CASH BALANCE PLAN DESIGN WORKSHEET
March 2, 2012

I. Establishing the Plan

Relationship to Existing Plan		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Establish as a new tier within existing defined benefit plan.	Tier 2 was established within the existing KPERS system, and one actuarial contribution rate is determined in the actuarial valuation process and applied to total covered payroll.	Cash balance plan is part of the same trust and the existing defined benefit plan remains open. All funding is determined on an aggregate basis, and a single actuarial contribution rate is calculated to be applied to all covered payroll.

Eligibility		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Apply to future hires only as of 1/1/2014. Corrections Officers continue to enter Tier II.	Applied to future hires on/after July 1, 2009.	Simpler than moving all non-vested members from an implementation, communication, and administrative standpoint.

II. Accumulation Phase

Employee Contribution Rate		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
6%	6%	

Employer Credit*		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
"Service-based" approach (similar to HB 2545/SB 338 or SB 429). Yr 1 – 1% Yr 2 – 2% Yr 3 – 3% Yr 4 and following – 4%	N.A.	More complex administratively and cost could change over time based on demographics of the covered group, although it is not expected to vary significantly. Corrections to the cash balance account for past years are more likely to be needed due to the more complex formula and will be more complicated than under the current DB benefit structure.

Interest Credit		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Rate		
Include a minimum crediting rate of 5%.	N.A.	Provides more security for the members than just using a benchmark, but can still control the risk to the system by selection of a sustainable minimum interest rate. Could provide a maximum interest credit as protection to system's funding. Increases the member's ability to plan for retirement.
Frequency of Crediting		
Quarterly	Interest is credited on member	More frequent interest credits increase the

Interest Credit		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
	contributions annually.	administrative costs required to keep track of the account balances on an ongoing basis. More frequent crediting is likely to be attractive to the members, particularly if account balances are made available more often than annually. No significant cost impact.
If quarterly, prorate for members taking a distribution? Yes	None granted.	No significant cost impact. Slightly more complex from an administrative standpoint.
Discretionary Dividends		
Standards for granting, based on Funded status of entire plan? Funded status for Tier 3 only? Historical investment returns? Set a maximum for the dividend or for the interest credit plus dividend? 50% of return over "assumed return" may be granted by the Board depending on the health of the trust fund. Maximum of 2% dividend, for total maximum of 7% credit**. Needs further definition**.	N.A.	If the Board has discretion over dividends, the Board has some control over the member's benefits. Can be minimized with guardrails/ guidance in the statutes. The Board's action must comply with fiduciary standards, so that the interests of the System are considered, as well as the interests of the members. Granting of discretionary dividends will reduce the contributions used to fund the unfunded actuarial liability or result in higher employer costs. Challenge is how to balance the need to strengthen KPERS funding with the benefits for Tier 3 members in the near term.

Employer Contribution*		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments***
Single, actuarially determined rate for all KPERS tiers.	Currently, one actuarial contribution rate is determined for both KPERS Tier 1 and Tier 2.	Would require additional actuarial work to isolate and track the costs of Tier 3 versus Tier 1 and 2 if desired. If actual investment experience is less than KPERS' assumed rate of return (not the cash balance plan's interest crediting rate), the unfunded actuarial liability will increase as will the employer actuarial contribution rate.

III. Eligibility for Benefits

Vesting		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
7 years	5 years	Earlier vesting generally results in higher plan costs. Likewise, a longer vesting period generally results in lower costs.

Termination Before Vesting (Nonvested, Inactive)		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Forfeiture of membership. Member contributions may be withdrawn, at which point membership is forfeited. After two years, membership is forfeited, and	Member contributions may be withdrawn, at which point membership and all service credits are forfeited. After five years, service credits are	Must offer the member a return of employee contributions with interest. If the member takes a refund, all service credits are forfeited. Would need to state whether the interest would be

Termination Before Vesting (Nonvested, Inactive)		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
member contributions plus interest are refunded.	forfeited, even if member contributions are not yet withdrawn.	based on the interest crediting rate or on some other rate. Applying a different interest rate may be confusing to members
Interest credits. Interest credits continue accruing for two years following termination.	Member contributions continue to earn interest for up to five years.	
Return to service. If the member returns to an eligible position in the two-year period immediately following termination and membership has not been forfeited, service credits earned during the prior employment are retained.	If the member returns to an eligible position in the five-year period immediately following termination, service credits earned during the prior employment are retained.	

Termination When Vested (Vested Inactive)		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Members may – Leave contributions and draw benefit at retirement age. –OR – Withdraw employee contributions and interest, employer contributions and interest annuitized at normal or early retirement age.	N.A.	To the extent benefits for terminated vested members reflect all or part of the employer provided benefit, the cost of the plan increases. Increases portability for members leaving covered employment. Lump sum increases possibility of member spending retirement assets before retirement. Furthermore, if the terminated member is allowed to take the benefit upon termination in a lump sum, the cost is even higher. This may also have an impact on the cash flows of KPERS in the long term and may impact the asset allocation and

Termination When Vested (Vested Inactive)		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
		potential investment return.

Death Prior to Retirement		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
If not vested at time of death, assume beneficiary receives member contributions plus interest.	Beneficiary receives member contributions plus interest.	
If vested, but not yet at normal retirement age at time of death: Provide 100% annuitized benefit for spouse named as sole beneficiary.	Beneficiary receives member contributions at time of death, unless: • The member has at least 10 years of service. – and – • The member's spouse is named as the member's sole, primary beneficiary. In that case, the spouse may receive the member's retirement benefit, beginning at the earliest date the member would have qualified for early retirement (age 55).	If the value of the cash balance account is provided to a named beneficiary for all members dying before retirement, the plan's cost increases. But given the low probability of death before retirement, a significant cost impact is not expected. Cost will be less if the beneficiary is required to wait until the member would have reached normal retirement age before the beneficiary receives the benefit.
If vested and at normal retirement age, but has not retired at time of death, assume spouse eligible to receive retirement benefit immediately.	Spouse begins receiving retirement benefit immediately.	

Normal Retirement Age (Non-forfeitable): Standard		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Age 65 with five years of service –OR– Age 60 with 30 years of service.	Age 65 with five years of service (vested) –OR– Age 60 with 30 years of service.	Retirement eligibility is less critical under a cash balance plan because there is a direct reduction in the benefit amount for the member for early commencement. By starting benefits earlier, the amount in the cash balance account is smaller and the payout period is longer, both of which result in lower benefits for the member. The impact of the plan's retirement eligibility criteria on the plan's risk profile depends on the interest rate and mortality table used to convert the account balance into monthly income. If the interest rate is the same both pre and post-retirement, the cost impact of earlier commencement is smaller. If a lump sum option is an optional form of payment, earlier retirement would increase the cost of the plan. Funds leave the trust sooner, which reduces the System's ability to earn more than the assumption used in the annuity conversion factor (which is used to determine the benefit amount). Loss of those excess earning will increase the cost of the plan. The higher the percentage of benefit offered as a lump sum, the greater the cost impact.

Normal Retirement Age (Non-forfeitable): Correctional Officers		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
N/A – Correctional Officers continue to enter Tier II.	Group A (primarily correction officers and supervisors): age 55 with 10 years of service. Group B (other correction institution employees that have regular contact with inmates): age 60 with 10 years of service.	Without higher employer credits to the cash balance account, the member bears the entire cost of the earlier retirement ages because of a smaller account value and longer payout period.

Early Retirement Age		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Age 55 with 10 years of service. No lump sum, 100% annuitized benefit.	Age 55 with 10 years of service.	Very small cost impact as long as the benefit must be paid as an annuity. The member bears the entire cost of the earlier retirement age because a smaller account value and longer payout period result in a lower benefit. If a lump sum option is offered, there will be a bigger cost to early retirement. The higher the lump sum option, the greater the cost of the early retirement provision. Also ultimately impacts KPERS cash flow, but the long-term impact is unknown at this time.

IV. Nature of Retirement Benefit

Default Form of Distribution:		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Annuity with 15 years life certain and 100% annuitization.	Benefits paid for life of member only. Any member contributions remaining at time of death are paid to beneficiary, with interest.	Little impact as the present value of all forms of payment at retirement is equal to the account value.

Calculation of Benefit: Annuity Conversion Factor		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Fixed rate of 5% established as part of plan design.	N.A.	Would need to find balance between setting a rate providing enough conservatism to minimize interest rate risk for the Plan vs. a rate that doesn't unnecessarily reduce lifetime benefit. Could provide a 13th check for retirees if actual experience in the long term was more favorable than assumed. Such a 13th check would only be granted for one year at a time and as the system's funding permits. Provides a more predictable benefit amount for employees and improves their ability to plan for retirement. Less uncertainty in funding because annuity conversion factors are known in advance, so there is no actuarial gain or loss from a member's retirement. However, actual investment experience that is lower than KPERS' assumed rate may expose the system to risk.

Calculation of Benefit: Mortality Factor		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Provide statutory authority for Board to select mortality tables to be used in annuitizing member account balances.	In consultation with KPERS' actuary, the KPERS Board currently selects mortality tables to be used in actuarial assumptions for valuations and, as needed, for actuarial calculations of individual member benefits (*e.g.*, early retirement benefit reduction factors).	K.S.A. 74-4901 *et seq.* provides this framework for Tiers 1 and 2. Creates the ability to reduce longevity risk for the System, because the Board can quickly respond to changes in observed mortality experience (*e.g.*, if anti-selection became apparent the Board could change the mortality table for future retirees immediately). Creates some uncertainty about the amount of benefit payable to the member at retirement as the mortality table is subject to change, but this has a smaller impact on the benefit amount than the variability in the interest rate used in annuitizing the account balance (discussed earlier).

Benefit Options		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
50%, 75% or 100% joint and survivor option 5, 10 or 15-year life certain options.	50%, 75% or 100% joint and survivor option 5-, 10- or 15-year life certain options.	The impact of different forms of payments is minimal because the benefit amounts are all based on the account value and the actuarial factors. There is no increase in liability from the election of one form of payment vs. another. Members will prefer to have different options for payment post-retirement to permit them to select an option that best fits their personal situation.
Partial lump sum option. Member may take a dollar amount up to a maximum of 30% of account balance.	Partial lump sum option payments are available in increments of 10%, up to a maximum of 30%.	Higher portions of the account value that can be paid as a lump sum tend to increase the cost of the plan. It can also create the potential for anti-selection where healthier members elect the annuity option and unhealthy members elect a lump sum. Members find a partial or full lump sum option attractive.
"Self-funded, cost of living adjustment" (COLA) feature, in which the account value is converted to a benefit amount that increases a fixed percent each year over time. This feature can be added to any of the optional forms of payment.	Tier 2 currently includes a cost-of-living adjustment feature that is actuarially funded as part of the benefit structure. HB 2194 would require Tier 3 members to elect – (1) to have a 1.75% multiplier applied to future service, but to forego the cost of living adjustment feature, or (2) to retain the COLA with a lower, 1.40% multiplier. The Legislature may grant one-time, ad-hoc post-retirement benefit increases.	The impact of different forms of payments, both with and without a cost of living adjustment, is minimal because the benefit amounts are all based on the account value and the actuarial factors. There is no increase in liability from the election of a form of payment with a COLA because the member takes a reduced amount initially. Members often prefer to have different options for payment post-retirement to permit them to select an option that best fits their personal situation.

Retirement benefits for members on disability*		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Receives the total pay credit (employee and employer contribution) during the disability. The salary on which the credits are based would be the member's pay at the beginning of the disability, adjusted after five years for the lesser of the increase in the CPI for urban consumers, minus 1%, or 4% per annum. All credits to the employer annuity account cease as of the earliest of the member's normal retirement age, death, or the date the member is no longer entitled to receive disability benefits.	Receives participating service credit for the entire period of disability. For purposes of calculating the final average salary, the member's pay at the beginning of the disability is adjusted after five years for the lesser of the increase in the CPI for urban consumers, minus 1%, or 4% per annum. Service credit ceases as of the earliest of the member's normal retirement age, death, or the date the member is no longer entitled to receive disability benefits.	Helps to provide meaningful benefit at retirement for disabled members, which is necessary since disability benefits cease at normal retirement age. There is a cost related to providing this benefit, but because the probability of disability is low, the cost is not significant.

Retiree death benefit		
	KPERS Tier 2: Parallel Provision	**Considerations & Comments**
Provide death benefit of $4,000.	$4,000	Cash balance options modeled by Cavanaugh MacDonald have included a $4,000 death benefit. Provides minimal benefit to help with funeral costs. Provides consistency with Tier 1 and Tier 2.