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February 16, 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 Proposed Cash Balance Plan

Dear Alan:

As you requested, the exhibits attached to this letter provide a comparison of the estimated cost projections completed for HB 2194, HB 2545, and the proposed cash balance plan design. The cost estimates for HB 2194 and HB 2545 shown in these 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. In addition, all non-vested members (both active and inactive) of KPERS on January 1, 2014 are assumed to become Tier 3 members and have their employee account balance transferred to the cash balance plan (Tier 3 plan).

Cash Balance Plan Design

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

- The pay credit to the cash balance account is 10% of pay.
- The guaranteed interest credit is 6%.
- Employee contribution rate is 6% of pay.
- 100% vesting after five (5) years of service.
- Normal retirement date is earlier of age 60 with 30 years of service or age 65 with 5 years of service

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Sn KPERS Select
Attachment 5
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- Upon termination of employment, a vested member may elect to withdraw their employee account balance, but will forfeit any monthly benefit payable from the plan. If they leave their employee contributions in the System, they may retire upon reaching early or normal retirement age.
- When the member retires at early or normal retirement age, the member can elect to receive up to 30% of his 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. The annuity amount is determined by the annuity conversion factors which are based on a 6% 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 the 10% pay credit. All pay credits to the 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 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 proposed cash balance plan design.

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 and the cash balance plan also reflect the default benefit provision changes for KPERS Tier 1 and 2 members included in Senate Substitute for HB 2194.



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 cost projections for the proposed cash balance plan assume that all vested members will elect to leave their employee account balance in the cash balance plan when they terminate employment and receive a monthly benefit upon reaching early or normal retirement age. In addition, the assumption for the portion of the retirement benefit paid as a lump sum was set to 30%.

Under all three plan designs, the future 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 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 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 by year (Exhibits A1 and A2) and the estimated dollar amount of contributions in each future year (Exhibits B1 and B2), assuming all actuarial assumptions 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, the present value of the difference in the employer contributions has been included in the far right hand column on Exhibits B1 and B2 by year and in the aggregate.

The cost projections attached to this letter reflect one set of actuarial assumptions, which include an 8% assumed rate of return. The cost results for all three 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 plans. 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 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. 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.

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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
 KPERs Contribution Rate Projections under HB 2194, HB 2545, and Cash Balance Plan
 State/School Group



Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545		HB 2194 vs Cash Balance (6%)		HB 2545 vs Cash Balance (6%)	
		Employer Contribution Rate	HB 2545	Employer Contribution Rate	Cash Balance	Employer Contribution Rate	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%	13.94%	14.65%	13.94%
2019	5,585.80	14.67%	14.74%	14.67%	14.07%	14.74%	14.07%
2020	5,786.83	14.80%	14.79%	14.80%	14.11%	14.79%	14.11%
2021	5,999.32	14.85%	14.84%	14.85%	14.08%	14.84%	14.08%
2022	6,223.41	14.84%	14.89%	14.84%	14.02%	14.89%	14.02%
2023	6,458.61	14.81%	14.92%	14.81%	13.94%	14.92%	13.94%
2024	6,704.71	14.76%	14.93%	14.76%	13.83%	14.93%	13.83%
2025	6,962.16	14.70%	14.93%	14.70%	13.72%	14.93%	13.72%
2026	7,231.45	14.62%	14.93%	14.62%	13.59%	14.93%	13.59%
2027	7,512.93	14.54%	14.91%	14.54%	13.47%	14.91%	13.47%
2028	7,806.93	14.45%	14.88%	14.45%	13.32%	14.88%	13.32%
2029	8,113.92	14.34%	14.83%	14.34%	13.17%	14.83%	13.17%
2030	8,433.95	14.21%	14.77%	14.21%	13.00%	14.77%	13.00%
2031	8,767.29	14.08%	14.67%	14.08%	12.81%	14.67%	12.81%
2032	9,114.66	13.90%	14.53%	13.90%	12.57%	14.53%	12.57%
2033	9,476.23	5.43%	6.70%	5.43%	4.46%	6.70%	4.46%
2034	9,852.28	3.95%	5.38%	3.95%	3.02%	5.38%	3.02%
2035	10,243.64	2.42%	4.00%	2.42%	1.59%	4.00%	1.59%
2036	10,650.79	1.38%	3.07%	1.38%	0.7%	3.07%	0.7%
2037	11,073.56	0.90%	2.68%	0.90%	0.00%	2.68%	0.00%
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 Caravanagh/Macdonald dated February 16, 2012.

2/16/2012



Exhibit A2
 KPERs Contribution Rate Projections under HB 2194, HB 2545, and Cash Balance Plan
 Local Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545		HB 2194 vs Cash Balance (6%)		HB 2545 vs Cash Balance (6%)	
		Employer Contribution Rate	HB 2545	Employer Contribution Rate	Cash Balance	Employer Contribution Rate	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	1,771.74	8.65%	8.65%	8.65%	8.30%	8.91%	8.30%
2015	1,834.05	9.12%	9.12%	9.12%	8.70%	9.47%	8.70%
2016	1,893.42	9.00%	9.45%	9.00%	8.52%	9.45%	8.52%
2017	1,955.65	9.00%	9.53%	9.00%	8.48%	9.60%	8.48%
2018	2,020.46	9.00%	9.60%	9.00%	8.44%	9.60%	8.44%
2019	2,087.94	8.99%	9.67%	8.99%	8.40%	9.72%	8.35%
2020	2,158.09	8.98%	9.72%	8.98%	8.35%	9.72%	8.31%
2021	2,231.91	8.98%	9.80%	8.98%	8.31%	9.80%	8.27%
2022	2,309.17	8.98%	9.87%	8.98%	8.27%	9.87%	8.23%
2023	2,389.76	8.98%	9.93%	8.97%	8.23%	9.93%	8.18%
2024	2,474.65	8.97%	9.99%	8.97%	8.18%	9.99%	8.18%
2025	2,565.71	8.98%	10.04%	8.98%	8.14%	10.04%	8.10%
2026	2,656.71	8.97%	10.09%	8.97%	8.10%	10.09%	8.05%
2027	2,753.93	8.97%	10.14%	8.97%	8.05%	10.14%	8.01%
2028	2,856.33	8.96%	10.16%	8.96%	8.01%	10.16%	7.96%
2029	2,963.32	8.94%	10.19%	8.94%	7.96%	10.19%	7.92%
2030	3,075.51	8.93%	10.20%	8.91%	7.89%	10.18%	7.89%
2031	3,192.38	8.91%	10.18%	8.91%	7.82%	10.18%	7.82%
2032	3,313.68	8.89%	10.15%	8.89%	7.78%	10.15%	7.78%
2033	3,440.20	8.87%	10.12%	8.87%	7.72%	10.12%	7.72%
2034	3,571.81	8.85%	10.09%	8.85%	7.65%	10.09%	7.65%
2035	3,709.17	8.82%	10.06%	8.82%	7.58%	10.06%	7.58%
2036	3,851.93	8.79%	10.03%	8.79%	7.51%	10.03%	7.51%
2037	4,001.21	8.76%	10.00%	8.76%	7.44%	10.00%	7.44%
2038	4,157.18	8.73%	9.97%	8.73%	7.37%	9.97%	7.37%
2039	4,319.48	8.70%	9.94%	8.70%	7.30%	9.94%	7.30%
2040	4,488.52	8.67%	9.91%	8.67%	7.23%	9.91%	7.23%
2041	4,663.81	8.64%	9.88%	8.64%	7.16%	9.88%	7.16%
2042	4,846.82	8.61%	9.85%	8.61%	7.09%	9.85%	7.09%
2043	5,037.31	8.58%	9.82%	8.58%	7.02%	9.82%	7.02%
2044	5,235.49	8.55%	9.79%	8.55%	6.95%	9.79%	6.95%
2045	5,442.03	8.52%	9.76%	8.52%	6.88%	9.76%	6.88%
2046	5,656.91	8.49%	9.73%	8.49%	6.81%	9.73%	6.81%
2047	5,879.63	8.46%	9.70%	8.46%	6.74%	9.70%	6.74%
2048	6,110.89	8.43%	9.67%	8.43%	6.67%	9.67%	6.67%
2049	6,351.53	8.40%	9.64%	8.40%	6.60%	9.64%	6.60%
2050	6,602.17	8.37%	9.61%	8.37%	6.53%	9.61%	6.53%
2051	6,862.33	8.34%	9.58%	8.34%	6.46%	9.58%	6.46%
2052	7,132.79	8.31%	9.55%	8.31%	6.39%	9.55%	6.39%
2053	7,414.16	8.28%	9.52%	8.28%	6.32%	9.52%	6.32%
2054	7,707.23	8.25%	9.49%	8.25%	6.25%	9.49%	6.25%
2055	8,012.19	8.22%	9.46%	8.22%	6.18%	9.46%	6.18%
2056	8,329.45	8.19%	9.43%	8.19%	6.11%	9.43%	6.11%
2057	8,659.60	8.16%	9.40%	8.16%	6.04%	9.40%	6.04%
2058	9,003.17	8.13%	9.37%	8.13%	5.97%	9.37%	5.97%
2059	9,360.70	8.10%	9.34%	8.10%	5.90%	9.34%	5.90%
2060	9,732.77	8.07%	9.31%	8.07%	5.83%	9.31%	5.83%

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 16, 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 Cash Balance Plan
 State/School Group



Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545			HB 2194 vs Cash Balance (6%)			HB 2545 vs Cash Balance (6%)					
		Employer Contribution Amount (\$M)	Difference	% of Difference	Employer Contribution Amount (\$M)	Difference	% of Difference	Employer Contribution Amount (\$M)	Difference	% of Difference			
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	487.09	-	487.09	487.09	-	487.09	487.09	-			
2015	4,889.77	551.08	551.08	-	551.08	551.08	-	551.08	551.08	-			
2016	5,048.36	624.48	624.48	-	624.48	624.48	-	624.48	624.48	-			
2017	5,217.25	707.98	707.98	-	707.98	707.98	-	707.98	707.98	-			
2018	5,396.09	780.44	780.44	-	780.44	780.44	-	780.44	780.44	-			
2019	5,585.80	856.63	856.63	-	856.63	856.63	-	856.63	856.63	-			
2020	5,786.83	926.50	926.50	-	926.50	926.50	-	926.50	926.50	-			
2021	5,999.32	996.37	996.37	-	996.37	996.37	-	996.37	996.37	-			
2022	6,223.41	1,061.19	1,061.19	-	1,061.19	1,061.19	-	1,061.19	1,061.19	-			
2023	6,458.61	1,127.87	1,127.87	-	1,127.87	1,127.87	-	1,127.87	1,127.87	-			
2024	6,704.71	1,198.79	1,198.79	-	1,198.79	1,198.79	-	1,198.79	1,198.79	-			
2025	6,962.16	1,273.45	1,273.45	-	1,273.45	1,273.45	-	1,273.45	1,273.45	-			
2026	7,231.45	1,352.03	1,352.03	-	1,352.03	1,352.03	-	1,352.03	1,352.03	-			
2027	7,512.93	1,435.30	1,435.30	-	1,435.30	1,435.30	-	1,435.30	1,435.30	-			
2028	7,806.93	1,523.87	1,523.87	-	1,523.87	1,523.87	-	1,523.87	1,523.87	-			
2029	8,113.92	1,618.15	1,618.15	-	1,618.15	1,618.15	-	1,618.15	1,618.15	-			
2030	8,433.95	1,718.79	1,718.79	-	1,718.79	1,718.79	-	1,718.79	1,718.79	-			
2031	8,767.29	1,826.32	1,826.32	-	1,826.32	1,826.32	-	1,826.32	1,826.32	-			
2032	9,114.66	1,941.66	1,941.66	-	1,941.66	1,941.66	-	1,941.66	1,941.66	-			
2033	9,476.23	2,065.52	2,065.52	-	2,065.52	2,065.52	-	2,065.52	2,065.52	-			
2034	9,852.28	2,200.00	2,200.00	-	2,200.00	2,200.00	-	2,200.00	2,200.00	-			
2035	10,243.64	2,346.31	2,346.31	-	2,346.31	2,346.31	-	2,346.31	2,346.31	-			
2036	10,650.79	2,505.15	2,505.15	-	2,505.15	2,505.15	-	2,505.15	2,505.15	-			
2037	11,073.56	2,677.20	2,677.20	-	2,677.20	2,677.20	-	2,677.20	2,677.20	-			
2038	11,513.15	2,863.15	2,863.15	-	2,863.15	2,863.15	-	2,863.15	2,863.15	-			
2039	11,970.93	3,063.90	3,063.90	-	3,063.90	3,063.90	-	3,063.90	3,063.90	-			
2040	12,448.09	3,280.00	3,280.00	-	3,280.00	3,280.00	-	3,280.00	3,280.00	-			
2041	12,947.04	3,513.12	3,513.12	-	3,513.12	3,513.12	-	3,513.12	3,513.12	-			
2042	13,469.39	3,763.99	3,763.99	-	3,763.99	3,763.99	-	3,763.99	3,763.99	-			
2043	14,014.33	4,033.29	4,033.29	-	4,033.29	4,033.29	-	4,033.29	4,033.29	-			
2044	14,581.39	4,322.66	4,322.66	-	4,322.66	4,322.66	-	4,322.66	4,322.66	-			
2045	15,170.09	4,633.71	4,633.71	-	4,633.71	4,633.71	-	4,633.71	4,633.71	-			
2046	15,780.74	4,967.00	4,967.00	-	4,967.00	4,967.00	-	4,967.00	4,967.00	-			
2047	16,410.26	5,324.15	5,324.15	-	5,324.15	5,324.15	-	5,324.15	5,324.15	-			
2048	17,057.88	5,705.66	5,705.66	-	5,705.66	5,705.66	-	5,705.66	5,705.66	-			
2049	17,727.69	6,113.85	6,113.85	-	6,113.85	6,113.85	-	6,113.85	6,113.85	-			
2050	18,423.67	6,550.27	6,550.27	-	6,550.27	6,550.27	-	6,550.27	6,550.27	-			
2051	19,147.45	7,017.64	7,017.64	-	7,017.64	7,017.64	-	7,017.64	7,017.64	-			
2052	19,899.69	7,517.57	7,517.57	-	7,517.57	7,517.57	-	7,517.57	7,517.57	-			
2053	20,682.16	8,052.76	8,052.76	-	8,052.76	8,052.76	-	8,052.76	8,052.76	-			
2054	21,496.61	8,625.33	8,625.33	-	8,625.33	8,625.33	-	8,625.33	8,625.33	-			
2055	22,344.49	9,238.88	9,238.88	-	9,238.88	9,238.88	-	9,238.88	9,238.88	-			
2056	23,227.14	9,896.94	9,896.94	-	9,896.94	9,896.94	-	9,896.94	9,896.94	-			
2057	24,145.92	10,605.06	10,605.06	-	10,605.06	10,605.06	-	10,605.06	10,605.06	-			
2058	25,102.38	11,369.59	11,369.59	-	11,369.59	11,369.59	-	11,369.59	11,369.59	-			
2059	26,098.07	12,195.31	12,195.31	-	12,195.31	12,195.31	-	12,195.31	12,195.31	-			
2060	27,134.62	13,089.95	13,089.95	-	13,089.95	13,089.95	-	13,089.95	13,089.95	-			
Total		22,140.94	33,039.06	10,898.12	1,065.89	22,140.94	18,461.02	(3,679.92)	(527.59)	33,039.06	18,461.02	(14,578.04)	(1,593.49)
Present Value at 8% as of July 1, 2011		8,317.52	9,383.42	1,065.89	8,317.52	7,789.93	(527.59)	(527.59)	9,383.42	7,789.93	(1,593.49)	(1,593.49)	

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 16, 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 Cash Balance Plan
Local Group**

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545			HB 2194 vs Cash Balance (6%)			HB 2545 vs Cash Balance (6%)		
		Employer Contribution Amount (\$M)	Difference	Present Value of Difference	Employer Contribution Amount (\$M)	Difference	Present Value of Difference	Employer Contribution Amount (\$M)	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	158.39	158.39	4.55	153.84	147.60	(6.24)	158.39	147.60	(10.79)
2015	1,834.05	167.26	173.71	6.45	167.26	159.56	(7.70)	173.71	159.56	(14.14)
2016	1,893.42	170.45	178.89	8.44	170.45	161.29	(9.16)	178.89	161.29	(17.60)
2017	1,955.65	176.01	186.32	10.32	176.01	165.83	(10.17)	186.32	165.83	(20.49)
2018	2,020.46	181.84	193.92	12.08	181.84	170.60	(11.24)	193.92	170.60	(23.32)
2019	2,087.94	187.74	201.89	14.15	187.74	175.35	(12.39)	201.89	175.35	(26.55)
2020	2,158.09	193.71	209.84	16.12	193.71	180.11	(13.61)	209.84	180.11	(29.73)
2021	2,231.91	199.71	218.70	18.20	200.50	185.37	(15.13)	218.70	185.37	(33.34)
2022	2,309.17	207.43	227.86	20.43	207.43	190.92	(16.51)	227.86	190.92	(36.94)
2023	2,389.76	214.53	237.32	22.79	214.53	196.63	(17.91)	237.32	196.63	(40.69)
2024	2,474.65	222.08	247.11	25.02	222.08	202.48	(19.60)	247.11	202.48	(44.63)
2025	2,563.71	230.12	257.51	27.39	230.12	208.75	(21.37)	257.51	208.75	(48.76)
2026	2,656.71	238.33	268.22	29.89	238.33	215.16	(23.18)	268.22	215.16	(53.07)
2027	2,753.93	247.00	279.24	32.24	247.00	221.68	(25.31)	279.24	221.68	(57.55)
2028	2,856.33	255.91	290.34	34.43	255.91	228.66	(27.26)	290.34	228.66	(61.68)
2029	2,963.32	265.02	302.01	37.00	265.02	235.75	(29.27)	302.01	235.75	(66.26)
2030	3,075.51	274.64	313.69	39.05	274.64	242.67	(31.96)	313.69	242.67	(71.01)
2031	3,192.38	284.39	324.92	40.52	284.39	249.62	(34.77)	324.92	249.62	(75.29)
2032	3,313.68	294.68	335.54	42.86	294.68	256.63	(37.05)	335.54	256.63	(79.91)
2033	3,440.20	304.68	346.67	45.99	304.68	263.75	(39.93)	346.67	263.75	(84.92)
2034	3,571.81	315.44	358.24	49.80	315.44	271.00	(43.44)	358.24	271.00	(90.24)
2035	3,709.17	326.89	370.72	54.83	326.89	278.39	(47.50)	370.72	278.39	(95.33)
2036	3,851.93	339.07	384.18	60.11	339.07	285.99	(53.18)	384.18	285.99	(101.19)
2037	4,001.21	352.00	398.67	66.33	352.00	293.89	(58.11)	398.67	293.89	(107.78)
2038	4,157.18	365.71	414.18	73.57	365.71	302.01	(63.70)	414.18	302.01	(115.17)
2039	4,319.48	380.24	430.72	81.48	380.24	310.44	(69.80)	430.72	310.44	(123.28)
2040	4,488.52	395.57	448.28	90.71	395.57	319.19	(76.58)	448.28	319.19	(132.09)
2041	4,663.81	411.76	466.87	100.11	411.76	328.33	(83.43)	466.87	328.33	(141.54)
2042	4,846.82	428.82	486.38	110.56	428.82	337.82	(90.56)	486.38	337.82	(151.56)
2043	5,037.31	446.85	507.42	122.57	446.85	347.66	(99.19)	507.42	347.66	(162.76)
2044	5,235.49	465.87	529.09	136.22	465.87	357.87	(107.40)	529.09	357.87	(175.22)
2045	5,442.03	485.91	551.80	151.89	485.91	368.46	(117.45)	551.80	368.46	(189.34)
2046	5,656.91	506.99	575.12	169.13	506.99	379.94	(129.05)	575.12	379.94	(205.18)
2047	5,879.63	529.12	600.00	188.88	529.12	392.33	(142.67)	600.00	392.33	(222.67)
2048	6,110.89	552.33	625.87	210.54	552.33	406.11	(157.22)	625.87	406.11	(241.76)
2049	6,351.53	576.74	653.49	235.75	576.74	420.87	(173.92)	653.49	420.87	(262.62)
2050	6,602.17	602.36	683.84	264.61	602.36	436.66	(192.30)	683.84	436.66	(285.18)
2051	6,862.33	629.41	716.00	297.19	629.41	453.59	(212.81)	716.00	453.59	(309.41)
2052	7,132.79	658.00	751.29	334.19	658.00	471.77	(235.23)	751.29	471.77	(335.52)
2053	7,414.16	688.14	789.00	374.68	688.14	491.30	(260.52)	789.00	491.30	(363.70)
2054	7,707.23	719.84	831.49	419.17	719.84	512.19	(288.65)	831.49	512.19	(394.30)
2055	8,012.19	753.15	879.84	467.64	753.15	534.54	(319.60)	879.84	534.54	(428.30)
2056	8,329.45	788.16	934.19	520.04	788.16	558.46	(353.72)	934.19	558.46	(464.73)
2057	8,659.60	824.89	995.84	577.49	824.89	583.95	(391.94)	995.84	583.95	(503.89)
2058	9,003.17	863.36	1,065.00	640.64	863.36	611.19	(433.75)	1,065.00	611.19	(544.81)
2059	9,360.70	903.61	1,143.84	709.93	903.61	640.30	(479.33)	1,143.84	640.30	(589.03)
2060	9,732.77	945.76	1,231.66	786.43	945.76	671.44	(528.62)	1,231.66	671.44	(638.18)
Total	5,744.57	2,061.12	2,425.98	364.86	2,061.12	1,836.48	(224.64)	2,425.98	1,836.48	(589.50)

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