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GASB STATEMENT NO. 67 REPORT

FOR THE

KANSAS PUBLIC EMPLOYEES

RETIREMENT SYSTEM

MEASUREMENT DATE: JUNE 30, 2016

Cavanaugh Macdonald
CONSULTING, LLC
The experience and dedication you deserve

October 24, 2016

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

Dear Members of the Board:

Presented in this report is information to assist the Kansas Public Employees Retirement System in meeting the requirements of the Governmental Accounting Standards Board (GASB) Statement No. 67 for the June 30, 2016 Measurement Date. The calculations in this report have been made on a basis that is consistent with our understanding of this accounting standard (GASB 67).

The annual actuarial valuation performed as of December 31, 2015 was used as the basis for much of the information presented as of June 30, 2016 in this report. The valuation was based upon data, furnished by the Executive Director and KPERS staff, concerning active, inactive and retired members along with pertinent financial information. This information was reviewed for completeness and internal consistency, but was not audited by us. The valuation results depend on the integrity of the data. If any of the information is inaccurate or incomplete our results may be different and our calculations may need to be revised. Please see the actuarial valuation for additional details on the funding requirements for the System including actuarial assumptions and methods and the funding policy.

To the best of our knowledge, the information contained in this report is complete and accurate. The calculations were performed by qualified actuaries according to generally accepted actuarial principles and practices, as well as in conformity with Actuarial Standards of Practice issued by the Actuarial Standards Board. The calculations are based on the current provisions of the System, and on actuarial assumptions that are internally consistent and individually reasonable based on the actual experience of the System. In addition, the calculations were completed in compliance with applicable law and, in our opinion, meet the requirements of GASB 67.

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These results are only for financial reporting and may not be appropriate for funding purposes or other types of analysis. Calculations for purposes other than satisfying the requirements of GASB 67 may produce significantly different results. Future actuarial results may differ significantly from the current results presented in this report due to such factors as changes in plan experience or changes in economic or demographic assumptions.

We, Patrice A. Beckham, FSA, Brent A. Banister, FSA, and Bryan K. Hoge, FSA are members of the American Academy of Actuaries and meet the Qualification Standards to render the actuarial opinion contained herein. We are available to answer any questions on the material contained in this report or to provide explanations or further details as may be appropriate.

Respectfully submitted,

Patrice Beckham

Brent A. Banister

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Bryan K. Hoge, FSA, EA, FCA, MAAA
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REPORT OF THE ANNUAL GASB STATEMENT NO. 67

REQUIRED INFORMATION FOR THE KANSAS PUBLIC EMPLOYEES RETIREMENT SYSTEM

SUMMARY OF PRINCIPAL RESULTS

Valuation Date (VD):	December 31, 2015
Prior Measurement Date:	June 30, 2015
Measurement Date (MD):	June 30, 2016
Membership Data:	
Retirees and Beneficiaries	93,866
Inactive Vested Members	23,164
Inactive Nonvested Members	29,995
Active Employees	152,175
Total	299,200
Single Equivalent Interest Rate (SEIR):	
Long-Term Expected Rate of Return	8.00%
Municipal Bond Index Rate at Prior Measurement Date	3.82%
Municipal Bond Index Rate at Measurement Date	3.01%
Fiscal Year in which Fiduciary Net Position is Projected to be Depleted	N/A
Single Equivalent Interest Rate at Prior Measurement Date	8.00%
Single Equivalent Interest Rate at Measurement Date	8.00%
Net Pension Liability:	
Total Pension Liability (TPL)	$26,410,537,810
Fiduciary Net Position (FNP)	17,192,432,371
Net Pension Liability (NPL = TPL – FNP)	$9,218,105,439
FNP as a percentage of TPL	65.10%

INTRODUCTION

The Governmental Accounting Standards Board issued Statement No. 67 (GASB 67), *"Financial Reporting for Pension Plans"*, in June 2012. The effective date for reporting under GASB 67 for the Kansas Public Employees Retirement System (KPERS) was fiscal year-end June 30, 2014. Based on the provisions of GASB 67, KPERS is a cost-sharing multiple employer defined benefit pension plan.

This report, prepared as of June 30, 2016 (the Measurement Date), presents information to assist KPERS in meeting the requirements of GASB 67 for fiscal year 2016. Much of the material provided in this report is based on the data, assumptions and results of the annual actuarial valuation of the System performed as of December 31, 2015 (the Valuation Date). The results of that valuation were detailed in a report dated July 15, 2016.

A major item to be reported in GASB 67 is the Total Pension Liability (TPL) utilizing the Entry Age Normal actuarial cost method. If the valuation date at which the TPL is determined is before the Measurement Date, as is the case here, the TPL must be rolled forward to the Measurement Date. The Net Pension Liability (NPL) is then set equal to the rolled forward TPL minus the System's Fiduciary Net Position (FNP) (basically the fair (market) value of assets). The benefit provisions recognized in the calculation of the TPL are summarized in Appendix B.

Among the items needed for the liability calculation is the discount rate, or Single Equivalent Interest Rate (SEIR), as described by GASB 67. To determine the SEIR, the FNP must be projected using GASB 67 guidelines into the future for as long as there are anticipated benefits payable under the plan's provisions applicable to the members and beneficiaries of the System on the Measurement Date. If the FNP is not projected to be depleted at any point in the future, the long-term expected rate of return on plan investments expected to be used to finance the benefit payments may be used as the SEIR.

If, however, the FNP is projected to be depleted at a future measurement date, the SEIR is determined as the single rate that will generate a present value of benefit payments equal to the sum of the present value determined by discounting all projected benefit payments through the date of depletion by the long-term expected rate of return, and the present value determined by discounting those benefits after the date of depletion by a 20-year tax-exempt municipal bond (rating AA/Aa or higher) rate (Municipal Bond Index Rate). The rate used, if necessary, for this purpose is the Bond Buyers General Obligation 20-year Municipal Bond Index Rate published monthly by the Board of Governors of the Federal Reserve System.

Our calculations indicated that the FNP is not projected to be depleted, so the Municipal Bond Index Rate is not used in the determination of the SEIR for either the calculation of the TPL at June 30, 2015 or June 30, 2016. The SEIR is 8.00%, the long-term assumed rate of return on investments. Please see Paragraph 31.b.(1) for more explanation of the development of the SEIR.

The FNP projections are based upon the Kansas Public Employees Retirement System's financial status on the Measurement Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the expected cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

The sections that follow provide the results of all of the necessary calculations, presented in the order laid out in GASB 67, for note disclosure and Required Supplementary Information (RSI).

SECTION I – NOTES TO FINANCIAL STATEMENTS

The material presented herein will follow the order presented in GASB 67. Paragraph numbers are provided for ease of reference.

Paragraphs 30.a. (1)-(3): This information will be supplied by the System.

Paragraph 30.a. (4): The data required regarding the membership of the System were furnished by the System. The following table summarizes the membership of the System as of December 31, 2015, the Valuation Date, which was used to develop the June 30, 2016 TPL.

Membership

	Inactive Members Or Their Beneficiaries Currently Receiving Benefits	Inactive Vested Members Entitled To But Not Yet Receiving Benefits	Inactive Nonvested Members	Active Members	Total
State	19,311	4,118	3,860	22,117	49,406
School	50,188	12,464	14,857	84,020	161,529
Local	19,046	6,211	10,188	38,532	73,977
KP&F	5,065	363	1,090	7,244	13,762
Judges	256	8	0	262	526
Total	93,866	23,164	29,995	152,175	299,200

Paragraphs 30.a. (5)-(6) and Paragraphs 30.b.-f.: This information will be supplied by the System.

Paragraph 31.a. (1)-(4): As stated earlier, the NPL is equal to the TPL minus the FNP. That result, as of June 30, 2016, is presented in the following table.

Fiscal Year Ending June 30, 2016		
Total Pension Liability		
State	$	4,255,986,133
School		14,040,965,649
Local		4,919,334,816
KP&F		3,024,919,959
Judges		169,331,253
Total Pension Liability	$	26,410,537,810
Fiduciary Net Position		17,192,432,371
Net Pension Liability	$	9,218,105,439
Ratio of Fiduciary Net Position to Total Pension Liability		65.10%

Paragraph 31.b.: This paragraph requires information to be disclosed regarding the actuarial assumptions and other inputs used to measure the TPL. The complete set of actuarial assumptions and other inputs utilized in developing the TPL are outlined in Appendix C. The TPL as of June 30, 2016 was determined based on an actuarial valuation prepared as of December 31, 2015 rolled forward six months to June 30, 2016, using the following actuarial assumptions:

Price Inflation	3.00 percent
Salary increases, including price inflation	4.00 to 16.00 percent
Long-term Rate of Return, net of investment expense, including price inflation	8.00 percent
Municipal Bond Index Rate	
Prior Measurement Date	3.82 percent
Measurement Date	3.01 percent
Year FNP is projected to be depleted	N/A

Single Equivalent Interest Rate, net of plan investment expense, including inflation	
Prior Measurement Date	8.00 percent
Measurement Date	8.00 percent

Mortality	Mortality rates were based on the RP 2000 Mortality Tables, with age setbacks and age set forwards as well as other adjustments based on different membership groups. Future mortality improvements are anticipated using Scale AA. Different adjustments apply to pre-retirement versus post-retirement versus post-disability mortality tables. See Appendix C for more detailed descriptions.

The actuarial assumptions used in the valuation are based on the results of the most recent actuarial experience study, which covered the three-year period of calendar years 2010 through 2012, and is dated November 12, 2014.

Paragraph 31.b.(1)

(a) Discount rate (SEIR): The discount rate used to measure the TPL at June 30, 2016 was 8.00 percent. There was no change in the discount rate since the Prior Measurement Date.

(b) Projected cash flows: The projection of cash flows used to determine the discount rate was based on member and Employer contributions as outlined below:

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 was 0.90% for fiscal year 2014, 1.0% for fiscal year 2015, 1.1% for fiscal year 2016 and 1.2% for fiscal year 2017 and later, prior to passage of SB 4 and SB 228 in the 2015 legislative session. The statutory cap of 1.20% applies again for fiscal year 2018 (which is based on the December 31, 2014 actuarial valuation). In addition, the statutory contribution rate for the State and School groups is determined using the combined results of the two groups. Statutory rates for the State/School group were recertified to be 10.91% for FY 2016 and 10.81% for FY 2017. Based on projections using the December 31, 2015 actuarial valuation, the ARC date for the State/School group is expected to occur in FY 2020 with an ARC rate of 13.12%, if all actuarial assumptions are met. The Local group of KPERS is currently contributing the full actuarial contribution rate. Employers contribute the full actuarial contribution rate for KP&F and Judges. The expected employer statutory contribution rate was modeled for future years for all groups, assuming all actuarial assumptions are met in future years.

Legislation in the 2016 session (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. Because the delayed contributions are treated as a long-term receivable by KPERS, the amount of actual delayed contributions ($94.1 million) with interest at 8% is included in the projections.

For KPERS, member contributions are 6% of compensation. For KP&F, member contributions are 7.15% of compensation. For Judges, member contributions are 6% of compensation, however upon reaching the maximum retirement benefit level of 70% of Final Average Salary, the contribution rate is reduced to 2%. The blended member contribution rate for Judges used in the projection of cash flows was 5.62%.

The FNP projections are based upon the System's financial status on the Valuation Date, the indicated set of methods and assumptions, and the requirements of GASB 67. As such, the FNP projections are not reflective of the expected cash flows and asset accumulations that would occur on an ongoing plan basis, reflecting the impact of future members. Therefore, the results of this test do not necessarily indicate whether or not the fund will actually run out of money, the financial condition of the System, or the System's ability to make benefit payments in future years.

(c) Long-term rate of return: The long-term expected rate of return on plan investments is reviewed regularly as part of the triennial experience study prepared for the System. The results of the most recent experience study were presented in a report dated November 12, 2014. Several factors are considered in evaluating the long-term rate of return assumption, including long-term historical data, estimates inherent in current market data, and an analysis in which best-estimate ranges of expected future real rates of return (expected returns, net of investment expense and inflation), along with estimates of variability and correlations for each asset class, were developed by the System's investment consultant. These ranges were combined to develop the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and then adding expected inflation. The capital market assumptions developed by some investment consultants are often intended for use over a 10-year investment horizon and are not always useful in setting the long-term rate of return for funding pension plans which covers a longer timeframe. The long-term rate of return assumption is intended to be a long-term assumption (30 to 50 years) and is not expected to change absent a significant change in the asset allocation, a change in the inflation assumption, or a fundamental change in the market that alters expected returns in future years.

(d) Municipal bond rate: the discount rate determination does not use a municipal bond rate. If it were required, the rate would be 3.01% on the Measurement Date.

(e) Periods of projected benefit payments: Projected future benefit payments for all current plan members were projected through 2115.

(f) Assumed asset allocation: The target asset allocation and best estimates of arithmetic real rates of return for each major asset class for 2016, as provided by KPERS investment consultant, Pension Consulting Alliance, are summarized in the following table:

Asset Class	Long-Term Target Allocation	Long-Term Expected Real Rate of Return*
Global Equity	47.0%	6.80%
Fixed Income	13.0%	1.25
Yield Driven	8.0%	6.55
Real Return	11.0%	1.71
Real Estate	11.0%	5.05
Private Equity	8.0%	9.85
Cash Equivalents	2.0%	(0.25)
Total	100.0%	

*Arithmetic mean

(g): **Sensitivity analysis**: This paragraph requires disclosure of the sensitivity of the NPL to changes in the discount rate. The following presents the NPL of the membership groups, along with the total for the entire System, calculated using the discount rate of 8.00 percent, as well as the NPL if it were calculated using a discount rate that is one percentage-point lower (7.00 percent) or one percentage-point higher (9.00 percent) than the current rate:

	1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
All Membership Groups			
Total Pension Liability	$29,362,288,251	$26,410,537,810	$23,905,287,720
Fiduciary Net Position	17,192,432,371	17,192,432,371	17,192,432,371
Net Pension Liability	$12,169,855,880	$9,218,105,439	$6,712,855,349
State/School			
Total Pension Liability	$20,315,384,399	$18,296,951,782	$16,582,428,057
Fiduciary Net Position	11,575,890,875	11,575,890,875	11,575,890,875
Net Pension Liability	$8,739,493,524	$6,721,060,907	$5,006,537,182
Local			
Total Pension Liability	$5,492,759,444	$4,919,334,816	$4,433,115,326
Fiduciary Net Position	3,372,305,280	3,372,305,280	3,372,305,280
Net Pension Liability	$2,120,454,164	$1,547,029,536	$1,060,810,046
Police and Fire			
Total Pension Liability	$3,370,229,973	$3,024,919,959	$2,733,173,112
Fiduciary Net Position	2,096,156,443	2,096,156,443	2,096,156,443
Net Pension Liability	$1,274,073,530	$928,763,516	$637,016,669
Judges			
Total Pension Liability	$183,914,435	$169,331,253	$156,571,225
Fiduciary Net Position	148,079,773	148,079,773	148,079,773
Net Pension Liability	$35,834,662	$21,251,480	$8,491,452

Paragraph 31.c.: The actuarial valuation upon which the TPL is based is December 31, 2015. The valuation results were used to determine the TPL on the Measurement Date by rolling the liabilities forward six months to June 30, 2016 using standard actuarial techniques. The roll-forward begins with the actuarial liability at December 31, 2015, adds half the annual normal cost (also called Service Cost), subtracts the actual benefit payments and refunds for the six month period and then applies interest to June 30, 2016 using the discount rate as of the Measurement Date.

SECTION II – REQUIRED SUPPLEMENTARY INFORMATION

There are several tables of Required Supplementary Information (RSI) that need to be included in the System's financial statements:

Paragraphs 32.a.-c.: The required tables of schedules are provided in Appendix A.

Paragraph 32.d.: The required schedule presenting the annual money-weighted rates of return is to be supplied by the System.

Paragraph 34: The following information should be noted regarding the RSI, particularly for the *Schedule of Employer Contributions*:

Changes of benefit and funding terms: The following changes to the plan provisions were made as identified below. Legislative changes are typically reflected in the prior December 31 valuation.

2016: 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.

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.

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. In the December 31, 2015 valuation, the delayed contributions with interest were treated as a long-term receivable.

2015: The 2015 Legislature passed four bills that impacted the provisions of KPERS and KP&F:

House Bill 2095 (HB 2095) contained both working after retirement provisions and a new DROP pilot program for the Kansas Highway Patrol. The working after retirement provisions change the existing policy governing retirees returning to work starting July 1, 2016. Most new retirees will be subject to an annual $25,000 earnings limitation if they return to work for any KPERS affiliated employer. Employers contribute the statutory employer contribution rate on all wages paid to the retirees. There are exceptions to the general rule for special education teachers, hard-to-fill positions, and instances of a hardship. State hospital nurses, Kansas Law Enforcement Training Center instructors, legislative staff, and elected city and county officials are exempted from the earnings limitation. The valuation process does not include an assumption regarding the re-employment of retirees so the working after retirement provisions of HB 2095 did not have an impact on the valuation results. While the cost impact of working after retirement cannot be reliably determined, the new working after retirement rules appear to have fewer incentives for members to retire when first eligible and return to work. If the new rules change retirement patterns in the future, resulting in later retirement ages, it will have a favorable impact on plan liabilities.

HB 2095 also created a Deferred Retirement Option Plan (DROP) for the Kansas Highway Patrol members of KP&F. Members are eligible for the DROP at normal retirement age, must select a period of three to five years to continue working, during which time their benefit is deposited into a DROP account. At ultimate retirement, the member receives the balance of the DROP account as a lump sum and continues to receive the monthly benefit. The DROP sunsets in 2020. The addition of the DROP to the KP&F benefit structure only for members of the Kansas Highway Patrol had a small impact on the overall valuation results because there were only about 450 active members impacted out of a total of 7,200. The TPL increased $1.4 million, the normal cost rate increased 0.01%, and the total KP&F employer actuarial contribution rate increased 0.03%.

Late in CY 2014, the State/School employer contribution rate was reset for the last half of FY 2015 as a part of a state budget allotment implemented by the Governor. Senate Bill 4, as amended by Senate Substitute for HB 2094 (SB 4) reduced the previously certified FY 2015 employer contribution rate of 11.27% to 8.65% to correspond with the Governor's allotment.

Senate Bill 228 (SB 228) authorized the issuance of $1.0 billion in bonds, net of fees, to be used to reduce the unfunded actuarial accrued liability of the State/School group. The interest rate on the bonds can be no greater than 5% and the State Finance Council must approve any bond issue before the bonds are sold (approval received July 2, 2015). The debt service on the bonds is subject to State General Fund appropriation and is not an obligation of the System. Due to the uncertainty surrounding the timing and issuance of the bonds at the time of the valuation was performed, no bond proceeds were reflected in the December 31, 2014 valuation. The bonds were issued in August, 2015 (after the valuation report was issued) and net proceeds of $1.0 billion were deposited in the KPERS trust fund. SB 228 also reset the employer contribution rate for the State/School group for FY 2016 from 12.37% to 10.91% and for FY 2017 rate from 13.57% to 10.81%.

2014: The 2014 Legislature passed HB 2533 which made changes to the KPERS 3 benefit structure, which is effective for new members on/after January 1, 2015. House Bill 2533 lowered the guaranteed interest crediting rate from 5.25% to 4.00%, replaced the discretionary dividend with a formulaic dividend, and set the annuity interest rate equal to the assumed rate of return less 2.00%. These changes did not impact the December 31, 2013 valuation because there were no KPERS 3 members in the System at that time.

2013: Sub HB 2333, passed by the 2012 Legislature, created a 90-day election period for KPERS 1 members of the system on July 1, 2013 to permit them to choose to (1) contribute 5% of compensation as employee contributions effective January 1, 2014 and 6% effective January 1, 2015 and receive a 1.85% multiplier for all years of future service or (2) continue to contribute 4% of compensation as employee contributions and receive a 1.40% multiplier for all years of future service. The election was subject to approval by the Internal Revenue Service, and if such approval was not granted, there was to be no election and the default option (option 1 above) was to apply. The IRS did not take action on KPERS' request to approve the election. Therefore, the default was implemented on January 1, 2014.

House Bill 2213 (HB 2213) was passed by the 2013 legislature and signed by the Governor on June 14, 2013. HB 2213 changed the effective date for the higher multiplier of 1.85% for all years of service for KPERS 2 members from July 1, 2014 to July 1, 2012.

HB 2213 also increased the cap on the maximum retirement benefit in KP&F from 80% to 90% of final average salary and increased the employee contribution rate from 7% of pay until the member has 32 years of service to 7.15% of pay for all years of service.

2012: The 2012 Legislature passed Sub House Bill 2333 (Sub HB 2333) which created a KPERS 3 retirement plan for new members effective January 1, 2015 which is a cash balance retirement plan. Correctional officers are not included in this new tier but will remain in KPERS 2. The employee contribution rate for KPERS 3 members is 6%. Employer credits will vary based on years of service: 3% of compensation for 1-4 years of service, 4% for 5-11 years, 5% for 12-23 years and 6% for 24 or more years of service. Interest credits are a guaranteed 5.25% on employee and employer account balances. Possible additional interest credits of 0% to 4% may be granted by the KPERS Board based on KPERS' actual investment returns and funding. Normal retirement age is age 60 with 30 years of service or age 65 with 5 years of service. The benefit is a guaranteed lifetime benefit based on the account balance at retirement. There is a partial lump sum option up to 30% at normal retirement age.

Sub HB 2333 also included changes for current KPERS 1 and KPERS 2 members. Sub HB 2333 created a 90-day election period for KPERS 1 members of the system on July 1, 2013 to permit them to choose to (1) contribute 5% of compensation as employee contributions effective January 1, 2014 and 6% effective January 1, 2015 and receive a 1.85% multiplier for all years of future service or (2) continue to contribute 4% of compensation as employee contributions and receive a 1.40% multiplier for all years of future service. Changes in the benefit multiplier are effective January 1, 2014 and impact only future years of service. The election was subject to approval by the Internal Revenue Service, with the provision that, if such approval was not granted, there would be no election and the default option (option 1 above) would apply.

Sub HB 2333 eliminated the cost of living adjustment (COLA) for KPERS 2 members, effective July 1, 2012. However, KPERS 2 members who retire after July 1, 2014 receive a higher multiplier of 1.85% for all years of service, not just future years of service (House Bill 2213 in the 2013 session changed the date from January 1, 2014 to July 1, 2012).

The bill also provided for increases in the statutory cap on the employer contribution rate. The cap increased from 0.6% per year to 0.9% in FY 2014, 1.0% in FY 2015, 1.1% in FY 2016 and 1.2% in FY 2017 and after.

Sub HB 2333 also provided for the State to make additional contributions beginning in FY 2014 to fund the unfunded actuarial liability (UAL) of the State/School group until their funded ratio reaches at least 80%. The additional contribution stream, which is to come from the Expanded Lottery Act Revenue Fund (ELARF), is determined as 50% of the money credited to the ELARF, after an annual reduction of $10.5 million.

2011: Senate Substitute for HB 2194 (Sub HB 2194) was passed by the 2011 Legislature, but its provisions were contingent on action by the 2012 Legislature. Therefore, the plan changes were not reflected in the formal valuation results in the December 31, 2010 valuation report. Sub HB 2194 contained significant changes for both KPERS employers and current and future members. The bill established a 13 member KPERS Study Commission to study alternative plan designs during the rest of 2011 and make a recommendation for plan design to the 2012 Legislature that would provide for the long term sustainability of the System. Report recommendations had to be voted on by the 2012 Legislature for other parts of the bill to become effective.

The bill provided for increases in the statutory cap on the employer contribution rate. The cap increased from 0.6% per year to 0.9% in FY 2014, 1.0% in FY 2015, 1.1% in FY 2016 and 1.2% in FY 2017 and after.

The law created a 90-day election period starting July 1, 2013 to permit KPERS 1 members to choose between a 6% contribution rate with a 1.85% multiplier for all years of future service or a 4% contribution and a 1.40% multiplier for all years of future service. Changes were effective January 1, 2014 and impacted only future service. The election was to be subject to approval by the Internal Revenue Service. If such approval was not granted, there was to be no election and the default option would apply.

The law also provided for a 90-day election period starting July 1, 2013 to permit KPERS 2 members at that time to choose between the 1.75% multiplier and losing the cost of living adjustment (COLA) for all service or a 1.40% multiplier for future years of service and keeping the COLA. The multiplier change was not to affect the service already earned by the members, but the COLA loss was for all service credit over the member's entire career. Changes were to be effective January 1, 2014. Similar to KPERS 1, the election was subject to approval by the Internal Revenue Service. If such approval was not granted, there would be no election and the default option would apply. New employees would automatically have a 6% contribution rate and the 1.75% multiplier with no COLA.

Inactive members returning to KPERS covered employment after July 2013 would receive the default option. Senate Substitute for HB 2194 also provided that 80% of the proceeds from excess real estate property sales would be used to pay down KPERS' unfunded actuarial liability.

2008: The 2008 Legislature passed House Bill 2390 which provided a $300 one-time benefit payment to all retirees who retired on or before July 1, 1998, and had ten or more years of service credit, and their joint survivors. The $300 payment was contingent on the State's receipt of adequate expanded gaming revenues.

2007: The 2007 Legislature passed Senate Bill 362 which contained the following provisions which impacted KPERS:

- All retirees who retired before July 1, 1997, with ten or more years of service, and their joint survivors were to receive a $300 one-time cost-of-living payment.
- A new plan design was applicable for KPERS members first employed on or after July 1, 2009. The key provisions of the plan design were:
  - ✓ First day membership for all groups (no waiting period)
  - ✓ Five year vesting
  - ✓ Benefit formula equal to 1.75% times Years of Service times Final Average Salary (averaged over five highest years)
  - ✓ Normal retirement at age 65 with five years of service, or age 60 with 30 years of service.
  - ✓ Early retirement at age 55 and 10 years of service with higher reductions for early commencement.
  - ✓ Automatic annual 2 percent cost-of-living adjustments beginning at age 65.
  - ✓ Employee contribution rate of 6 percent.

- Two enhancements applied to current employees:
  - ✓ Non-school members hired between July 1, 2008 and June 30, 2009 will become members of the current tier on July 1, 2009.
  - ✓ Five year vesting, effective July 1, 2009.

Changes in actuarial assumptions and methods:

12/31/2014 valuation:

KPERS

o Increase active member mortality for females in the State and School groups.
o Reduce disability rates by 20% for all three KPERS groups.
o Increase the termination of employment rates for State-Males and Local Males and Females.
o Modify the election of a deferred benefit by Local vested members who terminate employment in future years.
o Modify the retirement rates for the C60 group.
o Increase the load for the impact of final average salary provisions for Local, C55 and C60 members hired before July 1, 1993.
o Establish an interest crediting rate of 6.50% for KPERS 3 members.

Judges

o Modify the retirement rates.

There is currently a lag between the valuation date in which the 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. A change was made in determining the amortization payment on the unfunded actuarial liability (UAL) by projecting the UAL to the first day of the fiscal year in which the contribution rate will apply.

12/31/2011 valuation:

KPERS

o Lower the pre-retirement mortality rates for females in both State and School.
o Adjust early retirement rates for State and School.
o Adjust the ultimate retirement rates under Rule of 85 for State.
o Adjust the retirement rates for the Correctional Groups (C55 and C60)
o Value the greater of the refund value or present value of accrued benefit upon termination for active KPERS 2 members assumed to terminate in the future.
o Assume 12% of all future benefit payments will be paid as a lump sum.

KP&F

o Adjust the retirement rates for both KPERS 1 and KPERS 2
o Assume 12% of all future benefit payments will be paid as a lump sum.

Judges

o Lower retirement rates at most ages and extend rates down to ages 60.

o Assume 12% of all future benefit payments will be paid as a lump sum.

The requirement that the actuarial value of assets fall between 80% and 120% of fair (market) value (referred to as the “corridor”) was eliminated.

12/31/2007 valuation:

KPERS

o Adjust the mortality rates to better fit observed patterns.

o Adjust some retirement rates.

o Change the termination of employment to be based solely on length of employment.

o Changes to the salary growth assumption (primarily for the School group).

o Minor adjustments to disability rates.

o Changes in the probability of electing a refund of contributions.

KP&F

o Adjust the mortality rates.

o Adjust some retirement rates.

Judges

o Adjust the mortality rates.

o Change the salary increase assumption from 5.5% to 4.5%.

Method and assumptions used in calculations of actuarially determined contributions.

The actuarially determined contribution rates in the schedule of employer contributions are calculated annually on each valuation date (December 31). There is a lag between the valuation date and the effective date of the application of the contribution rates. The lag for the State, School, Judges and KP&F (State) is two and a half years. The lag for Local employers (KPERS and KP&F) is two years. For example, the results of the December 31, 2015 valuation set employer contribution rates for fiscal year 2019 for the State (July 1, 2018 to June 30, 2019) and 2018 for Local employers (calendar year 2018). The following actuarial methods and assumptions were used to determine actuarial contribution rates reported in the December 31, 2015 actuarial valuation:

Actuarial cost method	Entry age normal
Amortization method	Level percentage of payroll, closed (Level dollar for Judges)
Remaining amortization period	17 years
Asset valuation method	5-year smoothed value
Price Inflation	3.00 percent
Salary increase, including price inflation	4.00 to 16.00 percent
Long-term Rate of Return, net of investment expense, including price inflation	8.00 percent

Please see the information presented earlier in regard to Paragraph 34 for detailed information on the benefit changes and assumption changes that may have impacted the Actuarially Determined Contributions shown in the *Schedule of Employer Contributions*.

APPENDIX A

REQUIRED
SUPPLEMENTARY INFORMATION

Exhibit A

GASB 67 Paragraph 32(a)

SCHEDULE OF CHANGES IN THE NET PENSION LIABILITY
($ in Thousands)

	2016	2015	2014
Total Pension Liability			
Service Cost	$571,263	$571,944	572,291
Interest	1,985,329	1,926,405	1,866,797
Benefit changes	0	1,467	0
Difference between expected			
and actual experience	(133,493)	(135,542)	(216,248)
Changes of assumptions	0	(53,014)	0
Benefit payments	(1,558,909)	(1,459,918)	(1,375,875)
Refunds of contributions	(68,123)	(64,462)	(56,971)
Net change in Total Pension Liability	$796,067	$786,880	789,994
Total Pension Liability - beginning	$25,614,471	$24,827,591	24,037,597
Total Pension Liability - ending (a)	$26,410,538	$25,614,471	24,827,591
Plan Fiduciary Net Position			
Contributions – employer	$739,184	$690,564	701,818
Contributions – member	404,856	382,058	332,163
Contributions – non-employer*	1,000,000	0	0
Net investment income	49,171	561,174	2,553,843
Benefit payments	(1,558,909)	(1,459,918)	(1,375,875)
Administrative expense	(12,172)	(10,768)	(9,636)
Refunds of contributions	(68,123)	(64,462)	(56,971)
Other	2,905	1,076	242
Net change in Plan Fiduciary Net Position	$556,912	$99,724	2,145,584
Plan Fiduciary Net Position – beginning	$16,635,521	$16,535,797	14,390,213
Plan Fiduciary Net Position - ending (b)	17,192,432	16,635,521	16,535,797
Net Pension Liability - ending (a) - (b)	$9,218,106	$8,978,950	8,291,794

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.

* Bond proceeds for 2015

Exhibit A (Continued)

GASB 67 Paragraph 32(b)
SCHEDULE OF THE NET PENSION LIABILITY
($ in Thousands)

	2016	2015	2014
Total Pension Liability	$26,410,538	$25,614,471	$24,827,591
Plan Fiduciary Net Position	17,192,432	16,635,521	16,535,797
Net Pension Liability	$9,218,106	$8,978,950	$8,291,794
Ratio of Plan Fiduciary Net Position to Total Pension Liability	65.10%	64.95%	66.60%
Covered-employee payroll*	$6,388,450	$6,635,196	$6,424,739
Net Pension Liability as a percentage of covered-employee payroll	144.29%	135.32%	129.06%

* Provided by the System

Note: Schedule is intended to show 10-year trend. Additional years will be reported as they become available.

Exhibit B

GASB 67 Paragraph 32.c.
SCHEDULE OF EMPLOYER CONTRIBUTIONS
($ in Thousands)

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Actuarially determined employer contribution	$891,638	$908,019	$842,286	$825,197	$843,362	$709,964	$682,062	$660,834	$607,662	$531,292
Contractually required contribution	721,313	676,173	668,811	617,925	568,015	525,727	492,006	449,236	395,752	339,509
Actual employer contributions	721,313	676,173	668,811	617,925	568,015	525,727	492,006	449,236	395,752	339,509
Annual contribution deficiency (excess)	170,325	231,846	173,475	207,272	275,347	184,237	190,056	211,598	211,910	191,783
Covered-employee payroll	$6,388,450	$6,635,196	$6,424,739	$6,523,850	$6,541,464	$6,483,143	$6,527,400	$6,403,432	$6,226,754	$6,032,223
Actual contributions as a percentage of covered-employee payroll	11.29%	10.19%	10.41%	9.47%	8.68%	8.11%	7.54%	7.02%	6.36%	5.63%

Note: the information presented in this table was provided by the System.

Actuarial valuations are prepared annually for the System with separate contribution rates determined for the KPERS State/School group, KPERS Local group, Kansas Police and Fire Retirement System, and the Retirement System for Judges. The results of the annual actuarial valuation, performed as of the last day of each calendar year, sets the employer contribution rates for the fiscal year ending four years later than the year of the valuation for the state of Kansas and three years later than the year of the valuation for local employers. The Board certifies the employer contribution rates each year based on the results of the actuarial valuation. However, the full actuarial contribution rate is not necessarily contributed for all KPERS groups. Based on state statutes, the employer contribution rates certified by the Board for KPERS (State, School, Local) may not increase by more than the statutory cap which has been changed periodically, most recently in 2012. The recent history of the statutory cap was 0.9% for fiscal year 2014, 1.0% for fiscal year 2015, 1.1% for fiscal year 2016, and 1.2% for fiscal year 2017 and beyond. The full actuarial contribution rate, without regard to any caps, is paid by all employers who participate in KP&F and by the state of Kansas for the Judges System.

APPENDIX B

SUMMARY OF MAIN BENEFIT 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, but instead are in Tier 2.

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 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:

Years of Service	Retirement Credit Rate
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 fair (market) value of assets that is above 6%. A schedule of historical dividend rates is contained in the following table:

Year	Applicable Rate of Return	Dividend
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

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.

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.

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 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.

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.

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.

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.

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.

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.

APPENDIX C

STATEMENT OF ACTUARIAL ASSUMPTIONS

KPERS

Long-Term Assumed Rate of 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 with Generational projections using Scale AA 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)

	School		State		Local	
Age	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

Rates projected generationally using Scale AA.

Disabled Life Mortality

RP-2000 Disabled Life Table with Generational Projections using Scale AA with same age adjustments as used for Retiree Mortality.

Rates of Salary Increase

	Rate of Increase*		
Years of Service	School	State	Local
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

	School		State		Local	
Duration	Male	Female	Male	Female	Male	Female
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.

Retirement Rates

School

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

Early Retirement		Normal Retirement	
Age	Rate	Age	Rate
55	5%	62	30%
56	5%	63	25%
57	8%	64	35%
58	10%	65	35%
59	12%	66-71	25%
60	15%	72-74	20%
61	24%	75	100%

State

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

Early Retirement		Normal Retirement	
Age	Rate	Age	Rate
55	5%	62	30%
56	5%	63	20%
57	5%	64	30%
58	6%	65	35%
59	10%	66-67	25%
60	10%	68-74	20%
61	20%	75	100%

Local

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

Early Retirement		Normal Retirement	
Age	Rate	Age	Rate
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 -

Age	Rate
55	10%
58	10%
60	15%
62	35%
65	100%

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

Age	Rate
60	20%
61	20%
62	20%
63	20%
64	20%
65	70%
66	70%
67	70%
68	100%

- For TIAA employees – Age 66.

Rates of Disability

Age	School	State	Local
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:

Age	School	State	Local
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 PSLO 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 with Generational projections using Scale AA

Pre-retirement 90% of RP-2000 Employee Table with Generational projections using Scale AA*
*70% of preretirement deaths assumed to be service related.

Disabled Life Mortality

RP-2000 Disabled Life Table with Generational projections using Scale AA.

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

Tier 2:

Years of Service	Rate
1	13.0%
5	6.0%
10	2.5%
15	1.0%
20	1.0%
25	0.0%

Retirement Rates

Tier 1:

Early Retirement Age	Early Retirement Rate	Normal Retirement Age	Normal Retirement Rate
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:

Early Retirement Age	Early Retirement Rate	Normal Retirement Age	Normal Retirement Rate
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.

Rates of Disability

Age	Rate*
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 with Generational projections using Scale AA

Pre-retirement 70% of RP-2000 Employee Table, set back two years with Generational projections using Scale AA

Rates of Salary Increase 4.5%

Rates of Termination None assumed

Disabled Life Mortality RP-2000 Disabled Life Table, set back two years with Generational projections using Scale AA

Rates of Disability None assumed

Retirement Rates

Age	Rate
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.

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:

System	Active member age at hire	Inactive member age at valuation
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:

System	Salary
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.