



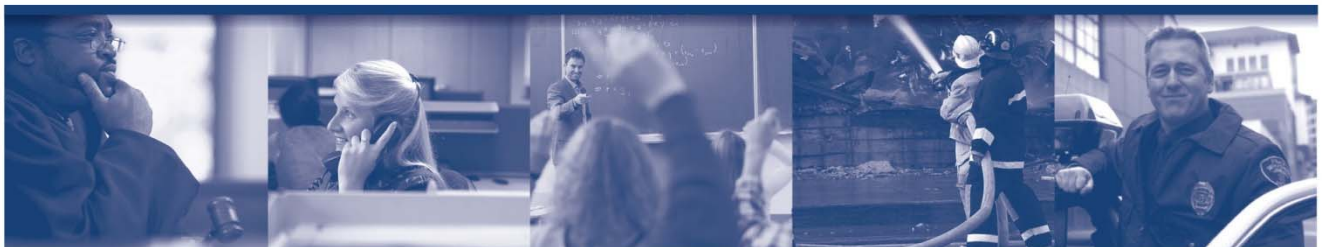
**Cavanaugh Macdonald**  
CONSULTING, LLC

*The experience and dedication you deserve*



**Kansas Public Employees  
Retirement System**

**Valuation Report as of December 31, 2015**







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# Cavanaugh Macdonald

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July 15, 2016

Board of Trustees  
Kansas Public Employees Retirement System  
611 S. Kansas Ave., Suite 100  
Topeka, KS 66603

Dear Members of the Board:

At your request, we have performed an actuarial valuation of the Kansas Public Employees Retirement System (KPERs) as of December 31, 2015 for the purpose of determining contribution rates for FY 2019 for the State and Schools (July 1, 2018 to June 30, 2019) and FY 2018 for Local employers (calendar year 2018). The major findings of the valuation are contained in this report, which reflects the plan provisions in place on December 31, 2015. There have been no changes to benefit provisions or actuarial assumptions since the prior actuarial valuation; however, we would note that this is the first valuation that includes KPERs 3 (Cash Balance Plan) members.

In preparing our report, we relied, without audit, on information (some oral and some in writing) supplied by the System's staff. This information includes, but is not limited to, statutory provisions, member data, and financial information. We found this information to be reasonably consistent and comparable with information used for other purposes. The valuation results depend on the integrity of this information. If any of this information is inaccurate or incomplete, our results may be different and our calculations may need to be revised.

We further certify that all costs, liabilities, rates of interest and other factors for the System have been determined on the basis of actuarial assumptions and methods which are individually reasonable (taking into account the experience of the System and reasonable expectations); and which, in combination, offer our best estimate of anticipated experience affecting the System. Nevertheless, the emerging costs will vary from those presented in this report to the extent actual experience differs from that projected by the actuarial assumptions. The Board of Trustees has the final decision regarding the appropriateness of the assumptions and adopted them as indicated in Appendix C.

Future actuarial measurements may differ significantly from the current measurements 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. Due to the limited scope of our assignment, we did not perform an analysis of the potential range of future measurements.

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123

Phone (402) 905-4461 • Fax (402) 905-4464

[www.CavMacConsulting.com](http://www.CavMacConsulting.com)

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE



Board of Trustees  
July 15, 2016  
Page 2

Actuarial computations presented in this report are for purposes of determining the actuarial recommended and statutory funding amounts for the System. Actuarial computations for purposes of fulfilling financial accounting requirements for the System under Governmental Accounting Standard Number 67 and computations for financial reporting by employers under Governmental Accounting Standards Number 68 are provided in separate reports. The calculations in the enclosed report have been made on a basis consistent with our understanding of the System's funding requirements and goals. Determinations for other purposes may be significantly different from the results contained in this report. Accordingly, additional determinations may be needed for other purposes.

The consultants who worked on this assignment are pension actuaries. Cavanaugh Macdonald Consulting, LLC's advice is not intended to be a substitute for qualified legal or accounting counsel.

On the basis of the foregoing, we hereby certify that, to the best of our knowledge and belief, this report is complete and accurate and has been prepared in accordance with generally recognized and accepted actuarial principles and practices. We are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein.

We would like to express our appreciation to KPERS Executive Director, Alan Conroy, and to members of his staff, who gave substantial assistance in supplying the data on which this report is based.

We respectfully submit the following report and look forward to discussing it with you.

Sincerely,

A handwritten signature in blue ink that reads 'Patrice Beckham'.

Patrice A. Beckham, FSA, EA, FCA, MAAA  
Principal and Consulting Actuary

A handwritten signature in blue ink that reads 'Brent A. Banister'.

Brent A. Banister Ph.D., FSA, EA, MAAA, FCA  
Chief Pension Actuary



## SECTION 1 – BOARD SUMMARY

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### OVERVIEW

The Kansas Public Employees Retirement System is an umbrella organization which administers the following three statewide pension groups: the Kansas Public Employees Retirement System (KPERS), the Kansas Police and Firemen’s Retirement System (KP&F) and the Kansas Retirement System for Judges (Judges). This report presents the results of the December 31, 2015 actuarial valuations for each of the groups.

The primary purposes of performing actuarial valuations are to:

- determine the employer contribution rates required to fund each group on an actuarial basis,
- determine the statutory employer contribution rates for each group,
- disclose asset and liability measures as of the valuation date,
- compare the actual experience since the last valuation date to that expected, and
- analyze and report on trends in contributions, assets, and liabilities over the past several years.

The 2016 Legislature passed two bills that impacted the provisions and funding of KPERS:

- House Substitute for SB 168 (KPERS Omnibus Bill) included changes to the working after retirement rules, technical changes to the DROP program for the Kansas Highway Patrol, and technical changes to KPERS and the KPERS 457 plans. The provisions of the bill tighten the requirement that there be no pre-arrangement for a retired member to return to work. It also extends from July 1, 2017 to July 1, 2020, the grandfather provisions for those retirees in a licensed school position who retired before May 1, 2015 and establishes a 30% employer contribution rate, subject to actuarial review by the Board every three years, for retirees working in positions that are exempt from the general working after retirement rules. The bill also increased the earnings limitation for KP&F retirees from \$15,000 to \$25,000.
- House Sub for SB 161 provided for the delay of up to \$100 million in State and School contributions to the Retirement System for fiscal year 2016. House Sub for SB 249 provided that the delayed contributions would be repaid in full, with interest at 8%, by June 30, 2018.

The valuation process does not include an assumption regarding the re-employment of retirees so the working after retirement provisions in House Sub for SB 168 did not have an impact on the valuation results. The technical changes to the DROP program and other KPERS provisions also did not have an impact on the valuation results.

Although House Sub for SB 161 and House Sub for SB 249 impacted KPERS’ funding, the law requires that the delayed contributions for fiscal year 2016 must be paid to KPERS by June 30, 2018 with interest at 8%. Because the valuation date for this report is December 31, 2015, the delayed State/School contributions occurred after the valuation date and thus, did not impact the asset values in the current valuation. However, the calculation of the unfunded actuarial accrued liability (UAAL) contribution rate projects the UAAL from December 31, 2015 to June 30, 2018. In those calculations, it is assumed that KPERS records the delayed contributions as a long-term receivable so the UAAL contribution rate in the current valuation is not impacted by the delayed contributions. In addition, projections prepared in conjunction with this valuation are reflected later in the Executive Summary. Those projections also reflect a long-term receivable from the State for the amount actually delayed (\$97.4 million) with interest in the asset values as of December 31, 2016 and subsequent years. Assuming repayment is made by June 30, 2018, the delay of contributions from fiscal year 2016 to 2018 will not impact the projection results.



## SECTION 1 – BOARD SUMMARY

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However, if such repayment is not made in full, KPERS' funded ratios will be lower and the employer actuarial contribution rates will be higher than shown in the projections in this report.

Legislation passed last year in the 2015 Session authorized the issuance of \$1.0 billion in net bond proceeds, subject to certain requirements including a maximum interest rate for the bonds. Due to the uncertainty at the time, the December 31, 2014 valuation did not assume that any bond proceeds would be received during 2015. The bonds were issued and the net proceeds of \$1.0 billion were deposited into the KPERS trust on August 20, 2015 and fully invested shortly thereafter. The additional contribution in the form of bond proceeds is first reflected in this valuation, significantly lowering the unfunded actuarial liability (UAL) and the actuarial contribution rate for the State/School group.

There were no changes to the benefit provisions or actuarial assumptions and methods since the prior actuarial valuation; however, this is the first valuation that includes KPERS 3 (Cash Balance Plan) members. Of the total KPERS active membership of 144,669, 16,125 (about 11%) were KPERS 3 members as of the valuation date. KPERS 3 members receive guaranteed interest of 4% on their account balances. There is also the possibility of additional interest credits that are dependent on KPERS' investment return. The additional interest credits, referred to as "dividends", are equal to 75% of the five-year average net compound rate of return, as determined by the board, for the preceding calendar year and the previous four calendar years on the market value of assets that is above 6%. If applicable, the dividend is granted as soon as administratively feasible after March 31 and is credited on the account balance as of the previous December 31. Transition rules apply for the initial years until the Cash Balance Plan has been effective for five full calendar years (January 1, 2020). The dividend for 2015 was dependent on the rate of return on the market value of assets for 2015. Because the rate of return for 2015 was 0.2%, no dividend was payable.

The valuation results provide a "snapshot" view of the System's financial condition on December 31, 2015. The unfunded actuarial liability (UAL), for the System as a whole, decreased by \$929 million due to multiple factors, the most significant of which was the \$1 billion of bond proceeds. A detailed analysis of the change in the unfunded actuarial liability from December 31, 2014 to December 31, 2015 can be found on page 7.

In KPERS, the State, School, and Local employers do not necessarily contribute the full actuarial contribution rate. Based on legislation passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. The statutory cap has changed over time, but the current cap is 1.20% for FY 2019 (based on the December 31, 2015 actuarial valuation). Although separate valuations are performed for the State and School groups, the statutory contribution rate for the two groups is determined using the combined valuation results. If the actuarial required contribution (ARC) for the State alone is less than the statutory contribution rate when the two groups are combined (as it is this year), the excess of the statutory contribution rate over the actuarial required contribution rate for the State alone is allocated to the School to improve the funding of that group.

A summary of actuarial and statutory employer contribution rates for the Retirement System (excluding the statutory contribution for the Death and Disability Program) for this valuation and the prior valuation follows:





## SECTION 1 – BOARD SUMMARY

System	December 31, 2015 Valuation		
	Actuarial	Statutory	Difference
State <sup>1</sup>	8.28%	13.21%	(4.93%)
School <sup>1</sup>	14.59%	13.21%	1.38%
State/School <sup>1</sup>	13.23%	13.21%	0.02%
Local <sup>1</sup>	8.39%	8.39%	0.00%
Police & Fire - Uniform Rates <sup>2</sup>	20.09%	20.09%	0.00%
Judges	14.68%	14.68%	0.00%

System	December 31, 2014 Valuation		
	Actuarial	Statutory	Difference
State <sup>1</sup>	9.62%	12.01%	(2.39%)
School <sup>1</sup>	16.38%	12.01%	4.37%
State/School <sup>1</sup>	14.89%	12.01%	2.88%
Local <sup>1</sup>	8.46%	8.46%	0.00%
Police & Fire - Uniform Rates <sup>2</sup>	19.03%	19.03%	0.00%
Judges	15.89%	15.89%	0.00%

<sup>1</sup> By statute, rates are allowed to increase by a maximum of 0.9% for FY 2014, 1.0% in FY 2015, 1.1% in FY 2016 and 1.2% in FY 2017 and beyond plus the cost of any benefit enhancements. However, the 2015 Legislature set the State/School statutory rate at 10.91% for FY 2016 and 10.81% for FY 2017, with the 1.2% statutory cap applying thereafter. The December 31, 2015 valuation sets the employer contribution rate for FY 2019 for the State and School group and calendar year 2018 for the Local group.

<sup>2</sup> For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for local employers. The rate for State employers is 20.05% this year. The uniform rate does not include the payment required to amortize the unfunded past service liability determined separately for each employer. (See Table 14)

The rate of return on the market value of assets in 2015 was 0.2%, as reported by KPERS, lower than the assumed return of 8.0%. As a result, the net deferred asset gain of \$660 million in the prior valuation has changed to a net deferred asset loss of \$515 million in the current valuation. Due to the asset smoothing method, the resulting rate of return on the actuarial value of assets for calendar year 2015 was 7.6%. Based on the results of this valuation, the State and Local groups continue to be at the ARC rate. In addition, the statutory contribution rate for the State/School group is projected to converge with the ARC rate before the end of the amortization period (2033), based on the current statutory funding policy and assuming all actuarial assumptions are met and contributions are made, as scheduled, in future years.

### EXPERIENCE - ALL SYSTEMS COMBINED

#### December 31, 2014 – December 31, 2015

In many respects, an actuarial valuation can be thought of as an inventory process. The inventory is taken as of the actuarial valuation date, which for this valuation is December 31, 2015. On that date, the assets available for the payment of benefits are appraised. The assets are compared with the liabilities of the System, which are generally in excess of assets. The actuarial process leads to a method of determining the contributions needed by members and employers in the future to balance the System assets and liabilities.

Changes in both the System's assets and liabilities impacted the change in the actuarial contribution rates between the December 31, 2014 and December 31, 2015 actuarial valuations. On the following pages, each component is examined.



## SECTION 1 – BOARD SUMMARY

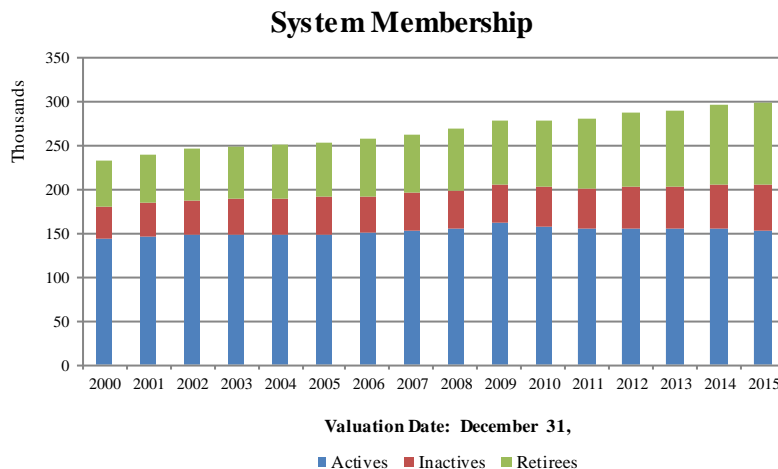
### MEMBERSHIP

The following table contains a summary of the changes in active members between the December 31, 2014 and December 31, 2015 actuarial valuations.

	State	School	Local	KP&F	Judges	Total
12/31/2014 (Starting count)	22,740	85,347	38,659	7,204	253	154,203
New actives	2,472	9,697	5,448	644	21	18,282
Non-vested Terminations	(830)	(3,989)	(1,996)	(206)	0	(7,021)
Elected Refund	(703)	(1,519)	(1,318)	(110)	(1)	(3,651)
Vested Terminations	<u>(590)</u>	<u>(2,715)</u>	<u>(1,219)</u>	<u>(33)</u>	<u>(2)</u>	<u>(4,559)</u>
Total Withdrawals	(2,123)	(8,223)	(4,533)	(349)	(3)	(15,231)
Deaths	(38)	(56)	(64)	(6)	(1)	(165)
Disabilities	(33)	(51)	(35)	(17)	0	(136)
Retirements	(855)	(2,588)	(1,092)	(238)	(5)	(4,778)
Other/Transfer	<u>(46)</u>	<u>(106)</u>	<u>149</u>	<u>6</u>	<u>(3)</u>	<u>0</u>
12/31/2015 (Ending count)	22,117	84,020	38,532	7,244	262	152,175

As can be seen from the table, all three KPERS groups experienced a decrease in the number of active members with the largest decrease, as a percentage, occurring in the State group. This pattern of low (or negative) employee growth has not been unusual in recent years. However, the decline in active members has an adverse impact on the valuation results. As a result of fewer active members, coupled with low salary increases, the total active member payroll has not grown as expected, so there have been fewer contribution dollars to help pay down the System's UAL.

The following graph shows the number of active and inactive vested members, as well as retirees, in current and prior valuations. The number of active members has declined over the last five years while the number of retirees has continued to grow.





## SECTION 1 – BOARD SUMMARY

### ASSETS

As of December 31, 2015, the System had total funds of \$16.9 billion on a market value basis, excluding assets held for the Group Insurance and Optional Life reserves. This was an increase of \$0.6 billion from the December 31, 2014 value of \$16.3 billion.

The market value of assets is not used directly in the calculation of contribution rates. An asset valuation method is used to smooth the effect of market fluctuations. The smoothing method calculates the difference between the actual return and the expected return (assumed rate of return) on the market value of assets each year. The difference is recognized equally over a five-year period. See Tables 3A through 3F and 4 for the detailed development of the actuarial value of assets as of December 31, 2015 for each group.

The components of the change in the market value and actuarial value of assets for the Retirement System (in millions) are set forth below.

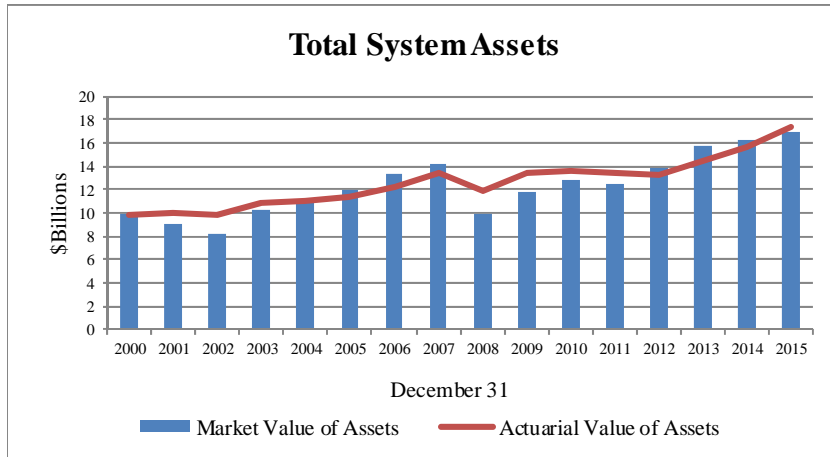
	Market Value \$(millions)	Actuarial Value \$(millions)
Assets, December 31, 2014	\$16,322	\$15,662
• Employer and Member Contributions	1,131	1,131
• Benefit Payments and Expenses	(1,596)	(1,596)
• Bond Proceeds	1,000	1,000
• Investment Income	36	1,212
Assets, December 31, 2015	\$16,893	\$17,409
Rate of Return	0.2%	7.6%

The actuarial value of assets as of December 31, 2015, was \$17.409 billion. The annualized dollar-weighted net rate of return for 2015 was 7.6% when measured on the actuarial value of assets, and 0.2% when measured on the market value of assets, as reported by KPERS.

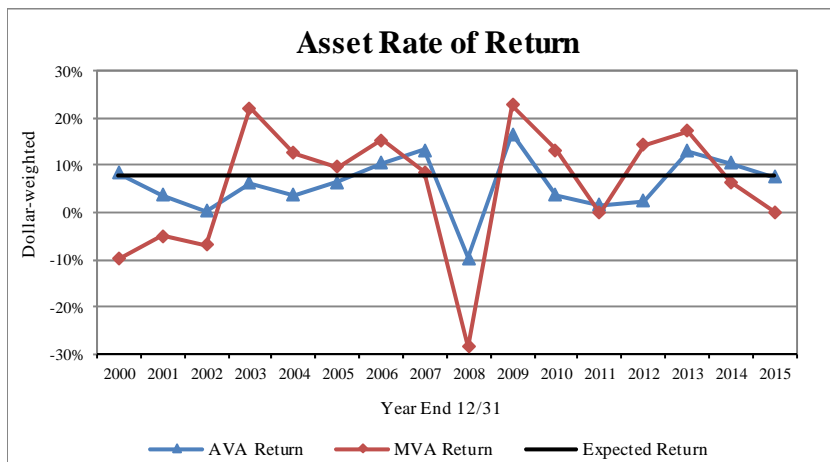
Due to the use of an asset smoothing method, there is \$515 million of net deferred investment loss experience that has not yet been recognized, i.e. the market value of assets is lower than the actuarial value. This deferred investment loss will be reflected in the actuarial value of assets over the next four years, but may be offset by actual investment experience if it is more favorable than assumed.



**SECTION 1 – BOARD SUMMARY**



*The actuarial value of assets has been both above and below the market value during the period, which is to be expected when using an asset smoothing method.*



*The rate of return on the actuarial (smoothed) value of assets has been less volatile than the market value return. The deferred investment loss will be reflected in the actuarial value of assets in the next few years, absent favorable investment experience.*

**LIABILITIES**

The actuarial liability is that portion of the present value of future benefits that will not be paid by future employer normal costs or member contributions. The difference between this liability and asset values at the same date is referred to as the unfunded actuarial liability (UAL). The unfunded actuarial liability will be reduced if the employer contributions exceed the employer normal cost for the year, after allowing for interest on the previous balance of the unfunded actuarial liability. Benefit improvements, experience gains and losses, and changes in actuarial assumptions and methods will also impact the total actuarial liability (AL) and the unfunded portion thereof.

The unfunded actuarial liability (\$ million) by group is summarized below:

	State	School	Local	KP&F	Judges	Total*
Actuarial Liability	\$4,211	\$13,799	\$4,806	\$2,966	\$166	\$25,948
Actuarial Value of Assets	<u>3,341</u>	<u>8,393</u>	<u>3,320</u>	<u>2,194</u>	<u>160</u>	<u>17,409</u>
Unfunded Actuarial Liability*	\$ 870	\$ 5,406	\$1,486	\$ 772	\$ 6	\$ 8,539

\*May not add due to rounding.



## SECTION 1 – BOARD SUMMARY

See Table 6 for the detailed development of the Actuarial Liability by group. The calculation of the Unfunded Actuarial Liability by group is shown in Table 10.

When the actuarial cost method was changed by the Legislature in 1993, the payment methodology for the unfunded actuarial liability (UAL) for all groups (except the Judges System) was set, as a level percentage of payroll, over a 40 year closed period, of which 17 years remain as of this valuation. Under this amortization approach, payments on the UAL increase four percent each year, the same as the payroll growth assumption, resulting in a payment pattern that is a level percentage of pay, if all assumptions are met. However, the dollar amount of the amortization payment is less than the interest on the UAL for over half of the amortization period. As a result, the dollar amount of the UAL is expected to increase for much of the amortization period before it eventually begins to decline. The remaining amortization period is now short enough that the UAL would be expected to decrease, if the full actuarial contribution rate was contributed. However, with the planned difference in KPERS' statutory and actuarial contribution rates prior to the ARC Date, the unfunded actuarial liability has increased by an additional amount each year. Moreover, during the last half of FY 2015, the statutory rate for the State/School group was reduced from 11.27% to 8.65% due to an allotment by the Governor, which was later codified by the 2015 Legislature.

Other factors influencing the UAL from year to year include actual experience versus that expected based on the actuarial assumptions (on both assets and liabilities), changes in actuarial assumptions, procedures or methods, and changes in benefit provisions. The actual experience measured in this valuation is that which occurred during the prior plan year (calendar year 2015). For all of the groups, except KPERS Local and KP&F, the valuation reflects a net liability gain for the year, largely from smaller salary increases than expected. The liability loss for the Local group and KP&F was due to the combined impact of more retirements than expected with higher than expected benefit amounts. Due to unfavorable experience on assets, the System experienced a return of 7.6% on the actuarial value of assets, which is lower than the assumed return of 8.0%. This resulted in an experience loss on the actuarial value of assets for all groups. The net result of all experience (asset and liability) for all groups was an experience gain for the System of \$67 million in 2015.

Between December 31, 2014 and December 31, 2015 the change in the unfunded actuarial liability for the System, as a whole, was as follows (in millions):

	<b>\$ millions</b>
Unfunded Actuarial Liability, December 31, 2014	\$ 9,468
• effect of contribution cap/time lag/allotment	160
• expected increase due to amortization method	(11)
• gain/loss from investment return on actuarial assets	52
• demographic experience <sup>1</sup>	(118)
• all other experience	(12)
• bond proceeds	(1,000)
Unfunded Actuarial Liability, December 31, 2015 <sup>2</sup>	\$ 8,539

<sup>1</sup>Liability gain is about 0.45% of total actuarial liability.

<sup>2</sup>May not add due to rounding.

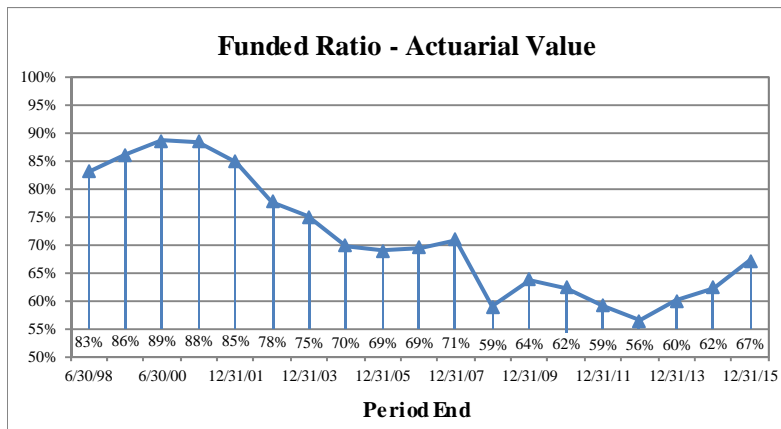


## SECTION 1 – BOARD SUMMARY

A detailed summary of the change in the unfunded actuarial liability by group is shown on page 19.

An evaluation of the unfunded actuarial liability on a pure dollar basis may not provide a complete analysis since only the difference between the assets and liabilities (which are both very large numbers) is reflected. Another way to evaluate the unfunded actuarial liability and the progress made in its funding is to track the funded status, the ratio of the actuarial value of assets to the actuarial liability. The funded ratio does not necessarily indicate whether or not additional funding is needed, nor does it indicate whether or not the plan could terminate. The funded status information for the KPERS System is shown below (in millions).

	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14	12/31/15
<b>Using Actuarial Value of Assets:</b>							
Funded Ratio (AVA/AL)	64%	62%	59%	56%	60%	62%	67%
Unfunded Actuarial Liability (AL-AVA)	\$7,677	\$8,264	\$9,228	\$10,253	\$9,766	\$9,468	\$8,539
<b>Using Market Value of Assets:</b>							
Funded Ratio (MVA/AL)	56%	59%	55%	59%	65%	65%	65%
Unfunded Actuarial Liability (AL-MVA)	\$9,384	\$8,936	\$10,130	\$9,714	\$8,584	\$8,808	\$9,055



*Changes in actuarial assumptions and methods, coupled with investment returns below the assumed rate and contributions below the actuarial rate significantly reduced the funded ratio over much of this period. However, the funded ratio improved in the current valuation due to proceeds from bonds issued by the State in 2015. The funded ratio is expected to increase steadily in the future assuming assumptions are met and scheduled contributions are made.*

Given the current funded status of the System, the deferred investment experience, the amortization method, the amortization period, and the scheduled increases in employer contribution rates, the dollar amount of the unfunded actuarial liability for the entire System is expected to remain near the current level for several years and then start to decline. The funded ratio is expected to improve absent experience losses in the future, but will continue to be heavily dependent on the actual investment returns.

### CONTRIBUTION RATES

The funding objective of the System is to establish contribution rates that over time will remain relatively level, as a percentage of payroll, and to pay off the unfunded actuarial liability by the 2033 valuation.



## SECTION 1 – BOARD SUMMARY

Generally, the actuarial contribution rates to the various Systems consist of:

- a "normal cost" for the portion of projected liabilities allocated by the actuarial cost method to service of members during the year following the valuation date,
- an "unfunded actuarial liability contribution" for the excess of the portion of projected liabilities allocated to service to date over the actuarial value of assets.

There is also a statutory contribution rate that is used to finance the Death and Disability Program. Contributions for the Death and Disability Program are deposited in a separate trust fund from which benefits are paid. A separate actuarial analysis and report is prepared for the Death and Disability Program on June 30 of each year, so the death and disability contribution rate is not reflected in this report.

In KPERs, State, School and Local employers do not necessarily contribute the full actuarial contribution rate. Based on legislation passed in 1993, the employer contribution rates certified by the Board may not increase by more than the statutory cap. The statutory cap, which has been changed periodically, is 1.2% for all three groups (0.9% in fiscal year 2014, 1.0% in 2015, and 1.1% in 2016, and 1.2% in 2017 and beyond). In 2015, SB 4 reset the previously certified employer contribution rate for the State/School group for the last half of FY 2015 from 11.27% to 8.65%. In addition, SB 228 lowered the statutory rates for the State/School group from 12.37% to 10.91% for FY 2016 and 13.57% to 10.81% for FY 2017. The December 31, 2014 valuation set the statutory contribution rates for FY 2018, based on the 1.2% statutory cap.

The results of the December 31, 2015 valuation are used to set employer contribution rates for fiscal year 2019 for the State and School (July 1, 2018 to June 30, 2019) and 2018 for Local employers (calendar year 2018). A summary of the actuarial and statutory employer contribution rates for the System is shown below:

System	December 31, 2015 Valuation		
	Actuarial	Statutory	Difference
State <sup>1</sup>	8.28%	13.21%	(4.93%)
School <sup>1</sup>	14.59%	13.21%	1.38%
State/School <sup>1</sup>	13.23%	13.21%	0.02%
Local <sup>1</sup>	8.39%	8.39%	0.00%
Police & Fire - Uniform Rates <sup>2</sup>	20.09%	20.09%	0.00%
Judges	14.68%	14.68%	0.00%

<sup>1</sup> By statute, rates are allowed to increase by a maximum of 0.9% for FY 2014, 1.0% in FY 2015, 1.1% in FY 2016 and 1.2% in FY 2017 and beyond plus the cost of any benefit enhancements. However, the 2015 Legislature set the State/School statutory rate at 10.91% for FY 2016 and 10.81% for FY 2017, with the 1.2% statutory cap applying thereafter. The December 31, 2015 valuation sets the employer contribution rate for FY 2019 for the State and School group and calendar year 2018 for the Local group.

<sup>2</sup> For KP&F, the statutory contribution rate is equal to the "Uniform" rate. The rate shown is for local employers. The rate for State employers is 20.05% this year. The uniform rate does not include the payment required to amortize the unfunded past service liability determined separately for each employer. (See Table 14)

Separate employer contribution rates are calculated for two subgroups of the State: Correctional Employee Groups with normal retirement age 55 (C55) and normal retirement age 60 (C60). The contribution rates are to be calculated by increasing the state statutory contribution rate by the difference in the normal cost rate for the C55 and C60 groups over the normal cost rate for regular state members, but not to exceed the statutory cap on contribution increases. The higher contribution rates are intended to finance the earlier normal retirement age. However, SB 228 reset the statutory employer contribution rates for FY 2016 and FY 2017 for the Correctional Employee groups to be the same as the employer contribution rate for the State/School group (10.91% and 10.81% respectively), eliminating the intended rate differential. The



## SECTION 1 – BOARD SUMMARY

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resulting contribution rates for the Correctional Employee Groups for FY 2019 are shown in the following table:

Corrections Group	Statutory Rate
Retirement Age 55:	13.21%
Retirement Age 60:	13.21%

The change in the employer actuarial contribution rate from December 31, 2014 to December 31, 2015 and the primary components thereof are shown in the table on page 18. With the exception of KP&F, the employer contribution rates declined from those in the December 31, 2014 valuation due to net favorable experience and the impact of the bond proceeds for the State/School group. The employer contribution rate for the Police & Fire group increased by 1.10% due a higher UAL at December 31, 2015 resulting from liability losses.

Due to statutory caps, the full actuarial contribution rate is not contributed for all KPERS groups. The State and Local groups reached the ARC date (the year in which the statutory contribution rate is equal to or greater than the actuarial required contribution rate) in 2010 and 2012, respectively, and remain at ARC in this valuation. Note, however, that the recertification of the employer contribution rate for FY 2016 to 10.91% resulted in the State/School statutory contribution rate being less than the State actuarial contribution rate for that one year. Based on the current valuation, there is a difference (shortfall) between the actuarial and statutory contribution rates of 1.38% for the School group and 0.02% for the State/School group. Assuming an 8.00% return on the market value of assets for 2016 and beyond, all other actuarial assumptions are met in the future, and the current statutory funding policy continues and contributions are made as scheduled, the estimated ARC Date for the State/School group is FY 2020 at a rate of 13.12%. For comparison purposes, the projections in last year’s valuation estimated a projected ARC Date of FY 2020 at a rate of 13.55%, reflecting receipt of the \$1 billion of bond proceeds.

### COMMENTS

Like most public retirement systems, KPERS uses an asset smoothing method to average investment experience above and below the assumed rate of 8.0% per annum. Under the asset smoothing method, the difference between the actual and assumed investment experience is recognized equally over a five-year period. Due to the recognition of the experience in the prior four years in the asset smoothing method, the return on the actuarial value of assets in 2015 was 7.6%. As of the valuation date, the actuarial value of assets exceeds the market value of assets by about 3.0%.

The deferred investment experience has changed from a net deferred gain of \$660 million in last year’s valuation to a net deferred loss of \$515 million this year’s valuation. This deferred experience will flow through the asset smoothing method in the next four years and be recognized in the valuation process, unless offset by investment experience above the 8.0% assumed rate of return. As the deferred investment experience is recognized, the funded ratio can be expected to decrease.

While the use of an asset smoothing method is a common procedure for public retirement systems, it is important to identify the potential impact of the deferred (unrecognized) investment experience. This is particularly important when there are deferred investment losses, but it is also useful to consider the impact on the key actuarial measurements if the deferred investment gains are recognized. To illustrate the impact of the deferred investment experience, the key valuation results are shown below for the State/School and





## SECTION 1 – BOARD SUMMARY

KPF groups using both the actuarial value of assets and the pure market value. The impact would be similar for the other groups.

	State/School		KP&F	
	<u>Actuarial</u>	<u>Market</u>	<u>Actuarial</u>	<u>Market</u>
Actuarial Liability	\$18,010	\$18,010	\$2,966	\$2,966
Asset Value	<u>11,734</u>	<u>11,395</u>	<u>2,194</u>	<u>2,127</u>
Unfunded Actuarial Liability*	6,276	6,614	772	839
Funded Ratio	65%	63%	74%	72%
Contribution Rate:				
Normal Cost Rate	8.31%	8.31%	15.07%	15.07%
UAL Payment	<u>10.92%</u>	<u>11.61%</u>	<u>12.17%</u>	<u>13.41%</u>
Total	19.23%	19.92%	27.24%	28.48%
Employee Rate	<u>6.00%</u>	<u>6.00%</u>	<u>7.15%</u>	<u>7.15%</u>
Employer Rate	13.23%	13.92%	20.09%	21.33%

\* May not add due to rounding

The asset smoothing method impacts only the timing of when the actual experience on the market value of assets is recognized. The investment experience over the last five years resulted in a return of 7.6% on the actuarial value of assets. As a result, the unfunded actuarial liability increased by \$52 million. Future investment experience will impact the extent to which the deferred investment experience (which is currently a net loss) will be recognized. The ultimate impact of the deferred experience on the employer contribution rate would be similar to the column shown above based on the market value of assets, if all actuarial assumptions are met including the 8.0% return in future years. Also, please refer to the graphs later in this section that show the projected contribution rates assuming an 8.0% rate of return in all future years.

Over the last decade, the development of a comprehensive plan to address the long-term funding of KPERs has been a high priority and significant changes have been made. HB 2014, which was passed by the 2003 Legislature, increased the statutory cap on the State/School employer contribution rate from 0.20% to 0.40% in FY2006, 0.50% in FY2007 and 0.60% in FY 2008 and beyond. It also authorized the issuance of up to \$500 million in pension obligation bonds (POBs). The POBs were sold and proceeds of \$440.2 million were received on March 10, 2004. The debt service payments on the bonds are paid by the State in addition to the regular KPERs employer contribution rate.

The 2004 Legislature passed SB 520, which continued to address issues related to the long term funding of the System. It gave the KPERs Board of Trustees the authority to establish the actuarial cost method and amortization method/period. With this authority, the Board changed both the actuarial cost method and the asset valuation method with the December 31, 2003 actuarial valuation. SB 520 also increased the statutory cap for Local employers from 0.15% to 0.40% in FY2006, 0.50% in FY2007 and 0.60% in FY2008 and beyond.

The 2007 Legislature passed SB 362 which created a new benefit structure for members first employed on or after July 1, 2009. The change was made partially due to long term funding considerations, but also in response to demographic changes in the membership.



## SECTION 1 – BOARD SUMMARY

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The 2011 Legislature passed Senate Substitute for House Bill 2194 (Sub HB 2194). The intent of this law was to strengthen KPERS' long term funding and improve the sustainability of the system. The bill contained significant changes for both KPERS employers and current and future members. In addition, Sub HB 2194 established a 13 member KPERS Study Commission to study alternative plan designs during the last half of 2011 and make a recommendation for KPERS plan design that would provide for the long term sustainability of the System. The Commission report was due to the Legislature by January 6, 2012. Sub HB 2194 required that the report recommendations be voted on by the 2012 Legislature for the other provisions of Senate Substitute for HB 2194 to become effective. The 2012 Legislature did not move the Study Commission recommendation forward, but some of the other provisions were included in the bill that was ultimately passed in 2012, Senate Sub for House Bill 2333.

The 2012 Legislature passed Sub House Bill 2333, affecting new hires, current members and employers. The changes were made to improve KPERS' long term sustainability. The basic provisions of Sub House Bill 2333, as amended by House Bill 2213 in 2013, included:

- ✓ Increased the statutory cap on employer contribution rates to 0.9% in FY 2014, 1.0% in FY 2015, 1.1% in FY 2016 and 1.2% in FY 2017 and beyond.
- ✓ Contingent upon IRS approval, established an election by Tier 1 members between different contribution rate and benefit levels. The legislation provided that, if the IRS rejected or did not take action to approve the election, Tier 1 members would default to an increase in their employee contributions to 5% of compensation effective January 1, 2014, and 6% effective January 1, 2015, with an increase in the benefit multiplier to 1.85% beginning January 1, 2014, for future years of service only. Subsequently, the IRS issued a private letter ruling stating that the election granted to KPERS 1 members under 2012 HB 2333 was impermissible.
- ✓ For Tier 2 members retiring after July 1, 2012, the cost of living adjustment (COLA) was eliminated, but members received a 1.85% multiplier for all years of service.
- ✓ Created a Cash Balance Plan for new hires beginning January 1, 2015. A cash balance plan is a type of defined benefit plan that includes some elements of a defined contribution plan and shares risk between the employer and employee. Each member has a hypothetical account that is credited with employee contributions, employer pay credits and interest credits. At retirement, the account balance is annuitized to create a guaranteed monthly benefit payable for the member's lifetime. Up to 30% of the account value at retirement may be paid as a lump sum.
- ✓ Beginning in FY 2014, provided for the state to make additional contributions to help pay down KPERS' unfunded actuarial liability until the State/School group reaches a funded ratio of at least 80%. The revenue was to come from the Expanded Lottery Act Revenues Fund (ELARF). However, for FY 2014 through 2017, the ELARF funds were appropriated as a partial funding source to meet the statutory contribution requirements for the School group rather than contributed in addition to the statutory contributions. Therefore, no additional funding of the UAL has occurred. As a result, projections assume there will not be any additional payments to the UAL from the ELARF funds.
- ✓ If the State of Kansas sells surplus real estate, 80% of the proceeds is to be used to pay down KPERS' unfunded actuarial liability until the System reaches an 80% funded ratio. However, 2016 SB249 suspended this provision with respect to any sales of surplus real estate during FY 2017.

The 2014 Legislature passed HB 2533 which made changes to the KPERS Tier 3 benefit structure, generally decreasing the portion of the benefit that is guaranteed, thereby increasing the risk-sharing portion of the benefit. The changes in House Bill 2533 were designed to further improve KPERS long term funding and to better manage the investment risk.



## SECTION 1 – BOARD SUMMARY

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The 2015 Legislature passed SB 4 which revised the State/School employer contribution rate from 11.27% to 8.65% for the last half of FY 2015 to correspond with the Governor's allotment. In addition, SB 228 provided for bonds to be issued to improve the funded status of the State/School group and also reduced the previously certified employer contribution rates for FY 2016 and 2017. The following provisions were included in SB 228:

- ✓ Net proceeds of up to \$1.0 billion from bonds issued by the state of Kansas were to be deposited into the KPERS trust fund for the State/School group, subject to certain criteria. The bonds had to be issued at an interest rate no greater than 5.0% and approved by the State Finance Council (approval received July 2, 2015).
- ✓ Revised the previously certified State/School employer contribution rate from 12.37% to 10.91% for fiscal year 2016 and from 13.57% to 10.81% for fiscal year 2017. The statutory cap of 1.2% per year was still applicable to employer contribution rates in fiscal year 2018 and beyond.

The 2015 Legislature also passed House Bill 2095 that contained changes to the working after retirement provisions and implemented a pilot program in KP&F for a Deferred Option Retirement Plan for the Kansas Highway Patrol. Neither of these provisions had a significant impact on the long term funding of the System.

The 2016 Legislature passed House Sub for SB 168 which revised the rules pertaining to working after retirement. The bill also made technical and clarifying amendments to statutes related to death and disability contributions, KPERS 3 members, and the Deferred Retirement Option Program (DROP) for certain members of KP&F. None of these provisions had an impact on the December 31, 2015 valuation results. The 2016 Legislature also passed House Sub for SB 161 which provided for the delay of up to \$100 million in State and School contributions for fiscal year 2016. House Sub for SB 249 provided that the delayed contributions would be repaid in full, with interest at 8%, by June 30, 2018. The Governor used this allotment authority to delay payments of \$97.4 million in State/School group contributions during the final quarter of FY 2016.

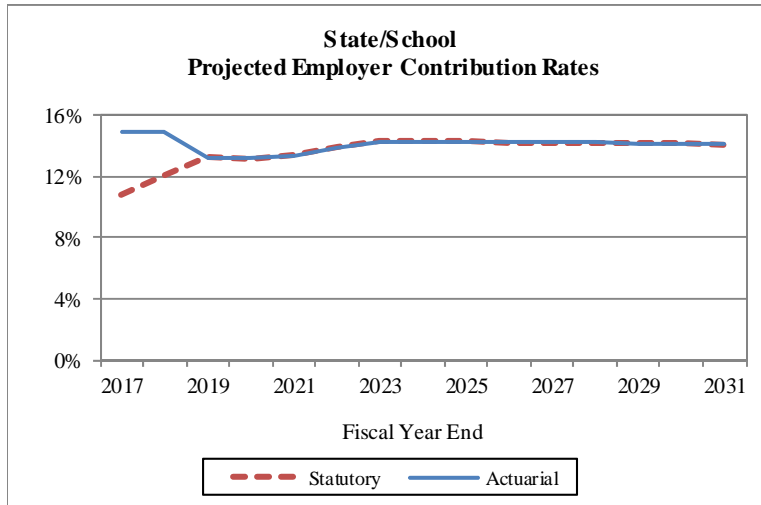
While all of the groups (State/School, Local, KP&F, and Judges) are projected to reach a funded ratio of 100% by 2033, the actual funding progress will be heavily dependent on the actual investment experience of the System in future years, the continuation of the current statutory funding policy for the State/School group, and actual contributions at the statutory rate.

The following graphs show the preliminary projected employer contribution rates assuming all actuarial assumptions are met in the future, including an 8% rate of return on the market value of assets in all years, and that the current statutory funding policy for the State/School group continues and contributions are made as scheduled, including the repayment of delayed contributions for fiscal year 2016 with 8% interest by June 30, 2018.

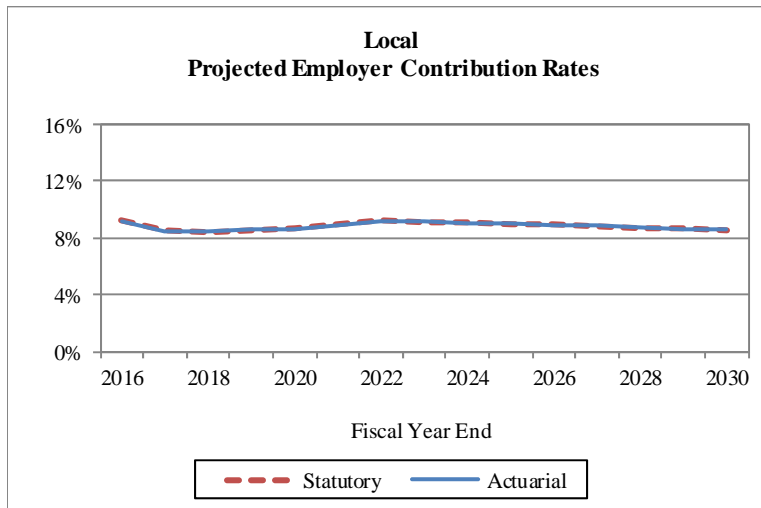
Note that although separate valuations are performed for the State and School groups, the statutory contribution rate for the two is determined using the combined valuation results for the two groups. Contributions which result from the excess of the statutory contribution rate over the actuarial required contribution rate for the State are allocated to the School to improve the funding of that group.



## SECTION 1 – BOARD SUMMARY



Based on preliminary modeling results which are subject to change upon final review, the ARC date for the State/School group is projected to occur in FY 2020 with an ARC rate of 13.12%, assuming all actuarial assumptions are met in future years, and then increase to around 14.25%. The projected ARC Date in last year's valuation, reflecting receipt of the bond proceeds, was FY 2020 with an ARC rate of 13.55%. Future experience, especially investment returns, will heavily influence the ultimate ARC date and rate.



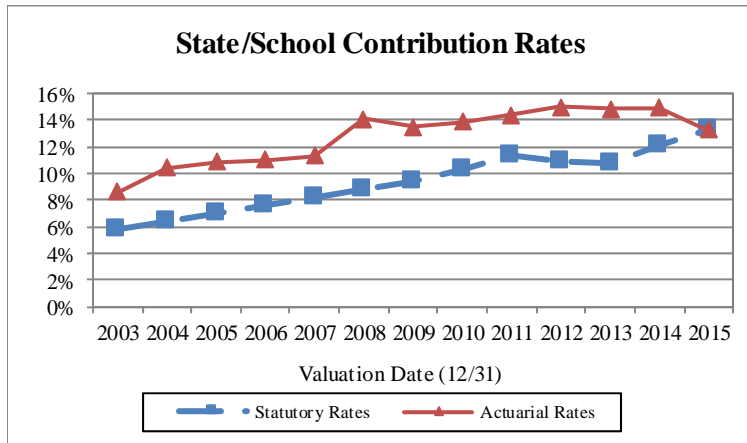
The Local group reached the ARC Date in the 2012 valuation with an ARC rate of 9.48%, which has decreased over the last few years to 8.39% in the 2015 valuation. The projected contribution rate is expected to increase to around 9.18% as the deferred investment experience is realized, assuming all actuarial assumptions are met in future years. Actual experience in future years, particularly investment returns, will impact the future actuarial and statutory rates.

Historical contribution rates for each group are shown on the following pages. Please note that prior to the December 31, 2003 valuation, one contribution rate was developed for the State and School together as one group. Legislation passed in 2004 split the actuarial valuations into two separate groups, although the statutory contribution rate is still determined on a combined basis. Any excess of the statutory contribution over the actuarial required contribution for the State is allocated to the School group.

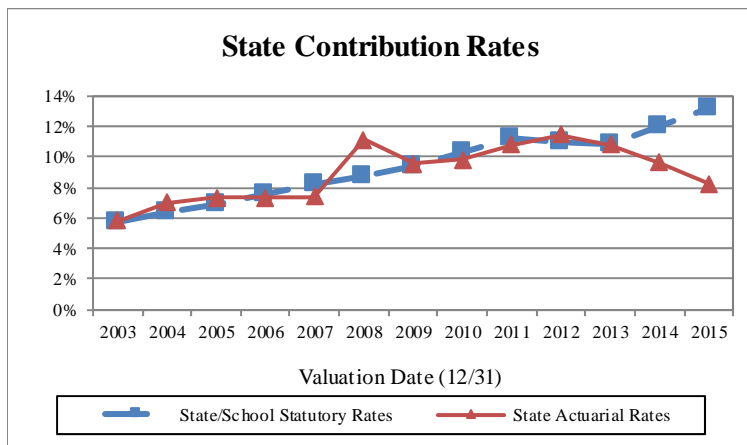
Significant changes in funding methods occurred in 2003, and the System received bond proceeds in 2003 and 2015. Actuarial assumptions were changed in the 2004, 2007, 2011 and 2014 valuations. These changes impact the comparability of contribution rates between various valuation dates.



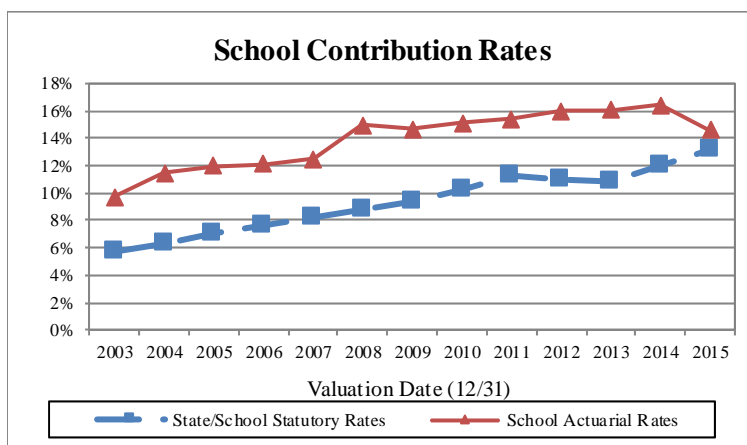
## SECTION 1 – BOARD SUMMARY



Numerous factors have contributed to the increase in the ARC rate over much of this period including investment experience, changes in actuarial assumptions, and contributions significantly below the actuarial rate. The ARC rate declined in the current valuation due to the \$1 million of bond proceeds issued by the state. As a result, the shortfall between the statutory and actuarial contribution rates was reduced to only 0.02%.



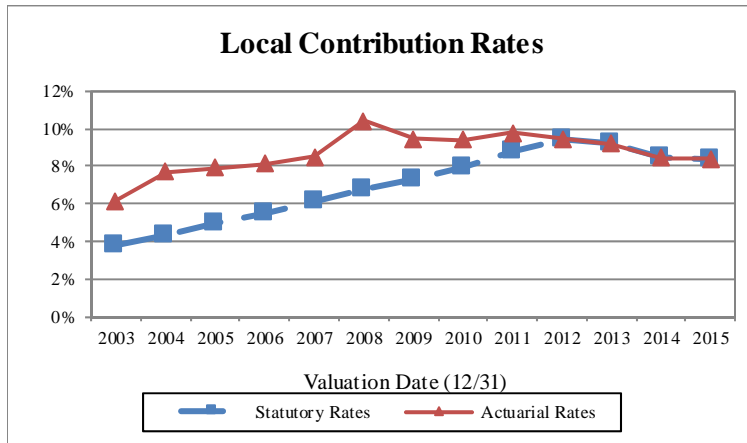
The split of the State group into a separate group with the 2003 valuation, coupled with the bond issue, lowered the State ARC rate. The State reached the full ARC rate in the 2010 valuation and has remained at ARC except for the recertification of the statutory contribution rate for FY 2016 from 12.37% to 10.91%. In this valuation, the State's actuarial required contribution rate decreased to 8.28%, due to the bond proceeds, and is again less than the statutory contribution rate.



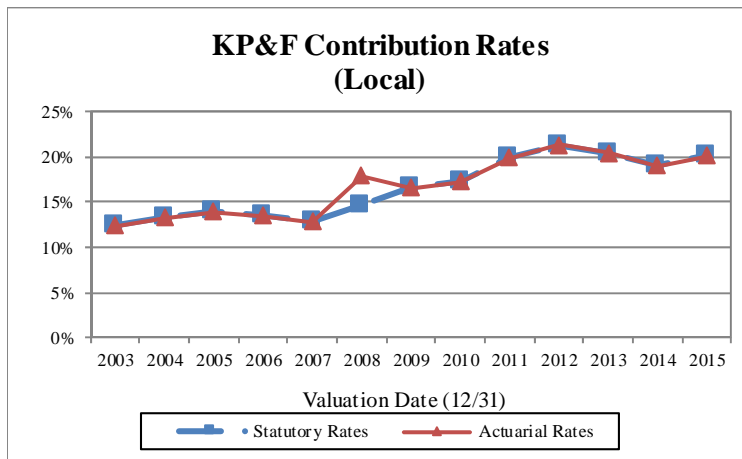
Due to investment experience, changes in actuarial assumptions, and the magnitude of the difference between the actuarial and statutory contribution rates, the funded status of the School group has declined and the ARC rate has increased over much of this period. However, due to the additional revenue received from the bond proceeds, the ARC rate decreased significantly and the funded ratio improved in the 2015 valuation.



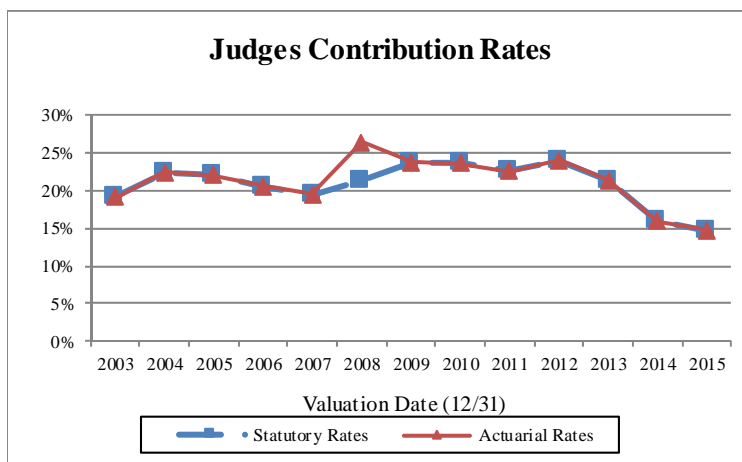
## SECTION 1 – BOARD SUMMARY



The Local contribution rate has also been impacted by changes in actuarial assumptions and methods as well as investment performance. With the significant changes in 2012 Sub House Bill 2333 and favorable investment returns, the statutory contribution rate was equal to the actuarial required contribution rate (ARC) in the 2012 valuation. The ARC decreased in the 2015 valuation so the statutory rate remains equal to the ARC.



Investment experience in 2008 and 2011 resulted in higher contribution rates in the latter part of the period. However, as the result of improvements in the funded status in recent years, the actuarial contribution rate had declined prior to the current valuation. Unfavorable experience resulted in an increase in the contribution rate in the 2015 valuation.



Investment experience in 2008 and 2011 resulted in higher contribution rates in the middle of the period. However, changes in the actuarial assumptions and methods in the 2014 valuation resulted in a significant decline in the ARC rate for the Judges System.



**SECTION 1 – BOARD SUMMARY**

**SUMMARY OF CHANGE IN UNFUNDED ACTUARIAL LIABILITY  
BY SYSTEM  
DECEMBER 31, 2015 VALUATION  
(\$ millions)**

	State	School	State/School	Local	KP&F	Judges	Total
<b>UAL in 12/31/2014 Valuation Report</b>	\$1,038.8	\$6,205.1	\$7,243.9	\$1,487.8	\$726.2	\$10.6	\$9,468.5
· Effect of contribution cap/time lag/allotment	7.5	189.2	196.7	(20.8)	(13.3)	(2.4)	160.2
· Expected increase due to amortization method	(1.2)	(7.0)	(8.2)	(1.7)	(0.8)	(0.3)	(11.0)
· Actual vs. expected experience							
Investment return	9.3	25.4	34.7	10.1	6.5	0.4	51.8
Demographic experience	(45.3)	(134.9)	(180.2)	11.0	54.3	(2.6)	(117.6)
All other experience	4.7	(15.7)	(11.0)	(0.7)	(1.3)	0.3	(12.7)
· Change in actuarial assumptions/methods	0.0	0.0	0.0	0.0	0.0	0.0	0.0
· Change in benefit provisions	0.0	0.0	0.0	0.0	0.0	0.0	0.0
· Bond proceeds	(143.4)	(856.6)	(1,000.0)	0.0	0.0	0.0	(1,000.0)
<b>UAL in 12/31/2015 Valuation Report</b>	\$870.4	\$5,405.5	\$6,275.9	\$1,485.7	\$771.6	\$6.0	\$8,539.2



SECTION 1 – BOARD SUMMARY

**SUMMARY OF  
CHANGES IN EMPLOYER ACTUARIAL CONTRIBUTION RATE  
BY SYSTEM  
AS OF DECEMBER 31, 2015**

Percentage of Payroll	State	School	State/School	Local	KP&F <sup>1</sup>	Judges
<b>Actuarial Contribution Rate in 12/31/2014 Valuation</b>	9.62%	16.38%	14.89%	8.46%	19.03%	15.89%
<b>Change Due to Amortization of UAL</b>						
· effect of contribution cap/time lag/allotment	0.06	0.42	0.34	(0.09)	(0.21)	(0.83)
· amortization method	(0.01)	(0.02)	(0.01)	(0.01)	(0.01)	(0.09)
· investment experience	0.07	0.06	0.06	0.04	0.10	0.14
· liability experience	(0.36)	(0.30)	(0.31)	0.05	0.86	(0.90)
· all other experience	0.10	0.04	0.07	0.07	0.32	0.35
· change in assumptions/methods	0.00	0.00	0.00	0.00	0.00	0.00
· change in benefit provisions	0.00	0.00	0.00	0.00	0.00	0.00
· bond proceeds	(1.14)	(1.88)	(1.72)	0.00	0.00	0.00
<b>Change in Employer Normal Cost Rate</b>						
· change in benefit provisions	0.00	0.00	0.00	0.00	0.00	0.00
· change in assumptions/methods	0.00	0.00	0.00	0.00	0.00	0.00
· all other experience	(0.06)	(0.11)	(0.09)	(0.13)	0.00	0.12
<b>Actuarial Contribution Rate in 12/31/2015 Valuation</b>	8.28%	14.59%	13.23%	8.39%	20.09%	14.68%

<sup>1</sup> Contribution rate for Local employers only.





**SECTION 1 – BOARD SUMMARY**

**SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL  
as of  
DECEMBER 31, 2015 VALUATION**

% (millions)	As Reported on Valuation Date							
	6/30/94	6/30/95	6/30/96	6/30/97	6/30/98	6/30/99	6/30/00	12/31/00
<b>Actual Experience vs. Assumed</b>								
• Investment	\$(102)	\$(143)	\$(280)	\$(323)	\$(413)	\$(369)	\$(441)	\$(23)
• Other	320	72	136	157	104	46	99	84
<b>Assumption Changes</b>	0	(96)	0	0	350	0	0	(206)
<b>Changes in Data/Procedures</b>	244	0	0	0	0	21	71	145**
<b>Change in Cost Method</b>	0	0	0	0	0	0	0	0
<b>Effect of Contribution Cap/Lag</b>	*	95	70	63	54	78	66	60
<b>Amortization Method</b>	*	47	38	35	32	30	22	12
<b>Change in Benefit Provisions</b>	75	0	0	0	88	0	19	0
<b>Change in Actuarial Firm/Software</b>	0	0	0	0	0	0	0	0
<b>Bond Issue</b>	0	0	0	0	0	0	0	0
<b>Total</b>	\$537	\$(25)	\$(36)	\$(68)	\$215	\$(194)	\$(164)	\$72

\* Not calculated for this year.

\*\* Reflects the impact of re-establishing the KP&F Supplemental Actuarial Liability at December 31, 2002. The additional unfunded actuarial liability as of December 31, 2000 for the State/School and Local groups not recognized in the prior valuation due to the phase-in of the change in actuarial procedures is included.

Unfunded actuarial liability 6/30/93: \$ 968 million

Unfunded actuarial liability 12/31/15: \$ 8,539 million



**SECTION 1 – BOARD SUMMARY**

**SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL  
as of  
DECEMBER 31, 2015 VALUATION (continued)**

% (millions)	As Reported on Valuation Date							
	12/31/01	12/31/02	12/31/03	12/31/04	12/31/05	12/31/06	12/31/07	12/31/08
<b>Actual Experience vs. Assumed</b>								
• Investment	\$350	\$644	\$140	\$456	\$167	\$(293)	\$(626)	\$2,332
• Other	(9)	68	(32)	16	(84)	140	99	78
<b>Assumption Changes</b>	0	0	0	437	(5)	0	384	0
<b>Changes in Data/Procedures</b>	5	177**	(286)***	0	0	0	0	0
<b>Change in Cost Method</b>	0	0	1,147	0	0	0	0	0
<b>Effect of Contribution Cap/Lag</b>	115	143	178	179	247	258	251	246
<b>Amortization Method</b>	14	21	47	68	84	83	78	71
<b>Change in Benefit Provisions</b>	0	37	3	1	0	24	2	0
<b>Change in Actuarial Firm/Software</b>	0	0	0	0	0	0	0	0
<b>Bond Issue</b>	0	(41)	(440)	0	0	0	0	0
<b>Total</b>	\$475	\$1,049	\$757	\$1,157	\$409	\$212	\$188	\$2,727

\*\* Reflects the impact of re-establishing the KP&F Supplemental Actuarial Liability at December 31, 2002. The additional unfunded actuarial liability as of December 31, 2000 for the State/School and Local groups not recognized in the prior valuation due to the phase-in of the change in actuarial procedures is included.

\*\*\* Change in asset valuation method.

Unfunded actuarial liability 6/30/93: \$ 968 million

Unfunded actuarial liability 12/31/15: \$ 8,539 million



SECTION 1 – BOARD SUMMARY

**SUMMARY OF HISTORICAL CHANGES IN TOTAL SYSTEM UAL  
as of  
DECEMBER 31, 2015 VALUATION (continued)**

\$(millions)	As Reported on Valuation Date							Total
	12/31/09	12/31/10	12/31/11	12/31/12	12/31/13	12/31/14	12/31/15	
<b>Actual Experience vs. Assumed</b>								
• Investment	\$(1,011)	\$560	\$852	\$732	\$(653)	\$(368)	\$52	\$1,240
• Other	(70)	(334)	(190)	(78)	(125)	(78)	(130)	289
<b>Assumption Changes</b>	0	0	(64)	0	0	(50)	0	750
<b>Changes in Data/Procedures</b>	0	0	0	0	0	0	0	377
<b>Change in Cost Method</b>	0	0	0	0	0	0	0	1,147
<b>Effect of Contribution Cap/Lag</b>	383	320	289	303	246	178	160	3,982
<b>Amortization Method</b>	96	68	62	49	46	18	(11)	1,010
<b>Change in Benefit Provisions</b>	0	0	15	19	0	1	0	284
<b>Change in Actuarial Firm/Software</b>	0	(27)	0	0	0	0	0	(27)
<b>Bond Issue</b>	0	0	0	0	0	0	(1,000)	(1,481)
<b>Total</b>	\$(602)	\$587	\$964	\$1,025	\$(487)	\$(298)	\$(929)	\$7,571

Unfunded actuarial liability 6/30/93: \$ 968 million

Unfunded actuarial liability 12/31/15: \$ 8,539 million



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
(STATE)

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	22,117	22,740	(2.7%)
Retired Members and Beneficiaries	19,311	18,929	2.0%
Inactive Members	7,978	7,680	3.9%
Total Members	<u>49,406</u>	<u>49,349</u>	0.1%
Projected Annual Salaries of Active Members	\$ 950,204,558	\$ 969,759,396	(2.0%)
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 266,428,213	\$ 255,795,911	4.2%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 4,211,018,764	\$ 4,160,796,145	1.2%
b. Assets for Valuation Purposes	3,340,654,264	3,122,041,106	7.0%
c. Unfunded Actuarial Liability (a) - (b)	870,364,500	1,038,755,039	(16.2%)
d. Funded Ratio (b) / (a)	79.3%	75.0%	5.7%
e. Market Value of Assets	3,244,225,487	3,256,683,036	(0.4%)
f. Funded Ratio on Market Value (e) / (a)	77.0%	78.3%	(1.7%)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	8.04%	8.10%	
Member	<u>6.00%</u>	<u>6.00%</u>	
Employer	2.04%	2.10%	
Amortization of Unfunded Actuarial Liability	<u>6.24%</u>	<u>7.52%</u>	
Actuarial Contribution Rate	8.28%	9.62%	
Statutory Employer Contribution Rate*	<u>13.21%</u>	<u>12.01%</u>	

\* The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20% for FY 2017 and later. This rate excludes the contribution rate for the Death and Disability Program. Any excess of the statutory over actuarial contribution rates applied to actual State payroll is deposited to the School assets.



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
(SCHOOL)

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	84,020	85,347	(1.6%)
Retired Members and Beneficiaries	50,188	48,396	3.7%
Inactive Members	27,321	25,506	7.1%
Total Members	<u>161,529</u>	<u>159,249</u>	1.4%
Projected Annual Salaries of Active Members	\$ 3,428,810,555	\$ 3,438,564,123	(0.3%)
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 749,416,332	\$ 707,046,829	6.0%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 13,798,734,403	\$ 13,436,665,540	2.7%
b. Assets for Valuation Purposes	8,393,193,573	7,231,564,556	16.1%
c. Unfunded Actuarial Liability (a) - (b)	5,405,540,830	6,205,100,984	(12.9%)
d. Funded Ratio (b) / (a)	60.8%	53.8%	13.0%
e. Market Value of Assets	8,151,104,207	7,540,084,183	8.1%
f. Funded Ratio on Market Value (e) / (a)	59.1%	56.1%	5.3%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	8.38%	8.49%	
Member	<u>6.00%</u>	<u>6.00%</u>	
Employer	2.38%	2.49%	
Amortization of Unfunded Actuarial Liability	<u>12.21%</u>	<u>13.89%</u>	
Actuarial Contribution Rate	14.59%	16.38%	
Statutory Employer Contribution Rate*	<u>13.21%</u>	<u>12.01%</u>	

\* The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20% for FY 2017 and later. This rate excludes the contribution rate for the Death and Disability Program.



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
(STATE/SCHOOL)

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	106,137	108,087	(1.8%)
Retired Members and Beneficiaries	69,499	67,325	3.2%
Inactive Members	35,299	33,186	6.4%
Total Members	<u>210,935</u>	<u>208,598</u>	1.1%
Projected Annual Salaries of Active Members	\$ 4,379,015,113	\$ 4,408,323,519	(0.7%)
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,015,844,545	\$ 962,842,740	5.5%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 18,009,753,167	\$ 17,597,461,685	2.3%
b. Assets for Valuation Purposes	11,733,847,837	10,353,605,662	13.3%
c. Unfunded Actuarial Liability (a) - (b)	6,275,905,330	7,243,856,023	(13.4%)
d. Funded Ratio (b) / (a)	65.2%	58.8%	10.9%
e. Market Value of Assets	11,395,329,694	\$ 10,796,767,219	5.5%
f. Funded Ratio on Market Value (e) / (a)	63.3%	61.4%	3.1%
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	8.31%	8.40%	
Member	<u>6.00%</u>	<u>6.00%</u>	
Employer	2.31%	2.40%	
Amortization of Unfunded Actuarial Liability	<u>10.92%</u>	<u>12.49%</u>	
Actuarial Contribution Rate	13.23%	14.89%	
Statutory Employer Contribution Rate*	<u>13.21%</u>	<u>12.01%</u>	

\* The rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20% for FY 2017 and later. This rate excludes the contribution rate for the Death and Disability Program.



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**(LOCAL)**

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	38,532	38,659	(0.3%)
Retired Members and Beneficiaries	19,046	18,258	4.3%
Inactive Members	16,399	15,657	4.7%
Total Members	<u>73,977</u>	<u>72,574</u>	1.9%
Projected Annual Salaries of Active Members	\$ 1,718,698,667	\$ 1,662,175,758	3.4%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 216,314,510	\$ 200,185,378	8.1%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 4,806,144,236	\$ 4,568,653,804	5.2%
b. Assets for Valuation Purposes	3,320,449,548	3,080,863,872	7.8%
c. Unfunded Actuarial Liability (a) - (b)	1,485,694,688	1,487,789,932	(0.1%)
d. Funded Ratio (b) / (a)	69.1%	67.4%	2.5%
e. Market Value of Assets	3,216,043,938	3,205,746,273	0.3%
f. Funded Ratio on Market Value (e) / (a)	66.9%	70.2%	(4.7%)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	7.93%	8.06%	
Member	<u>6.00%</u>	<u>6.00%</u>	
Employer	1.93%	2.06%	
Amortization of Unfunded Actuarial Liability	<u>6.46%</u>	<u>6.40%</u>	
Actuarial Contribution Rate	8.39%	8.46%	
Statutory Employer Contribution Rate*	<u>8.39%</u>	<u>8.46%</u>	

\* The Statutory Employer Contribution Rate in this valuation may not exceed last year's rate by more than the statutory rate increase limit of 1.20% for FY 2017 and later. This rate excludes the contribution rate for the Death and Disability Program.



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
(TOTAL KPERS)

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	144,669	146,746	(1.4%)
Retired Members and Beneficiaries	88,545	85,583	3.5%
Inactive Members	51,698	48,843	5.8%
Total Members	<u>284,912</u>	<u>281,172</u>	1.3%
Projected Annual Salaries of Active Members	\$ 6,097,713,780	\$ 6,070,499,277	0.4%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,232,159,055	\$ 1,163,028,118	5.9%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 22,815,897,403	\$ 22,166,115,489	2.9%
b. Assets for Valuation Purposes	15,054,297,385	13,434,469,534	12.1%
c. Unfunded Actuarial Liability (a) - (b)	7,761,600,018	8,731,645,955	(11.1%)
d. Funded Ratio (b) / (a)	66.0%	60.6%	8.9%
e. Market Value of Assets	14,611,373,632	14,002,513,492	4.3%
f. Funded Ratio on Market Value (e) / (a)	64.0%	63.2%	1.3%





SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS POLICE AND FIREMEN'S RETIREMENT SYSTEM

	12/31/2015	12/31/2014	% Change
	Valuation	Valuation	
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	7,244	7,204	0.6%
Retired Members and Beneficiaries	5,065	4,853	4.4%
Inactive Members	1,453	1,406	3.3%
Total Members	<u>13,762</u>	<u>13,463</u>	2.2%
Projected Annual Salaries of Active Members	\$ 477,559,955	\$ 462,177,399	3.3%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 159,271,328	\$ 147,468,612	8.0%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 2,965,712,160	\$ 2,800,878,131	5.9%
b. Assets for Valuation Purposes	2,194,103,726	2,074,703,598	5.8%
c. Unfunded Actuarial Liability (a) - (b)	771,608,434	726,174,533	6.3%
d. Funded Ratio (b) / (a)	74.0%	74.1%	(0.1%)
e. Market Value of Assets	2,126,561,947	2,160,304,791	(1.6%)
f. Funded Ratio on Market Value (e) / (a)	71.7%	77.1%	(7.0%)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	15.07%	15.07%	
Member	<u>7.15%</u>	<u>7.15%</u>	
Employer	7.92%	7.92%	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>12.17%</u>	<u>11.11%</u>	
Actuarial Contribution Rate (Local Employers)	20.09%	19.03%	
Statutory Employer Contribution Rate*	<u>20.09%</u>	<u>19.03%</u>	

\* The Statutory Employer Contribution Rate is equal to the Actuarial Rate. This is referred to as the "Uniform" rate, and varies for State and Local employers. The total contribution is equal to the appropriate uniform rate plus the payment required to amortize any unfunded past service liability, determined separately for each employer.



SECTION 1 – BOARD SUMMARY

SUMMARY OF PRINCIPAL RESULTS

KANSAS RETIREMENT SYSTEM FOR JUDGES

	12/31/2015 Valuation	12/31/2014 Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	262	253	3.6%
Retired Members and Beneficiaries	256	257	(0.4%)
Inactive Members	8	6	33.3%
Total Members	<u>526</u>	<u>516</u>	1.9%
Projected Annual Salaries of Active Members	\$ 28,339,546	\$ 27,427,962	3.3%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 10,289,243	\$ 10,375,018	(0.8%)
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 166,170,995	\$ 163,473,067	1.7%
b. Assets for Valuation Purposes	160,176,397	152,836,651	4.8%
c. Unfunded Actuarial Liability (a) - (b)	5,994,598	10,636,416	(43.6%)
d. Funded Ratio (b) / (a)	96.4%	93.5%	3.1%
e. Market Value of Assets	155,264,020	159,205,632	(2.5%)
f. Funded Ratio on Market Value (e) / (a)	93.4%	97.4%	(4.1%)
<b>3. EMPLOYER CONTRIBUTION RATES AS A PERCENT OF PAYROLL</b>			
Normal Cost			
Total	19.39%	19.27%	
Member	<u>5.62%</u>	<u>5.61%</u>	
Employer	13.77%	13.66%	
Amortization of Unfunded Actuarial and Supplemental Liability	<u>0.91%</u>	<u>2.23%</u>	
Actuarial Contribution Rate	14.68%	15.89%	
Statutory Employer Contribution Rate*	<u>14.68%</u>	<u>15.89%</u>	

\* Statutory Employer Contribution Rate is equal to the Actuarial Rate. This rate excludes the contribution for the Death and Disability Program.



**SECTION 1 – BOARD SUMMARY**

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**SUMMARY OF PRINCIPAL RESULTS**

**ALL SYSTEMS COMBINED**

	12/31/2015	12/31/2014	
	Valuation	Valuation	% Change
<b>1. PARTICIPANT DATA</b>			
Number of:			
Active Members	152,175	154,203	(1.3%)
Retired Members and Beneficiaries	93,866	90,693	3.5%
Inactive Members	53,159	50,255	5.8%
	<hr/>	<hr/>	
Total Members	<u>299,200</u>	<u>295,151</u>	1.4%
Projected Annual Salaries of Active Members	\$ 6,603,613,281	\$ 6,560,104,638	0.7%
Annual Retirement Payments for Retired Members and Beneficiaries	\$ 1,401,719,626	\$ 1,320,871,748	6.1%
<b>2. ASSETS AND LIABILITIES</b>			
a. Total Actuarial Liability	\$ 25,947,780,558	\$ 25,130,466,687	3.3%
b. Assets for Valuation Purposes	17,408,577,508	15,662,009,783	11.2%
c. Unfunded Actuarial Liability (a) - (b)	8,539,203,050	9,468,456,904	(9.8%)
d. Funded Ratio (b) / (a)	67.1%	62.3%	7.7%
e. Market Value of Assets	16,893,199,599	16,322,023,915	3.5%
f. Funded Ratio on Market Value (e) / (a)	65.1%	64.9%	0.3%



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## SECTION 2 – SCOPE OF THE REPORT

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This report presents the actuarial valuation of the Kansas Public Employees Retirement System (KPERs) as of December 31, 2015. This valuation was prepared at the request of the System’s Board of Trustees.

The reader is encouraged to review the actuarial certification letter, where the guidelines employed in the preparation of this report are outlined. Also included in this letter are comments on the sources and reliability of both the data and the actuarial assumptions upon which our findings are based. Those comments are the basis for our certification that this report is complete and accurate to the best of our knowledge and belief.

A summary of the findings resulting from this valuation is presented in the previous section. Section 3 describes the assets and investment experience of the System. Sections 4 and 5 describe how the obligations of the System are to be met under the actuarial cost method in use.

This report includes several appendices:

- Appendix A Schedules of valuation data classified by various categories of members.
- Appendix B A summary of the current benefit structure, as determined by the provisions of governing law on December 31, 2015, as amended by legislation in the 2016 Session.
- Appendix C A summary of the actuarial methods and assumptions used to estimate liabilities and determine contribution rates.
- Appendix D A glossary of actuarial terms.



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## SECTION 3 – ASSETS

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### **Market Value of Assets**

The current market value represents the "snapshot" or "cash-out" value of System assets as of the valuation date. In addition, the market value of assets provides a basis for measuring investment performance from time to time. At December 31, 2015, the market value of assets (excluding receivables) for the Retirement System was \$16.893 billion. Table 1 shows the market value of assets as of December 31, 2015 in total and by investment category. Table 2 summarizes the change in the market value of assets, from December 31, 2014 to December 31, 2015, by group.

### **Actuarial Value of Assets**

Neither the market value of assets, representing a "cash-out" value of System assets, nor the book value of assets, representing the cost of investments, may be the best measure of the System's ongoing ability to meet its obligations.

To arrive at a suitable value for the actuarial valuation, a technique for determining the actuarial value of assets is used which dampens swings in the market value while still indirectly recognizing market values. The current asset smoothing method was implemented with the December 31, 2003 actuarial valuation.

Under the asset smoothing method, the difference between the actual return and the expected return (based on the actuarial assumed rate of return) on the market value of assets is calculated each year and recognized equally over a five-year period.

Tables 3A through 3F and Table 4 show the development of the actuarial value of assets (AVA) as of December 31, 2015.



SECTION 3 – ASSETS

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**TABLE 1**  
**ANALYSIS OF NET ASSETS AT MARKET VALUE**

	<u>December 31, 2015</u>	
	<u>Amount</u> (\$ Millions)	<u>% of Total</u>
Cash & Equivalents	\$ 380	2.2 %
Alternative Investments	641	3.8
Real Estate	1,520	9.0
Fixed Income	4,715	27.9
Domestic Equity	5,404	32.0
International Equity	4,233	25.1
<b>Net Assets</b>	<b>\$ 16,893</b>	<b>100.0 %</b>
Allocation of Net Assets on December 31, 2015:		
State	\$ 3,244	
School	8,151	
Local	3,216	
KP&F	2,127	
Judges	155	
Total Net Assets*	<u>\$ 16,893</u>	

\* May not add due to rounding





SECTION 3 – ASSETS

TABLE 2
SUMMARY OF CHANGES IN TOTAL SYSTEM ASSETS
DURING PERIOD ENDED DECEMBER 31, 2015

(Market Value)

Table with 5 columns: Description, State, School, State/School, Local. Rows include Market Value of Assets as of January 1, 2015, Contributions (Employee, Employer, Bond proceeds, etc.), Total Investment Income, Less Benefits (Annuity Retirement Benefits, etc.), Administrative Expenses, and Market Value of Assets as of December 31, 2015.



SECTION 3 – ASSETS

TABLE 2 (cont.)
SUMMARY OF CHANGES IN TOTAL SYSTEM ASSETS
DURING PERIOD ENDED DECEMBER 31, 2015

(Market Value)

Table with 5 columns: Description, KPERS, KP&F, Judges, Total. Rows include Market Value of Assets as of January 1, 2015, Contributions (Employee, Employer, Bond proceeds, etc.), Total Investment Income, Less Benefits (Annuity Retirement Benefits, etc.), Administrative Expenses, Net Increase in Assets, and Market Value of Assets as of December 31, 2015.



SECTION 3 – ASSETS

TABLE 3A
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR
ACTUARIAL VALUE OF NET ASSETS
State

Table with 5 columns: Description, 12/31/2012, 12/31/2013, 12/31/2014, 12/31/2015. Rows include Market Value of Assets, Contributions, Bond Proceeds, Benefits paid, Administrative expenses, Expected investment income, Transfers and receivables, Expected Value of Assets, Market Value of Assets, and Excess (shortfall) of net investment income.

\* Allocation of administrative reserve in 2013.
\*\* Administrative expenses directly assessed beginning in 2014.
\*\*\* Received on August 20, 2015



SECTION 3 – ASSETS

TABLE 3B  
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR  
ACTUARIAL VALUE OF NET ASSETS  
School

	12/31/2012	12/31/2013	12/31/2014	12/31/2015
1. Market Value of Assets, beginning of year	\$ 5,884,431,008	\$ 6,475,974,488	\$ 7,331,598,583	\$ 7,540,084,183
2. Contributions during year	446,715,888	484,892,561	527,536,210	576,909,041
3. Bond Proceeds***	0	0	0	856,601,921
4. Benefits paid during year	(683,845,543)	(733,794,417)	(776,083,270)	(834,096,709)
5. Administrative expenses paid during year**	0	0	(4,498,772)	(4,945,832)
6. Expected investment income based on 8% assumption	461,451,769	508,313,419	576,600,776	617,259,082
7. Transfers and receivables*	0	11,027,658	0	0
8. Expected Value of Assets, end of year	6,108,753,122	6,746,413,709	7,655,153,527	8,751,811,686
9. Market Value of Assets, end of year	6,475,974,488	7,331,598,583	7,540,084,183	8,151,104,207
10. Excess (shortfall) of net investment income	\$ 367,221,366	\$ 585,184,874	\$ (115,069,344)	\$ (600,707,479)

\* Allocation of administrative reserve in 2013.  
 \*\* Administrative expenses directly assessed beginning in 2014.  
 \*\*\* Received on August 20, 2015



SECTION 3 – ASSETS

TABLE 3C  
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR  
ACTUARIAL VALUE OF NET ASSETS  
State/School

	12/31/2012	12/31/2013	12/31/2014	12/31/2015
1. Market Value of Assets, beginning of year	\$ 8,480,934,607	\$ 9,312,603,240	\$ 10,518,973,749	\$ 10,796,767,219
2. Contributions during year	579,736,526	628,738,738	684,259,254	718,509,682
3. Bond Proceeds***	0	0	0	1,000,000,000
4. Benefits paid during year	(940,992,089)	(1,008,779,637)	(1,061,535,553)	(1,136,526,747)
5. Administrative expenses paid during year**	0	0	(6,448,138)	(7,065,418)
6. Expected investment income based on 8% assumption	664,302,538	730,099,071	826,464,204	875,475,082
7. Transfers and receivables*	0	15,838,833	0	0
8. Expected Value of Assets, end of year	8,783,981,581	9,678,500,245	10,961,713,516	12,247,159,818
9. Market Value of Assets, end of year	9,312,603,240	10,518,973,749	10,796,767,219	11,395,329,694
10. Excess (shortfall) of net investment income	\$ 528,621,659	\$ 840,473,504	\$ (164,946,297)	\$ (851,830,124)

\* Allocation of administrative reserve in 2013.  
 \*\* Administrative expenses directly assessed beginning in 2014.  
 \*\*\* Received on August 20, 2015



SECTION 3 – ASSETS

TABLE 3D  
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR  
ACTUARIAL VALUE OF NET ASSETS  
Local

	12/31/2012	12/31/2013	12/31/2014	12/31/2015
1. Market Value of Assets, beginning of year	\$ 2,280,627,100	\$ 2,587,877,272	\$ 3,016,067,035	\$ 3,205,746,273
2. Contributions during year	190,437,383	205,539,094	238,652,131	265,369,903
3. Benefits paid during year	(209,584,171)	(225,632,450)	(240,180,030)	(260,096,296)
4. Administrative expenses paid during year**	0	0	(1,882,135)	(2,141,017)
5. Expected investment income based on 8% assumption	181,699,030	206,241,910	241,151,586	256,582,595
6. Transfers and receivables*	0	4,475,688	0	0
7. Expected Value of Assets, end of year	2,443,179,342	2,778,501,514	3,253,808,587	3,465,461,458
8. Market Value of Assets, end of year	2,587,877,272	3,016,067,035	3,205,746,273	3,216,043,938
9. Excess (shortfall) of net investment income	\$ 144,697,930	\$ 237,565,521	\$ (48,062,314)	\$ (249,417,520)

\* Allocation of administrative reserve in 2013.

\*\* Administrative expenses directly assessed beginning in 2014.



SECTION 3 – ASSETS

TABLE 3E  
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR  
ACTUARIAL VALUE OF NET ASSETS  
KP&F

	12/31/2012	12/31/2013	12/31/2014	12/31/2015
1. Market Value of Assets, beginning of year	\$ 1,597,092,196	\$ 1,784,896,480	\$ 2,057,050,931	\$ 2,160,304,791
2. Contributions during year	107,145,089	116,843,908	138,573,664	139,181,817
3. Benefits paid during year	(146,077,958)	(152,023,019)	(164,926,476)	(176,278,471)
4. Administrative expenses paid during year**	0	0	(1,275,775)	(1,429,236)
5. Expected investment income based on 8% assumption	126,240,020	141,411,625	163,480,192	171,312,994
6. Transfers and receivables*	0	3,068,438	0	0
7. Expected Value of Assets, end of year	1,684,399,348	1,894,197,432	2,192,902,536	2,293,091,895
8. Market Value of Assets, end of year	1,784,896,480	2,057,050,931	2,160,304,791	2,126,561,947
9. Excess (shortfall) of net investment income	\$ 100,497,132	\$ 162,853,499	\$ (32,597,745)	\$ (166,529,948)

\* Allocation of administrative reserve in 2013.

\*\* Administrative expenses directly assessed beginning in 2014.



SECTION 3 – ASSETS

TABLE 3F  
CALCULATION OF EXCESS (SHORTFALL) INVESTMENT INCOME FOR  
ACTUARIAL VALUE OF NET ASSETS  
Judges

	12/31/2012	12/31/2013	12/31/2014	12/31/2015
1. Market Value of Assets, beginning of year	\$ 117,969,801	\$ 131,943,611	\$ 152,430,594	\$ 159,205,632
2. Contributions during year	7,870,734	8,130,800	7,639,189	8,084,034
3. Benefits paid during year	(10,651,757)	(10,392,108)	(10,441,274)	(12,271,670)
4. Administrative expenses paid during year**	0	0	(94,272)	(104,844)
5. Expected investment income based on 8% assumption	9,328,483	10,466,777	12,080,822	12,568,054
6. Transfers and receivables*	0	227,120	0	0
7. Expected Value of Assets, end of year	124,517,261	140,376,200	161,615,059	167,481,206
8. Market Value of Assets, end of year	131,943,611	152,430,594	159,205,632	155,264,020
9. Excess (shortfall) of net investment income	\$ 7,426,350	\$ 12,054,394	\$ (2,409,427)	\$ (12,217,186)

\* Allocation of administrative reserve in 2013.

\*\* Administrative expenses directly assessed beginning in 2014.





SECTION 3 – ASSETS

TABLE 4
DEVELOPMENT OF ACTUARIAL VALUE OF NET ASSETS

Table with 5 columns: State, School, State/School, Local, Total KPERS. Rows include: 1. Excess (shortfall) of investment income (a-e), 2. Deferral of excess (shortfall) of investment income (a-e), 3. Market Value of Assets, end of year, 4. Actuarial Value of Assets, end of year (3) - (2e), 5. Actuarial Value divided by market value (4)/(3).



SECTION 3 – ASSETS

TABLE 4 (cont.)  
DEVELOPMENT OF ACTUARIAL VALUE OF NET ASSETS

	Total KPERS	KP&F	Judges	Total
1. Excess (shortfall) of investment income				
a. Year ending 12/31/15	\$ (1,101,247,644)	\$ (166,529,948)	\$ (12,217,186)	\$ (1,279,994,778)
b. Year ending 12/31/14	(213,008,611)	(32,597,745)	(2,409,427)	(248,015,783)
c. Year ending 12/31/13	1,078,039,025	162,853,499	12,054,394	1,252,946,918
d. Year ending 12/31/12	673,319,589	100,497,132	7,426,350	781,243,071
e. Total	\$ 437,102,359	\$ 64,222,938	\$ 4,854,131	\$ 506,179,428
2. Deferral of excess (shortfall) of investment income				
a. Year ending 12/31/15 (80%)	(880,998,115)	(133,223,958)	(9,773,749)	(1,023,995,822)
b. Year ending 12/31/14 (60%)	(127,805,166)	(19,558,647)	(1,445,656)	(148,809,469)
c. Year ending 12/31/13 (40%)	431,215,610	65,141,400	4,821,758	501,178,768
d. Year ending 12/31/12 (20%)	134,663,918	20,099,426	1,485,270	156,248,614
e. Total	\$ (442,923,753)	\$ (67,541,779)	\$ (4,912,377)	\$ (515,377,909)
3. Market Value of Assets, end of year	\$ 14,611,373,632	\$ 2,126,561,947	\$ 155,264,020	\$ 16,893,199,599
4. Actuarial Value of Assets, end of year (3) - (2e)	\$ 15,054,297,385	\$ 2,194,103,726	\$ 160,176,397	\$ 17,408,577,508
5. Actuarial Value divided by Market Value (4)/(3)	103.0%	103.2%	103.2%	103.1%



## SECTION 4 – SYSTEM LIABILITIES

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In the previous section, an actuarial valuation was compared with an inventory process, and an analysis was given of the inventory of assets of the System as of the valuation date, December 31, 2015. In this section, the discussion will focus on the commitments of the System, which are referred to as its liabilities.

Table 5 contains an analysis of the actuarial present value of all future benefits (PVFB) for contributing members, inactive members, retirees and their beneficiaries. The analysis is provided for each group.

The liabilities summarized in Table 5 include the actuarial present value of all future benefits expected to be paid with respect to each member. For an active member, this value includes measures of both benefits already earned and future benefits expected to be earned. For all members, active and retired, the value extends over benefits earnable and payable for the rest of their lives and, if an optional benefit is chosen, for the lives of the surviving beneficiaries.

The actuarial assumptions used to determine liabilities are based on the results of the last Triennial Experience Study. This set of assumptions, as shown in Appendix C, was adopted by the Board in November 20, 2014.

The liabilities reflect the benefit structure in place as of December 31, 2015, as amended by any legislation in the 2016 Session.

### **Actuarial Liabilities**

A fundamental principle in financing the liabilities of a retirement program is that the cost of its benefits should be related to the period in which benefits are earned, rather than to the period of benefit distribution. An actuarial cost method is a mathematical technique that allocates the present value of future benefits into annual costs. In order to do this allocation, it is necessary for the funding method to “breakdown” the present value of future benefits into two components:

- (1) that which is attributable to the past and
- (2) that which is attributable to the future.

Actuarial terminology calls the part attributable to the past the “past service liability” or the “actuarial liability”. The portion allocated to the future is known as the present value of future normal costs, with the specific piece of it allocated to the current year being called the “normal cost”. Table 6 contains the calculation of actuarial liabilities for all groups.



SECTION 4 – SYSTEM LIABILITIES

TABLE 5  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
PRESENT VALUE OF FUTURE BENEFITS (PVFB)  
AS OF DECEMBER 31, 2015

	State	School	State/School	Local
1. Active employees				
a. Retirement Benefits	\$ 1,984,195,553	\$ 8,055,649,876	\$ 10,039,845,429	\$ 3,155,258,582
b. Pre-Retirement Death Benefits	25,236,919	67,563,309	92,800,228	56,259,702
c. Termination Benefits	111,781,853	352,659,655	464,441,508	229,341,245
d. Disability Benefits	78,706,120	180,947,069	259,653,189	116,850,978
e. Total	<u>2,199,920,445</u>	<u>8,656,819,909</u>	<u>10,856,740,354</u>	<u>3,557,710,507</u>
2. Inactive Vested Members	150,145,205	383,869,634	534,014,839	210,816,045
3. Inactive Nonvested Members	11,549,477	29,128,996	40,678,473	26,347,959
4. Disabled Members	74,680,438	94,254,917	168,935,355	64,482,478
5. Retirees	2,177,807,183	6,761,436,115	8,939,243,298	1,827,547,968
6. Beneficiaries	121,640,549	175,819,847	297,460,396	105,062,482
7. Unclaimed Account Reserve	<u>668,200</u>	<u>1,331,800</u>	<u>2,000,000</u>	<u>500,000</u>
8. Total PVFB	<u>\$ 4,736,411,497</u>	<u>\$ 16,102,661,218</u>	<u>\$ 20,839,072,715</u>	<u>\$ 5,792,467,439</u>



SECTION 4 – SYSTEM LIABILITIES

TABLE 5 (cont.)
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM
PRESENT VALUE OF FUTURE BENEFITS (PVFB)
AS OF DECEMBER 31, 2015

Table with 5 columns: Category, Total KPERS, KP&F, Judges, Total. Rows include Active employees (a-e), Inactive Vested Members, Inactive Nonvested Members, Disabled Members, Retirees, Beneficiaries, Unclaimed Account Reserve, and Total PVFB.



SECTION 4 – SYSTEM LIABILITIES

TABLE 6  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTUARIAL LIABILITIES  
AS OF DECEMBER 31, 2015

	State	School	State/School	Local
1. Present Value of Future Benefits	\$ 4,736,411,497	\$ 16,102,661,218	\$ 20,839,072,715	\$ 5,792,467,439
2. Present Value of Future Normal Costs for Active Members				
a. Retirement Benefits	\$ 366,047,698	\$ 1,832,749,564	\$ 2,198,797,262	\$ 683,193,975
b. Pre-Retirement Death Benefits	7,384,049	22,766,938	30,150,987	18,202,982
c. Termination Benefits	120,457,056	386,758,552	507,215,608	243,381,496
d. Disability Benefits	31,503,930	61,651,761	93,155,691	41,544,750
e. Total	<u>525,392,733</u>	<u>2,303,926,815</u>	<u>2,829,319,548</u>	<u>986,323,203</u>
3. Total Actuarial Liability (1) - (2e)	<u>\$ 4,211,018,764</u>	<u>\$ 13,798,734,403</u>	<u>\$ 18,009,753,167</u>	<u>\$ 4,806,144,236</u>



**SECTION 4 – SYSTEM LIABILITIES**

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**TABLE 6 (cont.)  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTUARIAL LIABILITIES  
AS OF DECEMBER 31, 2015**

	<b>Total KPERS</b>	<b>KP&amp;F</b>	<b>Judges</b>	<b>Total</b>
1. Present Value of Future Benefits	\$ 26,631,540,154	\$ 3,580,734,964	\$ 202,419,844	\$ 30,414,694,962
2. Present Value of Future Normal Costs for Active Members				
a. Retirement Benefits	\$ 2,881,991,237	\$ 454,611,610	\$ 35,714,122	\$ 3,372,316,969
b. Pre-Retirement Death Benefits	48,353,969	12,797,252	534,727	61,685,948
c. Termination Benefits	750,597,104	58,264,287	0	808,861,391
d. Disability Benefits	134,700,441	89,349,655	0	224,050,096
e. Total	<u>3,815,642,751</u>	<u>615,022,804</u>	<u>36,248,849</u>	<u>4,466,914,404</u>
3. Total Actuarial Liability (1) - (2e)	<u>\$ 22,815,897,403</u>	<u>\$ 2,965,712,160</u>	<u>\$ 166,170,995</u>	<u>\$ 25,947,780,558</u>



**SECTION 4 – SYSTEM LIABILITIES**

**TABLE 7  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTUARIAL BALANCE SHEET  
AS OF DECEMBER 31, 2015**

	State	School	State/School	Local
<b><u>ASSETS</u></b>				
Actuarial Value of Assets	\$ 3,340,654,264	\$ 8,393,193,573	\$ 11,733,847,837	\$ 3,320,449,548
Present Value of Future Normal Costs	525,392,733	2,303,926,815	2,829,319,548	986,323,203
Unfunded Actuarial Liability	<u>870,364,500</u>	<u>5,405,540,830</u>	<u>6,275,905,330</u>	<u>1,485,694,688</u>
Total Net Assets	<u>\$ 4,736,411,497</u>	<u>\$ 16,102,661,218</u>	<u>\$ 20,839,072,715</u>	<u>\$ 5,792,467,439</u>
<b><u>LIABILITIES</u></b>				
Present Value of Future Benefits				
Active employees	\$ 2,199,920,445	\$ 8,656,819,909	\$ 10,856,740,354	\$ 3,557,710,507
Inactive Members *	162,362,882	414,330,430	576,693,312	237,664,004
In-pay Members	<u>2,374,128,170</u>	<u>7,031,510,879</u>	<u>9,405,639,049</u>	<u>1,997,092,928</u>
Total Liabilities	<u>\$ 4,736,411,497</u>	<u>\$ 16,102,661,218</u>	<u>\$ 20,839,072,715</u>	<u>\$ 5,792,467,439</u>

\*Includes Unclaimed Account Reserves





**SECTION 4 – SYSTEM LIABILITIES**

**TABLE 7 (cont.)  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTUARIAL BALANCE SHEET  
AS OF DECEMBER 31, 2015**

	<b>Total KPERS</b>	<b>KP&amp;F</b>	<b>Judges</b>	<b>Total</b>
<b><u>ASSETS</u></b>				
Actuarial Value of Assets	\$ 15,054,297,385	\$ 2,194,103,726	\$ 160,176,397	\$ 17,408,577,508
Present Value of Future Normal Costs	3,815,642,751	615,022,804	36,248,849	4,466,914,404
Unfunded Actuarial Liability	<u>7,761,600,018</u>	<u>771,608,434</u>	<u>5,994,598</u>	<u>8,539,203,050</u>
Total Net Assets	\$ <u>26,631,540,154</u>	\$ <u>3,580,734,964</u>	\$ <u>202,419,844</u>	\$ <u>30,414,694,962</u>
<b><u>LIABILITIES</u></b>				
Present Value of Future Benefits				
Active employees	\$ 14,414,450,861	\$ 1,929,808,379	\$ 110,975,684	\$ 16,455,234,924
Inactive Members *	814,357,316	48,296,572	1,529,279	864,183,167
In-pay Members	<u>11,402,731,977</u>	<u>1,602,630,013</u>	<u>89,914,881</u>	<u>13,095,276,871</u>
Total Liabilities	\$ <u>26,631,540,154</u>	\$ <u>3,580,734,964</u>	\$ <u>202,419,844</u>	\$ <u>30,414,694,962</u>

\*Includes Unclaimed Account Reserves

**SECTION 4 – SYSTEM LIABILITIES****TABLE 8  
ANALYSIS OF ACTUARIAL GAIN OR LOSS**

	State	School	State/School	Local
1. Expected Actuarial Liability				
a. Actuarial liability at 12/31/14	\$ 4,160,796,145	\$ 13,436,665,540	\$ 17,597,461,685	\$ 4,568,653,804
b. Normal cost during 2015	71,261,275	267,487,776	338,749,051	121,557,394
c. Benefit payments for plan year ending 12/31/15	(302,430,038)	(834,096,709)	(1,136,526,747)	(260,096,296)
d. Interest on (a), (b), and (c)	326,700,117	1,063,610,247	1,390,310,364	365,013,192
e. Change in assumptions	0	0	0	0
f. Amendments	0	0	0	0
g. Expected actuarial liability as of 12/31/15	\$ 4,256,327,499	\$ 13,933,666,854	\$ 18,189,994,353	\$ 4,795,128,094
2. Actuarial Liability at 12/31/2015	\$ 4,211,018,764	\$ 13,798,734,403	\$ 18,009,753,167	\$ 4,806,144,236
3. Actuarial Liability Gain/(Loss) (1g) - (2)	\$ 45,308,735	\$ 134,932,451	\$ 180,241,186	\$ (11,016,142)
4. Expected Actuarial Value of Assets				
a. Actuarial value of assets at 12/31/14	\$ 3,122,041,106	\$ 7,231,564,556	\$ 10,353,605,662	\$ 3,080,863,872
b. Contributions for plan year ending 12/31/15	141,600,641	576,909,041	718,509,682	265,369,903
c. Bond proceeds for plan year ending 12/31/15*	143,398,079	856,601,921	1,000,000,000	0
d. Benefit payments for plan year ending 12/31/15	(302,430,038)	(834,096,709)	(1,136,526,747)	(260,096,296)
e. Administrative Expenses	(2,119,586)	(4,945,832)	(7,065,418)	(2,141,017)
f. Interest on (a), (b), (c), (d) and (e)	247,444,645	592,577,512	840,022,157	246,592,003
g. Expected actuarial value of assets as of 12/31/15	\$ 3,349,934,847	\$ 8,418,610,489	\$ 11,768,545,336	\$ 3,330,588,465
5. Actuarial Value of Assets as of 12/31/15	\$ 3,340,654,264	\$ 8,393,193,573	\$ 11,733,847,837	\$ 3,320,449,548
6. Actuarial Value of Assets Gain/(Loss) (5) - (4f)	\$ (9,280,583)	\$ (25,416,916)	\$ (34,697,499)	\$ (10,138,917)
7. Net Actuarial Gain/(Loss) (3) + (6)	\$ 36,028,152	\$ 109,515,535	\$ 145,543,687	\$ (21,155,059)

\* Received on August 20, 2015



**SECTION 4 – SYSTEM LIABILITIES**

**TABLE 8 (cont.)  
ANALYSIS OF ACTUARIAL GAIN OR LOSS**

	<b>Total KPERS</b>	<b>KP&amp;F</b>	<b>Judges</b>	<b>Total</b>
<b>1. Expected Actuarial Liability</b>				
a. Actuarial liability at 12/31/14	\$ 22,166,115,489	\$ 2,800,878,131	\$ 163,473,067	\$ 25,130,466,687
b. Normal cost during 2015	460,306,445	64,543,229	4,620,031	529,469,705
c. Benefit payments for plan year ending 12/31/15	(1,396,623,043)	(176,278,471)	(12,271,670)	(1,585,173,184)
d. Interest on (a), (b), and (c)	1,755,323,556	222,318,219	12,966,024	1,990,607,799
e. Change in assumptions	0	0	0	0
f. Amendments	0	0	0	0
g. Expected actuarial liability as of 12/31/15	<u>\$ 22,985,122,447</u>	<u>\$ 2,911,461,108</u>	<u>\$ 168,787,452</u>	<u>\$ 26,065,371,007</u>
<b>2. Actuarial Liability at 12/31/2015</b>	\$ 22,815,897,403	\$ 2,965,712,160	\$ 166,170,995	\$ 25,947,780,558
<b>3. Actuarial Liability Gain/(Loss) (1g) - (2)</b>	\$ 169,225,044	\$ (54,251,052)	\$ 2,616,457	\$ 117,590,449
<b>4. Expected Actuarial Value of Assets</b>				
a. Actuarial value of assets at 12/31/14	\$ 13,434,469,534	\$ 2,074,703,598	\$ 152,836,651	\$ 15,662,009,783
b. Contributions for plan year ending 12/31/15	983,879,585	139,181,817	8,084,034	1,131,145,436
c. Bond proceeds for plan year ending 12/31/15*	1,000,000,000	0	0	1,000,000,000
d. Benefit payments for plan year ending 12/31/15	(1,396,623,043)	(176,278,471)	(12,271,670)	(1,585,173,184)
e. Administrative Expenses	(9,206,435)	(1,429,236)	(104,844)	(10,740,515)
f. Interest on (a), (b), (c), (d) and (e)	1,086,614,160	164,464,899	12,058,536	1,263,137,595
g. Expected actuarial value of assets as of 12/31/15	<u>\$ 15,099,133,801</u>	<u>\$ 2,200,642,607</u>	<u>\$ 160,602,707</u>	<u>\$ 17,460,379,115</u>
<b>5. Actuarial Value of Assets as of 12/31/15</b>	\$ 15,054,297,385	\$ 2,194,103,726	\$ 160,176,397	\$ 17,408,577,508
<b>6. Actuarial Value of Assets Gain/(Loss) (5) - (4f)</b>	\$ (44,836,416)	\$ (6,538,881)	\$ (426,310)	\$ (51,801,607)
<b>7. Net Actuarial Gain/(Loss) (3) + (6)</b>	\$ 124,388,628	\$ (60,789,933)	\$ 2,190,147	\$ 65,788,842

\* Received on August 20, 2015



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## SECTION 5 – EMPLOYER CONTRIBUTIONS

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The previous two sections were devoted to a discussion of the assets and liabilities of the System. A comparison of Tables 4 and 6 indicates that current assets fall short of meeting the present value of future benefits (total liability). This is expected in all but a fully closed down fund, where no further contributions are anticipated.

In an active system, there will almost always be a difference between the actuarial value of assets and total liabilities. This deficiency has to be made up by future contributions and investment returns. An actuarial valuation sets out a schedule of future contributions that will deal with this deficiency in an orderly fashion.

The method used to determine the incidence of the contributions in various years is called the actuarial cost method. Under an actuarial cost method, the contributions required to meet the difference between current assets and current liabilities are allocated each year between two elements: (1) the normal cost and (2) the payment on the unfunded actuarial liability.

The term “fully funded” is often applied to a system in which contributions at the normal cost rate are sufficient to pay for the benefits of existing employees as well as for those of new employees. More often than not, systems are not fully funded, either because of past benefit improvements that have not been completely funded and/or because of actuarial deficiencies that have occurred because experience has not been as favorable as anticipated. Under these circumstances, an unfunded actuarial liability (UAL) exists.

### Description of Rate Components

The actuarial cost method for all three systems is the traditional Entry Age Normal (EAN) – level percent of pay cost method. Under the EAN cost method, the actuarial present value of each member’s projected benefits allocates on a level basis over the member’s compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial liability. The unfunded actuarial liability represents the difference between the actuarial liability and the actuarial value of assets as of the valuation date. The unfunded actuarial liability is calculated each year and reflects experience gains/losses.

The contribution rates based on this December 31, 2015 actuarial valuation will be used to determine employer contribution rates to the Kansas Public Employees Retirement System for fiscal years beginning in 2018 (July 1, 2018 to June 30, 2019 for the State and calendar year 2018 for Local employers).

### KPERS

The law provides for the calculation of separate employer contribution rates for three groups: State, School and Local (for all other covered employers).

SB 4 and SB 228, as passed by the 2015 Legislature, reset the statutory employer contribution rate from 11.27% to 8.65% for the last half of fiscal year 2015, from 12.37% to 10.91% for fiscal year 2016, and from 13.57% to 10.81% for fiscal year 2017 for the State/School group. For fiscal year 2018 and beyond, the statutory cap described below will apply.

Legislation provides that the employer contribution rates recommended by the Board of Trustees for all groups cannot increase more than the statutory cap. This cap was increased in Senate Substitute for House Bill 2333, passed by the 2012 Legislature, to 0.90% for FY 2014, 1.0% for FY 2015, 1.1% for FY 2016 and 1.2% for FY 2017 and later. The prior limit on the statutory cap for the State/School



## SECTION 5 – EMPLOYER CONTRIBUTIONS

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group was 0.40% in FY 2006, 0.50% in FY 2007, and 0.60% in FY 2008 through FY 2013. The prior limit for the Local group was 0.40% in 2006, 0.50% in 2007, and 0.60% in 2008 through 2013. The limits on the increase in the statutory contribution rate do not apply to the increase in the employer contribution rate for benefit enhancements. Although not shown in these rates, the total contribution rates for KPERS employers include the statutory employer contribution to the KPERS Group Life Insurance.

The 2016 Legislature passed House Sub for SB 161 and House Sub for SB 249 which impacted KPERS' funding by authorizing a delay of up to \$100 million in State/School contributions for FY 2016 and providing that the delayed contributions must be paid to KPERS by June 30, 2018 with interest at 8%. Ultimately, a total of \$97.4 million in FY 2016 State/School contributions was delayed. Because the valuation date for this report is December 31, 2015, the delayed State contributions occurred after the valuation date and thus, did not impact the asset values in the current valuation. However, the calculation of the unfunded actuarial liability (UAL) contribution rate projects the UAL from December 31, 2015 to June 30, 2018. In those calculations, it is assumed that KPERS records the delayed contributions as a long-term receivable for FY 2016 so the UAL contribution rate in the current valuation is not impacted by the delayed contributions.

There are several components of the unfunded actuarial liability (UAL) which are amortized over different periods. The increases in the UAL due to the \$300 one-time payments to retirees in 2007 and 2008 are amortized over 10 years (applies only to Local employers as the State fully funded the increased liability for the \$300 one-time payment for its members in both 2007 and 2008). The remainder of the UAL is amortized over a period originally set at 40 years beginning July 1, 1993. At the December 31, 2015 valuation date, seventeen (17) years remain in that period.

The UAL is amortized as a level percentage of payroll. The payroll growth assumption is 4% so the dollar amount of the annual amortization payment will increase 4% each year. As a result, if total payroll grows 4% per year, as assumed, the amortization payment will remain level as a percentage of total current payroll. If payroll increases less/more than 4% each year, the amortization payment will increase/decrease as a percentage of total payroll.

The actuarial contribution rate for KPERS is comprised of the normal cost rate and a contribution toward the unfunded actuarial liability. The methodology to calculate the UAL contribution rate was changed in the December 31, 2014 actuarial valuation as a result of the Board adopting the recommendations of the Triennial Experience Study (see Tables 11A and B). Local employers who affiliate with KPERS for prior service on or after January 1, 1999 pay an additional employer contribution to finance their unfunded actuarial liability on their affiliation date.

### **KP&F**

The actuarially determined contribution requirements for employers in KP&F are comprised of:

- (a) a "uniform" rate, determined separately for State and Local employers, which includes the normal cost and a UAL payment for the entire group, plus
- (b) any payment required to amortize the unfunded past service liability or any 15% excess benefit liability, which is determined separately for each participating employer.



## SECTION 5 – EMPLOYER CONTRIBUTIONS

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For employers who enter KP&F for future service only, the total cost is the uniform contribution rate.

There are several components of the unfunded actuarial liability, which are amortized over different periods. The increases in the unfunded actuarial liability due to the \$300 one-time payments to retirees in 2007 and 2008 are amortized over 10 years (applies only to Local employers as the State fully funded the increased liability for the \$300 one-time payment for its members in both 2007 and 2008). The remainder of the unfunded actuarial liability is amortized over a period originally set at 40 years beginning July 1, 1993. At the December 31, 2015 valuation date, seventeen (17) years remain in that period.

The UAL is amortized as a level percentage of payroll. The payroll growth assumption is 4% so the dollar amount of the annual amortization payment will increase 4% each year. As a result, if total payroll grows 4% per year, as assumed, the amortization payment will remain level as a percentage of total current payroll. If payroll increases less/more than 4% each year, the amortization payment will increase/decrease as a percentage of total payroll. The methodology to calculate the UAL contribution rate was changed in the December 31, 2014 actuarial valuation as a result of the Board adopting the recommendations of the Triennial Experience Study (see Tables 11A and B).

### Judges

The actuarial contribution rate for the Judges is comprised of the normal cost rate and a contribution toward the unfunded actuarial liability. The UAL is amortized over a 40-year period established in 1993 with payments determined as a level dollar amount. The methodology to calculate the UAL contribution rate was changed in the December 31, 2014 actuarial valuation as a result of the Board adopting the recommendations of the Triennial Experience Study (see Tables 11A and B). At the December 31, 2015 valuation date, seventeen (17) years remain in that period.

### Contribution Rate Summary

The normal cost rates for each group are shown in Table 9. Tables 10, 11A and 11B develop the actuarial contribution rates for the unfunded actuarial liability. The total actuarial contribution rates determined as of December 31, 2015 are presented in Table 12. The contribution rates for local employers who affiliated with KPERS for prior service and are amortizing the payment of that liability over a period of years (ending no later than 2034) are shown in Tables 13A and 13B. Table 14 shows the KP&F individual employer contribution rates for fiscal years beginning in 2017 and 2018 while Tables 15 and 16 show the calculation of the additional contribution rate due to amortization of prior service UAL for fiscal years beginning in 2018.

The rates shown in this report, which are based on the actuarial assumptions and cost methods described in Appendix C, are applicable for determining employer contribution rates for fiscal years commencing in 2018.



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 9  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
NORMAL COST RATE  
AS OF DECEMBER 31, 2015**

	<b>State</b>	<b>School</b>	<b>State/School</b>	<b>Local</b>
1. Normal Cost Rate				
a. Retirement Benefits	5.68%	6.69%	6.48%	5.55%
b. Pre-Retirement Death Benefits	0.12%	0.09%	0.09%	0.15%
c. Termination Benefits	1.76%	1.37%	1.45%	1.89%
d. Disability Benefits	0.48%	0.23%	0.29%	0.34%
e. Total	<u>8.04%</u>	<u>8.38%</u>	<u>8.31%</u>	<u>7.93%</u>





**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 9 (cont.)  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
NORMAL COST RATE  
AS OF DECEMBER 31, 2015**

	<b>KP&amp;F</b>	<b>Judges</b>
1. Normal Cost Rate		
a. Retirement Benefits	11.10%	19.10%
b. Pre-Retirement Death Benefits	0.33%	0.29%
c. Termination Benefits	1.44%	0.00%
d. Disability Benefits	2.20%	0.00%
e. Total	<hr/> 15.07%	<hr/> 19.39%



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 10  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
UNFUNDED ACTUARIAL LIABILITY (UAL)  
AS OF DECEMBER 31, 2015**

	<b>State</b>	<b>School</b>	<b>State/School</b>	<b>Local</b>	<b>KPF</b>	<b>Judges</b>
1. Actuarial Liability	\$ 4,211,018,764	\$ 13,798,734,403	\$ 18,009,753,167	\$ 4,806,144,236	\$ 2,965,712,160	\$ 166,170,995
2. Actuarial Value of Assets	<u>3,340,654,264</u>	<u>8,393,193,573</u>	<u>11,733,847,837</u>	<u>3,320,449,548</u>	<u>2,194,103,726</u>	<u>160,176,397</u>
3. Unfunded Actuarial Liability (UAL)	870,364,500	5,405,540,830	6,275,905,330	1,485,694,688	771,608,434	5,994,598
a. UAL for 2007 One Time Payment	0	0	0	262,906	89,603	0
b. UAL for 2008 One Time Payment	0	0	0	509,581	177,979	0
c. Other local employer UAL*	0	0	0	2,630,400	3,744,601	0
d. Remaining UAL	870,364,500	5,405,540,830	6,275,905,330	1,482,291,801	767,596,251	5,994,598

\*These amounts are paid directly by the employer and do not enter into the overall UAL and amortization calculations.



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

**TABLE 11A  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
UAL CONTRIBUTION RATES  
EMPLOYERS CONTRIBUTING ON JUNE 30 FISCAL YEARS**

	State*	School*	State/School*	Judges
1. Unfunded Actuarial Liability at December 31, 2015	\$870,364,500	\$5,405,540,830	\$6,275,905,330	\$5,994,598
2. FY 2016 Expected Contribution Rate	16.91%	16.91%	16.91%	29.74%
3. Normal Cost Rate	<u>8.04%</u>	<u>8.38%</u>	<u>8.31%</u>	<u>19.39%</u>
4. Contribution Rate Applied to UAL for 2016 [(2) – (3)]	8.87%	8.53%	8.60%	10.35%
5. Expected Payroll for January to June, 2016	\$475,102,279	\$1,714,405,278	\$2,189,507,557	\$14,169,773
6. Expected UAL Contribution (4) * (5)	\$42,141,572	\$146,238,770	\$188,297,650	\$1,466,572
7. Projected UAL at June 30, 2016	\$861,549,084	\$5,468,523,131	\$6,330,156,514	\$4,734,707
8. FY 2017 Expected Contribution Rate	16.81%	16.81%	16.81%	27.13%
9. Normal Cost Rate	<u>8.04%</u>	<u>8.38%</u>	<u>8.31%</u>	<u>19.39%</u>
10. Contribution Rate Applied to UAL for 2017 [(8) – (9)]	8.77%	8.43%	8.50%	7.74%
11. Expected Payroll for FY 2017	\$969,208,649	\$3,497,386,766	\$4,466,595,415	\$28,339,546
12. Expected UAL Contribution (10) * (11)	\$84,999,599	\$294,829,704	\$379,660,610	\$2,193,481
13. Projected UAL at June 30, 2017	\$842,138,836	\$5,599,608,965	\$6,442,014,155	\$2,833,951
14. FY 2018 Expected Contribution Rate	18.01%	18.01%	18.01%	21.50%
15. Normal Cost Rate	<u>8.04%</u>	<u>8.38%</u>	<u>8.31%</u>	<u>19.39%</u>
16. Contribution Rate Applied to UAL for 2018 [(14) – (15)]	9.97%	9.63%	9.70%	2.11%
17. Expected Payroll for FY 2018	\$1,007,976,995	\$3,637,282,237	\$4,645,259,232	\$28,339,546
18. Expected UAL Contribution (16) * (17)	\$100,495,306	\$350,270,279	\$450,590,145	\$597,964
19. Projected UAL at June 30, 2018	\$805,072,157	\$5,683,566,131	\$6,489,108,272	\$2,439,245
20. Amortization Factor (17 years)	12.78566	12.78566	12.78566	9.85137
21. UAL Amortization Payment [(19)/(20) * 1.08 <sup>-5</sup> ]	\$65,437,023	\$461,965,607	\$527,440,831	\$257,318
22. Expected Payroll for FY 2019	\$1,048,296,075	\$3,782,773,526	\$4,831,069,601	\$28,339,546
23. UAL Contribution Rate	6.24%	12.21%	10.92%	0.91%

Note: Projected UAL contributions and amounts for State/School may not equal the sum of State and School due to rounding.

\* Because delayed FY16 contributions for the State/School group are to be repaid with interest by June 30, 2018, they are treated as a long-term receivable and reflected in total FY16 contributions.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 11B
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM
UAL CONTRIBUTION RATES
EMPLOYERS CONTRIBUTING ON DECEMBER 31 FISCAL YEARS

Table with 3 columns: Description, KPERS - Local, and KP&F. Rows include actuarial liability, contribution rates, payroll, and UAL contribution for 2015, 2016, and 2017.

\* Applies to local KP&F employers only.



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

**TABLE 12  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTUARIAL EMPLOYER CONTRIBUTION RATES  
FISCAL YEAR COMMENCING IN 2018**

	<b>Total Normal Cost</b>	<b>Employee Normal Cost</b>	<b>Employer Normal Cost</b>	<b>Unfunded Actuarial Liability</b>	<b>Total Employer Contribution*</b>
State	8.04%	6.00%	2.04%	6.24%	8.28%
Correctional Employees - Age 55	8.40%	6.00%	2.40%	6.24%	8.64%
Correctional Employees - Age 60	9.26%	6.00%	3.26%	6.24%	9.50%
School	8.38%	6.00%	2.38%	12.21%	14.59%
State/School	8.31%	6.00%	2.31%	10.92%	13.23%
Local	7.93%	6.00%	1.93%	6.46%	8.39%
<b>KP&amp;F Uniform Contribution Rate</b>					
State **	15.07%	7.15%	7.92%	12.13%	20.05%
Local **	15.07%	7.15%	7.92%	12.17%	20.09%
Judges	19.39%	5.62%	13.77%	0.91%	14.68%

\* Does not include the contribution to the Death and Disability Program.

\*\* The total contribution rate for each employer is equal to the appropriate uniform contribution rate (state or local) plus an additional rate, if applicable, required to amortize the unfunded past service liability, determined separately for each employer. (See Table 14)



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

**TABLE 13A  
LOCAL KPERS AFFILIATION COST FACTORS  
FOR FISCAL YEAR BEGINNING IN 2018**

<b>Employer</b>	<b>Year Affiliated</b>	<b>Projected 2018 Annual Payroll</b>	<b>Projected 1/1/2018 Unfunded Actuarial Liability</b>	<b>Payment on 1/1/2018 Unfunded Liability</b>	<b>Payment on Unfunded Liability as % of Payroll</b>	<b>Total Rate for Years Commencing<sup>1</sup> in 2018</b>
St. Francis Housing Authority	1999	\$22,648	\$8,324	\$699	3.09%	11.48%
City of Burden	1999	121,265	16,438	1,377	1.14%	9.53%
City of Longton	1999	57,438	19,958	1,676	2.92%	11.31%
Bourbon County RWD#2	1999	308,321	115,699	9,710	3.15%	11.54%
Towanda Township	1999	58,492	9,468	792	1.35%	9.74%
Hays Housing Authority	2000	57,997	1,812	160	0.28%	8.67%
Haysville Community Library	2000	138,126	210,295	17,632	12.77%	21.16%
Hamilton County Library	2000	120,026	13,921	1,168	0.97%	9.36%
Ellis Public Library	2000	31,998	5,288	443	1.39%	9.78%
Bucklin Public Library	2000	27,729	13,141	1,105	3.99%	12.38%
Elkhart Cemetery District	2000	34,556	1,833	158	0.46%	8.85%
City of Linn Valley	2000	155,272	1,030	87	0.06%	8.45%
City of Blue Mound	2000	72,921	3,007	243	0.33%	8.72%
Kansas Workers' Risk Coop for Counties	2000	270,270	53,569	4,464	1.65%	10.04%
Lindsborg Community Library	2002	26,690	3,829	304	1.14%	9.53%
City of North Newton	2002	444,753	172,560	14,024	3.15%	11.54%
City of Arcadia	2002	77,510	16,887	1,371	1.77%	10.16%
City of Linwood	2003	75,414	2,526	206	0.27%	8.66%
Johnson County Fire District #2 Rural	2003	2,975,012	470,389	38,232	1.29%	9.68%
Basehor Community Library	2003	354,572	59,813	4,861	1.37%	9.76%
City of Gypsum	2003	81,151	5,080	414	0.51%	8.90%
City of Bentley	2004	117,507	38,855	3,458	2.94%	11.33%
Mulvane Public Library	2004	45,935	13,929	1,240	2.70%	11.09%
The Center for Counseling and Consultation	2004	3,151,951	1,171,067	104,270	3.31%	11.70%
Doniphan County RFD #2	2005	105,117	9,307	828	0.79%	9.18%
City of Denison	2005	\$29,290	\$20,533	\$1,828	6.24%	14.63%
Stanton County Recreation Commission	2005	84,343	25,295	2,251	2.67%	11.06%
<b>Total</b>		<b>\$9,046,304</b>	<b>\$2,483,852</b>	<b>\$213,000</b>		

<sup>1</sup> Basic local employer contribution rates excluding Death and Disability contribution: FY 2017: 8.46% FY 2018: 8.39%



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 13B  
LOCAL KPERS AFFILIATION COST FACTORS - AFFILIATION AFTER 1/1/06  
FOR FISCAL YEAR BEGINNING IN 2018**

Effective for affiliations on or after January 1, 2006, the payment on the unfunded actuarial liability due to affiliation for prior service is amortized as a fixed level dollar payment. No adjustment is made to the employer contribution rate for these payments.

<b>Employer</b>	<b>Year Affiliated</b>	<b>Unfunded Actuarial Liability on Jan 1 Following Affiliation</b>	<b>Annual Payment Due Jan 1, 2017 to Amortize Unfunded Liability</b>	<b>Final Payment Year</b>
Nippawalla Township	2006	\$4,158	\$356	2032
City of Vermillion	2006	3,950	338	2032
Oaklawn Improvement District	2010	128,006	11,619	2032
Stockton Recreation Commission	2010	1,245	113	2032
Salt Creek Township	2012	22,542	2,157 (final payment)	2017



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 14  
KP&F  
EMPLOYER CONTRIBUTION RATES FOR FISCAL YEARS  
COMMENCING IN CALENDAR YEARS 2017 AND 2018**

<b>Employer</b>	<b>Total Rate for Fiscal Year Commencing in 2017</b>	<b>Recommended Total Rate for Fiscal Year Commencing in 2018</b>
Douglas County Law Enforcement	21.74 %	22.87 %
Ford County	19.03	20.09
Franklin County Sheriff's Dept	19.03	20.09
Gray County Sheriff's Dept.	19.03	20.09
Harvey County Sheriff's Dept.	19.03	20.09
Johnson County Fire Dept.	19.03	20.09
Johnson County Fire No. 1	19.03	20.09
Johnson County Fire No. 2	19.03	20.09
Johnson County Park Commission	19.03	20.09
Johnson County Sheriff's Dept.	19.03	20.09
Labette County Sheriff's Dept.	21.31	22.39
Reno County Sheriff's Dept.	19.03	20.09
Riley County Law Enforcement	19.03	20.09
Sedgwick County Fire No. 1	19.03	20.09
Sedgwick County Sheriff's Dept.	19.39	20.22
Sedgwick County EMT's	19.03	20.09
Shawnee County Sheriff's Dept.	21.56	22.59
Sumner County Sheriff's Dept.	20.13	21.14
Unified Gov't of Wyandotte County	19.03	20.09
City of Abilene	19.03	20.09
City of Arkansas City	19.03	20.09
City of Atchison	19.03	20.09
City of Bonner Springs	19.03	20.09
City of Chanute	19.03	20.09
City of Cimarron	19.03	20.09
City of Coffeyville	19.03	20.09
City of Concordia	19.03	20.09
City of Derby	19.03	20.09
City of Dodge City	24.55	25.89
City of Emporia	19.03	20.09
City of Erie	19.03	20.09
City of Eudora	19.03	20.09
City of Fairway	19.03	20.09
City of Fort Scott	19.03	20.09
City of Herington	19.03	20.09
City of Hutchinson	19.03	20.09
City of Junction City	19.03	20.09





**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 14 (cont.)  
KP&F  
EMPLOYER CONTRIBUTION RATES FOR FISCAL YEARS  
COMMENCING IN CALENDAR YEARS 2017 AND 2018**

<b>Employer</b>	<b>Total Rate for Fiscal Year Commencing in 2017</b>	<b>Recommended Total Rate for Fiscal Year Commencing in 2018</b>
City of Lawrence	19.03 %	20.09 %
City of Leavenworth	19.03	20.09
City of Leawood	19.58	20.61
City of Lenexa	19.03	20.09
City of Manhattan	19.03	20.09
City of Merriam	19.03	20.09
City of McPherson	19.03	20.09
City of Mission	19.03	20.09
City of Newton EMTs	21.92	22.86
City of Newton	19.03	20.09
City of Olathe	19.03	20.09
City of Ottawa	19.03	20.09
City of Parsons	19.03	20.09
City of Pittsburg	19.03	20.09
City of Salina	19.03	20.09
City of Shawnee	19.03	20.09
City of Topeka	19.03	20.09
City of Wellington	19.03	20.09
City of Westwood	19.03	20.09
City of Winfield	21.84	22.98
Board of Regents Campus Police	18.99	20.05
Kansas Bureau of Investigation	18.99	20.05
Kansas Highway Patrol	18.99	20.05
Cowley County Sheriff's Dept	19.03	20.09
City of Gardner Public Safety Officers	19.03	20.09
City of Liberal Police & Firemen	19.03	20.09
City of Oswego	19.03	20.09
Leavenworth County	19.03	20.09
Pottawatomie County	19.03	20.09
City of Roeland Park	19.03	20.09
City of Edwardsville Police	21.07	22.08
City of Garden City	19.03	20.09
City of Lake Quivira	19.03	20.09
City of Paola	19.03	20.09
City of Winfield (EMS)	19.03	20.09
Miami County	19.03	20.09
Atchinson County	19.03	20.09



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 14 (cont.)  
KP&F  
EMPLOYER CONTRIBUTION RATES FOR FISCAL YEARS  
COMMENCING IN CALENDAR YEARS 2017 AND 2018**

<b>Employer</b>	<b>Total Rate for Fiscal Year Commencing in 2017</b>	<b>Recommended Total Rate for Fiscal Year Commencing in 2018</b>
City of Park City	19.03 %	20.09 %
Dickinson County	19.03	20.09
Leavenworth County (EMS)	19.03	20.09
City of Basehor	19.03	20.09
City of Edwardsville Firemen	24.44	24.73
City of Marion	19.03	20.09
City of Overbrook	19.03	20.09
Leavenworth County Fire District #1	19.03	20.09
Shawnee Heights Fire District	19.03	20.09
City of Lansing	19.03	20.09
State Fire Marshall	18.99	20.05
Seward County	19.03	20.09
City of Hays	19.03	20.09
Ellis County	19.03	20.09
City of Baldwin City	19.03	20.09
McPherson County Rural Fire District #9	19.03	20.09
City of Spring Hill	19.03	20.09
City of Andover	19.03	20.09
Kearny County	19.03	20.09
Neosho County	19.03	20.09
Clark County	19.03	20.09
City of Wakefield	19.03	20.09
Russell County	19.03	20.09
City of Rossville	19.03	20.09
City of Goddard	19.03	20.09
City of El Dorado	19.03	20.09
Northwest Consolidated Fire District	19.03	20.09
City of Girard	19.03	20.09
City of Overland Park	19.03	20.09
City of Victoria	19.03	20.09
City of Burden	19.03	20.09
City of Augusta	19.03	20.09



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 15A
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES
PRIOR SERVICE LIABILITY
FOR FISCAL YEARS BEGINNING IN 2018

Table with 3 columns: Employer, 1/1/2016 Unfunded Prior Service Liability, and Payment on Unfunded Liability. Lists various employers like Douglas County Law Enforcement, Ford County, etc., with their respective liability amounts.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 15A (cont.)
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES
PRIOR SERVICE LIABILITY
FOR FISCAL YEARS BEGINNING IN 2018

Table with 3 columns: Employer, 1/1/2016 Unfunded Prior Service Liability, and Payment on Unfunded Liability. Lists various employers and their corresponding liability amounts.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 15A (cont.)
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES
PRIOR SERVICE LIABILITY
FOR FISCAL YEARS BEGINNING IN 2018

Table with 3 columns: Employer, 1/1/2016 Unfunded Prior Service Liability, and Payment on Unfunded Liability. Rows list various employers like City of Park City, Dickinson County, etc., and a Total row at the bottom.



**SECTION 5 – EMPLOYER CONTRIBUTIONS**

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**TABLE 15B  
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES  
PRIOR SERVICE LIABILITY - AFFILIATION AFTER 1/1/06  
FOR FISCAL YEAR BEGINNING IN 2018**

Effective for affiliations on or after January 1, 2006, the payment on the unfunded actuarial liability due to affiliation for prior service is amortized as a fixed level dollar payment. No adjustment is made to the employer contribution rate for these payments.

<b>Employer</b>	<b>Year Affiliated</b>	<b>Unfunded Actuarial Liability on Jan 1 Following Affiliation</b>	<b>Annual Payment Due Jan 1, 2017 to Amortize Unfunded Liability</b>	<b>Final Payment Year</b>
McPherson County Rural Fire District #9	2007	\$457	\$63	2017

Note: Only employers with remaining obligations as of the valuation date are shown.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 16
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES
FOR FISCAL YEARS BEGINNING IN 2018

Table with 5 columns: Employer, Number of Employees, Total Estimated 2018 Payroll, Payment on Unfunded Liability (Table 15), and As Percent of Payroll. Lists various employers like Douglas County Law Enforcement, Ford County, etc., with their respective employee counts, payrolls, and contribution rates.



SECTION 5 – EMPLOYER CONTRIBUTIONS

TABLE 16 (cont.)
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES
FOR FISCAL YEARS BEGINNING IN 2018

Table with 5 columns: Employer, Number of Employees, Total Estimated 2018 Payroll, Payment on Unfunded Liability (Table 15), and As Percent of Payroll. Lists various employers like City of Lenexa, City of Manhattan, etc., with their respective employee counts and payroll values.





**SECTION 5 – EMPLOYER CONTRIBUTIONS**

**TABLE 16 (cont.)  
KP&F EMPLOYER ADDITIONAL CONTRIBUTION RATES  
FOR FISCAL YEARS BEGINNING IN 2018**

<b>Employer</b>	<b>Number of Employees</b>	<b>Total Estimated 2018 Payroll</b>	<b>Payment on Unfunded Liability (Table 15)</b>	<b>As Percent of Payroll</b>	<b>%</b>
City of Overbrook	2	\$82,601	\$0	0.00	
Leavenworth County Fire District #1	9	496,758	0	0.00	
Shawnee Heights Fire District	11	657,364	0	0.00	
City of Lansing	16	926,673	0	0.00	
State Fire Marshall	10	549,947	0	0.00	
Seward County	26	1,428,693	0	0.00	
City of Hays	51	2,894,876	0	0.00	
Ellis County	45	2,606,950	0	0.00	
City of Baldwin City	8	547,099	0	0.00	
McPherson County Rural Fire District #9	1	25,226	0	0.00	
City of Spring Hill	11	653,462	0	0.00	
City of Andover	38	2,121,020	0	0.00	
Kearny County	18	1,052,756	0	0.00	
Neosho County	14	652,369	0	0.00	
Clark County	5	252,125	0	0.00	
City of Wakefield	0	0	0	0.00	
Russell County	8	389,072	0	0.00	
City of Rossville	2	99,118	0	0.00	
City of Goddard	10	493,479	0	0.00	
City of El Dorado	41	2,102,516	0	0.00	
Northwest Consolidated Fire District	19	991,604	0	0.00	
City of Girard	10	464,952	0	0.00	
City of Overland Park	109	6,478,387	0	0.00	
City of Victoria	2	145,222	0	0.00	
City of Burden	1	31,759	0	0.00	
City of Augusta	23	1,313,322	0	0.00	
<b>Total</b>	<b>7,244</b>	<b>516,528,848</b>	<b>800,187</b>		



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**SECTION 6**

**HISTORICAL FUNDING AND OTHER INFORMATION**

The actuarial liability is a measure intended to help the reader assess (i) a retirement system’s funded status on a going concern basis and (ii) progress being made toward accumulating the assets needed to pay benefits as due. Allocation of the actuarial present value of projected benefits between past and future service was based on service using the Entry Age Normal actuarial cost method. Assumptions, including projected pay increases, were the same as used to determine the System's level percent of payroll annual required contribution between entry age and assumed exit age. Entry age was established by subtracting credited service from current age on the valuation date. The Entry Age Normal actuarial liability was determined as part of an actuarial valuation of the System as of December 31, 2015. The actuarial assumptions used in determining the actuarial liability can be found in Appendix C.

In the past, Governmental Accounting Standards Board (GASB) Statements No. 25, *Financial Reporting for Defined Benefit Pension Plans*, and Statement No. 27, *Accounting for Pensions by State and Local Governmental Employers*, applied to the preparation of financial reports of pension plans for state and local governments. GASB 67, which was effective for the fiscal year ending June 30, 2014, replaced GASB 25 and represents a significant departure from the requirements of that older statement. GASB 25 was issued as a “funding friendly” statement that required pension plans to report items consistent with the results of the plan’s actuarial valuations, as long as those valuations met certain parameters. GASB 67 basically separates accounting from funding by creating disclosure and reporting requirements that may or may not be consistent with the basis used for funding the System. A separate report will be prepared annually that contains all of the information and exhibits of an actuarial nature that are necessary for the System’s financial reporting under GASB 67.

GASB 68 replaces GASB 27 and also represents a significant departure from the requirements of the prior statement. GASB 27 required employers providing benefits through pension plans to report items consistent with the results of the plan’s actuarial valuations as long as those valuations met certain parameters. GASB 68 creates disclosure and reporting requirements that may or may not be consistent with the basis used to fund the System. GASB 68 was effective for fiscal year ending after June 15, 2015 for the employers who participate in the Kansas Public Employees Retirement System. A separate report will be prepared annually that contains information and exhibits of an actuarial nature to assist employers with their financial reporting under GASB 68.



**SECTION 6 – HISTORICAL FUNDING AND OTHER INFORMATION**

**TABLE 17**  
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**HISTORICAL FUNDING INFORMATION**  
**(All Groups Combined)**

**Schedule of Funding Progress**  
(\$ in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AL) (b)	Unfunded AL (UAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAL as a Percent of Covered Payroll ((b-a)/c)
12/31/2003	\$10,853,462	\$14,439,546	\$3,586,084	75%	\$4,978,132	72%
12/31/2004	10,971,427	15,714,092	4,742,666	70%	5,102,016	93%
12/31/2005	11,339,293	16,491,762	5,152,469	69%	5,270,351	98%
12/31/2006	12,189,197	17,552,791	5,363,593	69%	5,599,193	96%
12/31/2007	13,433,115	18,984,915	5,551,800	71%	5,949,228	93%
12/31/2008	11,827,619	20,106,787	8,279,168	59%	6,226,526	133%
12/31/2009	13,461,221	21,138,206	7,676,985	64%	6,532,496	118%
12/31/2010	13,589,658	21,853,783	8,264,125	62%	6,494,048	127%
12/31/2011	13,379,020	22,607,170	9,228,150	59%	6,401,462	144%
12/31/2012	13,278,490	23,531,423	10,252,933	56%	6,498,962	158%
12/31/2013	14,562,765	24,328,670	9,765,906	60%	6,509,809	150%
12/31/2014	15,662,010	25,130,467	9,468,457	62%	6,560,105	144%
12/31/2015	17,408,578	25,947,781	8,539,203	67%	6,603,613	129%



**SECTION 6 – HISTORICAL FUNDING AND OTHER INFORMATION**

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**TABLE 18**  
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM**  
**HISTORICAL FUNDING INFORMATION**  
**(All Groups Combined)**

**Schedule of Employer Contributions**

For the Fiscal Year Ended June 30

Year	Actuarial Required <u>Contribution</u>	Percentage <u>Contributed</u>
2001	\$277,096,692	77.6%
2002	289,519,647	79.7%
2003	311,365,296	78.9%
2004	317,900,432	74.0%
2005	381,791,085	68.6%
2006	471,424,006	63.4%
2007	531,292,151	63.9%
2008	607,662,300	65.1%
2009	660,833,664	68.0%
2010	682,062,413	72.1%
2011	709,964,322	74.1%
2012	843,361,836	67.4%
2013	825,196,972	74.9%
2014	842,285,931	79.4%
2015	908,019,000	74.5%

This information is as reported by KPERS. Cavanaugh Macdonald Consulting has relied on the accuracy of the numbers as provided and has not verified them.



**SECTION 6 – HISTORICAL FUNDING AND OTHER INFORMATION**

**TABLE 19  
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
HISTORICAL FUNDING INFORMATION**

**Historical Contribution Rates**

Valuation Date	State/School		Local		KP&F*	Judges*
	Actuarial	Statutory	Actuarial	Statutory		
12/31/2000	7.05%	4.58%	4.13%	3.07%	6.86%	16.67%
12/31/2001	7.69%	4.78%	4.64%	3.22%	9.47%	18.67%
12/31/2002	9.14%	5.27%	5.44%	3.41%	11.63%	21.97%
12/31/2003 <sup>(1)</sup>	8.64%	5.77%	6.24%	3.81%	12.39%	19.11%
12/31/2004	10.37%	6.37%	7.69%	4.31%	13.32%	22.38%
12/31/2005	10.86%	6.97%	7.92%	4.93%	13.88%	22.08%
12/31/2006	10.98%	7.57%	8.12%	5.53%	13.49%	20.50%
12/31/2007	11.30%	8.17%	8.52%	6.14%	12.86%	19.49%
12/31/2008	14.09%	8.77%	10.42%	6.74%	17.88%	26.38%
12/31/2009	13.46%	9.37%	9.44%	7.34%	16.54%	23.75%
12/31/2010	13.83%	10.27% <sup>(2)</sup>	9.43%	7.94%	17.26%	23.62%
12/31/2011	14.34%	11.27%/8.65% <sup>(3)</sup>	9.77%	8.84%	19.92%	22.59%
12/31/2012	14.95%	10.91% <sup>(4)</sup>	9.48%	9.48%	21.36%	23.98%
12/31/2013	14.85%	10.81% <sup>(4)</sup>	9.18%	9.18%	20.42%	21.36%
12/31/2014	14.89%	12.01%	8.46%	8.46%	19.03%	15.89%
12/31/2015	13.23%	13.21%	8.39%	8.39%	20.09%	14.68%

\* KP&F and Judges contribute the full actuarial contribution rate.

<sup>(1)</sup> Actuarial cost method changed to Entry Age Normal for valuations on or after 12/31/2003.

<sup>(2)</sup> Recertified from 9.97% after passage of Sub HB 2333 in the 2012 session.

<sup>(3)</sup> 11.27% for the first half of the fiscal year. Reduced by the governor's allotment and SB 4 to 8.65% for the second half of the fiscal year.

<sup>(4)</sup> Recertified from 12.37% to 10.91% and 13.57% to 10.81% after passage of SB 228 in the 2015 session.



SECTION 6 – ACCOUNTING AND OTHER INFORMATION

TABLE 20
KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM
PROJECTED BENEFIT PAYMENTS

Table with 8 columns: Year, State, School, Local, Total KPERS, KP&F, Judges, Total. Rows represent years from 2016 to 2040.

Note: Cash flows are the expected future non-discounted payments to current members. These numbers exclude refund payouts to current nonvested inactive and assume future retirees elect the normal form of payment and future withdrawals elect refunds according to valuation assumptions.



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**APPENDIX A - SUMMARY OF MEMBERSHIP DATA**

**HISTORICAL SUMMARY OF MEMBERS**

The following tables display selected historical data for KPERS, KP&F and Judges as available.

**KPERS**

Valuation		Active Members						Number			Act/Ret Ratio
		Average						Deferred Disabled*	Inactives	Retired	
Date December 31	Total Count	Number	Age	Entry Age	Service	Annual Pay (\$)	Pay Increase				
2000	222,968	137,086	44.2	34.1	10.1	30,307	N/A		34,667	51,215	2.68
2001	229,185	139,253	44.4	34.2	10.2	31,279	3.2%		37,175	52,757	2.64
2002	234,023	140,498	44.7	34.3	10.4	31,634	1.1%		39,420	54,105	2.60
2003	237,123	141,401	45.0	34.4	10.6	32,111	1.5%	2,933	37,280	55,509	2.55
2004	238,375	140,779	45.3	34.4	10.8	32,937	2.6%	3,004	37,191	57,401	2.45
2005	241,684	142,047	45.3	34.4	10.9	33,724	2.4%	3,099	37,015	59,523	2.39
2006	245,555	144,227	45.4	34.6	10.8	35,284	4.6%	3,007	36,513	61,808	2.33
2007	249,624	146,406	45.5	34.7	10.8	36,924	4.6%	2,911	37,140	63,167	2.32
2008	255,427	148,569	45.6	34.7	10.9	38,087	3.1%	2,823	37,567	66,468	2.24
2009	264,280	153,386	45.4	34.7	10.7	38,749	1.7%	2,781	39,212	68,901	2.23
2010	265,477	150,482	45.6	34.9	10.7	40,109	3.5%	2,749	40,122	72,124	2.09
2011	267,713	147,647	45.6	34.4	11.2	40,166	0.1%	2,711	41,358	75,997	1.94
2012	272,561	148,605	45.5	34.3	11.2	40,522	0.9%	2,575	41,991	79,390	1.87
2013	275,983	147,957	45.5	34.2	11.3	40,684	0.4%	2,436	43,660	81,930	1.81
2014	281,172	146,746	45.4	34.2	11.2	41,367	1.7%	2,340	46,503	85,583	1.71
2015	284,912	144,669	45.4	34.2	11.2	42,149	1.9%	2,210	49,488	88,545	1.63

\*Prior to 2003, deferred disabled members were included in the Inactives count.



**APPENDIX A - SUMMARY OF MEMBERSHIP DATA**

**HISTORICAL SUMMARY OF MEMBERS  
(continued)**

**KP&F**

Valuation		Active Members						Number			Act/Ret Ratio
Date December 31	Total Count	Average						Deferred Disabled*	Inactives	Retired	
		Number	Age	Entry Age	Service	Annual Pay (\$)	Pay Increase				
2000	10,083	6,258	38.1	27.7	10.4	44,511	N/A		794	3,031	2.06
2001	10,471	6,405	38.3	27.7	10.6	46,483	4.4%		855	3,211	1.99
2002	10,847	6,548	38.4	27.8	10.6	47,580	2.4%		961	3,338	1.96
2003	11,007	6,464	38.8	27.9	11.0	49,017	3.0%		1,087	3,456	1.87
2004	11,528	6,721	38.9	28.0	11.0	51,014	4.1%	187	1,062	3,558	1.89
2005	11,719	6,772	38.9	27.9	11.0	52,222	2.4%	194	1,099	3,654	1.85
2006	12,070	6,965	39.0	28.1	11.0	53,939	3.3%	186	1,134	3,785	1.84
2007	12,210	7,137	39.1	28.1	11.0	56,068	3.9%	175	1,143	3,755	1.90
2008	12,499	7,242	39.1	28.0	11.1	57,800	3.1%	173	1,175	3,909	1.85
2009	12,556	7,179	39.5	28.1	11.4	60,287	4.3%	181	1,136	4,060	1.77
2010	12,691	7,173	39.6	28.2	11.4	61,805	2.5%	181	1,169	4,168	1.72
2011	12,863	7,143	39.6	27.9	11.7	61,907	0.2%	197	1,208	4,315	1.66
2012	13,109	7,187	39.5	27.8	11.7	62,489	0.9%	203	1,194	4,525	1.59
2013	13,276	7,224	39.6	27.8	11.8	63,928	2.3%	208	1,174	4,670	1.55
2014	13,463	7,204	39.7	27.8	11.9	64,156	0.4%	210	1,196	4,853	1.48
2015	13,762	7,244	39.5	27.8	11.7	65,925	2.8%	210	1,243	5,065	1.43

\*Prior to 2003, deferred disabled members were included in the Inactives count.



**APPENDIX A - SUMMARY OF MEMBERSHIP DATA**

**HISTORICAL SUMMARY OF MEMBERS  
(continued)**

**JUDGES**

Valuation		Active Members						Number		Act/Ret Ratio
Date December 31	Total Count	Average						Inactives	Retired	
		Number	Age	Entry Age	Service	Annual Pay (\$)	Pay Increase			
2000	411	247	54.2	43.5	10.8	84,794		14	150	1.65
2001	417	252	54.4	43.9	10.5	85,625	1.0%	18	147	1.71
2002	417	248	55.0	43.9	11.1	86,116	0.6%	15	154	1.64
2003	424	250	55.1	43.8	11.3	86,770	0.8%	15	159	1.56
2004	435	251	55.5	43.9	11.6	88,761	2.3%	18	166	1.51
2005	444	254	55.7	44.1	11.6	90,585	2.1%	19	171	1.47
2006	447	257	56.2	44.2	11.9	96,743	6.8%	18	172	1.49
2007	455	261	56.6	44.8	11.8	101,732	5.2%	14	180	1.45
2008	463	262	57.1	45.2	11.9	104,159	2.4%	11	190	1.38
2009	483	266	57.1	45.6	11.5	105,709	1.5%	14	203	1.31
2010	480	264	57.8	45.7	12.1	107,019	1.2%	10	206	1.28
2011	486	264	58.1	45.5	12.6	109,387	2.2%	7	215	1.23
2012	494	261	58.3	46.0	12.3	107,584	(1.6)%	6	227	1.15
2013	514	265	57.8	46.1	11.7	107,364	(0.2)%	6	243	1.09
2014	516	253	58.2	46.3	11.9	108,411	1.0%	6	257	0.98
2015	526	262	58.4	46.4	12.0	108,166	(0.2)%	8	256	1.02



**APPENDIX A - SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF DATA FILE RECONCILIATION**

The following table reconciles the data Cavanaugh Macdonald Consulting received from KPERS to the final membership counts used in the valuation.

Records on the in-pay data file	112,972
Removed deaths prior to 12/31/15	(19,808)
Removed certain periods ending within six months	(18)
Added new retirees from supplemental file	720
Records used in the valuation	93,866
Records on the not-in-pay data file	232,494
Records removed because the member has received all benefits or is not eligible for KPERS benefits	(26,489)
Records removed because the member began receiving benefits	(671)
Records used in the valuation	205,334

These records are allocated as follows:

	<b>State</b>	<b>School</b>	<b>Local</b>	<b>KP&amp;F</b>	<b>Judges</b>
Active members	22,117	84,020	38,532	7,244	262
Inactive vested members	3,422	11,594	5,567	153	8
Inactive nonvested members	3,860	14,857	10,188	1,090	0
Deferred disabled members	<u>696</u>	<u>870</u>	<u>644</u>	<u>210</u>	<u>0</u>
Total	30,095	111,341	54,931	8,697	270
Retirees and beneficiaries	19,311	50,188	19,046	5,065	256
GRAND TOTAL	49,406	161,529	73,977	13,762	526



APPENDIX A – SUMMARY OF MEMBERSHIP DATA

SUMMARY OF MEMBERSHIP DATA

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTIVE MEMBER DATA

	12/31/2015	12/31/2014	Change
<b>State</b>			
Number	22,117	22,740	(2.7%)
Tier 1	13,616	15,003	(9.2%)
Tier 2	6,624	7,737	(14.4%)
Tier 3	1,877	0	N/A
Average Current Age	46.88	46.88	0.0%
Average Service	12.35	12.37	(0.2%)
Average Pay	\$42,963	\$42,646	0.7%
<b>School</b>			
Number	84,020	85,347	(1.6%)
Tier 1	48,343	52,768	(8.4%)
Tier 2	26,646	32,579	(18.2%)
Tier 3	9,031	0	N/A
Average Current Age	44.99	45.02	(0.1%)
Average Service	11.33	11.34	(0.1%)
Average Pay	\$40,809	\$40,289	1.3%
<b>State/School</b>			
Number	106,137	108,087	(1.8%)
Tier 1	61,959	67,771	(8.6%)
Tier 2	33,270	40,316	(17.5%)
Tier 3	10,908	0	N/A
Average Current Age	45.38	45.41	(0.1%)
Average Service	11.54	11.56	(0.2%)
Average Pay	\$41,258	\$40,785	1.2%
<b>Local</b>			
Number	38,532	38,659	(0.3%)
Tier 1	21,183	23,218	(8.8%)
Tier 2	12,132	15,441	(21.4%)
Tier 3	5,217	0	N/A
Average Current Age	45.31	45.38	(0.2%)
Average Service	10.22	10.24	(0.2%)
Average Pay	\$44,604	\$42,996	3.7%



**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
ACTIVE MEMBER DATA**

	<b>12/31/2015</b>	<b>12/31/2014</b>	<b>Change</b>
<b>KPERS Total</b>			
Number	144,669	146,746	(1.4%)
Tier 1	83,142	90,989	(8.6%)
Tier 2	45,402	55,757	(18.6%)
Tier 3	16,125	0	N/A
Average Current Age	45.36	45.40	(0.1%)
Average Service	11.19	11.21	(0.2%)
Average Pay	\$42,149	\$41,367	1.9%
<b>KP&amp;F</b>			
Number	7,244	7,204	0.6%
Tier 1	200	261	(23.4%)
Tier 2	7,044	6,943	1.5%
Average Current Age	39.45	39.67	(0.6%)
Average Service	11.69	11.88	(1.6%)
Average Pay	\$65,925	\$64,156	2.8%
<b>Judges</b>			
Number	262	253	3.6%
Average Current Age	58.44	58.18	0.4%
Average Service	11.97	11.90	0.6%
Average Pay	\$108,166	\$108,411	(0.2%)
<b>System Total</b>			
Number	152,175	154,203	(1.3%)
Average Current Age	45.11	45.16	(0.1%)
Average Service	11.22	11.24	(0.2%)
Average Pay	\$43,395	\$42,542	2.0%



**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
INACTIVE MEMBER DATA**

	<b>12/31/2015</b>	<b>12/31/2014</b>	<b>Change</b>
<b>State</b>			
inactive vested	3,422	3,252	5.2%
inactive nonvested	3,860	3,679	4.9%
deferred disabled	696	749	(7.1%)
<b>School</b>			
inactive vested	11,594	10,437	11.1%
inactive nonvested	14,857	14,153	5.0%
deferred disabled	870	916	(5.0%)
<b>Local</b>			
inactive vested	5,567	5,148	8.1%
inactive nonvested	10,188	9,834	3.6%
deferred disabled	644	675	(4.6%)
<b>KPERS Total</b>			
inactive vested	20,583	18,837	9.3%
inactive nonvested	28,905	27,666	4.5%
deferred disabled	2,210	2,340	(5.6%)
<b>KP&amp;F</b>			
inactive vested	153	142	7.7%
inactive nonvested	1,090	1,054	3.4%
deferred disabled	210	210	0.0%
<b>Judges</b>			
inactive vested	8	6	33.3%
inactive nonvested	0	0	0.0%
deferred disabled	0	0	0.0%
<b>System Total</b>			
inactive vested	20,744	18,985	9.3%
inactive nonvested	29,995	28,720	4.4%
deferred disabled	2,420	2,550	(5.1%)



**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
RETIREE MEMBER DATA**

	<b>12/31/2015</b>	<b>12/31/2014</b>	<b>Change</b>
<b>State</b>			
Number	17,401	17,056	2.0%
Average Benefit	\$14,318	\$14,029	2.1%
Average Age	72.00	72.07	(0.1%)
<b>School</b>			
Number	47,589	45,896	3.7%
Average Benefit	\$15,252	\$14,915	2.3%
Average Age	71.86	71.85	0.0%
<b>Local</b>			
Number	17,148	16,446	4.3%
Average Benefit	\$11,815	\$11,384	3.8%
Average Age	71.83	71.89	(0.1%)
<b>KPERS Total</b>			
Number	82,138	79,398	3.5%
Average Benefit	\$14,337	\$13,994	2.5%
Average Age	71.88	71.91	(0.0%)
<b>KP&amp;F</b>			
Number	4,146	3,970	4.4%
Average Benefit	\$34,751	\$33,552	3.6%
Average Age	64.50	64.55	(0.1%)
<b>Judges</b>			
Number	195	198	(1.5%)
Average Benefit	\$43,117	\$43,222	(0.2%)
Average Age	74.18	73.76	0.6%
<b>System Total</b>			
Number	86,479	83,566	3.5%
Average Benefit	\$15,381	\$14,992	2.6%
Average Age	71.53	71.56	(0.0%)





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
BENEFICIARY MEMBER DATA**

	<b>12/31/2015</b>	<b>12/31/2014</b>	<b>Change</b>
<b>State</b>			
Number	1,910	1,873	2.0%
Average Benefit	\$9,045	\$8,820	2.6%
Average Age	76.47	76.39	0.1%
<b>School</b>			
Number	2,599	2,500	4.0%
Average Benefit	\$9,070	\$8,995	0.8%
Average Age	75.95	75.73	0.3%
<b>Local</b>			
Number	1,898	1,812	4.7%
Average Benefit	\$7,222	\$7,151	1.0%
Average Age	74.44	74.59	(0.2%)
<b>KPERS Total</b>			
Number	6,407	6,185	3.6%
Average Benefit	\$8,515	\$8,402	1.3%
Average Age	75.66	75.60	0.1%
<b>KP&amp;F</b>			
Number	919	883	4.1%
Average Benefit	\$16,532	\$16,156	2.3%
Average Age	67.31	67.34	(0.0%)
<b>Judges</b>			
Number	61	59	3.4%
Average Benefit	\$30,844	\$30,797	0.2%
Average Age	76.62	76.07	0.7%
<b>System Total</b>			
Number	7,387	7,127	3.6%
Average Benefit	\$9,697	\$9,548	1.6%
Average Age	74.63	74.58	0.1%



**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

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**SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
RETIREE AND BENEFICIARY MEMBER DATA**

	<b>12/31/2015</b>	<b>12/31/2014</b>	<b>Change</b>
<b>State</b>			
Number	19,311	18,929	2.0%
Average Benefit	\$13,797	\$13,513	2.1%
Average Age	72.44	72.49	(0.1%)
<b>School</b>			
Number	50,188	48,396	3.7%
Average Benefit	\$14,932	\$14,610	2.2%
Average Age	72.07	72.05	0.0%
<b>Local</b>			
Number	19,046	18,258	4.3%
Average Benefit	\$11,357	\$10,964	3.6%
Average Age	72.09	72.15	(0.1%)
<b>KPERS Total</b>			
Number	88,545	85,583	3.5%
Average Benefit	\$13,915	\$13,590	2.4%
Average Age	72.15	72.17	(0.0%)
<b>KP&amp;F</b>			
Number	5,065	4,853	4.4%
Average Benefit	\$31,445	\$30,387	3.5%
Average Age	65.01	65.06	(0.1%)
<b>Judges</b>			
Number	256	257	(0.4%)
Average Benefit	\$40,192	\$40,370	(0.4%)
Average Age	74.77	74.29	0.6%
<b>System Total</b>			
Number	93,866	90,693	3.5%
Average Benefit	\$14,933	\$14,565	2.5%
Average Age	71.77	71.80	(0.0%)



**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

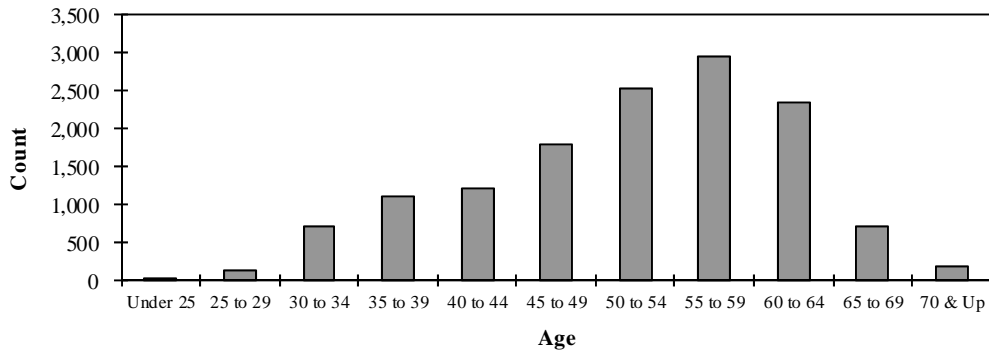
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**STATE - Tier 1\***

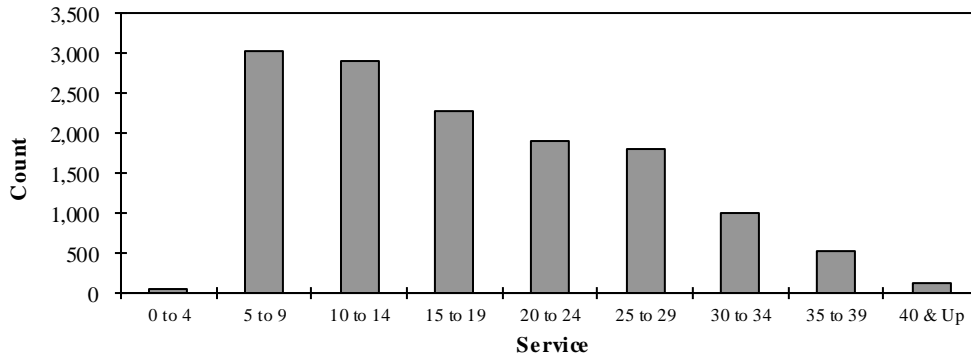
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	1	0	0	0	0	0	0	0	1
25 to 29	0	114	1	0	1	1	0	0	0	117
30 to 34	0	544	158	3	2	0	0	0	0	707
35 to 39	3	494	496	119	0	0	0	0	0	1,112
40 to 44	1	345	384	389	80	0	0	0	0	1,199
45 to 49	4	339	407	441	428	163	7	0	0	1,789
50 to 54	9	334	443	387	449	629	265	16	0	2,532
55 to 59	17	403	453	454	449	533	407	234	4	2,954
60 to 64	9	327	396	348	359	365	237	226	63	2,330
65 to 69	2	110	126	96	108	98	67	40	53	700
70 & Up	0	28	30	34	22	23	15	9	14	175
<b>Total</b>	<b>45</b>	<b>3,039</b>	<b>2,894</b>	<b>2,271</b>	<b>1,898</b>	<b>1,812</b>	<b>998</b>	<b>525</b>	<b>134</b>	<b>13,616</b>

\* Closed effective July 1, 2009.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

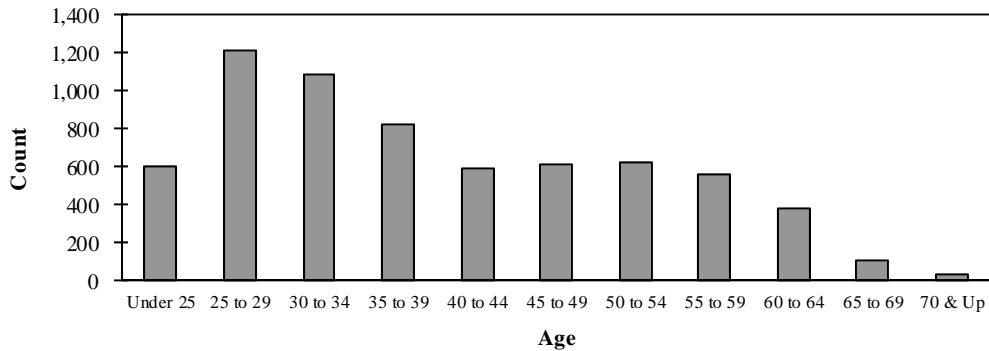
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**STATE - Tier 2\***

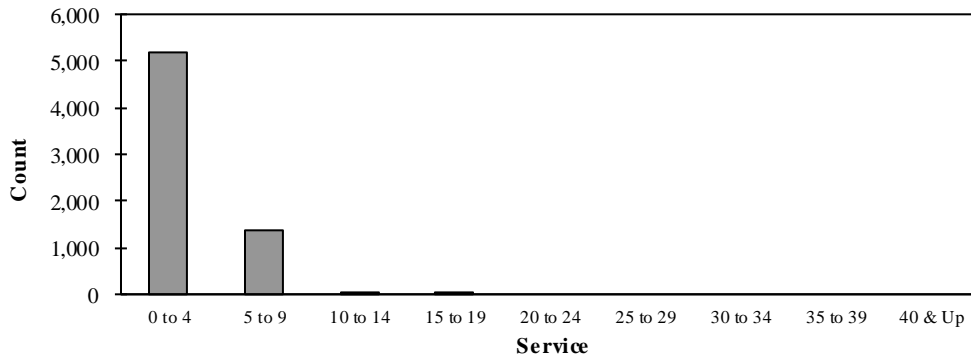
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	598	5	0	0	0	0	0	0	0	603
25 to 29	1,045	170	0	0	0	0	0	0	0	1,215
30 to 34	847	240	0	0	0	0	0	0	0	1,087
35 to 39	597	218	4	0	0	0	0	0	0	819
40 to 44	452	133	4	0	0	0	0	0	0	589
45 to 49	447	149	8	1	0	0	0	0	0	605
50 to 54	470	142	7	2	0	0	0	0	0	621
55 to 59	390	157	12	2	0	0	0	0	0	561
60 to 64	249	129	5	0	0	0	0	0	0	383
65 to 69	63	43	2	0	0	0	0	0	0	108
70 & Up	22	10	1	0	0	0	0	0	0	33
<b>Total</b>	<b>5,180</b>	<b>1,396</b>	<b>43</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6,624</b>

\* Effective date of Tier 2 was July 1, 2009. Closed effective January 1, 2015.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

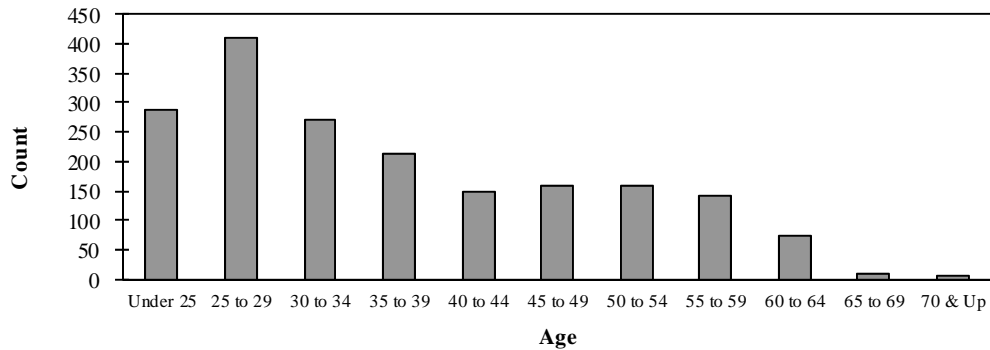
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**STATE - Tier 3\***

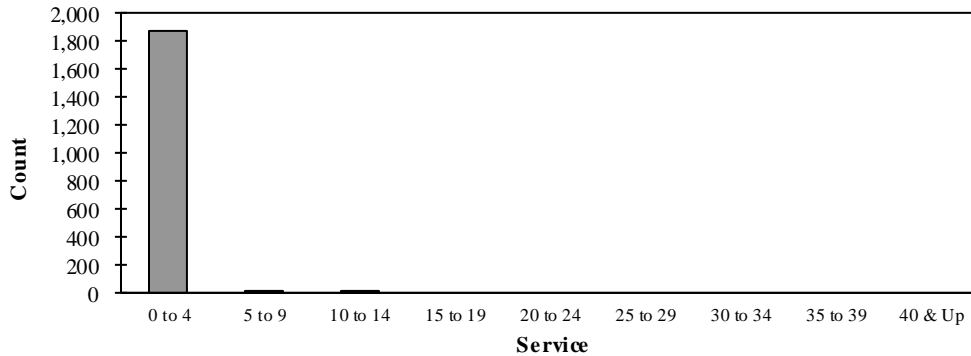
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	287	0	0	0	0	0	0	0	0	287
25 to 29	409	0	0	0	0	0	0	0	0	409
30 to 34	270	0	0	0	0	0	0	0	0	270
35 to 39	212	0	0	0	0	0	0	0	0	212
40 to 44	149	1	0	0	0	0	0	0	0	150
45 to 49	157	1	0	0	0	0	0	0	0	158
50 to 54	160	0	0	0	0	0	0	0	0	160
55 to 59	140	0	1	0	0	0	0	0	0	141
60 to 64	73	0	0	0	0	0	0	0	0	73
65 to 69	11	0	0	0	0	0	0	0	0	11
70 & Up	6	0	0	0	0	0	0	0	0	6
<b>Total</b>	<b>1,874</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,877</b>

\* Effective date of Tier 3 was January 1, 2015

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

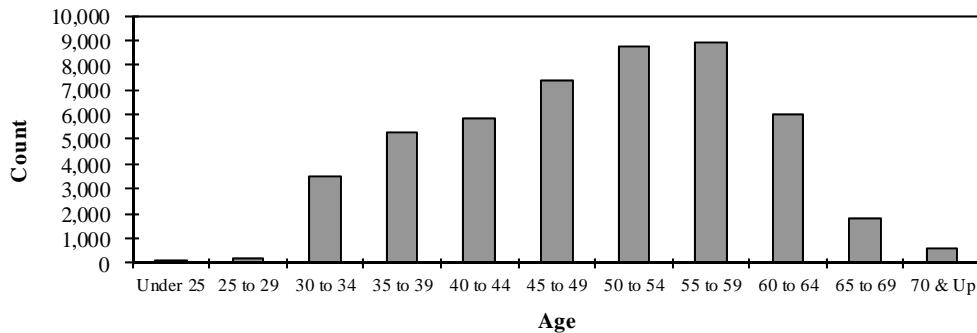
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**SCHOOL - Tier 1\***

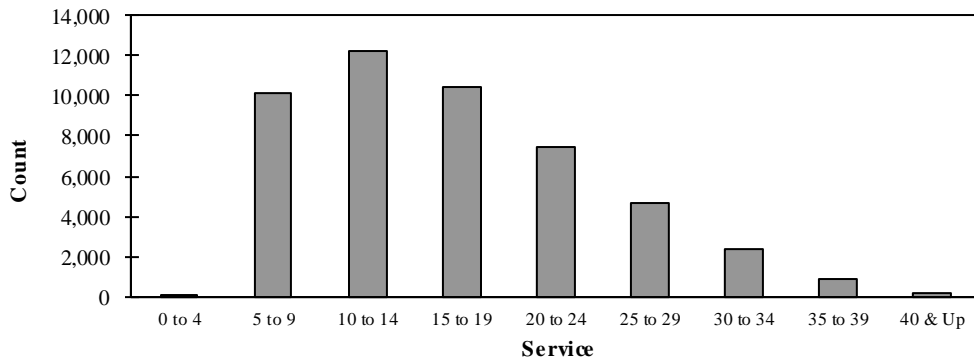
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	4	2	0	1	0	0	0	0	7
25 to 29	1	193	9	0	0	0	0	0	0	203
30 to 34	5	2,535	975	8	0	0	0	0	0	3,523
35 to 39	2	1,434	3,142	729	4	0	0	0	0	5,311
40 to 44	7	1,243	1,522	2,668	426	0	0	0	0	5,866
45 to 49	3	1,300	1,701	1,692	2,223	440	5	0	0	7,364
50 to 54	6	1,202	1,848	1,767	1,481	1,885	575	12	0	8,776
55 to 59	7	1,045	1,540	1,909	1,652	1,244	1,194	327	2	8,920
60 to 64	2	695	1,016	1,217	1,237	786	410	512	92	5,967
65 to 69	4	310	347	350	336	226	121	65	88	1,847
70 & Up	0	153	129	96	71	41	33	16	20	559
<b>Total</b>	<b>37</b>	<b>10,114</b>	<b>12,231</b>	<b>10,436</b>	<b>7,431</b>	<b>4,622</b>	<b>2,338</b>	<b>932</b>	<b>202</b>	<b>48,343</b>

\* Closed effective July 1, 2009.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

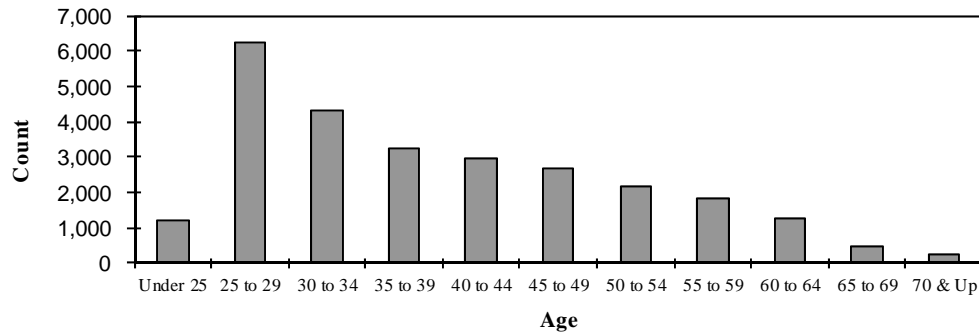
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**SCHOOL - Tier 2\***

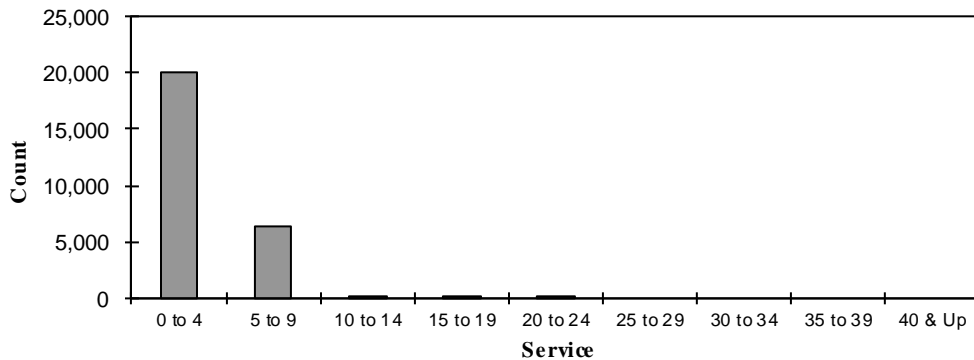
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,224	8	0	0	0	0	0	0	0	1,232
25 to 29	5,284	944	0	0	0	0	0	0	0	6,228
30 to 34	2,877	1,456	12	0	0	0	0	0	0	4,345
35 to 39	2,398	791	54	0	0	0	0	0	0	3,243
40 to 44	2,147	747	52	6	0	0	0	0	0	2,952
45 to 49	1,919	706	30	1	0	0	0	0	0	2,656
50 to 54	1,526	619	31	0	0	0	0	0	0	2,176
55 to 59	1,340	474	27	0	0	0	0	0	0	1,841
60 to 64	874	348	13	2	1	0	0	0	0	1,238
65 to 69	356	137	4	0	0	0	0	0	0	497
70 & Up	167	71	0	0	0	0	0	0	0	238
<b>Total</b>	<b>20,112</b>	<b>6,301</b>	<b>223</b>	<b>9</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26,646</b>

\* Effective date of Tier 2 was July 1, 2009. Closed effective January 1, 2015.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

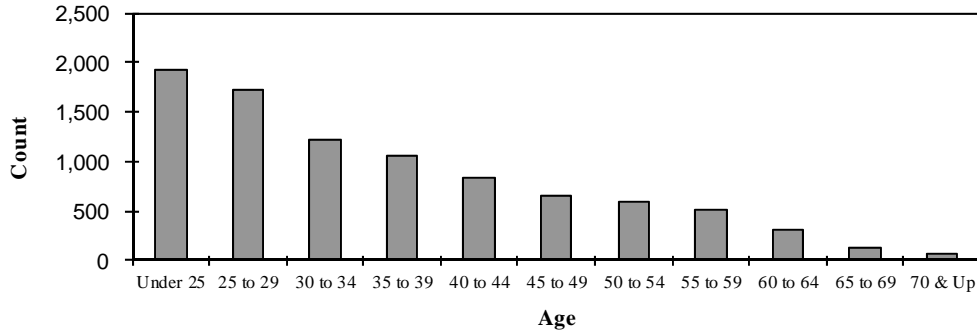
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**SCHOOL - Tier 3\***

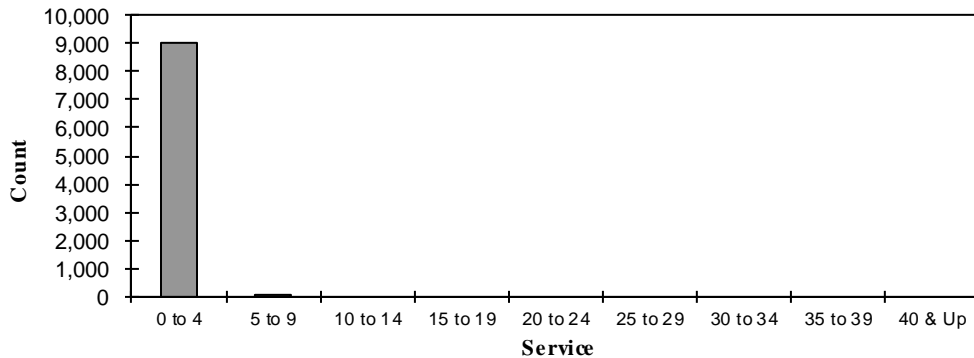
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,932	0	0	0	0	0	0	0	0	1,932
25 to 29	1,725	0	0	0	0	0	0	0	0	1,725
30 to 34	1,227	1	0	0	0	0	0	0	0	1,228
35 to 39	1,055	0	0	0	0	0	0	0	0	1,055
40 to 44	835	1	0	0	0	0	0	0	0	836
45 to 49	654	1	0	0	0	0	0	0	0	655
50 to 54	588	0	0	0	0	0	0	0	0	588
55 to 59	501	2	0	0	0	0	0	0	0	503
60 to 64	312	0	0	0	0	0	0	0	0	312
65 to 69	128	1	0	0	0	0	0	0	0	129
70 & Up	68	0	0	0	0	0	0	0	0	68
<b>Total</b>	<b>9,025</b>	<b>6</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9,031</b>

\* Effective date of Tier 3 was January 1, 2015

**Age Distribution**



**Service Distribution**







**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

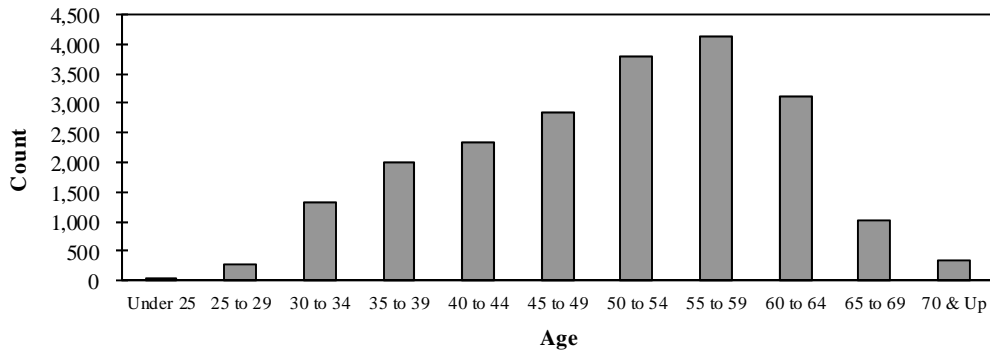
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**LOCAL - Tier 1\***

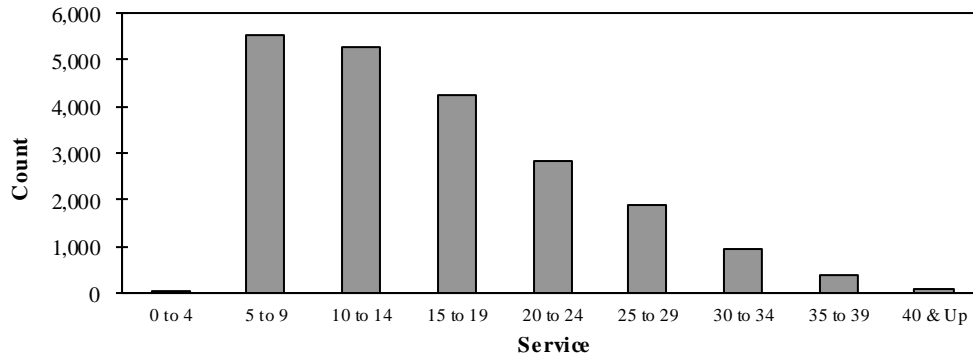
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	0	1	0	0	0	0	0	0	1
25 to 29	0	264	4	0	0	0	0	0	0	268
30 to 34	4	991	321	5	0	0	0	0	0	1,321
35 to 39	3	877	848	270	3	0	0	0	0	2,001
40 to 44	2	685	807	720	141	2	0	0	0	2,357
45 to 49	3	608	768	741	529	184	5	0	0	2,838
50 to 54	3	663	773	798	678	618	238	20	0	3,791
55 to 59	0	647	787	842	712	562	395	173	1	4,119
60 to 64	1	515	637	619	561	367	228	142	54	3,124
65 to 69	1	203	240	190	154	108	62	44	30	1,032
70 & Up	0	81	70	68	43	32	15	10	12	331
<b>Total</b>	<b>17</b>	<b>5,534</b>	<b>5,256</b>	<b>4,253</b>	<b>2,821</b>	<b>1,873</b>	<b>943</b>	<b>389</b>	<b>97</b>	<b>21,183</b>

\* Closed effective July 1, 2009.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

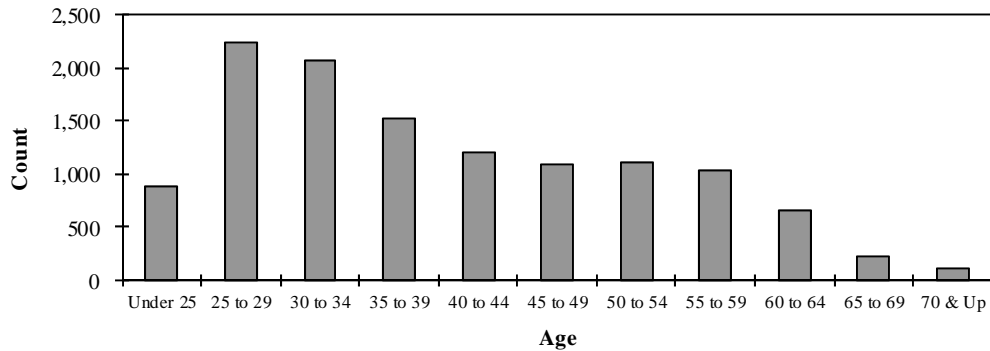
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**LOCAL - Tier 2\***

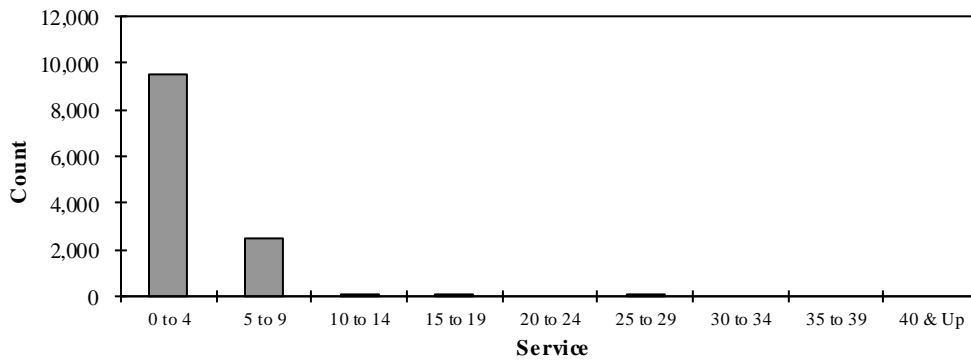
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	872	14	0	0	0	0	0	0	0	886
25 to 29	1,923	322	1	0	0	0	0	0	0	2,246
30 to 34	1,587	474	2	0	0	0	0	0	0	2,063
35 to 39	1,172	346	9	1	0	0	0	0	0	1,528
40 to 44	913	270	9	1	0	0	0	0	0	1,193
45 to 49	832	244	11	1	0	0	0	0	0	1,088
50 to 54	832	266	9	3	0	0	0	0	0	1,110
55 to 59	752	265	6	0	0	1	0	0	0	1,024
60 to 64	451	199	8	1	0	1	0	0	0	660
65 to 69	137	85	5	0	0	0	0	0	0	227
70 & Up	79	27	1	0	0	0	0	0	0	107
<b>Total</b>	<b>9,550</b>	<b>2,512</b>	<b>61</b>	<b>7</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12,132</b>

\* Effective date of Tier 2 was July 1, 2009. Closed effective January 1, 2015.

**Age Distribution**



**Service Distribution**





**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

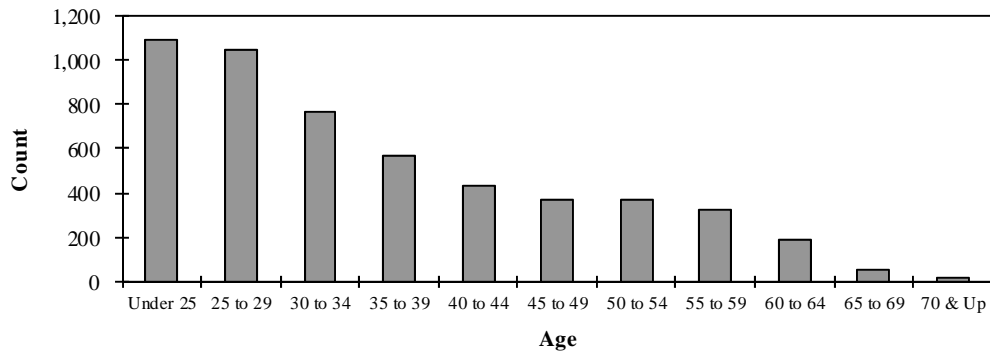
**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

**LOCAL - Tier 3\***

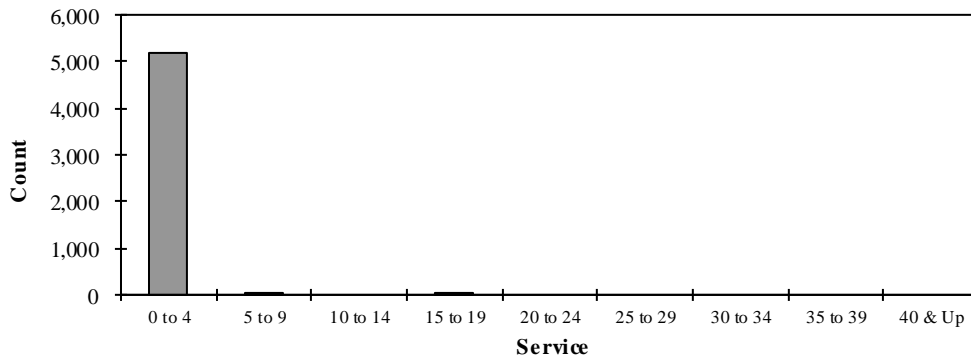
Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	1,096	0	0	0	0	0	0	0	0	1,096
25 to 29	1,051	0	0	0	0	0	0	0	0	1,051
30 to 34	762	1	0	0	0	0	0	0	0	763
35 to 39	564	1	0	0	0	0	0	0	0	565
40 to 44	433	1	0	0	0	0	0	0	0	434
45 to 49	367	1	0	0	0	0	0	0	0	368
50 to 54	364	1	0	0	0	0	0	0	0	365
55 to 59	323	0	0	0	0	0	0	0	0	323
60 to 64	186	0	0	1	0	0	0	0	0	187
65 to 69	49	0	0	0	0	0	0	0	0	49
70 & Up	16	0	0	0	0	0	0	0	0	16
<b>Total</b>	<b>5,211</b>	<b>5</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5,217</b>

\* Effective date of Tier 3 was January 1, 2015

**Age Distribution**



**Service Distribution**





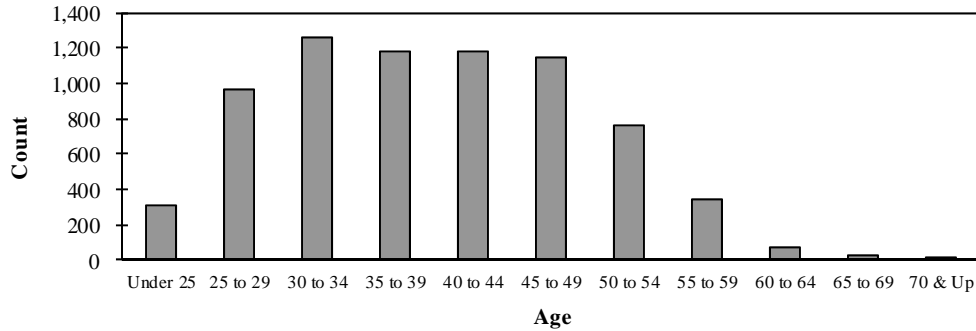
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

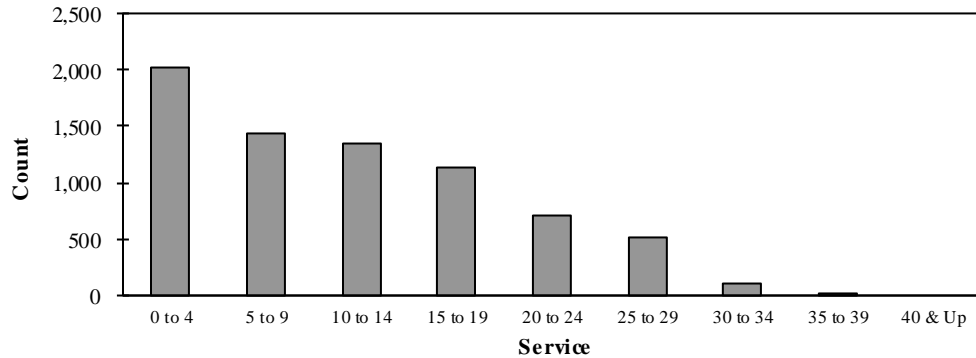
**KP&F**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	306	0	0	0	0	0	0	0	0	306
25 to 29	791	169	0	0	0	0	0	0	0	960
30 to 34	496	583	177	2	0	0	0	0	0	1,258
35 to 39	210	315	515	143	0	0	0	0	0	1,183
40 to 44	113	171	316	481	102	0	0	0	0	1,183
45 to 49	57	101	176	319	348	145	0	0	0	1,146
50 to 54	17	58	96	109	183	253	49	0	0	765
55 to 59	22	27	42	62	60	85	43	0	0	341
60 to 64	4	10	12	9	7	21	12	1	0	76
65 to 69	1	3	7	3	0	6	4	0	0	24
70 & Up	0	0	1	0	0	0	1	0	0	2
<b>Total</b>	<b>2,017</b>	<b>1,437</b>	<b>1,342</b>	<b>1,128</b>	<b>700</b>	<b>510</b>	<b>109</b>	<b>1</b>	<b>0</b>	<b>7,244</b>

**Age Distribution**



**Service Distribution**





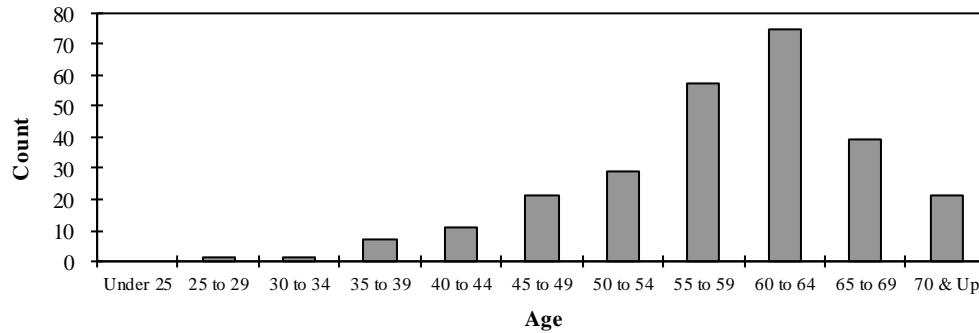
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF ACTIVE MEMBERS  
as of December 31, 2015**

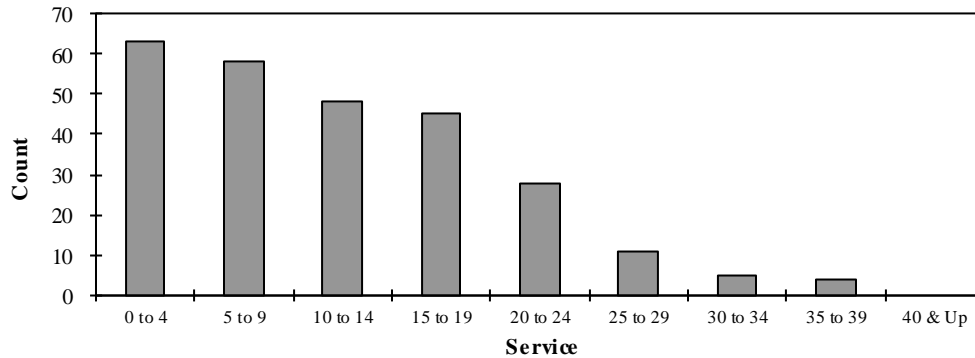
**JUDGES**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	1	0	0	0	0	0	0	0	0	1
30 to 34	1	0	0	0	0	0	0	0	0	1
35 to 39	7	0	0	0	0	0	0	0	0	7
40 to 44	8	2	0	1	0	0	0	0	0	11
45 to 49	12	6	3	0	0	0	0	0	0	21
50 to 54	8	11	8	2	0	0	0	0	0	29
55 to 59	10	17	14	11	4	1	0	0	0	57
60 to 64	12	16	12	15	14	4	2	0	0	75
65 to 69	3	3	6	11	7	4	2	3	0	39
70 & Up	1	3	5	5	3	2	1	1	0	21
<b>Total</b>	<b>63</b>	<b>58</b>	<b>48</b>	<b>45</b>	<b>28</b>	<b>11</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>262</b>

**Age Distribution**



**Service Distribution**





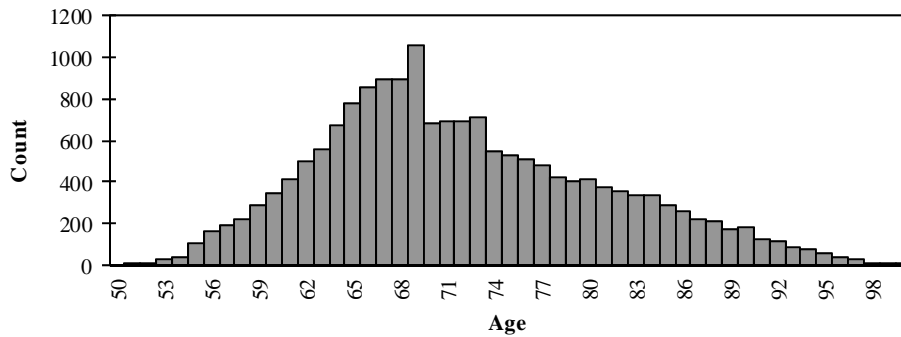
APPENDIX A – SUMMARY OF MEMBERSHIP DATA

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES**

as of December 31, 2015

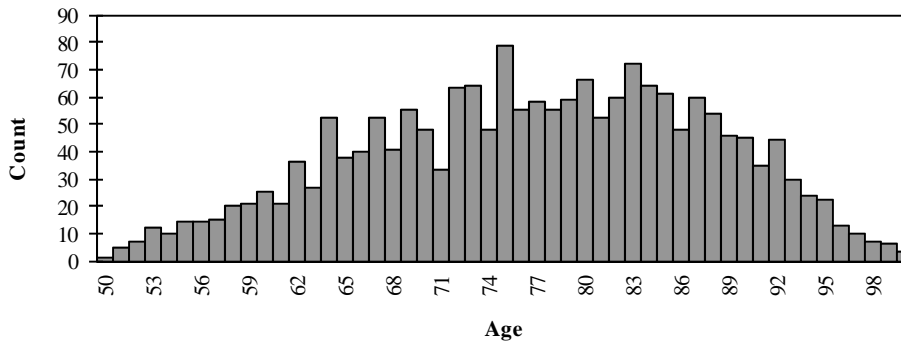
**STATE**

**Retirees**



Count: 17,401      Average age: 72.0      Average benefit: \$14,318

**Beneficiaries**



Count: 1,910      Average age: 76.5      Average benefit: \$9,045

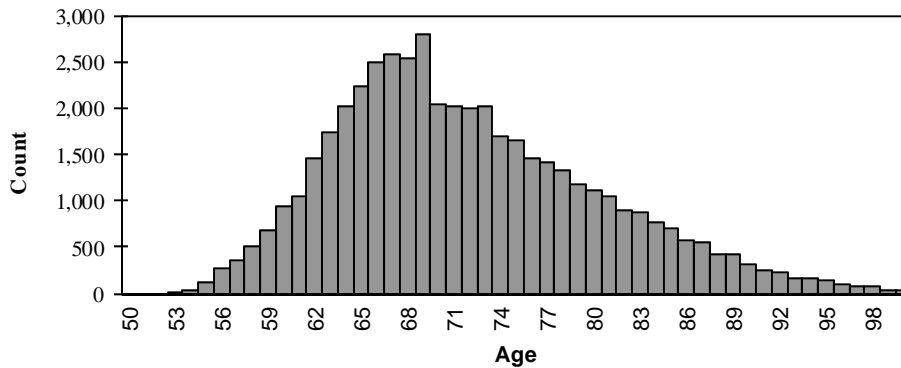


APPENDIX A – SUMMARY OF MEMBERSHIP DATA

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES  
as of December 31, 2015

SCHOOL

Retirees



Count: 47,589    Average age: 71.9    Average benefit: \$15,252

Beneficiaries



Count: 2,599    Average age: 76.0    Average benefit: \$9,070



APPENDIX A – SUMMARY OF MEMBERSHIP DATA

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES  
as of December 31, 2015

LOCAL

Retirees



Count: 17,148    Average age: 71.8    Average benefit: \$11,815

Beneficiaries



Count: 1,898    Average age: 74.4    Average benefit: \$7,222





APPENDIX A – SUMMARY OF MEMBERSHIP DATA

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES**  
as of December 31, 2015

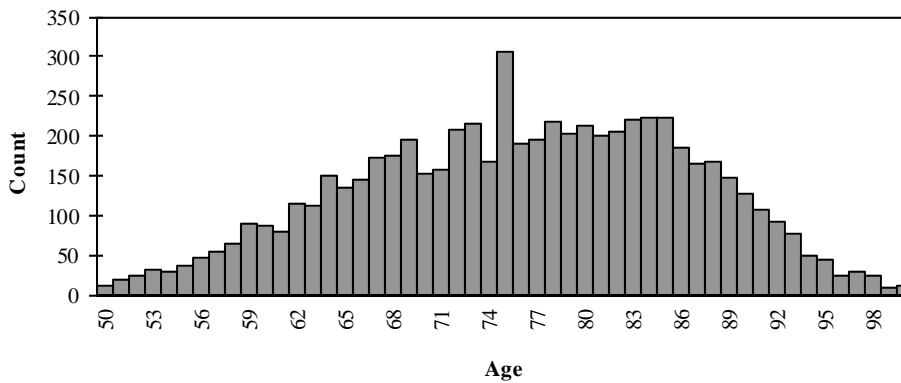
**TOTAL KPERS**

**Retirees**



Count: 82,138    Average age: 71.9    Average benefit: \$14,337

**Beneficiaries**



Count: 6,407    Average age: 75.7    Average benefit: \$8,515



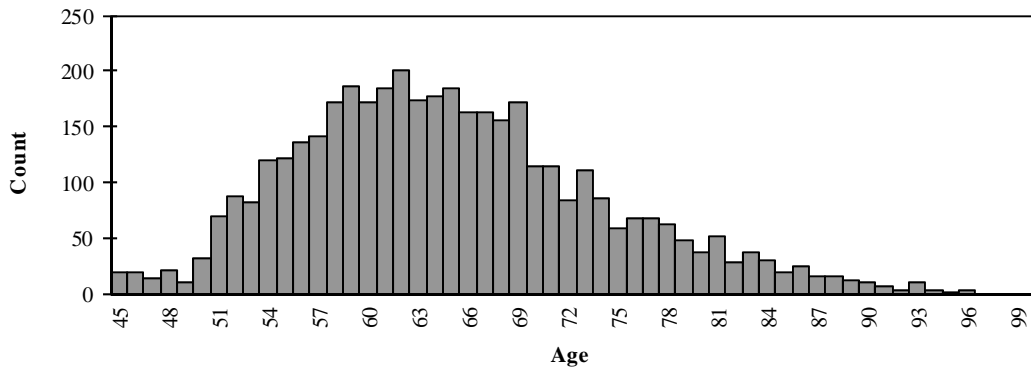
APPENDIX A – SUMMARY OF MEMBERSHIP DATA

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES

as of December 31, 2015

KP&F

Retirees



Count: 4,146    Average age: 64.5    Average benefit: \$34,751

Beneficiaries



Count: 919    Average age: 67.3    Average benefit: \$16,532



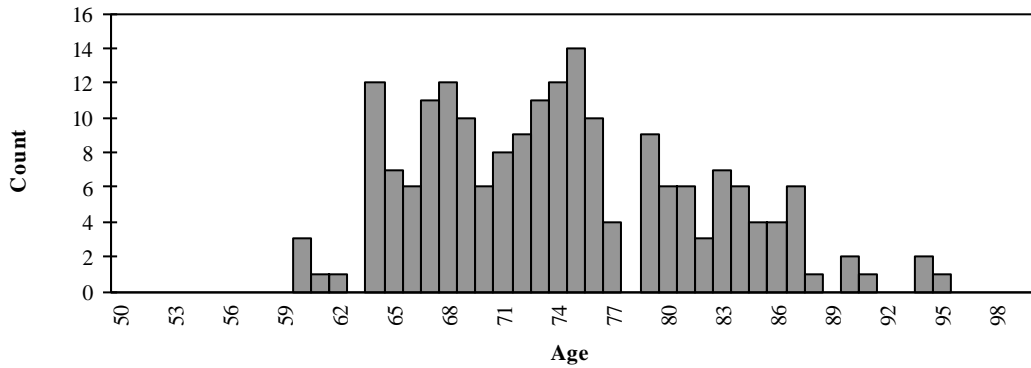
APPENDIX A – SUMMARY OF MEMBERSHIP DATA

KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF RETIREES AND BENEFICIARIES

as of December 31, 2015

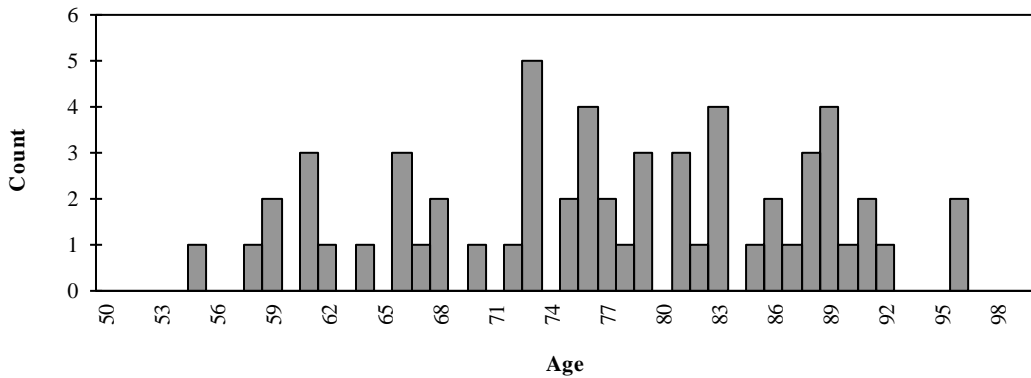
JUDGES

Retirees



Count: 195      Average age: 74.2      Average benefit: \$43,117

Beneficiaries



Count: 61      Average age: 76.6      Average benefit: \$30,844



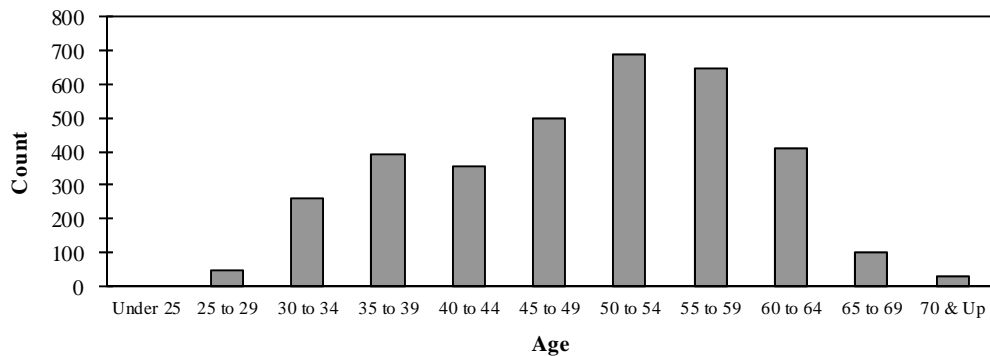
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF INACTIVE VESTED MEMBERS  
as of December 31, 2015**

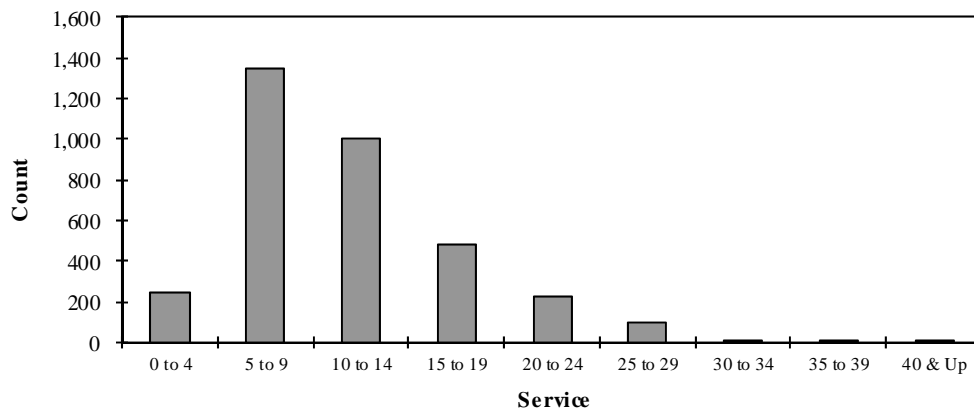
**STATE**

Age	Service									Total	
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up		
Under 25	0	0	0	0	0	0	0	0	0	0	0
25 to 29	13	35	0	0	0	0	0	0	0	0	48
30 to 34	49	198	13	0	0	0	0	0	0	0	260
35 to 39	35	265	84	5	0	0	0	0	0	0	389
40 to 44	38	182	96	36	4	0	0	0	0	0	356
45 to 49	15	160	205	80	36	2	0	0	0	0	498
50 to 54	19	174	244	141	74	33	2	0	0	0	687
55 to 59	11	163	215	140	69	44	4	3	0	0	649
60 to 64	22	143	124	65	34	13	4	4	0	0	409
65 to 69	26	26	18	9	12	3	2	2	2	2	100
70 & Up	14	6	4	1	0	0	0	1	0	0	26
<b>Total</b>	<b>242</b>	<b>1,352</b>	<b>1,003</b>	<b>477</b>	<b>229</b>	<b>95</b>	<b>12</b>	<b>10</b>	<b>2</b>		<b>3,422</b>

**Age Distribution**



**Service Distribution**





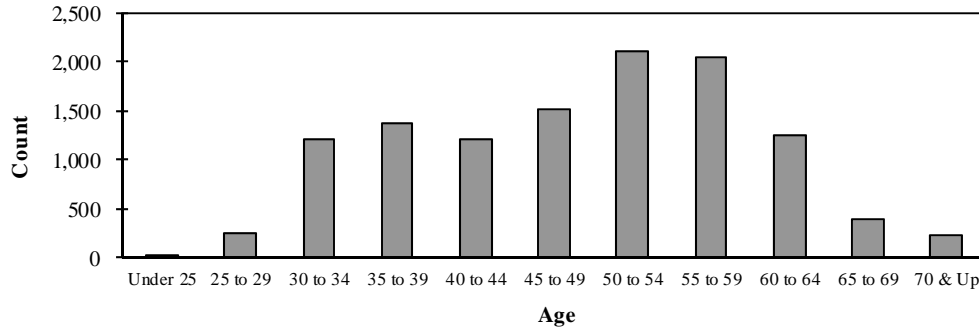
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF INACTIVE VESTED MEMBERS  
as of December 31, 2015**

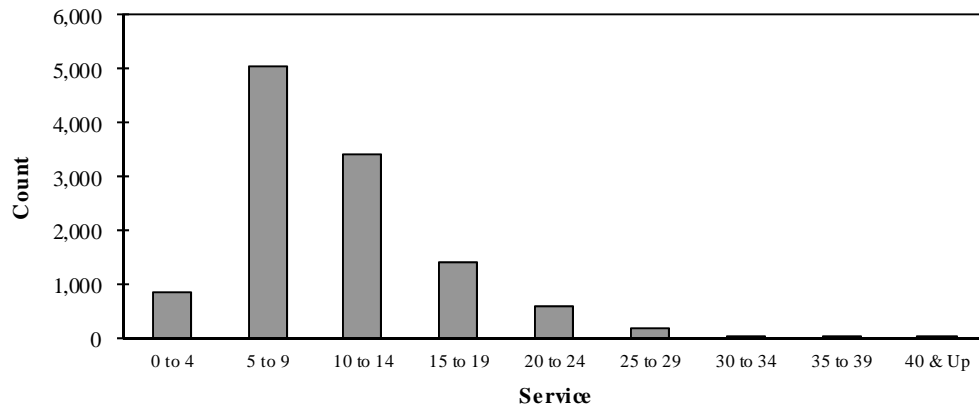
**SCHOOL**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	3	3	0	0	0	0	0	0	0	6
25 to 29	64	179	1	0	0	0	0	0	0	244
30 to 34	123	1,022	60	0	0	0	0	0	0	1,205
35 to 39	80	891	362	34	0	0	0	0	0	1,367
40 to 44	62	522	438	177	13	0	0	0	0	1,212
45 to 49	76	597	527	217	94	9	0	0	0	1,520
50 to 54	67	661	748	342	197	87	10	0	0	2,112
55 to 59	52	569	734	401	190	87	13	3	0	2,049
60 to 64	35	482	429	204	80	7	8	5	0	1,250
65 to 69	133	105	87	33	25	7	2	0	2	394
70 & Up	159	36	22	12	2	2	1	0	1	235
<b>Total</b>	<b>854</b>	<b>5,067</b>	<b>3,408</b>	<b>1,420</b>	<b>601</b>	<b>199</b>	<b>34</b>	<b>8</b>	<b>3</b>	<b>11,594</b>

**Age Distribution**



**Service Distribution**





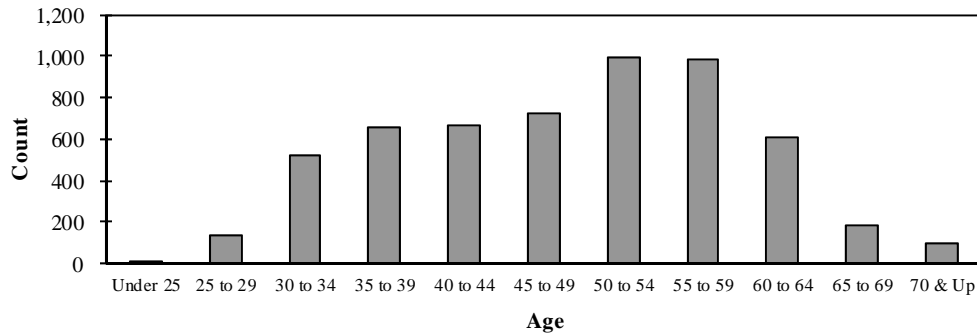
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF INACTIVE VESTED MEMBERS  
as of December 31, 2015**

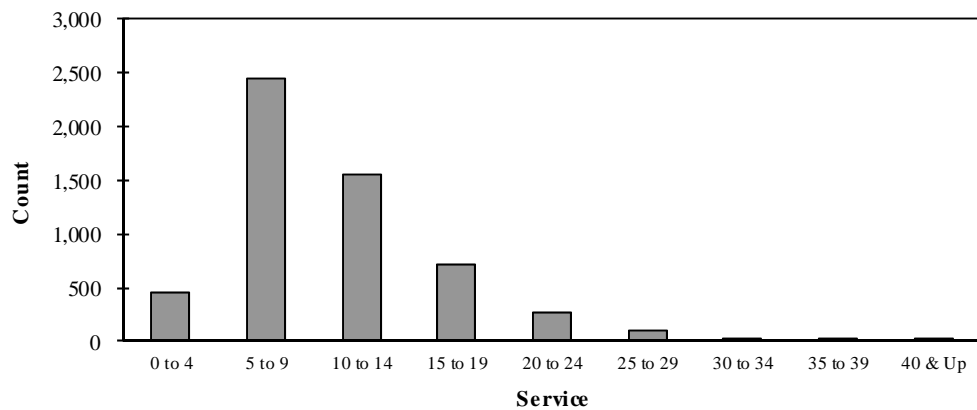
**LOCAL**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	4	6	0	0	0	0	0	0	0	10
25 to 29	33	100	1	0	0	0	0	0	0	134
30 to 34	80	413	31	0	0	0	0	0	0	524
35 to 39	50	441	148	16	0	0	0	0	0	655
40 to 44	34	314	214	91	12	0	0	0	0	665
45 to 49	21	266	258	138	32	6	0	0	0	721
50 to 54	41	275	339	198	102	28	6	0	0	989
55 to 59	41	303	344	165	79	39	6	2	0	979
60 to 64	42	244	176	90	30	18	5	3	1	609
65 to 69	50	75	38	15	4	1	5	0	0	188
70 & Up	56	16	11	4	4	2	0	0	0	93
<b>Total</b>	<b>452</b>	<b>2,453</b>	<b>1,560</b>	<b>717</b>	<b>263</b>	<b>94</b>	<b>22</b>	<b>5</b>	<b>1</b>	<b>5,567</b>

**Age Distribution**



**Service Distribution**





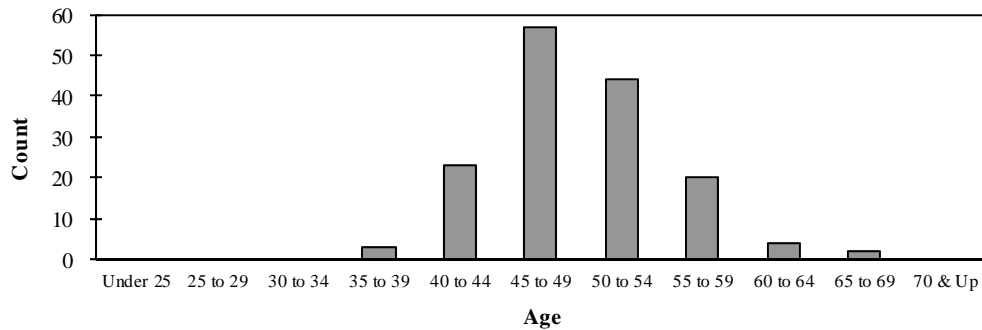
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF INACTIVE VESTED MEMBERS  
as of December 31, 2015**

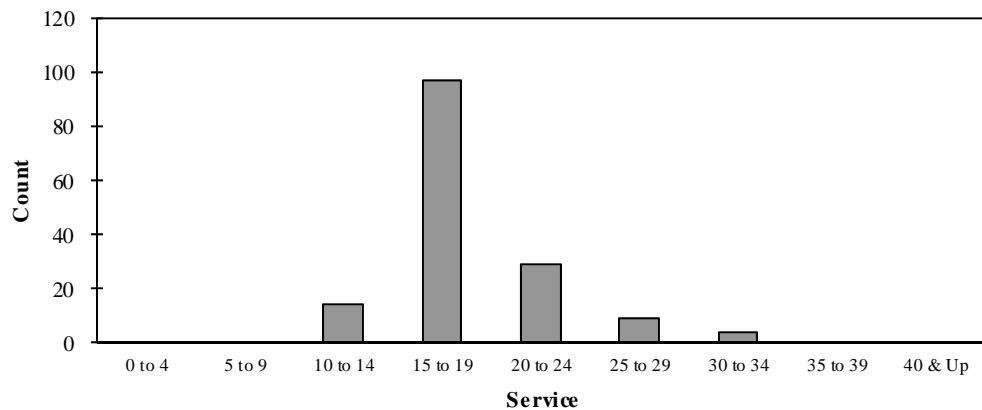
**KP&F**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	1	2	0	0	0	0	0	3
40 to 44	0	0	3	18	2	0	0	0	0	23
45 to 49	0	0	8	34	14	1	0	0	0	57
50 to 54	0	0	1	26	10	5	2	0	0	44
55 to 59	0	0	1	14	2	2	1	0	0	20
60 to 64	0	0	0	2	1	0	1	0	0	4
65 to 69	0	0	0	1	0	1	0	0	0	2
70 & Up	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>97</b>	<b>29</b>	<b>9</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>153</b>

**Age Distribution**



**Service Distribution**





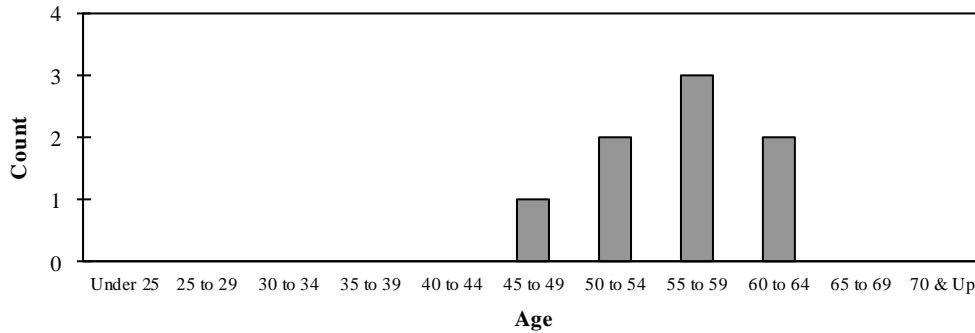
**APPENDIX A – SUMMARY OF MEMBERSHIP DATA**

**KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM  
DISTRIBUTION OF INACTIVE VESTED MEMBERS  
as of December 31, 2015**

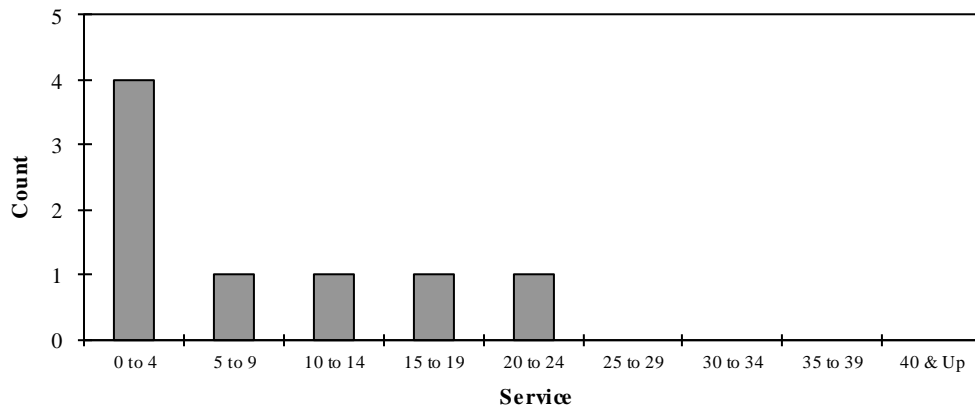
**JUDGES**

Age	Service									Total
	0 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up	
Under 25	0	0	0	0	0	0	0	0	0	0
25 to 29	0	0	0	0	0	0	0	0	0	0
30 to 34	0	0	0	0	0	0	0	0	0	0
35 to 39	0	0	0	0	0	0	0	0	0	0
40 to 44	0	0	0	0	0	0	0	0	0	0
45 to 49	1	0	0	0	0	0	0	0	0	1
50 to 54	2	0	0	0	0	0	0	0	0	2
55 to 59	1	0	1	0	1	0	0	0	0	3
60 to 64	0	1	0	1	0	0	0	0	0	2
65 to 69	0	0	0	0	0	0	0	0	0	0
70 & Up	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>4</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>

**Age Distribution**



**Service Distribution**







## APPENDIX B – SUMMARY OF PLAN PROVISIONS

---

### Plan Membership

The Kansas Public Employees Retirement System (the Retirement System, or, the System), is an umbrella organization administering three statewide retirement systems: the Kansas Public Employees Retirement System (KPERS), the Kansas Police and Firemen’s Retirement System (KP&F), and the Kansas Retirement System for Judges. All three systems are defined benefit, contributory plans that cover nearly all public employees in Kansas. The Kansas Retirement System for Judges is a single employer plan, while the other two are cost-sharing, multiple employer plans. Participation by the State of Kansas is mandatory, whereas participation by local political subdivisions is optional, but irrevocable once elected. Benefit payments are also provided for a certain group of legislative employees.

### KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM Summary of Provisions \*

\* Tier 2 refers to members who either began their participation or rehired on or after July 1, 2009, but before January 1, 2015. Tier 3 refers to non-corrections members who either began their participation or rehired on or after January 1, 2015. Corrections members do not participate in Tier 3.

This valuation reflects the benefit structure in place as of December 31, 2015.

### Employee Membership

Membership is mandatory for all employees in covered positions, except elected officials. A covered position for non-school employees is one that is covered by Social Security, is not seasonal or temporary, and requires at least 1,000 hours of work per year. School employees who work at least 630 hours per year or 3.5 hours per day for at least 180 days are eligible for membership. Effective July 1, 2009, all employees become KPERS members on their date of employment. Prior to July 1, 2009 only School employees were covered immediately, but there was a one-year service requirement for the State and Local groups. Members who retire under the provisions of the Retirement System may not become contributing members again.

### Normal Retirement

#### Eligibility –

**Tier 1:** (a) Age 65, or (b) age 62 with ten years of credited service, or (c) any age when combined age and years of credited service equal 85 “points”. Age is determined by the member’s last birthday and is not rounded up.

**Tiers 2 & 3:** (a) Age 65 with 5 years of credited service or (b) age 60 with 30 years of credited service.

#### Benefit –

**Tiers 1 & 2:** Benefits are based on the member’s years of credited service, Final Average Salary (FAS), and a statutory multiplier. For those who were hired prior to July 1, 1993, Final Average Salary equals the greater of either: a four-year Final Average Salary, including add-ons, such as sick and annual leave; or a three-year Final Average Salary, excluding add-ons, such as sick and annual leave. For those who are hired on or after July 1, 1993 and before July 1, 2009, Final Average Salary equals the average of the three highest



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

---

years of salary, excluding add-ons, such as sick and annual leave. Effective July 1, 2009, (Tier 2), Final Average Salary equals the average of the five highest years of salary, excluding additional compensation.

**Tier 3:** Tier 3 members participate in a cash balance plan with benefits based on the Annuity Savings Account balance, the Retirement Annuity Account balance, and an annuity factor. The member’s annuity factor at retirement is based on the member’s age and benefit payment form. The current annuity factors were adopted by the Board upon recommendation of the actuary. They are expected to be updated periodically. A member’s Annuity Savings Account balance is the sum of mandatory member contributions plus the interest credits and dividends on those contributions. A member’s Retirement Annuity Account is the sum of all employer retirement credits to the account plus the interest credits and dividends on those credits.

Mandatory member contributions are 6% of compensation. The employer retirement credits follow the schedule below:

<u>Years of Service</u>	<u>Retirement Credit Rate</u>
Less than 5	3%
5 – 11	4%
12 – 23	5%
24 or more	6%

Interest credits are 4% per annum, paid quarterly. The interest credits are based on the account balances as of the last day of the preceding quarter. There is also a possibility of additional interest credits, depending on KPERS’ investment return. These additional interest credits are called “dividends” and are equal to 75% of the five-year average net compound rate of return, as determined by the board, for the preceding calendar year and the previous four calendar years on the market value of assets that is above 6%. A schedule of historical dividend rates is contained in the following table:

<u>Year</u>	<u>Applicable Rate of Return</u>	<u>Dividend</u>
2015	0.2%	0.0%

**Prior Service Credit** – Prior service credit is 0.75% or 1.00% of Final Average Salary per year [School employees receive 0.75% of Final Average Salary for each year of prior service that is not credited under the former Kansas School Retirement System (KSRS)].

### **Participating Service Credit** –

**Tier 1:** Participating service credit is 1.75% of Final Average Salary for years of service prior to January 1, 2014. Participating service credit is 1.85% of Final Average Salary for years of service after December 31, 2013.

**Tier 2:** For those retiring on or after January 1, 2012, participating service credit is 1.85% for all years of service.

**Tier 3:** Not applicable for the Cash Balance Plan



## **APPENDIX B – SUMMARY OF PLAN PROVISIONS**

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### **Early Retirement**

**Eligibility** – Eligibility is age 55 and 10 years of credited service.

#### **Benefit –**

**Tier 1:** The normal retirement benefit is reduced 0.2% per month for each month between the ages of 60 and 62, and 0.6% for each month between the ages of 55 and 60.

**Tier 2:** The normal retirement benefit is reduced actuarially for early commencement. The reduction factor is 35.0% at age 60 and 57.5% at age 55. If the member has 30 years of credited service, the early retirement reduction is less (50% of regular reduction).

**Tier 3:** The early retirement benefit is determined in the same manner as a normal retirement benefit, but is based on the account balances and annuity factor at the member's retirement age.

### **Vesting Requirements**

**Eligibility** – Effective July 1, 2009, a member must have five years of credited service (ten years prior to July 1, 2009). Should the vested member terminate employment, the member must leave accumulated contributions on deposit with the Retirement System to be eligible for future benefits. If a vested member terminates employment and withdraws accumulated contributions, the member forfeits all rights and privileges under the Retirement System.

#### **Benefit –**

**Tiers 1 & 2:** Retirement benefits are payable when the vested member reaches normal retirement age, or reduced benefits are payable when the vested member reaches a specified early retirement age.

**Tier 3:** Retirement benefits are payable when the vested member meets the retirement eligibility requirements and is based on the member's account balances at retirement. The member's vested account will be granted interest credits and dividends during the deferral period between termination of employment and retirement.

### **Other Benefits**

**Withdrawal Benefit** – Members who terminate employment may withdraw contributions with interest after the last day on the employer's payroll. Withdrawing member contributions forfeits all membership rights and benefits, which a member may have accrued prior to withdrawing their contributions from the Retirement System. Inactive, non-vested members who return to covered employment within five years after terminating employment, will not have lost any membership rights or privileges if they *haven't* withdrawn contributions. The Retirement Act provides for withdrawal of contributions 31 days after employment terminates, but it does not allow members to borrow from contributions.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

---

### Disability Benefit –

**Tiers 1 & 2:** Members receiving disability benefits under the KPERS Death and Disability Benefits Program continue to receive service credit under KPERS. If a disabled member retires after receiving disability benefits for at least five years immediately preceding retirement, the member's Final Average Salary is adjusted by the actuarial salary increase assumption rates in existence during the member's period of disability prior to July 1, 1993, 5% per year to July, 1998 and the change in CPI-U less 1%, not to exceed 4% after July, 1998.

**Tier 3:** For any Tier 3 member who becomes disabled, such member's Annuity Savings Account and Retirement Annuity Account will be credited with employee contributions, employer retirement credits, interest credits and dividends for the entire period of disability, but no later than the member's normal retirement age. The salary upon which credits are based shall be the employee's salary at the time of disability. After five years of disability, the underlying salary shall be increased by the lesser of (a) the percentage increase in CPI-U, minus 1%, and (b) 4% per annum.

### Death Benefits – Pre-retirement death (non-service connected) –

**Tiers 1 & 2:** The member's accumulated contributions plus interest are paid in a lump sum to the designated beneficiary. In lieu of receiving the member's accumulated contributions, the surviving spouse of a member who is eligible to retire at death may elect to receive benefits under any survivor option. The spouse must be the member's sole designated beneficiary to exercise this option. If the member had at least 10 years of credited service, but had not reached retirement age, the spouse may elect to leave the member's contributions on deposit with the System and receive a monthly benefit to begin on the date the member would have been eligible to retire.

**Tier 3:** If a vested member dies before attaining normal retirement age, the member's surviving spouse shall receive an annuity on the date the member would have attained normal retirement age had such member not died. The benefit is based upon the member's Annuity Savings Account and Retirement Annuity Account, and is payable as a single life annuity with 10-year certain.

**Service-connected accidental death** – The member's accumulated contributions plus interest, plus lump sum amount of \$50,000, plus annual benefit based on 50% of Final Average Salary; reduced by Workers' Compensation benefits and subject to a minimum benefit of \$100 a month; are payable to a spouse, minor children, or dependent parents, for life, or until the youngest child reaches age 18 (or up to age 23 if they are full-time students), in this order of preference. The monthly accidental death benefit is in lieu of any joint/survivor benefit for which the surviving spouse would have been eligible. For Tier 3 members, Final Average Salary equals the average of the three final years of salary.

**Post-retirement death** – A lump sum amount of \$4,000 is payable to the member's beneficiary. If the member has selected a retirement option, benefits are paid to the joint annuitant or the designated beneficiary. Under joint and survivor retirement options, if the joint annuitant predeceases the retired member, the reduced option benefit is increased to the amount the retired member would have received if no retirement option had been elected. Benefits payable to a joint annuitant cease at the joint annuitant's death. If a member does not select an option, the designated beneficiary receives the excess, if any, of the member's accumulated contributions plus interest over total benefits paid to date of death.



## **APPENDIX B – SUMMARY OF PLAN PROVISIONS**

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### **Member Contributions**

**Tier 1:** Prior to January 1, 2014, member contributions were 4% of compensation for Tier 1. 2012 HB 2333 established an election by Tier 1 members, contingent upon IRS approval, between different contribution rate and benefit levels. The legislation provided that, if the IRS rejected or did not take action to approve the election, Tier 1 members would default to an increase in their employee contributions to 5% of compensation effective January 1, 2014, and 6% effective January 1, 2015, with an increase in the benefit multiplier to 1.85% beginning January 1, 2014, for future years of service only. Subsequently, the IRS issued a private letter ruling stating that the election granted to KPERS 1 members under 2012 HB 2333 was impermissible.

**Tier 2:** The member contribution rate for Tier 2 is 6% of compensation.

**Tier 3:** The member contribution rate for Tier 3 is 6% of compensation.

### **Interest on Member Contributions**

**Tier 1:** Interest is credited to members' contribution accounts on June 30 each year, based on the account balance as of the preceding December 31. Those who became members prior to July 1, 1993, have interest credited to their accounts at the rate of 8% per year. Those who become members on and after July 1, 1993, have interest credited to their accounts at the rate of 4% per year.

**Tier 2:** Interest is credited to members' contribution accounts on June 30 each year, based on the account balance as of the preceding December 31, at the rate of 4% per year.

**Tier 3:** Please see page 116.

### **Employer Contributions**

Rates are certified by the Board of Trustees, based on the results of annual actuarial valuations and statutory provisions.

### **Board of Regents Plan Members (TIAA and equivalents)**

Board of Regents plan members (TIAA and equivalents) do not make contributions to KPERS. They receive prior service benefits for service before 1962; the benefit is 1% of Final Average Salary for each year of credited prior service. Service after 1961 is counted for purposes of determining eligibility for vesting.

### **Correctional Members**

Correctional employees, as certified to the Board of Trustees by the Secretary of Corrections, are defined in K.S.A. 74-4914a: (a) correctional officers, (b) certain directors and deputy directors of correctional institutions, (c) correctional power plant operators, (d) correctional industries employees, (e) correctional food service employees, and (f) correctional maintenance employees.

**Tier 1:** For groups (a) and (b) with at least 3 consecutive years of credited service in such positions immediately preceding retirement, normal retirement age is 55 or Rule of 85; and early retirement requirements are age 50 with 10 years of credited service. For groups (c), (d), (e), and (f) with at least 3



## **APPENDIX B – SUMMARY OF PLAN PROVISIONS**

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consecutive years of service in such positions immediately preceding retirement, normal retirement age is 60 or Rule of 85, and early retirement requirements are 55 with 10 years of credited service.

**Tier 2:** For groups (a) and (b) with at least 3 consecutive years of credited service in such positions immediately preceding retirement, normal retirement age is 55 with 10 years of credited service, and early retirement requirements are age 50 with 10 years of credited service. For groups (c), (d), (e), and (f) with at least 3 consecutive years of service in such positions immediately preceding retirement, normal retirement age is 60 with 10 years of credited service, and early retirement requirements are 55 with 10 years of credited service.

### **Cost of Living Adjustments (COLAs)**

**Tier 2 Members Who Retired Prior to July 1, 2012:** 2% cost-of-living adjustment (COLA) each year beginning at age 65 or the second July 1 after the retirement date, whichever is later. Other Tier 2 members will not receive a COLA.

**Tier 3:** Upon retirement, the benefit option selected by the member may include a self-funded cost of living adjustment feature, in which the account value is converted to a benefit amount that increases by a fixed percentage over time.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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### KANSAS POLICE & FIREMEN’S RETIREMENT SYSTEM

#### Normal Retirement

**Tier I** – age 55 and 20 years of service or 32 years of service (regardless of age).

**Tier II** – age 50 and 25 years of service, or age 55 and 20 years of service, or age 60 and 15 years of service.

**Benefits** – Benefits are based on the member’s Final Average Salary. For those who were hired prior to July 1, 1993, Final Average Salary equals the average of the highest three of the last five years of credited participating service, including add-ons, such as sick and annual leave. For those who are hired on or after July 1, 1993, Final Average Salary equals the average of the highest three of the last five years of participating service, excluding add-ons, such as sick and annual leave. Benefits are based on a member’s years of credited service and a multiplier of 2.5% of Final Average Salary for each year of credited service, to a maximum of 90% of Final Average Salary (first effective July 1, 2013).

**Local Plan** – For members covered by local plan provisions on the employer’s entry date, normal retirement is at age 50 with 22 years of credited service.

#### Early Retirement

**Eligibility** – Members must be at least age 50 and have 20 years of credited service.

**Benefit** – Normal retirement benefits are reduced 0.4% per month under age 55.

#### Vesting Requirements

**Eligibility – Tier I:** The member must have 20 years of credited service; if terminating employment, the member must leave contributions on deposit with the Retirement System to be eligible for future benefits. Unreduced benefits are payable at age 55 or reduced benefits are payable as early as age 50.

**Eligibility – Tier II:** The member must have 15 years of credited service to be considered vested. If terminating employment, the member must leave contributions on deposit with the Retirement System to be eligible for future benefits. A vested member may draw unreduced benefits as early as age 50 with 25 years of credited service, age 55 with 20 years of credited service, or age 60 with 15 years of credited service. A reduced benefit is available at age 50 with 20 years of credited service.

#### Other Benefits

**Withdrawal Benefits** – Members who terminate employment before retirement may withdraw contributions with interest after the last day on the employer’s payroll. Withdrawal of contributions forfeits all membership rights and benefits, which a member may have accrued prior to withdrawing accumulated contributions from the Retirement System. Inactive, nonvested members, who return to covered employment within five years after terminating employment, will not have lost any membership rights or privileges if they *haven’t* withdrawn contributions.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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### Disability Benefits

**Tier I: Service-connected disability** – There are no age or service requirements to be eligible for this benefit. There is an annual benefit of 50% of Final Average Salary, plus 10% of Final Average Salary for each dependent child under age 18 (or up to age 23 for full-time students), to a maximum of 75% of Final Average Salary. If dependent child benefits aren't payable, the benefit is 50% of Final Average Salary or 2.5% for each year of credited service up to a maximum of 90% of Final Average Salary. Upon the death of a member after two years from the proximate cause of death which is the original service-connected disability, the same benefits are payable. Upon the death of a member after two years from a cause different than the disability for which the member is receiving service-connected disability benefits, the surviving spouse receives a lump sum payment of 50% of Final Average Salary. Additionally, a pension benefit of one-half the member's benefit is payable to either the spouse or to the dependent children.

**Tier I: Non-Service-connected disability** – An annual benefit of 2.5% times years of credited service times Final Average Salary with a minimum of 25% of FAS and a maximum of 90% of FAS.

**Tier II:** There is no distinction between service-connected and non-service-connected disability benefits. The annual benefit is 50% of Final Average Salary. Service Credit is granted during the period of disability. Disability benefits convert to age and service retirement at the earliest date the member is eligible for full retirement benefits. If the member is disabled for at least five years immediately preceding retirement, the member's Final Average Salary is adjusted during the period of disability.

### Death Benefits (Tier I and Tier II)

**Active Member Service Connected Death** – There is no age or service requirement. An annual benefit of 50% of Final Average Salary is payable to the spouse, plus 10% of Final Average Salary for each dependent child under age 18 (or up to age 23 for full-time students), to a maximum of 75% of Final Average Salary Active Member.

**Active Member Non-Service Connected Death** – A lump sum of 100% of Final Average Salary and a pension of 2.5% of Final Average Salary per year of credited service (to a maximum of 50%) is payable to the spouse. If there is no spouse, the monthly benefit is paid to the dependent children (age 18, or 23 if a full time student). If there is no surviving spouse or eligible children, the beneficiary will receive a lump sum payment of 100% of the member's current annual pay inclusive of the member's accumulated contributions.

**Inactive Member Death** – If an inactive member is eligible for retirement when death occurs, and the inactive member's spouse is the sole beneficiary, the spouse may elect to receive benefits as a joint annuitant under any option in lieu of a refund of the member's accumulated contributions.

**Post-Retirement Death** – There is a lump sum amount of \$4,000 payable, less any death benefit payable under local plan provisions. If the member has selected a retirement option, benefits are paid to the joint annuitant or the designated beneficiary. Under joint and survivor options, if the joint annuitant predeceases the retired member, the benefit is increased to the amount the retired member would have received if no option had been selected. Benefits payable to the joint annuitant cease when the joint annuitant dies. If no option is selected, the designated beneficiary receives the excess, if any, of the member's accumulated contributions over total benefits paid to the date of death. The surviving spouse of a transfer member (who was covered by local plan on the employer's entry date, who dies after retirement, and who has not elected a retirement benefit option) receives a lump sum payment of 50% of Final Average Salary. Additionally, a pension benefit of three-fourths of the member's benefit is payable either to the spouse or dependent children.





## **APPENDIX B – SUMMARY OF PLAN PROVISIONS**

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### **Classifications**

**Tier I** – Members have Tier I coverage if they were employed prior to July 1, 1989, and they did not elect coverage under Tier II.

**Tier II** – Members have Tier II coverage if they were employed July 1, 1989, or later. This also includes members employed before July 1, 1989 who elected Tier II coverage.

Some KP&F members are considered either Tier I or Tier II Transfer or Brazelton members.

**Transfer Member** – A member who is a former member of a local plan who elected to participate in KP&F. Former Kansas Highway Patrol and former Kansas Bureau of Investigation members are included in this group.

**Brazelton member** – A member who participated in a class action lawsuit, whose contribution is lower, and whose benefits are offset by Social Security.

### **Member Contributions**

Member contributions are 7.15% of compensation, effective July 1, 2013.

Brazelton members contribute .008% with a Social Security offset. Benefits payable to these members are reduced by one-half of original Social Security benefits accruing from employment with the participating employer.

### **Employer Contributions**

Individual rates are certified by the Board of Trustees for each participating employer based on the results of annual actuarial valuations.

### **Deferred Retirement Option Program (DROP) for Kansas Highway Patrol (KHP)**

Upon attaining normal retirement age, members of the KHP have the option of participating in the DROP plan for a minimum of three years and no more than five years. This is a one-time, irrevocable election. After electing to participate, a member's monthly retirement benefit is deposited into the member's DROP account for the duration of the DROP period. The DROP account accrues interest on an annual basis, ranging from 0.0% to 3.0%. Employer and employee contributions continue to be made to the System, but the member does not earn any additional service credit after the effective date of the DROP election. At the end of the DROP period, a member is entitled to a distribution from the DROP account.



## APPENDIX B – SUMMARY OF PLAN PROVISIONS

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### KANSAS JUDGES RETIREMENT SYSTEM

#### Normal Retirement

**Eligibility** – (a) Age 65, or (b) age 62 with ten years of credited service, or (c) any age when combined age and years of credited service equals 85 “points”. Age is determined by the member’s last birthday and is not rounded up.

**Benefit** – The benefit is based on the member’s Final Average Salary, which is the average of the three highest years of service under any retirement system administered by KPERS. The basic formula for those who were members prior to July 1, 1987, is 5% of Final Average Salary for each year of service up to ten years, plus 3.5% for each year of service greater than ten, to a maximum of 70% of Final Average Salary. For those who became members on or after July 1, 1987, the formula is 3.5% for each year, to a maximum benefit of 70% of Final Average Salary.

#### Early Retirement

**Eligibility** – A member must be age 55 and have ten years of credited service to take early retirement.

**Benefit** – The retirement benefit is reduced 0.2% per month for each month between the ages of 60 and 62, and 0.6% per month for each month between the ages of 55 and 60.

#### Vesting Requirements

**Eligibility** – There is no minimum service requirement; however, after terminating employment, the member must leave contributions on deposit with the Retirement System in order to be eligible for future benefits. Eligible judges who have service credited under KPERS have vested benefits under both KPERS and the Retirement System for Judges when the combined total credited service equals ten years.

**Benefit** – Normal benefit accrued at termination is payable at age 62 or in reduced amount at age 55, provided the member has 10 years of credited service. Otherwise, benefits are not payable until age 65.

#### Other Benefits

**Disability Benefits** – These benefits are payable if a member is defined as totally and permanently disabled as certified by the Supreme Court. The disability benefit, payable until age 65, is 3.5% of Final Average Salary for each year of service (minimum of 50% and maximum of 70% of Final Average Salary). Benefits are recalculated when the member reaches retirement age based on participating service credit for the period of disability. If a judge is disabled for at least five years immediately preceding retirement, the judge’s Final Average Salary is adjusted.

**Withdrawal Benefit** – Members who terminate employment may withdraw contributions with interest, but they will forfeit any right to a future benefit if they do.

**Pre-retirement Death** – A refund of the member’s accumulated contributions is payable. In lieu of receiving the member’s accumulated contributions, the surviving spouse of a member who is eligible to retire at death may elect to receive benefits under any survivor benefit option. If the member had at least ten years of credited service, but hadn’t reached retirement age at the time of death, the spouse may elect a monthly benefit to begin on the date the member first would have been eligible to retire as long as the member’s contributions aren’t withdrawn.



## **APPENDIX B – SUMMARY OF PLAN PROVISIONS**

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**Post-retirement Death** – A lump sum death benefit of \$4,000 is payable to the member’s beneficiary. If the member had selected an option with survivor benefits, those benefits are paid to the joint annuitant or to the member’s designated beneficiary. Under retirement options with survivor benefits, if the joint annuitant predeceases the retired member, the retirement benefit is increased to the amount the retired member would have received if no survivor benefits had been elected. Benefits payable to a joint annuitant cease when the joint annuitant dies. If no option was chosen by the retired member, the member’s designated beneficiary receives the excess, if any, of the member’s accumulated contributions over the total benefits paid to the date of the retired member’s death.

### **Member Contributions**

Judges contributions are 6% of compensation. Upon reaching the maximum retirement benefit level of 70% of Final Average Salary, the contribution rate is reduced to 2%.

### **Employer Contributions**

Rates are certified by the Board of Trustees, based on the results of annual actuarial valuations.



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**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

**KPERS**

**Rate of Investment Return** 8.0%

**Price Inflation** 3.0%

**KPERS 3 Interest Crediting Rate, including dividends** 6.5% per annum

**Rates of Mortality: Post-retirement** The RP-2000 Healthy Annuitant table was first adjusted by an age setback or set forward. Rates were further adjusted to fit actual experience.

Starting Table

- School Males: RP-2000 M Healthy -2
- School Females: RP-2000 F Healthy -2
- State Males: RP-2000 M Healthy +2
- State Females: RP-2000 F Healthy +0
- Local Males: RP-2000 M Healthy +2
- Local Females: RP-2000 F Healthy -1

Sample Rates (2000)

Age	School		State		Local	
	Male	Female	Male	Female	Male	Female
50	0.513%	0.183%	0.547%	0.218%	0.587%	0.204%
55	0.549%	0.226%	0.625%	0.328%	0.670%	0.278%
60	0.662%	0.384%	0.962%	0.577%	1.031%	0.481%
65	1.051%	0.664%	1.597%	0.964%	1.712%	0.817%
70	1.747%	1.074%	2.646%	1.557%	2.837%	1.318%
75	2.917%	1.792%	4.550%	2.614%	4.878%	2.215%
80	5.278%	3.643%	7.037%	4.567%	7.545%	4.171%
85	9.331%	6.751%	11.292%	7.977%	12.108%	7.508%
90	15.661%	11.589%	17.978%	13.563%	19.278%	12.869%
95	24.301%	18.407%	24.888%	20.034%	26.687%	19.742%
100	32.791%	24.186%	30.850%	24.459%	33.080%	24.990%

**Pre-retirement** School Males: 70 % of RP-2000 M Employees -2  
 School Females: 70% of RP-2000 F Employees -2  
 State Males: 70% of RP-2000 M Employees +2  
 State Females: 65% of RP-2000 F Employees +0  
 Local Males: 90% of RP-2000 M Employees +2  
 Local Females: 90% of RP-2000 F Employees -1

**Disabled Life Mortality** RP-2000 Disabled Life Table with same age adjustments as used for Retiree Mortality.



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

**Rates of Salary Increase**

<u>Years of Service</u>	<u>Rate of Increase*</u>		
	<u>School</u>	<u>State</u>	<u>Local</u>
1	12.00%	10.50%	10.50%
5	6.55%	5.60%	6.20%
10	5.10%	4.90%	5.20%
15	4.60%	4.40%	4.80%
20	4.10%	4.10%	4.60%
25	4.00%	4.00%	4.10%
30	4.00%	4.00%	4.00%

\*Includes general wage increase assumption of 4.0% (composed of 3.0% inflation and 1.0% productivity)

Note: Because Tier 2 and Tier 3 State and Local employees become members immediately, their rates of salary increase are shifted 1 year to be consistent with Tier 1 members.

**Load for Pre-1993 Hires**

State: 2.0%, School: 0.5%,  
Local: 1.8%, C55/C60: 1.5%

**Rates of Termination**

<u>Duration</u>	<u>School</u>		<u>State</u>		<u>Local</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
0	21.00%	23.00%	18.00%	19.00%	20.00%	23.00%
1	18.00%	18.00%	15.00%	15.00%	16.00%	20.00%
2	14.00%	13.00%	13.00%	11.00%	13.20%	17.00%
3	10.00%	11.00%	11.00%	10.00%	11.00%	14.00%
4	8.00%	9.00%	9.00%	9.00%	9.60%	11.50%
5	6.50%	7.25%	7.50%	8.00%	8.30%	9.00%
6	5.50%	6.25%	6.50%	7.00%	7.10%	7.50%
7	5.00%	5.50%	5.70%	6.00%	6.10%	6.80%
8	4.50%	4.90%	5.20%	5.00%	5.10%	6.20%
9	4.00%	4.30%	4.90%	4.60%	4.50%	5.60%
10	3.60%	3.90%	4.50%	4.30%	4.10%	5.00%
11	3.20%	3.50%	4.30%	4.00%	3.80%	4.50%
12	2.90%	3.10%	4.10%	3.70%	3.60%	4.20%
13	2.60%	2.80%	3.90%	3.50%	3.40%	3.90%
14	2.40%	2.50%	3.70%	3.30%	3.20%	3.60%
15	2.20%	2.30%	3.50%	3.10%	3.10%	3.30%
16	2.00%	2.10%	3.30%	2.90%	3.00%	3.00%
17	1.80%	1.90%	3.00%	2.70%	2.80%	2.80%
18	1.60%	1.70%	2.70%	2.50%	2.60%	2.60%
19	1.50%	1.50%	2.40%	2.30%	2.50%	2.40%
20	1.40%	1.30%	2.20%	2.10%	2.40%	2.20%
21	1.30%	1.20%	2.00%	1.90%	2.20%	2.00%
22	1.20%	1.10%	1.80%	1.70%	2.00%	1.80%
23	1.10%	1.00%	1.60%	1.50%	1.80%	1.60%
24	1.00%	0.90%	1.40%	1.40%	1.60%	1.40%
25	0.90%	0.80%	1.20%	1.30%	1.40%	1.20%
26	0.80%	0.70%	1.10%	1.20%	1.20%	1.00%
27	0.70%	0.60%	1.00%	1.10%	1.10%	1.00%
28	0.60%	0.50%	0.90%	1.00%	1.00%	1.00%
29	0.50%	0.50%	0.80%	0.50%	0.90%	1.00%
30	0.50%	0.50%	0.70%	0.50%	0.80%	1.00%
30+	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Note: Because Tier 2 and Tier 3 State and Local employees become members immediately, their termination rates are shifted 1 year to be consistent with Tier 1 members.



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

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**Retirement Rates**

**School**

<u>Age</u>	<u>Rule of 85</u>	
	<u>1st Year With 85 Points</u>	<u>After 1st Year With 85 Points</u>
53	20%	18%
55	20%	18%
57	22%	18%
59	25%	23%
61	30%	30%

**Early Retirement**

<u>Age</u>	<u>Rate</u>
55	5%
56	5%
57	8%
58	10%
59	12%
60	15%
61	24%

**Normal Retirement**

<u>Age</u>	<u>Rate</u>
62	30%
63	25%
64	35%
65	35%
66-71	25%
72-74	20%
75	100%

**State**

<u>Age</u>	<u>Rule of 85</u>	
	<u>1st Year With 85 Points</u>	<u>After 1st Year With 85 Points</u>
53	10%	10%
55	15%	12%
57	15%	12%
59	15%	12%
61	30%	25%

**Early Retirement**

<u>Age</u>	<u>Rate</u>
55	5%
56	5%
57	5%
58	6%
59	10%
60	10%
61	20%

**Normal Retirement**

<u>Age</u>	<u>Rate</u>
62	30%
63	20%
64	30%
65	35%
66-67	25%
68-74	20%
75	100%



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

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**Local**

		<u>Rule of 85</u>	
		<u>1st Year</u>	<u>After 1st Year</u>
<u>Age</u>		<u>With 85 Points</u>	<u>With 85 Points</u>
53		11%	7%
55		13%	10%
57		13%	10%
59		15%	12%
61		25%	25%

<u>Early Retirement</u>		<u>Normal Retirement</u>	
<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
55	5%	62	25%
56	5%	63	20%
57	5%	64	30%
58	5%	65	35%
59	7%	66	25%
60	7%	67-74	20%
61	20%	75	100%

- Inactive vested members – Age 62 for Tier 1 and Tier 2, and normal retirement age for Tier 3.

- For correctional employees with an age 55 normal retirement date -

<u>Age</u>	<u>Rate</u>
55	10%
58	10%
60	15%
62	35%
65	100%

- For correctional employees with an age 60 normal retirement date -

<u>Age</u>	<u>Rate</u>
60	20%
61	20%
62	20%
63	20%
64	20%
65	70%
66	70%
67	70%
68	100%

- For TIAA employees – Age 66.





**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

**Rates of Disability**

<u>Age</u>	<u>School</u>	<u>State</u>	<u>Local</u>
25	.020%	.029%	.024%
30	.022%	.082%	.052%
35	.027%	.129%	.078%
40	.046%	.195%	.114%
45	.088%	.301%	.167%
50	.170%	.409%	.290%
55	.289%	.576%	.480%
60	.544%	.736%	.680%

Indexation of Final Average Salary for Disabled Members: 2.5% per year

**Probability of Vested Members Leaving Contributions With System**

Tier 1:

<u>Age</u>	<u>School</u>	<u>State</u>	<u>Local</u>
25	80%	65%	60%
30	80%	65%	70%
35	80%	65%	70%
40	80%	65%	70%
45	82%	75%	70%
50	87%	85%	74%
55	100%	100%	100%

Tier 2: Members are assumed to elect to take a refund if it is more valuable than the deferred annuity. The comparison is based on 8% interest and a 50% Male/50% Female blend of the RP-2000 Combined Mortality Table, projected to 2045 (static).

Tier 3: 100% of vested members are assumed to leave their contributions with the System.

Marriage Assumption: 70% of all members are assumed married with male spouse assumed 3 years older than the female.

Partial Lump Sum Option (PLSO): 40% of Tier 1 and Tier 2 members are assumed to take a PLSO equal to 30% of the value of their benefit upon retirement. 100% of Tier 3 members are assumed to take a PLSO equal to 30% of the value of their benefit upon retirement.

**KP&F**

**Rate of Investment Return** 8.0%

**Price Inflation** 3.0%

**Rates of Mortality:**

**Post-retirement** RP-2000 Healthy Annuitant Table

**Pre-retirement** 90% of RP-2000 Employee Table\*  
\*70% of preretirement deaths assumed to be service related.



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

**Disabled Life Mortality**

RP-2000 Disabled Life Table

**Rates of Salary Increase**

Years of Service

Rate of Increase\*

1	12.5%
5	7.0%
10	4.9%
15	4.3%
20	4.0%
25	4.0%

\*Includes general wage increase assumption of 4.0% (composed of 3.0% inflation and 1.0% productivity)

**Rates of Termination**

Tier 1: 3% for ages less than 41; 0% thereafter

	<u>Years of Service</u>	<u>Rate</u>
Tier 2:	1	13.0%
	5	6.0%
	10	2.5%
	15	1.0%
	20	1.0%
	25	0.0%

**Retirement Rates**

Tier 1:	<u>Early Retirement</u>		<u>Normal Retirement</u>	
	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
	50	5%	55	40%
	51	5%	56	40%
	52	5%	57	40%
	53	10%	58	35%
	54	30%	59	45%
			60	50%
			61	20%
			62	100%

Tier 2:	<u>Early Retirement</u>		<u>Normal Retirement</u>	
	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
	50	10%	50	25%
	51	10%	53	25%
	52	10%	55	25%
	53	10%	58	20%
	54	20%	60	25%
			61	25%
			62	25%
			63	100%

Inactive Vested: Assumed to retire at later of (i) eligibility for unreduced benefits or (ii) age 55.



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

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<b>Rates of Disability</b>	<u>Age</u>	<u>Rate*</u>
	22	.06%
	27	.07%
	32	.15%
	37	.35%
	42	.56%
	47	.76%
	52	.96%
	57	1.00%

\*90% assumed to be service-connected under KP & F Tier 1.

Marriage Assumption: 80% of all members assumed married with male spouse assumed to be three years older than female.

**DROP Election** 75% of Kansas Highway Patrol members are assumed to enter DROP for the maximum DROP period.

**Judges**

**Rate of Investment Return** 8.0%

**Price Inflation** 3.0%

**Rates of Mortality:**  
**Post-retirement** RP-2000 Healthy Annuitant Table, set back two years  
**Pre-retirement** 70% of RP-2000 Employee Table, set back two years

**Rates of Salary Increase** 4.5%

**Rates of Termination** None assumed

**Disabled Life Mortality** RP-2000 Disabled Life Table, set back two years

**Rates of Disability** None assumed

<b>Retirement Rates</b>	<u>Age</u>	<u>Rate</u>
	60	20%
	61	10%
	62-64	15%
	65-66	20%
	67-69	10%
	70+	100%

Marriage Assumption: 70% of all members are assumed married with male spouse assumed 3 years older than female.



**APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS**

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**TECHNICAL VALUATION PROCEDURES**

**Data Procedures**

***In-pay members:***

If a birth date is not available, the member is assumed to have retired at 62. If a retirement date is also not available, the member is assumed to be 75.

If a beneficiary birth date is needed but not supplied, males are assumed to be 3 years older than females.

***Not in-pay members:***

If a birth date is not available, it is assigned according to the following schedule:

<u>System</u>	<u>Active member age at hire</u>	<u>Inactive member age at valuation</u>
KPERS	34.7	50
KP&F	27.5	49
Judges	43.4	54

If gender is not provided, it is assigned randomly with a 40% probability of being male and 60% probability of being female.

If salary information is not available for an active record, it is assigned according to the following schedule:

<u>System</u>	<u>Salary</u>
KPERS	\$24,662
KP&F	\$36,046
Judges	\$65,130

Salaries for first year members are annualized.

**Other Valuation Procedures**

No actuarial accrued liability in excess of the unclaimed member contribution balance is held for nonvested, inactive members. A reserve is also held for accounts that have been forfeited but could be reclaimed in the future.

Benefits above the projected IRC Section 415 limit for active participants are assumed to be immaterial for the valuation. The compensation limitation under IRC Section 401(a) (17) is considered in this valuation. On a projected basis, the impact of this limitation is insignificant.

Salary increases are assumed to apply to annual amounts.

Decrements are assumed to occur mid-year, except that immediate retirement is assumed for those who are at or above the age at which retirement rates are 100%. Standard adjustments are made for multiple decrements. Withdrawal does not operate once early or unreduced retirement eligibility is met.

Tier 3 employees who transfer employment to a non-KPERS covered position are treated as actives who are not accruing benefits.



## APPENDIX C – ACTUARIAL ASSUMPTIONS AND METHODS

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### Actuarial Methods

#### 1. Funding Method

Under the EAN cost method, the actuarial present value of each member's projected benefits allocates on a level basis over the member's compensation between the entry age of the member and the assumed exit ages. The portion of the actuarial present value allocated to the valuation year is called the normal cost. The actuarial present value of benefits allocated to prior years of service is called the actuarial liability. The unfunded actuarial liability represents the difference between the actuarial liability and the actuarial value of assets as of the valuation date. The unfunded actuarial liability is calculated each year and reflects experience gains/losses.

There are several components of the unfunded actuarial liability which are amortized over different periods. The increase in the unfunded actuarial liability resulting from the 1998 COLA is amortized over 15 years. The increase in the unfunded actuarial liability for Local employers resulting from 2003 legislation which made the 13<sup>th</sup> check for pre-July 2, 1987 retirees a permanent benefit is funded over a 10 year period beginning in 2005. The remainder of the unfunded actuarial liability is amortized over a period originally set at 40 years beginning July 1, 1993.

There is currently a lag between the valuation date in which the employer contribution rates are determined and the effective date of those contribution rates, i.e., two year lag for Local employers and a two and one-half year lag for the State/School group. The unfunded actuarial liability (UAL) is projected from the valuation date to the first day of the fiscal year in which the contribution rate will apply based on the statutory contribution rates and expected payroll in the intervening years. The UAL is amortized as a level percentage of payroll for all groups except Judges, who use a level dollar payment. The payroll growth assumption is 4% so the annual amortization payments will increase 4% each year. As a result, if total payroll grows 4% per year, as assumed, the amortization payment will remain level as a percentage of total current payroll.

#### 2. Asset Valuation Method

For actuarial purposes, assets are valued using an asset smoothing method. The difference between the actual return and the expected return (based on the actuarial assumed rate of return) on the market value of assets is calculated each year and recognized equally over a five year period.



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## APPENDIX D – GLOSSARY OF TERMS

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The following are key terms used in the discussion of actuarial funding valuations. Actuarial measurements for other purposes, such as accounting, may use different terms.

<b>Actuarial Accrued Liability</b>	The difference between the actuarial present value of system benefits and the actuarial value of future normal costs. Also referred to as “accrued liability” or “actuarial liability”.
<b>Actuarial Assumptions</b>	Estimates of future experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
<b>Accrued Service</b>	Service credited under the system which was rendered before the date of the actuarial valuation.
<b>Actuarial Equivalent</b>	A single amount or series of amounts of equal actuarial value to another single amount or series of amounts, computed on the basis of appropriate assumptions.
<b>Actuarial Cost Method</b>	A mathematical budgeting procedure for allocating the dollar amount of the actuarial present value of retirement system benefit between future normal cost and actuarial accrued liability. Sometimes referred to as the “actuarial funding method”.
<b>Experience Gain (Loss)</b>	The difference between actual experience and actuarial assumptions anticipated experience during the period between two actuarial valuation dates.
<b>Actuarial Present Value</b>	The amount of funds currently required to provide a payment or series of payments in the future. It is determined by discounting future payments at predetermined rates of interest and by probabilities of payment.
<b>Amortization</b>	Paying off an interest-discounted amount with periodic payments of interest and principal, as opposed to paying off with lump sum payment.
<b>Normal Cost</b>	The actuarial present value of retirement system benefits allocated to the current year by the actuarial cost method.



## APPENDIX D – GLOSSARY OF TERMS

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**Unfunded Actuarial Accrued Liability** The difference between actuarial accrued liability and the valuation assets. Sometimes referred to as “unfunded actuarial liability” or “unfunded accrued liability”.

Most retirement systems have unfunded actuarial accrued liability. They arise each time new benefits are added and each time an actuarial loss is realized.

The existence of unfunded actuarial accrued liability is not in itself bad, any more than a mortgage on a house is bad. Unfunded actuarial accrued liability does not represent a debt that is payable today. What is important is the ability to amortize the unfunded actuarial accrued liability and the trend in its amount (after due allowance for devaluation of the dollar).