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December 7, 2015

Mr. Gary L. Harbin
Executive Secretary
Teachers' Retirement System of the
State of Kentucky
479 Versailles Road
Frankfort, KY 40601-3800

Dear Gary:

Enclosed are 25 bound copies and one unbound copy of the "Teachers' Retirement System of the State of Kentucky Report of Actuary on the Valuation Prepared as of June 30, 2015".

Sincerely yours,

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

Eric H. Gary, FSA, FCA, MAAA
Chief Health Actuary

Cathy Turcot
Principal and Managing Director

Enclosure

S:\Kentucky Teachers\Pension\Valuations\2015\KTRS Report.doc

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Teachers' Retirement System of the State of Kentucky Report of the Actuary on the Annual Valuation

Prepared as of June 30, 2015

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December 7, 2015

Board of Trustees
Teachers' Retirement System of the
State of Kentucky
479 Versailles Road
Frankfort, KY 40601-3800

Members of the Board:

Section 161.400 of the law governing the operation of the Teachers' Retirement System of the State of Kentucky provides that the actuary shall make an actuarial valuation of the System. We have submitted the results of the annual actuarial valuation prepared as of June 30, 2015. While not verifying the data at source, the actuary performed tests for consistency and reasonability. The combined member and state contribution rates as a percentage of payroll for the fiscal year ending June 30, 2018 required to support the total benefits of the System are as follows:

Group	Combined Member and State Contribution Requirement
University members hired before July 1, 2008	34.90%
University members hired on or after July 1, 2008	35.90%
Non-University members hired before July 1, 2008	37.86%
Non-University members hired on or after July 1, 2008	38.86%

These rates represent a decrease since the previous valuation in the Pension actuarially determined employer contribution rate of 0.07% of payroll for the fiscal year ending June 30, 2018. In addition, there has been a net increase in the expected state special appropriation from 2.70% to 2.94%, or 0.24% of payroll and no change in the amount required for life insurance benefits.

For the fiscal year ending June 30, 2018, in addition to the State statutory contribution rates and the state special appropriation, there is an additional employer contribution rate of 13.49% of payroll required in order to amortize the unfunded accrued liability according to the funding policy adopted by the Board. This is 0.31% less than the 13.80% determined in the previous valuation.

The financing objective of the System is that contribution rates will remain relatively level over time as a percentage of payroll. The promised benefits of the System are included in the actuarially calculated contribution rates which are developed using the entry age normal cost method.

Five-year market related value of plan assets is used for actuarial valuation purposes. Gains and losses are reflected in the total unfunded accrued liability that is being amortized by regular annual contributions as a level percentage of payroll in accordance with the funding policy adopted by the Board, on the assumption that payroll will increase by 4.0% annually. The assumptions recommended by the actuary and adopted by the Board are reasonably related to the experience under the System and to reasonable expectations of anticipated experience under the System.

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We have prepared the trend information shown in the Schedule of Funding Progress in the Financial Section of the Annual Report and Schedule A, Schedule B, Schedule C, Solvency Test and Analysis of Financial Experience shown in the Actuarial Section of the Annual Report.

The valuation reflects that a portion of the annual required contributions to the fund from 2005 to 2010 were allocated to the Medical Insurance Fund and are being repaid over time. A pension obligation bond was issued August 26, 2010 and was used to repay the balances of a substantial portion of the loans previously made to the Medical Insurance Fund. No additional contributions were allocated during the 2015 fiscal year.

This is to certify that the independent consulting actuary is a member of the American Academy of Actuaries and has experience in performing valuations for public retirement systems, that the valuation was prepared in accordance with principles of practice prescribed by the Actuarial Standards Board, and that the actuarial calculations were performed by qualified actuaries in accordance with accepted actuarial procedures, based on the current provisions of the retirement system and on actuarial assumptions that are internally consistent and reasonably based on the actual experience of the System.

Future actuarial results may differ significantly from the current results presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Since the potential impact of such factors is outside the scope of a normal annual actuarial valuation, an analysis of the range of results is not presented herein.

In our opinion, the System is not being funded on an actuarially sound basis since the full actuarially determined contributions are not being made by the employer. If contributions by the employer to the System continue to be less than those required, the assets are expected to become insufficient to pay promised benefits. Assuming that contributions to the System are made by the employer from year to year in the future at rates recommended on the basis of the successive actuarial valuations, the continued sufficiency of the assets to provide the benefits called for under the System may be safely anticipated.

Respectfully submitted,

Edward J. Koebel

Edward J. Koebel, EA, FCA, MAAA
Principal and Consulting Actuary

Eric H. Gary, FSA, FCA, MAAA
Chief Health Actuary

Cathy Turcot

Cathy Turcot
Principal and Managing Director

TABLE OF CONTENTS

TEACHERS' RETIREMENT SYSTEM
OF THE STATE OF KENTUCKY
REPORT OF ACTUARY ON THE VALUATION
PREPARED AS OF JUNE 30, 2015

SECTION I - SUMMARY OF PRINCIPAL RESULTS

1. For convenience of reference, the principal results of the valuation and a comparison with the results of the previous valuation are summarized below (all dollar amounts are $1,000's):

Valuation Date	June 30, 2015	June 30, 2014
Number of active members	72,246	73,407
Annual salaries	$ 3,515,113	$ 3,486,327
Number of annuitants and beneficiaries	49,822	48,576
Annual allowances	$ 1,767,637	$ 1,684,852
Assets:		
Market value	$ 18,049,131	$ 18,092,571
Actuarial value	17,219,520	16,174,199
Unfunded accrued liability	$ 13,930,442	$ 14,010,205
Funded Ratio	55.3%	53.6%
Amortization period (years)	29.3	30.0

Contribution rates are shown separately for university and non-university members on the following pages.

CONTRIBUTION RATES FOR UNIVERSITY MEMBERS

Valuation Date	June 30, 2015		June 30, 2014	
For fiscal year ending:	**June 30, 2018**		**June 30, 2017**	
	Members hired before 7/1/2008	**Members on and after 7/1/2008**	**Members hired before 7/1/2008**	**Members on and after 7/1/2008**
Pension Plan:				
Normal	12.340%	12.340%	12.270%	12.270%
Accrued liability	22.560	23.560	22.700	23.700
Total	34.900%	35.900%	34.970%	35.970%
Member	7.625%	7.625%	7.625%	7.625%
State (ARC)	27.275	28.275	27.345	28.345
Total	34.900%	35.900%	34.970%	35.970%
Life Insurance Fund:				
State	0.030%	0.030%	0.030%	0.030%
Medical Insurance Fund:				
Member	2.775%	2.775%	2.775%	2.775%
State Match	2.775	1.775	2.775	1.775
Total	5.550%	4.550%	5.550%	4.550%
Total Contributions	40.480%	40.480%	40.550%	40.550%
Member Statutory	10.400%	10.400%	10.400%	10.400%
State Statutory	13.650	13.650	13.650	13.650
Required Increase	13.490	13.490	13.800	13.800
State Special	2.940	2.940	2.700	2.700
Total	40.480%	40.480%	40.550%	40.550%

CONTRIBUTION RATES FOR NON-UNIVERSITY MEMBERS

Valuation Date	June 30, 2015		June 30, 2014	
For fiscal year ending:	**June 30, 2018**		**June 30, 2017**	
	Members hired before 7/1/2008	**Members on and after 7/1/2008**	**Members hired before 7/1/2008**	**Members on and after 7/1/2008**
Pension Plan:				
Normal	16.720%	16.720%	16.720%	16.720%
Accrued liability	21.140	22.140	21.210	22.210
Total	37.860%	38.860%	37.930%	38.930%
Member	9.105%	9.105%	9.105%	9.105%
State (ARC)	28.755	29.755	28.825	29.825
Total	37.860%	38.860%	37.930%	38.930%
Life Insurance Fund:				
State	0.030%	0.030%	0.030%	0.030%
Medical Insurance Fund:				
Member	3.750%	3.750%	3.750%	3.750%
State Match	3.750	2.750	3.750	2.750
Total	7.500%	6.500%	7.500%	6.500%
Total Contributions	45.390%	45.390%	45.460%	45.460%
Member Statutory	12.855%	12.855%	12.855%	12.855%
State Statutory	16.105	16.105	16.105	16.105
Required Increase	13.490	13.490	13.800	13.800
State Special	2.940	2.940	2.700	2.700
Total	45.390%	45.390%	45.460%	45.460%

2. The valuation includes only the assets and liabilities associated with the pension plan. The valuation of the Medical Insurance Fund and the Active and Retired Life Insurance Benefits will be prepared separately.

3. Comments on the valuation results as of June 30, 2015 are given in Section IV and further discussion of the contribution levels is set out in Sections V and VI.

4. Schedule B shows the development of the actuarial value of assets. The assumed investment rate of return is 7.50%. Schedule D of this report outlines the full set of actuarial assumptions and methods employed in the current valuation. There have been no changes since the previous valuation. The funding policy is shown in Schedule H of the Report.

5. Provisions of the System, as summarized in Schedule F, were taken into account in the current valuation. There have been no changes since the previous valuation.

SECTION II - MEMBERSHIP DATA

1. Data regarding the membership of the System for use as a basis of the valuation were furnished by the Retirement System office. The following table shows the number of active members and their annual salaries as of June 30, 2015 on the basis of which the valuation was prepared.

GROUP	NUMBER	ANNUAL SALARIES ($1,000's)
University hired before 7/1/2008	2,055	$ 147,256
University hired after 7/1/2008	1,360	67,694
Non-University Full Time hired before 7/1/2008	40,402	2,517,108
Non-University Full Time hired after 7/1/2008	16,764	708,842
Non-University Part Time hired before 7/1/2008	3,317	28,801
Non-University Part Time hired after 7/1/2008	8,348	45,412
Total	72,246	$ 3,515,113

2. The following table shows the number and annual retirement allowances payable to annuitants and beneficiaries on the roll of the Retirement System as of the valuation date.

THE NUMBER AND ANNUAL RETIREMENT ALLOWANCES OF ANNUITANTS AND BENEFICIARIES ON THE ROLL AS OF JUNE 30, 2015

GROUP	NUMBER	ANNUAL RETIREMENT ALLOWANCES[1] ($1,000's)
Service Retirements	43,349	$ 1,609,950
Disability Retirements	2,651	76,399
Beneficiaries of Deceased Members	3,822	81,288
Total	49,822	$ 1,767,637

[1] Includes cost-of-living adjustments effective through July 1, 2015.

3. Table 1 of Schedule G shows a distribution by age and years of service of the number and annual salaries of active members included in the valuation, while Table 2 shows the number and annual retirement allowances of annuitants and beneficiaries included in the valuation, distributed by age.

SECTION III - ASSETS

1. As of June 30, 2015 the market value of Pension Plan assets for valuation purposes held by the System amounted to $18,049,130,737. This value excludes assets in the Medical Insurance Fund, the 403(b) Program Reserve Fund, and the Life Insurance Fund, which are not included in the assets used for Pension Plan valuation purposes. The estimated market investment return for the plan year was 5.1%. Schedule C shows the receipts and disbursements for the year preceding the valuation date and a reconciliation of the asset balances for the Pension Plan.
2. The five-year market related value of Pension Plan assets used for valuation purposes as of June 30, 2015 was $17,219,519,677. The estimated investment return for the plan year ending June 30, 2015 on an actuarial value of assets basis was 12.41%, compared to the assumed investment rate of return for the period of 7.50%. Schedule B shows the development of the actuarial value of assets as of June 30, 2015.

SECTION IV - COMMENTS ON VALUATION

1. Schedule A of this report contains the valuation balance sheet which shows the present and prospective assets and liabilities of the System as of June 30, 2015. The valuation was prepared in accordance with the actuarial assumptions and the actuarial cost method, which are described in Schedule D and Schedule E.
2. The valuation balance sheet shows that the System has total prospective liabilities of $17,169,625,916 for benefits expected to be paid on account of the present active members. The liability on account of benefits payable to annuitants and beneficiaries amounts to $19,176,764,815 of which $851,860,475 is for special appropriations remaining to be made toward funding minimum annuities, ad hoc increases and sick leave allowances granted after 1981. The liability for benefits expected to be paid to inactive members and to members entitled to deferred vested benefits is $345,742,284. The total prospective liabilities of the System amounts to $36,692,133,015. Against these liabilities, the System has present assets for valuation purposes of $17,219,519,677. When

this amount is deducted from the total liabilities of $36,692,133,015, there remains $19,472,613,338 as the present value contributions to be made in the future.

3. The employer's contributions to the System consist of normal contributions and accrued liability contributions. The valuation indicates that employer normal contributions at the rate of 12.34% of payroll for University and 16.72% of payroll for Non-University are required.

4. Prospective normal employer and employee contributions have a present value of $5,542,171,361. When this amount is subtracted from $19,472,613,338, which is the present value of the total future contributions to be made by the employer, there remains $13,930,441,977 as the amount of future unfunded accrued liability contributions.

5. The unfunded accrued liability decreased by approximately $80 million for the plan year ending June 30, 2015 and the funding ratio increased from 53.6% to 55.3%. The decrease in the unfunded accrued liability was primarily due to the investment return on an actuarial value basis for the year being more than expected. In addition, salary increases were less than assumed which resulted in a gain. Offsetting these gains was a loss due to contribution shortfall for the plan year and a small net demographic loss due to turnover, retirement and mortality. See Section VII for a complete breakdown of the experience of the System.

SECTION V - CONTRIBUTIONS PAYABLE UNDER THE SYSTEM

1. Section 161.540 of the retirement law provides that each university member contribute 10.400% of annual salary to the System and each non-university member contribute 12.855% of annual salary. Of this amount, for each university member, 2.775% is paid to the Medical Insurance Fund for medical benefits and for each non-university member, 3.75% is paid to the Medical Insurance Fund for medical benefits. The remainder, 7.625% for university members and 9.105% for non-university members, is applicable for the retirement benefits taken into account in the valuation.

2. Section 161.550 provides that the State will match a portion of the member contributions and contribute a supplemental 3.25% of members' salaries towards discharging the System's unfunded obligations. Additional contributions are made to the Medical Insurance Fund as required under 161.550(3).

3. Therefore for university members, 10.875% of the salaries of active members who become members before July 1, 2008 and 11.875% of the salaries of active members who become members on or after July 1, 2008 is funded by statute or supplemental funding for the Pension Plan and Life Insurance Fund. For non-university members, 12.355% of the salaries of active members who become members before July 1, 2008 and 13.355% of the salaries of active members who become members on or after July 1, 2008 is funded by statute or supplemental funding for the Pension Plan and Life Insurance Fund. Of these amounts, 0.03% of payroll will be allocated to the Life Insurance Fund. Based on the results of the valuation, an additional 13.49% of payroll for both university and non-university will be required in order to maintain the amortization of the unfunded liability of the Pension Plan based on the funding policy adopted by the Board. An additional special appropriation of 2.94% of total payroll will be made by the State. Therefore, the total actuarially determined employer contribution rate to the Pension Plan is 27.275% for university members who become members before July 1, 2008 and 28.275% for university members who become members on or after July 1, 2008. The total actuarially determined employer contribution rate to the Pension Plan is 28.755% for non-university members who become members before July 1, 2008 and 29.755% for non-university members who become members on or after July 1, 2008. The total member and employer contribution rates to the Pension Plan are shown in the following table.

CONTRIBUTION RATES BY SOURCE

UNIVERSITY

	Members hired before 7/1/2008	Members hired on and after 7/1/2008
Member		
Statutory Total	10.400%	10.400%
Statutory Medical Insurance Fund	(2.775)	(2.775)
Contribution to Pension Plan	7.625%	7.625%
Employer		
Statutory Matching Total	10.400%	10.400%
Statutory Medical Insurance Fund	(2.775)	(1.775)
Supplemental Funding	3.250	3.250
Subtotal	10.875%	11.875%
Life Insurance	(0.030)%	(0.030)%
Additional to Comply with Board Funding Policy	13.490	13.490
Special Appropriation	2.940	2.940
Contribution to Pension Plan	27.275%	28.275%
Total Contribution to Pension Plan	34.900%	35.900%

NON-UNIVERSITY

	Members hired before 7/1/2008	Members hired on and after 7/1/2008
Member		
Statutory Total	12.855%	12.855%
Statutory Medical Insurance Fund	(3.750)	(3.750)
Contribution to Pension Plan	9.105%	9.105%
Employer		
Statutory Matching Total	12.855%	12.855%
Statutory Medical Insurance Fund	(3.750)	(2.750)
Supplemental Funding	3.250	3.250
Subtotal	12.355%	13.355%
Life Insurance	(0.030)%	(0.030)%
Additional to Comply with Board Funding Policy	13.490	13.490
Special Appropriation	2.940	2.940
Contribution to Pension Plan	28.755%	29.755%
Total Contribution to Pension Plan	37.860%	38.860%

4. The valuation indicates that normal contributions at the rate of 12.34% of active university members' salaries and 16.72% of active non-university members' salaries are required. The difference between the total contribution rate and the normal rate remains to be applied toward the liquidation of the unfunded accrued liability. This accrued liability rate is 22.56% for university members hired before July 1, 2008, 23.56% for university members hired on and after July 1, 2008, 21.14% for non-university members hired before July 1, 2008, and 22.14% for non-university members hired on and after July 1, 2008. These rates include special appropriations of 2.94% of payroll to be made by the State. These rates are shown in the following table:

ACTUARIALLY DETERMINED CONTRIBUTION RATES

RATE	PERCENTAGE OF ACTIVE MEMBERS' SALARIES			
	UNIVERSITY		NON-UNIVERSITY	
	Members hired before 7/1/2008	Members hired on and after 7/1/2008	Members hired before 7/1/2008	Members hired on and after 7/1/2008
Normal	12.34%	12.34%	16.72%	16.72%
Accrued liability*	22.56	23.56	21.14	22.14
Total	34.90%	35.90%	37.86%	38.86%

* Includes special appropriations of 2.94% of payroll to be made by the State.

5. The funding policy shown in Schedule H of this report, states that the unfunded accrued liability determined in the June 30, 2014 valuation, known as the "legacy unfunded liability" will be amortized over a closed 30 year period. New sources of unfunded liability each year after June 30, 2014 will be amortized over closed 20 year periods. The legacy unfunded liability determined as of June 30, 2014 was $14,010,204,858. The remaining balance of the legacy unfunded liability as of June 30, 2015 of $14,282,051,575 was determined by adding interest at 7.5% and subtracting the expected amortization payment of $778,918,647. The new source of unfunded liability of $(351,609,598) as of June 30, 2015, is determined by subtracting the remaining balance of the legacy unfunded liability from the total unfunded actuarial accrued liability of $13,930,441,977 as of the valuation date. Accrued liability contributions at the rates in the table above are sufficient to

amortize the unfunded actuarial accrued liability in accordance with the Board funding policy, based on the assumption that the payroll will increase by 4.0% annually.

SECTION VI - COMMENTS ON LEVEL OF FUNDING

1. Our calculations indicate that the contribution rates shown in the previous section will be sufficient to cover the benefits of the System, the annual 1.5% increases in the allowances of retired members and beneficiaries, and the liabilities for minimum annuities, ad hoc increases and sick leave allowances granted after 1981.
2. The valuation indicates that the present statutory contribution rates, supplemental funding and special appropriations, if continued at the current level percentage, along with an additional required contribution of 13.49%, not currently provided in statute, are sufficient to meet the cost of benefits currently accruing and provide for the amortization of the unfunded accrued liability in accordance with the Board funding policy. However, as existing special contributions expire, the statutory contributions or supplemental funding may be required to increase as an equal percentage of payroll.
3. During the 2005 through 2010 fiscal years, a portion of the contributions required for the pension fund were allocated as loans to the Medical Insurance Fund for Stabilization Funding. Beginning with the 2009 fiscal year, contributions have also been allocated as loans for non-single subsidy funding. Payments are being made to repay these loans. In August 2010, a pension obligation bond was issued with proceeds used to fully repay the loans for the Stabilization Funding. Beginning with the 2011 fiscal year, there have been no further loans for Stabilization Funding. In addition, there were no loans for single-subsidy funding for fiscal years 2013 or 2014. The table on the following page shows the amounts borrowed, annual payments and remaining balances for the non-single subsidy funding as of June 30, 2015:

MEDICAL INSURANCE FUND STABILIZATION FUNDING

	Loan Amount	Annual Payment	Balances as of June 30, 2015
2008/2009	$ 8,400,000	$ 1,228,900	$ 4,213,170
2009/2010	9,200,000	1,345,200	5,565,983
2010/2011	10,700,000	1,564,500	7,503,774
2011/2012	12,300,000	1,798,700	9,726,708
Total	$ 40,600,000	$ 5,937,300	$ 27,009,635

3. There are no excess assets or contributions available to provide additional benefits, and there is a cumulative increase in the required employer contribution of 13.49% of payroll for the fiscal year ending June 30, 2018, as shown in the following table:

Valuation Date	Fiscal Year	Increase/ (Decrease)	Cumulative Increase	Amount
June 30, 2004	June 30, 2007	0.11%	0.11%	$ 3,174,600
June 30, 2005	June 30, 2008	1.21	1.32	38,965,900
June 30, 2006	June 30, 2009	0.56	1.88	60,499,800
June 30, 2007	June 30, 2010	0.58	2.46	82,331,200
June 30, 2008	June 30, 2011	1.13	3.59	121,457,000
June 30, 2009	June 30, 2012	2.22	5.81	208,649,000
June 30, 2010	June 30, 2013	1.46	7.27	260,980,000
June 30, 2011	June 30, 2014	0.75	8.02	299,420,000
June 30, 2012	June 30, 2015	2.40	10.42	386,400,000
June 30, 2013	June 30, 2016	2.55	12.97	487,400,000
June 30, 2014	June 30, 2017	0.83	13.80	520,372,000
June 30, 2015	June 30, 2018	(0.31)	13.49	512,883,000

In addition, as existing special contributions expire, the statutory contributions or supplemental funding may be required to increase as an equal percentage of payroll, in order to amortize the unfunded actuarial accrued liability in accordance with the Board funding policy. Any further benefit improvements must be accompanied by the entire additional contributions necessary to support the benefits.

SECTION VII – ANALYSIS OF FINANCIAL EXPERIENCE

The following table shows the estimated gain or loss from various factors that resulted in an decrease of $79,762,881 in the unfunded accrued liability from $14,010,204,858 to $13,930,441,977 during the year ending June 30, 2015.

ANALYSIS OF FINANCIAL EXPERIENCE
(Dollar amounts in thousands)

ITEM	AMOUNT OF INCREASE/ (DECREASE)
Interest (7.50%) added to previous unfunded accrued liability	$ 1,050,765
Expected Accrued liability contribution	(778,918)
Loss due to Contribution Shortfall and Timing	472,439
Experience:	
Valuation asset growth	(771,835)
Pensioners' mortality	(70,335)
Turnover and retirements	119,009
New entrants	38,561
Salary increases	(139,449)
Amendments	0
Assumption changes	
Method changes	0
Total	$ (79,763)

SECTION VIII - ACCOUNTING INFORMATION

Governmental Accounting Standards Board (GASB) has issued Statements No. 67 and 68 which replace Statement No. 25 and 27. The information required under the new GASB Statements will be issued in separate reports. The following information is provided for informational purposes only.

1. The following is a distribution of the number of employees by type of membership.

NUMBER OF ACTIVE AND RETIRED MEMBERS
AS OF JUNE 30, 2015

GROUP	NUMBER
Retirees and beneficiaries currently Receiving benefits	49,822
Terminated vested employees entitled to Benefits but not yet receiving benefits	8,051
Inactive non-vested members	19,720
Active plan members	72,246
Total	149,839

2. The schedule of funding progress is shown below.

SCHEDULE OF FUNDING PROGRESS
(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b - a)	Funded Ratio (a / b)	Covered Payroll (c)	UAAL as a Percentage of Covered Payroll ((b - a) / c)
6/30/2010	$14,851,330	$24,344,316	$ 9,492,986	61.0%	$3,321,614	285.8%
6/30/2011**	14,908,138	25,968,692	11,060,554	57.4	3,451,756	320.4
6/30/2012	14,691,371	26,973,854	12,282,483	54.5	3,479,567	353.0
6/30/2013	14,962,758	28,817,232	13,854,474	51.9	3,480,066	398.1
6/30/2014***	16,174,199	30,184,404	14,010,205	53.6	3,486,327	401.9
6/30/2015	17,219,520	31,149,962	13,930,442	55.3	3,515,113	396.3

* Funding method Projected Unit Credit prior to 6/30/2011
Funding method Entry Age Normal 6/30/2011 and after
** Reflects change in assumptions and methods
*** Reflects change in assumption

3. The information presented above was determined as part of the actuarial valuation at June 30, 2015. Additional information as of the latest actuarial valuation follows.

Valuation date	6/30/2015
Actuarial cost method	Entry Age
Amortization method	Level percent of pay, closed
Remaining amortization period	29.3 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment Rate of Return*	7.50%
Projected salary Increases**	4.00 - 8.20%
Cost-of-living adjustments	1.50% Annually
*Includes price inflation at	3.50%
**Includes wage inflation at	4.00%

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Fiscal Year Ending June 30	Actuarially Determined Employer Contributions	Actual Employer Contributions	Percentage Contributed
2010	$ 633,938,088	$ 479,805,088	76%
2011	678,741,428	1,037,935,993*	153
2012	757,822,190	557,339,552	74
2013	802,984,644	568,233,446	71
2014	823,446,156	563,326,249	68
2015	913,653,854	559,579,290	61

* Includes Pension Obligation Bond proceeds of $465,384,165

SCHEDULE A

VALUATION BALANCE SHEET
SHOWING THE PRESENT AND PROSPECTIVE ASSETS AND LIABILITIES
AS OF JUNE 30, 2015
(Dollar amounts in thousands)

	ACTUARIAL LIABILITIES		
(1)	Present value of prospective benefits payable on account of present active members		
	- Service retirement benefits	$ 16,040,486	
	- Disability retirement benefits	749,304	
	- Death and survivor benefits	138,675	
	- Refunds of member contributions	241,160	
	Total		$ 17,169,626
(2)	Present value of prospective benefits payable on account of present retired members, beneficiaries of deceased members, and members entitled to deferred vested benefits		
	- Service retirement benefits	$ 17,727,682	
	- Disability retirement benefits	728,940	
	- Death and survivor benefits	720,142	
	Total		$ 19,176,765
(3)	Present value of prospective benefits payable on account of inactive members and members entitled to deferred vested benefits		$ 345,742
(4)	TOTAL ACTUARIAL LIABILITIES		$ 36,692,133
	PRESENT AND PROSPECTIVE ASSETS		
(5)	Actuarial value of assets		$ 17,219,520
(6)	Present value of total future contributions = (4)-(5)	$ 19,472,613	
(7)	Present value of future member contributions and employer normal contributions		5,542,171
(8)	Prospective unfunded accrued liability contributions = (6)-(7)		13,930,442
(9)	TOTAL PRESENT AND PROSPECTIVE ASSETS		$ 36,692,133

SCHEDULE A
(continued)

SOLVENCY TEST
(in millions of dollars)

Valuation Date	(1) Active Member Contributions	(2) Retirants And Beneficiaries	(3) Active Members (Employer Financed Portion)	Valuation Assets	Portion of Accrued Liabilities Covered by Assets		
					(1)	(2)	(3)
6/30/2010	$3,196.3	$15,010.4	$6,137.6	$14,851.3	100%	78%	0%
6/30/2011	3,325.7	15,557.9	7,085.1	14,908.1	100	74	0
6/30/2012	3,415.2	16,472.2	7,086.4	14,691.4	100	68	0
6/30/2013	3,514.4	17,716.4	7,586.4	14,962.8	100	65	0
6/30/2014	3,629.7	18,676.3	7,878.4	16,174.2	100	67	0
6/30/2015	3,700.6	19,522.5	7,926.9	17,219.5	100	69	0

SCHEDULE B

DEVELOPMENT OF THE ACTUARIAL VALUE OF ASSETS
AS OF JUNE 30, 2015

(1)	Actuarial Value of Assets Beginning of Year		$ 16,174,199,191
(2)	Market Value of Assets End of Year		18,049,130,737
(3)	Market Value of Assets Beginning of Year		18,092,570,615
(4)	Cash Flow		
	a.	Contributions	867,739,053
	b.	Benefit Payments	1,764,488,719
	c.	Administrative Expense	8,868,971
	d.	Net: (4)a – (4)b – (4)c	(905,618,637)
(5)	Investment Income		
	a.	Market total: (2) – (3) – (4)d	862,178,759
	b.	Assumed Rate	7.50%
	c.	Amount for Immediate Recognition: [(3) x (5)b] + [(4)d x (5)b x 0.5]	1,322,982,097
	d.	Amount for Phased-In Recognition: (5)a – (5)c	(460,803,338)
(6)	Phased-In Recognition of Investment Income		
	a.	Current Year: 0.20 x (5)d	(92,160,668)
	b.	First Prior Year	325,163,609
	c.	Second Prior Year	191,479,441
	d.	Third Prior Year	(160,195,981)
	e.	Fourth Prior Year	363,670,625
	f.	Total Recognized Investment Gain	627,957,026
(7)	Actuarial Value of Assets End of Year: (1) + (4)d + (5)c + (6)f		$ 17,219,519,677
(8)	Difference Between Market & Actuarial Values: (2) – (7)		$ 829,611,060
(9)	Rate of Return on Actuarial Value:		12.41%

SCHEDULE C

PENSION PLAN ASSETS
SUMMARY OF RECEIPTS AND DISBURSEMENTS*
(Market Value)

	For the Year Ending	
	June 30, 2015	June 30, 2014
Receipts for the Year		
Contributions		
Members	$ 308,159,763	$ 304,981,620
Employers	559,579,290	563,326,249
Total	867,739,053	868,307,869
Net Investment Income	862,178,759	2,803,247,956
TOTAL	$ 1,729,917,812	$ 3,671,555,825
Disbursements for the Year		
Benefit Payments	$ 1,741,456,095	$ 1,654,375,700
Refunds to Members	23,032,624	25,461,843
Miscellaneous, including expenses	8,868,971	7,955,972
TOTAL	$ 1,773,357,690	$ 1,687,793,515
Excess of Receipts over Disbursements	$ (43,439,878)	$ 1,983,762,310
Reconciliation of Asset Balances		
Asset Balance as of the Beginning of the Year	$ 18,092,570,615	$ 16,108,808,305
Excess of Receipts over Disbursements	(43,439,878)	1,983,762,310
Asset Balance as of the End of the Year	$ 18,049,130,737	$ 18,092,570,615
Rate of Return on Market Value	5.1%	18.1%

* Excludes assets for Medical Insurance Fund, the 403(b) Program Reserve Fund and the Life Insurance Fund.

SCHEDULE D

OUTLINE OF ACTUARIAL ASSUMPTIONS AND METHODS

The assumptions and methods used in the valuation were selected based on the actuarial experience study prepared as of June 30, 2010, submitted to and adopted by the Board on September 19, 2011.

INVESTMENT RATE OF RETURN: 7.50% per annum, compounded annually.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increases are as follows and include inflation at 3.50% per annum:

Age	Annual Rate
20	8.10%
25	7.20
30	6.20
35	5.50
40	5.00
45	4.60
50	4.50
55	4.30
60	4.20
65	4.00

SEPARATIONS FROM SERVICE: Representative values of the assumed annual rates of death, disability, withdrawal, service retirement and early retirement are as follows:

Males

	Annual Rate of						
			WITHDRAWAL			RETIREMENT	
			Service			Before 27 Years of Service	After 27 Years of Service*
Age	DEATH	DISABILITY	0 – 4	5 – 9	10+		
20	0.012%	0.01%	9.00%				
25	0.015	0.01	9.00	3.00%			
30	0.020	0.02	9.00	3.00	3.00%		
35	0.035	0.05	10.00	3.25	1.75		
40	0.046	0.09	10.00	4.00	1.40		
45	0.058	0.18	11.00	4.00	1.50		17.0%
50	0.074	0.33	9.00	4.00	2.00		17.0
55	0.124	0.55	12.00	3.50	2.50	5.5%	35.0
60	0.244	0.70	12.00	3.50	2.50	13.0	24.0
62	0.324	0.70	12.00	3.50	2.50	15.0	25.0
65	0.480	0.70	12.00	3.50	2.50	21.0	26.0
70	0.821	0.70	0.00	0.00	0.00	100.0	100.0

*Plus 10% in year when first eligible for unreduced retirement with 27 years of service.

Females

Age	DEATH	DISABILITY	WITHDRAWAL Service 0 – 4	5 – 9	10+	RETIREMENT Before 27 Years of Service	After 27 Years of Service*
20	0.007%	0.01%	7.00%				
25	0.008	0.02	8.50	4.00%			
30	0.010	0.04	9.00	4.00	1.65%		
35	0.017	0.08	9.00	3.75	1.85		
40	0.024	0.14	8.50	3.25	1.50		
45	0.037	0.32	7.50	3.25	1.25		15.0%
50	0.055	0.42	9.50	3.50	1.75		15.0
55	0.103	0.56	11.00	4.00	2.00	6.0%	35.0
60	0.201	0.85	11.00	4.00	2.00	14.0	30.0
62	0.263	0.85	11.00	4.00	2.00	12.0	25.0
65	0.390	0.85	11.00	4.00	2.00	22.0	30.0
70	0.672	0.85	0.00	0.00	0.00	100.0	100.0

*Plus 10% in year when first eligible for unreduced retirement with 27 years of service.

DEATHS AFTER RETIREMENT: The RP-2000 Combined Mortality Table projected to 2020 using scale AA (set back one year for females) is used for death after service retirement and beneficiaries. The RP-2000 Disabled Mortality Table (set back seven years for males and set forward five years for females) is used for death after disability retirement. Mortality improvement is anticipated under these assumptions as recent mortality experience shows actual deaths are approximately 4% greater for healthy lives and 5% greater for disabled lives than expected under the selected tables. Representative values of the assumed annual rates of death after service retirement and after disability retirement are shown below:

Age	Annual Rate of Death After: Service Retirement Male	Service Retirement Female	Disability Retirement Male	Disability Retirement Female
45	0.1161%	0.0745%	2.2571%	1.1535%
50	0.1487	0.1100	2.2571	1.6544
55	0.2469	0.2064	2.6404	2.1839
60	0.4887	0.4017	3.2859	2.8026
65	0.9607	0.7797	3.9334	3.7635
70	1.6413	1.3443	4.6584	5.2230
75	2.8538	2.1680	5.6909	7.2312
80	5.2647	3.6066	7.3292	10.0203
85	9.6240	6.1634	9.7640	14.0049
90	16.9280	11.2205	12.8343	19.4509
95	25.6992	17.5624	16.2186	23.7467

ASSETS: Five-year market related actuarial value, as developed in Schedule B. The actuarial value of assets recognizes a portion of the difference between the market value of assets and the expected actuarial value of assets, based on the ultimate assumed valuation rate of return of 7.50%. The amount recognized each year is 20% of the difference between market value and expected actuarial value.

EXPENSE LOAD: None.

PERCENT MARRIED: 100%, with females 3 years younger than males.

LOADS: Unused sick leave: 2% of active liability

SCHEDULE E

ACTUARIAL COST METHOD

1. The valuation is prepared on the projected benefit basis, under which the present value, at the interest rate assumed to be earned in the future (currently at 7.50%), of each active member's expected benefit at retirement or death is determined, based on his age, service, sex and compensation. The calculations take into account the probability of a member's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his terminating with a service, disability or survivor's benefit. Future salary increases and post-retirement cost-of-living adjustments are also anticipated. The present value of the expected benefits payable on account of the active members is added to the present value of the expected future payments to retired members and beneficiaries and inactive members to obtain the present value of all expected benefits payable from the System on account of the present group of members and beneficiaries.
2. The employer contributions required to support the benefits of the System are determined following a level funding approach, and consist of a normal contribution and an accrued liability contribution.
3. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the uniform and constant percentage rate of employer contribution which, if applied to the compensation of the average new member during the entire period of his anticipated covered service, would be required in addition to the contributions of the member to meet the cost of all benefits payable on his behalf.
4. The unfunded accrued liability is determined by subtracting the present value of prospective employer normal contributions and member contributions, together with the current actuarial value of assets held, from the present value of expected benefits to be paid from the System.

SCHEDULE F

SUMMARY OF MAIN SYSTEM PROVISIONS
AS INTERPRETED FOR VALUATION PURPOSES

The Teachers' Retirement System of the State of Kentucky was established on July 1, 1940. The valuation took into account amendments to the System effective through June 30, 2015. The following summary describes the main benefit and contribution provisions of the System as interpreted for the valuation.

1 - DEFINITIONS

"Final average salary" means the average of the five highest annual salaries which the member has received for service in a covered position and on which the member has made contributions or on which the public board, institution or agency has picked up the member contributions. For a member who retires after attaining age 55 with 27 years of service, "final average salary" means the average of the three highest annual salaries.

2 - BENEFITS

Service Retirement Allowance

Members Before 7/1/2008

Condition for Allowance	Completion of 27 years of service or attainment of age 55 and 5 years of service.
Amount of Allowance	The annual retirement allowance for non-university members is equal to:
	(a) 2.0% of final average salary multiplied by service before July 1, 1983, plus
	(b) 2.5% of final average salary multiplied by service after July 1, 1983.
	(c) For individuals who become members of the Retirement System on or after July 1, 2002 and have less than 10 years of service at retirement, the retirement allowance is 2.0% of final average salary multiplied by service. If, however, they have 10 or more years, they receive a benefit percentage of 2.5% for all years of service up to 30 years.

(d) For members retiring on or after July 1, 2004, the retirement allowance formula is 3.0% of final average salary for each year of service credit earned in excess of 30 years.

The annual retirement allowance for university members is equal to 2.0% of final average salary multiplied by all years of service.

For all members, the annual allowance is reduced by 5% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

The minimum annual service allowance for all members is $440 multiplied by credited service.

Members on and after 7/1/2008

Condition for Retirement

Completion of 27 years of service, attainment of age 60 and 5 years of service or attainment of age 55 and 10 years of service.

Amount of Allowance

The annual retirement allowance for non-university members is equal to:

1.7% of final average salary if service is 10 years or less.
2.0% of final average salary if service is greater than 10 years and no more than 20 years.
2.3% of final average salary if service is greater than 20 years but no more than 26 years.
2.5% of final average salary if service is greater than 26 years but no more than 30 years.
3.0% of final average salary for years of service greater than 30 years.

The annual retirement allowance for university members is equal to:

1.5% of final average salary if service is 10 years or less.
1.7% of final average salary if service is greater than 10 years and no more than 20 years.
1.85% of final average salary if service is greater than 20 years but less than 27 years.
2.0% of final average salary if service is greater than or equal to 27 years.
.
For all members, the annual allowance is reduced by 6% per year from the earlier of age 60 or the date the member would have completed 27 years of service.

Disability Retirement Allowance

Condition for Allowance	Totally and permanently incapable of being employed as a teacher and under age 60 but after completing 5 years of service.
Amount of Allowance	The disability allowance is equal to the greater of the service retirement allowance or 60% of the member's final average salary. The disability allowance is payable over an entitlement period equal to 25% of the service credited to the member at the date of disability or five years, whichever is longer. After the disability entitlement period has expired and if the member remains disabled, he will be retired under service retirement. The service retirement allowance will be computed with service credit given for the period of disability retirement. The allowance will not be less than $6,000 per year. The service retirement allowance will not be reduced for commencement of the allowance before age 60 or the completion of 27 years of service.

Benefits Payable on Separation from Service	Any member who ceases to be in service is entitled to receive his contributions with allowable interest. A member who has completed 5 years of creditable service and leaves his contributions with the System may be continued in the membership of the System after separation from service, and file application for service retirement after the attainment of age 60.
Life Insurance	A separate Life Insurance fund has been created as of June 30, 2000 to pay benefits on behalf of deceased KTRS active and retired members.

Death Benefits

A surviving spouse of an active member with less than 10 years of service may elect to receive an annual allowance of $2,880 except that if income from other sources exceeds $6,600 per year the annual allowance will be $2,160.

A surviving spouse of an active member with 10 or more years of service may elect to receive an allowance which is the actuarial equivalent of the allowance the deceased member would have received upon retirement. The allowance will commence on the date the deceased member would have been eligible for service retirement and will be payable during the life of the spouse.

If the deceased member is survived by unmarried children under age 18 the following schedule of annual allowances applies:

Number of Children	Annual Allowance
1	$ 2,400
2	4,080
3	4,800
4 or more	5,280

The allowances are payable until a child attains age 18, or age 23 if a full-time student.

If the member has no eligible survivor, a refund of his accumulated contributions is payable to his estate.

Options

In lieu of the regular Option 1, a retirement allowance payable in the form of a life annuity with refundable balance, any member before retirement may elect to receive a reduced allowance which is actuarially equivalent to the full allowance, in one of the following forms:

Option 2. A single life annuity payable during the member's lifetime with payments for 10 years certain.

Option 3. At the death of the member his allowance is continued throughout the life of his beneficiary.

Option 3(a). At the death of the beneficiary designated by the member under Option 3, the member's benefit will revert to what would have been paid had he not selected an option.

Option 4. At the death of the member one half of his allowance is continued throughout the life of his beneficiary.

Option 4(a). At the death of the beneficiary designated by the member under Option 4, the member's benefit will revert to what would have been paid had he not selected an option.

Post-Retirement Adjustments	The retirement allowance of each retired member and of each beneficiary shall be increased by 1.50% each July 1.

3 - CONTRIBUTIONS

Member Contributions	University members contribute 7.625% of salary to the Retirement System. Non-university members contribute 9.105% of salary to the Retirement System. Member contributions are picked up by the employer.

SCHEDULE G

TABLE 1
AGE – SERVICE TABLE

Distribution of Active Members as of June 30, 2015 by Age and Service Groups

Attained Age	Completed Years of Service								
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 35	Over 35	Total
24 & Under	2,213	2							2,215
Total Pay	41,947,049	43,502							41,990,551
Avg. Pay	18,955	21,751							18,957
25 to 29	6,199	1,397	1						7,597
Total Pay	204,011,920	66,904,762	43,050						270,959,732
Avg. Pay	32,910	47,892	43,050						35,667
30 to 34	3,056	4,991	1,307	3					9,357
Total Pay	95,321,748	249,144,319	73,460,486	153,055					418,079,608
Avg. Pay	31,192	49,919	56,205	51,018					44,681
35 to 39	2,213	2,424	4,578	962	4				10,181
Total Pay	62,011,160	121,552,831	267,069,504	61,448,344	254,485				512,336,324
Avg. Pay	28,021	50,146	58,338	63,876	63,621				50,323
40 to 44	1,926	1,566	2,269	4,007	797	1			10,566
Total Pay	48,076,172	78,903,638	133,000,641	260,740,328	54,050,935	64,650			574,836,364
Avg. Pay	24,962	50,385	58,616	65,071	67,818	64,650			54,404
45 to 49	1,436	1,228	1,510	2,120	3,065	762	3		10,124
Total Pay	35,812,710	60,907,248	87,807,089	136,589,683	209,991,357	53,758,353	291,877		585,158,317
Avg. Pay	24,939	49,599	58,150	64,429	68,513	70,549	97,292		57,799
50 to 54	1,197	750	1,085	1,254	1,534	1,754	320	1	7,895
Total Pay	26,138,213	37,365,255	62,125,573	80,091,516	106,724,424	126,744,365	24,411,479	51,329	463,652,154
Avg. Pay	21,836	49,820	57,259	63,869	69,573	72,260	76,286	51,329	58,727
55 to 59	1,417	464	754	984	1,095	865	395	33	6,007
Total Pay	25,813,988	21,457,280	44,157,300	63,512,149	76,152,402	66,191,587	33,976,083	2,927,726	334,188,515
Avg. Pay	18,217	46,244	58,564	64,545	69,546	76,522	86,015	88,719	55,633
60 to 64	1,965	372	400	624	611	451	120	92	4,635
Total Pay	26,415,228	15,272,685	24,733,514	41,330,777	44,908,769	35,340,649	10,764,337	8,630,293	207,396,252
Avg. Pay	13,443	41,056	61,834	66,235	73,500	78,361	89,703	93,808	44,746
65 & Over	2,198	484	191	237	220	197	58	84	3,669
Total Pay	19,925,732	12,980,171	11,414,848	16,368,292	16,473,814	15,983,130	4,964,889	8,404,433	106,515,309
Avg. Pay	9,065	26,819	59,764	69,065	74,881	81,133	85,602	100,053	29,031
Total	23,820	13,678	12,095	10,191	7,326	4,030	896	210	72,246
Total Pay	585,473,920	664,531,691	703,812,005	660,234,144	508,556,186	298,082,734	74,408,665	20,013,781	3,515,113,126
Avg. Pay	24,579	48,584	58,190	64,786	69,418	73,966	83,045	95,304	48,655

Average Age: 43.5

Average Service: 10.8

SCHEDULE G

TABLE 2

NUMBER OF RETIRED MEMBERS AND BENEFICIARIES AND THEIR BENEFITS BY AGE AS OF JUNE 30, 2015

Attained Age	Number of Members	Total Annual Payment	Average Annual Benefits
49 & Under	851	$ 10,886,660	$ 12,793
50 – 54	1,234	46,495,372	37,679
55 – 59	4,148	173,846,860	41,911
60 – 64	9,601	382,583,341	39,848
65 – 69	13,081	485,814,525	37,139
70 – 74	8,460	299,153,859	35,361
75 – 79	5,417	177,327,235	32,735
80 – 84	3,509	104,398,591	29,752
85 – 89	2,221	58,575,369	26,373
90 & Over	1,300	28,554,726	21,965
Total	49,822	$ 1,767,636,538	$ 35,479

Average Current Age: 68.9

Average Age at Retirement: 55.8

SCHEDULE G

TABLE 3

SCHEDULE OF RETIRANTS, BENEFICIARIES AND SURVIVORS ADDED TO AND REMOVED FROM ROLLS

	ADDED TO ROLLS		REMOVED FROM ROLLS		ROLLS AT END OF YEAR			
Fiscal Year Ending June 30	Number	Annual Allowances (in millions)	Number	Annual Allowances (in millions)	Number	Annual Allowances (in millions)	Increase In Annual Allowances	Average Annual Allowance
2006	2,266	$121.1	1,115	$20.0	38,497	$1,074.2	10.4%	$27,902
2007	2,050	82.1	1,041	20.7	39,506	1,135.6	5.7%	28,746
2008	2,183	90.6	950	19.4	40,739	1,206.8	6.3%	29,623
2009	2,351	96.2	1,040	22.7	42,050	1,280.3	6.1%	30,447
2010	2,105	93.7	1,021	21.8	43,134	1,352.2	5.6%	31,348
2011	2,133	98.9	848	17.7	44,419	1,433.4	6.0%	32,270
2012	2,513	111.2	838	19.4	46,094	1,525.2	6.4%	33,089
2013	2,303	105.7	991	22.2	47,406	1,608.7	5.5%	33,934
2014	2,146	99.6	976	23.4	48,576	1,684.9	4.7%	34,685
2015	2,917	119.1	1,671	36.3	49,822	1,767.6	4.9%	35,479

SCHEDULE H

BOARD FUNDING POLICY

Introduction

Pursuant to the provisions of KRS 161.250, the Board of Trustees ("Board") of the Kentucky Teachers' Retirement Systems ("KTRS") is vested with the responsibility for the general administration and management of the retirement system. The Board may adopt procedures necessary to conduct the business of the retirement system as needed. The applicable provisions of the Kentucky Revised Statutes ("state law") shall control if any inconsistency exists between state law and this policy.

Background:

State law provides that the retirement benefits promised to members of KTRS are "…an inviolable contract of the Commonwealth…." (KRS 161.714.) To satisfy this solemn commitment, the Commonwealth of Kentucky ("state") is required to pay annual retirement appropriations necessary to fund the benefit requirements of members of the retirement system. All employers participating in KTRS are responsible for paying the fixed employer contribution rate set forth in state law. However, the state—as plan guarantor—is solely responsible for paying the additional annual retirement appropriations necessary to keep the retirement system actuarially sound and able to satisfy the contract with members to provide promised benefits. (KRS 161.550(6).)

Since fiscal year 2008, the state has not paid the recommended annual retirement appropriations necessary to pre-fund the benefit requirements of members of the retirement system as determined by the actuary. Over this period of time, because of the failure to fund, the state's annual retirement appropriations have grown significantly from $60.5 million (Fiscal Year 2009) to $487 million (Fiscal Year 2016). The following schedule details the growth of the annual retirement appropriations payable by the state:

	Cumulative Increase as a % of Payroll	Cumulative Increase of Annual Retirement Appropriations Payable by the State
2009	1.88	$ 60,499,800
2010	2.46	82,331,200
2011	3.59	121,457,000
2012	5.81	208,649,000
2013	7.27	260,980,000
2014	8.02	299,420,000
2015	10.42	386,400,000
2016	12.97	487,400,000

(Source: KTRS Report of the Actuary on the Annual Valuation Prepared as of June 30, 2013).

The Board has always taken action as required by state law and recommended annual retirement appropriations payable by the state that would ensure that the state meets the contractual obligations to members. This policy confirms the Board's process for recommending annual retirement appropriations payable by the state and the primary actuarial assumptions and methodologies associated with calculating the annual retirement appropriations. Other related actuarial assumptions and methodologies not listed in this policy are reported in annual valuations, the most recent experience study, or resolutions adopted by the Board.

1. <u>Annual Retirement Appropriations Payable by the State</u>: In each biennial budget request, the Board will recommend annual retirement appropriations payable by the state to meet the benefit requirements of the members of the retirement system. The annual retirement appropriations payable by the state are the sum of the fixed employer contribution rate set by state law and the additional annual retirement appropriations necessary to fund the benefit requirements of members of the retirement system. (KRS 161.550.) The recommended additional annual retirement appropriations payable by the state are calculated by the Board's actuary based upon the results of an annual valuation preceding the beginning of each biennium. (KRS 161.400.)

2. <u>Calculation of Annual Retirement Appropriations Payable by the State</u>: The Board will recommend annual retirement appropriations payable by the state, which—if paid—will meet the benefit requirements of the members of the retirement system consistent with generally accepted actuarial principles. Based

upon technical advice from the Board's actuary, the Board hereby adopts the following principles for calculating the recommended annual retirement appropriations payable by the state:

- Use the Entry Age Normal actuarial cost method;
- Use a five-year asset smoothing method;
- Use a thirty-year closed period to amortize legacy unfunded liability ("legacy unfunded liability" is that unfunded liability recognized as of the valuation prepared for June 30, 2014);
- Use a twenty-year closed period to amortize new sources of unfunded liability ("new sources of unfunded liability" is that unfunded liability consisting of all benefit changes, assumption and method changes, and experience gains and/or losses that have occurred since the previous valuation); and
- Reach a 100 percent minimum funded ratio within the thirty-year closed amortization period.

The Board also recognizes that, from time to time, the state may desire to contribute lump sum payments toward satisfaction of unfunded liability rather than amortization of the debt. Total unfunded liability is published in every annual valuation of the retirement system and KTRS will work with the state to develop reasonable and appropriate plans for receipt of lump sum payments toward the satisfaction of unfunded liability.

This policy will be reviewed regularly and amended or revised as necessary.