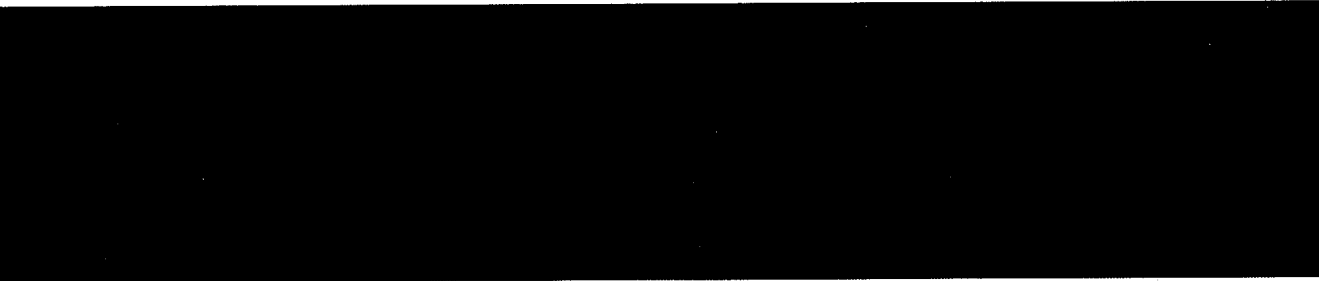


6



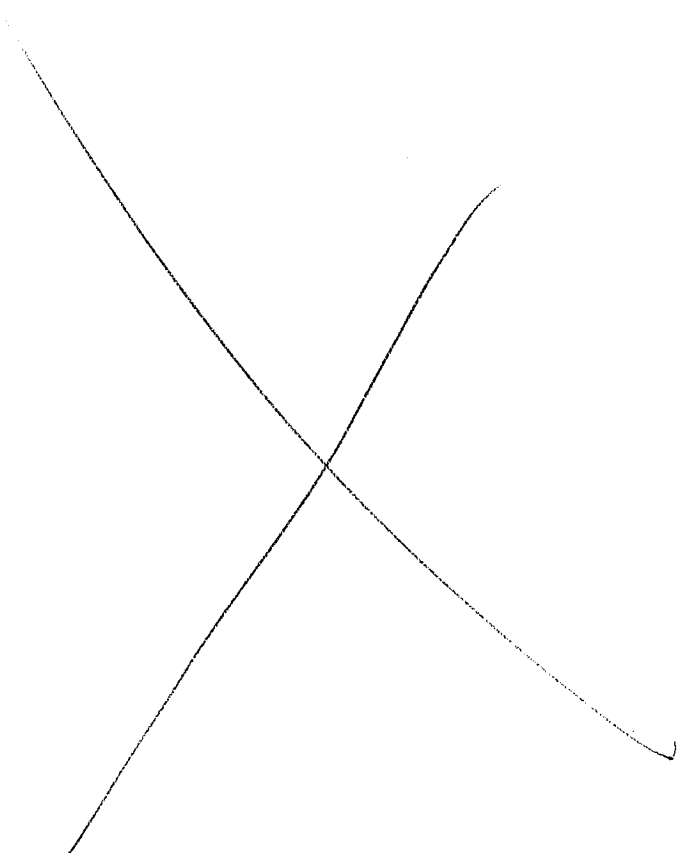
Kansas Public Employees Retirement System

SB 429 Cost Study

Senate Committee on KPERS Select

▪

March 6, 2012



Overview

- Presentation will summarize SB 429 and provide SB 429 cost study information.
- Will compare with –
 - 2011 Senate Substitute for HB 2194 (Sub HB 2194).
 - SB 338 and HB 2545 (Study Commission bills).
- Subject to its “trigger mechanism” –
 - Sub HB 2194 provisions relating to increases in employer contributions will take effect on July 1, 2013.
 - Changes to employee contribution benefits take effect on January 1, 2014.
- The KPERS Study Commission established by Sub HB 2194 provided its recommendations to the Legislature on January 6, 2012, as required by law.
 - SB 338 and HB 2545 contain the recommendations of the Study Commission.
 - The Senate Committee on KPERS Select completed one portion of the “trigger” through its vote on SB 338.
 - The House Committee of the Whole would need to act on HB 2545 (whether as introduced or amended) to complete the final portion of the “trigger.”

SB 429

- SB 429 is based on the Study Commission bills.
- It does not contain three elements found in those bills.
 - No provision to remove the statutory cap on employer contribution increases.

Increases in Statutory Cap on Employer Contributions

	Current	HB 2194	SB 338/ HB 2545	SB 429*
FY 2014	0.6%	0.9%	No cap – actuarial rate	0.9%
FY 2015	0.6%	1.0%	No cap – actuarial rate	1.0%
FY 2016	0.6%	1.1%	No cap – actuarial rate	1.1%
FY 2017	0.6%	1.2%	No cap – actuarial rate	1.2%

*Assuming Sub HB 2194 is implemented.

- Members of the new Tier 3 would include future members on and after January 1, 2014, but nonvested members would not be transferred to the new Tier.
- Does not contain any special provisions relating to legislators.

SB 338/HB 2545 and SB 429 Plan Design*

DC Plan	Cash Balance Plan
(Employee Directed Account)	(Employer Annuity Account)

Contributions	6% employee	Actuarial determined
---------------	-------------	----------------------

Benefit	Undetermined	Benefit provided by Employer annuity account
---------	--------------	--

Retirement age	Not defined	Age 65
----------------	-------------	--------

Vesting	Immediate	5 years
---------	-----------	---------

Termination of employment	Account balance can be rolled over	Employer annuity account remains in KPERS
---------------------------	------------------------------------	---

*As valued in 1/23/2012 and 2/28/2012 cost studies.

SB 338/HB 2545 and SB 429 Plan Design*

DC Plan	Cash Balance Plan
(Employee Directed Account)	(Employer Annuity Acct)

Early retirement	Account balance can be rolled over	None
-------------------------	------------------------------------	------

Disability	Only acct balance – no special benefit	Continued credit to employer annuity Account
-------------------	--	--

Pre-retirement Death	Account balance	None if single. Spouse gets acct balance if 10 years of service.
-----------------------------	-----------------	--

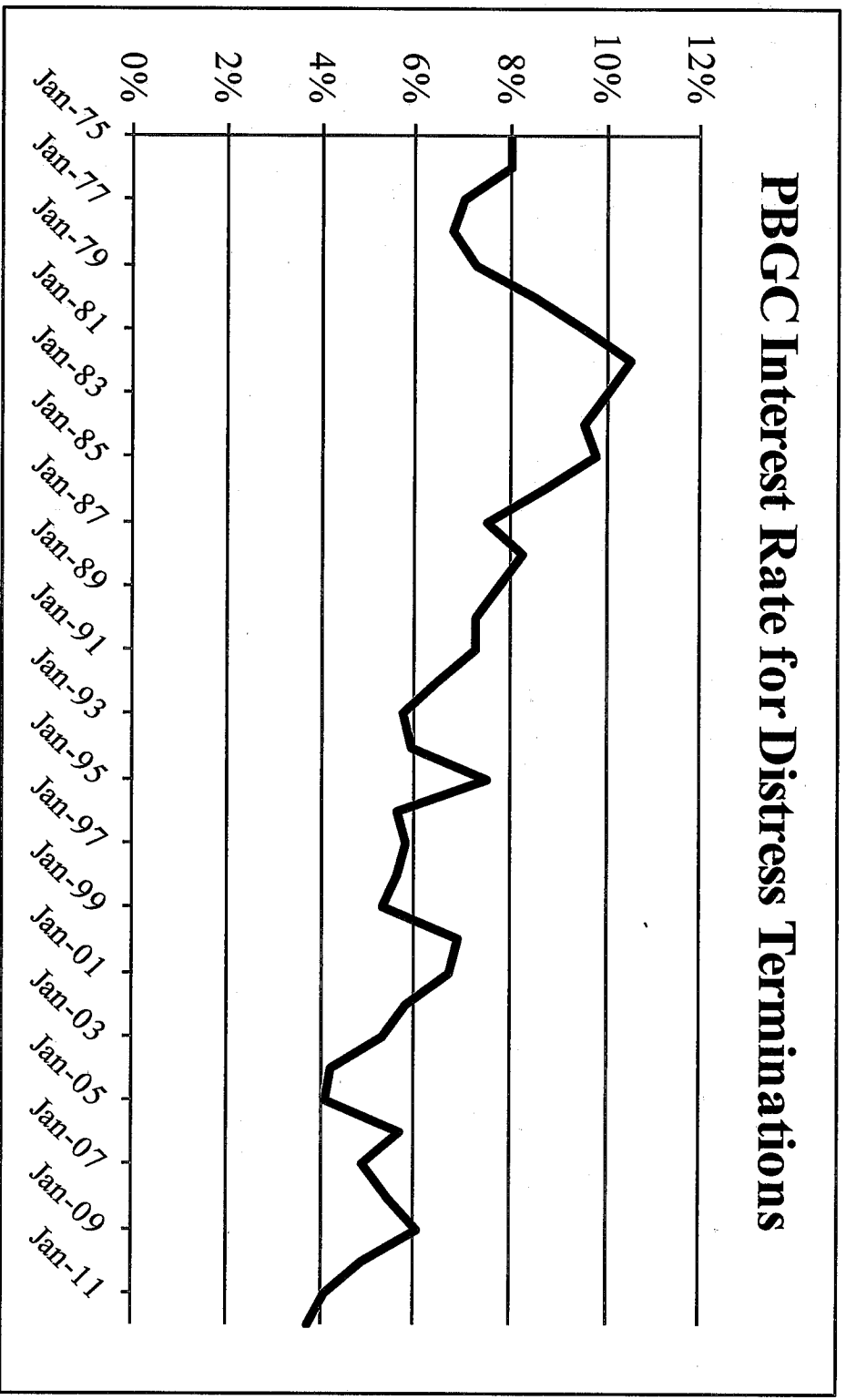
Post retirement Death	Account balance	\$4,000 plus monthly payment depending on form of payment elected
------------------------------	-----------------	---

*As valued in 1/23/2012 and 2/28/2012 cost studies.

Characteristics of Employer Annuity Account

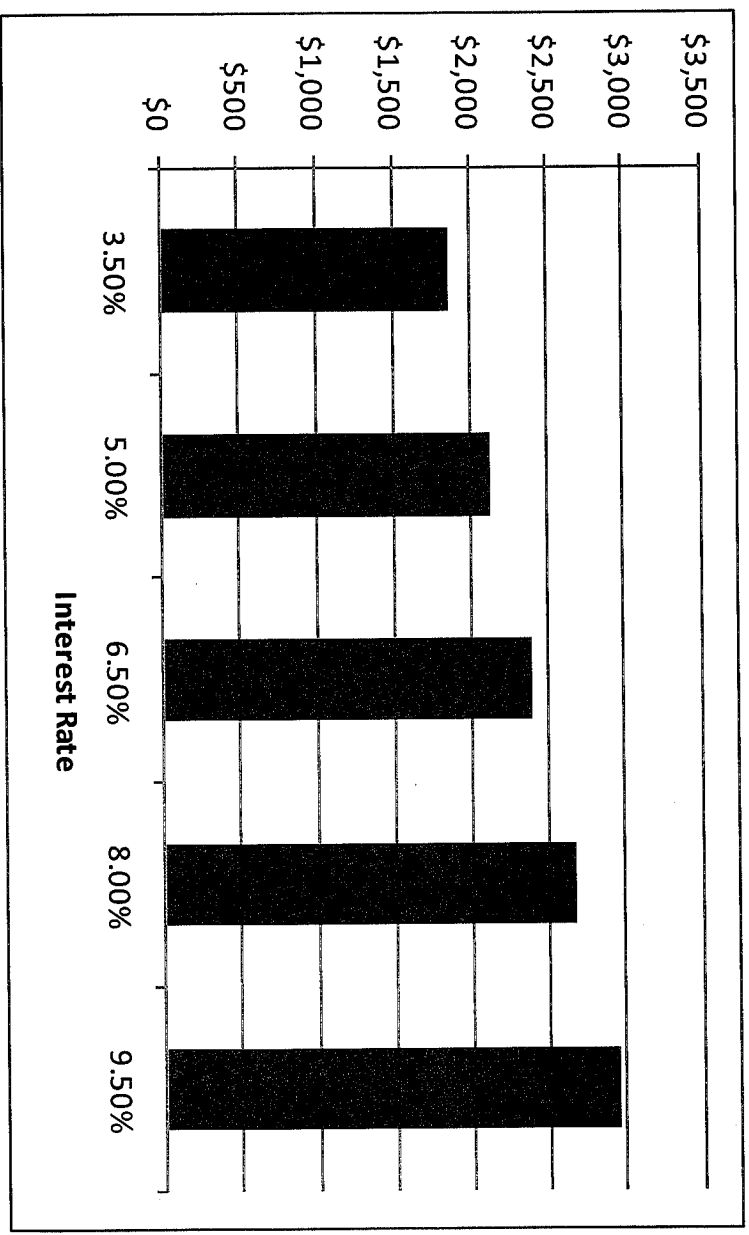
- Intent is to credit the actual earnings on the KPERS portfolio while a member.
 - Guaranteed interest credit is 0%.
 - Final interest credit at retirement reflects actual KPERS return while employee was a member.
- If member is vested upon termination of employment, employer annuity account value remains in the system.
- At retirement (age 65 or later), employer annuity account is converted to a monthly benefit.
 - Based on investment return assumption and mortality table.
 - Use Pension Benefit Guaranty Corporation distress termination interest rates.
 - Mortality table set by Board.

Pension Benefit Guaranty Corporation Distress Termination Interest Rates



Impact of Interest Rates

Conversion of \$300,000 to a monthly annuity for a 65-year old.



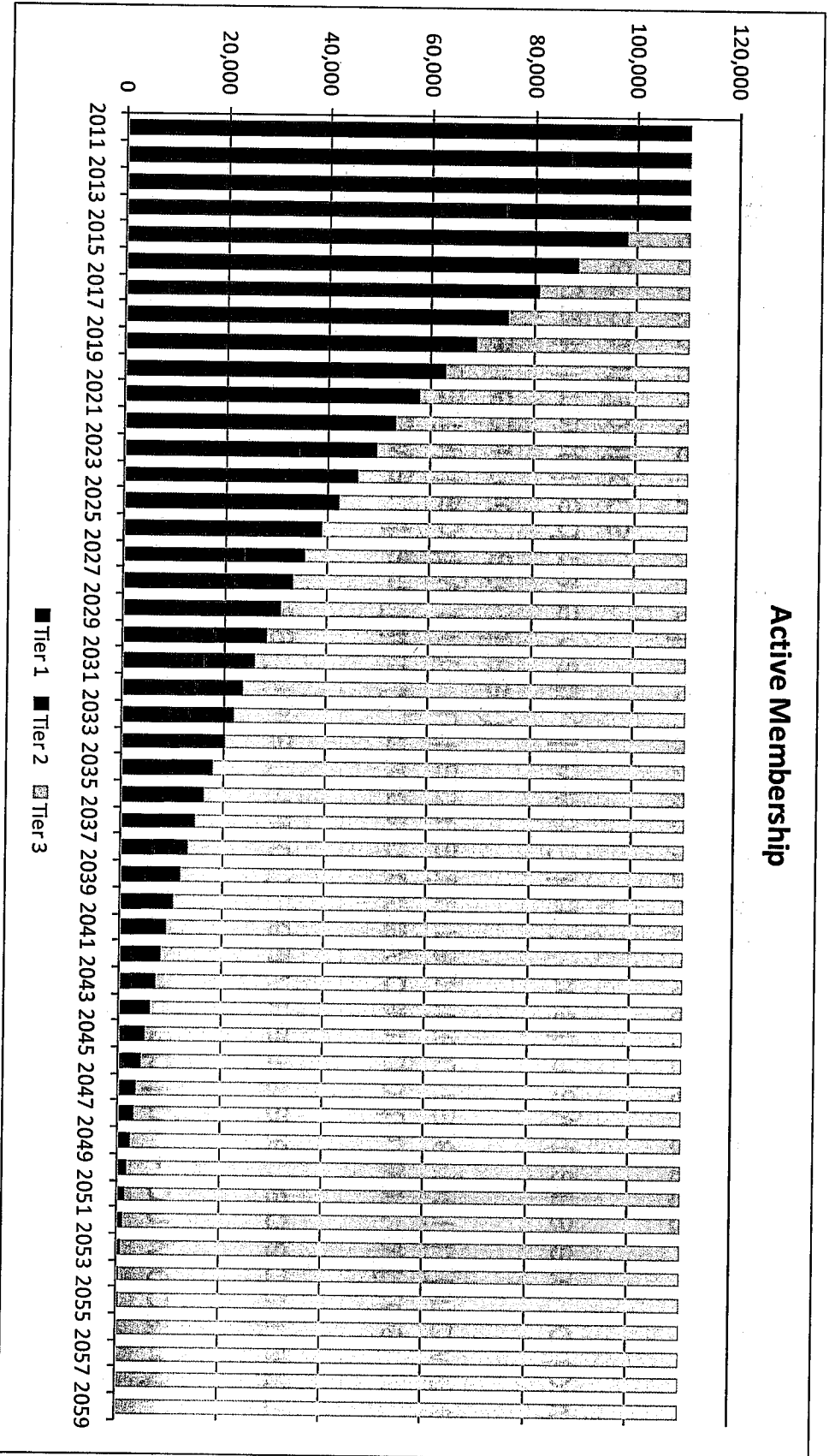
Cost Projections

- Purpose of modeling is to identify trends and compare alternatives.
 - Not a prediction of System's financial condition or ability to pay benefits in the future.
 - Actual cost will depend on actual experience, which is unknown at present time.
- Based on one set of assumptions out of many possible.
 - 8% return on market value from 12/31/10 forward.
 - All actuarial assumptions met each year.
 - New entrant demographic profile similar to recent experience.
- Impact of changing assumptions on different plan designs may be different, particularly if SB 338/HB 2545 and SB 429 are compared to Sub HB 2194.
- Benefit amounts provided by different plan designs are not equal.
- Modeling of employer contributions is provided for –
 - State/School Group combined
 - Local Group

Cost Projections

- Cannot impact current amount of unfunded actuarial liability – only cost of benefits for new hires.
- Cost impact unfolds over time as Tiers 1 and 2 leave and are replaced with Tier 3 members.
 - If Tier 3 cost is lower than Tier 2, more money can go to pay off the unfunded actuarial liability until full actuarial required rate paid (known as the “actuarial required rate date”).
 - After actuarial required rate date, lower Tier 3 cost may translate to lower employer contributions.
- Need to perform modeling over long timeframe to see true impact.
 - The graph on the following page illustrates the change in membership over 60 years.
 - During the early years, the membership will be comprised primarily of Tier 1 and 2 members.
 - Therefore, the legacy actuarial liability for Tiers 1 and 2 will be a major driver of KPERS’ funded ratio, unfunded actuarial liability, and employer contribution rates for two to three decades.

Change in Tier Membership

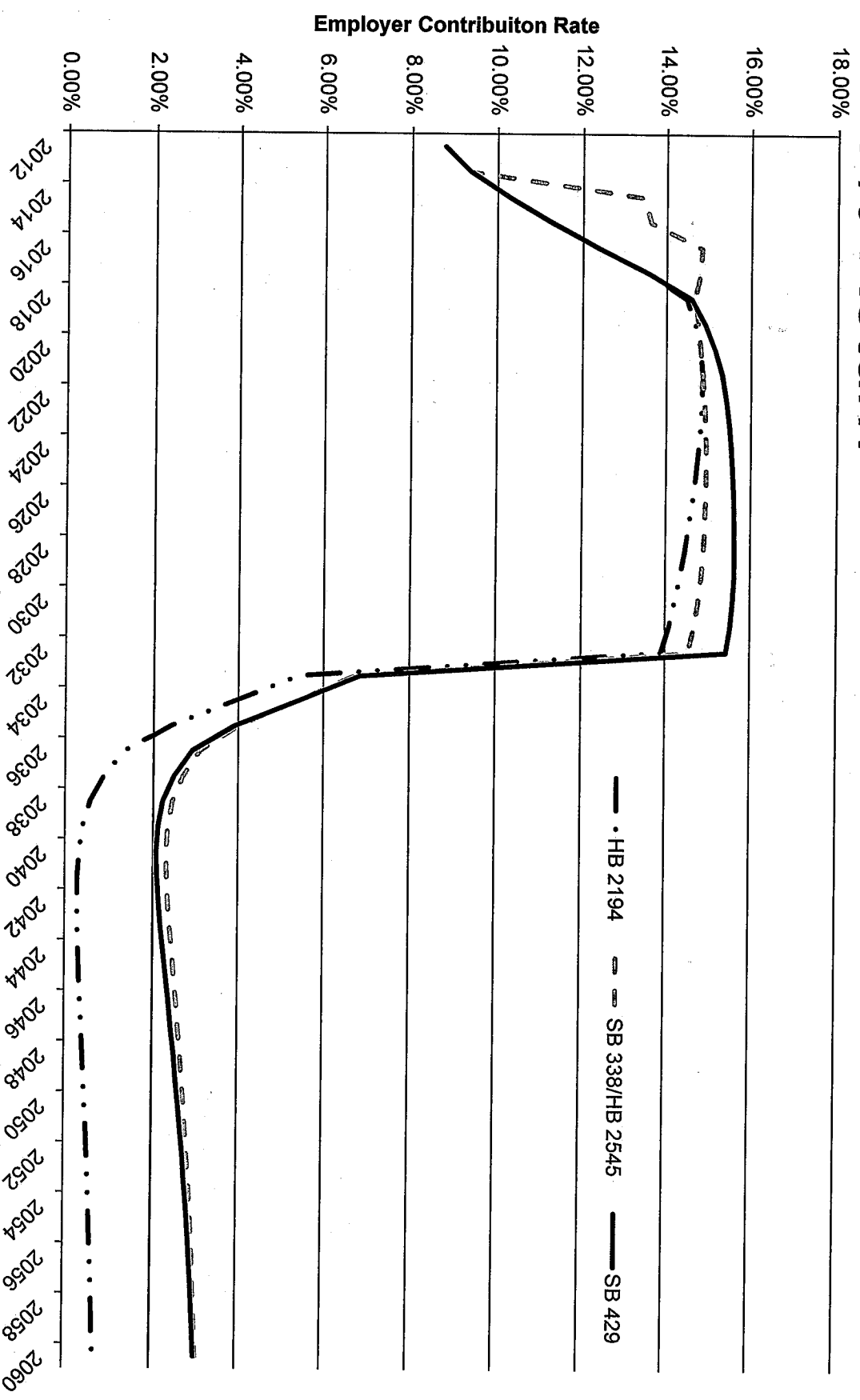


Actuarial Assumptions

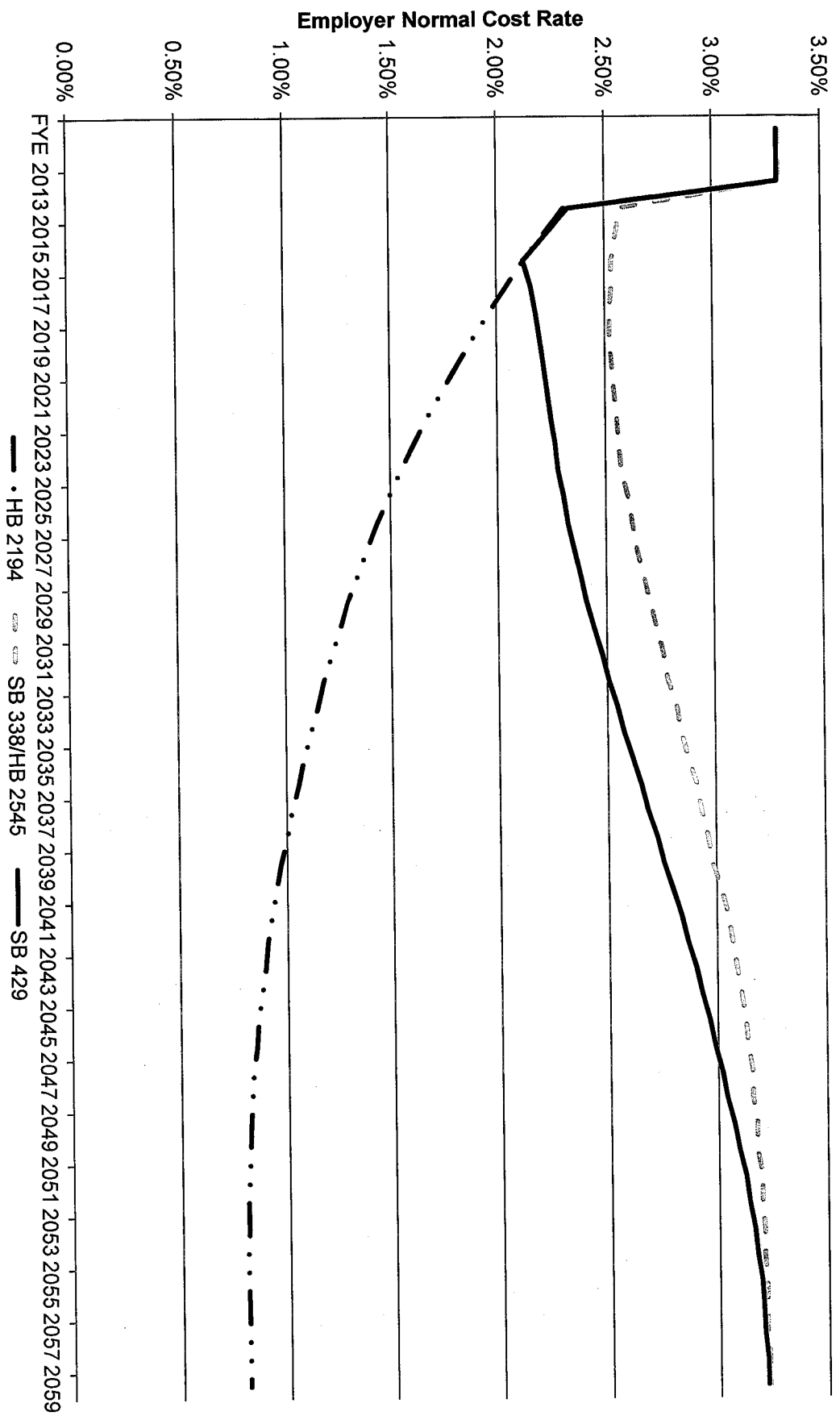
- The actuarial assumptions for this cost study were generally same as 12/31/10 actuarial valuation.
- Retirement assumption had to be developed for SB 338/HB 2545 and SB 429.
- Assumptions specific to HB 2545 and SB 429.
 - Interest crediting rate: 8%.
 - Interest assumption for annuity conversion rate: 6.5% (based on long-term historical Pension Benefit Guaranty Corporation distress termination rates).
 - Mortality table for annuity conversion rate: RP 2000 Projected to 2035.
 - No payments until age 65 by plan design.
 - All benefits paid as monthly income (by plan design).
- The cost information for these bills is derived from a cost study by Cavanaugh MacDonald, dated February 28, 2012. See Attachment 1. Therefore, the information in this presentation should only be considered with Attachment 1.

State/School Employer Contribution Rates

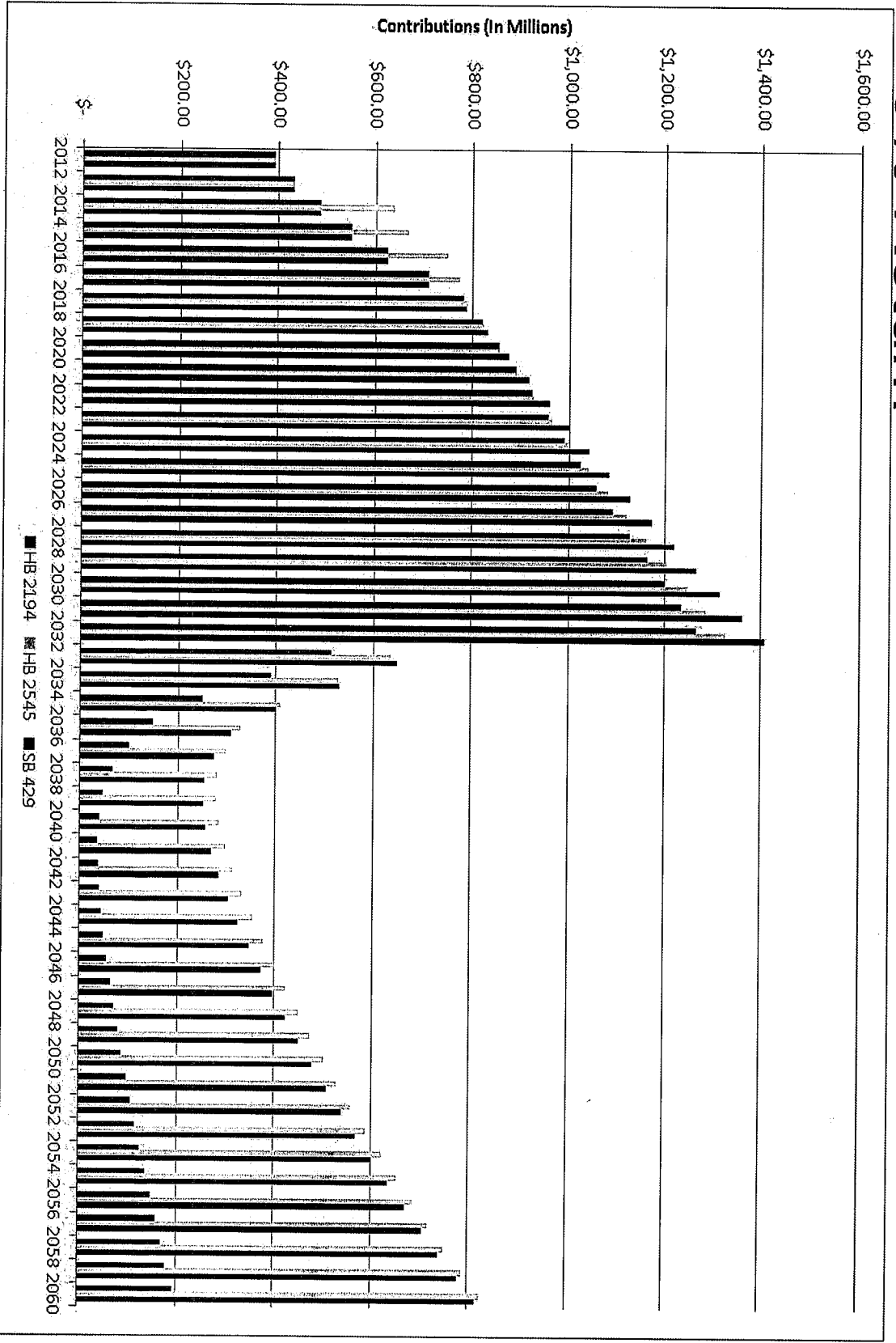
- 8% Return



State/School Employer Normal Cost - 8% Return



State/School Employer Contribution Dollars - 8% Return



State/School Group Employer Contribution Dollars – 8% Return

HB 2194	SB 338/ HB 2545	SB 429
---------	--------------------	--------

Employer Contributions Through 2060			
Nominal	\$ 22,140.94	\$ 33,039.06	\$ 32,696.19
dollars			
Present Value	\$ 8,317.52	\$ 9,383.42	\$ 9,202.56

* Present value determined using 8% assumed rate of return as of July 1, 2011.

- Under SB 429, the projected actuarially required contribution rate would be 14.58% in FY 2018 (compared to 14.46% in FY 2018 with Sub HB 2194).
- The amortization period is unchanged, so the unfunded actuarial liability would be paid off by 2033 under either Sub HB 2194 alone or Sub HB 2194 plus SB 429.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary. See Attachment 1 – 2/28/2012 Letter from Cavanaugh MacDonald for a complete description of assumptions.

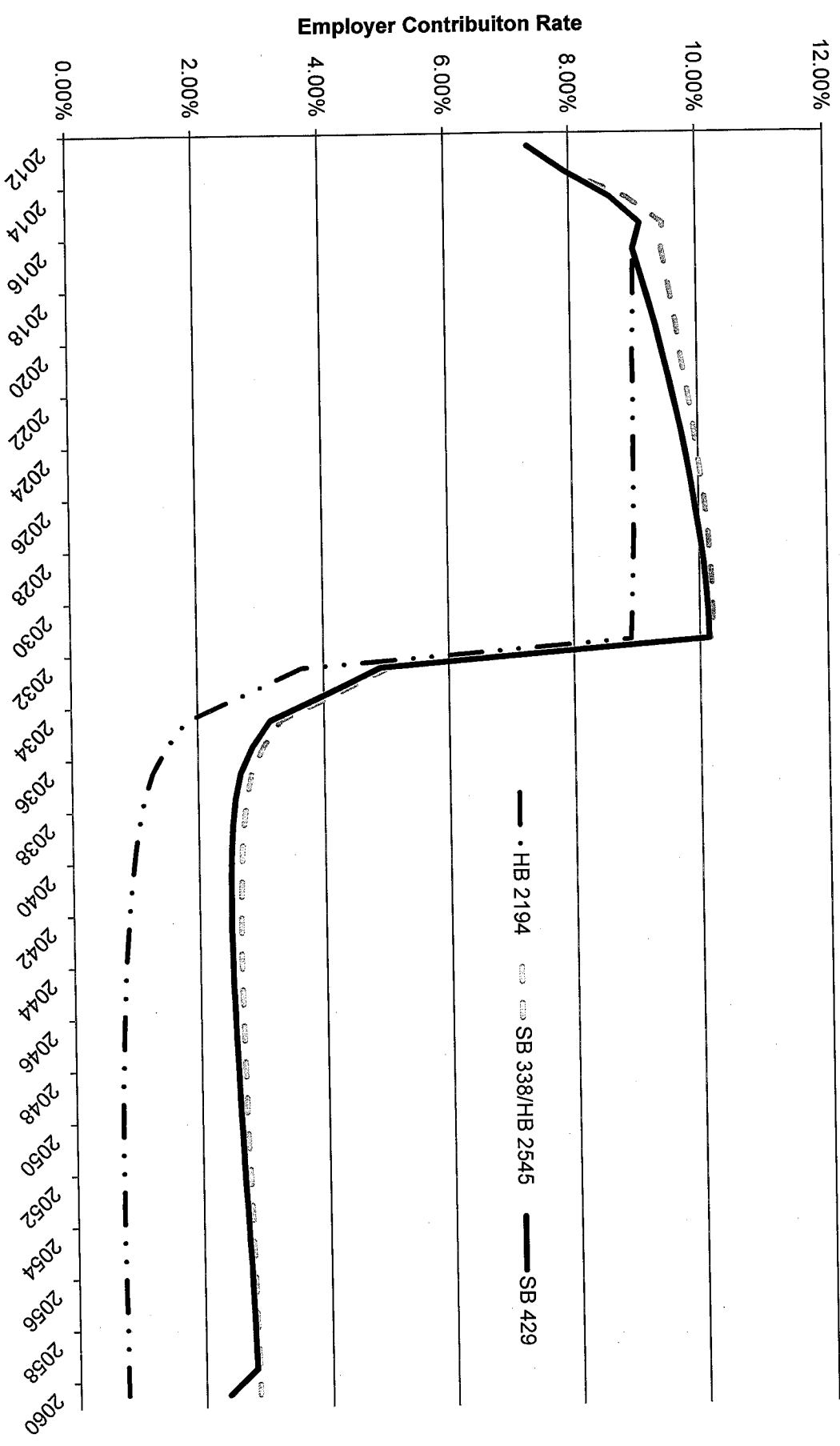
State/School Employer Contribution Dollars - 8% Return

Fiscal Year	State/School Group Employer Contribution Amount (\$M)		Difference	PV of Difference*
	Sub HB 2194	SB 429		
2012	\$ 391.60	\$ 391.60	\$ -	-
2013	431.89	431.89	-	-
2014	487.09	487.09	-	-
2015	551.08	551.08	-	-
2016	624.48	624.48	-	-
2017	707.98	707.98	-	-
2018	780.44	786.70	6.26	3.80
2019	819.50	832.37	12.87	7.22
2020	856.63	876.06	19.43	10.10
2021	890.84	918.26	27.41	13.20
2022	923.50	958.55	35.05	15.62
2023	956.42	999.65	43.24	17.84
2024	989.41	1,041.06	51.65	19.74
2025	1,023.12	1,083.28	60.15	21.28
2026	1,057.31	1,127.73	70.41	23.07
	\$ 11,491.29	\$ 11,817.77	\$ 326.47	\$ 131.87
2012-2040	\$ 20,130.62	\$ 22,480.21	\$ 2,349.59	\$ 490.55
2012-2060	\$ 22,140.94	\$ 32,696.19	\$ 10,555.25	\$ 885.04
PV of Total 2012-2060*	\$ 8,317.52	\$ 9,202.56	\$ 885.04	

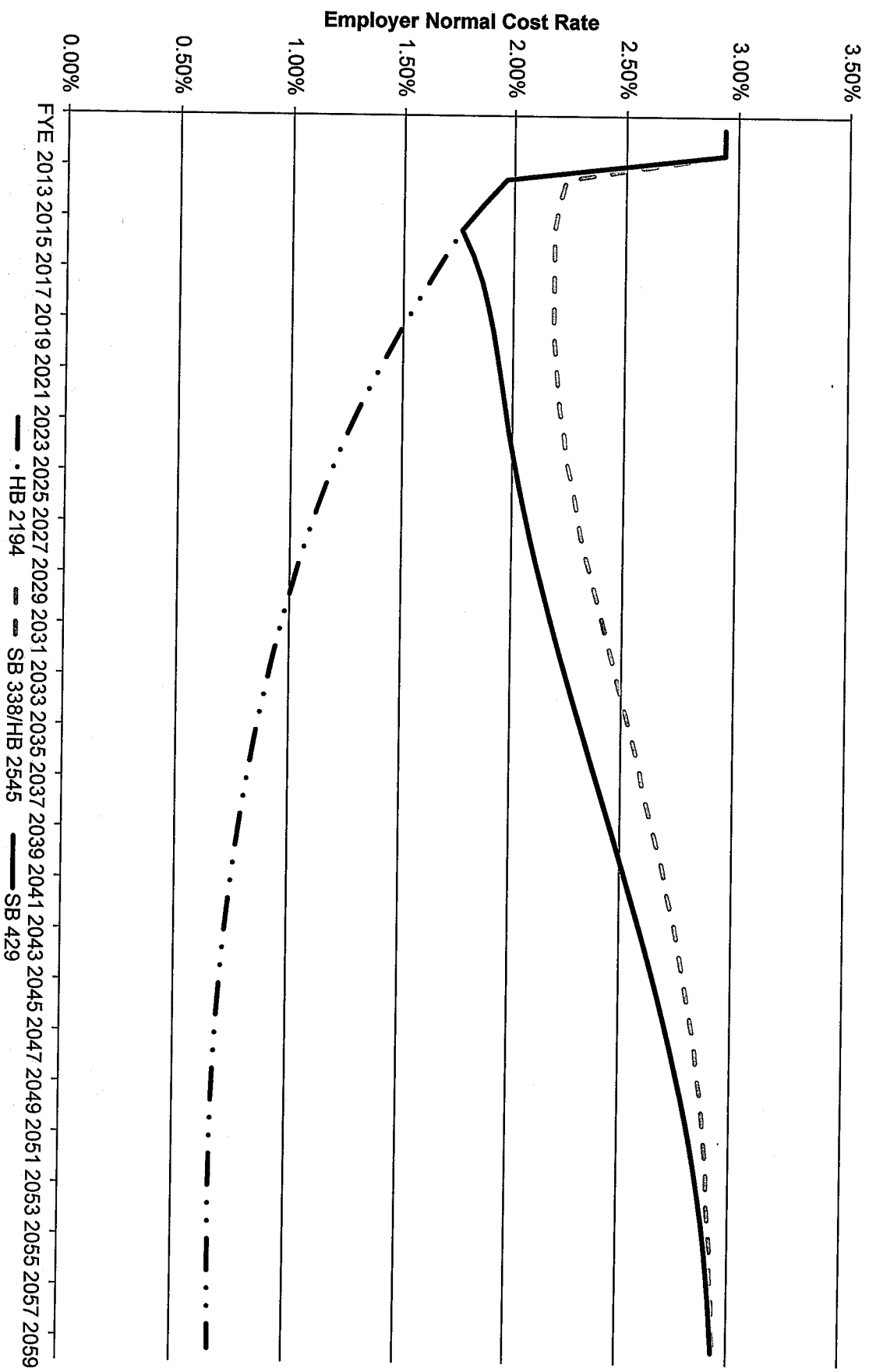
* Present value determined using 8% assumed rate of return as of July 1, 2011.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary. See Attachment 1 - 2/28/2012 Letter from Cavanaugh MacDonald for a complete description of assumptions.

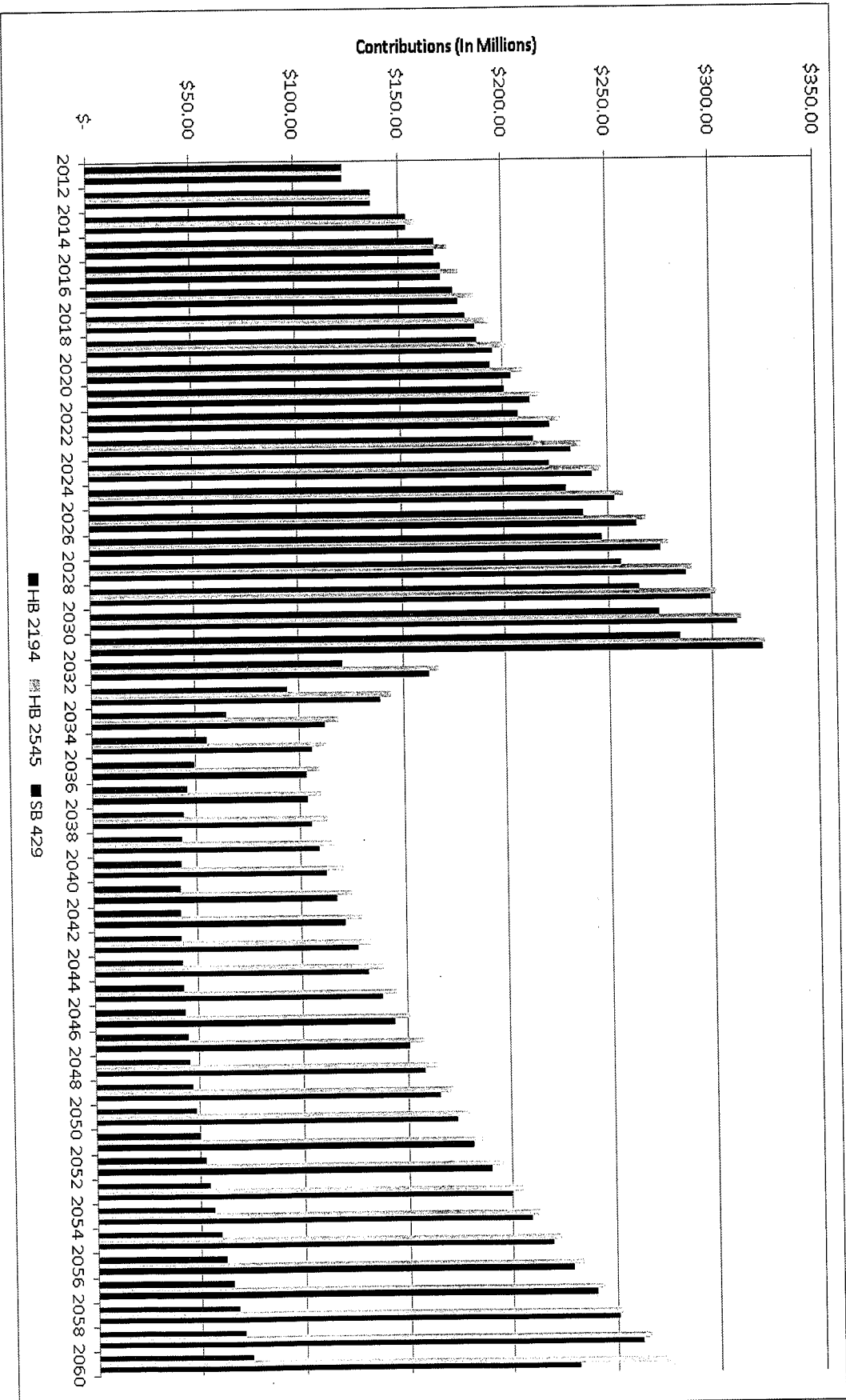
Local Employer Contribution Rates – 8% Return



Local Employer Normal Cost - 8% Return



Local Employer Contribution Dollars – 8% Return



Local Employer Contribution Dollars – 8% Return

	HB 2194	SB 338/ HB 2545	SB 429
--	----------------	----------------------------	---------------

Employer Contributions Through 2060			
Nominal	\$ 5,744.57	\$ 9,437.77	\$ 9,137.42
dollars			
Present Value	\$ 2,061.12	\$ 2,425.98	\$ 2,363.49

* Present value determined using 8% assumed rate of return as of July 1, 2011.

- Under SB 429, the projected actuarially required contribution rate of 8.65% would be paid in CY 2014.
- The amortization period is unchanged, so the unfunded actuarial liability would be paid off by 2033 under either Sub HB 2194 alone or Sub HB 2194 plus SB 429.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary. See Attachment 1 – 2/28/2012 Letter from Cavanaugh MacDonald for a complete description of assumptions.

Local Employer Contribution Dollars – 8% Return

Calendar Year	Local Group Employer Contribution Amount (\$M)		Difference	PV of Difference*
	Sub HB 2194	SB 429		
2012	\$ 123.22	\$ 123.22	-	-
2013	137.12	137.12	-	-
2014	153.84	153.84	-	-
2015	167.26	167.26	-	-
2016	170.45	170.45	-	-
2017	176.01	178.45	2.45	1.60
2018	181.84	186.81	4.97	3.01
2019	187.74	195.33	7.59	4.26
2020	193.71	203.93	10.22	5.31
2021	200.50	213.13	12.63	6.08
2022	207.43	222.55	15.12	6.74
2023	214.53	232.44	17.91	7.39
2024	222.08	242.63	20.55	7.85
2025	230.12	253.18	23.07	8.16
2026	238.33	264.04	25.71	8.42
	\$ 2,804.18	\$ 2,944.39	\$ 140.21	\$ 58.83
2012-2040	\$ 4,690.78	\$ 5,495.32	\$ 804.54	\$ 176.76
2012-2060	\$ 5,744.57	\$ 9,137.42	\$ 3,392.85	\$ 302.37
PV of Total 2012-2060*	\$ 2,061.12	\$ 2,363.49	\$ 302.37	

* Present value determined using 8% assumed rate of return as of July 1, 2011.

Note: The cost projections shown are based on one set of actuarial assumptions. A different set of assumptions will yield different financial results and the relative impact on different plan designs may vary. See Attachment 1 – 2/28/2012 Letter from Cavanaugh MacDonald for a complete description of assumptions.



Attachment 1: Cost Study Letter



Cavanaugh Macdonald

CONSULTING, LLC

The experience and dedication you deserve

February 28, 2012

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

Re: Cost Study for Senate Bill 429

Dear Alan:

At your request, we have completed an actuarial cost study to determine the cost impact of Senate Bill 429 (SB 429). The provisions of SB 429 are similar to those in House Bill 2545 (HB 2545) for which cost projections have already been provided. The key differences in SB 429 and HB 2545 are: (1) Tier 3 members are only those hired on or after January 1, 2014. Under SB 429 nonvested KPERS members at July 1, 2013 are not moved to Tier 3, (2) current legislators remain in the current KPERS tier (either Tier 1 or Tier 2) and (3) the statutory cap on the employer contribution rate as outlined in Senate Substitute for House Bill 2194 remain in place under SB 429. All other provisions reflected in this cost study are the same as those used for the initial cost study for HB 2545 and are outlined in our letter dated January 23, 2012. The following is a brief summary of the key plan provisions reflected in our cost projections under SB 429, in addition to the differences outlined above.

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 5% credit is granted when the employee has completed 8 or more years of service.
- The guaranteed interest credit will be 0%, but supplemental interest credits will be posted to the member's employer annuity account equal to the actual earnings, positive or negative, 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.

3906 Raynor Pkwy, Suite 106, Bellevue, NE 68123

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

www.CavMacConsulting.com

Offices in Englewood, CO • Kennesaw, GA • Bellevue, NE • Hilton Head Island, SC



- 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. The statutory caps under HB 2194 remain in place under SB 429.

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 SB 429 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 SB 429 is a cash balance plan, which is a defined benefit plan. As such, we have assumed that the contribution rate to fund the benefits will be determined using the results of the annual actuarial valuation for all three Tiers. 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:

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

Because SB 429 essentially credits the actual return on the KPERS portfolio to the employer annuity account, the assumption for the interest crediting rate was set equal to the assumed rate of return of 8%. Under SB 429 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 projections reflect the assumption that Tier 3 will be part of the current KPERS program. As such, 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 SB 429.

Results

The cost impact of SB 429 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 projections under HB 2194, HB 2545, and SB 429 are reflected in the attached exhibits which show the expected employer contribution rate by year for the State/School and Local groups (Exhibits A1 and A2), the estimated dollar





amount of contributions in each future year (Exhibits B1 and B2), and the total employer contributions split by normal cost and UAL payment under HB 2194 and SB 429 (Exhibits C1 and C2). The projections under all three bills assume that all actuarial assumptions are met in the future, including the eight percent assumed rate of return. 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 of each set of comparative costs on Exhibits B1 and B2 and Exhibits C1 and C2.

The cost projections attached to this letter reflect one set of actuarial assumptions, which include an 8% assumed rate of return. The cost results of the various bills are sensitive to the assumptions used in the projections, particularly the investment return assumption. However, the impact of different assumptions may vary depending on the plan design. Further analysis can be provided upon request if it is deemed to be necessary or helpful.

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 provided under SB 429 and are 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). The same statutory cap applies under SB 429.
- 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.



Mr. Alan Conroy
February 28, 2012
Page 5



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 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.

We are available to provide supplementary information or explanation if needed. 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 SB 429
 State/School Group

Fiscal Year	Payroll (\$M)	HB 2194 vs HB 2545		HB 2194 vs SB 429		HB 2545 vs SB 429	
		Employer Contribution Rate	SB 429	Employer Contribution Rate	SB 429	Employer Contribution Rate	SB 429
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%	10.27%	10.27%	10.27%	10.27%	10.27%
2015	4,889.77	11.27%	11.27%	11.27%	11.27%	11.27%	11.27%
2016	5,048.36	12.37%	12.37%	12.37%	12.37%	12.37%	12.37%
2017	5,217.25	13.57%	13.57%	13.57%	13.57%	13.57%	13.57%
2018	5,396.09	14.46%	14.46%	14.46%	14.46%	14.46%	14.46%
2019	5,585.80	14.67%	14.67%	14.67%	14.67%	14.67%	14.67%
2020	5,786.83	14.80%	14.79%	14.80%	15.14%	14.84%	15.31%
2021	5,999.32	14.85%	14.84%	14.84%	15.31%	14.89%	15.40%
2022	6,223.41	14.84%	14.89%	14.84%	15.40%	14.89%	15.48%
2023	6,458.61	14.81%	14.92%	14.81%	15.48%	14.92%	15.53%
2024	6,704.71	14.76%	14.93%	14.76%	15.53%	14.93%	15.56%
2025	6,962.16	14.70%	14.93%	14.70%	15.56%	14.93%	15.59%
2026	7,231.45	14.62%	14.93%	14.62%	15.59%	14.91%	15.60%
2027	7,512.93	14.54%	14.91%	14.54%	15.60%	14.88%	15.61%
2028	7,806.93	14.45%	14.88%	14.45%	15.61%	14.83%	15.61%
2029	8,113.92	14.34%	14.83%	14.34%	15.61%	14.77%	15.57%
2030	8,433.95	14.21%	14.77%	14.21%	15.57%	14.67%	15.52%
2031	8,767.29	14.08%	14.67%	14.08%	15.52%	14.53%	15.42%
2032	9,114.66	13.90%	14.53%	13.90%	15.42%	14.38%	15.32%
2033	9,476.23	5.43%	6.70%	5.43%	6.84%	6.70%	6.84%
2034	9,852.28	3.95%	5.38%	3.95%	5.40%	5.38%	5.40%
2035	10,243.64	2.42%	4.00%	2.42%	3.91%	4.00%	3.91%
2036	10,650.79	1.38%	3.07%	1.38%	2.90%	3.07%	2.90%
2037	11,073.56	0.90%	2.68%	0.90%	2.47%	2.68%	2.47%
2038	11,513.15	0.58%	2.43%	0.58%	2.20%	2.43%	2.20%
2039	11,970.93	0.41%	2.32%	0.41%	2.09%	2.32%	2.09%
2040	12,448.09	0.33%	2.28%	0.33%	2.05%	2.28%	2.05%
2041	12,947.04	0.29%	2.30%	0.29%	2.07%	2.30%	2.07%
2042	13,469.39	0.29%	2.33%	0.29%	2.11%	2.33%	2.11%
2043	14,014.53	0.29%	2.38%	0.29%	2.16%	2.38%	2.16%
2044	14,581.39	0.31%	2.43%	0.31%	2.23%	2.43%	2.23%
2045	15,170.09	0.34%	2.48%	0.34%	2.30%	2.48%	2.30%
2046	15,780.74	0.37%	2.54%	0.37%	2.36%	2.54%	2.36%
2047	16,410.26	0.40%	2.58%	0.40%	2.41%	2.58%	2.41%
2048	17,057.88	0.42%	2.64%	0.42%	2.49%	2.64%	2.49%
2049	17,727.69	0.46%	2.67%	0.46%	2.54%	2.67%	2.54%
2050	18,423.67	0.48%	2.73%	0.48%	2.60%	2.73%	2.60%
2051	19,147.45	0.52%	2.76%	0.52%	2.65%	2.76%	2.65%
2052	19,899.69	0.54%	2.81%	0.54%	2.71%	2.81%	2.71%
2053	20,682.16	0.56%	2.85%	0.56%	2.75%	2.85%	2.75%
2054	21,496.61	0.59%	2.89%	0.59%	2.80%	2.89%	2.80%
2055	22,344.49	0.61%	2.92%	0.61%	2.85%	2.92%	2.85%
2056	23,227.14	0.63%	2.95%	0.63%	2.89%	2.95%	2.89%
2057	24,145.92	0.65%	2.97%	0.65%	2.92%	2.97%	2.92%
2058	25,102.38	0.68%	2.99%	0.68%	2.95%	2.99%	2.95%
2059	26,098.07	0.69%	3.02%	0.69%	2.98%	3.02%	2.98%
2060	27,134.62	0.71%	3.04%	0.71%	3.00%	3.04%	3.00%

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 February 28, 2012.



Exhibit A2
KPERS Contribution Rate Projections under HB 2194, HB 2545, and SB 429
 Local Group

Fiscal Year	Total Payroll (\$MM)	HB 2194 vs HB 2545		HB 2194 vs SB 429		HB 2545 vs SB 429	
		Employer Contribution Rate	HB 2545	HB 2194	SB 429	HB 2545	SB 429
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%	8.65%	8.65%	8.65%	8.91%	8.65%
2015	1,834.05	9.12%	9.47%	9.12%	9.12%	9.47%	9.12%
2016	1,893.42	9.00%	9.45%	9.00%	9.00%	9.45%	9.00%
2017	1,955.65	9.00%	9.53%	9.00%	9.12%	9.53%	9.12%
2018	2,020.46	9.00%	9.60%	9.00%	9.25%	9.60%	9.25%
2019	2,087.94	8.99%	9.67%	8.99%	9.36%	9.67%	9.36%
2020	2,158.09	8.98%	9.72%	8.98%	9.45%	9.72%	9.45%
2021	2,231.91	8.98%	9.80%	8.98%	9.55%	9.80%	9.55%
2022	2,309.17	8.98%	9.87%	8.98%	9.64%	9.87%	9.64%
2023	2,389.76	8.98%	9.93%	8.98%	9.73%	9.93%	9.73%
2024	2,474.65	8.97%	9.99%	8.97%	9.80%	9.99%	9.80%
2025	2,563.71	8.98%	10.04%	8.98%	9.88%	9.88%	9.88%
2026	2,656.71	8.97%	10.10%	8.97%	9.94%	10.10%	9.94%
2027	2,753.93	8.97%	10.14%	8.97%	10.00%	10.14%	10.00%
2028	2,856.33	8.96%	10.16%	8.96%	10.06%	10.16%	10.06%
2029	2,963.32	8.94%	10.19%	8.94%	10.10%	10.19%	10.10%
2030	3,075.51	8.93%	10.20%	8.93%	10.13%	10.18%	10.13%
2031	3,192.38	8.91%	10.18%	8.91%	10.14%	10.18%	10.14%
2032	3,313.68	3.65%	5.05%	3.65%	4.90%	5.05%	4.90%
2033	3,440.20	2.75%	4.20%	2.75%	4.04%	4.20%	4.04%
2034	3,571.81	1.82%	3.32%	1.82%	3.15%	3.32%	3.15%
2035	3,709.17	1.49%	2.85%	1.49%	2.86%	3.04%	2.86%
2036	3,851.93	1.27%	2.85%	1.27%	2.69%	2.85%	2.69%
2037	4,001.21	1.14%	2.77%	1.14%	2.59%	2.77%	2.59%
2038	4,157.18	1.06%	2.71%	1.06%	2.53%	2.71%	2.53%
2039	4,319.48	0.99%	2.68%	0.99%	2.52%	2.68%	2.52%
2040	4,488.52	0.94%	2.67%	0.94%	2.50%	2.66%	2.50%
2041	4,663.81	0.90%	2.66%	0.90%	2.51%	2.66%	2.51%
2042	4,846.82	0.86%	2.65%	0.86%	2.50%	2.65%	2.50%
2043	5,037.31	0.83%	2.65%	0.83%	2.52%	2.65%	2.52%
2044	5,235.49	0.81%	2.65%	0.81%	2.52%	2.66%	2.52%
2045	5,442.03	0.79%	2.66%	0.79%	2.54%	2.67%	2.54%
2046	5,656.91	0.77%	2.67%	0.77%	2.53%	2.67%	2.53%
2047	5,879.63	0.76%	2.68%	0.76%	2.57%	2.68%	2.57%
2048	6,110.89	0.74%	2.70%	0.74%	2.59%	2.70%	2.59%
2049	6,351.53	0.74%	2.70%	0.74%	2.60%	2.70%	2.60%
2050	6,602.17	0.73%	2.72%	0.73%	2.63%	2.72%	2.63%
2051	6,862.33	0.73%	2.74%	0.73%	2.64%	2.74%	2.64%
2052	7,132.79	0.74%	2.75%	0.74%	2.67%	2.75%	2.67%
2053	7,414.16	0.73%	2.77%	0.73%	2.70%	2.77%	2.70%
2054	7,707.23	0.73%	2.77%	0.73%	2.71%	2.77%	2.71%
2055	8,012.19	0.74%	2.79%	0.74%	2.74%	2.79%	2.74%
2056	8,329.45	0.74%	2.81%	0.74%	2.75%	2.81%	2.75%
2057	8,659.60	0.76%	2.81%	0.76%	2.77%	2.81%	2.77%
2058	9,003.17	0.76%	2.83%	0.76%	2.78%	2.83%	2.78%
2059	9,360.70	0.76%	2.84%	0.76%	2.80%	2.84%	2.80%
2060	9,732.77	0.76%	2.85%	0.76%	2.89%	2.85%	2.89%

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 28, 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 SB 429
 State/School Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545			HB 2194 vs SB 429			HB 2545 vs SB 429		
		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	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	665.71	114.63	551.08	551.08	-	665.71	114.63	(150.37)
2016	5,048.36	624.48	748.18	123.70	624.48	624.48	-	748.18	123.70	(87.56)
2017	5,217.25	707.98	771.52	63.54	707.98	707.98	-	771.52	63.54	(123.70)
2018	5,396.09	780.44	790.34	9.90	780.44	786.70	6.26	790.34	9.90	(3.64)
2019	5,585.80	819.50	823.56	4.06	819.50	823.37	3.80	823.56	4.06	8.80
2020	5,786.83	856.63	856.63	(0.49)	856.63	876.06	12.87	856.63	19.43	10.10
2021	5,999.32	890.84	890.84	(0.31)	890.84	918.26	27.41	890.84	13.20	15.62
2022	6,223.41	923.50	926.50	3.00	923.50	958.55	35.05	926.50	32.05	32.05
2023	6,458.61	956.42	963.57	6.95	956.42	999.65	43.24	963.57	7.15	14.97
2024	6,704.71	989.41	1,001.19	11.78	989.41	1,041.06	51.65	1,001.19	19.74	19.74
2025	6,962.16	1,023.12	1,039.68	16.56	1,023.12	1,083.28	60.15	1,039.68	21.28	23.07
2026	7,231.45	1,057.31	1,079.54	22.23	1,057.31	1,127.73	70.41	1,079.54	70.41	70.41
2027	7,512.93	1,092.03	1,119.90	27.87	1,092.03	1,172.18	80.15	1,119.90	1,172.18	24.31
2028	7,806.93	1,127.87	1,161.97	34.10	1,127.87	1,218.68	90.81	1,161.97	1,218.68	25.51
2029	8,113.92	1,163.67	1,203.48	39.81	1,163.67	1,266.56	102.90	1,203.48	1,266.56	26.76
2030	8,433.95	1,198.79	1,245.30	46.51	1,198.79	1,313.55	114.75	1,245.30	1,313.55	27.63
2031	8,767.29	1,234.26	1,285.93	51.66	1,234.26	1,360.64	126.38	1,285.93	1,360.64	28.75
2032	9,114.66	1,266.68	1,324.29	57.60	1,266.68	1,405.92	139.24	1,324.29	1,405.92	28.75
2033	9,476.23	1,298.15	1,363.32	65.17	1,298.15	1,443.22	145.07	1,363.32	1,443.22	25.66
2034	9,852.28	1,329.85	1,400.69	70.84	1,329.85	1,473.15	143.30	1,400.69	1,473.15	25.35
2035	10,243.64	1,351.15	1,433.22	82.07	1,351.15	1,503.38	152.23	1,433.22	1,503.38	25.01
2036	10,650.79	1,363.32	1,451.15	87.83	1,363.32	1,524.26	160.94	1,451.15	1,524.26	24.61
2037	11,073.56	1,375.94	1,464.64	88.70	1,375.94	1,537.37	162.43	1,464.64	1,537.37	24.39
2038	11,513.15	1,388.56	1,473.15	84.59	1,388.56	1,542.52	154.96	1,473.15	1,542.52	24.28
2039	11,970.93	1,401.19	1,477.90	76.71	1,401.19	1,540.93	139.74	1,477.90	1,540.93	24.28
2040	12,448.09	1,413.77	1,490.91	77.14	1,413.77	1,532.09	118.32	1,490.91	1,532.09	24.39
2041	12,947.04	1,426.35	1,508.84	82.49	1,426.35	1,516.67	90.32	1,508.84	1,516.67	24.39
2042	13,469.39	1,438.93	1,527.23	88.30	1,438.93	1,493.15	54.22	1,527.23	1,493.15	24.39
2043	14,014.53	1,451.51	1,546.56	95.05	1,451.51	1,463.25	12.74	1,546.56	1,463.25	24.39
2044	14,581.39	1,464.09	1,566.05	101.96	1,464.09	1,428.63	(35.46)	1,566.05	1,428.63	(28.74)
2045	15,170.09	1,476.67	1,586.54	109.87	1,476.67	1,393.15	(83.52)	1,586.54	1,393.15	(28.74)
2046	15,780.74	1,489.25	1,607.03	117.78	1,489.25	1,357.66	(151.59)	1,607.03	1,357.66	(28.74)
2047	16,410.26	1,501.83	1,628.51	126.68	1,501.83	1,322.17	(184.66)	1,628.51	1,322.17	(28.74)
2048	17,057.88	1,514.41	1,650.00	135.59	1,514.41	1,286.68	(228.32)	1,650.00	1,286.68	(28.74)
2049	17,727.69	1,526.99	1,671.48	144.49	1,526.99	1,251.19	(272.30)	1,671.48	1,251.19	(28.74)
2050	18,423.67	1,539.57	1,692.97	153.40	1,539.57	1,215.70	(316.27)	1,692.97	1,215.70	(28.74)
2051	19,147.45	1,552.15	1,714.46	162.31	1,552.15	1,180.21	(360.24)	1,714.46	1,180.21	(28.74)
2052	19,899.69	1,564.73	1,735.95	171.22	1,564.73	1,144.72	(404.21)	1,735.95	1,144.72	(28.74)
2053	20,682.16	1,577.31	1,757.44	180.13	1,577.31	1,109.23	(448.18)	1,757.44	1,109.23	(28.74)
2054	21,496.61	1,589.89	1,778.93	189.04	1,589.89	1,073.74	(492.15)	1,778.93	1,073.74	(28.74)
2055	22,344.49	1,602.47	1,800.42	197.95	1,602.47	1,038.25	(536.12)	1,800.42	1,038.25	(28.74)
2056	23,227.14	1,615.05	1,821.91	206.86	1,615.05	1,002.76	(580.09)	1,821.91	1,002.76	(28.74)
2057	24,145.92	1,627.63	1,843.40	215.77	1,627.63	967.27	(624.06)	1,843.40	967.27	(28.74)
2058	25,102.38	1,640.21	1,864.89	224.68	1,640.21	931.78	(668.03)	1,864.89	931.78	(28.74)
2059	26,098.07	1,652.79	1,886.38	233.59	1,652.79	896.29	(712.00)	1,886.38	896.29	(28.74)
2060	27,134.62	1,665.37	1,907.87	242.50	1,665.37	860.80	(755.97)	1,907.87	860.80	(28.74)
Total	\$ 22,140.94	\$ 33,039.06	\$ 10,898.12	\$ 1,065.89	\$ 22,140.94	\$ 32,696.19	\$ 10,555.25	\$ 33,039.06	\$ 32,696.19	\$ (342.86)
Present Value at 8% as of July 1, 2011	\$ 8,317.52	\$ 9,383.42	\$ 1,065.89	\$ 885.04	\$ 8,317.52	\$ 9,202.56	\$ 885.04	\$ 9,383.42	\$ 9,202.56	\$ (180.86)

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 28, 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 SB 429
Local Group

Fiscal Year	Total Payroll (\$M)	HB 2194 vs HB 2545			HB 2194 vs SB 429			HB 2545 vs SB 429		
		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	153.84	153.84	-	153.84	153.84	-	153.84	153.84	-
2015	1,834.05	167.26	167.26	-	167.26	167.26	-	167.26	167.26	-
2016	1,893.42	178.89	178.89	-	178.89	178.89	-	178.89	178.89	-
2017	1,955.65	176.01	186.32	10.32	176.01	170.45	-5.56	186.32	178.45	-7.87
2018	2,020.46	181.84	193.92	12.08	181.84	186.81	4.97	193.92	186.81	-7.11
2019	2,087.94	187.74	201.89	14.15	187.74	195.33	7.59	201.89	195.33	-6.56
2020	2,158.09	193.71	209.84	16.12	193.71	203.93	10.22	209.84	203.93	-5.91
2021	2,231.91	200.50	218.70	18.20	200.50	213.13	12.63	218.70	213.13	-5.57
2022	2,309.17	207.43	227.86	20.43	207.43	222.55	15.12	227.86	222.55	-5.31
2023	2,389.76	214.53	237.32	22.79	214.53	232.44	17.91	237.32	232.44	-4.88
2024	2,474.65	222.08	247.11	25.02	222.08	242.63	20.55	247.11	242.63	-4.48
2025	2,563.71	230.12	257.51	27.39	230.12	253.18	23.07	257.51	253.18	-4.33
2026	2,656.71	238.33	268.22	29.89	238.33	264.04	25.71	268.22	264.04	-4.18
2027	2,753.93	247.00	279.24	32.24	247.00	275.47	28.47	279.24	275.47	-3.77
2028	2,856.33	255.91	290.34	34.43	255.91	287.31	31.40	290.34	287.31	-3.03
2029	2,963.32	265.02	302.01	37.00	265.02	299.21	34.20	302.01	299.21	-2.80
2030	3,075.51	274.64	313.69	39.05	274.64	311.47	36.83	313.69	311.47	-2.22
2031	3,192.38	284.39	324.92	40.52	284.39	323.66	39.27	324.92	323.66	-1.25
2032	3,313.68	301.68	334.92	33.24	301.68	332.66	30.98	334.92	332.66	-2.26
2033	3,440.20	318.44	344.33	25.89	318.44	341.47	28.03	344.33	341.47	-2.86
2034	3,571.81	334.92	353.54	18.62	334.92	349.08	14.16	353.54	349.08	-4.46
2035	3,709.17	353.57	362.39	8.84	353.57	357.24	3.67	362.39	357.24	-5.15
2036	3,851.93	372.04	371.62	0.42	372.04	365.12	6.92	371.62	365.12	-6.50
2037	4,001.21	391.48	381.66	9.82	391.48	373.99	17.49	381.66	373.99	-7.67
2038	4,157.18	411.99	392.33	19.66	411.99	383.87	28.12	392.33	383.87	-8.46
2039	4,319.48	433.62	403.62	30.00	433.62	395.65	37.97	403.62	395.65	-7.97
2040	4,488.52	456.37	415.51	40.86	456.37	407.44	48.93	415.51	407.44	-8.07
2041	4,663.81	480.24	428.08	52.16	480.24	419.27	60.97	428.08	419.27	-8.81
2042	4,846.82	505.31	441.88	63.43	505.31	431.88	73.43	441.88	431.88	-10.00
2043	5,037.31	527.46	456.52	70.94	527.46	444.74	82.72	456.52	444.74	-11.78
2044	5,235.49	553.49	472.38	81.11	553.49	458.16	95.33	472.38	458.16	-14.22
2045	5,442.03	580.24	489.52	90.72	580.24	472.74	107.50	489.52	472.74	-16.78
2046	5,656.91	607.77	507.76	100.01	607.77	488.39	119.38	507.76	488.39	-21.37
2047	5,879.63	636.11	527.51	108.60	636.11	505.05	130.06	527.51	505.05	-22.46
2048	6,110.89	665.33	548.88	116.45	665.33	523.53	142.80	548.88	523.53	-25.35
2049	6,351.53	695.54	572.79	122.75	695.54	542.88	154.66	572.79	542.88	-29.91
2050	6,602.17	727.77	601.37	126.40	727.77	563.61	164.16	601.37	563.61	-37.76
2051	6,862.33	761.46	627.55	133.91	761.46	586.81	174.65	627.55	586.81	-40.74
2052	7,132.79	797.91	655.33	142.58	797.91	611.13	186.78	655.33	611.13	-44.20
2053	7,414.16	836.11	685.17	150.94	836.11	637.32	198.79	685.17	637.32	-47.85
2054	7,707.23	876.16	715.17	160.99	876.16	665.34	210.82	715.17	665.34	-50.83
2055	8,012.19	918.01	746.55	171.46	918.01	695.81	223.20	746.55	695.81	-50.74
2056	8,329.45	961.54	779.61	181.93	961.54	727.66	236.88	779.61	727.66	-51.95
2057	8,659.60	1,007.01	814.12	192.89	1,007.01	761.31	250.70	814.12	761.31	-52.81
2058	9,003.17	1,054.11	857.16	196.95	1,054.11	796.67	265.44	857.16	796.67	-60.49
2059	9,360.70	1,102.74	901.11	201.63	1,102.74	833.88	281.86	901.11	833.88	-67.23
2060	9,732.77	1,151.86	948.66	203.20	1,151.86	873.50	298.36	948.66	873.50	-75.16
Total	5,744.57	9,437.77	3,693.20	364.86	5,744.57	9,137.42	3,392.85	302.37	9,437.77	3,300.36
Present Value at 8% as of July 1, 2011	2,061.12	2,425.98	364.86	302.37	2,061.12	2,363.49	302.37	302.37	2,425.98	(62.50)

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 28, 2012. All assumptions, including the 8% investment return, are assumed to be met each year in the future.



Exhibit C1

Comparison of State/School Group Employee Retirement System
 Kansas Public Employee Retirement System
 HB 2194 versus SB 429

FYE	Payroll (\$M)		Employee Rate/DB		Normal Cost Rate		Normal Cost (1)		Payment (2)		Total Cost (2)		Employee Rate/DB		DB Normal Cost Rate		DB Normal Cost (2)		Payment (2)		Total Cost (2)		Difference (3)	Percent Value of Difference
	Tier 1/2	Tier 3	Rate/DB	Cost Rate	Normal Cost (1)	Payment (2)	Total Cost (2)	Rate/DB	DB Normal Cost Rate	DB Normal Cost (2)	Payment (2)	Total Cost (2)	Rate/DB	DB Normal Cost Rate	DB Normal Cost (2)	Payment (2)	Total Cost (2)	Difference (3)						
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	8.77%	3.31%	147,582	244,014	391,597	0,000	0,000	0,000	0,000			
2013	4,609,301	0,000	9.37%	3.31%	152,346	431,892	584,238	9.37%	3.31%	152,346	431,892	584,238	9.37%	3.31%	152,346	431,892	584,238	0,000	0,000	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	10.27%	3.31%	156,760	330,332	487,092	0,000	0,000	0,000	0,000			
2015	4,706,273	183,492	11.27%	2.31%	112,949	551,077	664,026	12.37%	2.33%	113,927	437,150	551,077	12.37%	2.33%	113,927	437,150	551,077	0,000	0,000	0,000	0,000			
2016	4,507,134	541,224	12.37%	2.22%	111,974	512,508	624,482	13.57%	2.12%	110,810	512,003	624,482	13.57%	2.12%	110,810	512,003	624,482	0,000	0,000	0,000	0,000			
2017	4,332,724	884,524	13.57%	2.12%	110,810	597,171	707,981	14.90%	2.16%	110,810	597,171	707,981	14.90%	2.16%	110,810	597,171	707,981	0,000	0,000	0,000	0,000			
2018	4,171,368	1,224,718	14.46%	1.96%	110,248	670,194	780,442	15.14%	2.18%	116,508	670,194	786,702	15.14%	2.18%	116,508	670,194	786,702	6,260	3,796	2,464	3,796			
2019	4,017,143	1,568,662	14.80%	1.88%	109,544	709,956	819,500	15.31%	2.20%	121,851	710,514	832,366	15.31%	2.20%	121,851	710,514	832,366	12,866	12,866	0,000	12,866			
2020	3,868,916	1,917,913	14.85%	1.81%	108,967	747,658	856,625	15.40%	2.22%	127,242	748,816	876,058	15.40%	2.22%	127,242	748,816	876,058	19,432	19,432	0,000	19,432			
2021	3,729,151	2,270,169	14.84%	1.74%	108,533	782,311	890,844	15.48%	2.23%	132,945	785,311	918,256	15.48%	2.23%	132,945	785,311	918,256	27,412	27,412	0,000	27,412			
2022	3,597,727	2,625,683	14.81%	1.67%	107,754	815,267	923,021	15.53%	2.25%	138,929	819,623	958,552	15.53%	2.25%	138,929	819,623	958,552	35,053	35,053	0,000	35,053			
2023	3,469,577	2,989,037	14.76%	1.61%	107,739	848,662	956,401	15.56%	2.27%	145,180	854,475	999,655	15.56%	2.27%	145,180	854,475	999,655	43,239	43,239	0,000	43,239			
2024	3,343,442	3,361,269	14.70%	1.55%	107,601	881,669	989,270	15.60%	2.28%	152,013	889,045	1,041,057	15.60%	2.28%	152,013	889,045	1,041,057	51,648	51,648	0,000	51,648			
2025	3,218,508	3,743,649	14.62%	1.49%	107,601	915,524	1,023,124	15.69%	2.30%	158,701	924,574	1,083,275	15.69%	2.30%	158,701	924,574	1,083,275	60,151	60,151	0,000	60,151			
2026	3,095,688	4,135,766	14.54%	1.44%	107,840	949,490	1,057,330	15.69%	2.32%	166,665	961,060	1,127,725	15.69%	2.32%	166,665	961,060	1,127,725	70,411	70,411	0,000	70,411			
2027	2,976,817	4,536,108	14.45%	1.39%	107,840	984,193	1,092,033	15.61%	2.35%	174,466	997,716	1,172,182	15.61%	2.35%	174,466	997,716	1,172,182	80,149	80,149	0,000	80,149			
2028	2,861,609	4,945,319	14.34%	1.34%	108,283	1,019,585	1,127,868	15.61%	2.38%	183,484	1,035,199	1,218,682	15.61%	2.38%	183,484	1,035,199	1,218,682	90,814	90,814	0,000	90,814			
2029	2,748,479	5,365,437	14.21%	1.29%	108,283	1,054,809	1,163,666	15.52%	2.40%	193,091	1,073,471	1,266,562	15.52%	2.40%	193,091	1,073,471	1,266,562	102,897	102,897	0,000	102,897			
2030	2,636,015	5,797,930	14.08%	1.26%	109,127	1,098,666	1,198,793	15.42%	2.44%	202,796	1,110,751	1,313,546	15.42%	2.44%	202,796	1,110,751	1,313,546	114,754	114,754	0,000	114,754			
2031	2,523,441	6,243,849	13.90%	1.22%	110,296	1,123,967	1,234,263	15.29%	2.47%	213,881	1,146,762	1,360,642	15.29%	2.47%	213,881	1,146,762	1,360,642	126,379	126,379	0,000	126,379			
2032	2,410,718	6,703,938	13.90%	1.18%	111,686	1,155,738	1,266,684	15.29%	2.50%	223,575	1,180,348	1,405,923	15.29%	2.50%	223,575	1,180,348	1,405,923	134,214	134,214	0,000	134,214			
2033	2,297,300	7,178,932	13.90%	1.15%	113,289	1,188,686	1,300,975	15.40%	2.54%	230,601	1,217,268	1,451,869	15.40%	2.54%	230,601	1,217,268	1,451,869	143,223	143,223	0,000	143,223			
2034	2,182,241	7,670,035	14.11%	1.11%	114,119	1,228,864	1,342,983	15.40%	2.57%	238,315	1,251,265	1,500,580	15.40%	2.57%	238,315	1,251,265	1,500,580	152,622	152,622	0,000	152,622			
2035	2,065,928	8,177,707	14.09%	1.08%	115,059	1,275,967	1,388,026	15.29%	2.61%	246,311	1,281,775	1,550,081	15.29%	2.61%	246,311	1,281,775	1,550,081	162,190	162,190	0,000	162,190			
2036	1,948,113	8,702,679	13.86%	1.05%	116,807	1,341,192	1,457,999	15.29%	2.65%	254,912	1,317,265	1,602,177	15.29%	2.65%	254,912	1,317,265	1,602,177	173,583	173,583	0,000	173,583			
2037	1,827,085	9,246,479	13.86%	1.02%	117,663	1,402,740	1,510,403	15.29%	2.68%	263,668	1,348,153	1,656,821	15.29%	2.68%	263,668	1,348,153	1,656,821	184,640	184,640	0,000	184,640			
2038	1,703,396	9,809,757	13.86%	1.00%	119,653	1,468,828	1,588,481	15.29%	2.72%	272,815	1,385,199	1,717,014	15.29%	2.72%	272,815	1,385,199	1,717,014	195,923	195,923	0,000	195,923			
2039	1,578,269	10,392,660	13.86%	0.97%	120,583	1,538,864	1,667,447	15.29%	2.75%	282,912	1,427,268	1,788,180	15.29%	2.75%	282,912	1,427,268	1,788,180	207,265	207,265	0,000	207,265			
2040	1,452,370	10,995,722	13.86%	0.95%	122,573	1,614,828	1,767,401	15.29%	2.79%	293,712	1,470,751	1,854,463	15.29%	2.79%	293,712	1,470,751	1,854,463	218,850	218,850	0,000	218,850			
2041	1,329,445	11,617,595	13.86%	0.93%	124,704	1,700,828	1,861,532	15.29%	2.83%	305,265	1,525,265	1,950,530	15.29%	2.83%	305,265	1,525,265	1,950,530	228,891	228,891	0,000	228,891			
2042	1,213,354	12,256,040	13.86%	0.90%	126,828	1,800,828	1,977,656	15.29%	2.86%	317,737	1,580,828	2,052,565	15.29%	2.86%	317,737	1,580,828	2,052,565	238,936	238,936	0,000	238,936			
2043	1,102,458	12,912,073	13.86%	0.88%	130,404	1,914,828	2,105,232	15.29%	2.89%	330,828	1,647,265	2,158,093	15.29%	2.89%	330,828	1,647,265	2,158,093	248,178	248,178	0,000	248,178			
2044	992,920	13,588,470	13.86%	0.86%	134,828	2,040,828	2,285,656	15.29%	2.92%	346,129	1,722,265	2,268,490	15.29%	2.92%	346,129	1,722,265	2,268,490	256,536	256,536	0,000	256,536			
2045	885,412	14,284,677	13.86%	0.84%	139,484	2,188,828	2,428,312	15.29%	2.95%	363,828	1,817,265	2,380,093	15.29%	2.95%	363,828	1,817,265	2,380,093	264,629	264,629	0,000	264,629			
2046	783,139	14,997,606	13.86%	0.82%	144,147	2,352,828	2,596,975	15.29%	2.98%	383,828	1,922,265	2,505,093	15.29%	2.98%	383,828	1,922,265	2,505,093	272,577	272,577	0,000	272,577			
2047	680,796	15,729,466	13.86%	0.80%	149,484	2,548,828	2,698,312	15.29%	3.01%	405,828	2,042,265	2,648,093	15.29%	3.01%	405,828	2,042,265	2,648,093	280,577	280,577	0,000	280,577			
2048	573,131	16,484,746	13.86%	0.78%	155,484	2,772,828	2,788,312	15.29%	3.04%	428,828	2,182,265	2,712,093	15.29%	3.04%	428,828	2,182,265	2,712,093	288,178	288,178	0,000	288,178			
2049	465,713	17,261,980	13.86%	0.76%	161,199	3,032,828	2,844,021	15.29%	3.07%	454,828	2,338,265	2,792,093	15.29%	3.07%	454,828	2,338,265	2,792,093	295,828	295,828	0,000	295,828			
2050	373,175	18,050,490	13.86%	0.74%	167,199	3,318,828	2,886,021	15.29%	3.10%	482,828	2,502,265	2,812,093	15.29%	3.10%	482,828	2,502,265	2,812,093	302,828	302,828	0,000	302,828			
2051	299,011	18,848,441	13.86%	0.72%	173,457	3,632,828	2,912,280	15.29%	3.13%	512,828	2,688,265	2,822,093	15.29%	3.13%	512,828	2,688,265	2,822,093	309,828	309,828	0,000	309,828			
2052	235,082	19,664,612	13.86%	0.70%	179,457	4,000,828	2,942,280	15.29%	3.16%	554,828	2,888,265	2,822,093	15.29%	3.16%	554,828	2,888,265	2,822,093	316,828	316,828	0,000	316,828			
2053	178,915	20,503,240	13.86%	0.68%	186,424	4,432,828	2,942,280	15.29%	3.18%	604,828	3,102,265	2,822,093	15.29%	3.18%	604,828	3,102,265	2,822,093	324,828	324,828	0,000	324,828			
2054	131,803	21,362,806	13.86%	0.66%	194,278	4,922,828	2,942,280	15.29%	3.20%	664,828	3,352,265	2,822,093	15.29%	3.20%	664,828	3,352,265	2,822,093	332,828	332,828	0,000	332,828			
2055	101,111	22,243,377	13.86%	0.64%	199,457	5,482,828	2,942,280	15.29%	3.22%	732,828	3,642,265	2,822,093	15.29%	3.22%	732,828	3,642,265	2,822,093	340,828	340,828	0,000	340,828			
2056	76,276	23,150,859	13.86%	0.62%	199,457	6,002,828	2,942,280	15.29%	3.24%	804,8														

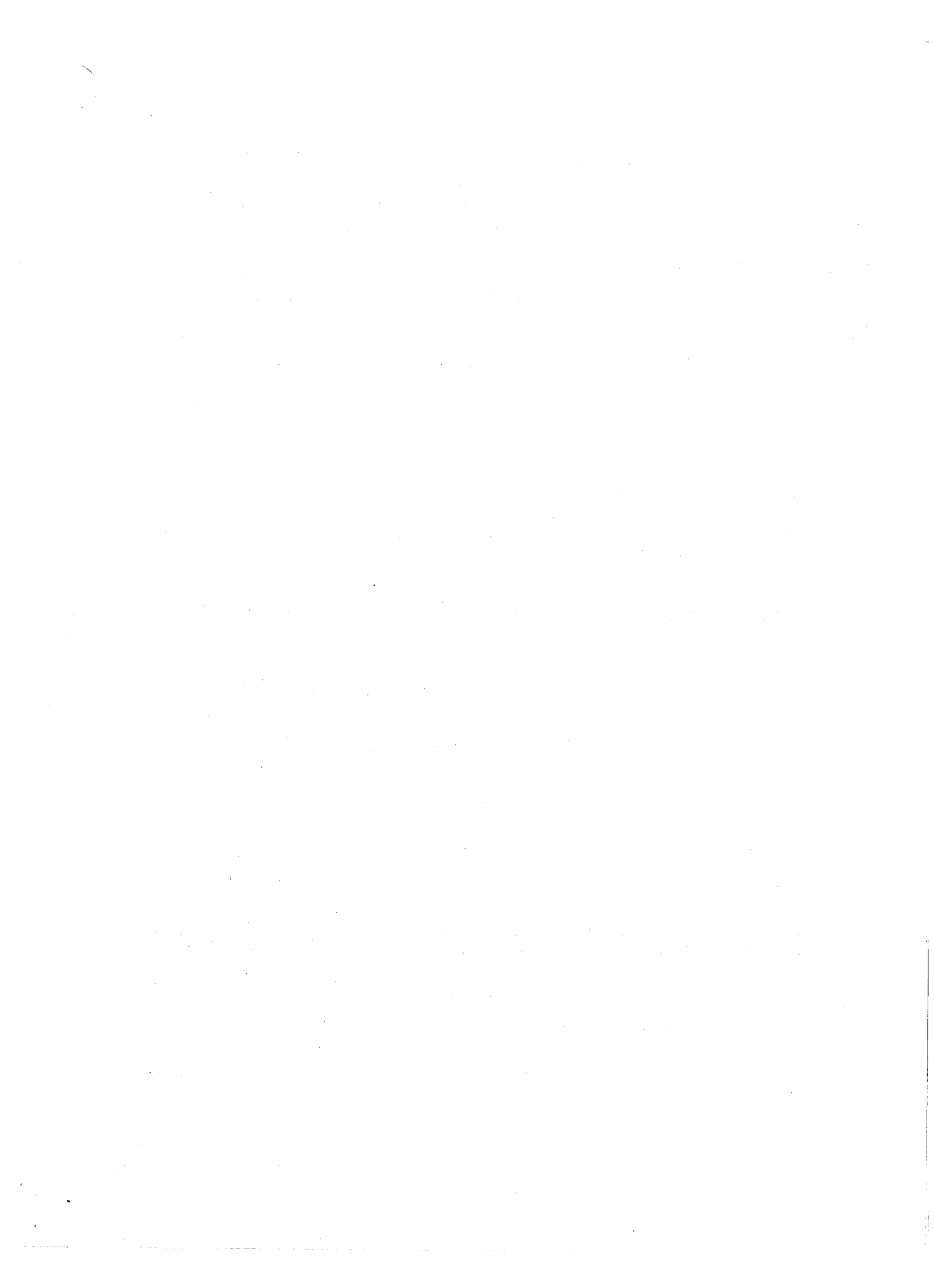


Exhibit C2

Kansas Public Employee Retirement System
Comparison of Local Group Employer Contributions for Retirement Benefits
HB 2194 versus SB 429

FYE	Payroll (\$M)		Employer Rate-DB	Normal Cost Rate	HB 2194		SB 429 (1)		Difference (2)	Present Value of Difference
	Tier 1/2	Tier 3			Normal Cost (2)	UAL Payment (2)	DB Normal Cost (2)	UAL Payment (2)		
2012	1,678,751	0.000	7.34%	2.94%	49,355	73,865	49,355	73,865	0.000	0.000
2013	1,726,922	0.000	7.94%	2.94%	50,772	86,346	50,772	86,346	0.000	0.000
2014	1,777,741	0.000	8.65%	1.96%	34,906	137,118	34,906	137,118	0.000	0.000
2015	1,682,855	151,199	9.12%	1.86%	34,106	133,152	34,106	133,152	0.000	0.000
2016	1,601,267	292,153	9.00%	1.76%	33,371	137,084	33,371	137,084	0.000	0.000
2017	1,531,885	423,760	9.00%	1.69%	33,049	142,958	33,049	142,958	2,446	3,011
2018	1,468,854	551,608	9.00%	1.62%	32,730	149,110	32,730	149,110	4,966	3,011
2019	1,411,513	676,427	8.99%	1.55%	32,396	155,343	32,396	155,343	7,529	4,262
2020	1,357,016	801,074	8.98%	1.49%	32,073	161,641	32,073	161,641	10,217	5,311
2021	1,306,765	925,141	8.98%	1.42%	31,768	168,732	31,768	168,732	12,635	6,740
2022	1,259,029	1,050,142	8.98%	1.36%	31,472	175,959	31,472	175,959	15,121	7,390
2023	1,211,644	1,178,114	8.98%	1.31%	31,237	183,294	31,237	183,294	17,908	7,851
2024	1,166,580	1,308,070	8.97%	1.25%	31,040	191,043	31,040	191,043	20,546	8,423
2025	1,122,814	1,440,897	8.98%	1.21%	30,916	199,200	30,916	199,200	23,068	8,837
2026	1,079,538	1,577,175	8.97%	1.16%	30,845	207,489	30,845	207,489	25,710	8,837
2027	1,036,739	1,717,192	8.97%	1.12%	30,815	216,184	30,815	216,184	28,474	8,818
2028	996,305	1,860,024	8.96%	1.08%	30,834	225,079	30,834	225,079	31,397	8,859
2029	956,653	2,006,671	8.94%	1.04%	30,915	234,103	30,915	234,103	34,196	8,869
2030	918,258	2,157,256	8.93%	1.01%	31,056	243,581	31,056	243,581	36,831	8,755
2031	881,111	2,312,267	8.91%	0.98%	31,239	253,156	31,239	253,156	39,266	8,557
2032	841,490	2,472,188	3.65%	0.95%	31,460	262,956	31,460	262,956	41,446	8,488
2033	802,890	2,637,309	2.75%	0.92%	31,727	272,956	31,727	272,956	44,401	8,407
2034	763,519	2,808,290	1.82%	0.90%	32,032	283,611	32,032	283,611	47,499	8,317
2035	724,959	2,984,212	1.49%	0.87%	32,373	294,977	32,373	294,977	50,747	8,216
2036	685,180	3,166,753	1.27%	0.85%	32,755	307,178	32,755	307,178	54,140	8,158
2037	645,945	3,355,264	1.14%	0.83%	33,176	320,335	33,176	320,335	58,065	8,037
2038	606,916	3,550,260	1.06%	0.81%	33,650	334,569	33,650	334,569	61,778	7,957
2039	567,903	3,751,578	0.99%	0.79%	34,179	349,989	34,179	349,989	66,051	7,812
2040	528,254	3,960,270	0.94%	0.77%	34,753	366,629	34,753	366,629	70,042	7,754
2041	488,776	4,177,037	0.90%	0.76%	35,379	384,516	35,379	384,516	75,085	7,591
2042	445,926	4,400,890	0.86%	0.74%	36,073	403,673	36,073	403,673	84,866	7,514
2043	405,937	4,631,369	0.83%	0.73%	36,841	424,117	36,841	424,117	89,493	7,337
2044	365,661	4,869,826	0.81%	0.72%	37,672	445,934	37,672	445,934	95,319	7,236
2045	326,896	5,115,138	0.79%	0.71%	38,575	469,285	38,575	469,285	100,803	7,085
2046	290,352	5,366,555	0.77%	0.70%	39,565	494,292	39,565	494,292	106,405	6,925
2047	254,343	5,623,289	0.76%	0.69%	40,626	520,984	40,626	520,984	112,146	6,793
2048	218,593	5,892,300	0.74%	0.68%	41,776	549,367	41,776	549,367	118,587	6,617
2049	184,549	6,166,985	0.74%	0.68%	43,043	579,454	43,043	579,454	125,281	6,472
2050	155,998	6,446,177	0.73%	0.67%	44,431	611,361	44,431	611,361	131,438	6,288
2051	129,299	6,733,033	0.73%	0.67%	45,934	645,117	45,934	645,117	137,601	6,095
2052	104,361	7,028,427	0.73%	0.66%	47,529	680,849	47,529	680,849	143,939	5,961
2053	81,172	7,332,993	0.73%	0.66%	49,285	728,592	49,285	728,592	150,513	5,793
2054	63,826	7,643,400	0.73%	0.66%	51,201	779,410	51,201	779,410	157,310	5,622
2055	50,205	7,961,988	0.74%	0.66%	53,344	832,664	53,344	832,664	164,331	5,447
2056	38,812	8,290,643	0.74%	0.66%	55,719	888,619	55,719	888,619	171,561	5,270
2057	29,195	8,630,402	0.76%	0.67%	60,035	946,425	60,035	946,425	179,046	5,095
2058	22,087	8,981,087	0.76%	0.67%	62,592	1,005,879	62,592	1,005,879	186,885	4,946
2059	16,902	9,343,797	0.76%	0.67%	65,286	1,067,259	65,286	1,067,259	195,365	4,769
2060	12,843	9,719,925	0.76%	0.67%	65,286	1,067,259	65,286	1,067,259	195,365	4,769

(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 26, 2012.



