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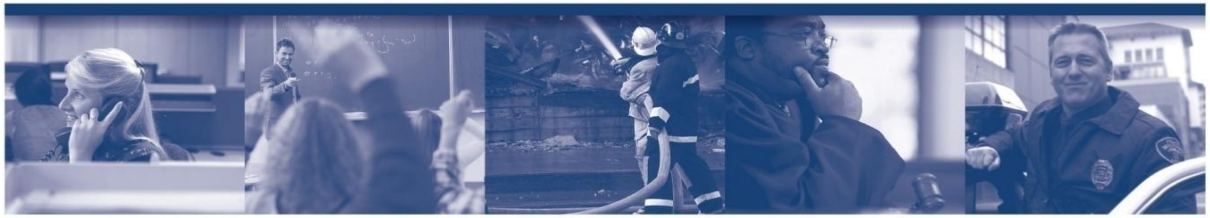
KPERS

Presentation to Senate Select Committee on KPERS and House Pension and Benefits Committee

January 24, 2012

Presented by: Patrice A. Beckham, FSA, FCA, EA, MAAA



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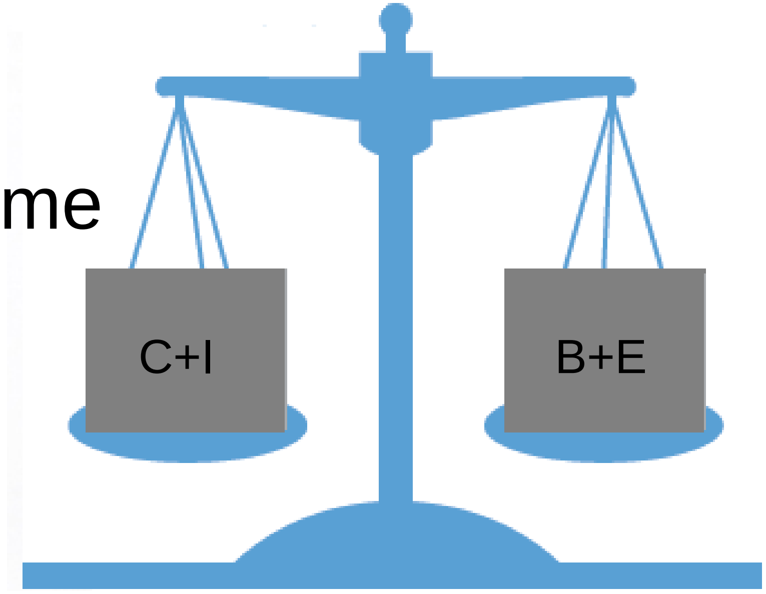
Basic Retirement Funding Equation

$$C + I = B + E$$

C = contributions
I = investment income
B = benefits paid
E = expenses



Basic Retirement Funding Equation

C + I = B + E

B depends on

- Plan Provisions
- Experience

C depends on

- Short Term: Actuarial Assumptions
  Actuarial Cost Method
- Long Term: I, B, E

Basic Plan Provisions

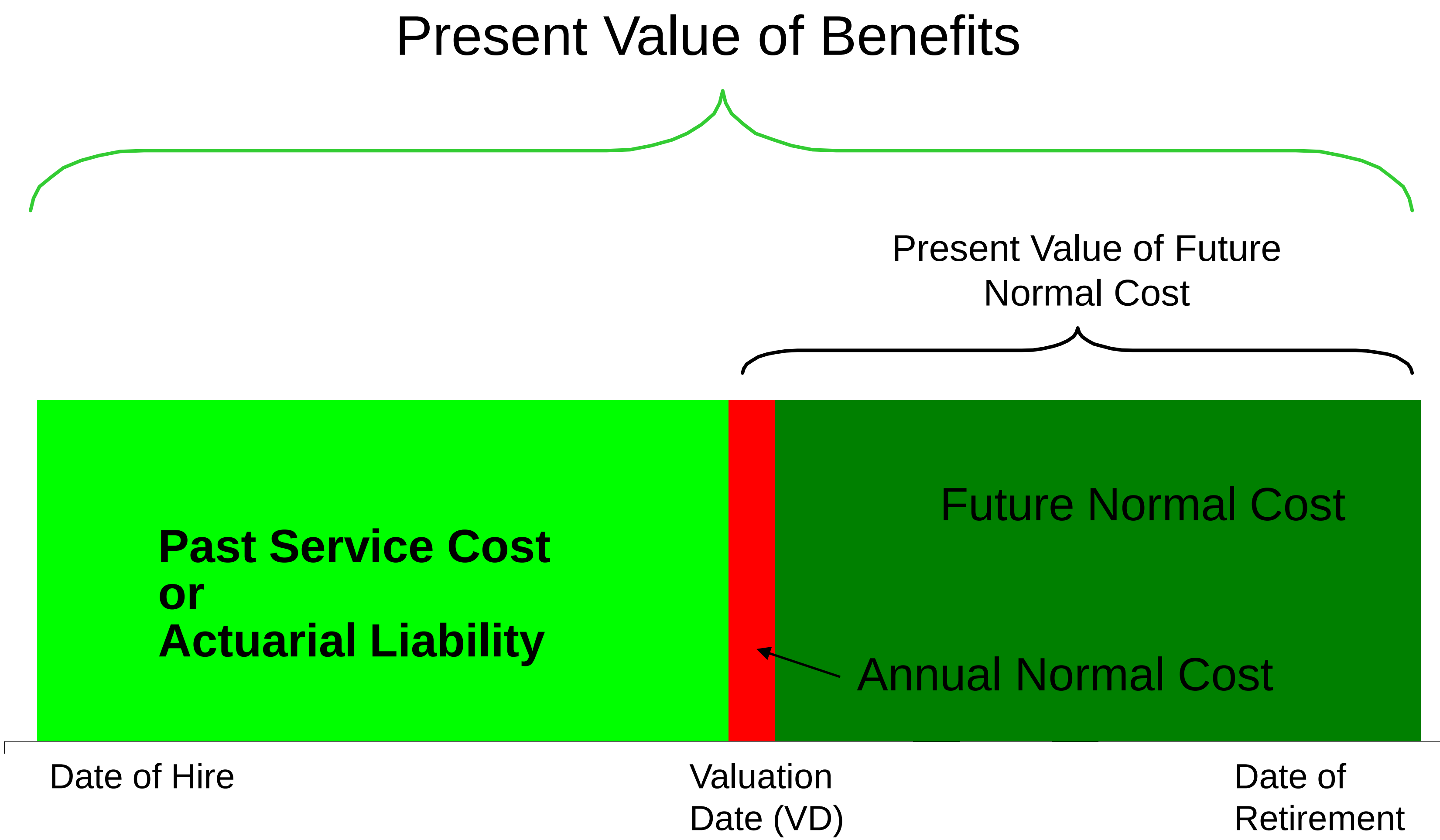
	Current Plan Design	
	Tier 1 (Hired before 7/1/09)	Tier 2 (Hired on/after 7/1/09)
Employee contribution	4%	6%
Final Average Salary	Highest three years	Highest five years
Benefit Formula	1.75% x FAS x YOS	1.75% x FAS x YOS
Cost of living Adjustment	None	2% beginning at later of age 65 or two years after retirement
Normal retirement age (Unreduced benefits)	Age 65 or age 62 with 10 YOS or Rule of 85	Age 60 with 30 YOS or age 65 with 5 YOS
Early retirement age	Age 55 with 10 YOS	Age 55 with 10 YOS
Early retirement benefit	Accrued benefit reduced 0.2% per month for pre-age 62 and 0.6% per month for pre-age 60	Accrued benefit with full actuarial reduction for early commencement

Basic Plan Provisions

	Current Plan Design	
	Tier 1 (Hired before 7/1/09)	Tier 2 (Hired on/after 7/1/09)
Vesting	5 years	5 years
Disability benefit	Continued service credit and adjustment to FAS if disabled at least 5 years	Continued service credit and adjustment to FAS if disabled at least 5 years
Pre-retirement death benefit	EE contribution balance or spousal benefit if 10YOS	EE contribution balance or spousal benefit if 10YOS
Post-retirement death benefit	$4,000 lump sum	$4,000 lump sum

Actuarial Funding Process

Contribution as
% of Pay



Actuarial Liability – Actuarial Assets = Unfunded Actuarial Liability

Unfonded Actuarial Liability

- Unfunded actuarial liability (UAL) is a natural part of retirement system funding.
- The existence of an UAL does not <u>automatically</u> mean the system is “underfunded”
- Comparable to a mortgage on a home
- Must be financed in addition to ongoing cost for actives (called “normal cost”)

Amortization of Unfunded Actuarial Liability

- UAL paid off with a schedule of payments

- KPERS amortization period is a closed 40 year period that started in 1993
  - Ends in 2033
  - 22 years remain with 12/31/10 valuation

- Level % of payroll amortization method – dollar amount of payment increases 4% each year. Covered payroll is expected to increase 4% also so contribution is a level percentage.

- Payments are less than interest on the UAL for nearly 25 of the 40 year period so dollar amount of UAL is expected to grow <u>even if all assumptions are met and full ARC is paid</u>.

Key 12/31/10 Valuation Measurements

Group	Contribution Rates*		Actuarial Funded Status	
	Actuarial Rate	Statutory Rate	Unfunded Actuarial Liability (in Millions)	Funded Ratio
State	9.82%	9.97%**	$931.6	76%
School	15.12%	9.97%	$5,312.5	55%
Local	9.43%	7.94%	$1,395.0	63%
Total KPERS			$7,639.1	61%

*Effective for fiscal year beginning in 2013. (FY 2014 for State and School Groups, CY 2013 for Local Group.)

**The difference between the statutory and actuarial contribution rates is contributed to the School group.

Senate Substitute for HB 2194

- Increases in the Statutory Cap on Employer Contributions

	Current	HB 2194
FY2014	0.6%	0.9%
FY2015	0.6%	1.0%
FY2016	0.6%	1.1%
FY2017	0.6%	1.2%

HB 2194 Benefit Changes – Tier 1

Member Contribution Rate	Benefit Provisions	
6% contribution	1.85% multiplier (future YOS)	Default
or		
4% contribution	1.40% multiplier (future YOS)	

Changes are effective January 1, 2014.

Member election option is subject to IRS approval.

HB 2194 Benefit Changes – Tier 2

Member Contribution Rate	Benefit Provisions	
6% contribution	1.75% multiplier but lose COLA (all YOS)	Default
or		
6% contribution	1.40% multiplier (future YOS) and keep COLA	

Changes are effective January 1, 2014.

Member election option is subject to IRS approval.

Impact of HB 2194 on 12/31/10 Valuation Measurements

Group	Actuarial Contribution Rates		Unfunded Actuarial Liability ($M)	
	Current Plan	HB 2194	Current Plan	HB 2194
State/School	13.83%	12.41%	$6,244	$6,236
Local	9.43%	7.99%	$1,395	$1,391
Total KPERS			$7,639	$7,627

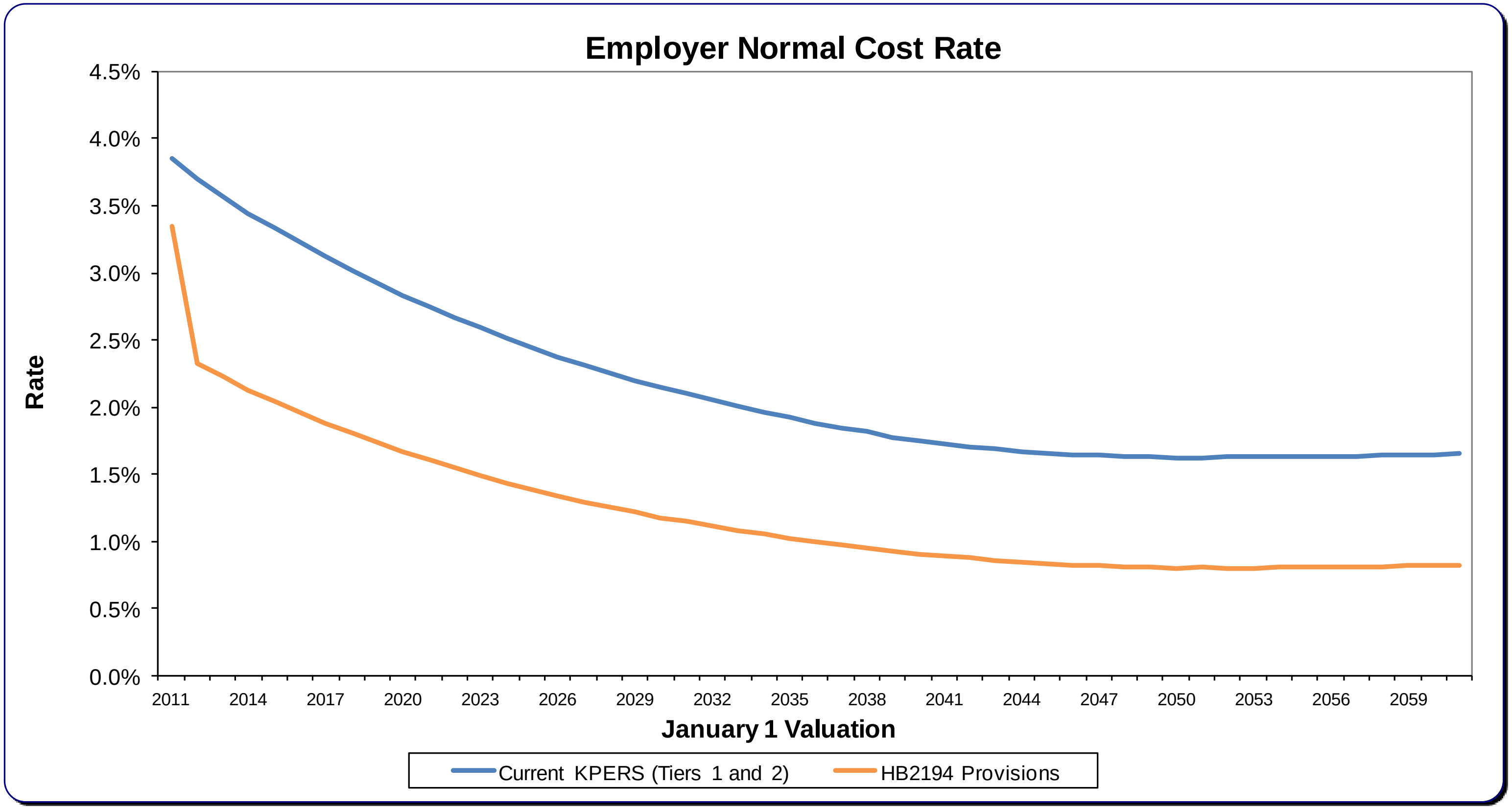
While there was little change to the December 31, 2010 UAL, HB 2194 did make significant changes to the future funding of KPERS. The employer actuarial contribution rate declined due to the change in the benefits and employee contribution rates.

Key Change under HB 2194

State/School	Tier 1		Tier 2	
	Current Plan	HB 2194	Current Plan	HB 2194
Normal Cost Rate	8.01%	8.54%	8.17%	7.31%
Employee Contribution	4.00%	6.00%	6.00%	6.00%
Employer Normal Cost Rate	4.01%	2.54%	2.17%	1.31%

HB 2194 significantly lowered the employer normal cost rate for both Tier 1 and Tier 2 members. The lower normal cost rate permits more of the total contributions to be directed to pay off the UAL.

Comparison of Employer Normal Cost



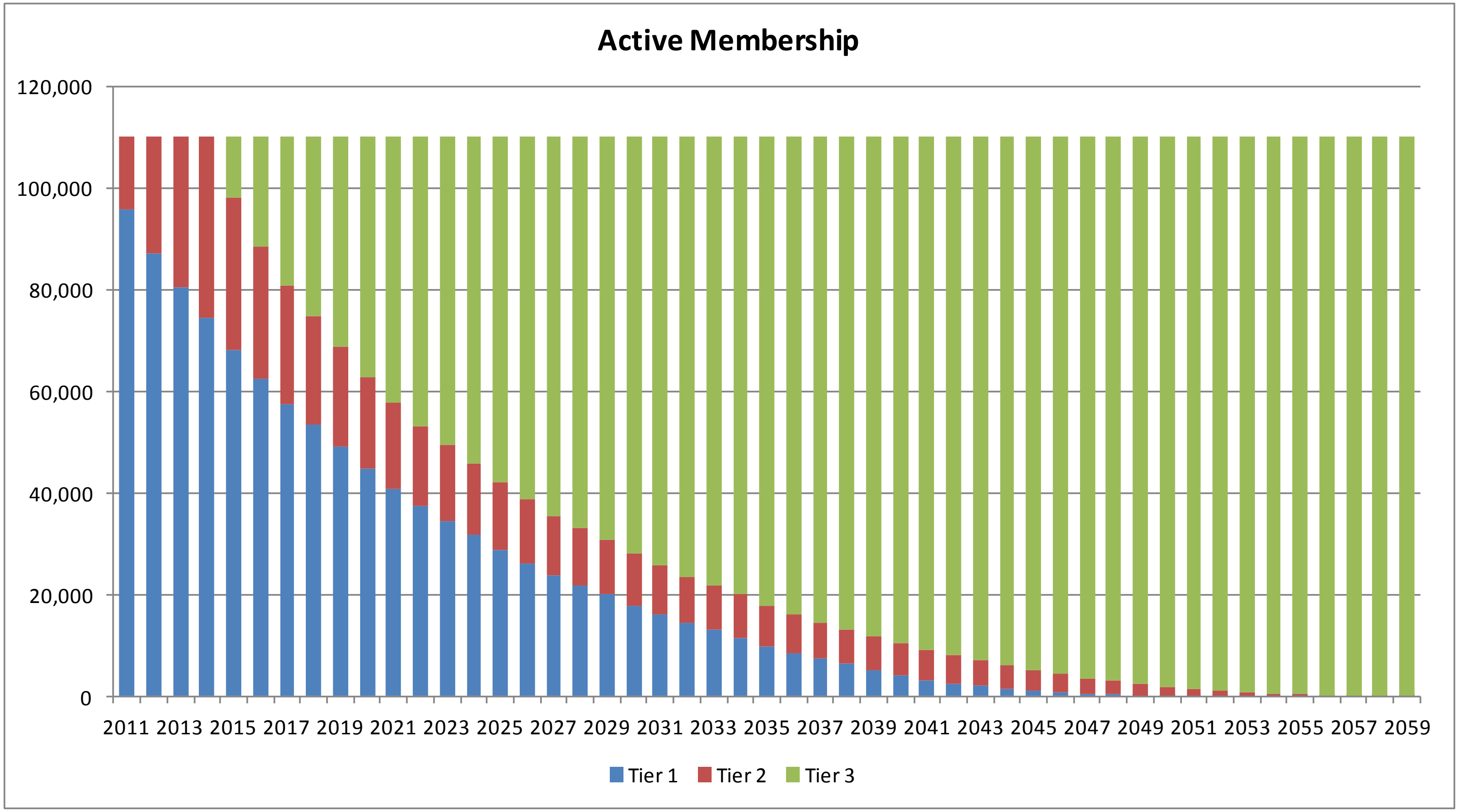
Cost Projections

- When changes impact new hires or future benefits for current members, the cost impact unfolds over time as current members are replaced with new hires

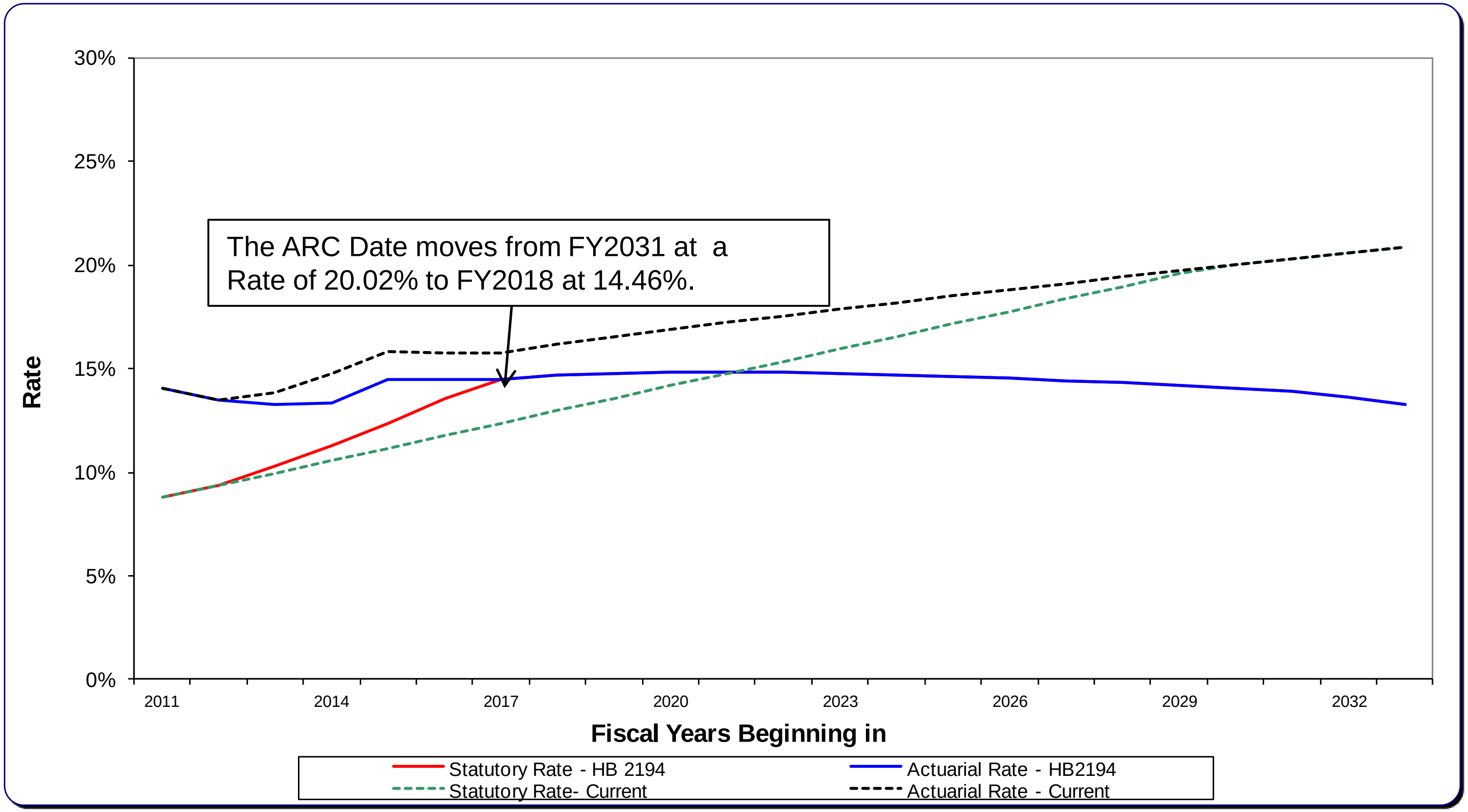
- Purpose of modeling is to identify trends and compare alternatives
  - Not a prediction of System's financial condition or ability to pay benefits in the future
  - Actual cost will depend on actual experience, which is unknown at present time

- Based on one set of assumptions
  - 8% return on market value from 12/31/10 forward
  - All actuarial assumptions met each year
  - New entrant demographic profile similar to recent experience

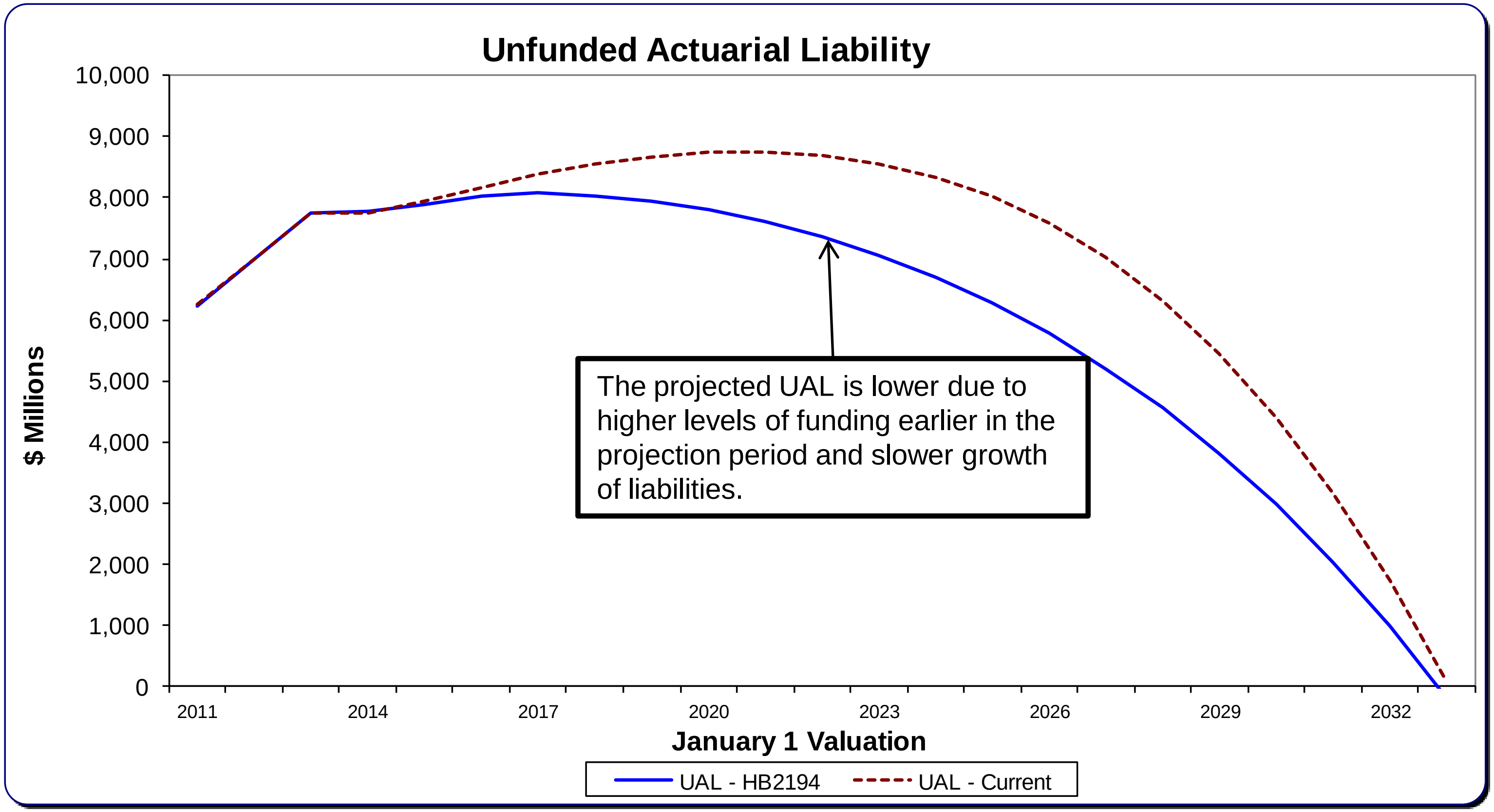
Change in Tier Membership



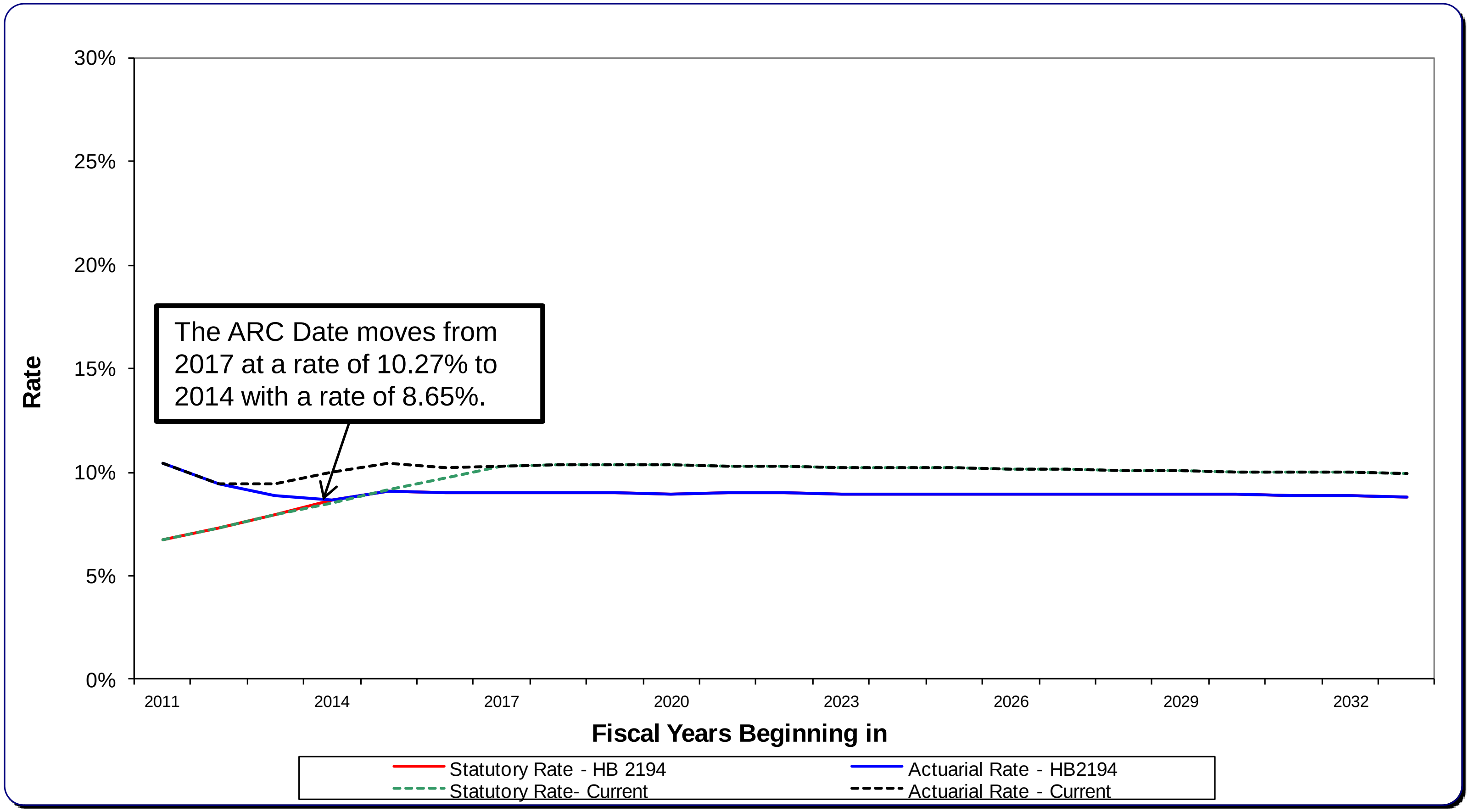
Projected State/School ER Contribution Rates



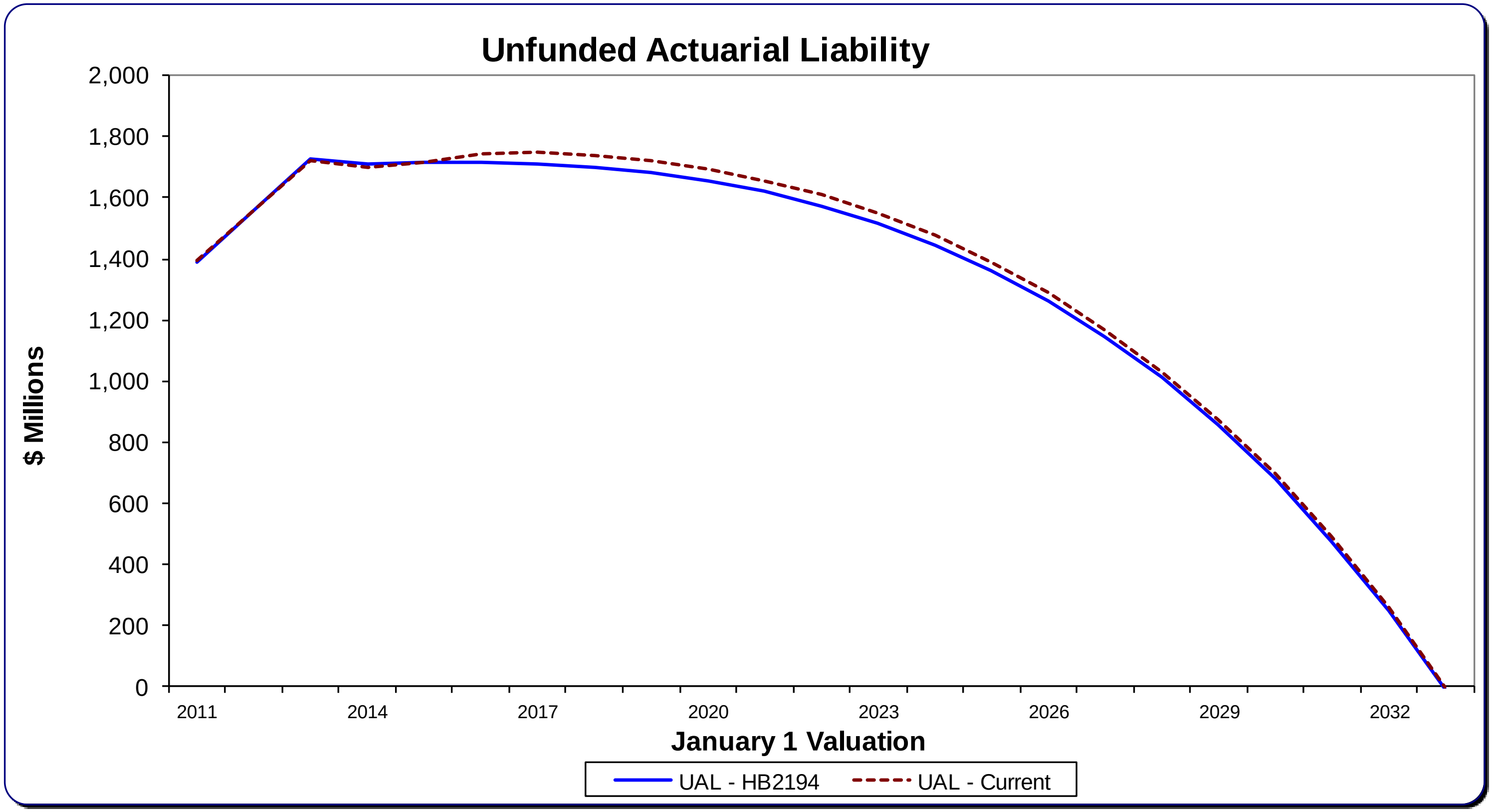
State/School Projected UAL



Local Projected Employer Contribution Rates



Local Projected UAL



Disclaimers on Study Commission Plan Design

- At time our cost study was requested, a formal bill had not yet been drafted
- Cost projections are based on our understanding of the key plan design features of the Study Commission recommendations for Tier 3
- Draft versions of the bill have since been made available
- At this point in time, any differences in plan provisions appear to be minor and unlikely to materially impact cost projections
- Time constraints did not permit sensitivity analysis of alternate investment return scenarios, both higher and lower than the current assumption. Could be considered for future analysis.

Study Commission Plan
(as valued in cost study)

	DC Plan (EE Directed Acct)	Cash Balance Plan (ER Annuity Acct)
Contributions	6% employee	Actuarial determined
Benefit	Undetermined	Benefit provided by ER Annuity Acct
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

Some plan provisions may vary from the final version of the bill as it was not available when the cost study was performed.

Study Commission Plan
(as valued in Cost Study)

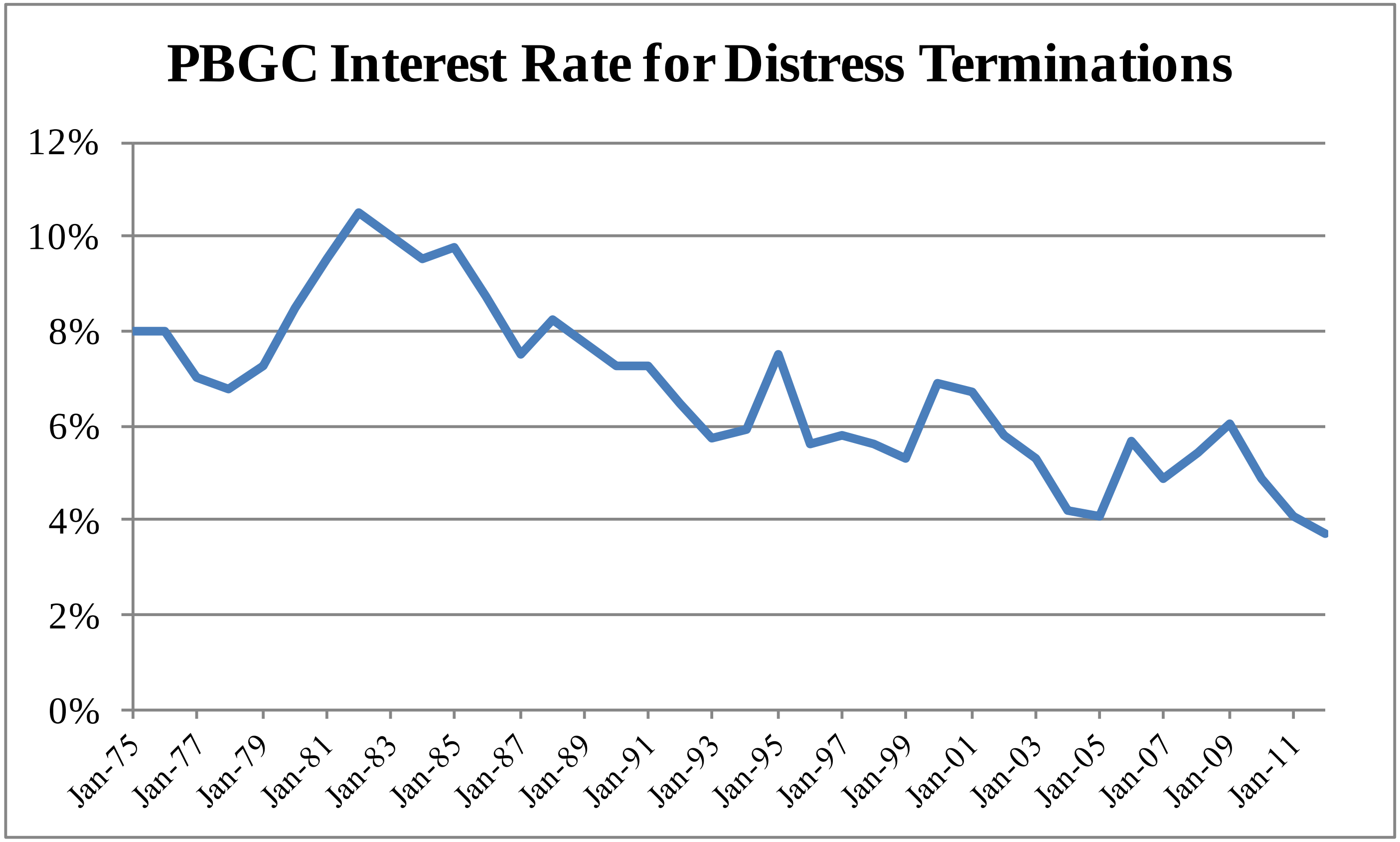
	DC Plan (EE Directed Acct)	Cash Balance Plan (ER Annuity Acct)
Early retirement	Account balance can be rolled over	None
Disability	Only acct balance – no special benefit	Continued credit to ER Annuity Acct
Pre-retirement Death	Account balance	None if single. Spouse gets acct balance if 10 YOS
Post retirement Death	Account balance	$4,000 plus monthly payment depending on form of payment elected

Some plan provisions may vary from the final version of the bill as it was not available when the cost study was performed.

Unique Features of Cash Balance Plan (ER Annuity Account)

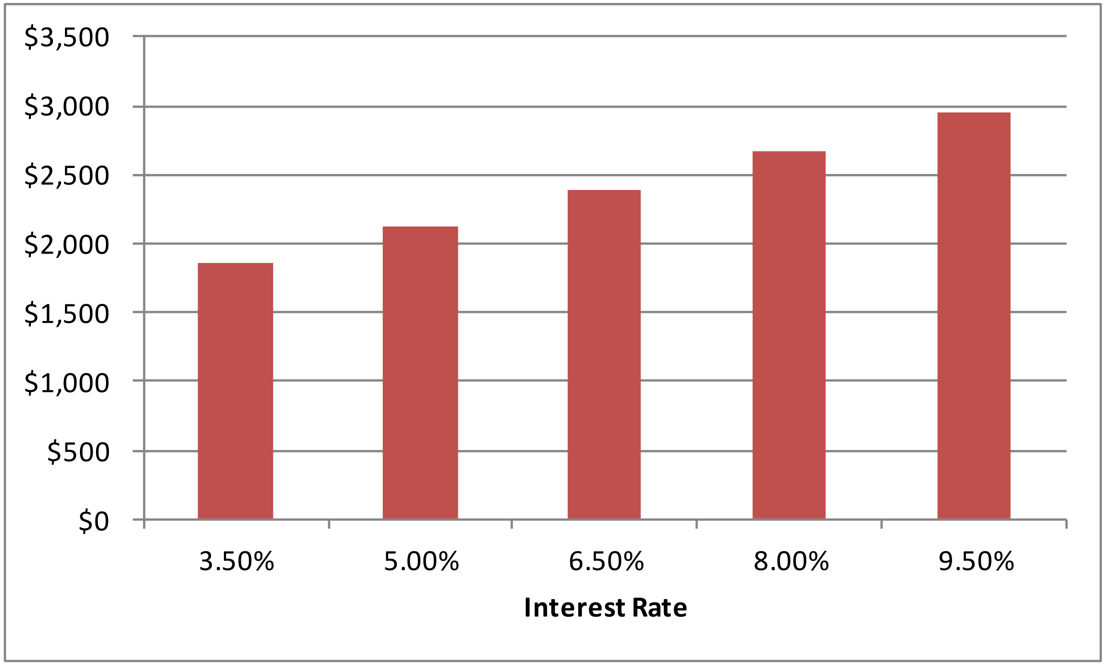
- Intent is to credit the actual earnings on the KPERS portfolio while a member
  - Guaranteed interest credit is 0%
  - Final interest credit at retirement reflects actual KPERS return while employee was a member
- Upon termination of employment, ER annuity account value remains in the system
- At retirement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

PBGC Distress Termination Interest Rates



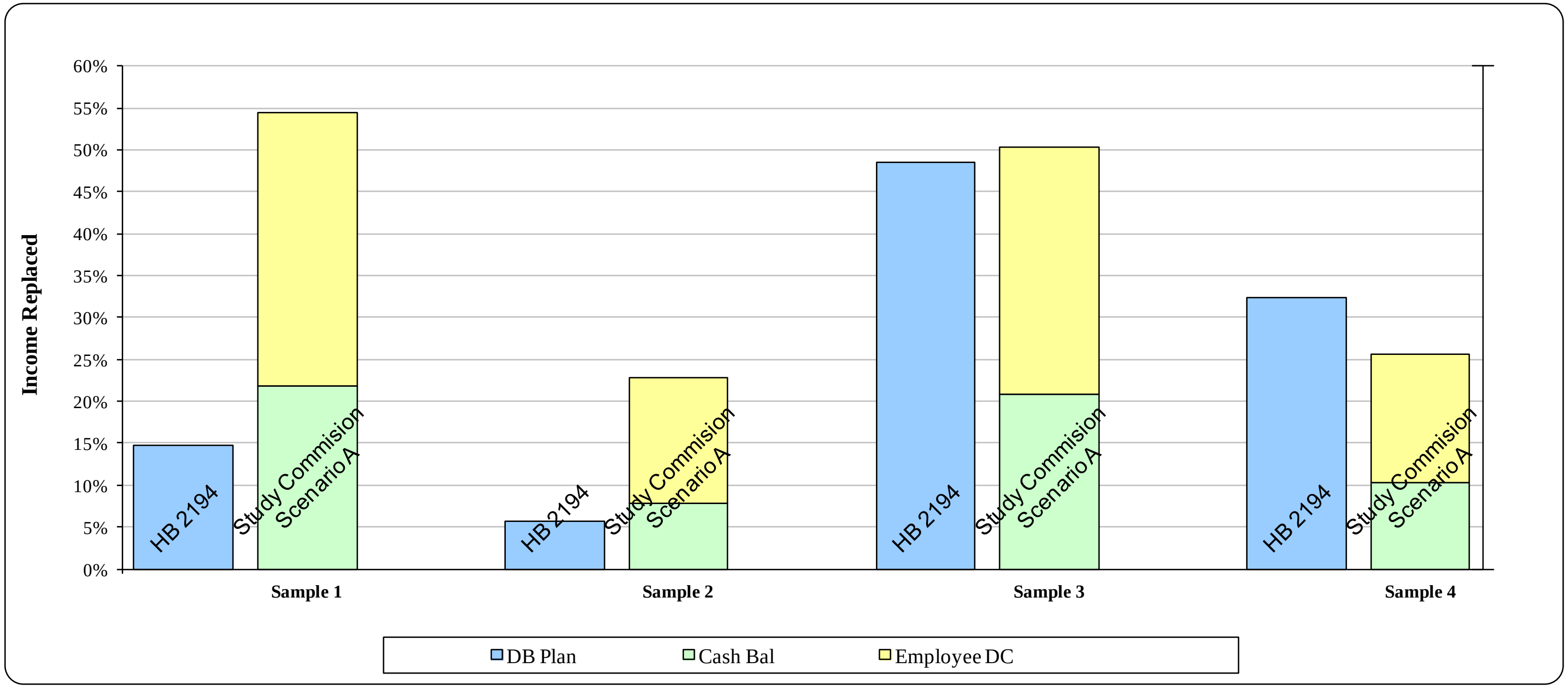
Impact of Interest Rates

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



Note: A higher interest rate results in a higher monthly benefit amount.

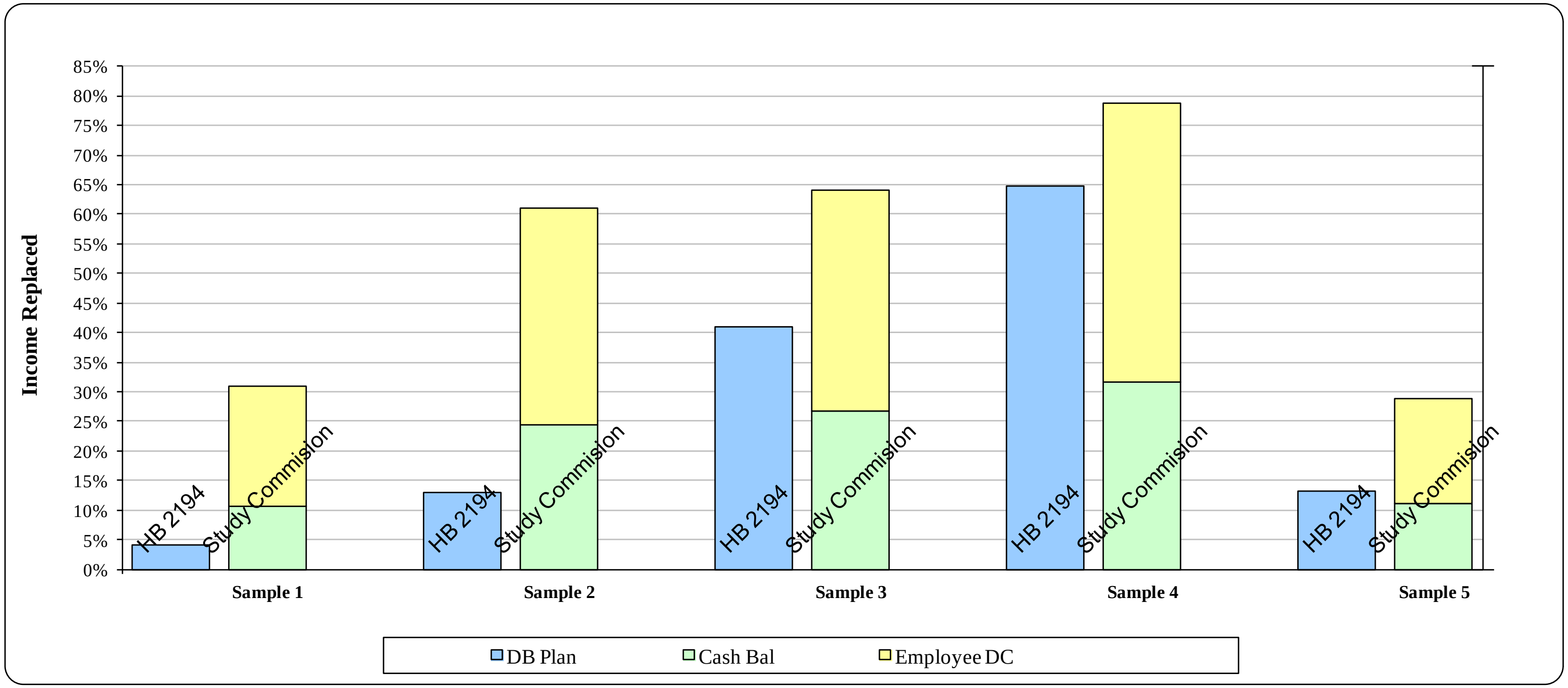
Benefit Comparison of SC Plan and HB 2194



Sample 1 - Work from age 25 to age 45, benefit starts at age 65
Sample 2 - Work from age 30 to age 40, benefit starts at age 65
Sample 3 - Work from age 35 to age 65
Sample 4 - Work from age 45 to age 65

Study Commission - 8% Interest Credit, 8% DC Return, 6.5% Annuitization

Benefit Comparison of SC Plan and HB 2194



Sample 1 - Work from age 22 to age 32, benefit starts at age 65
Sample 2 - Work from age 22 to age 42, benefit starts at age 65
Sample 3 - Work from age 22 to age 54, benefit starts at age 60*
Sample 4 - Work from age 22 to age 62, benefit starts at age 62*
Sample 5 - Work from age 35 to age 50, benefit starts at age 65

Study Commission - 8% Interest Credit, 8% DC Return, 6.5% Annuitization

* The monthly benefit amounts were determined at the Tier 2 retirement age so a direct comparison of benefit amounts could be made. Under the Study Commission Plan, benefits cannot begin until age 65.

Cost Projections of Study Commission Plan Design

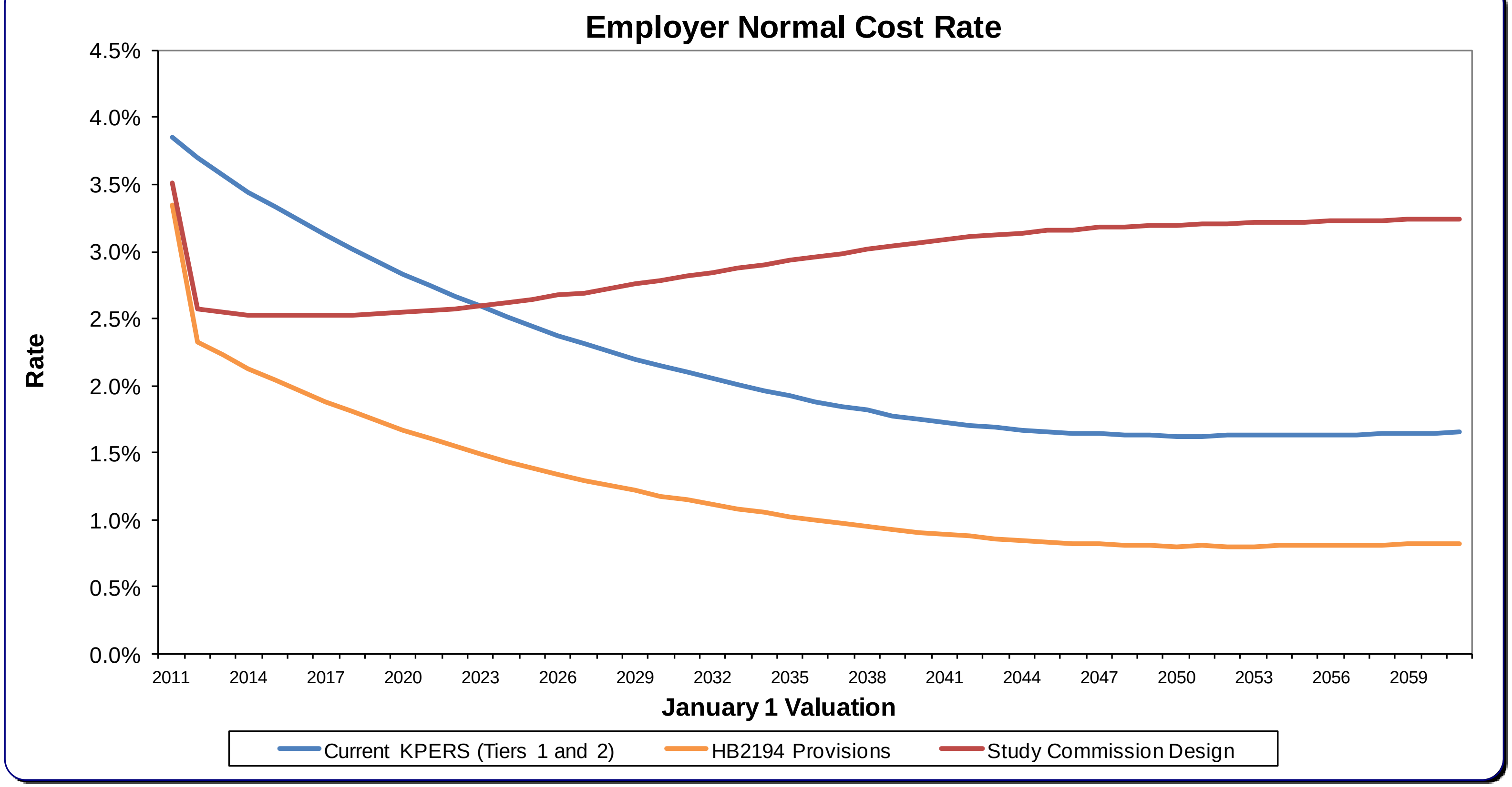
- Tier 3 (Hybrid Plan)
  - Covers all new hires after 1/1/14
  - All non-vested active and inactive will transfer to Tier 3
  - All vested legislators will have the value of their accrued benefit transferred to Tier 3 plan

- Estimated transfer amounts
  - Non-vested members: around $225 million
  - Vested legislators: around $22 million

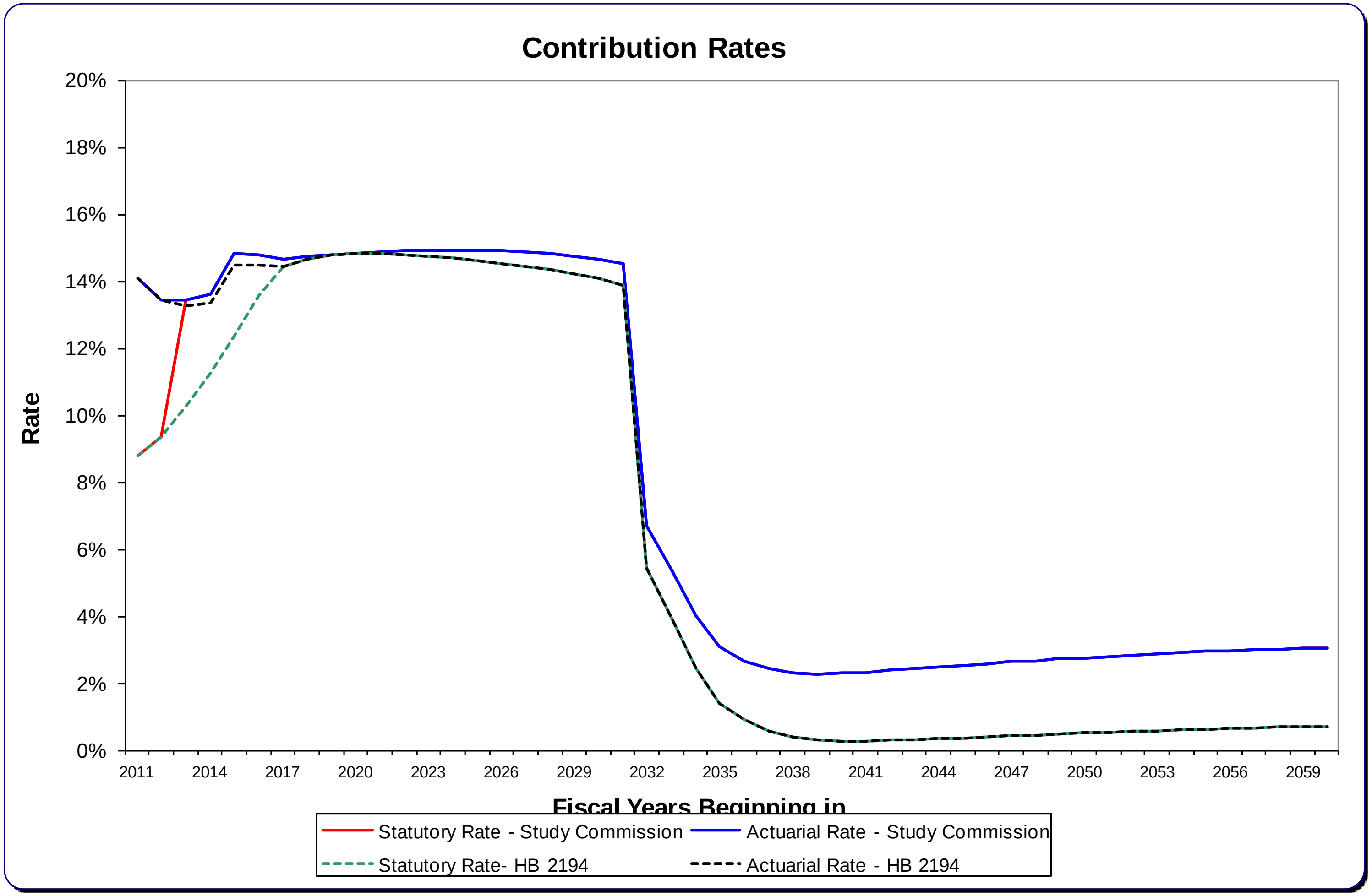
- Tier 3 will have minimal impact on the existing UAL (only due to moving non-vesteds and vested legislators)

- Real cost impact is removal of statutory cap and creation of Tier 3 for new hires

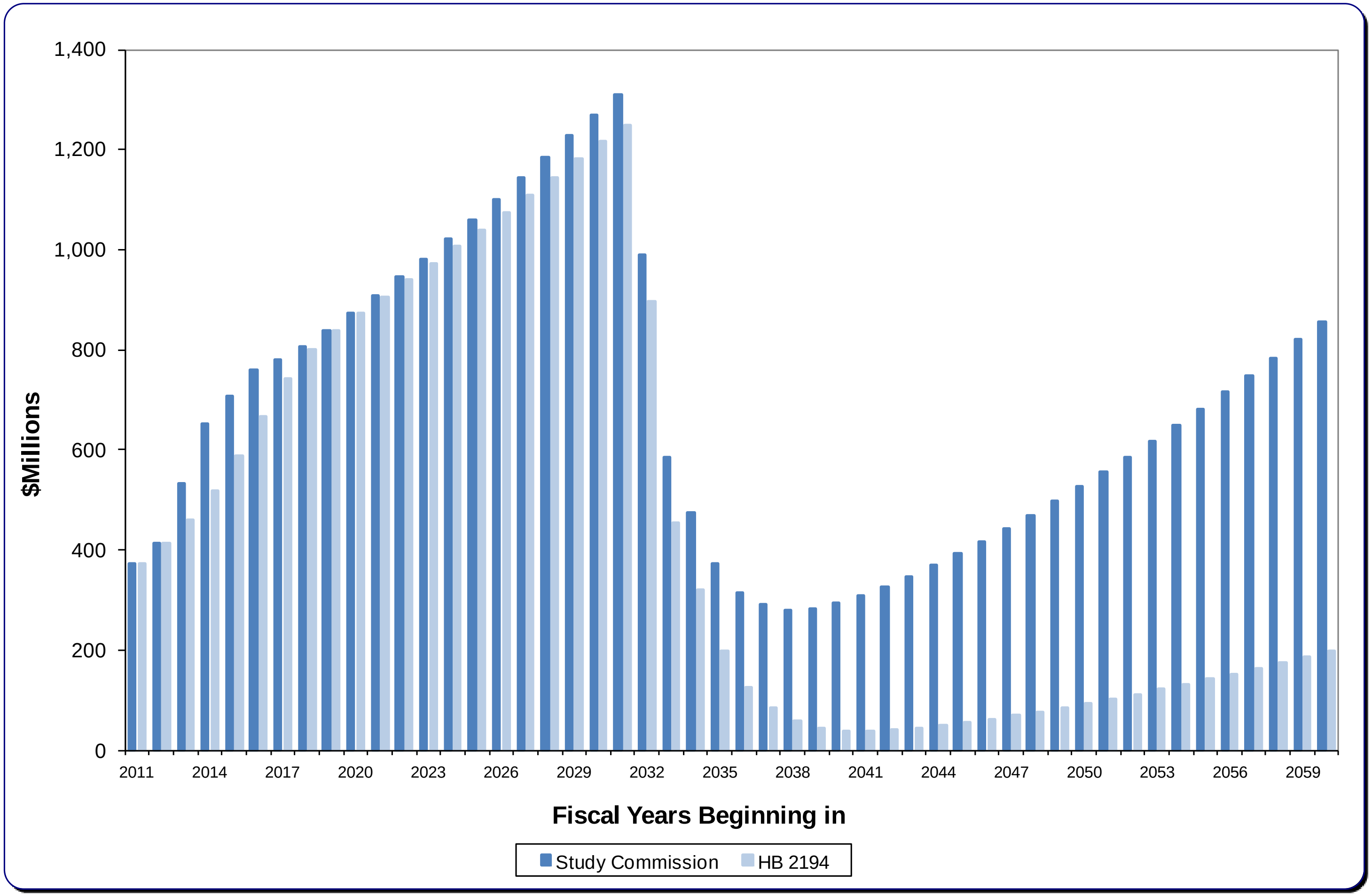
Employer Normal Cost Comparison



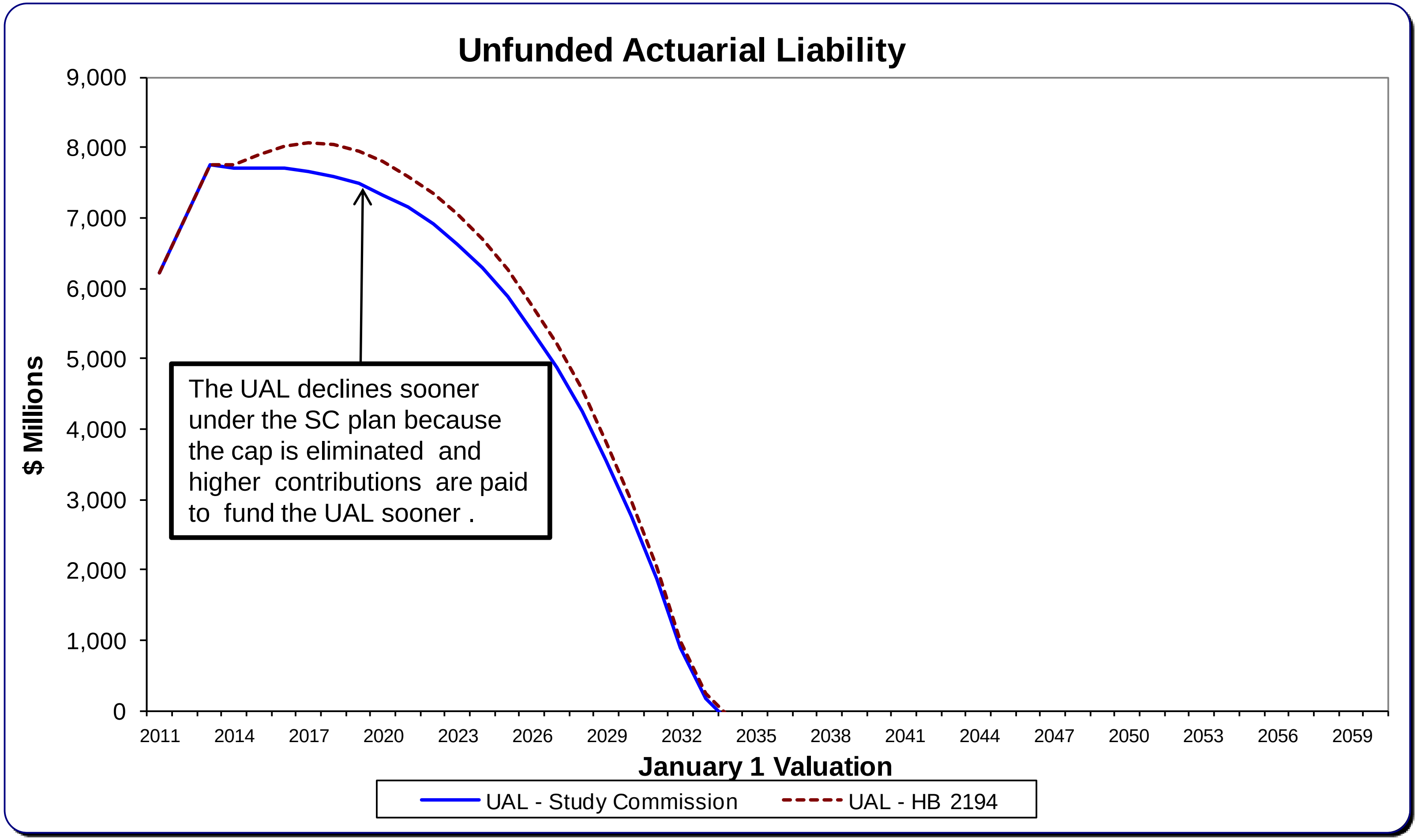
Employer Contribution Rate (State/School) – 8% Return



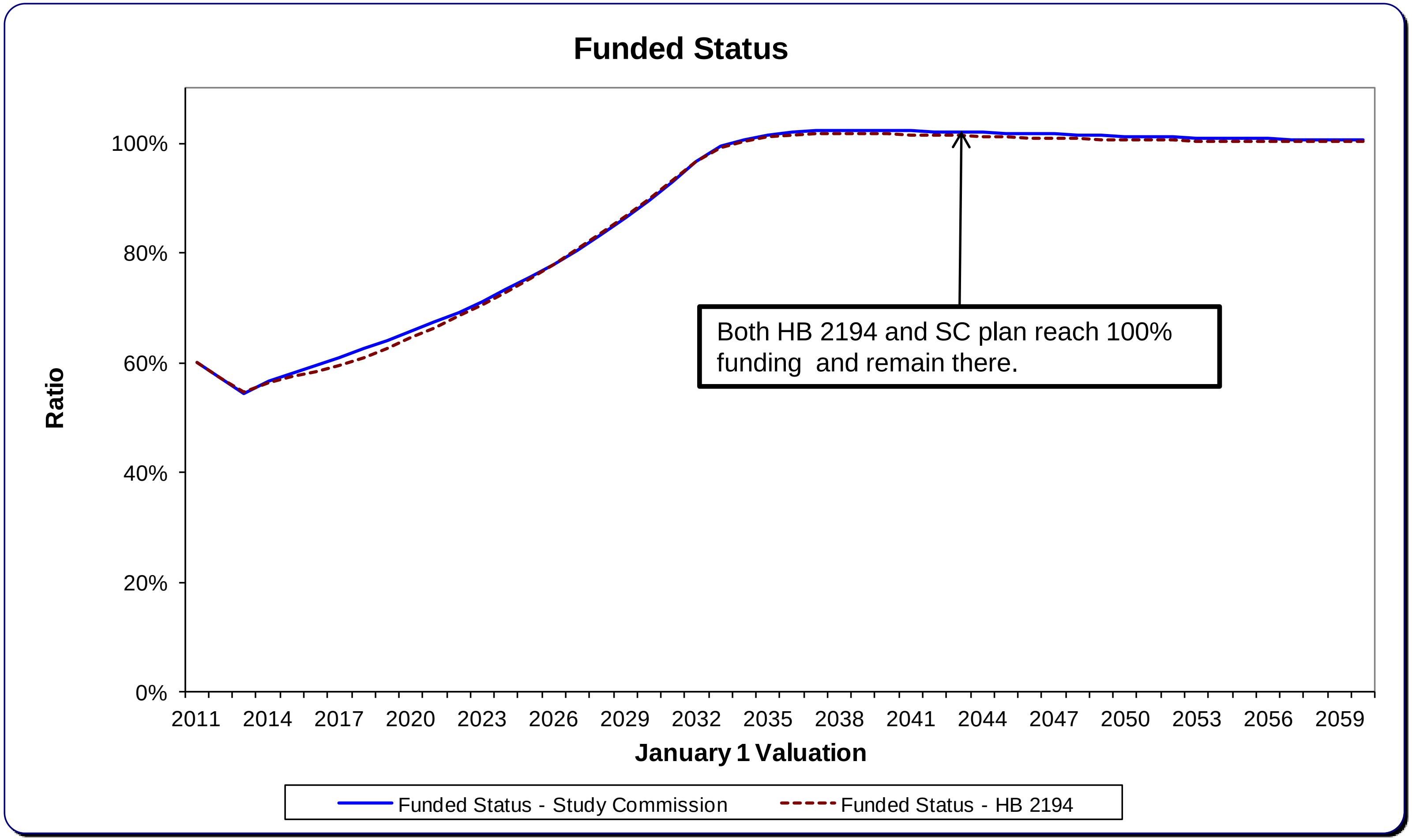
Employer Contribution Dollars (State/School) – 8% Return



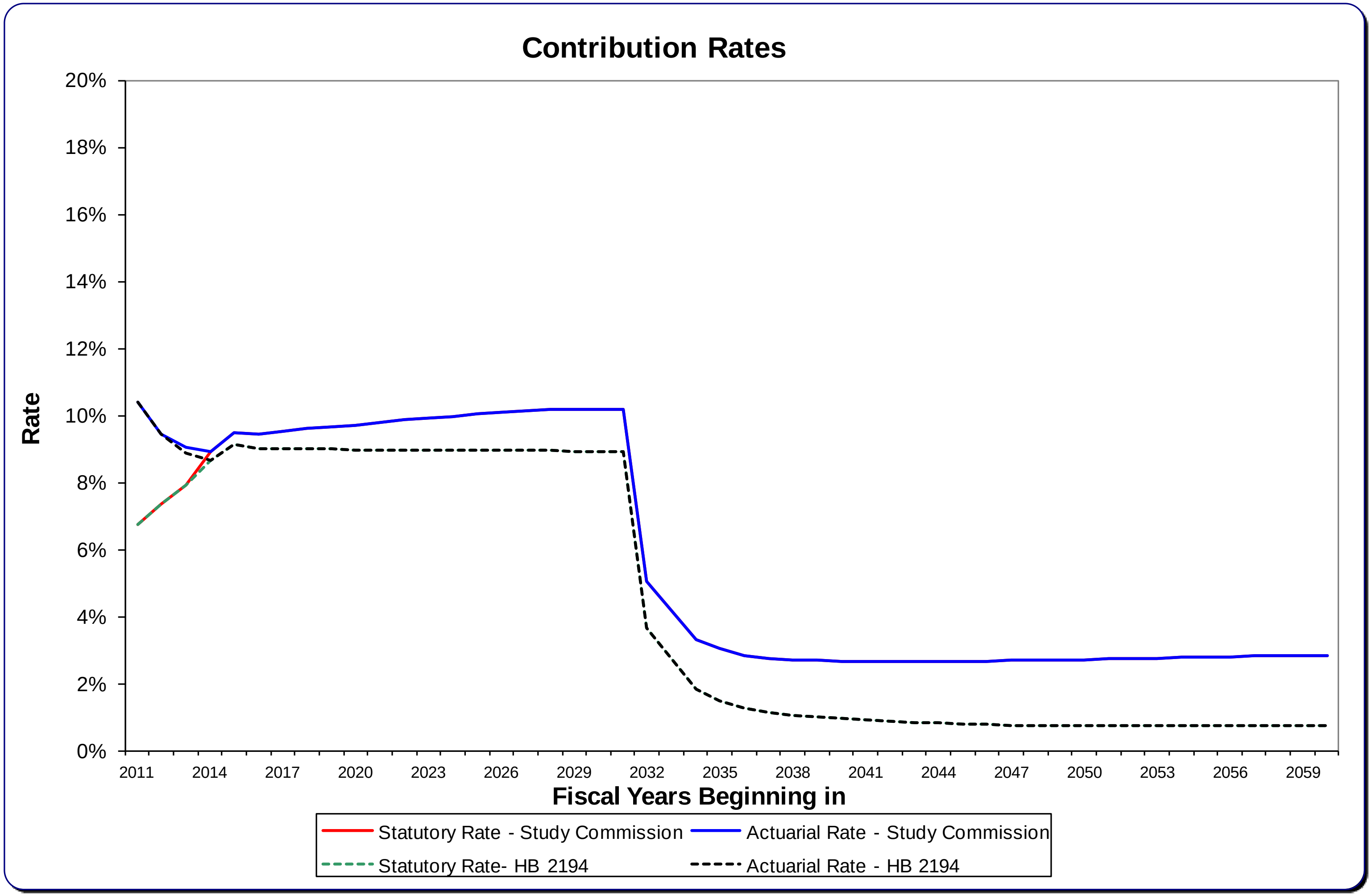
Projected UAL – State/School
8% Return



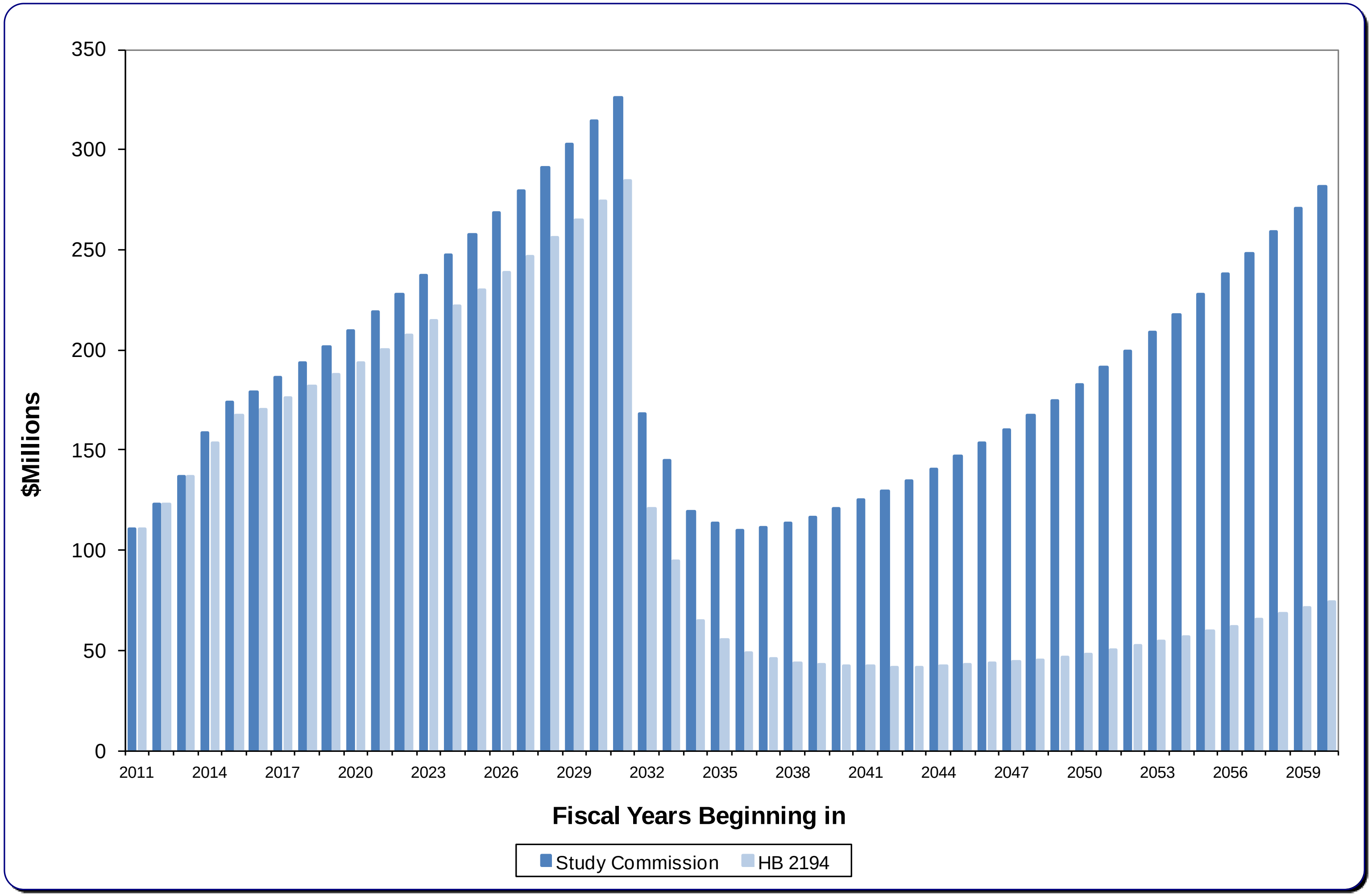
Projected Funded Ratio (State/School) – 8% Return



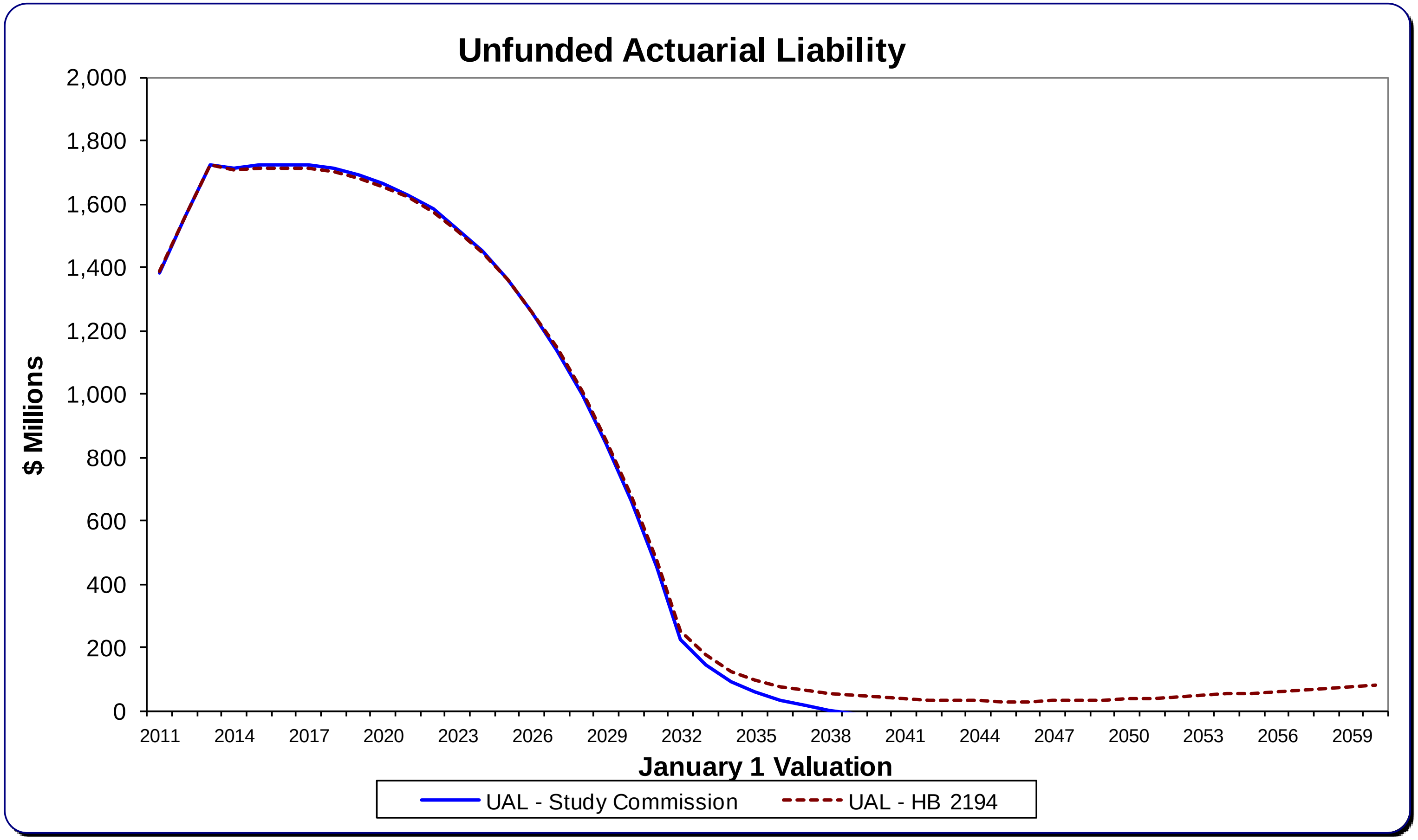
Employer Contribution Rate (Local) – 8% Return



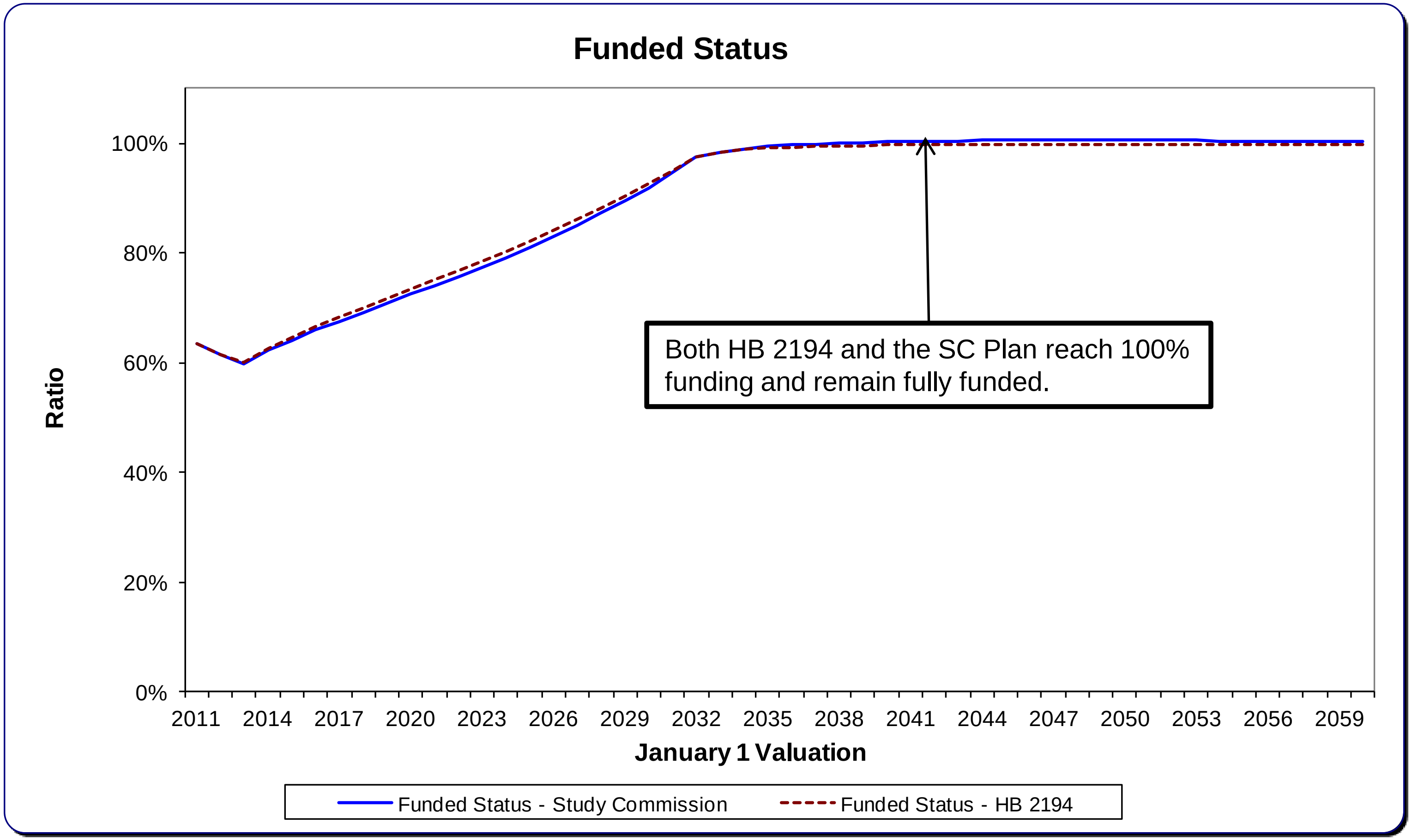
Employer Contribution Dollars (Local) – 8% Return



Projected UAL – 8% Return (Local)



Projected Funded Ratio (Local)



Projection of Cost Impact of Study Commission (State/School)

	Employer Contribution Amount ($M)		
Fiscal Year	HB 2194	SC Plan	Difference
2012	$ 391.60	$ 391.60	$ -
2013	431.89	431.89	-
2014	487.09	637.46	150.37
2015	551.08	665.71	114.63
2016	624.48	748.18	123.70
2017	707.98	771.52	63.54
2018	780.44	790.34	9.90
2019	819.50	823.56	4.06
2020	856.63	856.13	(0.49)
2021	890.84	890.20	(0.64)
2022	923.50	926.50	3.00
2023	956.42	963.37	6.95
2024	989.41	1,001.19	11.78
2025	1,023.12	1,039.68	16.56
2026	1,057.31	1,079.54	22.23
	3,069.85	3,120.42	50.57
2012-2040	20,130.62	22,398.76	2,268.14
2012-2060	22,140.94	33,039.06	10,898.12

Summary Comments

- HB 2194 made significant changes to the future funding of KPERS
  - More employer money goes into the system sooner
  - Lower employer normal cost for both Tier 1 and 2
  - Ultimate employer cost is 0.50% to 0.75% under 8% assumption
  - Significant savings are realized
  - Total cost for years 2012 through 2060: $22.14B
  - Actual cost is dependent on future experience
- Study Commission Plan is combination DB and DC plan
  - Employee money into DC
  - Employer money into DB (Cash Balance Plan)
  - Ultimate employer cost under is 2.5% to 3% of pay under 8% assumption
  - Total cost for years 2012 through 2060: $33.04B
    - Higher cost is due to larger benefits for many employees
  - Actual cost is dependent on future experience

Summary Comments

- Differences in Plan Design
  - HB 2194 is traditional DB plan that provides benefits related to pay at retirement. Most of the cost is for benefits for those who retire from active employment.
  - SC plan is combination DC and Cash Balance plan design which provides proportionately more benefits to employees who terminate employment before retirement.
  - Costs under HB 2194 are more sensitive to contribution changes if actual experience differs from assumed.
  - SC plan design adjusts benefit amounts for adverse economic conditions, but some risk still exists. If returns are higher than expected, much of the actuarial gain is given away to members (assets and liabilities increase).
  - SC plan provides less retirement security to employees as benefit amounts are dependent on multiple factors. Much of the investment risk is transferred to employees.

Summary Comments

- Important policy decisions to consider in deciding on benefit design for future employees
  - How should various risks be shared
    - ✓ Investment risk (pre and post retirement)
    - ✓ Mortality risk
    - ✓ Inflation risk (pre and post retirement)
  - Can the risk be managed by the entity to whom it is assigned? If not, what are the implications?
  - Importance of benefit adequacy
  - Importance of retirement security
  - Importance of managing contribution volatility