

2% @ 67 SSNA
1.62% @ SSNA



BARTEL
ASSOCIATES, LLC

City of Los Angeles

**Potential Tier of New Benefits for New Employees
in the
Los Angeles City Employees' Retirement System**

Actuarial Analysis

August 2, 2012

TABLE OF CONTENTS

SECTION	PAGE
1. Comments	1
2. Summary of Results	3
3. Outline of Potential Plan Design	6
4. Actuarial Assumptions	10
5. Participant Data	11
6. Tier II Savings Projection	12
7. Effect of Early Retirement Rates	16
8. Cost-Sharing of Unfunded Payment	18

SECTION 1

COMMENTS

Introduction

Bartel Associates has prepared this estimate of the costs of two potential new tiers of benefits for future new hires in the Los Angeles City Employees' Retirement System: New Proposal #1: 2% @SSNRA and New Proposal #2: 1.6% @SSNRA. These cost estimates were prepared by using the group of current plan participants hired in the past three years as a proxy for future new hires. This is the same methodology and the same group of participants used by The Segal Company, Inc. in their previous analysis of the cost of two different proposed new tiers: 2% @65 and 2% @67. The costs for those proposed tiers as well as for the current program as developed by The Segal Company are included here for comparison purposes. We have used the same actuarial methods and assumptions in developing the costs for the New Proposal tiers (2% @SSNRA and 1.6% @SSNRA), so that the results will be directly comparable.

The purpose of this study is to provide the City with information about the relative costs of potential future plan designs, as summarized in this report. The actual future costs will likely differ from those presented in this report due to differences in the demographics of actual covered employees as well as the actuarial methods and assumptions used at that time.

Comments

Retirement Rates. The Segal Company proposed two new sets of early retirement rates which they used to value the 2% @ 65 and 2% @ 67 proposed new tiers. One way to compare early retirement rates is by comparing the average retirement age of participants that will be projected using that table. For each of the new tables and the table used for the current plan, we show the projected average retirement ages on page 10. We believe that these tables might overly delay expected retirement for the 2% @ 65 and 2% @ 67 benefit formulas. Please see Section 7 for our estimate of the effect on the costs of these two benefits using a set of rates we believe is more reasonable.

Given the generally lower benefit amounts in the New Proposal tiers (2% @SSNRA and 1.6% @SSNRA) the proposed Segal rates tables are likely appropriate and we have used them in developing the costs for this study.

Contribution Rates. The employee contribution rates contemplated by all of the benefit designs in this study, including the current plan, are significantly higher than they have historically been. This is even more so if the plan develops a large Unfunded Actuarial Accrued Liability and employees are required to fund a portion of the amortization payments. This will lead to employees accumulating larger contribution account balances, while at the same time, their expected retirement benefits will be lower than in the past. We expect this will likely lead to changes in employee termination rates and contributions withdrawal experience. However, we have not anticipated this change in our analysis.

Benefit Levels. We believe the 1.6% @SSNRA formula will qualify under the Defined Benefit Retirement System Safe Harbor rules, and not require participants to join Social Security. However, we made this determination as actuaries and the City's legal counsel should review our findings.

Projected Unit Credit Funding Method. The projected unit credit (PUC) funding method which has been used in the LACERS actuarial valuations attributes the cost of benefits to the time when



SECTION 1

COMMENTS

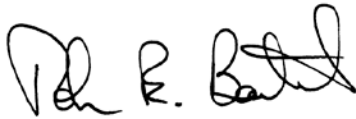
they accrue. Under the current plan, a portion of the disability benefit (1/3 of pay) is accrued by employees immediately upon hire, even though they cannot receive the benefit until they satisfy the 5 year eligibility requirement. This immediately-acrued benefit results in newly entered employees having a relatively substantial accrued liability relating to the disability benefit. In the annual valuation, this liability would be amortized as a loss and is not and will not be part of the Normal Cost. Thus, to evaluate the full cost of all current plan benefits under the PUC funding method we have added the amortization of the initial liability to the normal cost.

The proposed new tier benefits eliminate this 1/3 of pay minimum disability benefit.

It should be noted that the PUC and Entry Age Normal (EAN) funding methods produce different cost patterns over time, with EAN's cost generally starting higher but increasing more slowly over time. For this reason we have shown the costs for the all of the current and proposed benefits under both funding methods, for comparison purposes. Please see the Tier II Savings Projection section for more detail.

* * * * *

To the best of our knowledge, this report is complete and accurate and has been conducted using generally accepted actuarial principals and practices. This study was prepared by the undersigned, who are members of the American Academy of Actuaries meeting the Academy Qualification Standards.



John E. Bartel, ASA, MAAA, FCA
President



Mary Elizabeth Redding, FSA, MAAA, EA
Assistant Vice President

SECTION 2

SUMMARY OF RESULTS

Comparison of Estimated Contribution Rates under Current and Proposed Benefit Formulas

1. Pension Benefits

All Amounts are Average Per Employee

Blue Italics amounts developed from Segal's reports

	Current Plan	2% @ 65 Base Pay	2% @ 67 Base Pay	New Proposal #1: 2% @ SSNRA Base Pay	New Proposal #2: 1.6% @ SSNRA Base Pay
Base Pay	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030
Base Pay + Included Bonus	65,337	65,337	65,337	65,337	65,337

Entry Age Normal

Employer Normal Cost	\$ 7,337	2,472	2,126	\$ 1,568	\$ 1,201
Employee Pension Normal Cost	<u>4,574</u>	<u>5,762</u>	<u>5,762</u>	<u>4,699</u>	<u>3,598</u>
Total Pension Normal Cost	11,911	8,234	7,888	6,267	4,799

Cost as % of Base + Bonus

• Employer Cost % of Pay	11.23%	3.78%	3.25%	2.40%	1.84%
• Employee Normal Cost % of Pay	7.00%	8.82%	8.82%	7.19%	5.51%
• Total Cost % of Pay	18.23%	12.60%	12.07%	9.59%	7.34%

Employer Cost Portion	61.6%	30.0%	26.9%	25.0%	25.0%
Employee Cost Portion	38.4%	70.0%	73.1%	75.0%	75.0%

Projected Unit Credit

Employer Normal Cost	\$ 3,691	\$ 724	\$ 461	\$ 1,104	\$ 839
Employee Pension Normal Cost	<u>4,574</u>	<u>5,762</u>	<u>5,762</u>	<u>3,307</u>	<u>2,513</u>
Total Pension Normal Cost	8,265	6,486	6,223	4,411	3,352
Accrued Liability	14,000	-	-	-	-
15-Year Amortization of AL	<u>1,168</u>	-	-	=	-
Total Cost	9,433	6,486	6,223	4,411	3,352

Cost as % of Base + Bonus

• Employer Cost % of Pay	7.44%	1.11%	0.70%	1.69%	1.28%
• Employee Normal Cost % of Pay	7.00%	8.82%	8.82%	5.06%	3.85%
• Total Cost % of Pay	14.44%	9.93%	9.52%	6.75%	5.13%

Employer Cost Portion	51.5%	11.2%	7.4%	25.0%	25.0%
Employee Cost Portion	48.5%	88.8%	92.6%	75.0%	75.0%

Employee contributions payable bi-weekly
Employer contributions payable July 15th

Employee contributions allocated to OPEB paid to Retirement Trust.



SECTION 2

SUMMARY OF RESULTS

2. OPEB Benefits

All Amounts are Average Per Employee

Blue Italics amounts developed from Segal's reports

	Current Plan	2% @ 65 Base Pay	2% @ 67 Base Pay	New Proposal #1: 2% @ SSNRA Base Pay	New Proposal #2: 1.6% @ SSNRA Base Pay
Base Pay	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030
Base Pay + Included Bonus	65,337	65,337	65,337	65,337	65,337
Entry Age Normal					
Employer Normal Cost	\$ (620)	\$ 198	\$ 108	\$ 354	\$ 276
Employee OPEB Normal Cost	<u>2,613</u>	<u>1,281</u>	<u>1,281</u>	<u>1,064</u>	<u>829</u>
Total OPEB Normal Cost	1,993	1,479	1,389	1,418	1,105
<u>Cost as % of Base + Bonus</u>					
• Employer Cost % of Pay	(0.95)%	0.30%	0.17%	0.55%	0.43%
• Employee Normal Cost % of Pay	4.00%	1.96%	1.96%	1.62%	1.26%
• Total Cost % of Pay	3.05%	2.26%	2.13%	2.17%	1.69%
Employer Cost Portion	(31.1)%	13.4%	7.8%	25.0%	25.0%
Employee Cost Portion	131.1%	86.6%	92.2%	75.0%	75.0%
Projected Unit Credit					
Employer Normal Cost	\$ (1,228)	\$ (257)	\$ (321)	\$ 217	\$ 178
Employee OPEB Normal Cost	<u>2,613</u>	<u>1,281</u>	<u>1,281</u>	<u>653</u>	<u>535</u>
Total OPEB Normal Cost	1,385	1,024	960	870	713
Accrued Liability	-	-	-	-	-
15-Year Amortization of AL	-	-	-	-	-
Total Cost	1,385	1,024	960	870	713
<u>Cost as % of Base + Bonus</u>					
• Employer Cost % of Pay	(1.88)%	(0.39)%	(0.49)%	0.33%	0.27%
• Employee Normal Cost % of Pay	4.00%	1.96%	1.96%	1.00%	0.82%
• Total Cost % of Pay	2.12%	1.57%	1.47%	1.33%	1.09%
Employer Cost Portion	(88.7)%	(25.1)%	(33.4)%	25.0%	25.0%
Employee Cost Portion	188.7%	125.1%	133.4%	75.0%	75.0%
Employee contributions payable bi-weekly					
Employer contributions payable July 15 th					
Employee contributions allocated to OPEB paid to Retirement Trust.					



SECTION 2

SUMMARY OF RESULTS

3. Total Pension + OPEB Benefits

All Amounts are Average Per Employee

Blue Italics amounts developed from Segal's reports

	Current Plan	2% @ 65 Base Pay	2% @ 67 Base Pay	New Proposal #1: 2% @ SSNRA Base Pay	New Proposal #2: 1.6% @ SSNRA Base Pay
Base Pay	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030	\$ 64,030
Base Pay + Included Bonus	65,337	65,337	65,337	65,337	65,337

Entry Age Normal					
Employer Normal Cost	\$ 6,717	\$ 2,670	\$ 2,234	\$ 1,922	\$ 1,477
Employee Normal Cost	<u>7,187</u>	<u>7,043</u>	<u>7,043</u>	<u>5,763</u>	<u>4,427</u>
Total Normal Cost	13,904	9,713	9,277	7,685	5,904

Cost as % of Base + Bonus

• Employer Cost % of Pay	10.28%	4.09%	3.42%	2.94%	2.26%
• Employee Normal Cost % of Pay	11.00%	10.78%	10.78%	8.82%	6.78%
• Total Cost % of Pay	21.28%	14.87%	14.20%	11.76%	9.04%

Employer Cost Portion	48.3%	27.5%	24.1%	25.0%	25.0%
Employee Cost Portion	51.7%	72.5%	75.9%	75.0%	75.0%

Projected Unit Credit					
Employer Normal Cost	\$ 2,463	\$ 467	\$ 140	\$ 1,321	\$ 1,017
Employee Normal Cost	<u>7,187</u>	<u>7,043</u>	<u>7,043</u>	<u>3,960</u>	<u>3,048</u>
Total Normal Cost	9,650	7,510	7,183	5,281	4,065
Accrued Liability	14,000	-	-	-	-
15-Year Amortization of AL	<u>1,168</u>	=	=	=	=
Total Cost	10,818	7,510	7,183	5,281	4,065

Cost as % of Base + Bonus

• Employer Cost % of Pay	5.56%	0.71%	0.21%	2.02%	1.56%
• Employee Normal Cost % of Pay	11.00%	10.78%	10.78%	6.06%	4.66%
• Total Cost % of Pay	16.56%	11.49%	10.99%	8.08%	6.22%

Employer Cost Portion	33.6%	6.2%	1.9%	25.0%	25.0%
Employee Cost Portion	66.4%	93.8%	98.1%	75.0%	75.0%

Employee contributions payable bi-weekly
 Employer contributions payable July 15th
 Employee contributions allocated to OPEB paid to Retirement Trust.

SECTION 3
OUTLINE OF POTENTIAL PLAN DESIGN

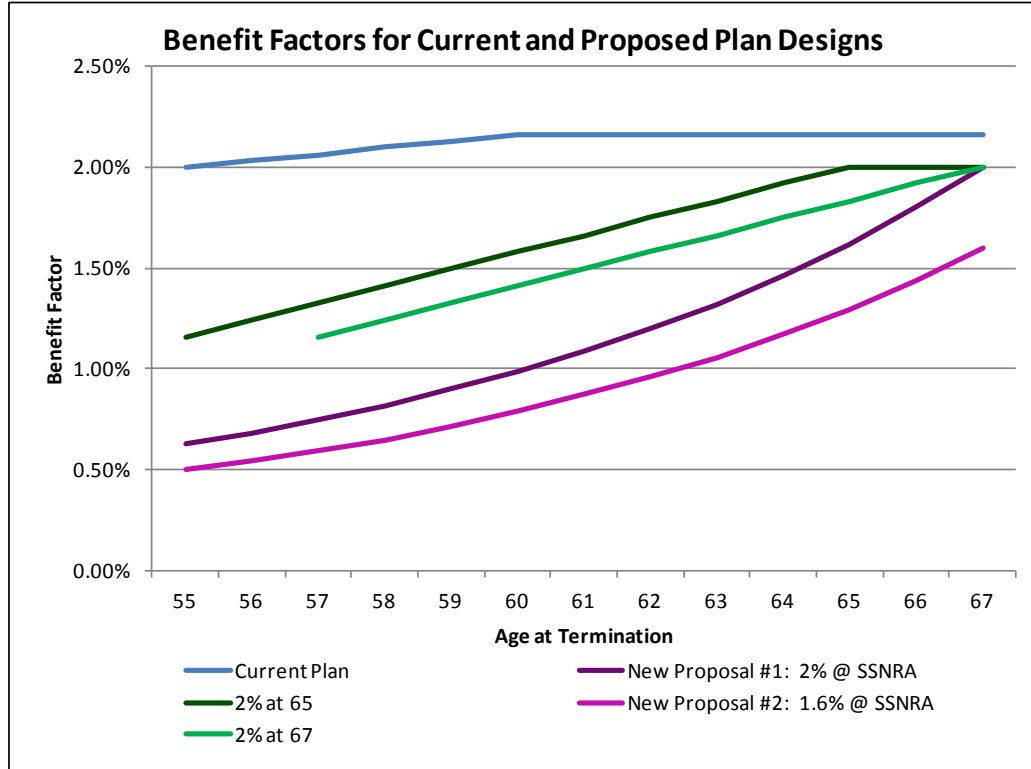
Proposed New Tier Pension Plan Designs					
	Current Plan	2% @65	2% @67	New Proposal #1: 2% @ SSNRA	New Proposal #2: 1.6% @SSNRA
Benefit	2.16% @ 60	2.0 % @65	2.0 % @67	2.0 % @SSNRA	1.6 % @SSNRA
Maximum benefit	100%	75%	Same	Same	Same
Normal (Unreduced) Retirement	55/30 60/10 70/0	65/10 70/0	67/10 70/0	SSNRA, generally 67	Same
Early Retirement Eligibility	55/10 or /30 yrs	55/10	57/10	55/10	Same
Reduction for Early Ret.	1.5% per year after 55	4% to 5.5%/year	4% to 5.5%/year	Actuarial (7.5%/yr)	Same
Employee Contribution Rate	7% for pension	9% for pension	Same	75% of Normal Cost (7.34% base pay for pension EAN, 5.16% PUC)	75% of Normal Cost (5.62% base pay for pension EAN, 3.92% PUC)
Final Average Compensation	1 year, Base + certain bonus, IRS limits	3 years, Base Only, IRS limits	Same	5 years Base Only, IRS limits	Same
COLA	3%	2%, after 2 years of retirement	Same	2% (add'l coverage purchasable)	1% (add'l coverage purchasable)
Disability Eligibility	5 years	10 years	Same	Same	Same
Disability	Greater of: 1/3 of pay OR 1/70 (1.43%) x pay x svc. No early ret. reduction.	1/90 (1.11%) x pay x service. No early ret. reduction.	Same	Same	Same
Vested Termination	- = Early ret. - Return of Contr. @ 55 If <10 years	Same	Same	Same	Same
Post-Retirement Death	-Married: 50% J&S - Else: Life Annuity, Return survivor contr. - \$2,500 LS death benefit	Same	Same	- Life annuity (add'l coverage purchasable) - \$2,500 LS death benefit	Same

SECTION 3

OUTLINE OF POTENTIAL PLAN DESIGN

Sample Benefit Factors for Current and Proposed Plan Designs					
Retirement Age	Current Plan	2% @65	2% @67	New Proposal #1: 2% @ SSNRA¹	New Proposal #2: 1.6% @ SSNRA¹
Age 55	2.00%	1.16%	N/A	0.63%	0.50%
Age 56	2.03%	1.24%	N/A	0.68%	0.54%
Age 57	2.06%	1.33%	1.16%	0.75%	0.60%
Age 58	2.10%	1.41%	1.24%	0.82%	0.65%
Age 59	2.13%	1.50%	1.33%	0.90%	0.71%
Age 60	2.16%	1.58%	1.41%	0.99%	0.79%
Age 61	2.16%	1.66%	1.50%	1.09%	0.87%
Age 62	2.16%	1.75%	1.58%	1.20%	0.96%
Age 63	2.16%	1.83%	1.66%	1.32%	1.06%
Age 64	2.16%	1.92%	1.75%	1.46%	1.17%
Age 65	2.16%	2.00%	1.83%	1.62%	1.29%
Age 66	2.16%	2.00%	1.92%	1.80%	1.44%
Age 67	2.16%	2.00%	2.00%	2.00%	1.60%

Employee Contribution Rates	7.0%	7.0%	7.0%	7.34% (EAN)	5.62% (EAN)
------------------------------------	------	------	------	-------------	-------------



¹ Assumes SSNRA=67

SECTION 3
OUTLINE OF POTENTIAL PLAN DESIGN

Current and Proposed OPEB Benefit Design					
	Current Plan	2% @ 65	2% @ 67	New Proposal #1: 2% @ SSNRA	New Proposal #2: 1.6% @ SSNRA
Pre-Medicare Benefit	\$1,190/mo cap in 2012	\$596/mo cap in 2012	Same	Same	Same
Post-Medicare Benefit	\$623.3/mo cap in 2012	\$596/mo cap in 2012	Same	Same	Same
Dependents Covered	Yes	No	Same	Same	Same
Benefit Increase	Kaiser 2-party rate	Lowest 1-party rate	Same	Same	Same
Employee Contribution Rate (Paid in Pension Plan)	4% for OPEB	2% for OPEB	Same	75% of Normal Cost (1.66% of base pay for OPEB EAN, 1.02% PUC)	75% of Normal Cost (1.29% base pay for OPEB EAN, 0.84% PUC)
Non-Medicare "Vesting"	40% @ 10 yrs, 4%/yr after. 100% @ 25 yrs	40% @ 10 yrs, 3% yr after. 100% @ 30 yrs	Same	Same	Same PLUS actuarial reduction if paymt before SSNRA
Medicare "Vesting"	75% @ 10 yrs, 90% @ 15 yrs, 100% @ 20 yrs	Same	Same	Same as non-Medicare	Same as non-Medicare
Dental Benefit	\$44.14/mo in 2012. Assume 5%/yr increase	Same	Same	Same	Same
Dental "Vesting"	Same as non-Medicare	Same as non-Medicare	Same	Same	Same as non-Medicare

SECTION 3
OUTLINE OF POTENTIAL PLAN DESIGN

Current and Proposed OPEB Benefit Design, continued					
	Current Plan	2% @ 65	2% @ 67	New Proposal #1: 2% @ SSNRA	New Proposal #2: 1.6% @ SSNRA
Medicare Part B	\$99.9/mo in 2012. Assume 5%/yr increase	Same	Same	None	None
Eligibility	Same as pension including deferred vested	Same as pension. Minimum commencement age 55	Same as pension. Minimum commencement age 57	Same as pension. Minimum commencement age 55	Same as pension.
Disability Eligibility	Same as pension	Minimum 55/10 for 40% subsidy	Minimum 57/10 for 40% subsidy	Minimum 55/10 for 40% subsidy	Minimum 57/10 for 40% subsidy

Under New Proposal #2, the maximum subsidy payable will have the vesting factors based on service, and an actuarial reduction based on age at benefit commencement. The following chart illustrates sample benefits payable based on the 2012 subsidy amount, SSNRA at 67, and selected service levels.

2012 Benefit Subsidy under New Proposal #2: 1.6% at SSNRA			
Age At Commencement	10 Years of Service	20 Years of Service	30 Years of Service
Age 55	\$ 75	\$ 130	\$ 186
Age 56	82	143	204
Age 57	89	156	223
Age 58	98	171	244
Age 59	107	188	268
Age 60	118	206	294
Age 61	130	227	324
Age 62	143	250	357
Age 63	158	276	394
Age 64	174	305	435
Age 65	193	338	482
Age 66	214	375	536
Age 67	238	417	596

SECTION 4

ACTUARIAL ASSUMPTIONS

The same assumptions were used as in Segal's 6/30/11 and Proposed New Tier reports. Key assumptions are summarized below.

Valuation Date	July 30, 2011		
Actuarial Funding Methods	PUC (Projected Unit Credit) with attribution following the accrual rate. EAN (Entry Age Normal) with normal cost a level percentage of pay.		
Discount Rate	7.75%		
Early Retirement Rates	Depend on benefit program and age & service. The average age at retirement produced by each set of rates is shown below.		
		Under 30 years	Over 30 years
	Current Plan	60.2	60.2
	2% at 65	65.2	61.9
	2% at 67	66.4	63.8
	New Proposal #1: 2% @ SSNRA (same rates as 2% @ 65)	65.2	61.9
	New Proposal #2: 1.6% @ SSNRA (same rates as 2% @ 67)	66.4	63.8
Salary Increases	Aggregate payroll increases - 4.25% Individual – Based on age/service, 11.25% to 4.65% per year		
Mortality	RP-2000 Combined healthy, set back 2 years for males and 1 year for females		
Withdrawal	Based on age/service, 11.25% to 1.75%/year		
Disability	Based on age, from 0.01% to 0.2%/year		
Healthcare Trend	Medical: 8.75% for 2012-2013, decreasing ½% per year to 5% after 8 years. Dental: 5% Medicare Part B: 5% after 2012-3		
Participation at Retirement	Based on service: 65% @ 10 yrs 80% @ 15 yrs 90% @ 20 yrs 95% >25 yrs		
Marriage %	<u>Pension</u> - 76% of males, 50% of females married, husbands 3 years older than wives. <u>OPEB</u> - 60% of males, 30% of females cover dependents. Male employees 4 years older, female employees 2 years younger than their spouses.		
Benefit commencement (vested terminated)	Age 57		

SECTION 5 PARTICIPANT DATA

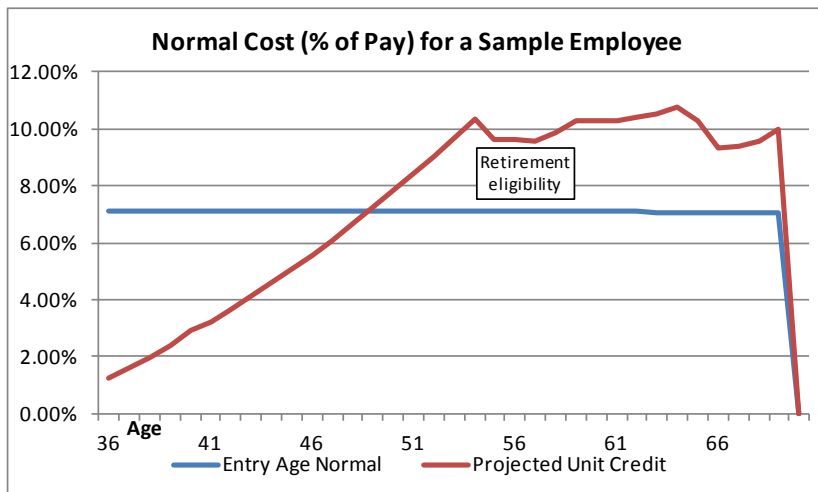
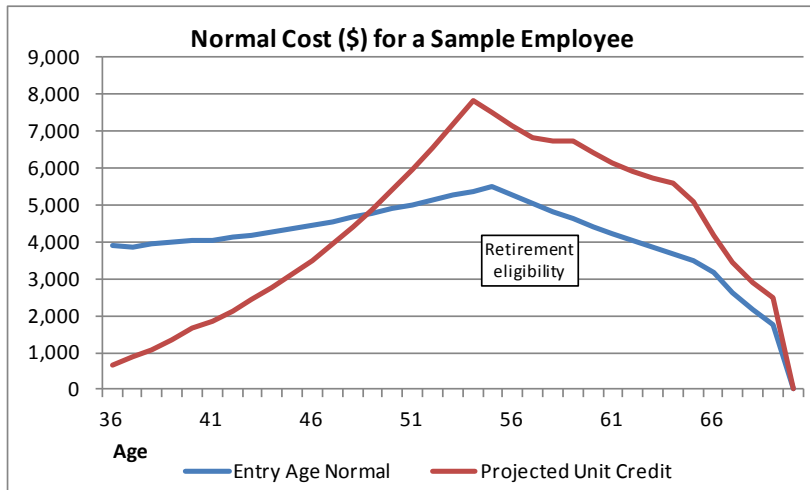
This study uses data based on participants hired during the three years preceding June 30, 2011.
A summary of the participant data follows:

Distribution of Study Participants by Entry Age and Salary										
	Under \$25,000	\$25,000 to \$50,000	\$50,000 to \$75,000	\$75,000 to \$100,000	\$100,000 to \$125,000	\$125,000 to \$150,000	\$150,000 to \$175,000	\$175,000 to \$200,000	Over \$200,000	Total
Under 20	0	12	2	0	0	0	0	0	0	14
20 - 24	0	63	54	12	0	0	0	0	0	129
25 - 29	0	93	102	40	3	0	0	0	0	238
30 - 34	0	41	84	31	3	4	0	0	0	163
35 - 39	0	38	58	26	3	2	0	1	0	128
40 - 44	0	29	28	29	3	0	2	0	1	92
45 - 49	0	33	41	31	2	2	2	1	0	112
50 - 54	0	23	21	15	3	2	3	1	2	70
55 - 59	0	13	10	12	2	1	3	2	2	45
60 - 64	0	8	3	3	1	1	1	1	1	19
Over 65	0	4	1	0	1	0	0	0	0	6
Total	0	357	404	199	21	12	11	6	6	1,016

SECTION 6

TIER II SAVINGS PROJECTIONS

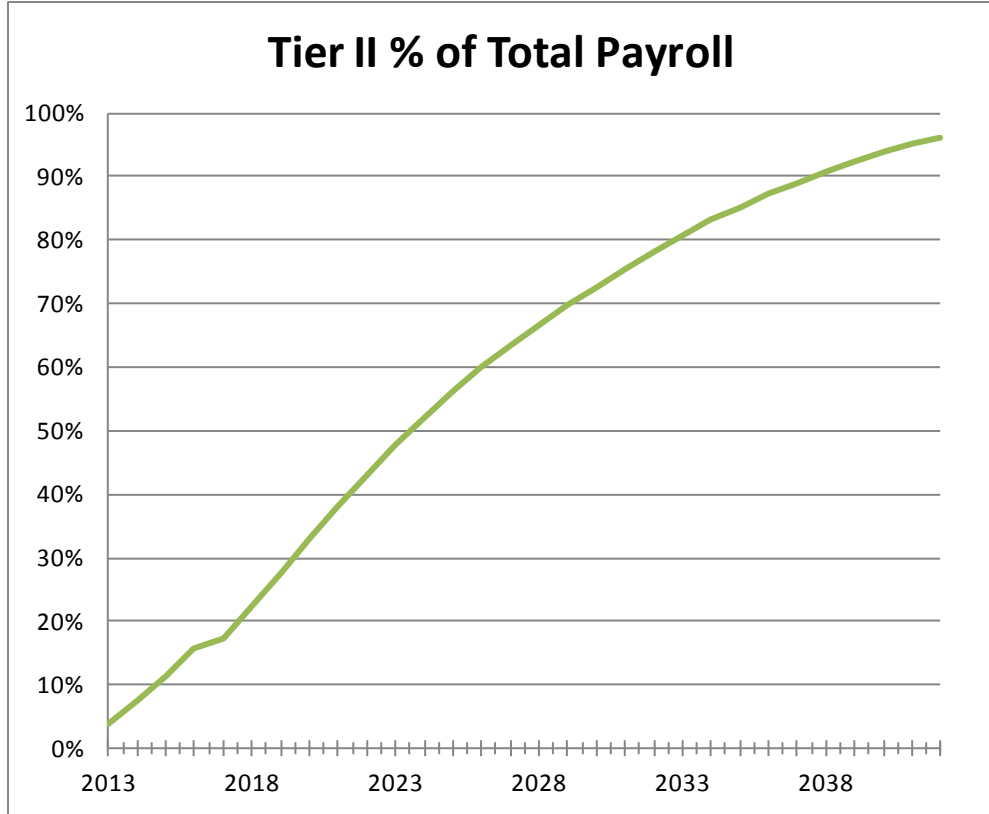
The Cost Projections in this section estimate costs on both the current Projected Unit Credit (PUC) and the future Tier II Entry Age Normal (EAN) funding method. The cost patterns of the two funding methods are very different, making the comparison of costs and benefits between the methods complex. The two charts below illustrate the cost patterns of the two funding methods. These charts use actual valuation projections of Normal Cost for one employee, and so take into account probabilities of retirement and the decreasing likelihood that the participant will remain employed at the later ages. The dollar amount of Normal Cost declines after retirement eligibility because a portion of the employee is assumed to have already retired.



SECTION 6 TIER II SAVINGS PROJECTIONS

In projecting the Tier II payroll, we used the same actuarial assumptions as in the actuarial valuation to project the payroll of the Tier I group, taking into account the termination and retirement rates as well as assumed salary increases. Also, we assumed that during the period of no total payroll growth that current employees would receive no cost-of-living pay increase (but would continue to receive promotion increases).

The chart below shows Tier II payroll as a percentage of total payroll.



SECTION 6

TIER II SAVINGS PROJECTIONS

The following chart estimates the savings from implementing the proposed Tier II benefits. The columns headed "Tier II Savings (Actual)" show the difference between the cost of the current plan benefits, as currently funded using the PUC funding method, and the proposed Tier II funded on the EAN method. The columns headed "Tier II Savings (EAN) show the difference between the current benefits and the proposed Tier II benefits if both were funded using the EAN method.

Estimated Savings 2.0% @ SSNRA (\$000's)									
YR	FY	PAYROLL GROWTH	BASE PAY-ROLL	TIER II % PAY-ROLL	TIER II PAYROLL	TIER II SAVINGS (Actual)		TIER II SAVINGS (EAN)	
						ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
1	2013	0.00%	1,817,662	4%	67,367	1,765	1,765	4,945	4,945
2	2014	0.00%	1,817,662	8%	136,678	3,919	5,684	10,032	14,977
3	2015	0.00%	1,817,662	11%	207,949	6,510	12,194	15,263	30,240
4	2016	0.00%	1,817,662	16%	283,423	9,628	21,822	20,803	51,044
5	2017	0.00%	1,817,662	17%	312,176	11,987	33,809	22,914	73,957
6	2018	4.25%	1,894,913	22%	425,062	16,814	50,622	31,200	105,157
7	2019	4.25%	1,975,447	28%	546,806	22,565	73,188	40,136	145,292
8	2020	4.25%	2,059,403	33%	679,002	29,391	102,579	49,839	195,131
9	2021	4.25%	2,146,928	38%	819,567	37,336	139,915	60,156	255,287
10	2022	4.25%	2,238,172	43%	965,192	46,411	186,326	70,845	326,132
11	2023	4.25%	2,333,295	48%	1,115,214	56,689	243,015	81,857	407,989
12	2024	4.25%	2,432,460	52%	1,269,267	68,248	311,263	93,164	501,153
13	2025	4.25%	2,535,839	56%	1,424,722	81,108	392,371	104,575	605,728
14	2026	4.25%	2,643,612	60%	1,583,829	95,401	487,772	116,253	721,981
15	2027	4.25%	2,755,966	63%	1,748,234	109,788	597,560	128,320	850,301
16	2028	4.25%	2,873,094	67%	1,916,818	122,942	720,502	140,694	990,996
17	2029	4.25%	2,995,201	70%	2,089,671	136,569	857,071	153,382	1,144,378
18	2030	4.25%	3,122,497	73%	2,269,178	151,052	1,008,123	166,558	1,310,935
19	2031	4.25%	3,255,203	76%	2,457,795	167,727	1,175,850	180,402	1,491,338
20	2032	4.25%	3,393,549	78%	2,653,146	185,436	1,361,286	194,741	1,686,079
21	2033	4.25%	3,537,775	81%	2,855,257	201,313	1,562,599	209,576	1,895,654
22	2034	4.25%	3,688,130	83%	3,064,089	217,031	1,779,630	224,904	2,120,559
23	2035	4.25%	3,844,876	85%	3,277,472	232,785	2,012,415	240,566	2,361,125
24	2036	4.25%	4,008,283	87%	3,494,302	249,279	2,261,693	256,482	2,617,607
25	2037	4.25%	4,178,635	89%	3,719,586	265,740	2,527,433	273,018	2,890,624
26	2038	4.25%	4,356,227	91%	3,954,290	281,943	2,809,376	290,245	3,180,869
27	2039	4.25%	4,541,367	92%	4,195,988	298,478	3,107,854	307,986	3,488,855
28	2040	4.25%	4,734,375	94%	4,442,743	315,638	3,423,492	326,097	3,814,952
29	2041	4.25%	4,935,586	95%	4,692,460	333,964	3,757,455	344,427	4,159,379
30	2042	4.25%	5,145,348	96%	4,943,534	353,051	4,110,506	362,855	4,522,234
Current present value of 30-year savings using 7.75% discount rate							860,988		1,021,923
Current present value of 30-year savings using 3.75%** discount rate							1,845,931		2,096,760

* Figures are provided for illustrative purposes only (based on Segal actuarial draft study, dated 2/7/12) and are based on various assumptions, including annual growth, payroll, and Tier II % of payroll. ** Approximation of GASB 68 AA Bond rate.



SECTION 6

TIER II SAVINGS PROJECTIONS

The following chart estimates the savings from implementing the proposed Tier II benefits. The columns headed "Tier II Savings (Actual)" show the difference between the cost of the current plan benefits, as currently funded using the PUC funding method, and the proposed Tier II funded on the EAN method. The columns headed "Tier II Savings (EAN)" show the difference between the current benefits and the proposed Tier II benefits if both were funded using the EAN method.

Estimated Savings 1.6% @ SSNRA (\$000's)									
YR	FY	PAYROLL GROWTH	BASE PAY-ROLL	TIER II % PAY-ROLL	TIER II PAYROLL	TIER II SAVINGS (Actual)		TIER II SAVINGS (EAN)	
						ANNUAL	CUMULATIVE	ANNUAL	CUMULATIVE
1	2013	0.00%	1,817,662	4%	67,367	2,223	2,223	5,403	5,403
2	2014	0.00%	1,817,662	8%	136,678	4,849	7,072	10,962	16,364
3	2015	0.00%	1,817,662	11%	207,949	7,924	14,996	16,678	33,042
4	2016	0.00%	1,817,662	16%	283,423	11,555	26,551	22,731	55,772
5	2017	0.00%	1,817,662	17%	312,176	14,110	40,660	25,037	80,809
6	2018	4.25%	1,894,913	22%	425,062	19,704	60,364	34,090	114,899
7	2019	4.25%	1,975,447	28%	546,806	26,284	86,648	43,854	158,753
8	2020	4.25%	2,059,403	33%	679,002	34,008	120,656	54,456	213,209
9	2021	4.25%	2,146,928	38%	819,567	42,909	163,566	65,729	278,938
10	2022	4.25%	2,238,172	43%	965,192	52,974	216,540	77,408	356,346
11	2023	4.25%	2,333,295	48%	1,115,214	64,272	280,812	89,440	445,787
12	2024	4.25%	2,432,460	52%	1,269,267	76,879	357,691	101,795	547,582
13	2025	4.25%	2,535,839	56%	1,424,722	90,796	448,487	114,263	661,844
14	2026	4.25%	2,643,612	60%	1,583,829	106,171	554,658	127,023	788,868
15	2027	4.25%	2,755,966	63%	1,748,234	121,676	676,334	140,208	929,076
16	2028	4.25%	2,873,094	67%	1,916,818	135,977	812,311	153,729	1,082,805
17	2029	4.25%	2,995,201	70%	2,089,671	150,779	963,090	167,592	1,250,396
18	2030	4.25%	3,122,497	73%	2,269,178	166,482	1,129,572	181,988	1,432,384
19	2031	4.25%	3,255,203	76%	2,457,795	184,440	1,314,012	197,115	1,629,500
20	2032	4.25%	3,393,549	78%	2,653,146	203,477	1,517,489	212,782	1,842,282
21	2033	4.25%	3,537,775	81%	2,855,257	220,729	1,738,218	228,992	2,071,274
22	2034	4.25%	3,688,130	83%	3,064,089	237,866	1,976,085	245,740	2,317,014
23	2035	4.25%	3,844,876	85%	3,277,472	255,072	2,231,157	262,853	2,579,867
24	2036	4.25%	4,008,283	87%	3,494,302	273,040	2,504,196	280,243	2,860,110
25	2037	4.25%	4,178,635	89%	3,719,586	291,033	2,795,229	298,311	3,158,421
26	2038	4.25%	4,356,227	91%	3,954,290	308,832	3,104,061	317,134	3,475,555
27	2039	4.25%	4,541,367	92%	4,195,988	327,011	3,431,072	336,518	3,812,073
28	2040	4.25%	4,734,375	94%	4,442,743	345,848	3,776,920	356,308	4,168,381
29	2041	4.25%	4,935,586	95%	4,692,460	365,872	4,142,793	376,335	4,544,716
30	2042	4.25%	5,145,348	96%	4,943,534	386,667	4,529,460	396,471	4,941,187
Current present value of 30-year savings using 7.75% discount rate							955,662		1,116,597
Current present value of 30-year savings using 3.75%** discount rate							2,040,181		2,291,010

* Figures are provided for illustrative purposes only (based on Segal actuarial draft study, dated 2/7/12) and are based on various assumptions, including annual growth, payroll, and Tier II % of payroll. ** Approximation of GASB 68 AA Bond rate.



SECTION 7

EFFECT OF EARLY RETIREMENT RATES

The Segal Company proposed two new sets of early retirement rates (ERR) which they used to value the 2% @ 65 and 2% @ 67 proposed new tiers. One way to compare early retirement rates is by comparing the average retirement age of participants that will be projected using that table. There are shown on page 10. We believe that these tables might be overly “conservative” for the 2% @ 65 and 2% @ 67 benefit formulas, for participants not eligible for 55/30 retirement. Although the new benefit formulas provide lower benefits to Tier II employees, the additional years of service in Segal’s proposed rates means participants would retire with, on average, larger benefits than at the retirement date assumed under the current formula. This is due to the additional years of service they are assumed to work before retiring.

Bartel Associates developed proposed early retirement rates under which participants retire, on average, at the age where their benefit under the new formula is the same percentage of pay as under the current formula.

We then applied these rates in the actuarial valuation and found that they had a small effect on the total pension normal cost but a slightly larger effect on the total OPEB normal cost. Employees are projected to pay a relatively large portion of the Normal Cost, and the amount of their contribution does not change with the assumed retirement rates. Therefore there is a “leveraging” effect, and the resulting change in the net employer contribution rate is significant.

Effect of Change from Proposed Segal Early Retirement Rates (ERR) (Non 55/30) to Proposed Bartel Associates (Non 55/30) Early Retirement Rates (ERR)

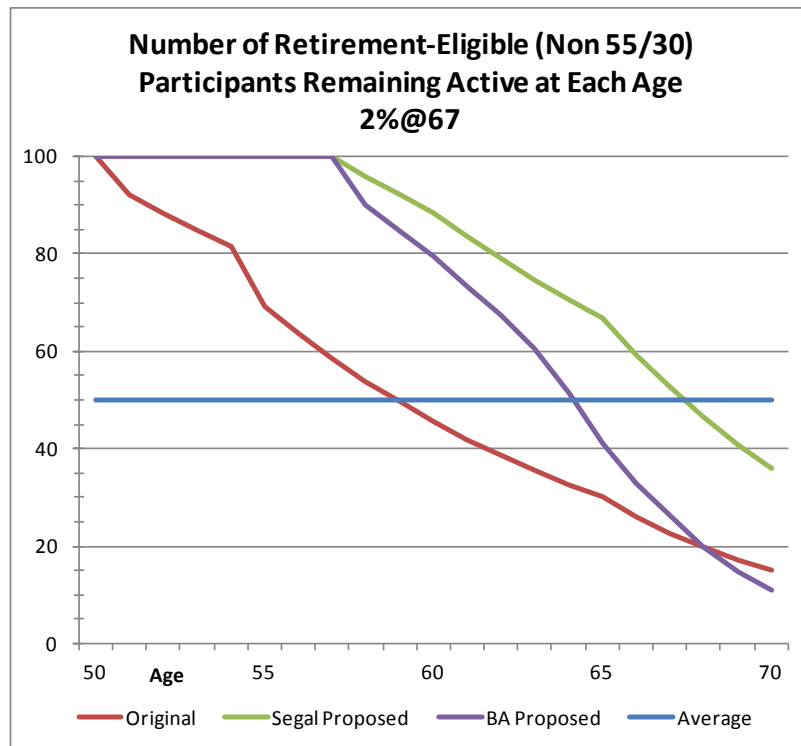
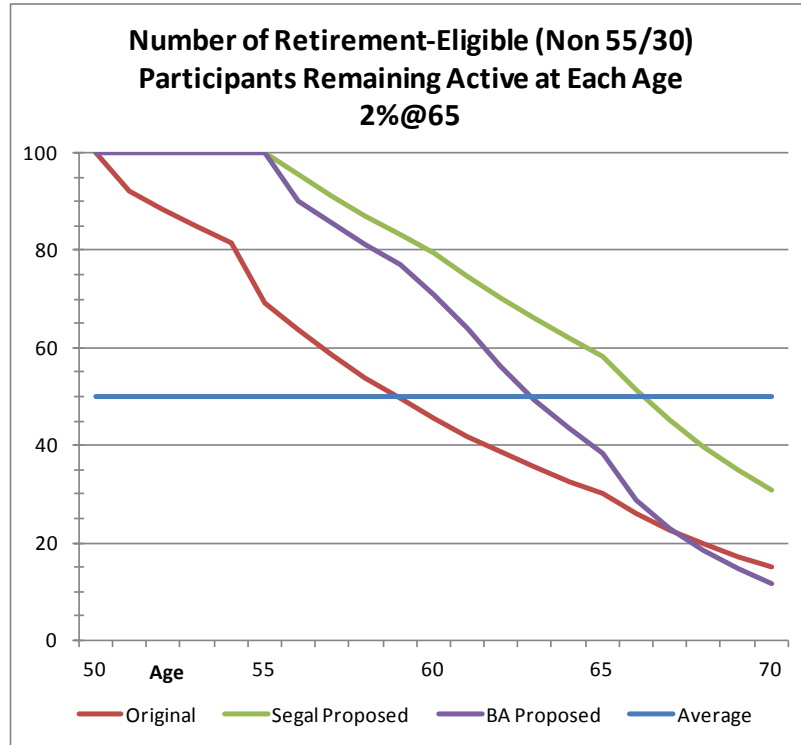
	2% @65		2% @ 67	
	EAN	PUC	EAN	PUC
Pension				
Total NC, Segal ERR	\$ 8,234	\$ 6,486	\$ 7,888	\$ 6,223
Total NC, BA ERR	8,382	6,654	7,964	6,352
% Change (BA/Segal)	101.80%	102.60%	100.97%	102.07%
Employee Contributions	7043	7043	7043	7043
Net Employer NC, Segal ERR	1,191	(557)	845	(820)
Net Employer NC, BA ERR	1,339	(389)	921	(691)
% Change (BA/Segal)	112.41%	69.77%	109.01%	84.30%
OPEB				
Total NC, Segal ERR	\$ 1,479	\$ 1,024	\$ 1,389	\$ 960
Total NC, BA ERR	1,575	1,100	1,484	1,036
% Change (BA/Segal)	106.50%	107.47%	106.81%	107.96%
Employee Contributions	0	0	0	0
Total				
Total NC, Segal ERR	\$ 9,713	\$ 7,510	\$ 9,277	\$ 7,183
Total NC, BA ERR	9,957	7,755	9,448	7,388
% Change (BA/Segal)	102.51%	103.26%	101.84%	102.86%
Employee Contributions	7,043	7,043	7,043	7,043
Net Employer NC, Segal ERR	2,670	467	2,234	140
Net Employer NC, BA ERR	2,914	712	2,405	345
% Change (BA/Segal)	109.14%	152.44%	107.64%	246.55%



SECTION 7

EFFECT OF EARLY RETIREMENT RATES

A comparison of the early retirement rates follows. Rather than show the actual rate table, we show the number of employees remaining active at each age. The blue horizontal line marks 50%. Where this line crosses the retirement rate curves is the point where half of the participants have retired.



SECTION 8

COST-SHARING OF UNFUNDED PAYMENT

In the future, if actuarial assumptions are not exactly met, the Plan will develop an unfunded or an overfunded actuarial liability (UAL), as the plan assets will not exactly equal the Actuarial Accrued Liability (AAL). The City believes that the employees should bear a portion of the cost of the required amortization payments on the UAL. We agree that this is appropriate since the UAL would not exist if the Normal Cost payments had always been exactly correct. If a UAL exists it means that on average, past Normal Costs have been too small, and thus employees have benefitted from a lower Normal Cost rate than otherwise.

We propose that a percentage of the amortization payments attributable to the Tier II participants be allocated to employees as additional required employee contributions, and that a smoothing method be employed to minimize fluctuations in the contribution rate. The percentage should be the same for amortization payments as for the Normal Cost: 75% under the current proposal.

We offer the following comments on cost sharing of amortization payments.

“Generational equity” is one consideration. The employees who benefitted from lower Normal Cost rates will not be exactly the same employees who must make increased contributions to amortize the UAL. But similarly, the taxpayers who benefitted from the City’s lower normal cost rates are not the same ones who must pay higher taxes for the additional UAL amortization.

Significance. In the early years of Tier II, the group’s assets and liabilities are small in dollar amount as well as a percentage of Tier II payroll. The dollar amounts of any gains and losses and amortization payments will also be small and perhaps immaterial. However, as the plan’s assets and liabilities grow these have the potential to become much more significant.

Cost-sharing amount. We suggest that it is appropriate for employees to bear the same percentage of any amortization payments as of Normal Cost. While some might argue that asset returns are more under the control of the City than the Employees and thus investment gains or losses should be separately considered, we believe that the City’s 7-year asset smoothing method should reduce short-term fluctuations and timing issues.

Calculation of Amortization Payments. The illustrations that follow assumes that amortization payments will continue to be calculated as in the past, as an amortization of the UAL attributable to Tier II employees, and spread over a period of years as a level percentage of payroll. In the past, and in our illustrations, that calculation has assumed payroll will grow at 4.25% per year. However, the Tier II group is expanding and so its payroll increases much faster than 4.25% per year. The resulting amortization payments actually decrease over time as a percentage of Tier II total payroll.

Administration. In order to implement any cost sharing, the assets attributable to Tier II participants will need to be tracked separately, as will all actuarial gains and losses and amortization bases and payments. In considering a cost-sharing methodology, we believe ease of administration is very important. We believe any attempt to segregate gains and losses by type (asset losses, liability/demographic losses, changes in actuarial assumptions, etc.) will unnecessarily complicate the calculation. Similarly, we believe the use of a “corridor” where a certain level of gains or losses would not be allocated to employee contributions would be difficult to develop the required employee contribution rate, and is not necessary if a smoothing method is used as proposed.

SECTION 8

COST-SHARING OF UNFUNDED PAYMENT

The illustrations following show two possible smoothing methods. In one, the employee contribution rate is developed as the rolling average of the previous 3 years' amortization payments. In the other, the employee contribution rate is determined every 3 years as the average of the previous 3 years' amortization payments.

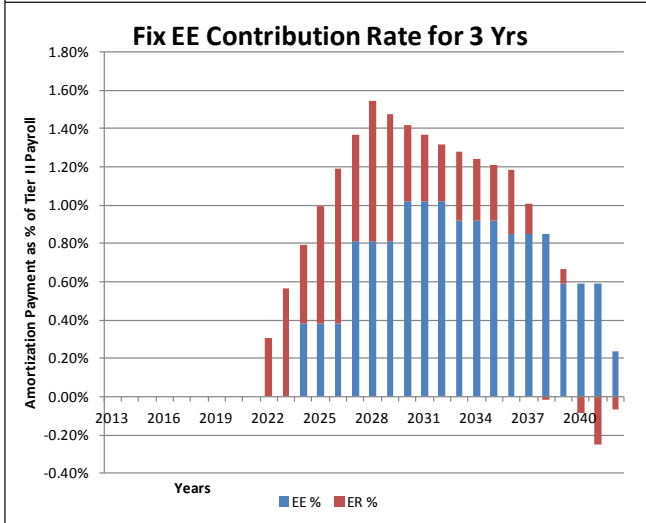
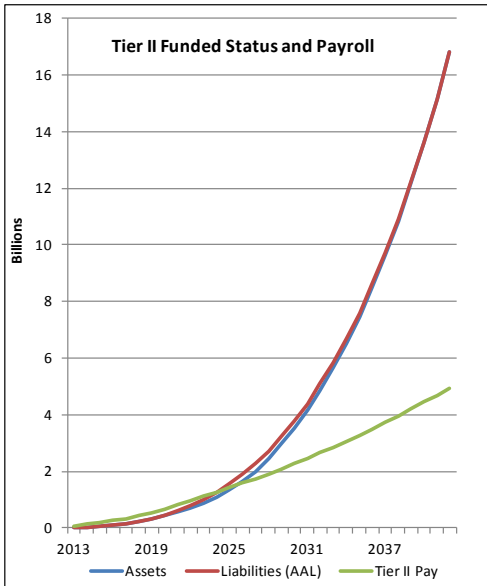
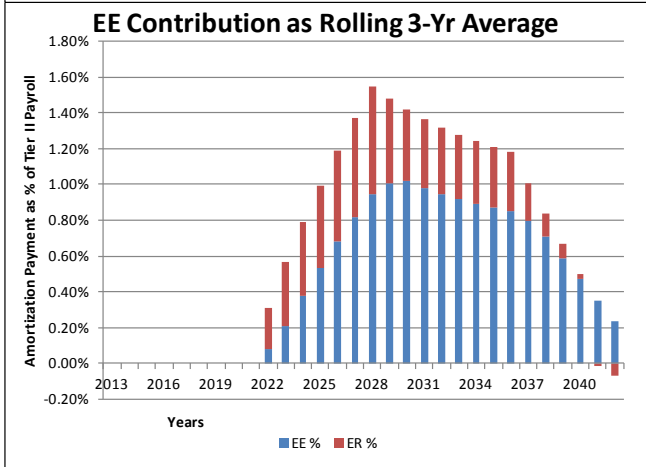
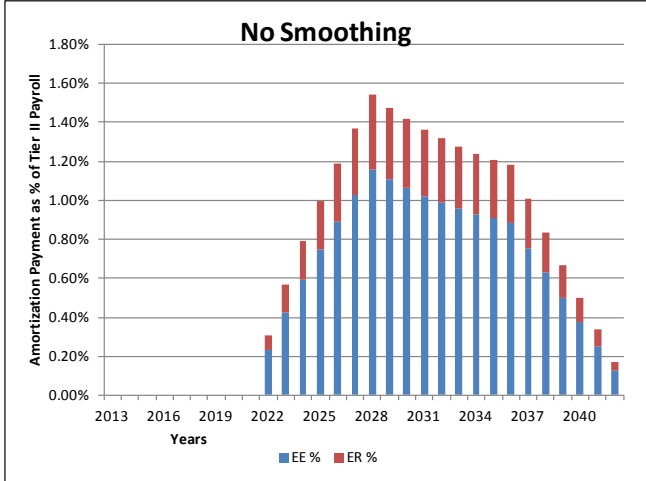
There are several sets of illustrations to show how this would work under various scenarios.

SECTION 8 COST-SHARING OF UNFUNDED PAYMENT

Scenario: Sample: One-year large asset loss

Percentage (Gain) or Loss in each Year

Year	Liability	Assets	Assumption Change
2013	0%	0%	0%
2014	0%	0%	0%
2015	0%	0%	0%
2016	0%	0%	0%
2017	0%	0%	0%
2018	0%	0%	0%
2019	0%	0%	0%
2020	0%	0%	0%
2021	0%	40%	0%
2022	0%	0%	0%
2023	0%	0%	0%
2024	0%	0%	0%
2025	0%	0%	0%
2026	0%	0%	0%
2027	0%	0%	0%
2028	0%	0%	0%
2029	0%	0%	0%
2030	0%	0%	0%
2031	0%	0%	0%
2032	0%	0%	0%
2033	0%	0%	0%
2034	0%	0%	0%
2035	0%	0%	0%
2036	0%	0%	0%
2037	0%	0%	0%
2038	0%	0%	0%
2039	0%	0%	0%
2040	0%	0%	0%
2041	0%	0%	0%
2042	0%	0%	0%

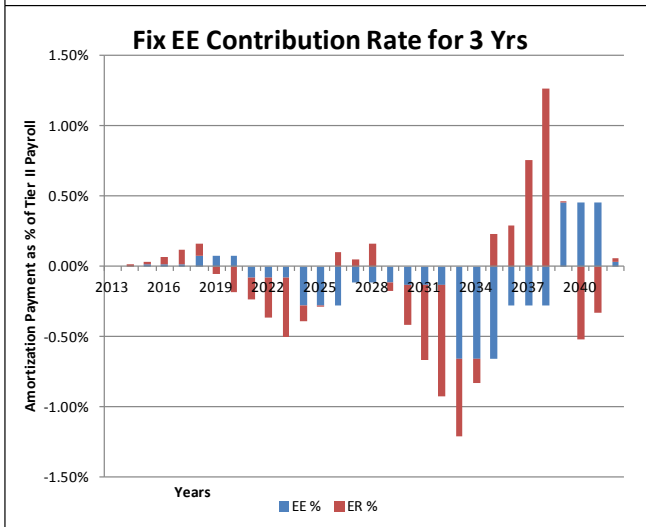
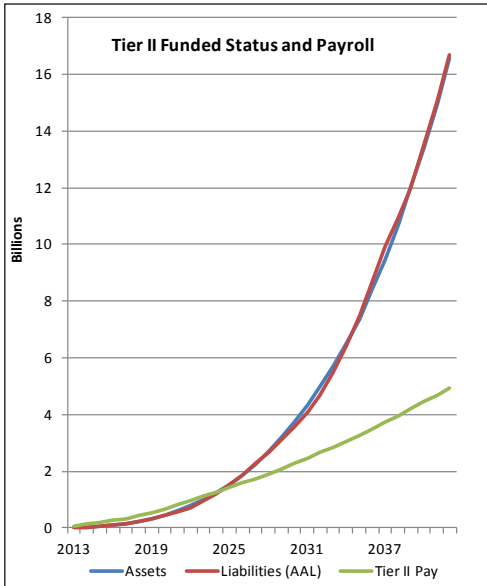
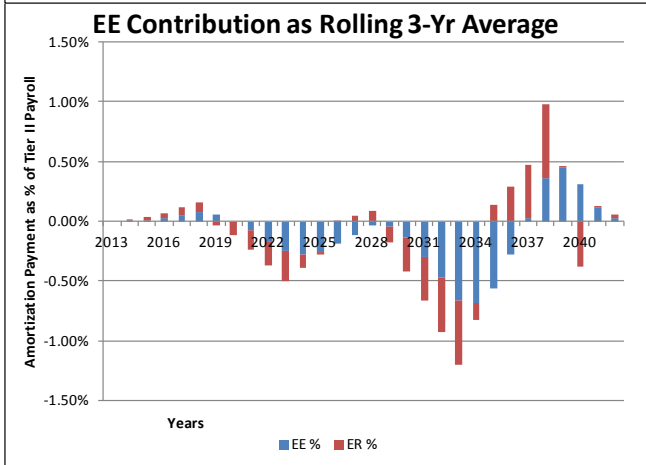
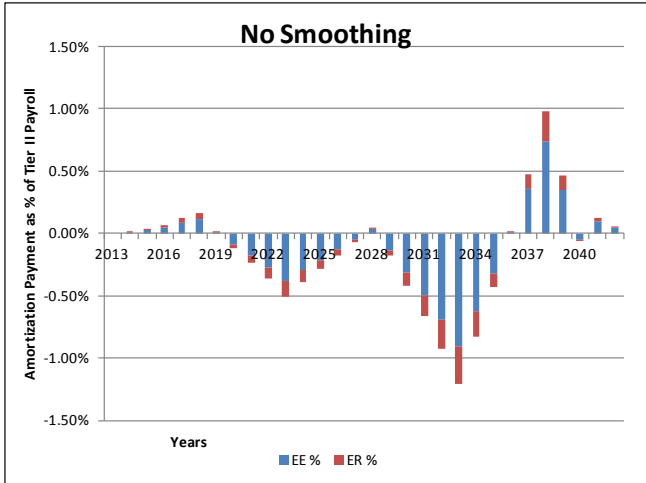


SECTION 8 COST-SHARING OF UNFUNDED PAYMENT

Scenario: Fluctuating Gains and Losses, average to 0.

Percentage (Gain) or Loss in each Year

Year	Liability	Assets	Assumption Change
2013	2%	0%	0%
2014	2%	0%	0%
2015	2%	0%	0%
2016	2%	0%	0%
2017	2%	0%	0%
2018	-3%	0%	0%
2019	-3%	0%	0%
2020	-3%	0%	0%
2021	-3%	0%	0%
2022	-3%	0%	0%
2023	1%	0%	0%
2024	1%	0%	0%
2025	1%	0%	0%
2026	1%	0%	0%
2027	1%	0%	0%
2028	-2%	0%	0%
2029	-2%	0%	0%
2030	-2%	0%	0%
2031	-2%	0%	0%
2032	-2%	0%	0%
2033	2%	0%	0%
2034	2%	0%	0%
2035	2%	0%	0%
2036	2%	0%	0%
2037	2%	0%	0%
2038	-2%	0%	0%
2039	-2%	0%	0%
2040	1%	0%	0%
2041	0%	0%	0%
2042	0%	0%	0%

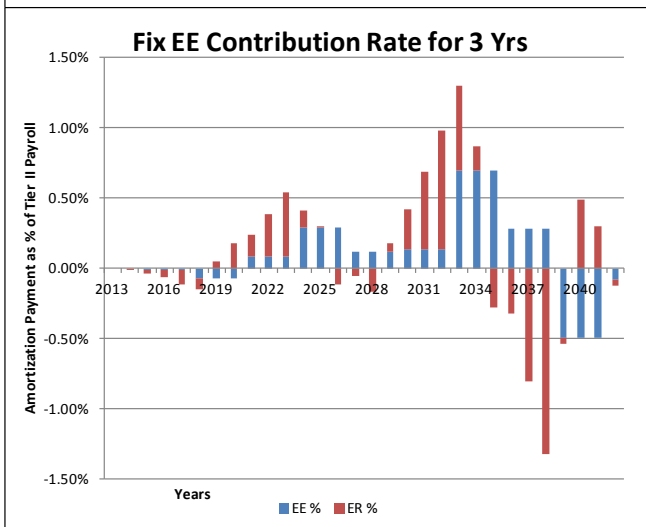
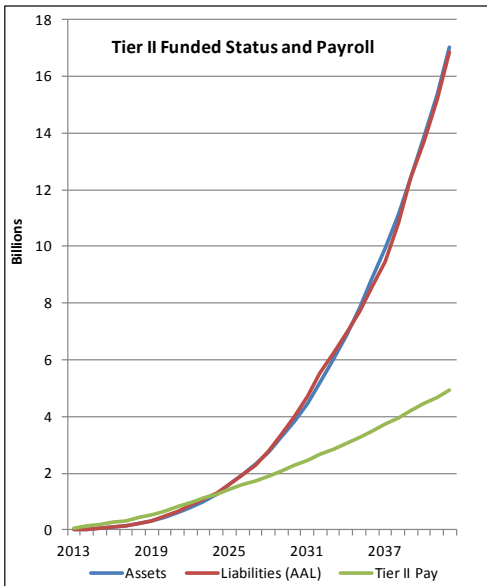
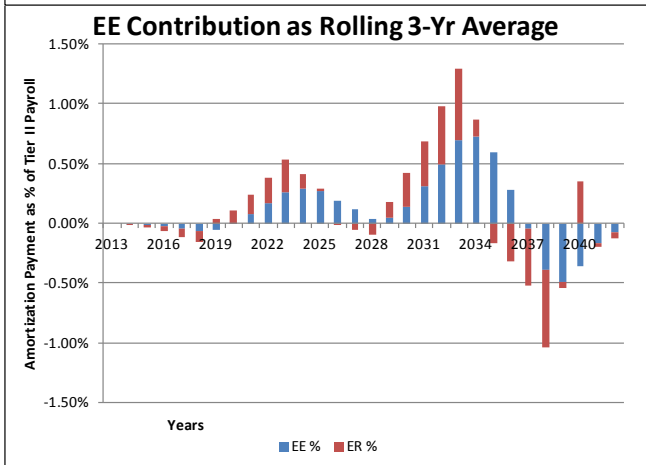
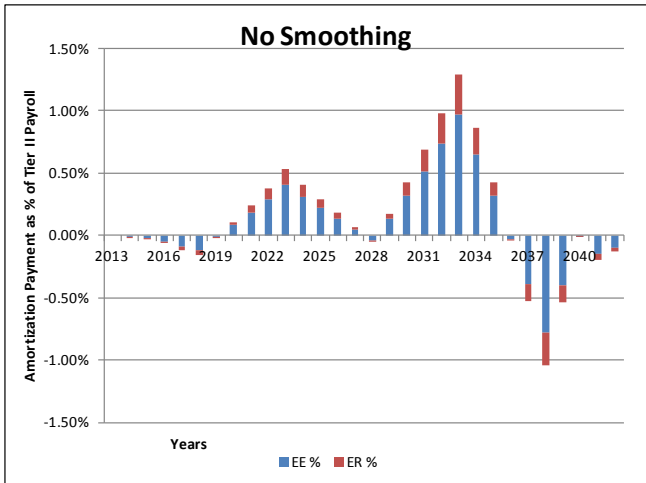


SECTION 8 COST-SHARING OF UNFUNDED PAYMENT

Scenario: Fluctuating Gains and Losses, opposite direction to previous scenario.

Percentage (Gain) or Loss in each Year

Year	Liability	Assets	Assumption Change
2013	-2%	0%	0%
2014	-2%	0%	0%
2015	-2%	0%	0%
2016	-2%	0%	0%
2017	-2%	0%	0%
2018	3%	0%	0%
2019	3%	0%	0%
2020	3%	0%	0%
2021	3%	0%	0%
2022	3%	0%	0%
2023	-1%	0%	0%
2024	-1%	0%	0%
2025	-1%	0%	0%
2026	-1%	0%	0%
2027	-1%	0%	0%
2028	2%	0%	0%
2029	2%	0%	0%
2030	2%	0%	0%
2031	2%	0%	0%
2032	2%	0%	0%
2033	-2%	0%	0%
2034	-2%	0%	0%
2035	-2%	0%	0%
2036	-2%	0%	0%
2037	-2%	0%	0%
2038	2%	0%	0%
2039	2%	0%	0%
2040	-1%	0%	0%
2041	0%	0%	0%
2042	0%	0%	0%



SECTION 8 COST-SHARING OF UNFUNDED PAYMENT

Scenario: Persistent asset losses.

Percentage (Gain) or Loss in each Year

	Liability	Assets	Assumption Change
2013	0%	0%	0%
2014	0%	0%	0%
2015	0%	0%	0%
2016	0%	0%	0%
2017	0%	0%	0%
2018	0%	0%	0%
2019	0%	0%	0%
2020	0%	0%	0%
2021	0%	0%	0%
2022	0%	30%	0%
2023	0%	25%	0%
2024	0%	5%	0%
2025	0%	-5%	0%
2026	0%	0%	0%
2027	0%	5%	0%
2028	0%	-5%	0%
2029	0%	-2%	0%
2030	0%	-2%	0%
2031	0%	-2%	0%
2032	0%	-2%	0%
2033	0%	2%	0%
2034	0%	2%	0%
2035	0%	2%	0%
2036	0%	2%	0%
2037	0%	2%	0%
2038	0%	0%	0%
2039	0%	0%	0%
2040	0%	0%	0%
2041	0%	0%	0%
2042	0%	0%	0%

