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February 13, 2012

Mr. Alan Conroy
Executive Director
Kansas Public Employees Retirement System
611 South Kansas Avenue, Suite 100
Topeka, KS 66603

Re: Alternate Employer Credit for Cash Balance Plan under HB 2545

Dear Alan:

At your request, we have completed an actuarial cost study to determine the cost impact assuming the employer credit to the cash balance plan design in HB 2545 is modified to reflect a maximum credit of 4% of pay once a member has at least six years of service. All other provisions reflected in this cost study are the same as those used for the initial cost study for the Study Commission Plan, which are outlined in our letter dated January 23, 2012.

Plan Design

A summary of basic plan provisions included in our cost study follows:

Cash Balance Plan (Employer Annuity Account)

- Employer credits to the account will be based on the employee's years of service beginning with a 1% credit for the first year of service and increasing 0.50% per year until a 4% credit is granted when the employee has completed 6 or more years of service.
- The guaranteed interest credit will be 0%, but the intent of the plan design is to credit the member's employer annuity account with interest credits that mirror the actual earnings of the KPERS portfolio.
- 100% vesting after five (5) years of service.
- Normal retirement age is age 65 with 5 years of service.
- No employee contributions. Employer contributions are actuarially determined based on the results of the annual actuarial valuation.

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Attachment 3

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- Once vested, a member cannot withdraw the employer annuity account until reaching the normal retirement age of 65. There is no early retirement provision. Upon reaching normal retirement age, the balance in the employer annuity account is converted into monthly income, based on the form of payment elected by the member. The annuity amount is determined by the annuity conversion factors which are based on the interest rates published by the Pension Benefit Guaranty Corporation (PBGC) for distress terminations and the mortality table selected by the Board.
- If a member dies prior to reaching the normal retirement age of 65, no benefit is payable and the account balance is forfeited unless (1) the member is vested; (2) the member has at least ten (10) years of service at death; and (3) the member's spouse at the time of death is designated as the sole primary beneficiary. In that case, the spouse shall receive a benefit when the member would have reached his normal retirement age.
- If a member becomes disabled while actively working, such member shall be given participating service credit for the entire period of his disability. Such member's employer annuity account shall be credited with the regular employer credit. All credits to the employer annuity account shall cease upon the earliest of (i) death; (ii) attainment of normal retirement age; or (iii) the date the member is no longer entitled to receive disability benefits.
- A benefit of \$4,000 is payable upon a retired member's death.

Statutory Contribution Cap

In KPERS, the 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 current statutory cap, which has been changed periodically, is 0.60% for the State, School and Local groups. Senate Substitute for HB 2194 increased the statutory cap over a four year period beginning in FY 2014 to an ultimate cap of 1.2% in FY 2017.

HB 2545 eliminates the statutory cap on employer contributions, effective July 1, 2013. Therefore, this provision is reflected in all of the cost projections for HB 2545.

Senate Substitute for HB 2194

The cost projections for HB 2194 shown in this study are based on the default elections provided under Senate Substitute for HB 2194 as passed by the 2011 Legislature. In addition, the projections for HB 2545 also reflect the default benefit provision changes for KPERS Tier 1 and 2 members included in Senate Substitute for HB 2194.

Defined Contribution Plan (Employee Directed Account)

- Employee contribution rate is 6% of pay and is deposited into the employee directed account. The employee will direct all investments in this account and investment earnings and losses will directly accrue to the account balance.
- The employee is always 100% vested in the employee directed account.
- Upon termination of employment the employee can elect to roll the funds in his or her account balance to another qualified plan or an IRA.
- Upon retirement, the employee directed account balance is payable at the direction of the employee in either a lump sum, or periodic payments as determined by the employee. There is no guaranteed payment for the lifetime of the member unless the employee purchases an annuity.



Actuarial Assumptions and Methods

The same actuarial methods and assumptions that were used in the December 31, 2010 actuarial valuation were used in this cost study with the exception of retirement rates. Because retirement eligibility requirements are different than those in the current plan, as well as the benefits provided, the retirement patterns are expected to change. Cavanaugh Macdonald selected retirement rates that we believe are reasonable given the limited knowledge we have at this time about behaviors that will occur many years in the future. However, actual experience may vary, at times significantly, from the assumptions used in these projections. If it does, the cost projections will also be impacted.

The employer funded portion of HB 2545 is a cash balance plan, which is a defined benefit plan. As such, the contribution rate to fund the benefits will be determined using the results of the annual actuarial valuation. The projection of future benefit amounts for Tier 3 members requires the use of two additional assumptions that are not necessary in the valuation of projected benefits for Tiers 1 and 2 members. They are the:

- (1) interest crediting rate and
- (2) annuity conversion factors (which requires a postretirement interest rate and a mortality table).

Because HB 2545 essentially credits the actual return on the KPERS portfolio to the employer annuity account, the interest crediting rate was set to the assumed rate of return of 8%. Under HB 2545 the interest rates published by the Pension Benefit Guaranty Corporation for distress terminations are to be used to determine the annuity conversion factors. The PBGC distress termination interest rates vary every month and are dependent on market conditions. Tying the annuity conversion rate to the PBGC distress termination rates increases the uncertainty about what rates will actually be used to convert a member's employer annuity account into monthly income and requires that an actuarial assumption be used to anticipate future experience. Based on long term historical PBGC distress termination rates, this assumption was set at 6.5% for this cost study. The mortality table used for the annuity conversion factor (which is used to convert the employer annuity account to monthly income) was the RP 2000 Mortality Table projected to 2035, using Projection Scale AA, with a 50/50 male/female blend.

The projected benefit payments for Tier 3 members will be projected in the actuarial valuation along with those for Tiers 1 and 2 members. The valuation will develop one overall employer contribution rate, which will include the UAL payment, to be paid on all covered payroll (Tier 1, Tier 2 and Tier 3 members). From an actuarial perspective, the valuation process will be unchanged other than reflecting the new benefit structure for Tier 3 members.

The amortization period used in the cost study remained at a closed 22 year period starting on December 31, 2010. In order to mitigate the impact of the time lag between the valuation date and the fiscal year in which the contribution rate is effective, the amortization period was set to an open ten year period in 2030 for cost projections for both the current plan, HB 2194 and HB 2545.

Results

The impact of HB 2545 on the employer contribution rate will unfold over time as current Tier 1 and Tier 2 members leave covered employment and are replaced by Tier 3 members. Therefore, a projection of costs over a long time period is necessary to evaluate the long term impact of the proposed changes. The cost estimates for HB 2545, modified to reflect an employer credit to the employer annuity account of one to four percent based on years of service, are shown in the attached exhibits. The expected employer contribution rate and dollar amount is shown for each future year, assuming all actuarial assumptions, including an 8% rate of return, are met in the future.



The comparison of employer costs is shown on two bases: (1) Senate Substitute for HB 2194 vs HB 2545 modified for an employer credit of one to four percent based on years of service and (2) Current Plan vs HB 2545 modified for an employer credit of one to four percent based on years of service. Please note that dollar amounts of employer contributions shown are future dollar amounts, calculated using the estimated employer contribution rate and projected payroll in future years. The far right hand column on Exhibits A1 and A2 also shows the present value of the difference in employer contributions by year and in aggregate.

The change to the employer crediting rate reflected in this letter will impact the amount of retirement benefits provided by the plan design as well as the cost estimates. We have not studied the impact of such a change because it was not requested at this time. However, if these changes are incorporated into HB 2545, the impact of this change in the basic plan design on the benefits provided to members with different employment patterns should be studied so both the benefit and cost side of the retirement equation have been analyzed.

Disclaimers, Caveats, and Limitations

The numerical charts and graphs that comprise this study are based primarily upon the December 31, 2010 valuation results, the actuarial assumptions used in the valuation, and the projection model prepared by the System's actuary, Cavanaugh Macdonald Consulting, LLC. Significant items are noted below:

- Investment return in all future years is assumed to be 8% on a market value basis, unless otherwise indicated.
- All demographic assumptions regarding mortality, disability, retirement, salary increases, and termination of employment are assumed to hold true in the future. Please note that the actuarial assumption assumes that mortality will improve in the future (i.e. people will live longer).
- Changes in the retirement plan eligibility and benefit amounts may have an effect on future termination and retirement patterns. While we have attempted to reflect the change in retirement eligibility, how changes in the benefit structure may ultimately impact employment patterns cannot be known at this time and, therefore, has not been modeled.
- The number of active members covered by KPERS in the future is assumed to remain level (neither growth nor decline in the active membership count). As active members leave employment, they are assumed to be replaced by new employees who have a similar demographic profile as recent new hires.
- Plan provisions for Tiers 1 and 2 are modified in accordance with Senate Substitute for HB 2194, Tier 3 benefits are as described in this letter. There are no other benefit changes reflected in future years.
- The funding methods including the entry age normal cost method, the asset smoothing method, and the amortization method and period remain unchanged other than as noted elsewhere in this letter.
- The state and local employers will contribute as scheduled under HB 2194 (with consideration to changes in the statutory caps in that legislation) and with no statutory cap under HB 2545.
- We relied upon the membership data provided by KPERS for the actuarial valuation. The numerical results depend on the integrity of this information. If there are material inaccuracies in this data, the results presented herein may be different and the projections may need to be revised.

Models are designed to identify anticipated trends and to compare various scenarios rather than predicting some future state of events. The projections are based on the System's estimated financial status on December 31, 2010, and project future events using one set of assumptions out of a range of many possibilities. The projections do not predict the System's financial condition or its ability to pay benefits in the future and do not provide any guarantee of future financial soundness of the System. Over time, a

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defined benefit plan's total cost will depend on a number of factors, including the amount of benefits paid, the number of people paid benefits, the duration of the benefit payments, plan expenses, and the amount of earnings on assets invested to pay benefits. These amounts and other variables are uncertain and unknowable at the time the projections were made. Because not all of the assumptions will unfold exactly as expected, actual results will differ from the projections. To the extent that actual experience deviates significantly from the assumptions, results could be significantly better or significantly worse than indicated in this study.

Please feel free to call us to discuss this further if you wish.

Sincerely,

Patrice Beckham

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

Brent A. Banister

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

Exhibit A1



Scenario 1: HB 2194 vs HB 2545 (Modified with Employer Credit of 1% to 4%)
State/School Group

(1) Fiscal Year	(2) Total Payroll	(3) Employer Contribution Rate		(6) Employer Contribution Amount (\$M)			(8) Present Value of Difference
		HB 2194	Modified	HB 2194	Modified	Difference	
			HB 2545		HB 2545		
2012	\$ 4,465.19	8.77%	8.77%	\$ 391.60	\$ 391.60	\$ -	\$ -
2013	4,609.30	9.37%	9.37%	431.89	431.89	-	-
2014	4,742.86	10.27%	13.38%	487.09	634.69	147.60	121.77
2015	4,889.77	11.27%	13.53%	551.08	661.76	110.68	84.55
2016	5,048.36	12.37%	14.72%	624.48	743.04	118.56	83.86
2017	5,217.25	13.57%	14.65%	707.98	764.55	56.57	37.05
2018	5,396.09	14.46%	14.49%	780.44	782.05	1.61	0.97
2019	5,585.80	14.67%	14.56%	819.50	813.22	(6.28)	(3.53)
2020	5,786.83	14.80%	14.58%	856.63	843.89	(12.74)	(6.62)
2021	5,999.32	14.85%	14.61%	890.84	876.49	(14.35)	(6.91)
2022	6,223.41	14.84%	14.63%	923.50	910.52	(12.98)	(5.79)
2023	6,458.61	14.81%	14.63%	956.42	944.79	(11.63)	(4.80)
2024	6,704.71	14.76%	14.62%	989.41	980.22	(9.19)	(3.51)
2025	6,962.16	14.70%	14.60%	1,023.12	1,016.23	(6.90)	(2.44)
2026	7,231.45	14.62%	14.56%	1,057.31	1,053.14	(4.17)	(1.37)
2027	7,512.93	14.54%	14.52%	1,092.03	1,091.04	(0.99)	(0.30)
2028	7,806.93	14.45%	14.46%	1,127.87	1,129.07	1.20	0.34
2029	8,113.92	14.34%	14.39%	1,163.67	1,167.56	3.90	1.01
2030	8,433.95	14.21%	14.28%	1,198.79	1,204.55	5.76	1.39
2031	8,767.29	14.08%	14.15%	1,234.26	1,240.83	6.57	1.46
2032	9,114.66	13.90%	13.97%	1,266.68	1,273.22	6.54	1.35
2033	9,476.23	5.43%	6.26%	514.43	593.41	78.99	15.10
2034	9,852.28	3.95%	4.93%	389.15	485.65	96.50	17.08
2035	10,243.64	2.42%	3.57%	248.31	365.27	116.96	19.17
2036	10,650.79	1.38%	2.64%	147.01	281.21	134.20	20.36
2037	11,073.56	0.90%	2.23%	100.20	246.74	146.54	20.59
2038	11,513.15	0.58%	1.97%	67.01	227.11	160.10	20.83
2039	11,970.93	0.41%	1.85%	49.01	221.45	172.45	20.77
2040	12,448.09	0.33%	1.80%	40.91	224.64	183.72	20.49
2041	12,947.04	0.29%	1.80%	37.12	233.34	196.21	20.26
2042	13,469.39	0.29%	1.82%	38.50	244.95	206.45	19.74
2043	14,014.53	0.29%	1.86%	41.34	260.94	219.60	19.44
2044	14,581.39	0.31%	1.91%	45.83	277.93	232.10	19.03
2045	15,170.09	0.34%	1.96%	50.94	296.73	245.79	18.66
2046	15,780.74	0.37%	2.01%	58.01	316.55	258.54	18.17
2047	16,410.26	0.40%	2.05%	65.64	337.01	271.38	17.66
2048	17,057.88	0.42%	2.10%	72.21	358.17	285.96	17.23
2049	17,727.69	0.46%	2.14%	80.91	380.18	299.27	16.70
2050	18,423.67	0.48%	2.19%	88.50	403.18	314.68	16.26
2051	19,147.45	0.52%	2.23%	98.70	427.27	328.57	15.72
2052	19,899.69	0.54%	2.26%	107.47	450.56	343.10	15.20
2053	20,682.16	0.56%	2.32%	116.60	478.94	362.34	14.86
2054	21,496.61	0.59%	2.35%	126.16	504.50	378.33	14.37
2055	22,344.49	0.61%	2.38%	136.30	531.37	395.07	13.89
2056	23,227.14	0.63%	2.42%	146.94	561.77	414.83	13.51
2057	24,145.92	0.65%	2.44%	158.06	588.92	430.87	12.99
2058	25,102.38	0.68%	2.46%	169.68	617.35	447.67	12.50
2059	26,098.07	0.69%	2.49%	179.31	649.72	470.40	12.16
2060	27,134.62	0.71%	2.51%	192.09	680.99	488.90	11.70
Total				\$ 22,140.94	\$ 30,200.21	\$ 8,059.27	\$ 772.92
Present Value at 8% as of July 1, 2011				\$ 8,317.52	\$ 9,090.44	\$ 772.92	

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.

2/13/2012

Exhibit A2



Scenario 1: HB 2194 vs HB 2545 (Modified with Employer Credit of 1% to 4%)
Local Group

(1) Fiscal Year	(2) Total Payroll	(3) Employer Contribution Rate		(5) Employer Contribution Amount (\$M)			(8) Present Value of Difference
		HB 2194	Modified	HB 2194	Modified	Difference	
			HB 2545		HB 2545		
2012	\$ 1,678.75	7.34%	7.34%	\$ 123.22	\$ 123.22	\$ -	\$ -
2013	1,726.92	7.94%	7.94%	137.12	137.12	-	-
2014	1,777.74	8.65%	8.83%	153.84	156.92	3.09	2.55
2015	1,834.05	9.12%	9.36%	167.26	171.67	4.41	3.37
2016	1,893.42	9.00%	9.32%	170.45	176.47	6.01	4.25
2017	1,955.65	9.00%	9.37%	176.01	183.30	7.30	4.78
2018	2,020.46	9.00%	9.43%	181.84	190.48	8.64	5.24
2019	2,087.94	8.99%	9.47%	187.74	197.81	10.07	5.65
2020	2,158.09	8.98%	9.51%	193.71	205.30	11.58	6.02
2021	2,231.91	8.98%	9.56%	200.50	213.46	12.96	6.24
2022	2,309.17	8.98%	9.62%	207.43	222.11	14.67	6.54
2023	2,389.76	8.98%	9.66%	214.53	230.80	16.26	6.71
2024	2,474.65	8.97%	9.70%	222.08	240.03	17.95	6.86
2025	2,563.71	8.98%	9.74%	230.12	249.60	19.48	6.89
2026	2,656.71	8.97%	9.77%	238.33	259.44	21.10	6.91
2027	2,753.93	8.97%	9.79%	247.00	269.54	22.54	6.84
2028	2,856.33	8.96%	9.79%	255.91	279.68	23.77	6.68
2029	2,963.32	8.94%	9.80%	265.02	290.35	25.33	6.59
2030	3,075.51	8.93%	9.77%	274.64	300.36	25.72	6.19
2031	3,192.38	8.91%	9.73%	284.39	310.46	26.07	5.81
2032	3,313.68	3.65%	4.68%	120.93	154.93	34.00	7.02
2033	3,440.20	2.75%	3.83%	94.68	131.63	36.95	7.06
2034	3,571.81	1.82%	2.95%	64.89	105.30	40.41	7.15
2035	3,709.17	1.49%	2.66%	55.37	98.68	43.31	7.10
2036	3,851.93	1.27%	2.46%	48.93	94.88	45.95	6.97
2037	4,001.21	1.14%	2.37%	45.58	94.67	49.09	6.90
2038	4,157.18	1.06%	2.30%	44.04	95.56	51.52	6.70
2039	4,319.48	0.99%	2.26%	42.82	97.67	54.85	6.61
2040	4,488.52	0.94%	2.24%	42.38	100.68	58.29	6.50
2041	4,663.81	0.90%	2.22%	41.91	103.75	61.85	6.39
2042	4,846.82	0.86%	2.22%	41.89	107.39	65.50	6.26
2043	5,037.31	0.83%	2.21%	41.88	111.12	69.24	6.13
2044	5,235.49	0.81%	2.20%	42.38	115.43	73.04	5.99
2045	5,442.03	0.79%	2.21%	42.93	120.39	77.46	5.88
2046	5,656.91	0.77%	2.21%	43.52	124.92	81.40	5.72
2047	5,879.63	0.76%	2.22%	44.74	130.70	85.95	5.59
2048	6,110.89	0.74%	2.23%	45.44	136.03	90.58	5.46
2049	6,351.53	0.74%	2.24%	46.85	142.14	95.28	5.32
2050	6,602.17	0.73%	2.25%	48.39	148.44	100.05	5.17
2051	6,862.33	0.73%	2.26%	50.05	154.93	104.88	5.02
2052	7,132.79	0.74%	2.28%	52.53	162.33	109.81	4.86
2053	7,414.16	0.73%	2.28%	54.48	169.28	114.81	4.71
2054	7,707.23	0.73%	2.30%	56.57	177.25	120.68	4.58
2055	8,012.19	0.74%	2.32%	59.61	185.54	125.93	4.43
2056	8,329.45	0.74%	2.33%	62.01	194.16	132.15	4.30
2057	8,659.60	0.76%	2.35%	65.41	203.15	137.74	4.15
2058	9,003.17	0.76%	2.36%	68.14	212.52	144.39	4.03
2059	9,360.70	0.76%	2.36%	71.02	221.37	150.36	3.89
2060	9,732.77	0.76%	2.38%	74.05	231.55	157.50	3.77
Total				\$ 5,744.57	\$ 8,534.49	\$ 2,789.92	\$ 267.79
Present Value at 8% as of July 1, 2011				\$ 2,061.12	\$ 2,328.91	\$ 267.79	

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012.
All assumptions, including the 8% investment return, are assumed to be met each year in the future.

2/13/2012



Exhibit B1

Kansas Public Employee Retirement System
 Comparison of State/School Group Employer Contributions for Retirement Benefits
 Scenario 1: HB 2194 versus HB 2545 (Modified with Employers Credit of 1% to 4%)

FYE	Payroll		Employer Rate-DB	Normal Cost Rate	HB 2194		Total Cost (2)	Employer Rate-DB	DB Normal Cost Rate	Modified HB 2545 (1)		Total Cost (2)	Difference (3)
	Tier 1/2	Tier 3			Normal Cost (1)	UAL Payment (1)				DB Normal Cost (2)	UAL Payment (2)		
2012	4,465,186	0.000	8.77%	3.31%	147,582	244,014	391,597	8.77%	3.31%	147,582	244,014	391,597	0.000
2013	4,609,301	0.000	9.37%	3.31%	152,346	279,546	431,892	9.37%	3.31%	152,346	279,546	431,892	0.000
2014	4,742,859	0.000	10.27%	3.31%	156,760	330,332	487,092	13.38%	3.31%	156,760	279,546	431,892	147,601
2015	4,706,273	183,492	11.27%	2.31%	112,949	438,128	551,077	13.53%	2.50%	122,419	539,341	661,760	110,683
2016	4,507,134	541,224	12.37%	2.22%	111,974	512,508	624,482	14.72%	2.46%	124,116	618,929	743,044	118,563
2017	4,332,724	884,524	13.57%	2.12%	110,810	597,171	707,981	14.65%	2.41%	123,961	638,591	764,552	56,572
2018	4,171,368	1,224,718	14.46%	2.04%	110,248	670,194	780,442	14.49%	2.39%	129,122	652,926	782,049	1,607
2019	4,017,143	1,568,662	14.67%	1.96%	109,544	709,956	819,500	14.56%	2.37%	132,310	680,910	813,220	(6,280)
2020	3,868,916	1,917,913	14.80%	1.88%	108,967	747,658	856,625	14.58%	2.35%	136,161	707,729	843,890	(12,736)
2021	3,729,151	2,270,169	14.85%	1.81%	108,533	782,311	890,844	14.61%	2.34%	140,373	736,117	876,490	(14,355)
2022	3,597,727	2,625,683	14.84%	1.74%	108,232	815,267	923,499	14.63%	2.32%	149,733	795,055	944,788	(9,188)
2023	3,469,577	2,989,037	14.81%	1.67%	107,754	848,662	956,416	14.63%	2.32%	149,733	795,055	944,788	(9,188)
2024	3,343,442	3,361,269	14.76%	1.61%	107,739	881,669	989,409	14.62%	2.32%	155,542	824,679	980,221	(6,898)
2025	3,218,508	3,743,649	14.70%	1.55%	107,601	915,524	1,023,124	14.60%	2.32%	168,015	854,953	1,053,145	(4,170)
2026	3,095,688	4,135,766	14.62%	1.49%	107,825	949,490	1,057,315	14.56%	2.32%	182,870	885,130	1,091,038	(9,995)
2027	2,976,817	4,536,108	14.54%	1.44%	107,840	984,193	1,092,033	14.52%	2.33%	191,460	915,826	1,129,070	(1,202)
2028	2,861,609	4,945,319	14.45%	1.39%	107,825	1,019,585	1,127,868	14.46%	2.34%	191,460	976,104	1,167,565	3,899
2029	2,748,479	5,365,437	14.34%	1.34%	108,856	1,054,809	1,163,666	14.39%	2.36%	200,066	1,004,483	1,204,549	5,756
2030	2,636,015	5,797,930	14.21%	1.29%	109,127	1,089,666	1,198,793	14.28%	2.37%	209,798	1,031,033	1,240,831	6,568
2031	2,523,441	6,243,849	14.08%	1.26%	110,296	1,123,967	1,234,263	14.15%	2.39%	219,571	1,053,654	1,273,225	6,541
2032	2,410,718	6,703,938	13.90%	1.22%	110,946	1,155,738	1,266,684	13.97%	2.41%	229,475	1,079,940	1,306,415	78,989
2033	2,297,300	7,178,932	5.43%	1.18%	111,686	1,188,402	1,300,088	6.26%	2.43%	239,340	1,103,033	1,339,225	96,498
2034	2,182,241	7,670,035	3.95%	1.15%	113,289	1,218,864	1,332,153	4.93%	2.45%	249,314	1,127,316	1,371,453	116,957
2035	2,065,928	8,177,707	2.42%	1.11%	115,059	1,254,192	1,369,251	3.57%	2.47%	259,288	1,152,033	1,406,225	134,199
2036	1,948,113	8,702,679	1.38%	1.08%	116,807	1,291,864	1,408,671	2.64%	2.49%	269,262	1,177,316	1,435,447	146,542
2037	1,827,085	9,246,479	0.90%	1.05%	118,607	1,330,809	1,449,416	1.97%	2.51%	279,244	1,202,033	1,460,103	160,103
2038	1,703,396	9,809,757	0.58%	1.02%	120,583	1,371,223	1,491,806	1.97%	2.53%	289,228	1,227,033	1,484,738	172,447
2039	1,578,269	10,392,660	0.41%	1.00%	119,635	1,412,637	1,542,272	1.85%	2.55%	299,212	1,252,033	1,509,172	184,721
2040	1,452,370	10,995,722	0.33%	0.97%	122,573	1,454,051	1,596,624	1.80%	2.57%	309,196	1,277,033	1,533,606	196,213
2041	1,329,445	11,617,955	0.29%	0.95%	124,704	1,496,465	1,651,169	1.82%	2.59%	319,180	1,301,033	1,557,040	207,697
2042	1,213,354	12,256,040	0.29%	0.93%	126,924	1,538,879	1,706,803	1.86%	2.61%	329,164	1,325,033	1,580,474	218,191
2043	1,102,458	12,912,073	0.29%	0.90%	130,404	1,583,293	1,762,697	1.91%	2.63%	339,148	1,349,033	1,603,908	228,685
2044	992,920	13,588,470	0.31%	0.89%	134,044	1,628,707	1,818,751	1.91%	2.65%	349,132	1,373,033	1,627,342	239,179
2045	885,412	14,284,677	0.34%	0.88%	137,859	1,674,121	1,874,980	1.96%	2.67%	359,116	1,397,033	1,650,776	249,673
2046	783,139	14,997,606	0.37%	0.86%	141,844	1,719,535	1,931,379	2.01%	2.68%	369,100	1,421,033	1,674,210	259,167
2047	680,796	15,729,466	0.40%	0.85%	145,944	1,764,949	1,988,893	2.05%	2.68%	379,084	1,445,033	1,697,644	268,661
2048	573,131	16,484,746	0.42%	0.83%	150,144	1,810,363	2,046,507	2.10%	2.70%	389,068	1,469,033	1,721,078	278,155
2049	465,713	17,261,980	0.46%	0.83%	154,444	1,855,777	2,104,221	2.14%	2.70%	399,052	1,493,033	1,744,512	287,649
2050	373,175	18,050,490	0.48%	0.82%	158,844	1,901,191	2,162,035	2.19%	2.72%	409,036	1,517,033	1,767,946	297,143
2051	299,011	18,848,441	0.52%	0.82%	163,344	1,947,161	2,219,849	2.23%	2.72%	419,020	1,541,033	1,791,380	306,637
2052	235,082	19,664,612	0.54%	0.81%	167,944	1,992,131	2,277,073	2.26%	2.72%	429,004	1,565,033	1,814,814	316,131
2053	178,915	20,503,240	0.56%	0.80%	172,644	2,037,101	2,334,297	2.32%	2.74%	439,000	1,589,033	1,838,248	325,625
2054	133,803	21,362,806	0.59%	0.81%	177,444	2,082,071	2,391,521	2.35%	2.74%	449,000	1,613,033	1,861,682	335,119
2055	101,111	22,243,377	0.61%	0.80%	182,344	2,127,041	2,448,745	2.38%	2.75%	459,000	1,637,033	1,885,116	344,613
2056	76,276	23,150,859	0.63%	0.80%	187,344	2,172,011	2,505,969	2.42%	2.75%	469,000	1,661,033	1,908,550	354,107
2057	56,488	24,089,437	0.65%	0.80%	192,444	2,217,011	2,563,193	2.44%	2.75%	479,000	1,685,033	1,931,984	363,601
2058	41,446	25,060,935	0.68%	0.81%	197,644	2,262,011	2,620,417	2.46%	2.75%	489,000	1,709,033	1,955,418	373,095
2059	30,655	26,067,418	0.69%	0.81%	202,944	2,311,011	2,677,641	2.49%	2.76%	499,000	1,733,033	1,978,852	382,589
2060	22,730	27,111,890	0.71%	0.81%	208,344	2,360,011	2,734,865	2.51%	2.76%	509,000	1,757,033	1,999,286	392,083

(1) Effective 1/1/14
 (2) In millions

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012.



Exhibit A1



Scenario 1: Current Plan vs HB 2545 (Modified with Employer Credit of 1% to 4%)
State/School Group

(1) Fiscal Year	(2) Total Payroll	(3) Employer Contribution Rate		(6) Employer Contribution Amount (\$M)			(8) Present Value of Difference
		Current Plan	Modified HB 2545	Current Plan	Modified HB 2545	Difference	
2012	\$ 4,465.19	8.77%	8.77%	\$ 391.60	\$ 391.60	\$ -	\$ -
2013	4,609.30	9.37%	9.37%	431.89	431.89	-	-
2014	4,742.86	9.97%	13.38%	472.86	634.69	161.83	133.51
2015	4,889.77	10.57%	13.53%	516.85	661.76	144.91	110.69
2016	5,048.36	11.17%	14.72%	563.90	743.04	179.14	126.70
2017	5,217.25	11.77%	14.65%	614.07	764.55	150.48	98.55
2018	5,396.09	12.37%	14.49%	667.50	782.05	114.55	69.46
2019	5,585.80	12.97%	14.56%	724.48	813.22	88.74	49.82
2020	5,786.83	13.57%	14.58%	785.27	843.89	58.62	30.47
2021	5,999.32	14.17%	14.61%	850.10	876.49	26.39	12.70
2022	6,223.41	14.77%	14.63%	919.20	910.52	(8.68)	(3.87)
2023	6,458.61	15.37%	14.63%	992.69	944.79	(47.90)	(19.77)
2024	6,704.71	15.97%	14.62%	1,070.74	980.22	(90.52)	(34.59)
2025	6,962.16	16.57%	14.60%	1,153.63	1,016.23	(137.40)	(48.62)
2026	7,231.45	17.17%	14.56%	1,241.64	1,053.14	(188.50)	(61.75)
2027	7,512.93	17.77%	14.52%	1,335.05	1,091.04	(244.01)	(74.02)
2028	7,806.93	18.37%	14.46%	1,434.13	1,129.07	(305.06)	(85.68)
2029	8,113.92	18.97%	14.39%	1,539.21	1,167.56	(371.65)	(96.65)
2030	8,433.95	19.57%	14.28%	1,650.52	1,204.55	(445.97)	(107.39)
2031	8,767.29	20.02%	14.15%	1,754.82	1,240.83	(513.99)	(114.60)
2032	9,114.66	20.30%	13.97%	1,850.07	1,273.22	(576.85)	(119.09)
2033	9,476.23	8.42%	6.26%	798.29	593.41	(204.87)	(39.16)
2034	9,852.28	6.45%	4.93%	635.43	485.65	(149.78)	(26.51)
2035	10,243.64	4.34%	3.57%	444.71	365.27	(79.44)	(13.02)
2036	10,650.79	2.86%	2.64%	305.06	281.21	(23.85)	(3.62)
2037	11,073.56	2.18%	2.23%	241.18	246.74	5.56	0.78
2038	11,513.15	1.71%	1.97%	197.14	227.11	29.97	3.90
2039	11,970.93	1.45%	1.85%	173.63	221.45	47.82	5.76
2040	12,448.09	1.32%	1.80%	164.11	224.64	60.52	6.75
2041	12,947.04	1.25%	1.80%	161.49	233.34	71.85	7.42
2042	13,469.39	1.21%	1.82%	162.68	244.95	82.27	7.87
2043	14,014.53	1.21%	1.86%	169.46	260.94	91.48	8.10
2044	14,581.39	1.22%	1.91%	178.13	277.93	99.80	8.18
2045	15,170.09	1.25%	1.96%	189.27	296.73	107.46	8.16
2046	15,780.74	1.27%	2.01%	199.69	316.55	116.86	8.21
2047	16,410.26	1.29%	2.05%	212.47	337.01	124.54	8.11
2048	17,057.88	1.33%	2.10%	226.08	358.17	132.08	7.96
2049	17,727.69	1.37%	2.14%	242.33	380.18	137.85	7.69
2050	18,423.67	1.40%	2.19%	257.94	403.18	145.24	7.50
2051	19,147.45	1.43%	2.23%	274.67	427.27	152.60	7.30
2052	19,899.69	1.46%	2.26%	290.35	450.56	160.21	7.10
2053	20,682.16	1.48%	2.32%	306.64	478.94	172.30	7.07
2054	21,496.61	1.52%	2.35%	325.87	504.50	178.63	6.78
2055	22,344.49	1.55%	2.38%	346.12	531.37	185.25	6.51
2056	23,227.14	1.57%	2.42%	365.11	561.77	196.66	6.40
2057	24,145.92	1.59%	2.44%	384.89	588.92	204.03	6.15
2058	25,102.38	1.62%	2.46%	405.53	617.35	211.81	5.91
2059	26,098.07	1.64%	2.49%	427.16	649.72	222.56	5.75
2060	27,134.62	1.65%	2.51%	447.09	680.99	233.90	5.60
Total				\$ 29,492.74	\$ 30,200.21	\$ 707.47	\$ (55.46)
Present Value at 8% as of July 1, 2011				\$ 9,145.90	\$ 9,090.44	\$ (55.46)	

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2/13/2012



Exhibit B2

Kansas Public Employee Retirement System
 Comparison of Local Group Employer Contributions for Retirement Benefits
 Scenario 1: HB 2194 versus HB 2545 (Modified with Employer Credit of 1% to 4%)

EYE	Payroll		HB 2194				Modified HB 2545 (1)				Difference (2)	
	Ter 1/2	Ter 3	Rate-DB	Normal Cost (2)	UAL	Total Cost (2)	Rate-DB	DB Normal Cost Rate	DB Normal Cost (2)	UAL		Total Cost (2)
2012	1,678,751	0.000	7.34%	49,355	73,865	123,220	7.34%	2.94%	49,355	73,865	123,220	0.000
2013	1,726,922	0.000	7.94%	50,772	86,346	137,118	7.94%	2.94%	50,772	86,346	137,118	0.000
2014	1,777,741	0.000	8.65%	34,906	118,931	153,837	8.33%	2.16%	38,347	118,575	156,922	3,085
2015	1,682,855	151,199	9.12%	34,106	133,152	167,259	9.36%	2.11%	38,702	132,969	171,671	4,412
2016	1,601,267	292,153	9.00%	33,371	137,084	170,455	9.32%	2.07%	39,196	137,273	176,469	6,014
2017	1,531,885	423,760	9.00%	33,049	142,938	176,006	9.37%	2.05%	40,149	143,153	183,302	7,296
2018	1,468,854	551,608	9.00%	32,730	149,110	181,840	9.43%	2.04%	41,169	149,312	190,482	8,641
2019	1,411,513	676,427	8.99%	32,396	155,343	187,739	9.47%	2.02%	42,259	155,552	197,810	10,071
2020	1,357,016	801,074	8.98%	32,073	161,641	193,714	9.51%	2.01%	43,441	161,857	203,298	11,584
2021	1,306,765	925,141	8.98%	31,768	168,732	200,500	9.56%	2.00%	44,727	168,732	213,459	12,959
2022	1,259,029	1,050,142	8.98%	31,472	175,959	207,431	9.62%	2.00%	46,147	175,959	222,106	14,675
2023	1,211,644	1,178,114	8.98%	31,237	183,294	214,531	9.69%	2.00%	47,741	183,055	230,796	16,265
2024	1,166,580	1,308,070	8.97%	31,040	191,043	222,083	9.70%	2.00%	49,481	190,548	240,029	17,946
2025	1,122,814	1,440,897	8.98%	30,916	199,200	230,117	9.74%	2.01%	51,423	198,175	249,598	19,482
2026	1,079,538	1,577,175	8.97%	30,845	207,489	238,335	9.77%	2.02%	53,544	205,895	259,439	21,104
2027	1,036,739	1,717,192	8.97%	30,815	216,184	246,999	9.79%	2.03%	55,836	213,705	269,541	22,542
2028	996,305	1,860,024	8.96%	30,834	224,581	255,017	9.79%	2.04%	58,317	221,366	279,682	23,770
2029	956,653	2,006,671	8.94%	30,915	234,103	265,017	9.80%	2.06%	63,849	229,361	300,356	25,332
2030	918,238	2,157,256	8.93%	31,239	243,581	274,637	9.77%	2.08%	66,886	243,578	310,465	26,070
2031	880,111	2,312,267	8.91%	31,460	253,156	284,395	9.73%	2.10%	70,096	243,578	320,927	26,997
2032	841,490	2,472,188	3.65%	31,629	262,956	294,582	4.68%	2.12%	73,495	258,139	331,635	36,952
2033	802,890	2,637,309	2.75%	31,727	272,956	304,682	3.83%	2.14%	77,086	272,956	342,682	40,410
2034	763,519	2,808,290	1.82%	32,032	282,861	314,893	2.95%	2.16%	80,880	282,217	353,997	43,314
2035	724,959	2,984,212	1.49%	32,373	292,977	325,350	2.66%	2.18%	84,867	292,217	365,882	45,949
2036	685,180	3,166,753	1.27%	32,755	303,375	336,130	2.46%	2.20%	89,064	303,375	378,295	49,085
2037	645,945	3,355,264	1.14%	33,176	314,799	347,923	2.37%	2.23%	93,482	314,799	391,688	51,518
2038	606,916	3,550,260	1.06%	33,650	327,255	360,509	2.30%	2.25%	98,100	327,255	405,665	54,880
2039	567,903	3,751,578	0.99%	34,179	340,933	374,109	2.26%	2.27%	103,023	340,933	420,100	58,295
2040	528,254	3,960,270	0.94%	34,753	355,939	388,939	2.24%	2.29%	108,293	355,939	435,175	61,845
2041	486,776	4,177,037	0.90%	35,379	372,306	404,043	2.22%	2.31%	113,909	372,306	450,816	65,500
2042	445,926	4,400,890	0.86%	36,073	389,166	420,384	2.22%	2.34%	119,951	389,166	467,197	69,238
2043	405,937	4,631,369	0.83%	36,841	406,629	437,017	2.21%	2.36%	126,328	406,629	484,116	73,044
2044	365,661	4,869,826	0.81%	37,672	424,712	454,384	2.20%	2.37%	133,187	424,712	501,547	77,463
2045	326,896	5,115,138	0.79%	38,575	443,434	472,929	2.21%	2.39%	140,529	443,434	519,499	81,396
2046	290,352	5,366,555	0.77%	39,565	462,716	492,844	2.21%	2.41%	148,364	462,716	537,924	85,954
2047	254,343	5,625,289	0.76%	40,626	482,716	513,342	2.22%	2.42%	156,694	482,716	556,816	90,584
2048	218,593	5,892,300	0.74%	41,776	503,434	534,844	2.24%	2.44%	165,529	503,434	576,166	95,281
2049	184,549	6,166,985	0.74%	43,043	524,934	557,342	2.24%	2.45%	174,969	524,934	596,066	100,046
2050	155,998	6,446,177	0.73%	44,431	547,664	581,342	2.25%	2.46%	184,110	547,664	616,442	104,877
2051	129,299	6,733,033	0.73%	45,934	571,619	606,844	2.26%	2.48%	193,893	571,619	637,342	109,806
2052	104,361	7,028,427	0.74%	47,536	606,844	633,844	2.28%	2.48%	199,958	606,844	658,844	114,807
2053	81,172	7,332,993	0.73%	49,285	648,342	662,342	2.29%	2.49%	199,958	648,342	680,844	120,683
2054	63,826	7,643,400	0.73%	51,171	697,342	692,342	2.30%	2.50%	199,958	697,342	703,342	125,926
2055	50,205	7,961,988	0.74%	53,201	752,342	723,342	2.32%	2.50%	208,320	752,342	725,342	132,153
2056	38,812	8,290,643	0.74%	55,344	813,342	754,342	2.33%	2.51%	217,003	813,342	747,342	137,735
2057	29,195	8,630,402	0.76%	57,619	879,342	785,342	2.35%	2.51%	226,029	879,342	769,342	144,386
2058	22,087	8,981,087	0.76%	60,035	949,342	816,342	2.36%	2.51%	235,413	949,342	791,342	150,356
2059	16,902	9,343,797	0.76%	62,586	1,023,342	847,342	2.36%	2.52%	245,175	1,023,342	813,342	157,503
2060	12,843	9,719,925	0.76%	65,286	1,106,342	880,342	2.38%	2.52%	255,413	1,106,342	836,342	164,845
				1,912,986	3,831,587	5,744,574			5,145,832	3,388,662	8,534,494	2,789,920

(1) Effective 1/1/14
 (2) In millions.
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Exhibit A2



Scenario 1: Current Plan vs HB 2545 (Modified with Employer Credit of 1% to 4%)
Local Group

(1) Fiscal Year	(2) Total Payroll	(3) Employer Contribution Rate		(6) Employer Contribution Amount (\$M)			(8) Present Value of Difference
		Current Plan	Modified HB 2545	Current Plan	Modified HB 2545	Difference	
2012	\$ 1,678.75	7.34%	7.34%	\$ 123.22	\$ 123.22	\$ -	\$ -
2013	1,726.92	7.94%	7.94%	137.12	137.12	-	-
2014	1,777.74	8.54%	8.83%	151.82	156.92	5.10	4.21
2015	1,834.05	9.14%	9.36%	167.63	171.67	4.04	3.08
2016	1,893.42	9.74%	9.32%	184.42	176.47	(7.95)	(5.62)
2017	1,955.65	10.27%	9.37%	200.84	183.30	(17.54)	(11.49)
2018	2,020.46	10.34%	9.43%	208.92	190.48	(18.44)	(11.18)
2019	2,087.94	10.36%	9.47%	216.39	197.81	(18.58)	(10.43)
2020	2,158.09	10.33%	9.51%	222.95	205.30	(17.65)	(9.18)
2021	2,231.91	10.30%	9.56%	229.92	213.46	(16.46)	(7.92)
2022	2,309.17	10.27%	9.62%	237.26	222.11	(15.15)	(6.75)
2023	2,389.76	10.24%	9.66%	244.80	230.80	(14.00)	(5.78)
2024	2,474.65	10.22%	9.70%	252.82	240.03	(12.79)	(4.89)
2025	2,563.71	10.19%	9.74%	261.35	249.60	(11.75)	(4.16)
2026	2,656.71	10.17%	9.77%	270.10	259.44	(10.66)	(3.49)
2027	2,753.93	10.13%	9.79%	279.06	269.54	(9.51)	(2.89)
2028	2,856.33	10.10%	9.79%	288.56	279.68	(8.88)	(2.49)
2029	2,963.32	10.07%	9.80%	298.30	290.35	(7.95)	(2.07)
2030	3,075.51	10.03%	9.77%	308.59	300.36	(8.24)	(1.98)
2031	3,192.38	10.00%	9.73%	319.39	310.46	(8.92)	(1.99)
2032	3,313.68	4.62%	4.68%	153.05	154.93	1.88	0.39
2033	3,440.20	3.70%	3.83%	127.13	131.63	4.51	0.86
2034	3,571.81	2.73%	2.95%	97.67	105.30	7.63	1.35
2035	3,709.17	2.40%	2.66%	88.87	98.68	9.82	1.61
2036	3,851.93	2.15%	2.46%	82.80	94.88	12.08	1.83
2037	4,001.21	2.03%	2.37%	81.03	94.67	13.63	1.92
2038	4,157.18	1.92%	2.30%	79.95	95.56	15.61	2.03
2039	4,319.48	1.85%	2.26%	80.06	97.67	17.60	2.12
2040	4,488.52	1.80%	2.24%	80.61	100.68	20.06	2.24
2041	4,663.81	1.75%	2.22%	81.64	103.75	22.11	2.28
2042	4,846.82	1.71%	2.22%	82.75	107.39	24.64	2.36
2043	5,037.31	1.68%	2.21%	84.45	111.12	26.67	2.36
2044	5,235.49	1.65%	2.20%	86.26	115.43	29.17	2.39
2045	5,442.03	1.63%	2.21%	88.75	120.39	31.64	2.40
2046	5,656.91	1.61%	2.21%	90.88	124.92	34.04	2.39
2047	5,879.63	1.59%	2.22%	93.72	130.70	36.97	2.41
2048	6,110.89	1.58%	2.23%	96.77	136.03	39.26	2.37
2049	6,351.53	1.59%	2.24%	100.69	142.14	41.44	2.31
2050	6,602.17	1.58%	2.25%	104.26	148.44	44.18	2.28
2051	6,862.33	1.58%	2.26%	108.75	154.93	46.18	2.21
2052	7,132.79	1.58%	2.28%	112.82	162.33	49.52	2.19
2053	7,414.16	1.59%	2.28%	117.92	169.28	51.37	2.11
2054	7,707.23	1.59%	2.30%	122.58	177.25	54.67	2.08
2055	8,012.19	1.60%	2.32%	128.34	185.54	57.20	2.01
2056	8,329.45	1.60%	2.33%	133.58	194.16	60.58	1.97
2057	8,659.60	1.62%	2.35%	139.96	203.15	63.18	1.90
2058	9,003.17	1.62%	2.36%	145.81	212.52	66.71	1.86
2059	9,360.70	1.63%	2.36%	152.89	221.37	68.48	1.77
2060	9,732.77	1.64%	2.38%	159.37	231.55	72.18	1.73
Total				\$ 7,706.82	\$ 8,534.49	\$ 827.68	\$ (27.29)
Present Value at 8% as of July 1, 2011				\$ 2,356.20	\$ 2,328.91	\$ (27.29)	

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.

2/13/2012



Exhibit B1

Kansas Public Employee Retirement System
Comparison of State/School Group Employer Contributions for Retirement Benefits
Scenario 1: Current Plan versus HB 2545 (Modified with Employer Credit of 1% to 4%)

FYE	Payroll		Current Plan				Modified HB 2545 ⁽¹⁾				Difference ⁽²⁾		
	Tier 1/2	Tier 3	Employer Rate-DB	Normal Cost Rate	Normal Cost ⁽³⁾	UAL Payment ⁽²⁾	Total Cost ⁽³⁾	Employer Rate-DB	DB Normal Cost Rate	DB Normal Cost ⁽³⁾		UAL Payment ⁽²⁾	Total Cost ⁽³⁾
2012	4,465,186	0.000	8.77%	3.86%	172,189	219,408	391,597	8.77%	3.31%	147,582	244,014	391,597	0.000
2013	4,609,301	0.000	9.37%	3.86%	177,746	254,146	431,892	9.37%	3.31%	152,346	279,546	431,892	0.000
2014	4,742,859	0.000	9.97%	3.86%	182,896	289,967	472,863	13.38%	3.31%	156,760	477,932	634,692	161,829
2015	4,706,273	183,492	10.57%	3.70%	180,932	335,917	516,848	13.53%	2.50%	122,419	539,341	671,760	144,912
2016	4,507,134	541,224	11.17%	3.57%	180,299	383,603	563,902	14.72%	2.46%	124,116	618,929	743,044	179,143
2017	4,332,724	884,524	11.77%	3.44%	179,594	434,476	614,070	14.65%	2.41%	125,961	638,591	764,552	150,482
2018	4,171,368	1,224,718	12.37%	3.34%	179,982	487,514	667,496	14.49%	2.39%	129,122	659,926	782,049	114,553
2019	4,017,143	1,568,662	12.97%	3.23%	180,256	544,223	724,479	14.56%	2.37%	132,310	680,910	813,220	88,741
2020	3,868,916	1,917,913	13.57%	3.12%	180,472	604,800	785,273	14.58%	2.35%	136,161	707,729	843,890	58,617
2021	3,729,151	2,270,169	14.17%	3.02%	181,376	668,728	850,104	14.61%	2.34%	140,373	736,117	876,490	26,386
2022	3,597,727	2,625,683	14.77%	2.93%	182,035	737,162	919,198	14.63%	2.33%	145,037	795,055	944,788	(8,682)
2023	3,469,577	2,989,037	15.37%	2.83%	183,023	809,666	989,689	14.62%	2.32%	155,542	824,679	980,221	(47,901)
2024	3,343,442	3,361,269	15.97%	2.75%	184,481	886,261	1,070,742	14.60%	2.32%	161,274	885,130	1,016,226	(137,403)
2025	3,218,508	3,743,649	16.57%	2.66%	185,488	968,141	1,153,629	14.56%	2.32%	168,015	915,826	1,053,145	(188,496)
2026	3,095,688	4,135,766	17.17%	2.59%	187,295	1,054,346	1,241,641	14.52%	2.33%	175,213	946,200	1,091,038	(244,008)
2027	2,976,817	4,536,108	17.77%	2.51%	188,848	1,146,198	1,335,047	14.52%	2.34%	182,870	976,104	1,129,070	(305,063)
2028	2,861,609	4,945,319	18.37%	2.44%	190,794	1,243,339	1,434,133	14.46%	2.36%	191,460	1,004,483	1,167,565	(371,645)
2029	2,748,479	5,365,437	18.97%	2.38%	192,980	1,346,230	1,539,210	14.39%	2.36%	200,066	1,031,033	1,204,549	(445,974)
2030	2,636,015	5,797,930	19.57%	2.31%	195,205	1,455,319	1,650,523	14.28%	2.37%	209,798	1,031,033	1,240,831	(513,966)
2031	2,523,441	6,243,849	20.02%	2.26%	197,747	1,571,071	1,754,818	14.15%	2.39%	209,798	1,031,033	1,273,225	(576,845)
2032	2,410,718	6,703,938	20.30%	2.20%	200,318	1,649,753	1,850,070	13.97%	2.41%	219,571	1,053,654	1,273,225	(644,873)
2033	2,297,300	7,178,932	8.42%	2.14%	203,180	595,107	798,287	6.26%	2.43%	230,475	362,940	593,415	(204,873)
2034	2,182,241	7,670,035	6.45%	2.10%	206,858	428,574	635,432	4.93%	2.45%	241,314	244,336	485,651	(149,781)
2035	2,065,928	8,177,707	4.34%	2.05%	210,132	234,579	444,711	3.57%	2.47%	252,388	112,680	365,268	(79,443)
2036	1,948,113	8,702,679	2.86%	2.00%	213,468	91,597	305,064	2.64%	2.49%	265,234	15,976	281,211	(23,854)
2037	1,827,085	9,246,479	2.18%	1.96%	216,818	24,362	241,180	2.23%	2.51%	277,744	-31,006	246,738	5,538
2038	1,703,396	9,809,757	1.71%	1.92%	221,313	-24,178	197,135	1.97%	2.53%	291,582	-64,474	227,109	29,974
2039	1,578,269	10,392,660	1.45%	1.88%	225,105	-63,975	163,111	1.85%	2.55%	305,249	-83,797	221,453	47,822
2040	1,452,370	10,995,722	1.32%	1.85%	230,086	-51,475	174,630	1.85%	2.57%	320,486	-95,850	224,636	60,525
2041	1,329,445	11,617,595	1.25%	1.82%	235,285	-73,798	161,487	1.80%	2.59%	335,617	-107,912	224,636	71,849
2042	1,213,354	12,256,040	1.21%	1.78%	239,454	-76,776	162,679	1.82%	2.61%	351,361	-106,408	244,953	82,274
2043	1,102,458	12,912,073	1.22%	1.75%	245,142	-75,678	169,463	1.86%	2.63%	368,856	-107,902	260,944	99,797
2044	992,920	13,588,470	1.21%	1.73%	252,500	-74,565	178,135	1.91%	2.65%	385,834	-107,708	296,731	107,459
2045	885,412	14,284,677	1.23%	1.71%	259,054	-69,782	189,272	2.01%	2.68%	404,439	-105,731	316,554	116,862
2046	783,139	14,997,606	1.27%	1.69%	265,971	-66,279	199,691	2.09%	2.68%	422,285	-103,385	337,014	124,544
2047	680,796	15,729,466	1.29%	1.66%	273,188	-60,718	212,470	2.05%	2.68%	440,398	-102,347	358,166	132,082
2048	573,131	16,484,746	1.33%	1.66%	282,375	-56,291	226,084	2.10%	2.70%	460,514	-99,275	380,181	145,244
2049	465,713	17,261,380	1.37%	1.65%	291,965	-49,638	242,328	2.14%	2.70%	479,456	-97,645	403,179	152,598
2050	373,175	18,050,490	1.40%	1.64%	302,152	-44,217	274,667	2.19%	2.72%	500,825	-91,539	430,565	160,215
2051	299,011	18,848,441	1.43%	1.63%	312,962	-38,295	312,962	2.23%	2.72%	521,088	-86,865	450,565	172,298
2052	235,082	19,664,612	1.46%	1.62%	324,179	-33,829	350,350	2.26%	2.74%	542,103	-83,837	478,941	185,248
2053	178,915	20,503,240	1.48%	1.63%	335,598	-29,955	386,643	2.35%	2.74%	563,806	-80,440	511,366	196,664
2054	133,803	21,362,806	1.52%	1.63%	349,514	-17,876	346,118	2.38%	2.75%	611,806	-76,650	531,773	204,034
2055	101,111	22,243,377	1.55%	1.63%	379,045	-13,936	365,109	2.42%	2.75%	638,422	-72,797	561,773	211,814
2056	76,276	23,150,859	1.57%	1.63%	394,549	-9,658	384,891	2.44%	2.75%	663,777	-70,181	588,925	222,559
2057	56,488	24,089,437	1.59%	1.64%	410,552	-5,020	405,532	2.46%	2.76%	690,143	-69,716	620,427	233,896
2058	41,446	25,060,935	1.62%	1.64%	427,158	0.000	427,158	2.49%	2.76%	720,181	-67,837	652,344	245,111
2059	30,655	26,067,418	1.64%	1.64%	444,329	2,213	447,092	2.51%	2.76%	748,826	-67,837	680,989	256,426
2060	22,730	27,111,890	1.65%	1.64%	461,930	17,492,814	29,927,744	2.51%	2.76%	787,826	14,249,740	30,200,210	270,484

⁽¹⁾ Effective 1/1/14
⁽²⁾ In millions.

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012.
All assumptions, including the 8% investment return, are assumed to be met each year in the future.



Exhibit B2

Kansas Public Employee Retirement System
Comparison of Local Group Employer Contributions for Retirement Benefits
Scenario 1: Current Plan versus HB 2545 (Modified with Employer Credit of 1% to 4%)

FYE	Payroll		Current Plan				Modified HB 2545 (1)				Difference (2)		
	Tier 1/2	Tier 3	Employer Rate-DB	Normal Cost Rate	Normal Cost (3)	UAL Payment (2)	Total Cost (2)	Employer Rate-DB	DB Normal Cost Rate	DB Normal Cost (3)		UAL Payment (2)	Total Cost (2)
2012	1,678,751	0.000	7.34%	3.48%	58,534	64,866	123,220	7.34%	2.94%	49,335	73,865	123,220	0.000
2013	1,726,922	0.000	7.94%	3.48%	60,029	77,089	137,118	7.94%	2.94%	50,772	86,346	137,118	0.000
2014	1,777,741	0.000	8.54%	3.22%	59,099	92,720	151,819	8.83%	2.16%	38,347	118,575	156,922	5,103
2015	1,682,855	151,199	9.14%	3.18%	58,398	109,234	167,633	9.36%	2.11%	38,702	132,969	171,671	4,038
2016	1,601,267	292,153	9.74%	3.05%	57,822	126,597	184,419	9.32%	2.07%	39,196	137,273	176,469	(7,951)
2017	1,531,885	423,760	10.27%	2.95%	57,692	143,153	200,845	9.37%	2.05%	40,149	143,153	183,302	(17,543)
2018	1,468,854	551,688	10.34%	2.85%	57,591	151,333	208,924	9.43%	2.04%	41,169	149,312	190,482	(18,442)
2019	1,411,513	676,427	10.36%	2.75%	57,494	158,892	216,386	9.47%	2.02%	42,259	155,552	197,810	(18,576)
2020	1,357,016	801,074	10.33%	2.65%	57,422	165,525	222,948	9.51%	2.01%	43,441	161,857	205,298	(17,650)
2021	1,306,765	925,141	10.30%	2.57%	57,390	172,526	229,917	9.56%	2.00%	44,727	168,732	213,459	(16,457)
2022	1,259,029	1,050,142	10.27%	2.48%	57,374	179,884	237,258	9.62%	2.00%	46,147	175,959	222,106	(15,153)
2023	1,211,644	1,178,114	10.24%	2.40%	57,438	187,357	244,795	9.66%	2.00%	47,741	183,055	230,796	(13,999)
2024	1,166,580	1,308,070	10.22%	2.33%	57,572	195,250	252,822	9.70%	2.00%	49,481	190,548	240,029	(12,792)
2025	1,122,814	1,440,897	10.19%	2.25%	57,794	203,559	261,353	9.74%	2.01%	51,423	198,175	249,598	(11,755)
2026	1,079,538	1,577,175	10.17%	2.19%	58,096	212,006	270,101	9.79%	2.02%	53,544	205,895	259,439	(10,662)
2027	1,036,739	1,717,192	10.13%	2.12%	58,466	220,590	279,056	9.79%	2.03%	55,836	213,705	269,541	(9,515)
2028	996,505	1,860,024	10.10%	2.06%	58,916	229,649	288,565	9.80%	2.06%	58,317	221,366	279,682	(7,947)
2029	956,653	2,006,671	10.07%	2.01%	59,453	238,844	298,296	9.80%	2.08%	60,988	229,361	290,350	(8,239)
2030	918,258	2,157,256	10.03%	1.95%	60,093	248,502	308,595	9.73%	2.10%	63,849	236,507	300,556	(8,925)
2031	880,111	2,312,267	10.00%	1.90%	60,807	258,583	319,389	9.73%	2.12%	66,886	243,578	310,465	(8,925)
2032	841,490	2,472,188	4.62%	1.86%	61,590	267,949	330,537	4.68%	2.14%	70,096	251,339	321,437	1,879
2033	802,820	2,637,309	3.70%	1.82%	62,454	277,647	342,100	3.83%	2.14%	73,495	259,541	331,927	7,629
2034	763,519	2,808,290	2.73%	1.77%	63,385	287,819	353,145	2.66%	2.16%	77,086	268,139	342,224	13,131
2035	724,959	2,984,212	2.40%	1.74%	64,388	298,296	364,684	2.66%	2.18%	80,880	277,086	353,145	9,816
2036	685,180	3,166,753	2.03%	1.70%	65,466	309,389	376,855	2.46%	2.20%	84,867	286,217	364,684	12,083
2037	645,945	3,355,264	1.67%	1.67%	66,630	320,590	389,220	2.29%	2.22%	89,064	295,361	377,086	13,631
2038	606,916	3,550,260	1.92%	1.63%	67,894	332,888	402,080	2.26%	2.24%	93,482	304,507	390,556	15,611
2039	567,903	3,751,578	1.85%	1.60%	69,266	346,289	415,555	2.24%	2.26%	98,100	313,705	404,029	17,604
2040	528,254	3,960,270	1.80%	1.58%	70,740	360,740	430,480	2.22%	2.28%	102,923	323,057	418,175	20,064
2041	486,776	4,177,037	1.75%	1.55%	72,314	376,244	446,558	2.22%	2.31%	107,951	332,888	433,145	22,611
2042	445,926	4,400,890	1.71%	1.53%	74,024	392,819	463,843	2.21%	2.34%	113,205	342,224	448,175	26,671
2043	405,937	4,631,369	1.68%	1.51%	75,882	410,440	481,322	2.21%	2.36%	118,672	351,927	463,843	29,168
2044	365,661	4,869,826	1.65%	1.49%	77,882	429,166	500,044	2.20%	2.39%	124,328	361,366	479,029	34,043
2045	326,896	5,115,138	1.63%	1.47%	80,045	449,166	520,211	2.20%	2.41%	130,187	371,366	494,929	39,259
2046	290,332	5,366,555	1.61%	1.46%	82,391	470,440	542,831	2.20%	2.44%	136,244	382,057	511,366	44,181
2047	254,343	5,625,289	1.59%	1.44%	84,902	493,166	566,044	2.20%	2.46%	142,555	394,557	529,224	49,515
2048	218,593	5,892,300	1.58%	1.43%	87,602	517,440	589,224	2.20%	2.48%	149,166	407,831	548,175	54,669
2049	184,549	6,166,985	1.58%	1.42%	90,529	542,831	613,366	2.20%	2.50%	156,044	421,366	567,831	60,583
2050	153,998	6,446,177	1.58%	1.41%	93,695	569,166	638,366	2.20%	2.52%	163,366	435,831	587,831	66,713
2051	129,299	6,733,033	1.58%	1.41%	97,088	597,440	664,044	2.20%	2.54%	171,166	450,044	608,175	72,178
2052	104,361	7,028,427	1.58%	1.41%	100,694	627,166	690,224	2.20%	2.56%	179,831	465,166	629,224	78,178
2053	81,172	7,332,993	1.59%	1.41%	104,570	662,831	717,366	2.20%	2.58%	189,166	481,166	650,044	84,811
2054	63,826	7,643,400	1.59%	1.41%	108,708	700,440	745,831	2.20%	2.60%	199,166	497,166	671,366	91,044
2055	50,205	7,961,988	1.60%	1.41%	113,111	740,831	781,366	2.20%	2.62%	209,831	514,166	693,166	97,831
2056	38,812	8,290,643	1.60%	1.41%	117,751	783,166	827,831	2.20%	2.64%	221,166	532,166	716,166	105,044
2057	29,195	8,630,402	1.62%	1.42%	122,644	828,166	874,044	2.20%	2.66%	233,166	551,166	740,166	112,831
2058	22,087	8,981,087	1.62%	1.42%	127,805	875,831	921,366	2.20%	2.68%	245,831	571,166	765,166	120,831
2059	16,902	9,343,797	1.63%	1.42%	133,233	929,166	970,044	2.20%	2.70%	259,166	592,166	791,166	129,166
2060	12,843	9,719,925	1.64%	1.43%	138,932	993,166	1,020,044	2.20%	2.72%	273,166	614,166	818,166	138,166
					3,742,912	3,963,906	7,706,819			5,145,832	3,388,662	8,534,494	827,675

(1) Effective 1/1/14
(2) In millions

This exhibit is an attachment to a letter that contains important information and explanations regarding the numbers shown. Therefore, the exhibit should only be considered with the accompanying letter from Cavanaugh Macdonald dated February 13, 2012.
All assumptions, including the 8% investment return, are assumed to be met each year in the future.



