



# Cavanaugh Macdonald

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March 20, 2012

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

**Re: Cost Projections under HB 2194, HB 2545, and Cash Balance Plan Proposed by House Committee on Pensions and Benefits (March 12, 2012)**

Dear Alan:

As you requested, we have performed a cost study to compare the estimated employer cost projections under HB 2194, HB 2545, and the Cash Balance Plan proposed by the House Committee on Pensions and Benefits on March 12, 2012. The cost estimates for HB 2194 and HB 2545 shown in the exhibits are the same as those provided in our letter dated January 23, 2012. The basic plan provisions for the cash balance plan design, on which our cost projections are based, are set out below. For purposes of the cost projections for the cash balance plan, the effective date of the new plan design is January 1, 2014. All employees hired on or after that date become members of KPERS Tier 3 with the exception of Correctional Officers who will continue to be covered under Tier 2. Current members of KPERS on January 1, 2014 remain members of Tier 1 or 2.

**Cash Balance Plan Design**

A summary of basic plan provisions upon which our cost projections are based include:

- The employer credit to the cash balance account is a service based credit beginning at 1% and grading up to 4% after the member has at least four years of service.
- The guaranteed interest credit is 5% per year with interest credited quarterly. Additional interest credits may be granted at the discretion of the KPERS Board of Directors subject to certain conditions. The additional interest credit cannot exceed the lesser of 2% or 50% of the rate of return on the system's assets that is above 8%. The additional interest credit shall not be granted unless the rate of return on KPERS assets is at least 10% for that fiscal year.
- Employee contribution rate is 6% of pay.
- 100% vesting after seven (7) years of service.
- Normal retirement date is earlier of age 60 with 30 years of service or age 65 with 5 years of service
- Early retirement is age 55 with 10 years of service

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123

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

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

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- Upon termination of employment, a vested member may elect to withdraw their employee account balance, but will forfeit any future benefit payable from the system. If the member leaves their employee contributions in the System, they may retire upon reaching normal retirement age with a benefit based on the total account value (employee and employer).
- When the member retires at normal retirement age, the member can elect to receive up to 30% of the account balance as a lump sum. The remaining balance must be converted to a monthly benefit, based on the form of payment selected by the member. No partial lump sum option is available if the member retires at early retirement age. The annuity amount is determined by the annuity conversion factors which are based on a 5% interest rate and a 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 (i) the member is vested; (ii) the member has at least ten (10) years of service at death; and (iii) 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 account shall be credited with both the employee contribution and the employer credit until 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 with 0.9% 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 the cost projections for HB 2545.

The increases in the statutory cap on the employer contribution rate contained in Senate Substitute for HB 2194 are maintained in the cost projections of the March 12, 2012 Cash Balance Plan.

### **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. The projections for the March 12, 2012 Cash Balance Plan reflect an increase in the benefit multiplier from 1.75% to 1.85% for both Tier 1 and Tier 2 members. In addition, the member contribution rate for Tier 1 is increased from 4% to 6% and the cost of living adjustment for Tier 2 is eliminated.



### **Actuarial Assumptions and Methods**

In general, the same actuarial methods and assumptions that were used in the December 31, 2010 actuarial valuation were used in these cost projections unless otherwise noted. In addition, the actuarial assumptions used to generate the cost projections for HB 2545 are the same as those outlined in our letter dated January 23, 2012. They include an 8% assumption for the interest crediting rate and annuity conversion factors based on a 6.5% postretirement interest rate and the RP 2000 Mortality Table projected to 2035. Because retirement eligibility requirements are different under HB 2545 than those in the current plan and the benefits provided are also different, the retirement patterns are expected to change. Cavanaugh Macdonald selected retirement rates under HB 2545 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 March 12, 2012 Cash Balance Plan design sets the interest crediting rate at a guaranteed minimum of 5%, but provides that additional interest credits may be granted at the discretion of the KPERS Board of Directors, subject to certain conditions. The additional interest credit cannot exceed the lesser of 2% or 50% of the rate of return on the system's assets that is above 8%. The additional interest credit shall not be granted unless the rate of return on KPERS assets is at least 10% for that fiscal year. Given the expected distribution of returns over long periods of time, the actual interest crediting rate is expected to be higher than the 5% guaranteed rate. Therefore, an assumption is needed to anticipate the long term effective interest crediting rate. Due to time constraints related to the modeling of costs, there was insufficient time to perform a comprehensive analysis to determine the expected total interest crediting rate, including the additional interest credits that may be granted by the Board. Based on very limited analysis, an assumption of 6.5% was used for purposes of this cost study. Based on the information available at this time, the 6.5% assumption appears to be a conservative estimate given the conditions for the additional interest credit. If this proposed Cash Balance Plan design moves forward, more robust modeling of the expected rates of return on the KPERS portfolio and the resulting total interest crediting rate should be completed so the actuarial assumption can be further refined. Any change in this assumption will impact the cost projections attached to this letter.

All vested members in the March 12, 2012 Cash Balance Plan are assumed to leave their employee account balance in the Cash Balance Plan when they terminate employment and receive benefits based on the total account value (employee and employer) at normal retirement age. Any modification of this provision, such as paying vested terminated members part or all of the account value due to employer credits at termination, would impact the cost projections. In addition, the assumption for the portion of the retirement benefit paid as a lump sum at normal retirement was set to 30% of the account balance.

HB 2545 and the proposed Cash Balance Plan are both defined benefit plans so we assumed that the new tier would be combined with the existing KPERS Tiers 1 and 2 in one system with one trust. As such, the future benefit payments for Tier 3 members are projected in the actuarial valuation along with those for Tier 1 and 2 members and one overall employer contribution rate is developed, which includes 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 is unchanged other than reflecting the new benefit structure for Tier 3 members.

The amortization period used in the cost projections 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 all cost projections.



## **Results**

The cost impact of the various proposed plan designs 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 period of time is necessary to see the long term impact of the proposed change. The cost estimates for HB 2194, HB 2545, and the proposed Cash Balance Plan are reflected in the attached exhibits which show the expected employer contribution rate under each plan design by year (Exhibits A1 and A2) and the estimated dollar amount of employer contributions in each future year (Exhibits B1 and B2). The projections assume that all actuarial assumptions, including the 8% rate of return on plan assets, are met in the future. Please note that the dollar amounts of employer contributions shown are future dollar amounts, calculated using the estimated employer contribution rate and projected payroll in future years. Due to the length of the projection period, the future payroll amounts grow significantly and the resulting contributions in nominal dollars in those years can appear very large. In order to provide a method for more direct comparison of results, the present value of the difference in the employer contributions has been included in the right hand column for each set of projected contributions on Exhibits B1 and B2 by year and in the aggregate. The employer contribution rate also provides an easy way to compare the cost of various plan designs in the future. Exhibits C1 and C2 split the projected employer contributions into normal cost and UAL payments by year and in total for HB 2194 and the proposed Cash Balance Plan.

The cost projections attached to this letter are based on one set of actuarial assumptions, which include an 8% assumed rate of investment return. The cost projections for the various plan designs are sensitive to the assumptions used, particularly the investment return assumption. However, the impact of different assumptions varies for each of the three plan designs because they are different from each other. Further analysis can be provided upon request if it is deemed to be necessary or helpful.

It should also be noted that the different plan designs reflected in HB 2194, HB 2545, and the proposed Cash Balance Plan do not provide the same amount of retirement benefits. This, in turn, has an impact on the cost of the plan designs. Therefore, the cost projections should not be evaluated in isolation from the benefit amounts provided by each plan design.

## **Disclaimers, Caveats, and Limitations**

The numerical charts that comprise this study are based primarily upon the December 31, 2010 valuation results, the actuarial assumptions used in the valuation (other than as noted in this letter), 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 under HB 2545, how changes in the benefit structure may ultimately impact employment patterns under both HB 2545 and the proposed Cash Balance Plan cannot be known at this time and, therefore, no changes have 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 the default provisions under Senate Substitute for HB 2194 for both projections of HB 2194 and HB 2545. The projections for the proposed March 12, 2012 Cash Balance Plan reflect an increase in the benefit multiplier to 1.85% for both Tier 1 and Tier 2. In addition, employee contributions under Tier 1 are increased to 6% and the cost of living adjustment provision in Tier 2 is eliminated. There are no other benefit changes reflected in future years.
- The projections for the proposed Cash Balance Plan reflect the assumed total interest credits (guaranteed plus discretionary) of 6.5% each year. If the actual interest credits granted are more than 6.5%, it will generally increase the cost of the plan. If actual interest credits granted are less than 6.5% each year, the cost of the plan will be lower, all other factors being equal.
- 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. The projections for the Cash Balance Plan reflect the same statutory cap as HB 2194.
- 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. A different set of assumptions would lead to different results. 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 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,

A handwritten signature in black ink that reads 'Patrice Beckham' in a cursive script.

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

A handwritten signature in black ink that reads 'Brent A. Banister' in a cursive script.

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



Exhibit A1  
 KPERS Contribution Rate Projections under HB 2194, HB 2545, and House Cash Balance Plan (March 12<sup>th</sup>)  
 State/School Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545		HB 2194 vs House Cash Balance		HB 2545 vs House Cash Balance	
		Employer Contribution Rate		Employer Contribution Rate		Employer Contribution Rate	
		HB 2194	HB 2545	HB 2194	House Cash Balance	HB 2545	House Cash Balance
2012	\$ 4,465.19	8.77%	8.77%	8.77%	8.77%	8.77%	8.77%
2013	4,609.30	9.37%	9.37%	9.37%	9.37%	9.37%	9.37%
2014	4,742.86	10.27%	13.44%	10.27%	10.27%	13.44%	10.27%
2015	4,889.77	11.27%	13.61%	11.27%	11.27%	13.61%	11.27%
2016	5,048.36	12.37%	14.82%	12.37%	12.37%	14.82%	12.37%
2017	5,217.25	13.57%	14.79%	13.57%	13.57%	14.79%	13.57%
2018	5,396.09	14.46%	14.65%	14.46%	14.49%	14.65%	14.49%
2019	5,585.80	14.67%	14.74%	14.67%	14.64%	14.74%	14.64%
2020	5,786.83	14.80%	14.79%	14.80%	14.70%	14.79%	14.70%
2021	5,999.32	14.85%	14.84%	14.85%	14.69%	14.84%	14.69%
2022	6,223.41	14.84%	14.89%	14.84%	14.60%	14.89%	14.60%
2023	6,458.61	14.81%	14.92%	14.81%	14.50%	14.92%	14.50%
2024	6,704.71	14.76%	14.93%	14.76%	14.38%	14.93%	14.38%
2025	6,962.16	14.70%	14.93%	14.70%	14.24%	14.93%	14.24%
2026	7,231.45	14.62%	14.93%	14.62%	14.10%	14.93%	14.10%
2027	7,512.93	14.54%	14.91%	14.54%	13.95%	14.91%	13.95%
2028	7,806.93	14.45%	14.88%	14.45%	13.78%	14.88%	13.78%
2029	8,113.92	14.34%	14.83%	14.34%	13.61%	14.83%	13.61%
2030	8,433.95	14.21%	14.77%	14.21%	13.42%	14.77%	13.42%
2031	8,767.29	14.08%	14.67%	14.08%	13.20%	14.67%	13.20%
2032	9,114.66	13.90%	14.53%	13.90%	12.93%	14.53%	12.93%
2033	9,476.23	5.43%	6.70%	5.43%	4.65%	6.70%	4.65%
2034	9,852.28	3.95%	5.38%	3.95%	3.15%	5.38%	3.15%
2035	10,243.64	2.42%	4.00%	2.42%	1.64%	4.00%	1.64%
2036	10,650.79	1.38%	3.07%	1.38%	0.59%	3.07%	0.59%
2037	11,073.56	0.90%	2.68%	0.90%	0.10%	2.68%	0.10%
2038	11,513.15	0.58%	2.43%	0.58%	0.00%	2.43%	0.00%
2039	11,970.93	0.41%	2.32%	0.41%	0.00%	2.32%	0.00%
2040	12,448.09	0.33%	2.28%	0.33%	0.00%	2.28%	0.00%
2041	12,947.04	0.29%	2.30%	0.29%	0.00%	2.30%	0.00%
2042	13,469.39	0.29%	2.33%	0.29%	0.00%	2.33%	0.00%
2043	14,014.53	0.29%	2.38%	0.29%	0.00%	2.38%	0.00%
2044	14,581.39	0.31%	2.43%	0.31%	0.00%	2.43%	0.00%
2045	15,170.09	0.34%	2.48%	0.34%	0.00%	2.48%	0.00%
2046	15,780.74	0.37%	2.54%	0.37%	0.00%	2.54%	0.00%
2047	16,410.26	0.40%	2.58%	0.40%	0.00%	2.58%	0.00%
2048	17,057.88	0.42%	2.64%	0.42%	0.00%	2.64%	0.00%
2049	17,727.69	0.46%	2.67%	0.46%	0.00%	2.67%	0.00%
2050	18,423.67	0.48%	2.73%	0.48%	0.00%	2.73%	0.00%
2051	19,147.45	0.52%	2.76%	0.52%	0.00%	2.76%	0.00%
2052	19,899.69	0.54%	2.81%	0.54%	0.00%	2.81%	0.00%
2053	20,682.16	0.56%	2.85%	0.56%	0.00%	2.85%	0.00%
2054	21,496.61	0.59%	2.89%	0.59%	0.00%	2.89%	0.00%
2055	22,344.49	0.61%	2.92%	0.61%	0.00%	2.92%	0.00%
2056	23,227.14	0.63%	2.95%	0.63%	0.00%	2.95%	0.00%
2057	24,145.92	0.65%	2.97%	0.65%	0.00%	2.97%	0.00%
2058	25,102.38	0.68%	2.99%	0.68%	0.00%	2.99%	0.00%
2059	26,098.07	0.69%	3.02%	0.69%	0.00%	3.02%	0.00%
2060	27,134.62	0.71%	3.04%	0.71%	0.00%	3.04%	0.00%

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 March 20, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.



Exhibit A2  
 KPERS Contribution Rate Projections under HB 2194, HB 2545, and House Cash Balance Plan (March 12<sup>th</sup>)  
 Local Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545		HB 2194 vs House Cash Balance		HB 2545 vs House Cash Balance	
		Employer Contribution Rate		Employer Contribution Rate		Employer Contribution Rate	
		HB 2194	HB 2545	HB 2194	House Cash Balance	HB 2545	House Cash Balance
2012	\$ 1,678.75	7.34%	7.34%	7.34%	7.34%	7.34%	7.34%
2013	1,726.92	7.94%	7.94%	7.94%	7.94%	7.94%	7.94%
2014	1,777.74	8.65%	8.91%	8.65%	8.73%	8.91%	8.73%
2015	1,834.05	9.12%	9.47%	9.12%	9.21%	9.47%	9.21%
2016	1,893.42	9.00%	9.45%	9.00%	9.11%	9.45%	9.11%
2017	1,955.65	9.00%	9.53%	9.00%	9.03%	9.53%	9.03%
2018	2,020.46	9.00%	9.60%	9.00%	8.96%	9.60%	8.96%
2019	2,087.94	8.99%	9.67%	8.99%	8.87%	9.67%	8.87%
2020	2,158.09	8.98%	9.72%	8.98%	8.79%	9.72%	8.79%
2021	2,231.91	8.98%	9.80%	8.98%	8.72%	9.80%	8.72%
2022	2,309.17	8.98%	9.87%	8.98%	8.67%	9.87%	8.67%
2023	2,389.76	8.98%	9.93%	8.98%	8.61%	9.93%	8.61%
2024	2,474.65	8.97%	9.99%	8.97%	8.55%	9.99%	8.55%
2025	2,563.71	8.98%	10.04%	8.98%	8.49%	10.04%	8.49%
2026	2,656.71	8.97%	10.10%	8.97%	8.44%	10.10%	8.44%
2027	2,753.93	8.97%	10.14%	8.97%	8.37%	10.14%	8.37%
2028	2,856.33	8.96%	10.16%	8.96%	8.31%	10.16%	8.31%
2029	2,963.32	8.94%	10.19%	8.94%	8.24%	10.19%	8.24%
2030	3,075.51	8.93%	10.20%	8.93%	8.17%	10.20%	8.17%
2031	3,192.38	8.91%	10.18%	8.91%	8.07%	10.18%	8.07%
2032	3,313.68	3.65%	5.05%	3.65%	2.96%	5.05%	2.96%
2033	3,440.20	2.75%	4.20%	2.75%	2.05%	4.20%	2.05%
2034	3,571.81	1.82%	3.32%	1.82%	1.13%	3.32%	1.13%
2035	3,709.17	1.49%	3.04%	1.49%	0.79%	3.04%	0.79%
2036	3,851.93	1.27%	2.85%	1.27%	0.55%	2.85%	0.55%
2037	4,001.21	1.14%	2.77%	1.14%	0.40%	2.77%	0.40%
2038	4,157.18	1.06%	2.71%	1.06%	0.30%	2.71%	0.30%
2039	4,319.48	0.99%	2.68%	0.99%	0.23%	2.68%	0.23%
2040	4,488.52	0.94%	2.67%	0.94%	0.16%	2.67%	0.16%
2041	4,663.81	0.90%	2.66%	0.90%	0.11%	2.66%	0.11%
2042	4,846.82	0.86%	2.65%	0.86%	0.07%	2.65%	0.07%
2043	5,037.31	0.83%	2.65%	0.83%	0.03%	2.65%	0.03%
2044	5,235.49	0.81%	2.65%	0.81%	0.00%	2.65%	0.00%
2045	5,442.03	0.79%	2.66%	0.79%	0.00%	2.66%	0.00%
2046	5,656.91	0.77%	2.67%	0.77%	0.00%	2.67%	0.00%
2047	5,879.63	0.76%	2.68%	0.76%	0.00%	2.68%	0.00%
2048	6,110.89	0.74%	2.70%	0.74%	0.00%	2.70%	0.00%
2049	6,351.53	0.74%	2.70%	0.74%	0.00%	2.70%	0.00%
2050	6,602.17	0.73%	2.72%	0.73%	0.00%	2.72%	0.00%
2051	6,862.33	0.73%	2.74%	0.73%	0.00%	2.74%	0.00%
2052	7,132.79	0.74%	2.75%	0.74%	0.00%	2.75%	0.00%
2053	7,414.16	0.73%	2.77%	0.73%	0.00%	2.77%	0.00%
2054	7,707.23	0.73%	2.77%	0.73%	0.00%	2.77%	0.00%
2055	8,012.19	0.74%	2.79%	0.74%	0.00%	2.79%	0.00%
2056	8,329.45	0.74%	2.81%	0.74%	0.00%	2.81%	0.00%
2057	8,659.60	0.76%	2.81%	0.76%	0.00%	2.81%	0.00%
2058	9,003.17	0.76%	2.83%	0.76%	0.00%	2.83%	0.00%
2059	9,360.70	0.76%	2.84%	0.76%	0.00%	2.84%	0.00%
2060	9,732.77	0.76%	2.85%	0.76%	0.00%	2.85%	0.00%

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 March 20, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.



Exhibit B1  
 KPERS Cost Projections under HB 2194, HB 2545, and House Cash Balance Plan (March 12<sup>th</sup>)  
 State/School Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545				HB 2194 vs House Cash Balance				HB 2545 vs House Cash Balance			
		Employer Contribution Amount (\$M)				Employer Contribution Amount (\$M)				Employer Contribution Amount (\$M)			
		HB 2194	HB 2545	Difference	Present Value	HB 2194	Cash Balance	Difference	Present Value	HB 2545	Cash Balance	Difference	Present Value
2012	\$ 4,465.19	\$ 391.60	\$ 391.60	\$ -	\$ -	\$ 391.60	\$ 391.60	\$ -	\$ -	\$ 391.60	\$ 391.60	\$ -	\$ -
2013	4,609.30	431.89	431.89	-	-	431.89	431.89	-	-	431.89	431.89	-	-
2014	4,742.86	487.09	637.46	150.37	124.05	487.09	487.09	-	-	637.46	487.09	(150.37)	(124.05)
2015	4,889.77	551.08	665.71	114.63	87.56	551.08	551.08	-	-	665.71	551.08	(114.63)	(87.56)
2016	5,048.36	624.48	748.18	123.70	87.49	624.48	624.48	-	-	748.18	624.48	(123.70)	(87.49)
2017	5,217.25	707.98	771.52	63.54	41.61	707.98	707.98	-	-	771.52	707.98	(63.54)	(41.61)
2018	5,396.09	780.44	790.34	9.90	6.00	780.44	782.16	1.72	1.04	790.34	782.16	(8.18)	(4.96)
2019	5,585.80	819.50	823.56	4.06	2.28	819.50	817.83	(1.67)	(0.94)	823.56	817.83	(5.73)	(3.22)
2020	5,786.83	856.63	856.13	(0.49)	(0.26)	856.63	850.66	(5.96)	(3.10)	856.13	850.66	(5.47)	(2.84)
2021	5,999.32	890.84	890.20	(0.64)	(0.31)	890.84	881.11	(9.73)	(4.68)	890.20	881.11	(9.09)	(4.38)
2022	6,223.41	923.50	926.50	3.00	1.34	923.50	908.74	(14.76)	(6.58)	926.50	908.74	(17.76)	(7.92)
2023	6,458.61	956.42	963.37	6.95	2.87	956.42	936.24	(20.18)	(8.33)	963.37	936.24	(27.13)	(11.20)
2024	6,704.71	989.41	1,001.19	11.78	4.50	989.41	963.95	(25.46)	(9.73)	1,001.19	963.95	(37.24)	(14.23)
2025	6,962.16	1,023.12	1,039.68	16.56	5.86	1,023.12	991.09	(32.04)	(11.34)	1,039.68	991.09	(48.60)	(17.19)
2026	7,231.45	1,057.31	1,079.54	22.23	7.28	1,057.31	1,019.54	(37.77)	(12.37)	1,079.54	1,019.54	(60.00)	(19.66)
2027	7,512.93	1,092.03	1,119.90	27.87	8.45	1,092.03	1,047.82	(44.21)	(13.41)	1,119.90	1,047.82	(72.08)	(21.86)
2028	7,806.93	1,127.87	1,161.97	34.10	9.58	1,127.87	1,075.89	(51.97)	(14.60)	1,161.97	1,075.89	(86.07)	(24.17)
2029	8,113.92	1,163.67	1,203.48	39.81	10.35	1,163.67	1,104.28	(59.38)	(15.44)	1,203.48	1,104.28	(99.20)	(25.80)
2030	8,433.95	1,198.79	1,245.30	46.51	11.20	1,198.79	1,132.02	(66.77)	(16.08)	1,245.30	1,132.02	(113.28)	(27.28)
2031	8,767.29	1,234.26	1,285.93	51.66	11.52	1,234.26	1,157.00	(77.26)	(17.23)	1,285.93	1,157.00	(128.92)	(28.75)
2032	9,114.66	1,266.68	1,324.29	57.60	11.89	1,266.68	1,178.98	(87.70)	(18.11)	1,324.29	1,178.98	(145.31)	(30.00)
2033	9,476.23	514.43	635.32	120.89	23.11	514.43	440.29	(74.13)	(14.17)	635.32	440.29	(195.03)	(37.28)
2034	9,852.28	389.15	529.85	140.69	24.90	389.15	310.68	(78.48)	(13.89)	529.85	310.68	(219.17)	(38.79)
2035	10,243.64	248.31	409.87	161.55	26.48	248.31	168.10	(80.21)	(13.14)	409.87	168.10	(241.76)	(39.62)
2036	10,650.79	147.01	327.41	180.40	27.38	147.01	62.97	(84.04)	(12.75)	327.41	62.97	(264.44)	(40.13)
2037	11,073.56	100.20	296.41	196.21	27.57	100.20	10.60	(89.60)	(12.59)	296.41	10.60	(285.81)	(40.16)
2038	11,513.15	67.01	279.86	212.86	27.69	67.01	-	(67.01)	(8.72)	279.86	-	(279.86)	(36.41)
2039	11,970.93	49.01	277.90	228.89	27.57	49.01	-	(49.01)	(5.90)	277.90	-	(277.90)	(33.48)
2040	12,448.09	40.91	284.40	243.49	27.16	40.91	-	(40.91)	(4.56)	284.40	-	(284.40)	(31.72)
2041	12,947.04	37.12	297.30	260.18	26.87	37.12	-	(37.12)	(3.83)	297.30	-	(297.30)	(30.70)
2042	13,469.39	38.50	313.37	274.87	26.28	38.50	-	(38.50)	(3.68)	313.37	-	(313.37)	(29.97)
2043	14,014.53	41.34	332.99	291.65	25.82	41.34	-	(41.34)	(3.66)	332.99	-	(332.99)	(29.48)
2044	14,581.39	45.83	354.78	308.95	25.33	45.83	-	(45.83)	(3.76)	354.78	-	(354.78)	(29.09)
2045	15,170.09	50.94	375.94	325.00	24.67	50.94	-	(50.94)	(3.87)	375.94	-	(375.94)	(28.54)
2046	15,780.74	58.01	400.70	342.69	24.09	58.01	-	(58.01)	(4.08)	400.70	-	(400.70)	(28.16)
2047	16,410.26	65.64	423.35	357.71	23.28	65.64	-	(65.64)	(4.27)	423.35	-	(423.35)	(27.55)
2048	17,057.88	72.21	449.90	377.69	22.76	72.21	-	(72.21)	(4.35)	449.90	-	(449.90)	(27.11)
2049	17,727.69	80.91	474.08	393.17	21.94	80.91	-	(80.91)	(4.51)	474.08	-	(474.08)	(26.45)
2050	18,423.67	88.50	502.67	414.17	21.40	88.50	-	(88.50)	(4.57)	502.67	-	(502.67)	(25.97)
2051	19,147.45	98.70	528.98	430.28	20.58	98.70	-	(98.70)	(4.72)	528.98	-	(528.98)	(25.30)
2052	19,899.69	107.47	558.23	450.76	19.97	107.47	-	(107.47)	(4.76)	558.23	-	(558.23)	(24.73)
2053	20,682.16	116.60	588.83	472.22	19.37	116.60	-	(116.60)	(4.78)	588.83	-	(588.83)	(24.15)
2054	21,496.61	126.16	620.88	494.72	18.79	126.16	-	(126.16)	(4.79)	620.88	-	(620.88)	(23.58)
2055	22,344.49	136.30	652.33	516.03	18.14	136.30	-	(136.30)	(4.79)	652.33	-	(652.33)	(22.94)
2056	23,227.14	146.94	685.08	538.14	17.52	146.94	-	(146.94)	(4.78)	685.08	-	(685.08)	(22.30)
2057	24,145.92	158.06	717.13	559.07	16.85	158.06	-	(158.06)	(4.76)	717.13	-	(717.13)	(21.62)
2058	25,102.38	169.68	750.59	580.91	16.21	169.68	-	(169.68)	(4.74)	750.59	-	(750.59)	(20.95)
2059	26,098.07	179.31	788.21	608.90	15.74	179.31	-	(179.31)	(4.63)	788.21	-	(788.21)	(20.37)
2060	27,134.62	192.09	824.95	632.86	15.14	192.09	-	(192.09)	(4.60)	824.95	-	(824.95)	(19.74)
Total	\$ 22,140.94	\$ 33,039.06	\$ 10,898.12	\$ 1,065.89	\$ 22,140.94	\$ 19,034.09	\$ (3,106.86)	\$ (324.57)	\$ 33,039.06	\$ 19,034.09	\$ (14,004.97)	\$ (1,390.46)	
Present Value at 8% as of July 1, 2011	\$ 8,317.52	\$ 9,383.42	\$ 1,065.89	\$ 8,317.52	\$ 7,992.95	\$ (324.57)	\$ 9,383.42	\$ 7,992.95	\$ (1,390.46)				

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 March 20, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.





Exhibit B2  
 KPERS Cost Projections under HB 2194, HB 2545, and House Cash Balance Plan (March 12<sup>th</sup>)  
 Local Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545				HB 2194 vs House Cash Balance				HB 2545 vs House Cash Balance			
		Employer Contribution Amount (\$M)				Employer Contribution Amount (\$M)				Employer Contribution Amount (\$M)			
		HB 2194	HB 2545	Difference	Present Value of Difference	HB 2194	House Cash Balance	Difference	Present Value of Difference	HB 2545	House Cash Balance	Difference	Present Value of Difference
2012	\$ 1,678.75	\$ 123.22	\$ 123.22	\$ -	\$ -	\$ 123.22	\$ 123.22	\$ -	\$ -	\$ 123.22	\$ 123.22	\$ -	\$ -
2013	1,726.92	137.12	137.12	-	-	137.12	137.12	-	-	137.12	137.12	-	-
2014	1,777.74	153.84	158.39	4.55	3.75	153.84	155.11	1.27	1.05	158.39	155.11	(3.28)	(2.70)
2015	1,834.05	167.26	173.71	6.45	4.92	167.26	168.86	1.60	1.22	173.71	168.86	(4.85)	(3.70)
2016	1,893.42	170.45	178.89	8.44	5.97	170.45	172.56	2.11	1.49	178.89	172.56	(6.33)	(4.48)
2017	1,955.65	176.01	186.32	10.32	6.76	176.01	176.57	0.56	0.37	186.32	176.57	(9.76)	(6.39)
2018	2,020.46	181.84	193.92	12.08	7.33	181.84	180.98	(0.86)	(0.52)	193.92	180.98	(12.95)	(7.85)
2019	2,087.94	187.74	201.89	14.15	7.95	187.74	185.15	(2.59)	(1.46)	201.89	185.15	(16.75)	(9.40)
2020	2,158.09	193.71	209.84	16.12	8.38	193.71	189.63	(4.08)	(2.12)	209.84	189.63	(20.21)	(10.51)
2021	2,231.91	200.50	218.70	18.20	8.76	200.50	194.72	(5.78)	(2.78)	218.70	194.72	(23.98)	(11.54)
2022	2,309.17	207.43	227.86	20.43	9.11	207.43	200.17	(7.27)	(3.24)	227.86	200.17	(27.69)	(12.34)
2023	2,389.76	214.53	237.32	22.79	9.40	214.53	205.77	(8.76)	(3.61)	237.32	205.77	(31.54)	(13.02)
2024	2,474.65	222.08	247.11	25.02	9.56	222.08	211.55	(10.53)	(4.02)	247.11	211.55	(35.55)	(13.58)
2025	2,563.71	230.12	257.51	27.39	9.69	230.12	217.76	(12.36)	(4.37)	257.51	217.76	(39.75)	(14.06)
2026	2,656.71	238.33	268.22	29.89	9.79	238.33	224.11	(14.22)	(4.66)	268.22	224.11	(44.11)	(14.45)
2027	2,753.93	247.00	279.24	32.24	9.78	247.00	230.58	(16.42)	(4.98)	279.24	230.58	(48.66)	(14.76)
2028	2,856.33	255.91	290.34	34.43	9.67	255.91	237.49	(18.42)	(5.17)	290.34	237.49	(52.85)	(14.84)
2029	2,963.32	265.02	302.01	37.00	9.62	265.02	244.25	(20.77)	(5.40)	302.01	244.25	(57.77)	(15.02)
2030	3,075.51	274.64	313.69	39.05	9.40	274.64	251.14	(23.50)	(5.66)	313.69	251.14	(62.55)	(15.06)
2031	3,192.38	284.39	324.92	40.52	9.03	284.39	257.74	(26.65)	(5.94)	324.92	257.74	(67.18)	(14.98)
2032	3,313.68	120.93	167.23	46.30	9.56	120.93	97.94	(22.99)	(4.75)	167.23	97.94	(69.30)	(14.31)
2033	3,440.20	94.68	144.35	49.67	9.50	94.68	70.57	(24.11)	(4.61)	144.35	70.57	(73.78)	(14.10)
2034	3,571.81	64.89	118.44	53.54	9.48	64.89	40.38	(24.52)	(4.34)	118.44	40.38	(78.06)	(13.82)
2035	3,709.17	55.37	112.61	57.24	9.38	55.37	29.40	(25.97)	(4.26)	112.61	29.40	(83.21)	(13.64)
2036	3,851.93	48.93	109.62	60.69	9.21	48.93	21.08	(27.85)	(4.23)	109.62	21.08	(88.54)	(13.44)
2037	4,001.21	45.58	110.65	65.07	9.14	45.58	16.20	(29.38)	(4.13)	110.65	16.20	(94.45)	(13.27)
2038	4,157.18	44.04	112.86	68.82	8.95	44.04	12.67	(31.38)	(4.08)	112.86	12.67	(100.20)	(13.04)
2039	4,319.48	42.82	115.91	73.10	8.81	42.82	9.81	(33.01)	(3.98)	115.91	9.81	(106.10)	(12.78)
2040	4,488.52	42.38	119.90	77.52	8.65	42.38	7.25	(35.13)	(3.92)	119.90	7.25	(112.65)	(12.56)
2041	4,663.81	41.91	123.99	82.08	8.48	41.91	5.04	(36.87)	(3.81)	123.99	5.04	(118.95)	(12.28)
2042	4,846.82	41.89	128.67	86.78	8.30	41.89	3.21	(38.68)	(3.70)	128.67	3.21	(125.46)	(12.00)
2043	5,037.31	41.88	133.48	91.60	8.11	41.88	1.31	(40.57)	(3.59)	133.48	1.31	(132.17)	(11.70)
2044	5,235.49	42.38	138.90	96.52	7.91	42.38	-	(42.38)	(3.47)	138.90	-	(138.90)	(11.39)
2045	5,442.03	42.93	145.01	102.08	7.75	42.93	-	(42.93)	(3.26)	145.01	-	(145.01)	(11.01)
2046	5,656.91	43.52	151.28	107.76	7.57	43.52	-	(43.52)	(3.06)	151.28	-	(151.28)	(10.63)
2047	5,879.63	44.74	157.70	112.96	7.35	44.74	-	(44.74)	(2.91)	157.70	-	(157.70)	(10.26)
2048	6,110.89	45.44	164.88	119.44	7.20	45.44	-	(45.44)	(2.74)	164.88	-	(164.88)	(9.94)
2049	6,351.53	46.85	171.65	124.80	6.96	46.85	-	(46.85)	(2.61)	171.65	-	(171.65)	(9.58)
2050	6,602.17	48.39	179.27	130.87	6.76	48.39	-	(48.39)	(2.50)	179.27	-	(179.27)	(9.26)
2051	6,862.33	50.05	187.79	137.74	6.59	50.05	-	(50.05)	(2.39)	187.79	-	(187.79)	(8.98)
2052	7,132.79	52.53	195.90	143.37	6.35	52.53	-	(52.53)	(2.33)	195.90	-	(195.90)	(8.68)
2053	7,414.16	54.48	205.03	150.55	6.17	54.48	-	(54.48)	(2.23)	205.03	-	(205.03)	(8.41)
2054	7,707.23	56.57	213.73	157.17	5.97	56.57	-	(56.57)	(2.15)	213.73	-	(213.73)	(8.12)
2055	8,012.19	59.61	223.55	163.94	5.76	59.61	-	(59.61)	(2.10)	223.55	-	(223.55)	(7.86)
2056	8,329.45	62.01	233.76	171.76	5.59	62.01	-	(62.01)	(2.02)	233.76	-	(233.76)	(7.61)
2057	8,659.60	65.41	243.53	178.12	5.37	65.41	-	(65.41)	(1.97)	243.53	-	(243.53)	(7.34)
2058	9,003.17	68.14	254.59	186.45	5.20	68.14	-	(68.14)	(1.90)	254.59	-	(254.59)	(7.11)
2059	9,360.70	71.02	266.11	195.09	5.04	71.02	-	(71.02)	(1.84)	266.11	-	(266.11)	(6.88)
2060	9,732.77	74.05	277.16	203.11	4.86	74.05	-	(74.05)	(1.77)	277.16	-	(277.16)	(6.63)
Total	\$ 5,744.57	\$ 9,437.77	\$ 3,693.20	\$ 364.86	\$ 5,744.57	\$ 4,279.32	\$ (1,465.26)	\$ (140.46)	\$ 9,437.77	\$ 4,279.32	\$ (5,158.46)	\$ (505.32)	
Present Value at 8% as of July 1, 2011	\$ 2,061.12	\$ 2,425.98	\$ 364.86	\$ 364.86	\$ 2,061.12	\$ 1,920.66	\$ (140.46)	\$ (140.46)	\$ 2,425.98	\$ 1,920.66	\$ (505.32)	\$ (505.32)	

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 March 20, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.

Exhibit C1

Kansas Public Employee Retirement System  
 Comparison of State/School Group Employer Contributions for Retirement Benefits  
 HB 2194 versus House March 12th Plan



FYE	Payroll (\$M)		HB 2194					House March 12th Plan (1)					Difference <sup>(2)</sup>	Present Value of Difference
	Tier 1/2	Tier 3	Employer Rate-DB	Normal Cost Rate	Normal Cost <sup>(2)</sup>	UAL Payment <sup>(2)</sup>	Total Cost <sup>(2)</sup>	Employer Rate-DB	DB Normal Cost Rate	DB Normal Cost <sup>(2)</sup>	UAL Payment <sup>(2)</sup>	Total Cost <sup>(2)</sup>		
	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	0.000
2014	4,742.859	0.000	10.27%	3.31%	156.760	330.332	487.092	10.27%	3.31%	156.760	330.332	487.092	0.000	0.000
2015	4,706.273	183.492	11.27%	2.31%	112.949	438.128	551.077	11.27%	2.39%	116.757	434.319	551.077	0.000	0.000
2016	4,507.134	541.224	12.37%	2.22%	111.974	512.508	624.482	12.37%	2.30%	116.250	508.232	624.482	0.000	0.000
2017	4,332.724	884.524	13.57%	2.12%	110.810	597.171	707.981	13.57%	2.22%	115.631	592.350	707.981	0.000	0.000
2018	4,171.368	1,224.718	14.46%	2.04%	110.248	670.194	780.442	14.49%	2.05%	110.886	671.273	782.159	1.717	1.041
2019	4,017.143	1,568.662	14.67%	1.96%	109.544	709.956	819.500	14.64%	1.90%	106.199	711.631	817.831	(1.669)	(0.937)
2020	3,868.916	1,917.913	14.80%	1.88%	108.967	747.658	856.625	14.70%	1.76%	101.849	748.816	850.665	(5.961)	(3.099)
2021	3,729.151	2,270.169	14.85%	1.81%	108.533	782.311	890.844	14.69%	1.63%	97.601	783.511	881.112	(9.732)	(4.685)
2022	3,597.727	2,625.683	14.84%	1.74%	108.232	815.267	923.499	14.60%	1.50%	93.472	815.267	908.739	(14.760)	(6.579)
2023	3,469.577	2,989.037	14.81%	1.67%	107.754	848.662	956.416	14.50%	1.38%	88.866	847.370	936.237	(20.179)	(8.328)
2024	3,343.442	3,361.269	14.76%	1.61%	107.739	881.669	989.409	14.38%	1.27%	84.965	878.988	963.953	(25.456)	(9.727)
2025	3,218.508	3,743.649	14.70%	1.55%	107.601	915.524	1,023.124	14.24%	1.16%	80.435	910.650	991.085	(32.039)	(11.336)
2026	3,095.688	4,135.766	14.62%	1.49%	107.825	949.490	1,057.315	14.10%	1.06%	76.561	942.982	1,019.542	(37.772)	(12.375)
2027	2,976.817	4,536.108	14.54%	1.44%	107.840	984.193	1,092.033	13.95%	0.97%	72.647	975.178	1,047.825	(44.208)	(13.410)
2028	2,861.609	4,945.319	14.45%	1.39%	108.283	1,019.585	1,127.868	13.78%	0.88%	68.801	1,007.094	1,075.895	(51.973)	(14.598)
2029	2,748.479	5,365.437	14.34%	1.34%	108.856	1,054.809	1,163.666	13.61%	0.80%	64.889	1,039.393	1,104.282	(59.384)	(15.444)
2030	2,636.015	5,797.930	14.21%	1.29%	109.127	1,089.666	1,198.793	13.42%	0.73%	61.755	1,070.268	1,132.023	(66.770)	(16.078)
2031	2,523.441	6,243.849	14.08%	1.26%	110.296	1,123.967	1,234.263	13.20%	0.67%	58.460	1,098.541	1,157.001	(77.261)	(17.227)
2032	2,410.718	6,703.938	13.90%	1.22%	110.946	1,155.738	1,266.684	12.93%	0.60%	55.143	1,123.837	1,178.980	(87.704)	(18.106)
2033	2,297.300	7,178.932	13.81%	1.18%	111.686	402.740	514.425	13.78%	0.55%	51.767	388.526	440.292	(74.133)	(14.171)
2034	2,182.241	7,670.035	13.72%	1.15%	112.426	275.864	389.153	13.64%	0.50%	49.100	379.426	428.526	(49.376)	(13.890)
2035	2,065.928	8,177.707	13.64%	1.11%	113.166	134.192	248.311	13.51%	0.46%	46.510	332.916	379.426	(46.510)	(13.145)
2036	1,948.113	8,702.679	13.52%	1.08%	113.906	31.952	147.011	13.39%	0.42%	43.810	280.906	327.716	(43.810)	(12.753)
2037	1,827.085	9,246.479	13.41%	1.05%	114.646	(16.610)	100.196	13.27%	0.38%	41.710	234.196	275.906	(41.710)	(12.589)
2038	1,703.396	9,809.757	13.30%	1.02%	115.391	(50.658)	67.005	13.16%	0.34%	39.660	183.536	225.196	(39.660)	(8.717)
2039	1,578.269	10,392.660	13.20%	1.00%	116.136	(70.628)	49.006	13.05%	0.30%	37.610	132.926	173.536	(37.610)	(5.903)
2040	1,452.370	10,995.722	13.10%	0.97%	116.881	(79.668)	40.915	12.93%	0.26%	35.560	83.266	123.826	(35.560)	(4.564)
2041	1,329.445	11,617.595	13.00%	0.95%	117.626	(85.450)	37.123	12.82%	0.22%	33.510	33.716	67.236	(33.716)	(3.834)
2042	1,213.354	12,256.040	12.90%	0.93%	118.371	(86.204)	38.499	12.71%	0.18%	31.460	(1.460)	30.000	(31.460)	(3.682)
2043	1,102.458	12,912.073	12.80%	0.90%	119.116	(85.489)	41.340	12.60%	0.15%	29.410	(2.910)	26.500	(29.410)	(3.660)
2044	992.920	13,588.470	12.70%	0.89%	119.861	(84.572)	45.832	12.50%	0.13%	27.360	(4.832)	22.532	(27.360)	(3.757)
2045	885.412	14,284.677	12.60%	0.88%	120.602	(81.918)	50.941	12.40%	0.10%	25.310	(6.782)	18.528	(25.310)	(3.867)
2046	783.139	14,997.606	12.50%	0.86%	121.343	(77.326)	58.012	12.30%	0.08%	23.260	(8.732)	14.528	(23.260)	(4.078)
2047	680.796	15,729.466	12.40%	0.85%	122.084	(73.846)	65.638	12.20%	0.06%	21.210	(10.682)	10.538	(21.210)	(4.272)
2048	573.131	16,484.746	12.30%	0.83%	122.825	(69.937)	72.210	12.10%	0.04%	19.160	(12.632)	6.900	(19.160)	(4.351)
2049	465.713	17,261.980	12.20%	0.83%	123.566	(65.592)	80.912	12.00%	0.03%	17.110	(14.582)	2.530	(17.110)	(4.515)
2050	373.175	18,050.490	12.10%	0.82%	124.307	(62.640)	88.501	11.90%	0.01%	15.060	(16.532)	0.000	(15.060)	(4.572)
2051	299.011	18,848.441	12.00%	0.82%	125.048	(57.442)	98.696	11.80%	0.00%	13.010	(18.482)	(5.472)	(13.010)	(4.721)
2052	235.082	19,664.612	11.90%	0.81%	125.789	(53.729)	107.469	11.70%	0.00%	10.960	(20.432)	(9.472)	(10.960)	(4.760)
2053	178.915	20,503.240	11.80%	0.80%	126.530	(49.637)	116.603	11.60%	0.00%	8.910	(22.382)	(13.472)	(8.910)	(4.782)
2054	133.803	21,362.806	11.70%	0.81%	127.271	(47.293)	126.164	11.50%	0.00%	6.860	(24.332)	(17.472)	(6.860)	(4.791)
2055	101.111	22,243.377	11.60%	0.80%	128.012	(42.455)	136.300	11.40%	0.00%	4.810	(26.282)	(21.472)	(4.810)	(4.793)
2056	76.276	23,150.859	11.50%	0.80%	128.753	(39.486)	146.938	11.30%	0.00%	2.760	(28.232)	(25.472)	(2.760)	(4.784)
2057	56.488	24,089.437	11.40%	0.80%	129.494	(36.219)	158.059	11.20%	0.00%	0.710	(30.182)	(29.472)	(0.710)	(4.765)
2058	41.446	25,060.935	11.30%	0.81%	130.235	(32.633)	169.680	11.10%	0.00%	0.000	(32.132)	(32.132)	(0.000)	(4.736)
2059	30.655	26,067.418	11.20%	0.81%	130.976	(31.318)	179.311	11.00%	0.00%	0.000	(34.082)	(34.082)	(0.000)	(4.634)
2060	22.730	27,111.890	11.10%	0.81%	131.717	(27.135)	192.092	10.90%	0.00%	0.000	(36.032)	(36.032)	(0.000)	(4.597)
					6,553.694	15,587.248	22,140.942			2,494.086	16,539.999	19,034.085	(3,106.857)	(324.570)

<sup>(1)</sup> Effective 1/1/14

<sup>(2)</sup> 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 March 20, 2012.

All assumptions, including the 8.0% investment return, are assumed to be met each year in the future.

Exhibit C2

Kansas Public Employee Retirement System  
Comparison of Local Group Employer Contributions for Retirement Benefits  
HB 2194 versus House March 12th Plan



FYE	Payroll (\$M)		HB 2194					House March 12th Plan (1)					Difference <sup>(2)</sup>	Present Value of Difference
	Tier 1/2	Tier 3	Employer Rate-DB	Normal Cost Rate	Normal Cost <sup>(2)</sup>	UAL Payment <sup>(2)</sup>	Total Cost <sup>(2)</sup>	Employer Rate-DB	DB Normal Cost Rate	DB Normal Cost <sup>(2)</sup>	UAL Payment <sup>(2)</sup>	Total Cost <sup>(2)</sup>		
	2012	1,678.751	0.000	7.34%	2.94%	49.355	73.865	123.220	7.34%	2.94%	49.355	73.865		
2013	1,726.922	0.000	7.94%	2.94%	50.772	86.346	137.118	7.94%	2.94%	50.772	86.346	137.118	0.000	0.000
2014	1,777.741	0.000	8.65%	1.96%	34.906	118.931	153.837	8.73%	2.03%	36.001	119.109	155.110	1.274	1.051
2015	1,682.855	151.199	9.12%	1.86%	34.106	133.152	167.259	9.21%	1.94%	35.520	133.336	168.856	1.597	1.220
2016	1,601.267	292.153	9.00%	1.76%	33.371	137.084	170.455	9.11%	1.85%	35.101	137.462	172.563	2.108	1.491
2017	1,531.885	423.760	9.00%	1.69%	33.049	142.958	176.006	9.03%	1.70%	33.218	143.349	176.567	0.561	0.367
2018	1,468.854	551.608	9.00%	1.62%	32.730	149.110	181.840	8.96%	1.56%	31.461	149.514	180.975	(0.865)	(0.524)
2019	1,411.513	676.427	8.99%	1.55%	32.396	155.343	187.739	8.87%	1.43%	29.804	155.343	185.147	(2.592)	(1.455)
2020	1,357.016	801.074	8.98%	1.49%	32.073	161.641	193.714	8.79%	1.31%	28.205	161.425	189.630	(4.084)	(2.123)
2021	1,306.765	925.141	8.98%	1.42%	31.768	168.732	200.500	8.72%	1.19%	26.662	168.063	194.724	(5.776)	(2.780)
2022	1,259.029	1,050.142	8.98%	1.36%	31.472	175.959	207.431	8.67%	1.09%	25.131	175.035	200.166	(7.265)	(3.238)
2023	1,211.644	1,178.114	8.98%	1.31%	31.237	183.294	214.531	8.61%	0.99%	23.674	182.100	205.774	(8.758)	(3.614)
2024	1,166.580	1,308.070	8.97%	1.25%	31.040	191.043	222.083	8.55%	0.90%	22.244	189.311	211.555	(10.528)	(4.023)
2025	1,122.814	1,440.897	8.98%	1.21%	30.916	199.200	230.117	8.49%	0.81%	20.866	196.893	217.759	(12.358)	(4.372)
2026	1,079.538	1,577.175	8.97%	1.16%	30.845	207.489	238.335	8.44%	0.74%	19.544	204.567	224.111	(14.224)	(4.660)
2027	1,036.739	1,717.192	8.97%	1.12%	30.815	216.184	246.999	8.37%	0.66%	18.249	212.328	230.577	(16.422)	(4.981)
2028	996.305	1,860.024	8.96%	1.08%	30.834	225.079	255.913	8.31%	0.59%	16.985	220.509	237.493	(18.420)	(5.174)
2029	956.653	2,006.671	8.94%	1.04%	30.915	234.103	265.017	8.24%	0.53%	15.774	228.472	244.247	(20.771)	(5.402)
2030	918.258	2,157.256	8.93%	1.01%	31.056	243.581	274.637	8.17%	0.48%	14.632	236.507	251.139	(23.498)	(5.658)
2031	880.111	2,312.267	8.91%	0.98%	31.239	253.156	284.395	8.07%	0.42%	13.523	244.217	257.740	(26.655)	(5.943)
2032	841.490	2,472.188	3.65%	0.95%	31.460	89.469	120.929	2.96%	0.38%	12.445	85.493	97.938	(22.992)	(4.747)
2033	802.890	2,637.309	2.75%	0.92%	31.727	62.956	94.682	2.05%	0.33%	11.399	59.171	70.571	(24.112)	(4.609)
2034	763.519	2,808.290	1.82%	0.90%	32.032	32.861	64.893	1.13%	0.29%	10.374	30.003	40.377	(24.516)	(4.339)
2035	724.959	2,984.212	1.49%	0.87%	32.373	22.997	55.370	0.79%	0.25%	9.367	20.030	29.397	(25.973)	(4.257)
2036	685.180	3,166.753	1.27%	0.85%	32.755	16.178	48.933	0.55%	0.22%	8.273	12.711	21.084	(27.849)	(4.263)
2037	645.945	3,355.264	1.14%	0.83%	33.176	12.404	45.580	0.40%	0.18%	7.398	8.803	16.200	(29.380)	(4.128)
2038	606.916	3,550.260	1.06%	0.81%	33.650	10.393	44.043	0.30%	0.15%	6.431	6.236	12.666	(31.376)	(4.082)
2039	567.903	3,751.578	0.99%	0.79%	34.179	8.639	42.818	0.23%	0.13%	5.492	4.319	9.811	(33.007)	(3.976)
2040	528.254	3,960.270	0.94%	0.77%	34.753	7.630	42.384	0.16%	0.10%	4.558	2.693	7.251	(35.133)	(3.919)
2041	486.776	4,177.037	0.90%	0.76%	35.379	6.529	41.909	0.11%	0.08%	3.637	1.399	5.036	(36.872)	(3.808)
2042	445.926	4,400.890	0.86%	0.74%	36.073	5.816	41.889	0.07%	0.06%	2.722	0.485	3.207	(38.682)	(3.699)
2043	405.937	4,631.369	0.83%	0.73%	36.841	5.037	41.879	0.04%	0.03%	1.811	(0.504)	1.307	(40.572)	(3.592)
2044	365.661	4,869.826	0.81%	0.72%	37.672	4.712	42.384	0.00%	0.02%	0.905	(0.905)	0.000	(42.384)	(3.475)
2045	326.896	5,115.138	0.79%	0.71%	38.575	4.354	42.929	0.00%	0.00%	0.008	(0.008)	0.000	(42.929)	(3.259)
2046	290.352	5,366.555	0.77%	0.70%	39.565	3.960	43.524	0.00%	0.00%	0.000	0.000	0.000	(43.524)	(3.059)
2047	254.343	5,625.289	0.76%	0.69%	40.626	4.116	44.742	0.00%	0.00%	0.000	0.000	0.000	(44.742)	(2.912)
2048	218.593	5,892.300	0.74%	0.68%	41.776	3.667	45.443	0.00%	0.00%	0.000	0.000	0.000	(45.443)	(2.738)
2049	184.549	6,166.985	0.74%	0.68%	43.043	3.811	46.854	0.00%	0.00%	0.000	0.000	0.000	(46.854)	(2.614)
2050	155.998	6,446.177	0.73%	0.67%	44.431	3.961	48.393	0.00%	0.00%	0.000	0.000	0.000	(48.393)	(2.500)
2051	129.299	6,733.033	0.73%	0.67%	45.934	4.117	50.051	0.00%	0.00%	0.000	0.000	0.000	(50.051)	(2.394)
2052	104.361	7,028.427	0.74%	0.67%	47.536	4.993	52.529	0.00%	0.00%	0.000	0.000	0.000	(52.529)	(2.327)
2053	81.172	7,332.993	0.73%	0.66%	49.285	5.190	54.475	0.00%	0.00%	0.000	0.000	0.000	(54.475)	(2.234)
2054	63.826	7,643.400	0.73%	0.66%	51.171	5.395	56.566	0.00%	0.00%	0.000	0.000	0.000	(56.566)	(2.148)
2055	50.205	7,961.988	0.74%	0.66%	53.201	6.410	59.610	0.00%	0.00%	0.000	0.000	0.000	(59.610)	(2.096)
2056	38.812	8,290.643	0.74%	0.66%	55.344	6.664	62.007	0.00%	0.00%	0.000	0.000	0.000	(62.007)	(2.019)
2057	29.195	8,630.402	0.76%	0.67%	57.619	7.794	65.413	0.00%	0.00%	0.000	0.000	0.000	(65.413)	(1.972)
2058	22.087	8,981.087	0.76%	0.67%	60.035	8.103	68.138	0.00%	0.00%	0.000	0.000	0.000	(68.138)	(1.902)
2059	16.902	9,343.797	0.76%	0.67%	62.592	8.425	71.016	0.00%	0.00%	0.000	0.000	0.000	(71.016)	(1.835)
2060	12.843	9,719.925	0.76%	0.67%	<u>65.286</u>	<u>8.759</u>	<u>74.046</u>	0.00%	0.00%	<u>0.000</u>	<u>0.000</u>	<u>0.000</u>	<u>(74.046)</u>	<u>(1.772)</u>
					1,912.986	3,831.587	5,744.574			631.641	3,647.676	4,279.318	(1,465.256)	(140.458)

<sup>(1)</sup> Effective 1/1/14

<sup>(2)</sup> In millions.

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All assumptions, including the 8.0% investment return, are assumed to be met each year in the future.