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# Plan Design Projection Model

## Presentation to the KPERS Study Commission

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September 22, 2011





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# Background



# Projections

- Projections are NOT intended to predict the future, but rather to show:
  - Comparisons of alternatives
  - Unfolding trends
  - Relative importance of various factors
- Projections may require minor simplifications
  - Example: new plan provisions are effective 1/1/14
  - A delay to 7/1/14 is unimportant over 20-30 years
- Projections are for State/School combined
- Scenarios for closed DB plan do not reflect change in expected return due to portfolio adjustments



# Assumptions

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- Projections are based on many assumptions
  - Future membership demographic behavior
  - Demographic characteristics of new hires
  - Continually improving life expectancies
  - Specified investment returns
  - Expected salary increases
  - All other actuarial assumptions are met in the future
  - No changes in laws, including KPERS (unless specified), Social Security, Medicare, or tax code
- In reality, there will be deviations

# Technical Details



- All data, assumptions, methods, and provisions are the same as in the 12/31/10 KPERS valuation (except as noted)
- All assumptions met each year
- Active population is assumed to be level – as people leave employment, they are replaced with a new hire
- New hires assumed to have same demographic makeup as recent years' actual new hires
- Plan changes are assumed to be effective 1/1/14 (Tier 3)
  - Tier 1 – Members hired before 7/1/09
  - Tier 2 – Members hired after 6/30/09
- Results are for calendar year valuations rather than fiscal years



# Disclaimers

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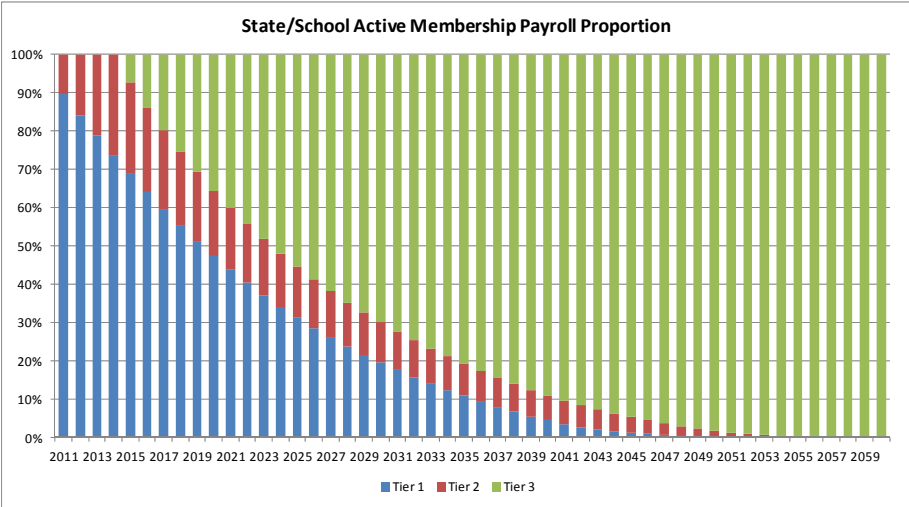
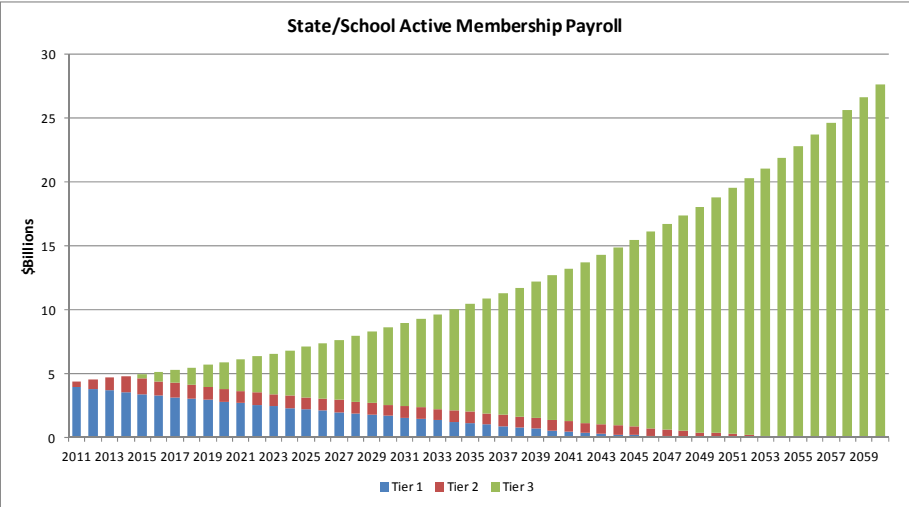
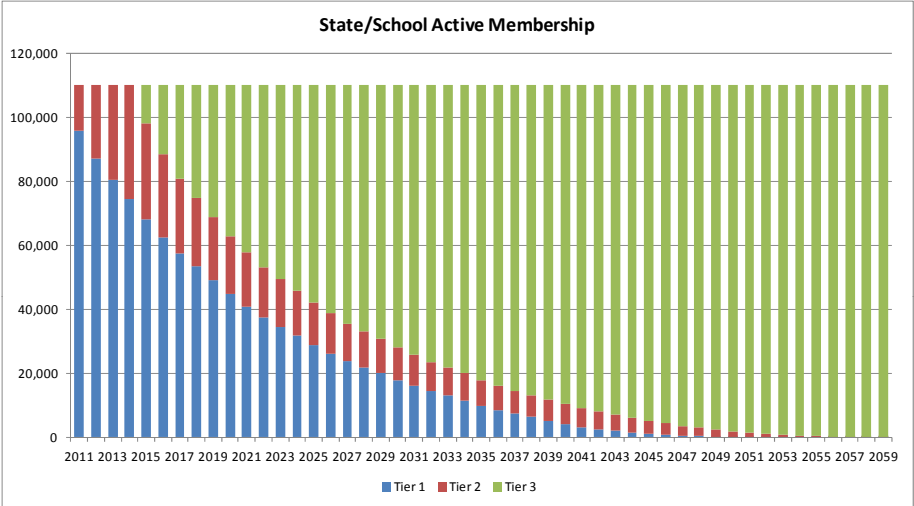
- These are estimates – actual results will almost certainly be different.
- Changes in design are likely to affect retirement and termination rates. We have used professional judgment in setting these since it will be 25-30 years before they are reasonably known.

# Disclaimers



- This model is very flexible, but that requires the use of approximations. When needed, we will develop a new projection of specific scenarios by running these scenarios through our valuation projection software.
- This model and the resulting graphs are for assisting the Study Commission in comparing retirement designs. Use of the model for other purposes may be inappropriate and inaccurate.
- We are Members of the American Academy of Actuaries and meet the Qualification Standards to provide the opinions contained herein

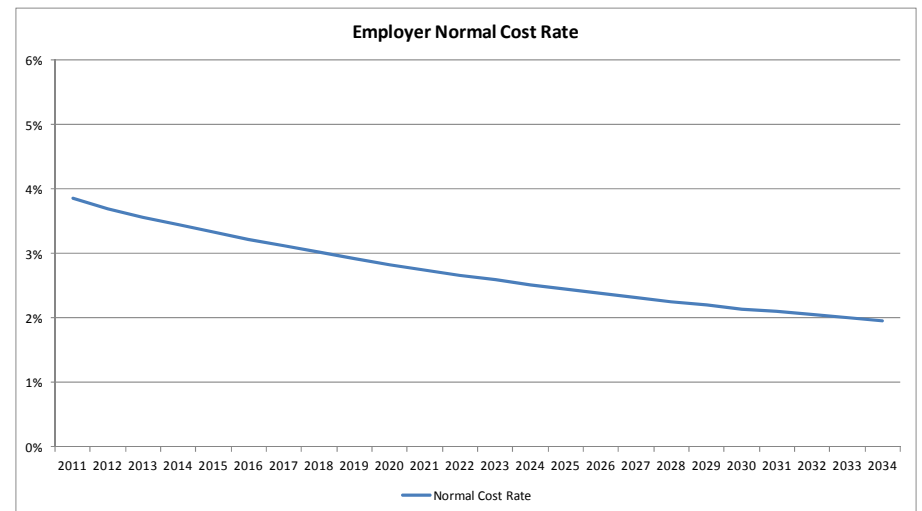
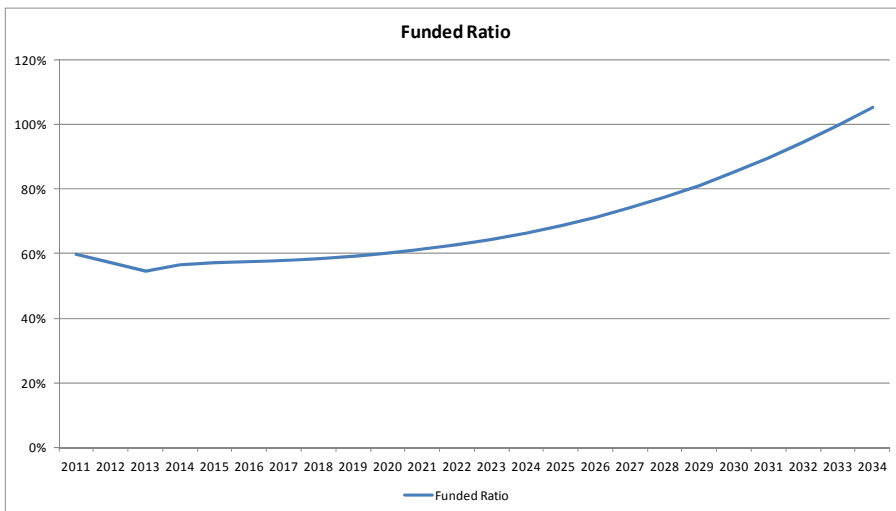
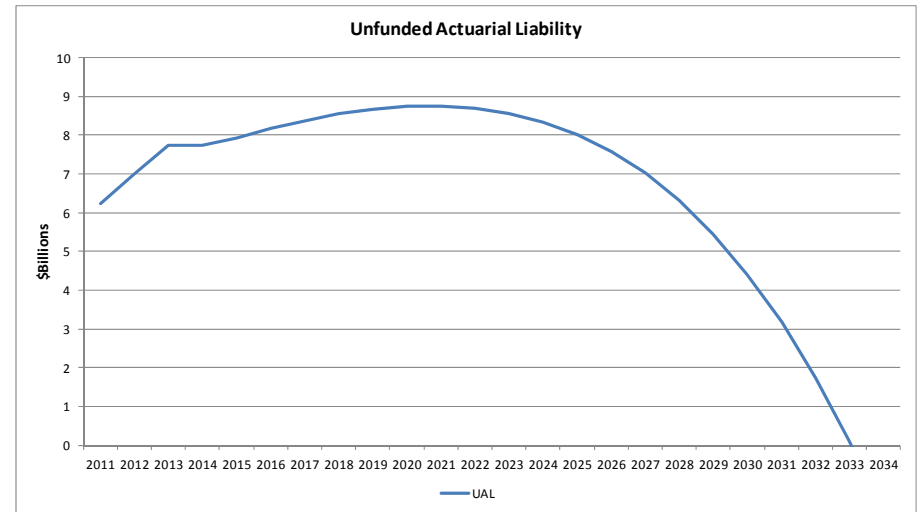
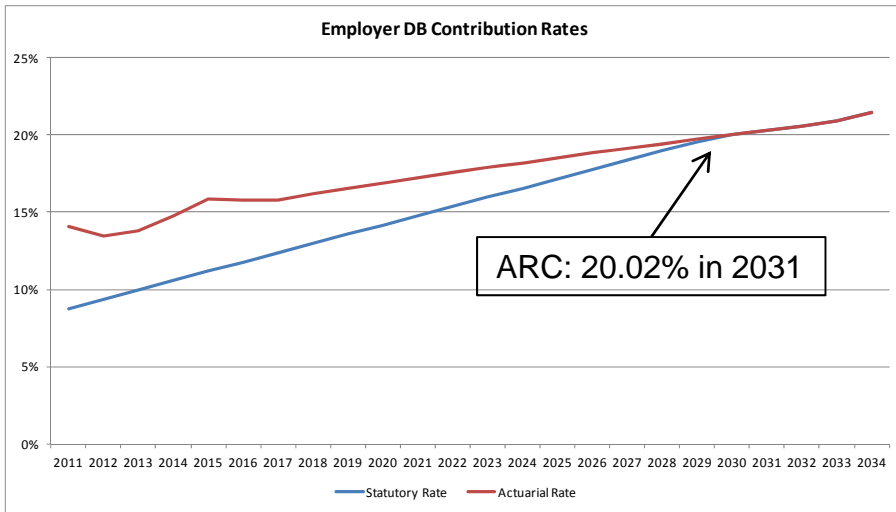
# Active Membership Information



**ESTIMATES**



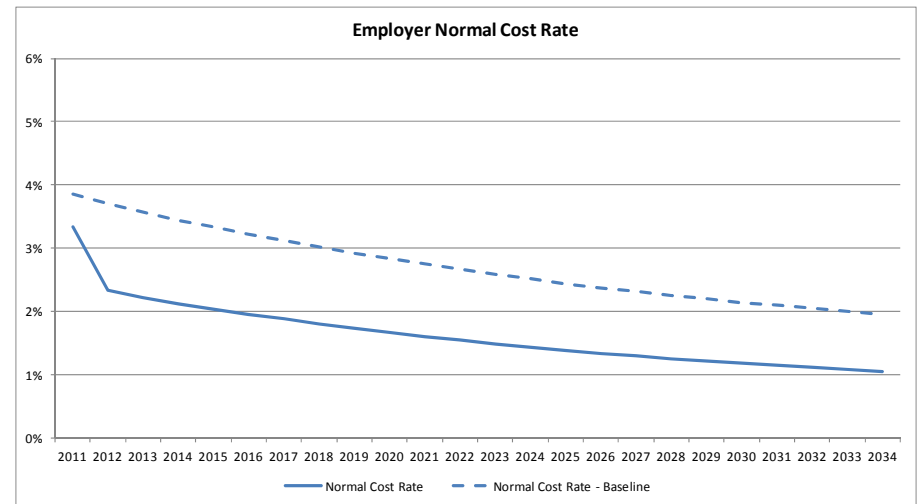
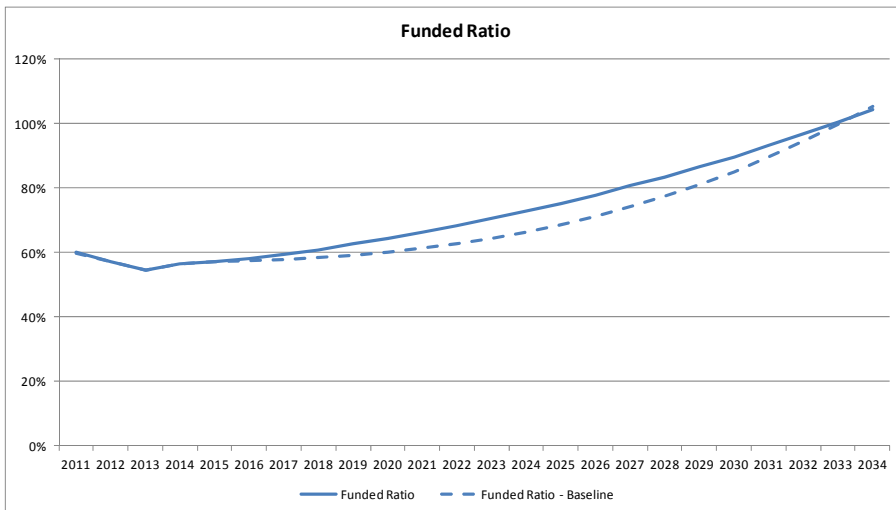
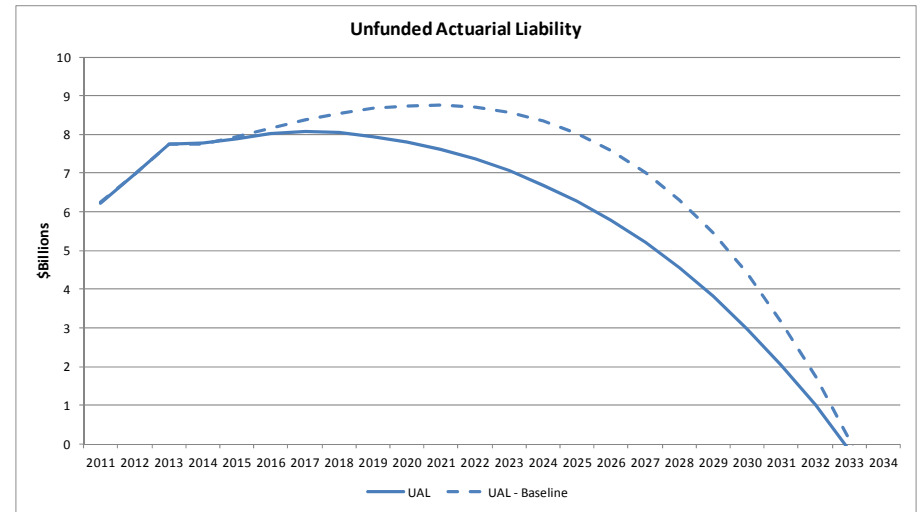
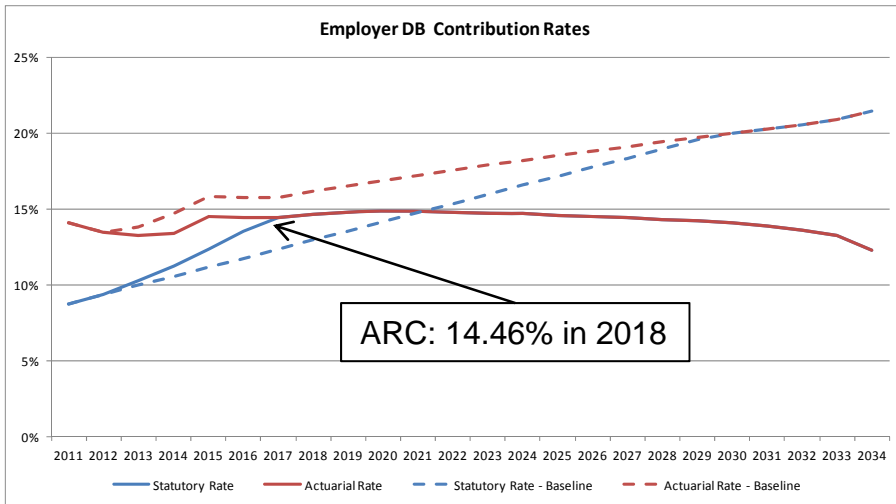
# Current Plan



**ESTIMATES**

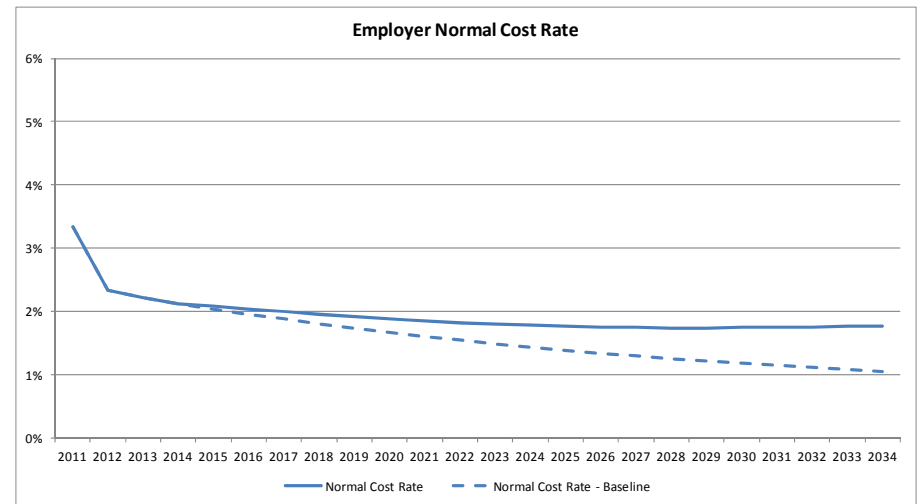
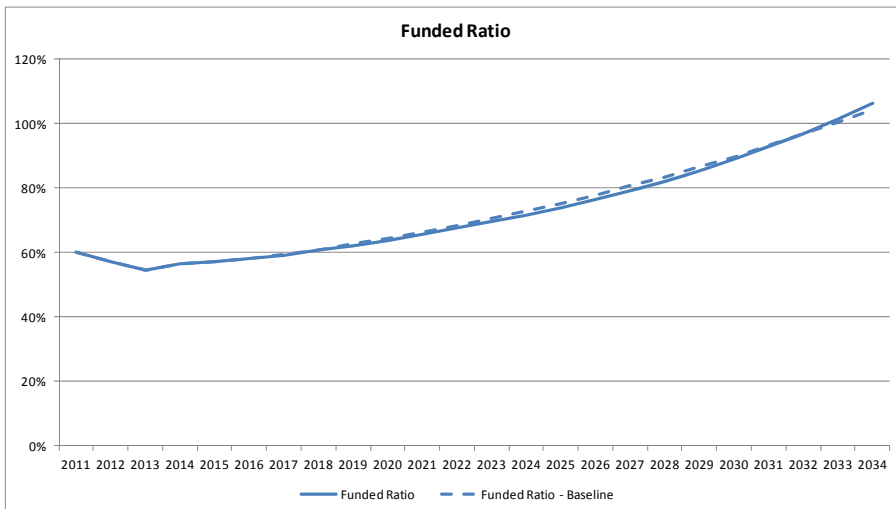
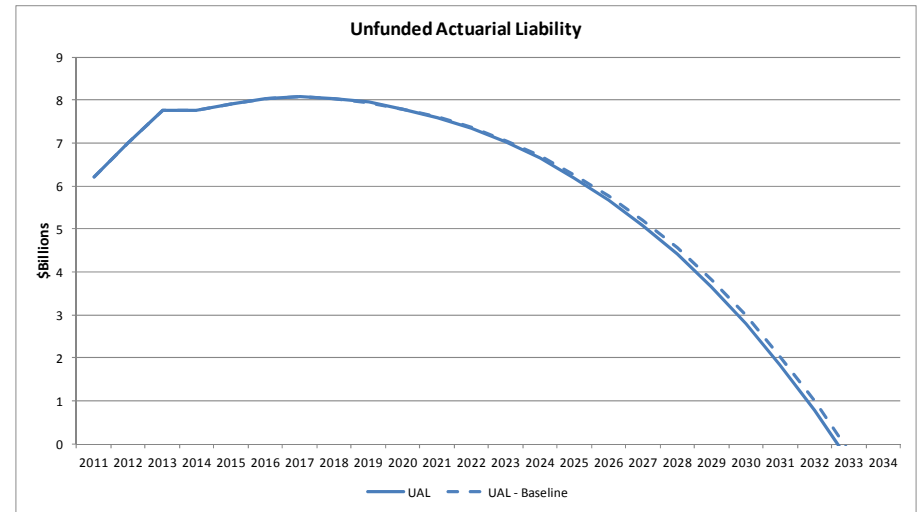
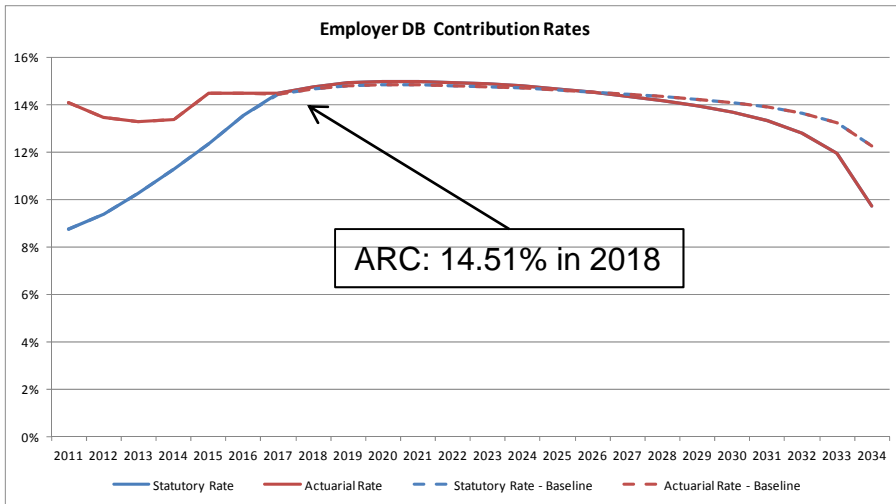


# HB 2194 vs. Current Plan



**ESTIMATES**

# HB 2194 vs. 2% DC Plan for New Hires

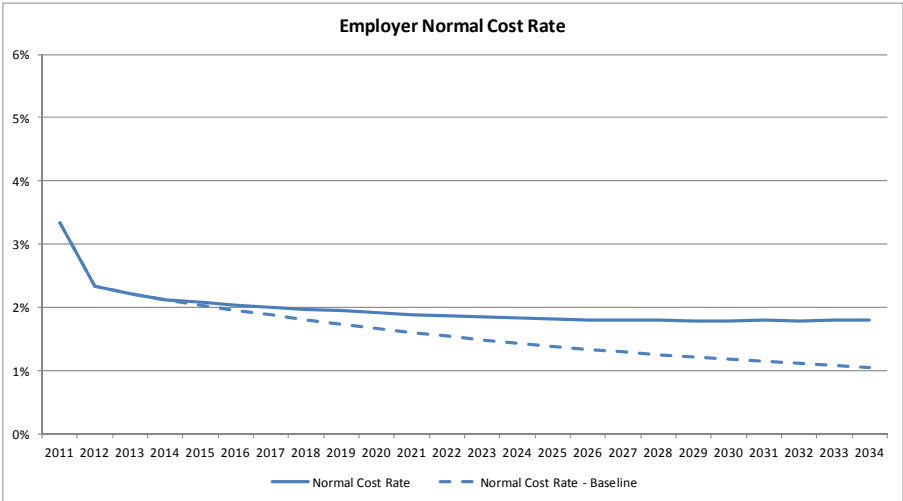
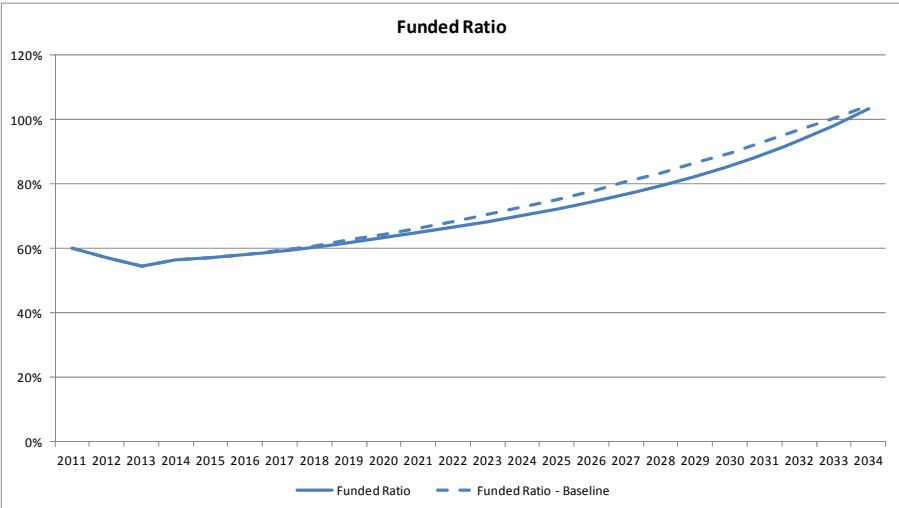
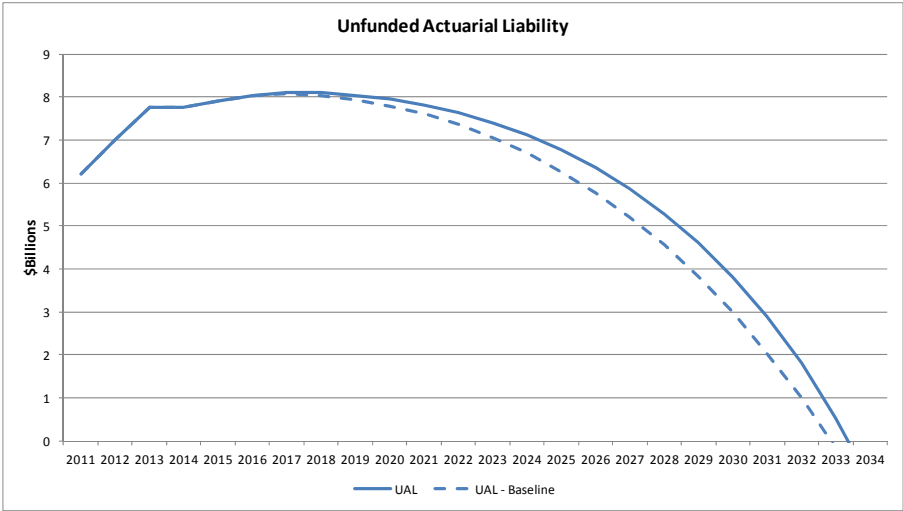
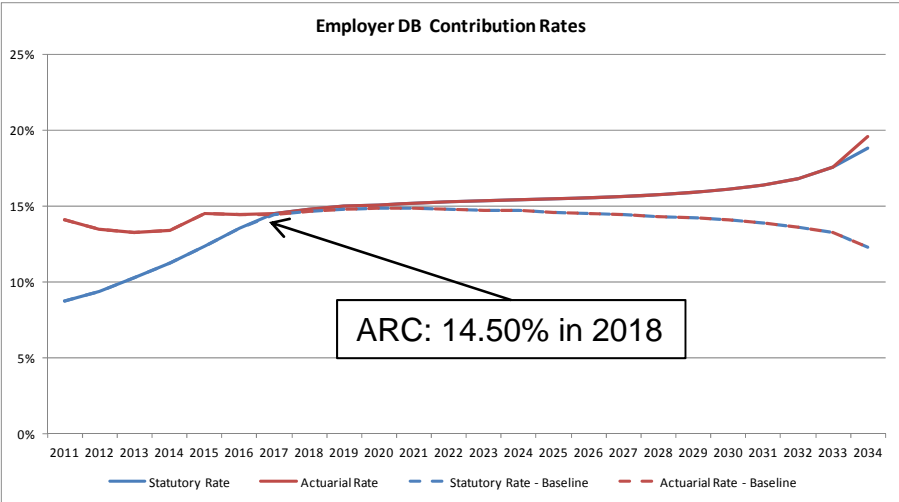


Scenarios for closed DB plan do not reflect change in expected return due to portfolio adjustments

**ESTIMATES**

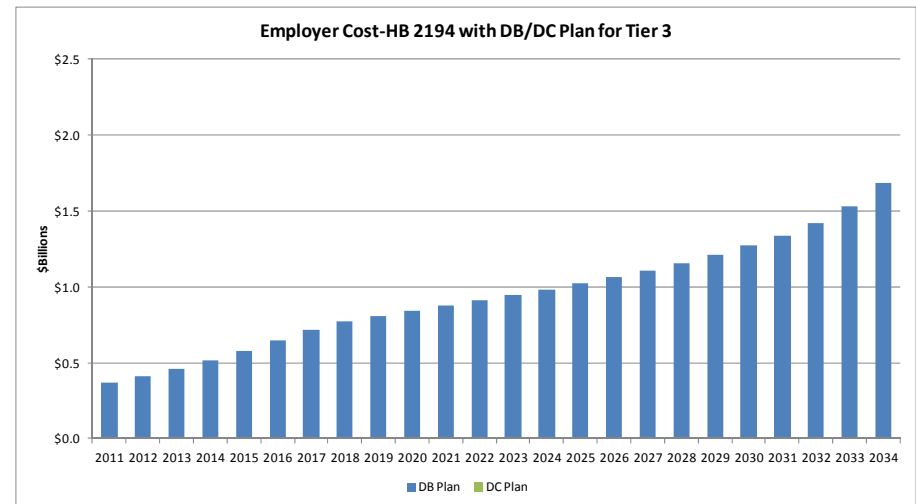
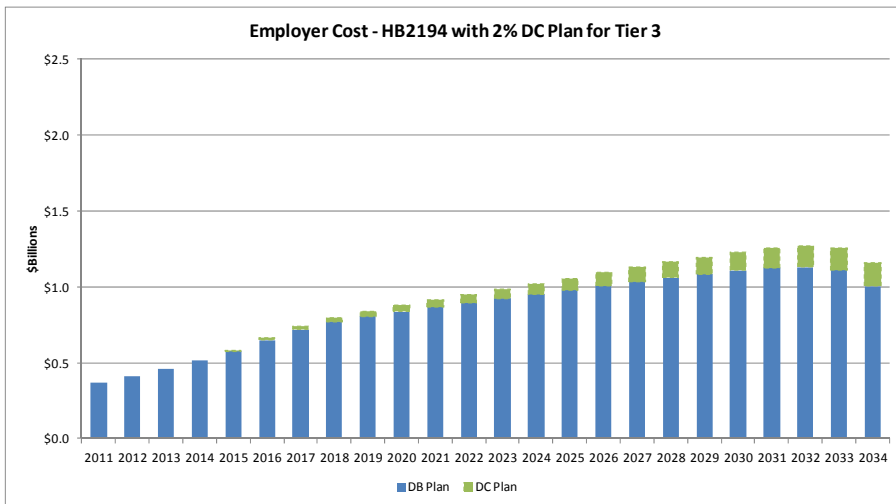
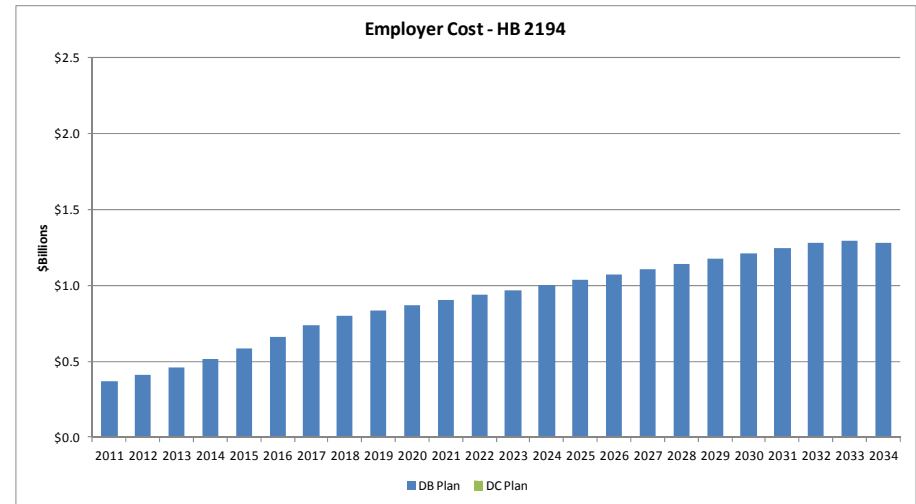
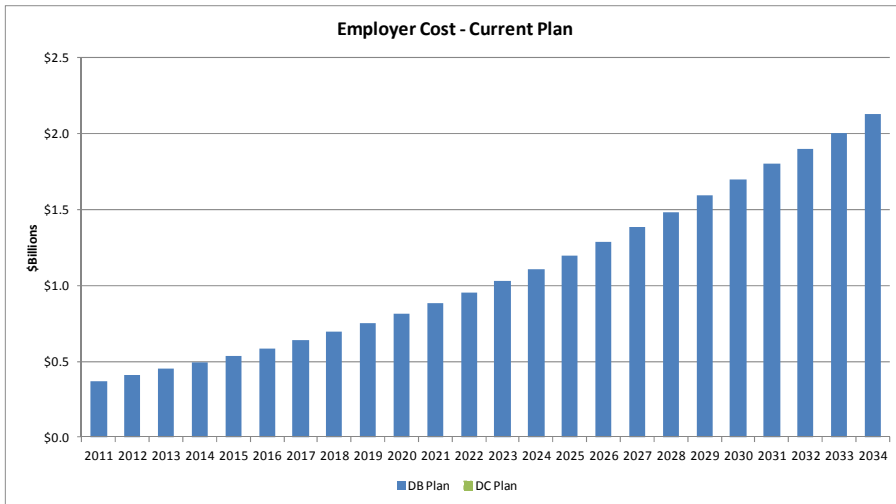
# HB 2194 vs. Combined DB/DC plan

0.65% multiplier, NRA=67, No COLA,  
DB all employer paid, DC all member paid



**ESTIMATES**

# Employer Contributions – All Scenarios



Scenarios for closed DB plan do not reflect change in expected return due to portfolio adjustments

**ESTIMATES**



# Appendix

- Please see the December 31, 2010 Actuarial Valuation for a complete description of actuarial assumptions and methods
- For scenarios with retirement eligibility at 67 and 70, lower rates of retirement are used in the projection model. Sample rates are shown below:

	State		School	
	67	70	67	70
Under 60	3%	2%	5%	2%
60	5%	2%	5%	5%
62	10%	10%	10%	10%
65	20%	15%	20%	15%
67	50%	15%	60%	15%
70	20%	50%	25%	60%
71-74	20%	20%	25%	25%
75	100%	100%	100%	100%