,177,057
Total Receivables	87,159,014	78,225,259	4,116,521	3,833,495	1,061,006	963,853	2,434	2,146	92,338,975	83,024,753
Investments at Book Value										
Short Term Investments	459,703,544	554,903,618	32,919,146	22,960,836	2,209,381	6,610,627	425,204	467,101	495,257,275	584,942,182
Bonds and Mortgages	2,724,738,471	2,981,981,824	53,523,301	34,231,455	81,482,121	77,361,453	199,485	199,485	2,859,943,378	3,093,774,217
Stocks	8,253,639,069	8,046,496,283	277,006,391	267,005,381			185,574	160,512	8,530,831,034	8,313,662,176
Alternative Investments	727,730,846	557,725,519	13,710,454	6,018,742					741,441,300	563,744,261
Real Estate	797,842,621	731,514,017	17,391,946	949,657					815,234,567	732,463,674
Additional Categories	1,268,297,330	1,201,310,132	134,122,656	116,878,517					1,402,419,986	1,318,188,649
Total Investments	14,231,951,881	14,073,931,393	528,673,894	448,044,588	83,691,502	83,972,080	810,263	827,098	14,845,127,540	14,606,775,159
Capital Assets (net of accumulated depreciation)	14,906,438	11,495,190							14,906,438	11,495,190
Total Assets	14,492,619,589	14,276,787,019	575,286,907	468,512,811	85,011,957	85,304,195	846,492	849,280	15,153,764,945	14,831,453,305
LIABILITIES										
Liabilities										
Contributions Not Posted	19,708,974	39,921,655	31,297,055	9,894,030					51,006,029	49,815,685
Insurance Claims Payable				71,000					0	71,000
Investment Purchases Payable	7,532,283	16,497,435	702,020	1,205,018					8,234,303	17,702,453
Investment Fees Payable	10,975,711	8,271,638	328,327	186,757					11,304,038	8,458,395
Due to Other Funds			4,222,896	1,145,785	25,306	29,606	606	1,665	4,248,808	1,177,056
Revenues Collected in Advance			4,899,365	3,672,246					4,899,365	3,672,246
Total Liabilities	38,216,968	64,690,728	41,449,663	16,174,836	25,306	29,606	606	1,665	79,692,543	80,896,835
NET ASSETS HELD IN TRUST FOR PENSION BENEFITS	\$ 14,454,402,621	\$ 14,212,096,291	\$ 533,837,244	\$ 452,337,975	\$ 84,986,651	\$ 85,274,589	\$ 845,886	\$ 847,615	\$ 15,074,072,402	\$ 14,750,556,470

Statements of Changes in Plan Net Assets
For the Three Months Ended December 31, 2015 and 2014
(Book Basis - Unadjusted)

	Defined Benefit Plan		Medical Insurance Plan		Life Insurance Plan		Other Funds		TOTAL	
	2015	2014	2015	2014	2015	2014	2015	2014	2015	2014
ADDITIONS										
Contributions										
Employer- State Paid	\$ 226,142,892	\$ 177,777,077	\$ 21,421,131	\$ 21,889,654	\$ 379,038	\$ 276,496	\$ -	\$ -	\$ 247,943,061	\$ 199,943,227
Employer- LSD, Other	55,617,834	39,360,836	27,183,503	19,858,061		35,838			82,801,337	59,254,735
Member- Active	124,395,455	99,027,460	39,831,563	30,811,836					164,227,018	129,839,296
Member- Retired			41,600,742	29,810,843					41,600,742	29,810,843
Recovery Income			10,880,911	5,046,830					10,880,911	5,046,830
Total Contribution	406,156,181	316,165,373	140,917,850	107,417,224	379,038	312,334	0	0	547,453,069	423,894,931
Investment Income (at book value)										
Net Gain/(Loss) on Investment Sales	170,349,275	349,799,276	(4,173,107)	154,905	20,072	11,731			166,196,240	349,965,912
Interest	92,164,581	120,059,745	3,885,697	3,230,152	1,524,037	1,541,587	4,708	4,641	97,579,023	124,836,125
Dividends	106,851,362	127,442,973	312,868				2,498	1,970	107,166,728	127,444,943
Rental Income, Net	13,799,849	13,570,515							13,799,849	13,570,515
Securities Lending, Net	1,126,275	988,158			2,414		198	26	1,128,887	988,184
Gross Investment Income	384,291,342	611,860,667	25,458	3,385,057	1,546,523	1,553,318	7,404	6,637	385,870,727	616,805,679
Less Investment Expense	(21,393,496)	(18,856,083)	(985,274)	(440,042)					(22,378,770)	(19,296,125)
Net Investment Income	362,897,846	593,004,584	(959,816)	2,945,015	1,546,523	1,553,318	7,404	6,637	363,491,957	597,509,554
Total Additions	769,054,027	909,169,957	139,958,034	110,362,239	1,925,561	1,865,652	7,404	6,637	910,945,026	1,021,404,485
DEDUCTIONS										
Benefits	914,456,297	869,428,788			2,475,489	2,083,000	39,358	39,872	916,971,144	871,551,660
Refunds of Contributions	18,148,714	14,621,336							18,148,714	14,621,336
Under 65 Insurance Expenses			64,731,262	66,381,628					64,731,262	66,381,628
Over 65 Insurance Expenses			72,380,565	54,166,978					72,380,565	54,166,978
Administrative Expense	7,265,698	7,062,367	1,642,159	552,393					8,907,857	7,614,760
Total Deductions	939,870,709	891,112,491	138,753,986	121,100,999	2,475,489	2,083,000	39,358	39,872	1,081,139,542	1,014,336,362
Net Increase (Decrease)	(170,816,682)	18,057,466	1,204,048	(10,738,760)	(549,928)	(217,348)	(31,954)	(33,235)	(170,194,516)	7,068,123
NET ASSETS HELD IN TRUST										
FOR PENSION BENEFITS										
Beginning of year	14,625,219,303	14,194,038,825	532,633,196	463,076,735	85,536,579	85,491,937	877,840	880,850	15,244,266,918	14,743,488,347
Ending of period	\$ 14,454,402,621	\$ 14,212,096,291	\$ 533,837,244	\$ 452,337,975	\$ 84,986,651	\$ 85,274,589	\$ 845,886	\$ 847,615	\$ 15,074,072,402	\$ 14,750,556,470

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

FROM: Gary L. Harbin, CPA

DATE: March 21, 2016

SUBJECT: Report of the Investment Committee

1. Investment Committee Meeting and Actions: The investments approved at the February 25, 2016 Investment Committee meeting are as follows: \$50 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to Apax Fund IX; \$35 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to Fort Washington Fund IX; \$35 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to Fort Washington Fund IX side car; \$50 million from the Retirement Annuity Trust Fund and \$10 million from the Medical Insurance Trust Fund to KKR Fund XII; \$50 million from the Retirement Annuity Trust Fund to Public Pension Partnership; \$100 million from the Retirement Annuity Trust Fund and \$30 million from the Medical Insurance Trust Fund to a high yield bond strategy managed by Columbia Threadneedle Investments. Additionally, outside managers UBS Asset Management and Todd Asset Management reported to the Committee on their respective portfolios.

2. Purchases and Disposals: The Report of the Investment Committee for the quarter ended December 31, 2015 is presented for review and approval. During this quarter, there were 1,673 purchases amounting to \$2,651,115,956.38 and 2,300 disposals amounting to \$2,655,887,709.38. The disposals consisted of 1,893 sales, 368 principal payments and 39 redemptions. While the KTRS 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 \$14,336,675,354.98 and a market value of \$16,952,158,573.92.

3. Staff's comments on the economic and market conditions: Global stock markets rebounded in the quarter ended December 31, 2015 after being down sharply in the previous quarter. Domestically, the S&P 1500 Index was up 6.6% for the quarter while the System's international benchmark, the MSCI ACWX ex US Index was up 3.3%. There were several factors, both domestic and international, that contributed to the strong performance.

Internationally, European stocks rallied for the first two months of the quarter on investor expectations of heightened central bank stimulus measures. However, markets tumbled in December after the European Central Bank failed to deliver on those expectations. On December 3, the ECB cut its deposit rate and extended its bond-buying program by six months, disappointing investors who had expected an increase in the amount of bond purchases. European stocks lost 4% in December. The Bank of Japan lowered its growth and inflation forecasts but decided to maintain its annual asset purchases at around ¥80 trillion. The central bank's decision to lengthen the average maturity of the Japanese government bonds it purchases

was largely met with investor skepticism regarding whether it would help stoke inflation. Commodity-dependent emerging markets equities posted a small gain, as China rolled out more stimulus measures to help offset its decelerating economy.

Domestically, the Federal Reserve raised the federal funds target rate by 25 basis points in mid-December to a range of 0.25% to 0.50% — the first rate hike in nine years. Speaking after the announcement, Fed Chair Janet Yellen said the decision reflects the Fed’s confidence that the U.S. economy is on a path to “sustainable improvement.” The final estimate for real gross domestic product growth for the third quarter was revised to 2% annualized on the heels of the second quarter’s 3.9% gain. U.S. employers added more than 200,000 jobs in both October and November and the unemployment rate fell to 4.9%. Consumer price inflation for all items ended November at 0.4%, but the “core” figure that excludes food and energy rose 2.0%.

4. Performance: Financial markets were mixed for the quarter ended December 31, 2015. The System’s total assets returned 3.5% for the quarter. The System’s domestic stocks gained 5.8%, underperforming the S&P 1500 Stock Index which returned 6.6%. The System’s international stocks returned 5.5%, outperforming the MSCI All Country ex US Index which gained 3.3%. The System’s bonds declined .5%, beating the Barclays Government Credit Index which was down .7%. Alternatives and Real Estate provided positive returns for the quarter.

Recommendation: The Executive Secretary recommends that the Board accept and ratify the Report of the Investment Committee.

Kentucky Teachers' Retirement System
Quarterly Investment Update
For the period ended December 31, 2015

FINAL <i>(\$ in millions)</i>	QTD	Fiscal Y-T-D	1-Year ⁽²⁾	3-Years ⁽²⁾	5-Years ⁽²⁾	10-Years ⁽²⁾	20-Years ⁽²⁾
Total Fund							
KTRS	3.5%	-2.4%	0.5%	9.1%	8.3%	6.3%	7.0%
Policy Index ⁽¹⁾	3.4%	-2.2%	-0.3%	8.0%	7.7%	-	-
Equities							
Domestic Equities	5.8%	-2.7%	-0.1%	15.5%	12.5%	7.5%	8.6%
S & P Blended Index ⁽³⁾	6.6%	-0.5%	1.0%	14.9%	12.4%	7.4%	8.2%
International Equities ⁽⁴⁾	5.5%	-8.2%	-2.4%	4.1%	3.1%	4.2%	-
MSCI EAFE	4.8%	-5.9%	-0.4%	5.5%	4.1%	3.5%	-
MSCI AC World (Ex US)	3.3%	-9.2%	-5.3%	1.9%	1.5%	3.4%	-
Total Equities	5.7%	-4.4%	-0.9%	12.1%	9.9%	6.4%	8.0%
Fixed Income							
Total Fixed Income	-0.5%	0.7%	1.0%	1.8%	4.2%	5.4%	5.8%
Barclays Govt/Credit Index	-0.7%	0.4%	0.2%	1.2%	3.4%	4.5%	5.3%
Real Estate							
Non-Core Real Estate	4.6%	9.6%	24.0%	21.8%	-	-	-
NCREIF Index	2.9%	6.1%	13.3%	12.0%	-	-	-
Core Real Estate	4.9%	8.3%	16.1%	14.0%	13.9%	-	-
NCREIF ODCE	3.3%	7.1%	15.0%	13.8%	13.7%	-	-
Triple Net Lease	2.6%	4.7%	8.9%	7.8%	8.0%	8.2%	8.9%
CPI plus 2%	0.7%	1.3%	2.7%	3.0%	3.6%	3.9%	4.2%
Alternative Investments							
Private Equity ⁽⁵⁾	1.0%	4.6%	6.7%	13.7%	12.7%	-	-
Timberland	0.3%	0.7%	10.6%	6.7%	6.4%	-	-
NCREIF Timberland Index	1.9%	2.6%	5.0%	8.4%	6.8%	-	-
Additional Categories							
Additional Categories	-1.9%	-4.1%	-2.2%	3.5%	6.0%	-	-
B of A Merrill Lynch High Yield Master II	-2.2%	-7.0%	-4.6%	1.6%	4.8%	-	-

⁽¹⁾ Prior to July 1, 2008, KTRS did not benchmark overall fund performance. Effective July 1, 2008, the Board of Trustees approved a Policy Index which 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.

⁽²⁾ Annualized

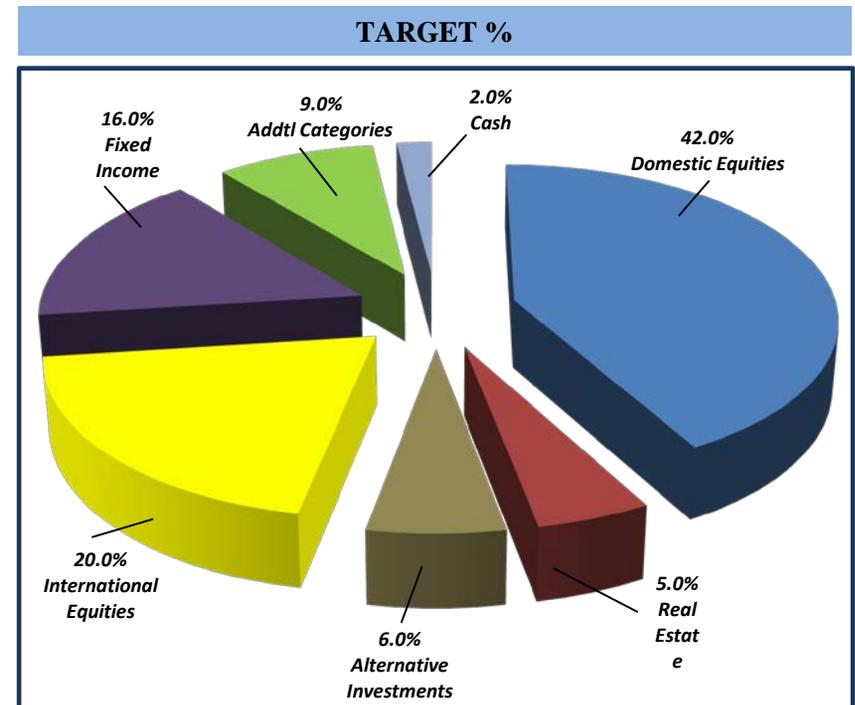
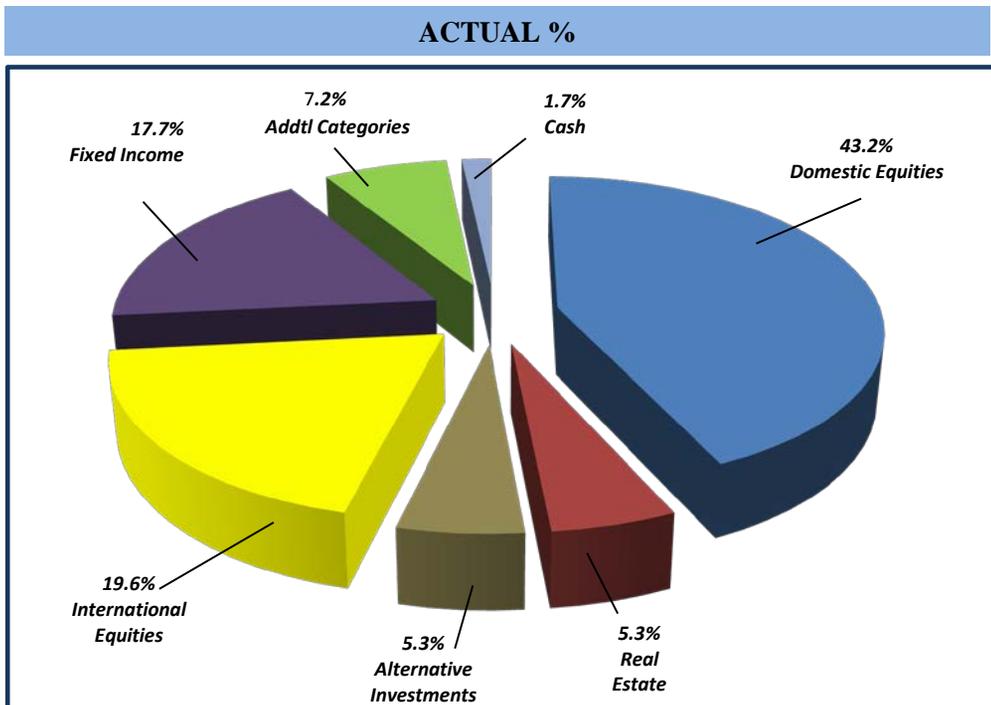
⁽³⁾ Total Domestic Equity is benchmarked to a S&P Blended Index. Total domestic equity was benchmarked to the S&P 500 through the fiscal year ending 6/30/2007. As of 7/1/2007, domestic equity is benchmarked to the S&P 1500 Index since the System's domestic stock mix is most comparable to this index.

⁽⁴⁾ As of 12/31/15 18.7% of Total International Equities were invested in emerging markets.

⁽⁵⁾ For a period of five years private equity investments will be benchmarked against their own returns. The primary reason for this is that these investments have a minimum investment horizon of ten years and there is no market benchmark that would be expected to track these types of assets in their early years. Beginning five years after the first capital call, investments in this class shall be benchmarked versus the S & P 500 plus 3%, which is the System's long-term expected return for this asset class.

Kentucky Teachers' Retirement System
 Quarterly Investment Update
 For the period ended December 31, 2015

(\$ in millions)	\$'s	Actual %	Target %	Strategic Ranges
Domestic Equities	\$7,322.4	43.2%	42.0%	35.0 - 49.0%
Real Estate	900.6	5.3%	5.0%	3.0 - 7.0%
Alternative Inv.	896.4	5.3%	6.0%	3.0 - 9.0%
International Equities	3,325.6	19.6%	20.0%	17.0 - 23.0%
Fixed Income	3,002.2	17.7%	16.0%	13.0 - 19.0%
Addtl Categories	1,227.7	7.2%	9.0%	6.0 - 12.0%
Cash	\$277.3	1.7%	2.0%	1.0 - 3.0%
Total	\$16,952.2	100.0%	100.0%	



TO: Investment Committee of the Board of Trustees of the
Kentucky Teachers' Retirement System

FROM: Tom Siderewicz

DATE: February 25, 2016

SUBJECT: Limitations on investment options due to the need to sell assets to fund retiree
benefits

Background

Over the past several years the System has been selling assets to fund retiree benefits. Exhibit "A" provides a detailed breakdown of asset sales complete with quarterly and yearly totals for the last five calendar years. Over this time period, the System sold approximately \$2.365 billion in assets to meet retiree payroll. The amount of assets sold per year has grown from just under \$400 million in 2011, to just under \$600 million in both 2014 and 2015. KTRS investment accounting staff projects that \$650 million in assets will have to be liquidated in 2016 to meet retiree payroll. This amounts to 3.8% of pension assets as of December 15, 2015. The purpose of this memo is to provide a foundation of discussion so that investment staff may communicate to the Investment Committee the limitations and unique difficulties the System's negative cash flow situation presents in the investment process.

Investment Process

KTRS employs a conventional investing process emphasizing simplicity, transparency, focus and low costs. The conventional approach relies primarily on traditional public markets (global equities and investment grade fixed income) with the additions of some private investments (real estate, private equity, timberland and alternative credit). The approach is to maintain a constant presence in those markets, rebalancing as appropriate to keep positions relatively constant over time. The conventional approach depends on market movements, not active management for success, and its core positions stay primarily in instruments that can be readily sold under favorable or normal market conditions. The greatest asset to this approach is the long-term investment horizon inherent in pension plans. A long investment horizon enables short-term volatility to be ridden out and rebalanced into, turning down markets into an opportunity to increase long-term returns. Selling assets in normal or favorable markets reduces the effectiveness of this process by truncating the compounding of investment returns. Selling assets in down markets injects negative compounding into the process, rendering it useless.

As an example, had the above mentioned \$2.365 billion in assets sold in the last five years been left in the investment portfolio to compound at the retirement annuity's achieved returns, a conservative estimate of the value of those assets would be \$2.684 billion, a \$319 million difference.

Strong Equity Markets

The \$2.365 billion raised in assets sales over the past five years has been done, in large part, through the sale of domestic equities. The KTRS domestic equity portfolio returned 12.5% over the five years ending December 31, 2015, and returned 15.5% over the three years ended December 31, 2015 when a majority of those sales occurred. KTRS historically has kept its equity allocation target at roughly 62% to 63% and has a statutory limit for public equities of 65%. As strong equity markets drove the allocation close to the 65% limit, stocks were sold to bring the allocation back toward target, and the proceeds were used to fund negative cash flow. Thus, the favorable equity markets over the last five years somewhat prevented asset sales from dictating investment decisions.

In addition, the allocation for Real Estate, Private Equity and Alternative Credit were increased over the last five years. These increases were funded by the Fixed Income asset class, as the prospective returns on investment grade bonds were subpar due to the low interest rate environment.

Current Situation

Unfortunately, above-average equity returns do not last forever. Staff believes, and has always believed, an environment of normal or negative equity returns will not be sufficient to keep the negative cash flow situation from dictating investment decisions. We are now at that point. Global and domestic equity markets are both down over 10% calendar year to date through February 11, 2016. The down equity markets remove equities – our largest and, overall, most liquid asset class – from being a candidate to sell. Real Estate and Private Equity are highly illiquid. While there is some liquidity in the alternative credit space, those assets are presently in a down market similar to equities.

Currently, the main source of liquidity in the portfolio is the Investment Grade Fixed Income asset class. This asset class was 17.7% of the portfolio with a market value of roughly \$3 billion as of December 31, 2015. However, the bottom of the strategic range for this asset class is 13% of the overall portfolio. Selling approximately \$800 million in bonds would bring us to the bottom of the strategic range. As mentioned above, the projected amount staff needs to raise this year to pay benefits is \$650 million. That only leaves \$150 million to rebalance into currently attractive markets, such as equities and high yield bonds. As stated above, rebalancing into down markets is an extremely important part of the KTRS investment process and one of the surest ways to increase long-term returns. In addition, capital calls on Real Estate, Private Equity and Alternative Credit funds must be funded. Capital calls, net of distributions, were approximately \$130 million in both 2014 and 2015.

Recent Examples

- Staff has maintained an extraordinarily large allocation to the internally managed Intermediate Bond Fund. This was done to create a “liquidity bucket” to ensure the System would have plenty of liquidity to fund outflows and capital calls in down markets, similar to today’s markets, when liquidity can become scarce. The size of this

fund was increased from \$425 million in 2011 to \$750 million as of December 31, 2015. At times in between, the balance of this fund has topped \$1 billion. The Intermediate Bond fund is the shortest duration piece of overall Fixed Income allocation. The increase in assets of this fund was funded by our Broad Market portfolios – both internally and externally managed, which are comprised of longer-duration assets. Short-duration assets pay less coupon interest than longer-duration assets and, therefore, tend to produce lower returns in stable or falling interest rate environments. Indeed, the Intermediate Bond Fund's return has trailed our Broad Market portfolio by 1.4% per year for the last five years, thereby reducing the return of the System's aggregate Fixed Income portfolio.

- Staff added \$50 million to the domestic equity portfolio (S&P 500 index fund) for rebalancing purposes on January 20, 2016. Normally, the amount of this rebalance would have been closer to 1% of the whole portfolio, roughly \$160 million. Due to the cash constraints mentioned above, the purchase was scaled back to \$50 million. Staff believes this decision is prudent in the event it becomes necessary to raise cash by selling equities. Waiting for lower prices to rebalance reduces the risk of having to sell at a loss, but increases the risk of missing a good buying opportunity.
- Staff has been waiting for several years for an opportune time to increase its allocation to High Yield bonds. As of December 31, 2015, High Yield bonds currently represented 1.6% of pension assets, an amount staff believes should be doubled given the market opportunity. This would amount to an increase of \$270 million. On February 11, 2016, \$30 million was added to High Yield bonds, and staff is requesting approval of a new High Yield manager at the February 25, 2016 Investment Committee meeting with an initial commitment of \$100 million. It is likely that the attractive market opportunity will no longer be obtainable when the remaining \$140 million becomes available.
- Due to cash constraints, staff is foregoing a core Real Estate opportunity managed by Carlyle that is believed to be an excellent fit to the current Real Estate allocation.

In sum, the amount of annual asset sales needed to fund retiree payroll has grown to an amount large enough to constrain the investment process. These constraints are amplified in volatile markets. The two factors in combination create an environment in which the investment process is not only limited, but dictated by the negative cash flow situation. Staff welcomes the opportunity to discuss this matter in detail with the Investment Committee.

KTRS Board of Trustees Quarterly Meeting - Report of the Investment Committee

Exhibit A

Planned Investment Sales - Negative Cash Flow	0	0	0	0	0	133,707,101	0	74,904,703	139,419,312	0	0		
Planned Investment Sales - Reallocation	250,000,000	100,000,000	0	0	185,000,000	0	51,292,899	150,000,000	75,095,297	140,580,688	0	0	
Planned Investment Purchases - Reallocation	0	0	0	0	(185,000,000)	1,000,000	(105,400,000)	(150,000,000)	0	(135,000,000)	(45,000,000)	0	
Returns of Capital	909,116	5,213,684	691,063	8,177,953	906,706	11,418,539	2,896,334	2,396,024	862,278	1,455,468	1,187,760	1,064,614	
Capital Calls	(7,432,439)	(19,606,318)	(20,040,397)	(13,945,850)	(3,439,422)	(17,290,955)	(12,904,366)	(16,137,616)	(7,857,102)	(14,856,256)	(9,316,105)	(62,014,348)	
Total	243,476,677	85,607,366	(19,349,334)	(5,767,897)	(2,532,716)	(4,872,416)	69,591,968	(13,741,592)	143,005,176	131,599,212	(53,128,345)	(60,949,734)	
													Total for Year
													512,938,366
													YOY change in cash
													123,463,142
													Net Total
													389,475,224
	Jan-12	Feb-12	Mar-12	Apr-12	May-12	Jun-12	Jul-12	Aug-12	Sep-12	Oct-12	Nov-12	Dec-12	
Planned Investment Sales - Negative Cash Flow	0	0	0	0	0	0	50,000,000	0	125,000,000	104,381,182	0	0	
Planned Investment Sales - Reallocation	130,000,000	0	150,000,000	0	25,000,000	140,000,000	0	0	50,000,000	20,618,818	0	0	
Planned Investment Purchases - Reallocation	0	0	(2,500,000)	0	(7,000,000)	(140,000,000)	0	0	(50,000,000)	(25,000,000)	0	(50,000,000)	
Returns of Capital	1,185,838	492,777	1,001,051	7,141,350	1,007,157	1,716,464	2,482,497	1,267,826	16,869,029	12,899,364	1,478,184	14,841,421	
Capital Calls	(15,653,485)	(11,069,609)	(43,193,911)	(7,672,038)	(1,857,527)	(12,493,507)	(10,201,874)	(12,944,138)	(9,336,519)	(26,543,021)	(14,520,406)	(14,339,062)	
Total	115,532,353	(10,576,832)	105,307,140	(530,688)	17,149,630	(10,777,043)	42,280,623	(11,676,312)	132,532,510	86,356,343	(13,042,222)	(49,497,641)	
													Total for Year
													403,057,861
													YOY change in cash
													95,372,549
													Net Total
													307,685,312
	Jan-13	Feb-13	Mar-13	Apr-13	May-13	Jun-13	Jul-13	Aug-13	Sep-13	Oct-13	Nov-13	Dec-13	
Planned Investment Sales - Negative Cash Flow	0	0	0	0	0	0	120,000,000	90,255,909	224,111,809	0	0	0	
Planned Investment Sales - Reallocation	167,000,000	181,000,000	100,000,000	0	165,000,000	150,000,000	0	109,744,091	25,888,191	295,000,000	0	0	
Planned Investment Purchases - Reallocation	(54,000,000)	(181,000,000)	(50,000,000)	(25,000,000)	(190,000,000)	(150,000,000)	(25,400,000)	0	(65,000,000)	(310,470,994)	(3,383,550)	(59,675,808)	
Returns of Capital	20,949,063	23,371,414	24,218,739	17,159,988	1,186,473	1,116,198	9,182,182	8,602,675	7,582,833	(10,934,766)	22,216,061	238,331	
Capital Calls	(18,591,233)	(2,330,192)	(5,234,326)	(8,090,786)	(24,277,595)	(20,189,107)	(7,775,674)	(18,926,727)	(14,951,740)	(28,698,968)	(8,125,927)	(28,689,599)	
Total	115,357,830	21,041,222	68,984,412	(15,930,798)	(48,091,122)	(19,072,909)	96,006,508	189,675,948	177,631,094	(55,104,728)	10,706,584	(88,127,076)	
													Total for Year
													453,076,966
													YOY change in cash
													(37,936,211)
													Net Total
													491,013,177
	Jan-14	Feb-14	Mar-14	Apr-14	May-14	Jun-14	Jul-14	Aug-14	Sep-14	Oct-14	Nov-14	Dec-14	
Planned Investment Sales - Negative Cash Flow	0	0	112,427,132	0	0	0	162,000,000	0	208,957,878	0	100,000,000	0	
Planned Investment Sales - Reallocation	337,164,000	0	87,572,868	0	244,000,000	0	100,000,000	0	41,042,122	0	0	456,693	
Planned Investment Purchases - Reallocation	(216,467,870)	(44,469,300)	(9,314,147)	0	(9,429,389)	(170,343,386)	(102,208,029)	(24,556,338)	(4,395,203)	(81,995,437)	(3,877,105)	(5,000,000)	
Returns of Capital	8,637,455	5,530,569	9,708,647	10,592,561	751,878	11,072,604	11,780,946	16,315,955	5,443,127	18,408,309	(477,368)	17,908,062	
Capital Calls	(31,737,273)	(43,692,559)	(13,551,921)	(27,592,907)	(31,139,645)	(10,849,709)	(15,546,866)	(20,137,927)	(23,063,788)	(18,208,960)	(6,510,152)	(33,071,943)	
Total	97,596,312	(82,631,290)	186,842,579	(17,000,346)	204,182,843	(170,120,491)	156,026,052	(28,378,310)	227,984,136	(81,796,087)	89,135,374	(19,707,188)	
													Total for Year
													562,133,583
													YOY change in cash
													(34,191,347)
													Net Total
													596,324,931
	Jan-15	Feb-15	Mar-15	Apr-15	May-15	Jun-15	Jul-15	Aug-15	Sep-15	Oct-15	Nov-15	Dec-15	
Planned Investment Sales - Negative Cash Flow	0	116,201,743	0	0	4,602,688	0	0	77,000,000	0	110,000,000	2,343,390	0	
Planned Investment Sales - Reallocation	200,000,000	133,798,257	0	85,000,000	219,397,312	0	2,500,000	0	0	80,000,000	0	100,000,000	
Planned Investment Purchases - Reallocation	(200,000,000)	(2,303,751)	(7,978,000)	(9,710,507)	(102,252,000)	(6,908)	(5,092,300)	(793,462)	2,164,590	1,029,954	3,686,185	(182,683,849)	
Returns of Capital	2,352,447	2,085,569	1,692,267	11,112,782	4,230,601	16,207,777	2,951,662	6,025,827	17,277,479	1,217,328	13,695,175	14,969,796	
Capital Calls	(16,512,913)	(10,512,221)	(17,225,603)	(14,194,231)	(43,860,521)	(26,179,617)	(14,072,254)	(4,432,397)	(17,800,146)	(15,311,201)	(24,538,070)	(51,488,860)	
Total	(14,160,466)	239,269,597	(23,511,336)	72,208,044	82,118,080	(9,978,748)	(13,712,892)	77,799,968	1,641,923	176,936,081	(4,813,320)	(119,202,913)	
													Total for Year
													464,594,018
													YOY change in cash
													(116,516,196)
													Net Total
													581,110,214
													5 Year Net Total
													2,365,608,858

INVESTMENT ACTIVITY

October 1, 2015 -- December 31, 2015

Total Book Value Invested @ 9/30/15 \$ 14,341,447,107.98

Purchases:

374	Cash Equivalents	\$	901,880,276.19
90	Fixed Income Securities		736,927,081.73
1055	Equity Securities		849,661,124.58
22	Real Estate		45,192,620.11
65	Alternative Investments		65,737,967.62
67	Additional Categories		51,716,886.15
<hr/>			
1673	Total Purchases	\$	2,651,115,956.38

Disposals:

307	Cash Equivalents	\$	1,057,151,390.14
66	Fixed Income Securities		651,213,166.04
368	Principal Paydowns		34,678,962.96
36	Redemptions / Maturities		63,069,047.36
1315	Equity Securities		733,915,710.72
12	Real Estate		5,747,917.00
91	Alternative Investments		33,857,903.37
102	Additional Categories		75,200,931.88
0	Additional Principal Paydowns		-
3	Additional Redemptions / Maturities		1,052,679.91
<hr/>			
2300	Total Disposals	\$	2,655,887,709.38

Total Book Value Invested @ 12/31/15 \$ 14,336,675,354.98

Total Par Value Invested @ 12/31/15 \$ 14,327,722,554.10

Total Market Value Invested @ 12/31/15 \$ 16,952,158,573.92

* KTRS 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, \$ 7,198,005.48 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	482,944,897
+ Pending Receivable	7,198,005
Net	<u>490,142,902</u>

KTRS Board of Trustees Quarterly Meeting - Report of the Investment Committee

TOTAL BV INVESTED AT 9/30/15 \$ 14,341,447,107.98

July Activity

Purchases	774,120,719.21	
Disposals	(777,879,266.00)	
Paydowns	(11,748,030.99)	
Redemptions	(23,725,840.14)	
Short-Term Pool Net	156,768,935.28	117,536,517.36

August Activity

Purchases	504,371,660.43	
Disposals	(477,847,059.56)	
Paydowns	(11,706,482.12)	
Redemptions	(32,988,904.31)	
Short-Term Pool Net	(74,562,154.30)	(92,732,939.86)

September Activity

Purchases	540,304,716.81	
Disposals	(360,687,402.94)	
Paydowns	(11,224,449.85)	
Redemptions	(7,406,982.82)	
Short-Term Pool Net	(190,561,211.70)	(29,575,330.50)

TOTAL BV INVESTED AT 12/31/15 \$ 14,336,675,354.98

* KTRS 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, \$7,198,005.48 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	482,944,897	
+ Pending Receivable	7,198,005	
Net	490,142,902	

CONFIDENTIAL

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

FROM: Eric Wampler, Deputy Executive Secretary

DATE: March 21, 2016

SUBJECT: Annual Renewal of Contracts

Introduction: Below is a brief synopsis of standard legal and auditing contracts to be renewed for the period from July 1, 2016 through June 30, 2017. At the Board meeting, the Deputy Executive Secretary will provide the Board with a more detailed review of the particular service providers.

A. Legal Services

1. **Reinhart Boerner Van Deuren, s.c.**, Madison, Wisconsin, provides legal services to KTRS on matters relating to securities litigation, investment, tax, compliance with federal law and other matters relating to pension or investment.

2. **Reed Weitkamp Schell & Vice, PLLC**, Louisville, Kentucky, provides legal consultation to KTRS when questions arise regarding interpretation of the Internal Revenue Code or other tax-related matters.

3. **Stoll, Keenon & Ogden, PLLC**, Frankfort, Kentucky, provides representation in litigation, contractual agreements, real estate, and other matters.

4. **Ice Miller**, Indianapolis, Indiana, provides legal consultation regarding federal tax compliance and fiduciary legal services.

5. **Klausner and Kaufman**, Plantation, Florida, provides legal services concerning pension, tax, and fiduciary matters.

B. Auditor

Mountjoy, Chilton, Medley, LLP, Louisville, Kentucky, provides auditing and tax consultation services.

Recommendation: The Deputy Executive Secretary seeks the Board's authorization to negotiate for renewal the standard legal services and audit contracts for fiscal year 2016-2017.

KTRS Board of Trustees Quarterly Meeting - Legislative Report

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

FROM: Gary L. Harbin, CPA

DATE: March 21, 2016

SUBJECT: Legislative Report

During the meeting, staff will report on the 2016 Regular Session of the Kentucky General Assembly.

Recommendation: This report is provided for informational purposes.

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

FROM: Gary L. Harbin, CPA

DATE: March 21, 2016

SUBJECT: Executive Secretary's Observations and Comments

1. Junita Losey Scholarship Fund Update: Scholarship checks in the amount of \$2,000 have been sent to each of the eight public universities in Kentucky. KTRS is expecting responses from the universities that the scholarship money has been received. Recipients may apply scholarship funds toward tuition, books or fees.

In addition, the Campbell County School System selects a student in May, who intends to enroll in one of Kentucky's public universities and major in education, to receive the Junita Losey Scholarship. The student must enroll in a Kentucky public university in the fall and then notify KTRS regarding verification of their enrollment. At that time, a check in the amount of \$1,000 is sent to the university that the student selected to attend. Upon completing their first university semester, the student is to inform KTRS that they are still in compliance with the scholarship criteria, and KTRS will then distribute another \$1,000 check to the university the student is attending.

2. Executive Secretary's Meetings: Staff has had meetings with several persons and groups recently. The Board will receive reports concerning the following meetings:

January 5, 2016	Conference call with Sagitec
January 7, 2016	Meeting with Ft. Washington representatives
January 11, 2016	Meeting with public relations consultant
January 12, 2016	Meeting with KKR
January 13, 2016	Meeting with Todd Investment Managers
January 14, 2016	Meeting with Humana representatives
January 14, 2016	Meeting with KRTA representatives
January 15, 2015	Meeting with Bailey Childers, Executive Director, National Public Pension Coalition
February 22, 2016	Chrysalis Ventures III Advisory Board conference call
February 26, 2016	Meeting with Joey Payne, Know Your RX Coalition
March 1, 2016	Know Your RX Coalition Board meeting
March 3, 2016	Meeting with prospective investment manager
March 4, 2016	Orientation for Allison Ball
March 8, 2016	PSHCR conference call
March 16, 2016	Conference call with Ft. Washington
March 19, 2016	Attended meeting of Board Nominating Committee

3. Pathway System: Sagitec has been working on-site at KTRS since September 6, 2011. To date, more than 97% of the overall project has been completed. Work has been proceeding according to schedule and within budget.

The warranty phase of the project will end on May 1, 2016. During warranty, Sagitec and KTRS have been working to identify and implement improvements to the Pathway System. As we approach the end of warranty, we are finalizing a punch list of final improvements to be implemented. The final punch list should be resolved by the end of July 2016.

In April 2016, Sagitec will begin formal training of KTRS staff on the operation of the Pathway System. Following this training, KTRS staff will begin taking over day-to-day operations. In addition, KTRS is evaluating options from Sagitec for maintenance and support services beginning in July 2016. Maintenance and support services may include Sagitec personnel working on-site at KTRS or from remote locations.

KTRS has also partnered with Sagitec to develop an application to ease access to account information from mobile devices like smart phones and tablets. The mobile application will be developed over a 10-week period and is scheduled to be in production in June 2016.

Staff will be available after the meeting to answer any questions regarding the project.

4. Statement of Financial Disclosure Due Friday, April 15, 2016: Each member of the Board of Trustees must file a Statement of Financial Disclosure with the Executive Branch Ethics Commission by Friday, April 15, 2016.

5. Next Meeting: The next Regular Quarterly meeting of the Board of Trustees will be on Monday, June 20, 2016.