

**OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM**

ACTUARIAL VALUATION OF DEFINED BENEFIT ALLOWANCES –  
TRADITIONAL, COMBINED AND MEMBER DIRECTED PLANS

DECEMBER 31, 2013

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August 25, 2014

The Retirement Board  
Ohio Public Employees Retirement System  
Columbus, Ohio

Ladies and Gentlemen:

The results of the *December 31, 2013 Annual Actuarial Valuation of Defined Benefit Allowances* of the Ohio Public Employees Retirement System, based upon Chapter 145 of the Code as amended, are presented in this report. The gain/loss analysis of experience by division, the annual actuarial valuation of retiree health and Medicare benefits, projections of defined benefit allowances and projections of retiree health and Medicare benefits are covered in separate reports. The purposes of the valuation are as follows:

- Measure the financial position of OPERS,
- Assist the Board in establishing employer and employee contribution rates necessary to fund the pension defined benefits provided by OPERS,
- Determine the number of years required to amortize the unfunded actuarial accrued liabilities based upon established contribution rates,
- Provide actuarial reporting and disclosure information for the System's financial report, and analyze the experience of the System over the past year.

This report should not be relied on for any purpose other than those described above. It was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

The signing actuaries are independent of the plan sponsor.

The individual member statistical data required for the valuations was furnished by your Executive Director and Staff, together with pertinent data on financial operations. Their cooperation in furnishing these materials is acknowledged with appreciation. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the data.

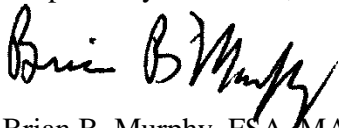
Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law.

The actuarial assumptions used in the valuations are summarized in Section X of this report. The assumptions are established by the Retirement Board after consulting with the actuary.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the December 31, 2013 as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Brian Murphy, Mita Drazilov and Randall Dziubek are Members of the American Academy of Actuaries and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Brian B. Murphy, FSA, MAAA



Mita D. Drazilov, ASA, MAAA



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BBM/MDD/RJD

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**SECTION I**  
EXECUTIVE SUMMARY

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## INTRODUCTION

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Section 145.22 of the Revised Code of Ohio (ORC) provides in part as follows:

“(A) The public employees retirement board shall have prepared annually by or under the supervision of an actuary an actuarial valuation of the pension assets, liabilities, and funding requirements of the public employees retirement system as established pursuant to this chapter.”

This report presents the results of the December 31, 2013 annual actuarial valuation of the Ohio Public Employees Retirement System (OPERS) Defined Benefit Allowances of the Traditional, Combined and Member Directed Plans. In conjunction with Chapter 145 of the ORC, the purposes of performing the annual valuation are as follows:

- Measure the financial position of OPERS,
- Assist the Board in establishing employer and employee contribution rates necessary to fund the pension defined benefits provided by OPERS,
- Determine the number of years required to amortize the unfunded actuarial accrued liabilities based upon established contribution rates,
- Provide actuarial reporting and disclosure information for the System’s financial report, and
- Analyze the experience of the System over the past year.

The report is presented as follows:

Section I	-	Executive Summary
Section II	-	Financial Information
Section III	-	Benefits and Conditions Evaluated
Section IV	-	Recommendations for Reserve Transfers
Section V	-	Active and Inactive Vested Valuation Results for State
Section VI	-	Active and Inactive Vested Valuation Results for Local Government
Section VII	-	Active and Inactive Vested Valuation Results for Public Safety
Section VIII	-	Active and Inactive Vested Valuation Results for Law Enforcement
Section IX	-	Allowances Being Paid to Retirees and Beneficiaries
Section X	-	Actuarial Methods and Assumptions
Section XI	-	Financial Principles
Section XII	-	Governmental Accounting Standards Board (GASB) Reporting

There have been no significant benefit changes since the last valuation. Please see Section III for a detailed description of the benefit provisions.

A summary of the primary valuation results as of December 31, 2013 are presented on the following pages.

**SUMMARY OF PENSION DEFINED BENEFIT VALUATION RESULTS**  
**TRADITIONAL, COMBINED, AND MEMBER DIRECTED PLANS**  
**DECEMBER 31**  
**(\$ IN MILLIONS)**

	2013						2012	
	General			Law			Grand Total	Grand Total
	State	Local	Total General	Public Safety	Law Enforcement	Total Law		
<b>A. Demographic Information</b>								
1. Active Number Counts								
a. Traditional Plan	114,748	202,799	317,547	85	7,549	7,634	325,181	326,227
b. Combined Plan	2,622	4,617	7,239	0	0	0	7,239	6,948
c. Total	117,370	207,416	324,786	85	7,549	7,634	332,420	333,175
2. Active Payroll								
a. Traditional Plan	\$ 4,604	\$ 6,944	\$ 11,548	\$ 4	\$ 448	\$ 452	\$ 12,000	\$ 11,885
b. Combined Plan	141	190	331	0	0	0	331	309
c. Total	\$ 4,745	\$ 7,134	\$ 11,879	\$ 4	\$ 448	\$ 452	\$ 12,331	\$ 12,194
3. Retired Number Counts	69,754	127,526	197,280	171	4,685	4,856	202,136	195,779
4. Deferred/Inactive Number Counts	201,686	270,186	471,872	38	911	949	472,821	463,418
5. Member Directed Active Number Counts	3,639	6,414	10,053	0	0	0	10,053	9,596
6. Total Number Counts	392,449	611,542	1,003,991	294	13,145	13,439	1,017,430	1,001,968
<b>B. Defined Benefit Assets</b>								
1. Market Value (MV)	\$ 29,120	\$ 42,476	\$ 71,596	\$ 47	\$ 3,224	\$ 3,271	\$ 74,867	\$ 67,855
2. Rate of Return on MV							14.11 %	13.73 %
3. Funding Value (FV)	\$ 27,776	\$ 40,516	\$ 68,291	\$ 45	\$ 3,075	\$ 3,120	\$ 71,411	\$ 67,855
4. Rate of Return on FV							8.93 %	7.38 %
5. Ratio of FV to MV							95.4%	100.0%
<b>C. Defined Benefit Actuarial Results</b>								
1. Normal Cost as a % of Payroll	13.13%	12.84%	12.96%	16.11%	18.44%	18.41%	13.17%	13.16%
2. Actuarial Accrued Liability (AAL)								
a. Active	\$ 12,108	\$ 18,162	\$ 30,271	\$ 7	\$ 1,483	\$ 1,490	\$ 31,760	\$ 31,722
b. Retired	21,203	29,077	50,280	43	2,094	2,138	52,417	49,673
c. Deferred/Inactive	1,017	1,423	2,440	0	27	27	2,467	2,482
d. Total	\$ 34,328	\$ 48,662	\$ 82,990	\$ 50	\$ 3,604	\$ 3,654	\$ 86,645	\$ 83,878
3. Unfunded AAL (UAAL)	\$ 6,553	\$ 8,146	\$ 14,699	\$ 6	\$ 529	\$ 534	\$ 15,233	\$ 16,023
4. Funded Ratio	80.9 %	83.3 %	82.3 %	89.0 %	85.3 %	85.4 %	82.4 %	80.9 %
<b>D. Amortization Years to Fully Amortize UAAL *</b>	33	21	25	20	16	16	24	26
<b>E. Contribution Rates</b>								
	CY 2016						CY 2015	
1. Pension Contributions								
a. Employer Normal Cost	3.49%	3.16%	3.30%	4.11%	5.44%	5.42%	3.38%	3.36%
b. Member Contribution Rate #	9.64%	9.68%	9.66%	12.00%	13.00%	12.99%	9.79%	9.80%
c. UAAL Contribution Rate	6.51%	6.84%	6.70%	9.99%	8.66%	8.68%	6.77%	7.79%
d. Total	19.64%	19.68%	19.66%	26.10%	27.10%	27.09%	19.94%	20.95%
2. Retiree Health Contribution Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	3.00%
3. Total Employer Contribution Rate	14.00%	14.00%	14.00%	18.10%	18.10%	18.10%	14.15%	14.15%

\* Based on i) schedule of employer and member contribution rates shown on page III-3. For the 2013 results, the amortization years shown are from December 31, 2014. For GASB purposes, amortization years are determined based upon scheduled contribution rate changes through 2016. See page XII-10 for additional explanation, and ii) Entry age actuarial cost method reflecting additional future normal cost savings anticipated to occur as Group A and Group B members are replaced by new hires subject to Group C benefit provisions.

# 2012 and 2013 results reflect 0% for Combined Plan members.

**SUMMARY OF PENSION DEFINED BENEFIT VALUATION RESULTS**  
**TRADITIONAL PLAN**  
**DECEMBER 31**  
**(\$ IN MILLIONS)**

	2013						2012	
	General			Law			Grand Total	Grand Total
	State	Local	Total General	Public Safety	Law Enforcement	Total Law		
<b>A. Demographic Information</b>								
1. Active Number Counts	114,748	202,799	317,547	85	7,549	7,634	325,181	326,227
2. Active Payroll	\$ 4,604	\$ 6,944	\$ 11,548	\$ 4	\$ 448	\$ 452	\$ 12,000	\$ 11,885
3. Retired Number Counts	69,680	127,305	196,985	171	4,685	4,856	201,841	195,622
4. Deferred/Inactive Number Counts	201,036	269,209	470,245	38	911	949	471,194	461,962
5. Total Number Counts	385,464	599,313	984,777	294	13,145	13,439	998,216	983,811
<b>B. Defined Benefit Assets</b>								
1. Market Value (MV)	\$ 29,021	\$ 42,328	\$ 71,349	\$ 47	\$ 3,224	\$ 3,271	\$ 74,619	\$ 67,668
2. Rate of Return on MV							14.11 %	13.73 %
3. Funding Value (FV)	\$ 27,682	\$ 40,373	\$ 68,055	\$ 45	\$ 3,075	\$ 3,120	71,175	\$ 67,670
4. Rate of Return on FV							8.93 %	7.38 %
5. Ratio of FV to MV							95.4%	100.0%
<b>C. Defined Benefit Actuarial Results</b>								
1. Normal Cost as a % of Payroll	13.32%	12.98%	13.11%	16.12%	18.45%	18.42%	13.33%	13.32%
2. Actuarial Accrued Liability (AAL)								
a. Active	\$ 12,017	\$ 18,038	\$ 30,055	\$ 7	\$ 1,483	\$ 1,490	\$ 31,544	\$ 31,520
b. Retired	21,200	29,067	50,267	43	2,094	2,138	52,404	49,667
c. Deferred/Inactive	1,013	1,418	2,431	0	27	27	2,458	2,476
d. Total	\$ 34,230	\$ 48,523	\$ 82,753	\$ 50	\$ 3,604	\$ 3,654	\$ 86,407	\$ 83,664
3. Unfunded AAL (UAAL)	\$ 6,548	\$ 8,150	\$ 14,698	\$ 6	\$ 529	\$ 534	\$ 15,232	\$ 15,994
4. Funded Ratio	80.9 %	83.2 %	82.2 %	89.0 %	85.3 %	85.4 %	82.4 %	80.9 %
<b>D. Amortization Years to Fully Amortize UAAL *</b>	33	21	25	20	16	16	25	26
<b>E. Contribution Rates</b>								
	CY 2016						CY 2015	
1. Pension Contributions								
a. Employer Normal Cost	3.32%	2.98%	3.11%	4.12%	5.45%	5.43%	3.22%	3.21%
b. Member Contribution Rate	10.00%	10.00%	10.00%	12.00%	13.00%	12.99%	10.11%	10.11%
c. UAAL Contribution Rate	6.68%	7.02%	6.89%	9.98%	8.65%	8.67%	6.94%	7.95%
d. Total	20.00%	20.00%	20.00%	26.10%	27.10%	27.09%	20.27%	21.27%
2. Retiree Health Contribution Rate	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	4.00%	3.00%
3. Total Employer Contribution Rate	14.00%	14.00%	14.00%	18.10%	18.10%	18.10%	14.16%	14.16%

\* Based on i) schedule of employer and member contribution rates shown on page III-3. For the 2013 results, the amortization years shown are from December 31, 2014. For GASB purposes, amortization years are determined based upon scheduled contribution rate changes through 2016. See page XII-10 for additional explanation, and ii) Entry age actuarial cost method reflecting additional future normal cost savings anticipated to occur as Group A and Group B members are replaced by new hires subject to Group C benefit provisions.



**SUMMARY OF PENSION DEFINED BENEFIT VALUATION RESULTS  
COMBINED PLAN  
DECEMBER 31  
(\$ IN MILLIONS)**

	2013		2012	
	General		Grand Total	Grand Total
	State	Local		
<b>A. Demographic Information</b>				
1. Active Number Counts	2,622	4,617	7,239	6,948
2. Active Payroll	\$ 141	\$ 190	\$ 331	\$ 309
3. Retired Number Counts	40	124	164	95
4. Deferred/Inactive Number Counts	650	977	1,627	1,456
5. Total Number Counts	3,312	5,718	9,030	8,499
<b>B. Defined Benefit Assets</b>				
1. Market Value (MV)	\$ 96	\$ 144	\$ 241	\$ 184
2. Rate of Return on MV			14.43 %	14.30 %
3. Funding Value (FV)	\$ 92	\$ 138	\$ 229	\$ 183
4. Rate of Return on FV			9.45 %	7.77 %
5. Ratio of FV to MV			95%	99%
<b>C. Defined Benefit Actuarial Results</b>				
1. Normal Cost as a % of Payroll	17.56%	17.42%	17.47%	17.48%
2. Actuarial Accrued Liability (AAL)				
a. Active	\$ 91	\$ 124	\$ 216	\$ 202
b. Retired	2	4	6	3
c. Deferred/Inactive	4	5	9	6
d. Total	\$ 96	\$ 134	\$ 230	\$ 212
3. Unfunded AAL (UAAL)	\$ 5	\$ (4)	\$ 1	\$ 29
4. Funded Ratio	95.1 %	102.7 %	99.5 %	86.2 %
<b>D. Amortization Years to Fully Amortize UAAL *</b>	0	0	0	1
<b>E. Contribution Rates</b>				
	CY 2016		CY 2015	
1. Total Normal Cost	17.56%	17.42%	17.47%	17.48%
2. Member Contribution Rate	10.00%	10.00%	10.00%	10.00%
3. Employer Normal Cost	7.56%	7.42%	7.47%	7.48%
4. Other Contributions #	6.44%	6.58%	6.53%	6.52%
5. Total Employer Contribution Rate	14.00%	14.00%	14.00%	14.00%

\* Based on i) schedule of employer and member contribution rates shown on page III-3. For the 2013 results, the amortization years shown are from December 31, 2014. For GASB purposes, amortization years are determined based upon scheduled contribution rate changes through 2016. See page XII-10 for additional explanation, and ii) Entry age actuarial cost method reflecting additional future normal cost savings anticipated to occur as Group A and Group B members are replaced by new hires subject to Group C benefit provisions.

# Other contributions include: amortization payments for the pension UAAL, mitigating contributions, and contributions to the retiree health care fund.

**SUMMARY OF PENSION DEFINED BENEFIT VALUATION RESULTS**  
**MEMBER DIRECTED PLAN**  
**DECEMBER 31**

	2013		2012	
	General		Grand Total	Grand Total
	State	Local		
<b>A. Demographic Information</b>				
1. Active Number Counts	3,639	6,414	10,053	9,596
2. Retired Number Counts	34	97	131	62
3. Deferred / Inactive Number Counts	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
4. Total Number Counts	3,673	6,511	10,184	9,658
<b>B. Defined Benefit Assets</b>				
1. Market Value (MV)	\$ 2,193,445	\$ 4,905,725	\$ 7,099,170	\$ 2,585,430
2. Rate of Return on MV			14.59 %	15.29 %
3. Funding Value (FV)	\$ 2,109,209	\$ 4,717,327	\$ 6,826,536	\$ 2,523,879
4. Rate of Return on FV			10.05 %	8.88 %
5. Ratio of FV to MV			96.2%	97.6%
<b>C. Defined Benefit Actuarial Results</b>				
1. Normal Cost as a % of Payroll				
2. Actuarial Accrued Liability (AAL)				
a. Active	\$ 0	\$ 0	\$ 0	\$ 0
b. Retired	2,109,209 *	4,775,022	6,884,231	2,665,552
c. Deferred/Inactive	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
d. Total	2,109,209	4,775,022	6,884,231	2,665,552
3. Unfunded AAL (UAAL)	\$ 0	\$ 57,695	\$ 57,695	\$ 141,673
4. Funded Ratio			99.2 %	94.7 %

\* Includes a reserve of \$8,133 for future adverse experience.

## COMMENTS AND CONCLUSION

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*The December 31, 2013 actuarial valuations of members indicate* the following about the portion of employer contribution rates allocated to financing retirement allowances:

- The employer rates are sufficient to fully fund the cost of benefit commitments being made to members for service currently being rendered.
- After satisfying current cost requirements, the remaining portion of the employer rates provides sufficient funds to amortize unfunded actuarial accrued liabilities over a period of 24 years for the System in total.

***Experience.*** The computed amortization period, taking into account all scheduled increases in contribution rates is 24 years, compared with the 26 year period that had been reported in the December 31, 2012 valuation. The primary factors contributing to the change in the amortization years were:

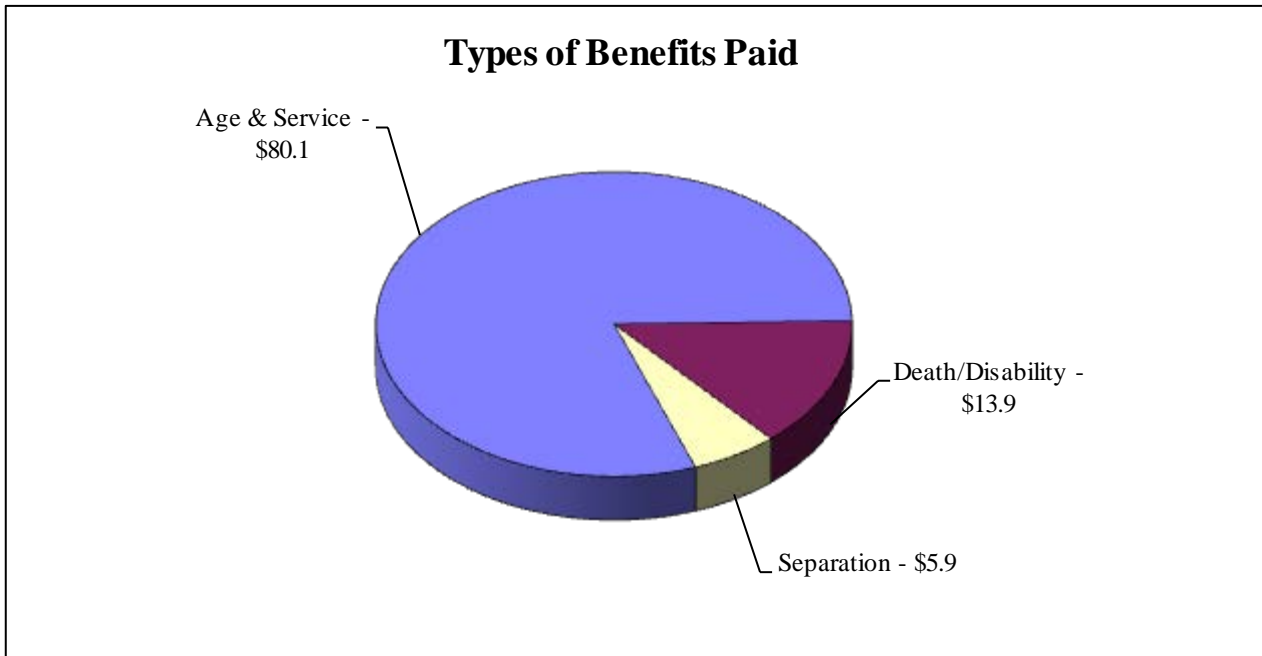
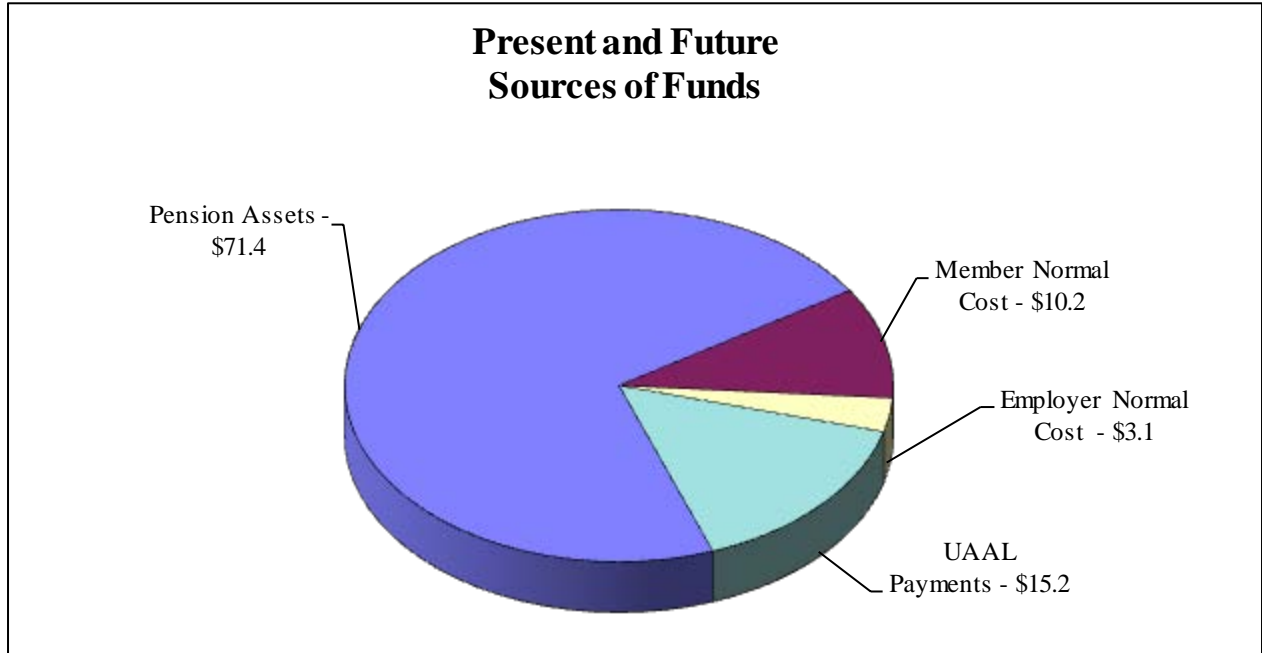
- Measured on a market value basis, investment return was 14.11%. This figure is based upon an actuarial calculation and may not agree with figures reported elsewhere. The return on the funding value of assets was 8.93% due to continued partial recognition of the 2011 market value loss. Since the return on funding value of assets was more than the 8% assumed return, there was a decrease in the amortization period.
- Individual salary increases during 2013 were less than expected on average which improved the amortization period somewhat.
- Payroll for active members increased from last year by less than the 3.75% payroll increase assumption. This resulted in a slight increase in amortization years.

Information concerning 2013 experience including other sources of gains and losses is presented on pages I-14 through I-16.

***Conclusion.*** Based on the results of the December 31, 2013 regular annual actuarial valuation, it is our opinion that the Ohio Public Employees Retirement System continues to operate in accordance with actuarial principles of level percent of payroll financing.

**FINANCING \$99.9 BILLION\* OF DEFINED BENEFIT PROMISES  
FOR PRESENT ACTIVE AND RETIRED MEMBERS  
DECEMBER 31, 2013  
(DOLLAR AMOUNTS IN BILLIONS)**

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\* Present value of future benefits – all divisions combined.

## DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION GROUP AVERAGES - COMPARATIVE STATEMENT

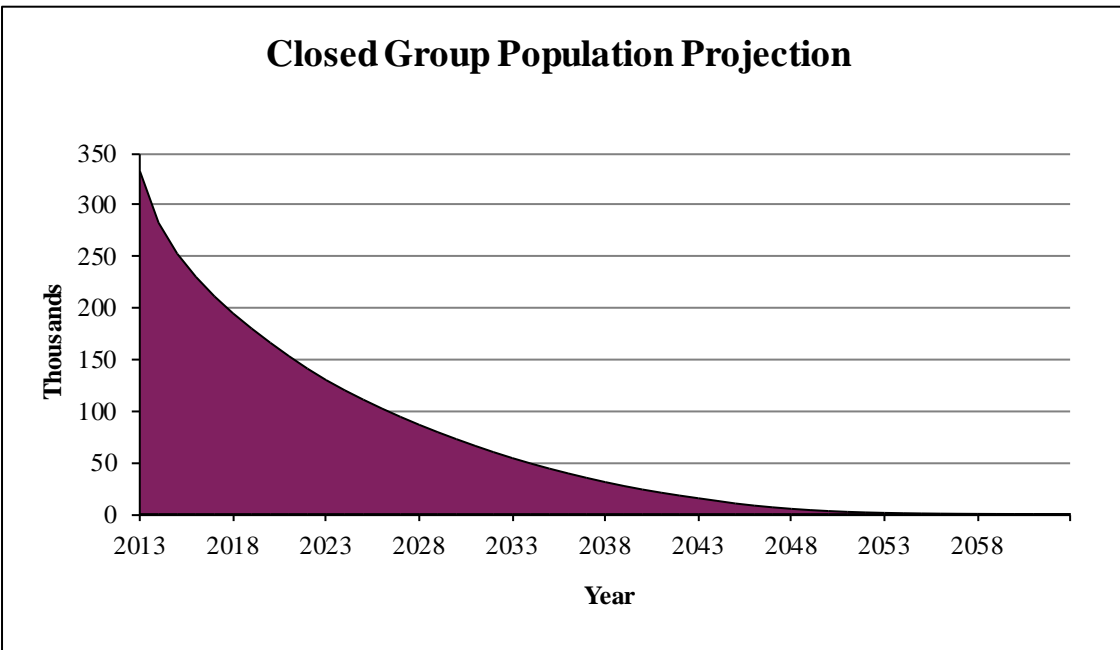
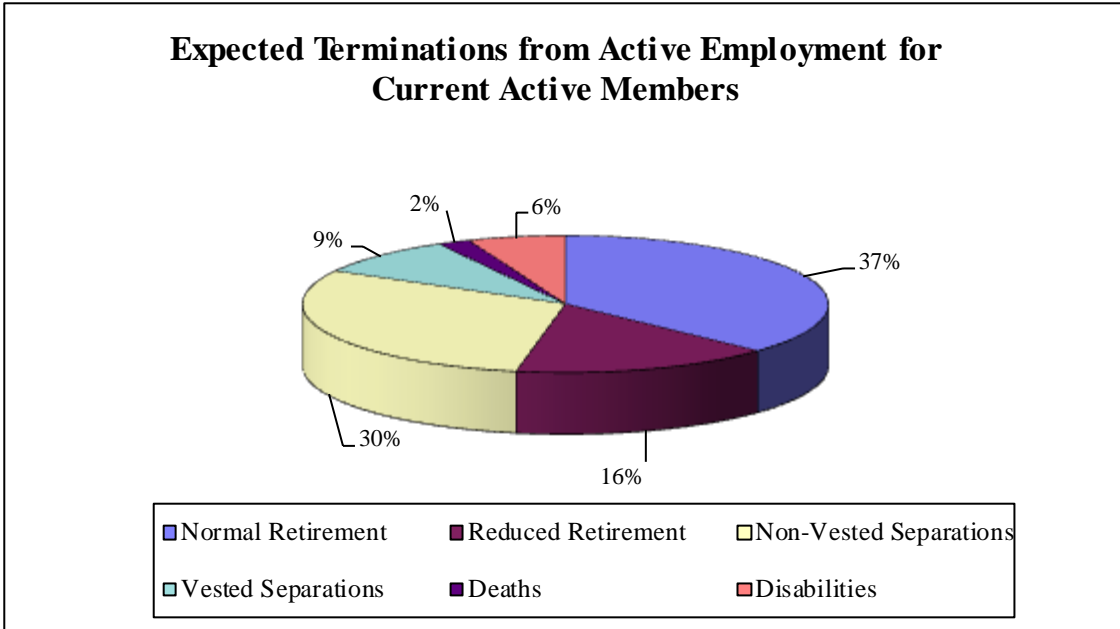
Valuation Group	Dec. 31	No. of Active Members	Group Averages				
			Attained Age	Accrued Service Yrs.	Annual Payroll		
					Average	Increase	
STATE	1975	83,220	40.6 yrs.	6.5 yrs.	\$ 9,441	6.4 %	@
	1980	92,872	39.4	7.3	13,934	8.1 %	@
	1985	89,256	39.2	8.4	18,677	7.4 %	@
	1990	98,939	40.7	8.1	25,281	6.2 %	@
	1995	114,596	40.4	8.8	27,962	2.0 %	@
	2000	113,099	41.6	9.7	34,201	4.1 %	@
	2005	114,620	42.0	10.1	37,858	2.1 %	@
	2010	118,240	41.0	9.6	40,691	1.5 %	@
	2011	118,273	40.5	9.2	40,952	0.6 %	
	2012	117,430	40.4	9.1	39,938	(2.5)%	
2013	117,370	40.2	9.1	40,433	1.2 %		
LOCAL GOV'T	1975	149,557	40.8 yrs.	6.1 yrs.	8,771	4.3 %	@
	1980	160,797	40.7	7.4	13,035	8.2 %	@
	1985	158,285	40.1	8.3	15,983	6.2 %	@
	1990	173,220	41.5	7.9	19,506	4.1 %	@
	1995	223,431	41.2	7.6	20,384	0.9 %	@
	2000	245,831	41.8	8.1	24,401	3.7 %	@
	2005	236,073	43.3	9.2	29,933	4.2 %	@
	2010	215,144	44.6	10.1	33,447	2.2 %	@
	2011	209,452	44.9	10.2	33,968	1.6 %	
	2012	208,188	44.7	10.1	33,918	(0.1)%	
2013	207,416	44.6	10.0	34,396	1.4 %		
LAW * (Includes Public Safety and Law Enforcement)	1975	2,111	35.0 yrs.	4.9 yrs.	10,467	-	
	1980	3,019	36.1	6.8	16,846	10.0 %	@
	1985	4,207	36.5	8.4	20,103	5.5 %	@
	1990	5,804	38.6	9.9	26,936	6.0 %	@
	1995	6,605	39.3	11.1	32,441	3.2 %	@
	2000	8,045	39.3	11.7	40,387	4.5 %	@
	2005	8,111	39.9	12.6	49,472	4.1 %	@
	2010	7,790	41.2	14.0	56,801	2.8 %	@
	2011	7,629	41.3	14.1	57,836	1.8 %	
	2012	7,557	41.3	14.2	58,522	1.2 %	
2013	7,634	41.3	14.2	59,117	1.0 %		
<b>TOTAL</b>	<b>2004</b>	<b>355,287</b>	<b>42.7 yrs.</b>	<b>9.5 yrs.</b>	<b>32,240</b>	<b>2.1 %</b>	
	<b>2005</b>	<b>358,804</b>	<b>42.8</b>	<b>9.5</b>	<b>32,906</b>	<b>2.1 %</b>	
	<b>2006</b>	<b>362,130</b>	<b>42.9</b>	<b>9.5</b>	<b>33,621</b>	<b>2.2 %</b>	
	<b>2007</b>	<b>364,076</b>	<b>42.9</b>	<b>9.6</b>	<b>34,562</b>	<b>2.8 %</b>	
	<b>2008</b>	<b>356,388</b>	<b>43.2</b>	<b>9.8</b>	<b>35,919</b>	<b>3.9 %</b>	
	<b>2009</b>	<b>348,112</b>	<b>43.3</b>	<b>10.0</b>	<b>36,047</b>	<b>0.4 %</b>	
	<b>2010</b>	<b>341,174</b>	<b>43.3</b>	<b>10.0</b>	<b>36,491</b>	<b>1.2 %</b>	
	<b>2011</b>	<b>335,354</b>	<b>43.2</b>	<b>9.9</b>	<b>36,974</b>	<b>1.3 %</b>	
	<b>2012</b>	<b>333,175</b>	<b>43.1</b>	<b>9.8</b>	<b>36,598</b>	<b>(1.0)%</b>	
	<b>2013</b>	<b>332,420</b>	<b>43.0</b>	<b>9.8</b>	<b>37,095</b>	<b>1.4 %</b>	

@ 5-year annual compound rate.

\* Beginning with the December 31, 2005 valuation report, valuation results for the Law division are shown separately for Public Safety and Law Enforcement.

# DEVELOPMENT OF PRESENT DEFINED BENEFIT POPULATION DECEMBER 31, 2013

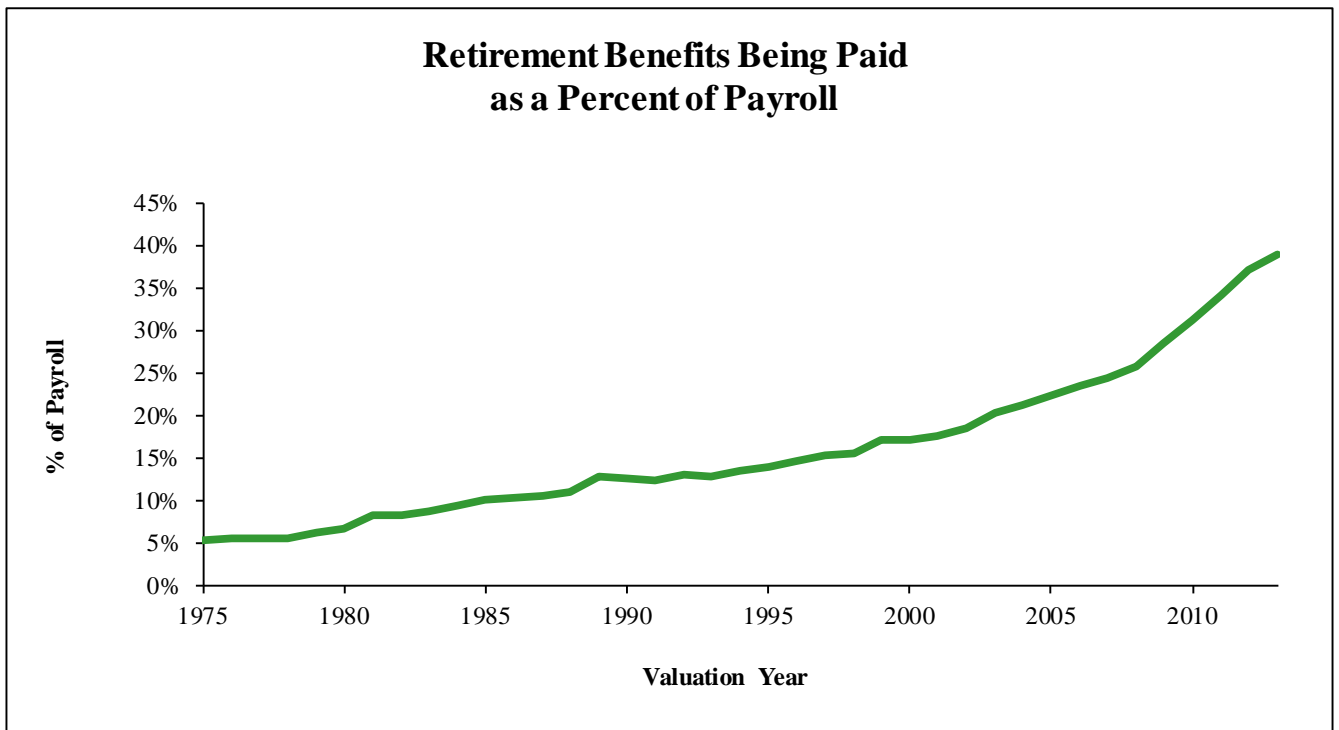
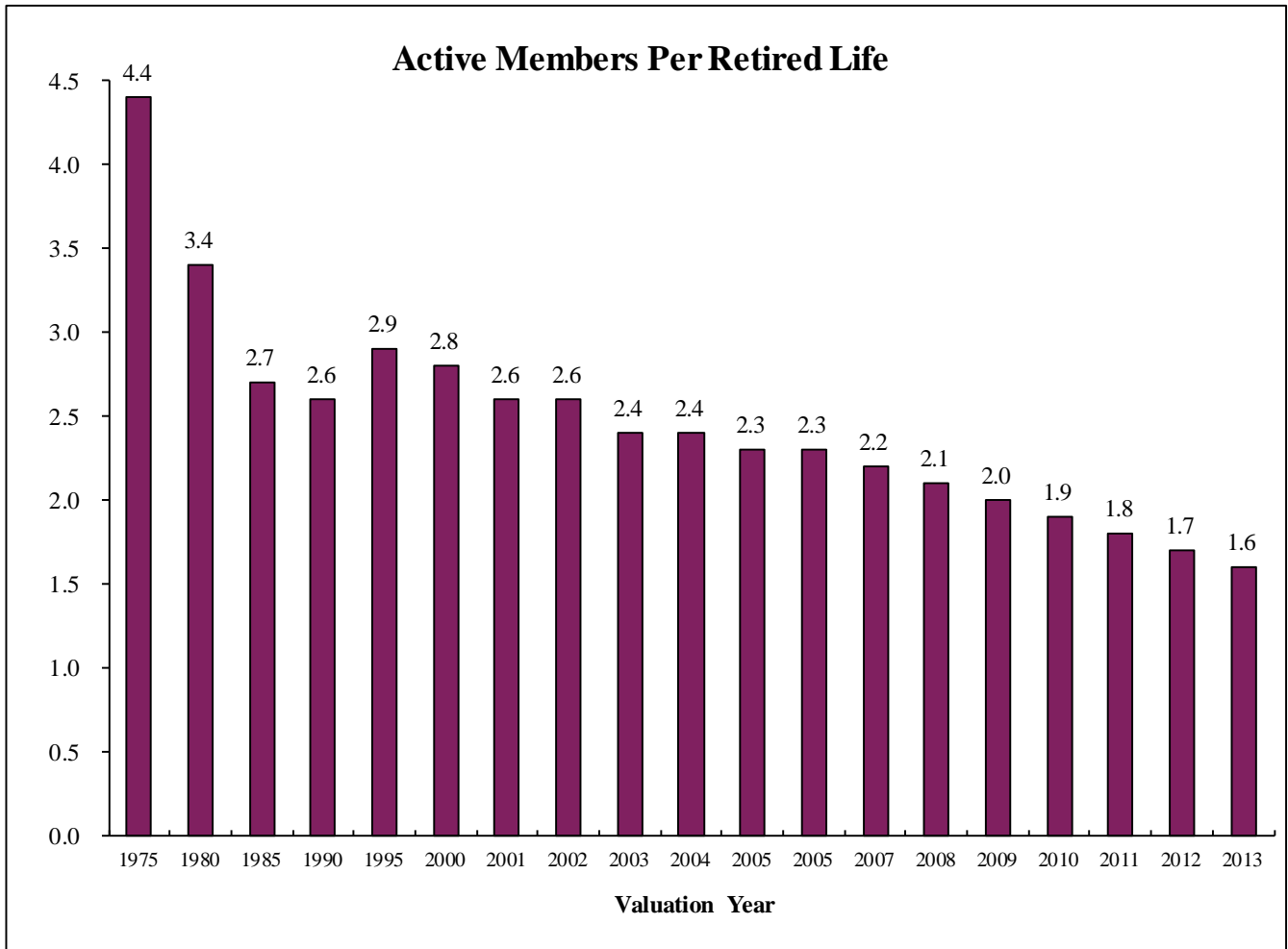
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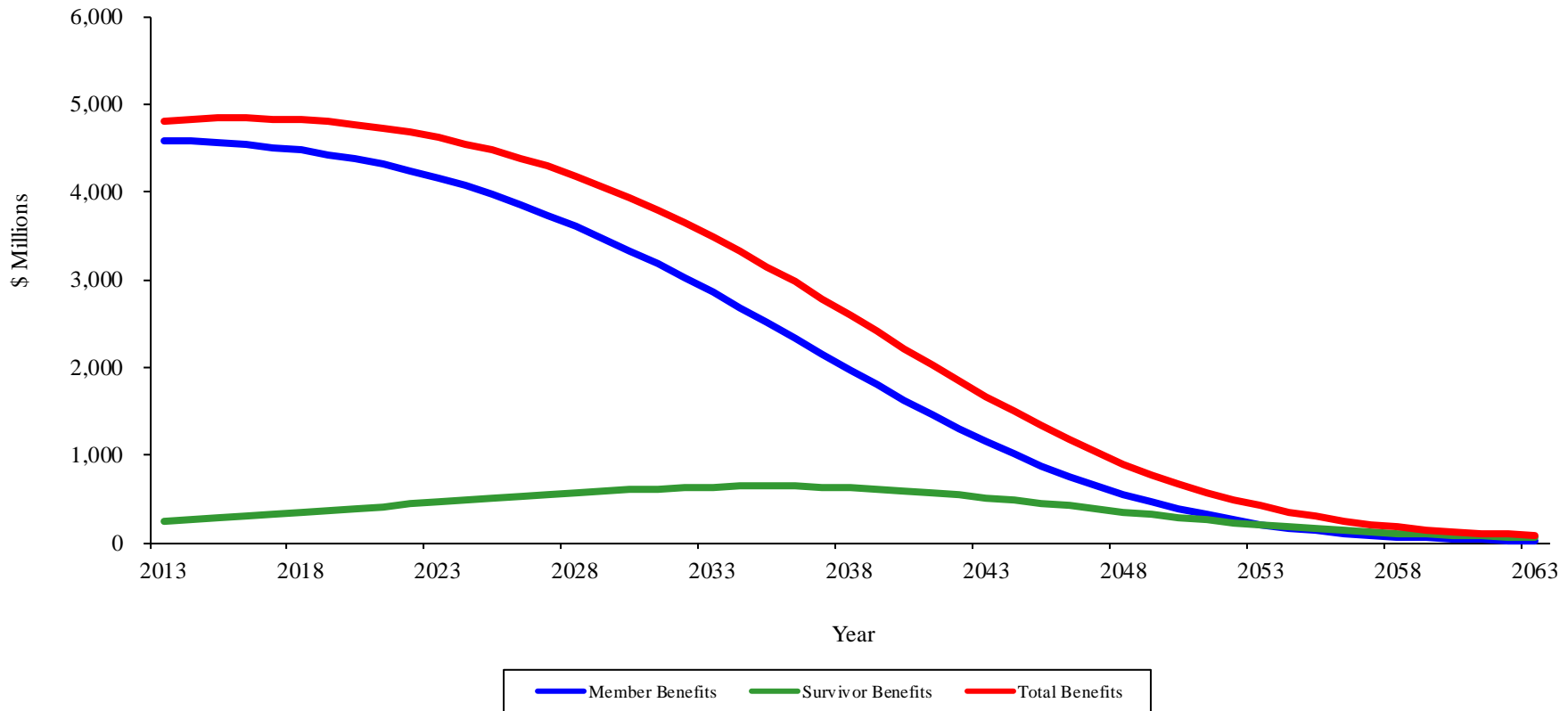
The charts above show the expected future development of the present population in simplified terms. The defined benefit portion of the Retirement System presently covers 332,420 active members. Eventually, 30% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. 62% of the present population is expected to receive monthly retirement benefits either by retiring directly from active service, or by separating from service without withdrawing contributions. 8% of the present population is expected to become eligible for death-in-service or disability benefits. Within 8 years, over half of the covered membership is expected to consist of new hires.

# ACTIVE/RETIRED MEMBER STATISTICS

## DECEMBER 31, 2013



## PROJECTED FUTURE BENEFIT PAYMENTS ON BEHALF OF PRESENT RETIRED LIVES



Total future payments:	\$129.7 billion
From present assets:	\$52.4 billion
From future earnings:	\$77.3 billion



**ALL DIVISIONS  
DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION  
DECEMBER 31, 2013  
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	11,161							11,161
Tot. Pay	\$70,067,710							\$70,067,710
Avg. Pay	\$6,278							\$6,278
20-24	34,979	389						35,368
Tot. Pay	\$385,766,845	\$7,471,675						\$393,238,520
Avg. Pay	\$11,029	\$19,207						\$11,118
25-29	22,600	4,718	218					27,536
Tot. Pay	\$579,733,631	\$178,325,638	\$8,040,566					\$766,099,835
Avg. Pay	\$25,652	\$37,797	\$36,883					\$27,822
30-34	15,628	10,057	3,656	205				29,546
Tot. Pay	\$440,905,142	\$437,070,195	\$169,044,639	\$8,851,436				\$1,055,871,412
Avg. Pay	\$28,213	\$43,459	\$46,238	\$43,178				\$35,737
35-39	10,724	7,865	7,988	2,925	130			29,632
Tot. Pay	\$320,818,857	\$349,407,845	\$406,133,896	\$151,199,008	\$6,732,712			\$1,234,292,318
Avg. Pay	\$29,916	\$44,426	\$50,843	\$51,692	\$51,790			\$41,654
40-44	9,889	7,153	7,617	7,968	2,942	129		35,698
Tot. Pay	\$294,737,963	\$313,834,171	\$382,371,902	\$438,009,060	\$166,576,647	\$6,626,880		\$1,602,156,623
Avg. Pay	\$29,805	\$43,874	\$50,200	\$54,971	\$56,620	\$51,371		\$44,881
45-49	8,852	6,723	6,684	6,789	7,101	3,352	95	39,596
Tot. Pay	\$254,434,312	\$282,036,288	\$322,279,038	\$368,668,181	\$421,758,139	\$196,954,212	\$5,443,015	\$1,851,573,185
Avg. Pay	\$28,743	\$41,951	\$48,216	\$54,304	\$59,394	\$58,757	\$57,295	\$46,762
50-54	8,326	6,686	6,945	6,638	6,620	7,375	1,534	44,124
Tot. Pay	\$224,509,798	\$270,486,554	\$315,902,395	\$334,324,022	\$374,108,381	\$451,159,430	\$95,079,309	\$2,065,569,889
Avg. Pay	\$26,965	\$40,456	\$45,486	\$50,365	\$56,512	\$61,174	\$61,981	\$46,813
55-59	6,893	5,733	6,394	6,483	6,025	5,312	2,401	39,241
Tot. Pay	\$169,695,351	\$216,784,546	\$273,712,597	\$311,438,375	\$320,121,670	\$313,958,970	\$155,880,942	\$1,761,592,451
Avg. Pay	\$24,619	\$37,813	\$42,808	\$48,039	\$53,132	\$59,104	\$64,923	\$44,892
60-64	4,375	3,722	4,207	3,894	3,968	3,122	1,624	24,912
Tot. Pay	\$94,887,400	\$135,249,665	\$176,665,317	\$182,627,691	\$203,557,374	\$177,748,237	\$107,803,993	\$1,078,539,677
Avg. Pay	\$21,689	\$36,338	\$41,993	\$46,900	\$51,300	\$56,934	\$66,382	\$43,294
65-69	2,560	1,653	1,620	1,290	1,221	947	614	9,905
Tot. Pay	\$32,960,076	\$46,061,827	\$60,683,773	\$54,558,130	\$60,025,312	\$51,027,952	\$38,338,566	\$343,655,636
Avg. Pay	\$12,875	\$27,866	\$37,459	\$42,293	\$49,161	\$53,884	\$62,441	\$34,695
70 & Over	2,027	1,184	916	565	412	294	303	5,701
Tot. Pay	\$16,785,968	\$14,733,022	\$18,772,418	\$14,753,777	\$14,343,325	\$13,093,779	\$16,022,509	\$108,504,798
Avg. Pay	\$8,281	\$12,443	\$20,494	\$26,113	\$34,814	\$44,537	\$52,880	\$19,033
<b>Totals</b>	138,014	55,883	46,245	36,757	28,419	20,531	6,571	332,420
<b>Tot. Pay</b>	\$2,885,303,053	\$2,251,461,426	\$2,133,606,541	\$1,864,429,680	\$1,567,223,560	\$1,210,569,460	\$418,568,334	\$12,331,162,054
<b>Avg. Pay</b>	\$20,906	\$40,289	\$46,137	\$50,723	\$55,147	\$58,963	\$63,699	\$37,095

**ALL DIVISIONS  
DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION  
DECEMBER 31, 2013  
BY GENDER AND YEARS OF SERVICE**

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Service Years	Active Member Count			Active Member Pays	
	Males	Females	Total	Total	Average
0	30,363	34,729	65,092	\$ 874,992,035	\$13,442
1	13,265	16,404	29,669	689,894,839	23,253
2	8,684	9,857	18,541	519,225,108	28,004
3	6,450	7,494	13,944	442,862,400	31,760
4	5,386	5,382	10,768	358,328,671	33,277
5	5,082	6,530	11,612	424,439,048	36,552
6	5,644	6,656	12,300	476,889,365	38,771
7	5,347	6,395	11,742	486,049,263	41,394
8	4,803	5,846	10,649	443,914,475	41,686
9	4,335	5,245	9,580	420,169,275	43,859
10	4,228	4,628	8,856	391,671,452	44,227
11	3,920	4,705	8,625	393,683,200	45,644
12	4,226	5,050	9,276	420,810,091	45,365
13	4,426	5,735	10,161	476,494,115	46,894
14	4,341	4,986	9,327	450,947,683	48,349
15 & Up	44,643	47,635	92,278	5,060,791,034	54,843
<b>Totals</b>	<b>155,143</b>	<b>177,277</b>	<b>332,420</b>	<b>\$ 12,331,162,054</b>	<b>\$37,095</b>

**SUMMARY OF PENSION EXPERIENCE  
TRADITIONAL, COMBINED, AND MEMBER DIRECTED PLANS  
(\$ IN MILLIONS)**

	2013		2012	
	Total \$	% of Accrued Liabilities	Total \$	% of Accrued Liabilities
<b>Beginning of Year</b>				
1. Total Accrued Liabilities*	\$ 83,878.13	100.0 %	\$ 84,529.74	100.0 %
2. Valuation Assets	67,854.78	80.9 %	65,436.13	77.4 %
3. Unfunded Actuarial Accrued Liabilities*	\$ 16,023.35	19.1 %	\$ 19,093.61	22.6 %
<b>Experience Gains(Losses)</b>				
4. Gains (losses) in economic risk areas				
a. Pay increases	\$ 557.20	0.7 %	\$ 1,269.28	1.5 %
b. Investment return	620.03	0.7 %	(398.79)	(0.5)%
c. Total	1,177.23	1.4 %	870.49	1.0 %
5. Gains (losses) from decrement experience				
a. Service retirement	(77.28)	(0.1)%	(113.33)	(0.1)%
b. Disability retirement	68.31	0.1 %	76.52	0.1 %
c. Death-in-service	30.19	0.0 %	42.57	0.1 %
d. Other separations	(13.09)	0.0 %	9.30	0.0 %
e. Total	8.13	0.0 %	15.06	0.1 %
<b>6. Total experience gains (losses): (4c) + (5e)</b>	<b>\$ 1,185.36</b>	<b>1.4 %</b>	<b>\$ 885.55</b>	<b>1.1 %</b>
<b>End of Year</b>				
7. Total Accrued Liabilities*	\$ 86,644.58	100.0 %	\$ 87,105.48	100.0 %
8. Valuation Assets	71,411.24	82.4 %	67,854.78	77.9 %
9. Unfunded Actuarial Accrued Liabilities*	\$ 15,233.34	17.6 %	\$ 19,250.70	22.1 %

\* Calendar year 2013 beginning and end of year liabilities shown above reflect the provisions of Senate Bill 343.

**SUMMARY OF PENSION EXPERIENCE  
TRADITIONAL PLAN  
(\$ IN MILLIONS)**

	2013		2012	
	Total \$	% of Accrued Liabilities	Total \$	% of Accrued Liabilities
<b>Beginning of Year</b>				
1. Total Accrued Liabilities*	\$ 83,663.71	100.0 %	\$ 84,325.49	100.0 %
2. Valuation Assets	67,669.64	80.9 %	65,273.93	77.4 %
3. Unfunded Actuarial Accrued Liabilities*	\$ 15,994.07	19.1 %	\$ 19,051.56	22.6 %
<b>Experience Gains (Losses)</b>				
4. Gains (losses) in economic risk areas				
a. Pay increases	\$ 551.67	0.7 %	\$ 1,261.73	1.5 %
b. Investment return	617.10	0.7 %	(398.44)	(0.5)%
c. Total	1,168.77	1.4 %	863.29	1.0 %
5. Gains (losses) from decrement experience				
a. Service retirement	(77.19)	(0.1)%	(113.22)	(0.1)%
b. Disability retirement	63.97	0.1 %	71.66	0.1 %
c. Death-in-service	29.53	0.0 %	41.97	0.0 %
d. Other separations	(12.99)	0.0 %	8.85	0.0 %
e. Total	3.32	0.0 %	9.26	0.0 %
<b>6. Total experience gains (losses): (4c) + (5e)</b>	<b>\$ 1,172.09</b>		<b>\$ 872.55</b>	
<b>End of Year</b>				
7. Total Accrued Liabilities*	\$ 86,407.23	100.0 %	\$ 86,876.36	100.0 %
8. Valuation Assets	71,175.05	82.4 %	67,669.64	77.9 %
9. Unfunded Actuarial Accrued Liabilities*	\$ 15,232.18	17.6 %	\$ 19,206.72	22.1 %

\* Calendar year 2013 beginning and end of year liabilities shown above reflect the provisions of Senate Bill 343.

**SUMMARY OF PENSION EXPERIENCE  
COMBINED PLAN  
(\$ IN MILLIONS)**

	2013		2012	
	Total \$	% of Accrued Liabilities	Total \$	% of Accrued Liabilities
<b>Beginning of Year</b>				
1. Total Accrued Liabilities *	\$ 211.76	100.0 %	\$ 203.08	100.0 %
2. Valuation Assets #	182.62	86.2 %	161.04	79.3 %
3. Unfunded Actuarial Accrued Liabilities	\$ 29.14	13.8 %	\$ 42.04	20.7 %
<b>Experience Gains (Losses)</b>				
4. Gains (losses) in economic risk areas				
a. Pay increases	\$ 5.53	2.6 %	\$ 7.55	3.7 %
b. Investment return	2.84	1.3 %	(0.38)	(0.2)%
c. Total	8.37	3.9 %	7.17	3.5 %
5. Gains (losses) from decrement experience				
a. Service retirement	(0.09)	0.0 %	(0.11)	(0.1)%
b. Disability retirement	4.34	2.0 %	4.86	2.4 %
c. Death-in-service	0.66	0.3 %	0.59	0.3 %
d. Other separations	(0.09)	0.0 %	0.44	0.2 %
e. Total	4.82	2.3 %	5.78	2.8 %
<b>6. Total experience gains (losses): (4c) + (5e)</b>	<b>\$ 13.19</b>	<b>6.2 %</b>	<b>\$ 12.95</b>	<b>6.3 %</b>
<b>End of Year</b>				
7. Total Accrued Liabilities	\$ 230.47	100.0 %	\$ 226.45	100.0 %
8. Valuation Assets	229.37	99.5 %	182.62	80.6 %
9. Unfunded Actuarial Accrued Liabilities	\$ 1.10	0.5 %	\$ 43.83	19.4 %

\* Calendar year 2013 beginning and end of year liabilities shown above reflect the provisions of Senate Bill 343.

## SUMMARY OF RISK MEASURES

### TRADITIONAL PLAN

Valuation Year	Funded Ratio	UAAL		Funding Value	
		Amortization Period	UAAL/ Total Payroll	of Assets / Total Payroll	Total AAL/ Total Payroll
2004	88 %	24	0.6	4.5	5.1
2005 *	89	20	0.6	4.7	5.3
2006	93	25	0.4	5.1	5.5
2007	96	14	0.2	5.4	5.6
2008	75	30	1.4	4.4	5.8
2009	75	30	1.5	4.7	6.2
2010	79	25	1.4	5.2	6.6
2011	77	30	1.6	5.4	7.0
2012	81	26	1.3	5.7	7.0
2013	82	25	1.3	5.9	7.2

### COMBINED PLAN

Valuation Year	Funded Ratio	UAAL		Funding Value	
		Amortization Period	UAAL/ Total Payroll	of Assets / Total Payroll	Total AAL/ Total Payroll
2004	71 %	2	0.1	0.2	0.2
2005 *	85	1	0.0	0.2	0.3
2006	85	N/A	0.1	0.3	0.4
2007	88	N/A	0.0	0.4	0.4
2008	71	4	0.1	0.3	0.5
2009	74	3	0.1	0.4	0.6
2010	76	3	0.2	0.5	0.6
2011	79	2	0.1	0.5	0.7
2012	86	1	0.1	0.6	0.7
2013	100	0	0.0	0.7	0.7

### MEMBER DIRECTED PLAN

Valuation Year	Funded Ratio	UAAL		Funding Value	
		Amortization Period	UAAL/ Total Payroll	of Assets / Total Payroll	Total AAL/ Total Payroll
2004	N/A	N/A	N/A	N/A	N/A
2005	N/A	N/A	N/A	N/A	N/A
2006	N/A	N/A	N/A	N/A	N/A
2007	N/A	N/A	N/A	N/A	N/A
2008	89 %	N/A	0.0	0.0	0.0
2009	81	N/A	0.0	0.0	0.0
2010	92	N/A	0.0	0.0	0.0
2011	99	N/A	0.0	0.0	0.0
2012	95	N/A	0.0	0.0	0.0
2013	99	N/A	0.0	0.0	0.0

\* Results shown are before assumption changes were made per the 2005 Experience Study.

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**SECTION II**  
FINANCIAL INFORMATION

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# FINANCIAL DATA FOR CALENDAR YEAR 2013

## CONSOLIDATED ASSET RECONCILIATION

### ALL PLANS, ALL DIVISIONS

	Traditional Pension Plan	DB Portion of Combined Pension Plan	DB Portion of Member- Directed Plan	Total Pension Defined Benefit	401(h) Health Care	Member Directed VEBA	Total Health Care	DC Portion of Combined Pension Plan	Member Directed	Total Defined Contribution	Total
Beginning Market Value @ 12/31/12											
Assets Held in Trust for Benefits	\$ 67,560,647,799	\$ 184,188,348	\$ 2,585,430	\$ 67,747,421,577	\$ 12,828,625,322	\$ 119,615,875	\$ 12,948,241,197	\$ 236,009,198	\$ 408,077,537	\$ 644,086,735	\$ 81,339,749,509
Assets Held for Upcoming Year Budget	107,444,000	-	-	107,444,000	-	-	-	-	-	-	107,444,000
Total Beginning Market Value @ 12/31/12	\$ 67,668,091,799	\$ 184,188,348	\$ 2,585,430	\$ 67,854,865,577	\$ 12,828,625,322	\$ 119,615,875	\$ 12,948,241,197	\$ 236,009,198	\$ 408,077,537	\$ 644,086,735	\$ 81,447,193,509
External Cash Flows:											
Revenues:											
Member Contributions/Deposits	\$ 1,268,289,288	\$ 344,187	\$ -	\$ 1,268,633,475	\$ -	\$ -	\$ -	\$ 32,806,426	\$ 41,372,118	\$ 74,178,544	\$ 1,342,812,019
Employer Contributions	1,632,095,711	45,485,595	-	1,677,581,306	121,209,282	18,259,232	139,468,514	7,134	38,554,589	38,561,723	1,855,611,543
Retiree Paid Health Care Premiums	-	-	-	-	178,140,822	-	178,140,822	-	-	-	178,140,822
Refund from HC Vendors (Formulary & Guarantees)	-	-	-	-	125,789,047	-	125,789,047	-	-	-	125,789,047.00
Federal Subsidies (Med D, ERRP & Direct Subsidy)	-	-	-	-	105,965,762	-	105,965,762	-	-	-	105,965,762.00
Other Income/Cancelled Warrants	414,878	-	-	414,878	13,483,860	-	13,483,860	-	-	-	13,898,738
Total Revenues	\$ 2,900,799,877	\$ 45,829,782	\$ -	\$ 2,946,629,659	\$ 544,588,773	\$ 18,259,232	\$ 562,848,005	\$ 32,813,560	\$ 79,926,707	\$ 112,740,267	\$ 3,622,217,931
Disbursements:											
Refunds of Member Accounts	\$ (411,321,700)	\$ (1,261,044)	\$ -	\$ (412,582,744)	\$ -	\$ -	\$ -	\$ (6,470,111)	\$ (22,231,350)	\$ (28,701,461)	\$ (441,284,205)
Retirement Benefits	(4,928,972,847)	(533,920)	(435,801)	(4,929,942,568)	-	-	-	(992,085)	(557,054)	(1,549,139)	(4,931,491,707)
Retiree Paid Post Retirement Health Care	-	-	-	-	(178,140,822)	-	(178,140,822)	-	-	-	(178,140,822)
ER Paid Post Retirement Health Care	-	-	-	-	(1,347,001,603)	(1,719,044)	(1,348,720,647)	-	-	-	(1,348,720,647)
ER Paid Post Retirement Medicare	-	-	-	-	(112,820,822)	-	(112,820,822)	-	-	-	(112,820,822)
RMA Funding	-	-	-	-	(4,562,351)	-	(4,562,351)	-	-	-	(4,562,351)
Administrative Expenses	(75,461,764)	-	-	(75,461,764)	(21,760,223)	(1,086,736)	(22,846,959)	(2,478,075)	(2,256,440)	(4,734,515)	(103,043,238)
Total Disbursements	\$ (5,415,756,311)	\$ (1,794,964)	\$ (435,801)	\$ (5,417,987,076)	\$ (1,664,285,821)	\$ (2,805,780)	\$ (1,667,091,601)	\$ (9,940,271)	\$ (25,044,844)	\$ (34,985,115)	\$ (7,120,063,792)
Net External Cash Flow	\$ (2,514,956,434)	\$ 44,034,818	\$ (435,801)	\$ (2,471,357,417)	\$ (1,119,697,048)	\$ 15,453,452	\$ (1,104,243,596)	\$ 22,873,289	\$ 54,881,863	\$ 77,755,152	\$ (3,497,845,861)
Inter-Plan Activity											
Member Balance Transfers & Plan Switches	\$ 5,709,239	\$ (13,356,808)	\$ 4,291,205	\$ (3,356,364)	\$ -	\$ -	\$ -	\$ 10,604,890	\$ (7,248,526)	\$ 3,356,364	\$ -
DCP Fixed Assets Advanced by TP	436,698	-	-	436,698	-	-	-	(454,737)	18,039	(436,698)	-
Mitigation Rate	5,654,729	(2,516,320)	-	3,138,409	-	-	-	-	(3,138,409)	(3,138,409)	-
Interest on 12/31/12 Advance Balance	1,233,505	-	-	1,233,505	-	-	-	(362,712)	(870,793)	(1,233,505)	-
Income Applied to Advance (Loan) Balance	-	-	-	-	-	-	-	-	-	-	-
Total Inter-Plan Activity	\$ 13,034,171	\$ (15,873,128)	\$ 4,291,205	\$ 1,452,248	\$ -	\$ -	\$ -	\$ 9,787,441	\$ (11,239,689)	\$ (1,452,248)	\$ -
Investment Income:											
Interest and Dividends	\$ 1,939,915,809	\$ 5,873,860	\$ 135,141	\$ 1,945,924,810	\$ 322,928,967	\$ 3,698,053	\$ 326,627,020	\$ 330,963	\$ 584,117	\$ 915,080	\$ 2,273,466,910
Other Ordinary Investment Income	2,266,559,862	6,862,906	157,896	2,273,580,664	13,178,890	4,320,732	17,499,622	-	-	-	2,291,080,286
Realized Capital Value Changes	5,584,626,328	16,903,268	388,897	5,601,918,493	1,106,685,064	10,641,920	1,117,326,984	49,845,344	87,971,968	137,817,312	6,857,062,789
External Asset Management Fees	(338,739,266)	(1,025,666)	(23,598)	(339,788,530)	(40,036,389)	(645,737)	(40,682,126)	(197,753)	(353,054)	(550,807)	(381,021,463)
Rounding	-	-	-	-	-	-	-	-	-	-	-
Investment Return	\$ 9,452,362,733	\$ 28,614,368	\$ 658,336	\$ 9,481,635,437	\$ 1,402,756,532	\$ 18,014,968	\$ 1,420,771,500	\$ 49,978,554	\$ 88,203,031	\$ 138,181,585	\$ 11,040,588,522
Ending Market Value @ 12/31/13	\$ 74,618,532,269	\$ 240,964,406	\$ 7,099,170	\$ 74,866,595,845	\$ 13,111,684,806	\$ 153,084,295	\$ 13,264,769,101	\$ 318,648,482	\$ 539,922,742	\$ 858,571,224	\$ 88,989,936,170



## DEVELOPMENT OF FUNDING VALUE OF PENSION DEFINED BENEFIT ASSETS TRADITIONAL, COMBINED, AND MEMBER DIRECTED PLANS

Year Ended December 31	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$ 65,436,128,317	\$ 67,854,786,533			
B. Market Value End of Year	67,854,865,577	74,866,595,845			
C. Market Value Beginning of Year	61,846,730,622	67,854,865,577			
D. Non-Investment/Administrative Net Cash Flow					
D1. Member Contributions	1,268,606,898	1,268,633,475			
D2. Employer and other Non-Member Contributions	1,288,434,801	1,681,134,593			
D3. Refund of Member Accounts	(285,068,543)	(412,582,744)			
D4. Retirement Benefits	(4,590,474,949)	(4,929,942,568)			
D5. Member Balance Transfers	(5,956,313)	(3,356,364)			
D6. Total Net Cash Flow: D1+D2+D3+D4+D5	(2,324,458,106)	(2,396,113,608)			
E. Investment Return					
E1. Market Total: B-C-D6	8,332,593,061	9,407,843,876			
E2. Assumed Rate of Return	8.00%	8.00%			
E3. Assumed Amount of Return	5,141,911,941	5,332,538,378			
E4. Amount Subject to Phase-In: E1-E3	3,190,681,120	4,075,305,498			
F. Phased-In Recognition of Investment Return					
F1. Current Year: 0.25 x E4	797,670,280	1,018,826,375			
F2. First Prior Year	(1,196,465,899)	797,670,280	\$ 1,018,826,375		
F3. Second Prior Year**	-	(1,196,465,899)	797,670,280	\$ 1,018,826,375	
F4. Third Prior Year**	-	-	(1,196,465,897)	797,670,280	\$ 1,018,826,373
F5. Total Phase-Ins	(398,795,619)	620,030,756	620,030,758	1,816,496,655	1,018,826,373
G. Funding Value End of Year					
G1. Preliminary Funding Value End of Year: A+D6+E3+F5	\$ 67,854,786,533	\$ 71,411,242,059			
G2. Upper Corridor Limit: 112% x B	75,997,449,446	83,850,587,346			
G3. Lower Corridor Limit: 88% x B	59,712,281,708	65,882,604,344			
G4. Funding Value End of Year	\$ 67,854,786,533	\$ 71,411,242,059			
H. Difference Between Market and Funding Value	79,044	3,455,353,786	2,835,323,028	1,018,826,373	-
I. Recognized Rate of Return	7.38 %	8.93 %			
J. Market Rate of Return	13.73 %	14.11 %			
K. Ratio of Funding Value to Market Value	100 %	95 %			

\*\*Funding Value was set to Market Value as of December 31, 2010.

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

## DEVELOPMENT OF FUNDING VALUE OF PENSION DEFINED BENEFIT ASSETS TRADITIONAL PLAN

Year Ended December 31	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$ 65,273,933,671	\$ 67,669,639,684			
B. Market Value End of Year	67,668,091,799	74,618,532,269			
C. Market Value Beginning of Year	61,692,653,725	67,668,091,799			
D. Non-Investment/Administrative Net Cash Flow					
D1. Member Contributions	1,268,293,623	1,268,289,288			
D2. Employer and other Non-Member Contributions	1,266,758,926	1,638,165,318			
D3. Refund of Member Accounts	(284,217,216)	(411,321,700)			
D4. Retirement Benefits	(4,589,973,216)	(4,928,972,847)			
D5. Member Balance Transfers	4,741,033	5,709,239			
D6. Total Net Cash Flow: D1+D2+D3+D4+D5	(2,334,396,850)	(2,428,130,702)			
E. Investment Return					
E1. Market Total: B-C-D6	8,309,834,924	9,378,571,172			
E2. Assumed Rate of Return	8.00%	8.00%			
E3. Assumed Amount of Return	5,128,538,819	5,316,445,947			
E4. Amount Subject to Phase-In: E1-E3	3,181,296,105	4,062,125,225			
F. Phased-In Recognition of Investment Return					
F1. Current Year: 0.25 x E4	795,324,026	1,015,531,306			
F2. First Prior Year	(1,193,759,982)	795,324,026	\$ 1,015,531,306		
F3. Second Prior Year**	-	(1,193,759,982)	795,324,026	\$ 1,015,531,306	
F4. Third Prior Year**	-	-	(1,193,759,982)	795,324,027	\$ 1,015,531,307
F5. Total Phase-Ins	(398,435,956)	617,095,350	617,095,350	1,810,855,333	1,015,531,307
G. Funding Value End of Year					
G1. Preliminary Funding Value End of Year: A+D6+E3+F5	\$ 67,669,639,684	\$ 71,175,050,279			
G2. Upper Corridor Limit: 112% x B	75,788,262,815	83,572,756,141			
G3. Lower Corridor Limit: 88% x B	59,547,920,783	65,664,308,397			
G4. Funding Value End of Year	\$ 67,669,639,684	\$ 71,175,050,279			
H. Difference Between Market and Funding Value	(1,547,885)	3,443,481,990	2,826,386,640	1,015,531,307	-
I. Recognized Rate of Return	7.38 %	8.93 %			
J. Market Rate of Return	13.73 %	14.11 %			
K. Ratio of Funding Value to Market Value	100 %	95 %			

\*\*Funding Value was set to Market Value as of December 31, 2010.

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

## DEVELOPMENT OF FUNDING VALUE OF PENSION DEFINED BENEFIT ASSETS COMBINED PLAN

Year Ended December 31	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$ 161,038,495	\$ 182,622,970			
B. Market Value End of Year	184,188,348	240,964,406			
C. Market Value Beginning of Year	152,965,233	184,188,348			
D. Non-Investment/Administrative Net Cash Flow					
D1. Member Contributions	313,275	344,187			
D2. Employer and Other Non-Member Contributions	21,675,875	42,969,275			
D3. Refund of Member Accounts	(851,327)	(1,261,044)			
D4. Retirement Benefits	(273,809)	(533,920)			
D5. Member Balance Transfers	(12,136,483)	(13,356,808)			
D6. Total Net Cash Flow: D1+D2+D3+D4+D5	8,727,531	28,161,690			
E. Investment Return					
E1. Market Total: B-C-D6	22,495,584	28,614,368			
E2. Assumed Rate of Return	8.00%	8.00%			
E3. Assumed Amount of Return	13,232,181	15,736,305			
E4. Amount Subject to Phase-In: E1-E3	9,263,403	12,878,063			
F. Phased-In Recognition of Investment Return					
F1. Current Year: 0.25 x E4	2,315,851	3,219,516			
F2. First Prior Year	(2,691,088)	2,315,851	\$ 3,219,516		
F3. Second Prior Year**	-	(2,691,088)	2,315,851	\$ 3,219,516	
F4. Third Prior Year**	-	-	(2,691,086)	2,315,850	\$ 3,219,515
F5. Total Phase-Ins	(375,237)	2,844,279	2,844,281	5,535,366	3,219,515
G. Funding Value End of Year					
G1. Preliminary Funding Value End of Year: A+D6+E3+F5	\$ 182,622,970	\$ 229,365,244			
G2. Upper Corridor Limit: 112% x B	206,290,950	269,880,135			
G3. Lower Corridor Limit: 88% x B	162,085,746	212,048,677			
G4. Funding Value End of Year	\$ 182,622,970	\$ 229,365,244			
H. Difference Between Market and Funding Value	1,565,378	11,599,162	8,754,881	3,219,515	-
I. Recognized Rate of Return	7.77 %	9.45 %			
J. Market Rate of Return	14.30 %	14.43 %			
K. Ratio of Funding Value to Market Value	99 %	95 %			

\*\*Funding Value was set to Market Value as of December 31, 2010.

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

## DEVELOPMENT OF FUNDING VALUE OF PENSION DEFINED BENEFIT ASSETS MEMBER DIRECTED PLAN

Year Ended December 31	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$ 1,156,151	\$ 2,523,879			
B. Market Value End of Year	2,585,430	7,099,170			
C. Market Value Beginning of Year	1,111,664	2,585,430			
D. Non-Investment/Administrative Net Cash Flow					
D1. Member Contributions	-	-			
D2. Employer and Other Non-Member Contributions	-	-			
D3. Refund of Member Accounts	-	-			
D4. Retirement Benefits	(227,924)	(435,801)			
D5. Member Balance Transfers	1,439,137	4,291,205			
D6. Total Net Cash Flow: D1+D2+D3+D4+D5	1,211,213	3,855,404			
E. Investment Return					
E1. Market Total: B-C-D6	262,553	658,336			
E2. Assumed Rate of Return	8.00%	8.00%			
E3. Assumed Amount of Return	140,941	356,126			
E4. Amount Subject to Phase-In: E1-E3	121,612	302,210			
F. Phased-In Recognition of Investment Return					
F1. Current Year: 0.25 x E4	30,403	75,553			
F2. First Prior Year	(14,829)	30,403	\$ 75,553		
F3. Second Prior Year**	-	(14,829)	30,403	\$ 75,553	
F4. Third Prior Year***	-	-	(14,829)	30,403	\$ 75,551
F5. Total Phase-Ins	15,574	91,127	91,127	105,956	75,551
G. Funding Value End of Year					
G1. Preliminary Funding Value End of Year: A+D6+E3+F5	\$ 2,523,879	\$ 6,826,536			
G2. Upper Corridor Limit: 112% x B	2,895,682	7,951,070			
G3. Lower Corridor Limit: 88% x B	2,275,178	6,247,270			
G4. Funding Value End of Year	\$ 2,523,879	\$ 6,826,536			
H. Difference Between Market and Funding Value	61,551	272,634	181,507	75,551	-
I. Recognized Rate of Return	8.88 %	10.05 %			
J. Market Rate of Return	15.29 %	14.59 %			
K. Ratio of Funding Value to Market Value	98 %	96 %			

\*\* *Funding Value was set to Market Value as of December 31, 2010.*

The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, Funding Value of Assets will tend to be greater than market value. If assumed rates are exactly realized for 3 consecutive years, funding value will become equal to market value.

**ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS  
DECEMBER 31, 2013  
TRADITIONAL, COMBINED AND MEMBER DIRECTED PLANS**

	Total DB System				
	State	Local	Public Safety	Law Enforcement	Total
(1) Employer Accumulation Fund					
(a) Allocated Amounts	\$ 2,014,376,172	\$ 7,545,379,808	\$ (17,803,592)	\$ 666,336,306	\$ 10,208,288,694
(b) Unallocated Amounts Allocated by (1)(a)	(89,852,199)	(346,779,197)	833,621	(31,200,006)	(466,997,781)
(c) OPERS Directed Asset Reallocation	1,232,987,891	(1,244,769,894)	17,147,409	(5,365,406)	0
(d) Total EAF (1)(a)+ (1)(b)+ (1)(c)	\$ 3,157,511,864	\$ 5,953,830,717	\$ 177,438	\$ 629,770,894	\$ 9,741,290,913
(2) Employee Savings Fund (ESF)					
(a) Total Member Deposits	\$ 5,294,194,812	\$ 8,173,686,733	\$ 3,236,339	\$ 578,275,811	\$ 14,049,393,695
(b) ESF Allocated by (2)(a)	\$ 4,834,116,521	\$ 7,463,387,318	\$ 2,954,773	\$ 527,964,924	\$ 12,828,423,536
(3) Retired Assets					
(a) Allocated Amounts	\$ 21,082,289,410	\$ 28,933,436,544	\$ 43,510,748	\$ 2,061,217,348	\$ 52,120,454,050
(b) Additional and DC Annuities	226,735	59,361,611	0	0	59,588,346
(c) Total Retiree Assets	\$ 21,082,516,145	\$ 28,992,798,155	\$ 43,510,748	\$ 2,061,217,348	\$ 52,180,042,396
(4) Subtotal: (1)(d)+ (2)(b)+ (3)(c)	\$ 29,074,144,530	\$ 42,410,016,190	\$ 46,642,959	\$ 3,218,953,166	\$ 74,749,756,845
(5) Assets Held For Upcoming Year Budget Allocated According to (4)	45,441,698	66,275,955	73,149	5,048,198	116,839,000
(6) <b>Total Employer + Employee Defined Benefit Assets: (4)+(5)</b>	<b>\$ 29,119,586,228</b>	<b>\$ 42,476,292,145</b>	<b>\$ 46,716,108</b>	<b>\$ 3,224,001,364</b>	<b>\$ 74,866,595,845</b>
(7) Market Value Adjustment Allocated According to (6)	(1,343,979,748)	(1,960,437,584)	(2,155,846)	(148,780,608)	(3,455,353,786)
(8) <b>Funding Value of Defined Benefit Assets (6)+(7)</b>	<b>\$ 27,775,606,480</b>	<b>\$ 40,515,854,561</b>	<b>\$ 44,560,262</b>	<b>\$ 3,075,220,756</b>	<b>\$ 71,411,242,059</b>

**ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS  
DECEMBER 31, 2013  
TRADITIONAL PLAN**

	Traditional Plan				
	State	Local	Public Safety	Law Enforcement	Total
(1) Employer Accumulation Fund (EAF)					
(a) Allocated Amounts	\$ 1,920,195,972	\$ 7,405,713,105	\$ (17,803,592)	\$ 666,336,306	\$ 9,974,441,791
(b) Unallocated Amounts Allocated by (1)(a)	(89,909,742)	(346,759,268)	833,621	(31,200,006)	(467,035,395)
(c) OPERS Directed Asset Reallocation	1,232,987,891	(1,244,769,894)	17,147,409	(5,365,406)	0
(d) Total EAF (1)(a)+ (1)(b)+ (1)(c)	\$ 3,063,274,121	\$ 5,814,183,943	\$ 177,438	\$ 629,770,894	\$ 9,507,406,396
(2) Employee Savings Fund (ESF)					
(a) Total Member Deposits	\$ 5,293,796,676	\$ 8,173,063,810	\$ 3,236,339	\$ 578,275,811	\$ 14,048,372,636
(b) ESF Allocated by (2)(a)	\$ 4,833,228,207	\$ 7,461,994,663	\$ 2,954,773	\$ 527,964,924	\$ 12,826,142,567
(3) Retired Assets					
(a) Allocated Amounts	\$ 21,078,890,053	\$ 28,924,907,547	\$ 43,510,748	\$ 2,061,217,348	\$ 52,108,525,696
(b) Additional Annuities	236,201	59,382,409	0	0	59,618,610
(c) Total Retiree Assets	\$ 21,079,126,254	\$ 28,984,289,956	\$ 43,510,748	\$ 2,061,217,348	\$ 52,168,144,306
(4) Subtotal: (1)(d)+ (2)(b)+ (3)(c)	\$ 28,975,628,582	\$ 42,260,468,562	\$ 46,642,959	\$ 3,218,953,166	\$ 74,501,693,269
(5) Assets Held For Upcoming Year Budget Allocated According to (4)	45,441,698	66,275,955	73,149	5,048,198	116,839,000
(6) <b>Total Employer + Employee Defined Benefit Assets: (4)+(5)</b>	<b>\$ 29,021,070,280</b>	<b>\$ 42,326,744,517</b>	<b>\$ 46,716,108</b>	<b>\$ 3,224,001,364</b>	<b>\$ 74,618,532,269</b>
(7) Market Value Adjustment Allocated According to (6)	(1,339,258,892)	(1,953,286,644)	(2,155,846)	(148,780,608)	(3,443,481,990)
(8) <b>Funding Value of Defined Benefit Assets (6)+(7)</b>	<b>\$ 27,681,811,388</b>	<b>\$ 40,373,457,873</b>	<b>\$ 44,560,262</b>	<b>\$ 3,075,220,756</b>	<b>\$ 71,175,050,279</b>

**ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS  
DECEMBER 31, 2013  
COMBINED PLAN**

	Combined Plan				Total
	State	Local	Public Safety	Law Enforcement	
(1) Employer Accumulation Fund					
(a) Allocated Amounts	\$ 94,127,838	\$ 139,274,480	\$0	\$0	\$ 233,402,318
(b) Unallocated Amounts Allocated by (1)(a)	75,023	111,006	0	0	186,029
(c) Total EAF	\$ 94,202,861	\$ 139,385,486	\$0	\$0	\$ 233,588,347
(2) Employee Savings Fund					
(a) Total Member Deposits	\$ 277,695	\$ 436,490	\$0	\$0	\$ 714,185
(b) ESF Allocated by (2)(a)	\$ 736,653	\$ 1,157,896	\$0	\$0	\$ 1,894,549
(3) Retired Assets					
(a) Allocated Amounts	\$ 1,382,989	\$ 4,098,521	\$0	\$0	\$ 5,481,510
(b) DC Annuities	0	0	0	0	0
(c) Total Retiree Assets	\$ 1,382,989	\$ 4,098,521	\$0	\$0	\$ 5,481,510
(4) Subtotal: (1)(c)+ (2)(b)+ (3)(c)	\$ 96,322,503	\$ 144,641,903	\$0	\$0	\$ 240,964,406
(5) Assets Held For Upcoming Year Budget Allocated According to (4)	0	0	0	0	0
(6) <b>Total Employer + Employee Defined Benefit Assets: (4)+(5)</b>	<b>\$ 96,322,503</b>	<b>\$ 144,641,903</b>	<b>\$0</b>	<b>\$0</b>	<b>\$ 240,964,406</b>
(7) Market Value Adjustment Allocated According to (6)	(4,636,620)	(6,962,542)	0	0	(11,599,162)
(8) <b>Funding Value of Defined Benefit Assets (6)+(7)</b>	<b>\$ 91,685,883</b>	<b>\$ 137,679,361</b>	<b>\$0</b>	<b>\$0</b>	<b>\$ 229,365,244</b>

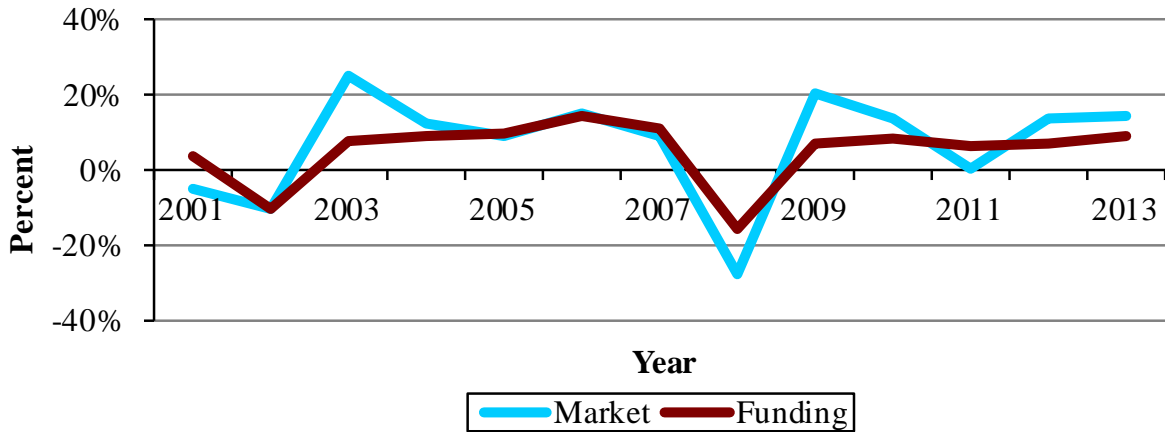
**ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS  
DECEMBER 31, 2013  
MEMBER DIRECTED PLAN**

	Member Directed Plan				
	State	Local	Public Safety	Law Enforcement	Total
(1) Employer Accumulation Fund					
(a) Allocated Amounts	\$ 52,362	\$ 392,223	\$0	\$0	\$ 444,585
(b) Unallocated Amounts Allocated by 1(a)	(17,480)	(130,935)	0	0	(148,415)
(c) Total EAF	\$ 34,882	\$ 261,288	\$0	\$0	\$ 296,170
(2) Employee Savings Fund					
(a) Total Member Deposits	\$ 120,441	\$ 186,433	\$0	\$0	\$ 306,874
(b) ESF Allocated by (2)(a)	\$ 151,661	\$ 234,759	\$0	\$0	\$ 386,420
(3) Retired Assets					
(a) Allocated Amounts	\$ 2,016,368	\$ 4,430,476	\$0	\$0	\$ 6,446,844
(b) No Division	(9,466)	(20,798)	0	0	(30,264)
(c) Total Retiree Assets	\$ 2,006,902	\$ 4,409,678	\$0	\$0	\$ 6,416,580
(4) Subtotal: (1)(c)+ (2)(b)+ (3)(c)	\$ 2,193,445	\$ 4,905,725	\$0	\$0	\$ 7,099,170
(5) Assets Held For Upcoming Year Budget Allocated According to (4)	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
(6) <b>Total Employer + Employee Defined Benefit Assets: (4)+(5)</b>	<b>\$ 2,193,445</b>	<b>\$ 4,905,725</b>	<b>\$0</b>	<b>\$0</b>	<b>\$ 7,099,170</b>
(7) Market Value Adjustment Allocated According to (6)	(84,236)	(188,398)	0	0	(272,634)
(8) <b>Funding Value of Defined Benefit Assets (6)+(7)</b>	<b>\$ 2,109,209</b>	<b>\$ 4,717,327</b>	<b>\$0</b>	<b>\$0</b>	<b>\$ 6,826,536</b>

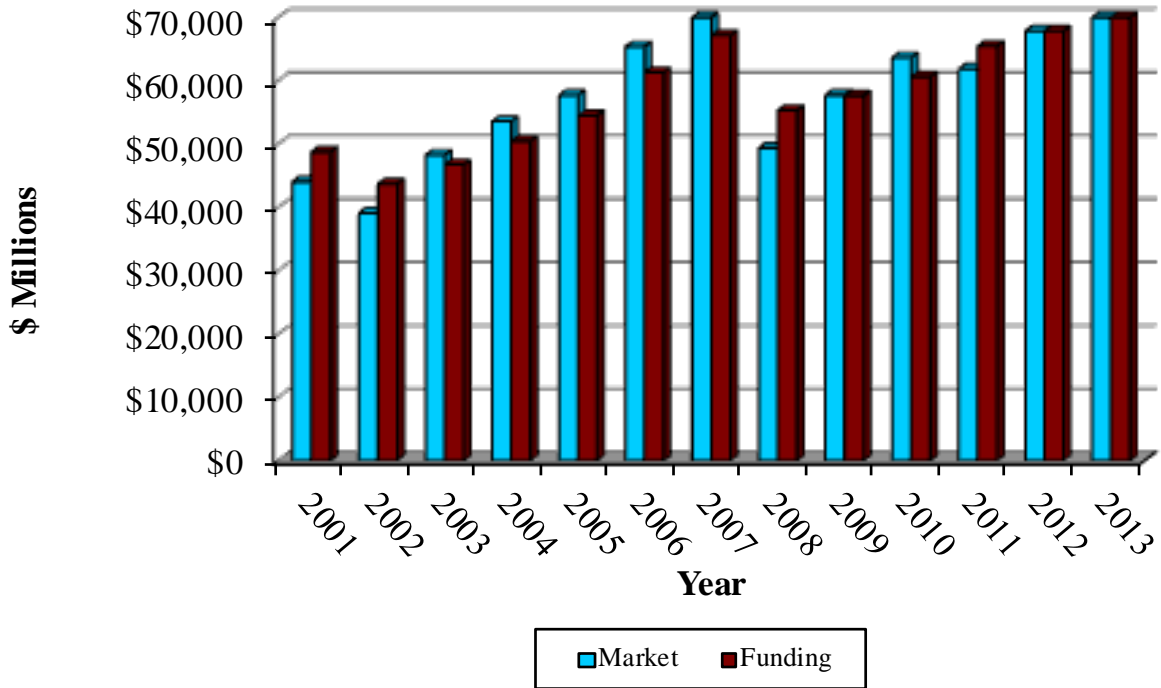


# COMPARISON OF DEFINED BENEFIT PENSION ASSETS

## Comparison of Rates of Return



## Comparison of Defined Benefit Pension Asset Values



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## **SECTION III**

### **BENEFITS AND CONDITIONS EVALUATED**

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## BENEFITS AND CONDITIONS EVALUATED

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### PLANS

***Traditional Pension Plan.*** The Traditional Pension Plan is a defined benefit plan under which a member's retirement benefit is based on a formula. The formula is determined by years of contributing service and the average of the three (or five if a member of Group C as defined on page III-4) highest years of earnable salary (or final average salary). OPERS investment professionals manage the investment of employee and employer contributions to ensure that funds are available to pay the formula benefit.

***Combined Plan.*** The Combined Plan is a retirement plan with both a defined benefit and a defined contribution component. Under the defined benefit portion of the Combined Plan, the member's benefit is determined by a reduced formula (similar to the Traditional Pension Plan). OPERS investment professionals manage the investment of employer contributions to ensure that funds are available to pay the reduced formula benefit. Under the defined contribution portion of the Combined Plan, employee contributions are deposited into the member's individual defined contribution account and invested as directed by the member. The member's retirement benefit under this portion of the Combined Plan is based on employee contributions and the gains and losses on those contributions. The member directs the investment by selecting from among the nine professionally-managed OPERS Investment Options.

***Member-Directed Plan.*** The Member-Directed Plan is a defined contribution plan under which employee and employer contributions are deposited into a member's individual defined contribution account and invested as directed by the member. The member's retirement benefit is based on employee and employer contributions and the gains and losses on those contributions. Under the Member-Directed Plan, the member directs the investment by selecting from several professionally-managed OPERS Investment Options.

## **BENEFITS AND CONDITIONS EVALUATED**

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### **TERMS**

***Final average salary*** (“FAS”) means the average of the annual earnings for the 3 highest calendar years of compensation for Transition Group A and B members. The highest 5 calendar years is used for Transition Group C members.

***Participant Contribution Account*** is the account for each Participant in the Combined or Member-Directed Plan to which shall be credited the employee contributions.

***Miscellaneous Contribution Account*** is the account to which shall be credited any voluntary after-tax contributions for members in the Combined and Member-Directed Plans.

***Rollover Account*** is the account to which shall be credited any rollover amounts for members in the Combined or Member-Directed Plans.

***Employers’ Accumulation Fund*** is the fund to which shall be credited employer contributions for members in the Traditional or Combined Plan. There are separate accounts in the Employers’ Accumulation Fund for the Combined Plan and the Traditional Pension Plan.

***Employer Contribution Account*** is the fund to which shall be credited a portion of the employer contributions for members in the Member-Directed Plan.

### **CONTRIBUTIONS**

***Member contributions.*** Member contribution rates as a % of earnable salary are presented on page III-3.

***Employer contributions.*** Each employer contributes the remaining amounts necessary to finance OPERS benefits. Employer contributions are expressed as percents of member-covered payroll. The maximum statutory rate for state and local government employers is 14.0%. The maximum statutory rate for law enforcement employers is 18.1% (H.B. 416, effective 1/1/2001).

## BENEFITS AND CONDITIONS EVALUATED

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### CONTRIBUTIONS (CONCLUDED)

*Health Care Preservation Plan (HCPP)*. The following table shows total scheduled employer contribution rates (includes contributions for both the pension and retiree health programs):

Year	State	Local Government	Law Enforcement	Public Safety
2012 and Later	14.00%	14.00%	18.10%	18.10%

The portion of the above employer contribution rates scheduled to be allocated to the retiree health program are as follows:

Year	All Divisions	
	Post-APD	Pre-APD
2014	2.0%	0.0%
2015	3.0%	0.0%
2016 and Later	4.0%	0.0%

The Pre-APD schedule was adopted at the July 2010 Board meeting. The Post-APD schedule was adopted at the January 2013 Board meeting and is subject to change if conditions warrant.

Member contribution rates scheduled to be allocated to the pension program are as follows:

Year	State	Local Government	Law Enforcement	Public Safety
2014 and Later	10.00%	10.00%	13.00%	12.00%

## SENATE BILL 343

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**Senate Bill 343.** Senate Bill (SB) 343 became effective January 7, 2013. The benefit changes enacted by SB 343 do not apply to members who retired with an effective date of January 1, 2013 or earlier. The benefit provisions enumerated on pages III-9 through the end of Section III are the provisions that were applicable prior to the enactment of SB 343. Changes to the benefit provisions resulting from Senate Bill 343 are enumerated on pages III-4 through III-8.

**Transition Groups.** A transition plan was developed as part of the SB 343 benefit changes. The transition group to which a member belongs is dependent upon the date at which that member is first eligible to retire with a reduced or unreduced benefit.

A member is in Group A if the member is eligible to retire under the retirement eligibility conditions in place prior to the passage of SB 343 on or before January 7, 2018.

A member is in Group B if the member is not in Group A and satisfies either of the following conditions:

- (1) The member has 20 years of service credit as of January 7, 2013, or
- (2) The member is eligible to retire under the retirement eligibility conditions in place prior to the passage of SB 343 on or before January 7, 2023.

A member is in Group C if the member satisfies either of the following conditions:

- (1) The member was hired prior to January 7, 2013 but was not in Group A or Group B, or
- (2) The member was hired on or after January 7, 2013.

**Key Benefit Changes.** There are five key components that were affected by SB 343:

- (1) Age and service retirement eligibility conditions,
- (2) Benefit formula,
- (3) Cost of living allowance (COLA),
- (4) Final average salary (FAS) period, and
- (5) Early retirement reduction factors

# SENATE BILL 343

## KEY BENEFIT CHANGES FOR TRANSITION GROUP A

**COLAs.** COLAs provided up to December 31, 2018 will be based upon a simple, 3 percent COLA. COLAs provided after December 31, 2018 continue to be simple, but will be based upon the annual percentage change in the Consumer Price Index (CPI), and not greater than 3%.

## KEY BENEFIT CHANGES FOR TRANSITION GROUP B

**Retirement Eligibility.** The table below shows retirement eligibility conditions for Group B members:

<u>Valuation Group</u>	<u>Unreduced</u>		<u>Reduced</u>	
	<u>Age</u>	<u>Service</u>	<u>Age</u>	<u>Service</u>
State / Local Government	52	31	55	25
	Any	32		
	66	5	60	5
Law Enforcement	50	25	48	25
	64	15	52	15
Public Safety	54	25	48	25
	64	15	52	15

**Early Retirement Reduction Factors.** Presented below are the reduction factors, expressed as a percentage of the base amount, applicable to a Group B member who retires with a reduced benefit:

### **State and Local Government:**

<u>Service</u>	<u>Ages</u>										
	<u>55</u>	<u>56</u>	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>	<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>
30	75%	76%	78%	79%	80%	82%	83%	85%	86%	88%	89%
29	69	70	72	73	74	75	76	78	79	80	89
28	64	65	66	67	68	69	70	71	72	80	89
27	59	60	61	62	62	63	64	65	72	80	89
26	55	55	56	57	57	58	59	65	72	80	89
25	50	51	51	52	52	53	59	65	72	80	89
24 & Under						53	59	65	72	80	89

## SENATE BILL 343

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### Law Enforcement and Public Safety:

Law Enforcement		Public Safety	
Age	Factor	Age	Factor
48	84%	48	58%
49	92	49	64
50	100	50	70
		51	76
		52	83
		53	91
		54	100

*COLAs.* Simple COLAs will be based upon the annual percentage change in the Consumer Price Index (CPI), but not greater than 3%.

### KEY BENEFIT CHANGES FOR TRANSITION GROUP C

*Retirement Eligibility.* The table below shows retirement eligibility conditions for Group C members:

Valuation Group	Unreduced		Reduced	
	Age	Service	Age	Service
State / Local Government	55	32	57	25
	67	5	62	5
Law Enforcement	52	25	48	25
	64	15	56	15
Public Safety	56	25	52	25
	64	15	56	15



## SENATE BILL 343

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**Early Retirement Reduction Factors.** Presented below are the reduction factors, expressed as a percentage of the base amount, applicable to a Group C member that retires with a reduced benefit:

**State and Local Government:**

<u>Service</u>	<u>Ages</u>									
	<u>57</u>	<u>58</u>	<u>59</u>	<u>60</u>	<u>61</u>	<u>62</u>	<u>63</u>	<u>64</u>	<u>65</u>	<u>66</u>
31	80%	80%	81%	82%	83%	85%	86%	87%	88%	89%
30	73	74	75	75	76	77	78	79	80	89
29	67	68	68	69	70	70	71	72	80	89
28	61	62	62	63	63	64	64	72	80	89
27	56	57	57	57	58	58	64	72	80	89
26	51	52	52	52	52	58	64	72	80	89
25	47	47	47	47	52	58	64	72	80	89
24 & Under						58	64	72	80	89

**Law Enforcement and Public Safety:**

<u>Law Enforcement</u>		<u>Public Safety</u>	
<u>Age</u>	<u>Factor</u>	<u>Age</u>	<u>Factor</u>
48	70%	52	69%
49	76	53	76
50	84	54	83
51	91	55	91
52	100	56	100

**COLAs.** Simple COLAs will be based upon the annual percentage change in the Consumer Price Index (CPI), but not greater than 3%.

## SENATE BILL 343

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***FAS Period.*** Final average salary is based on the average of the annual earnings for the 5 highest calendar years of compensation.

***Benefit Formula.*** Service breakpoint for the 2.50% benefit multiplier in the Traditional Plan or 1.25% benefit multiplier in the Combined Plan for State and Local Government members increased from 30 years to 35 years.

### **OTHER BENEFIT CHANGES FOR ALL TRANSITION GROUPS**

***Minimum Benefit.*** The \$86 minimum benefit provision has been eliminated.

***Long Interest Calculation.*** The minimum allowance calculation based upon twice the member's savings funding balance at retirement together with interest credits, annuitized with unisex factors that reflect plan interest and mortality assumptions, but not the plan's COLA, has been eliminated.

***Disability Program.*** The definition of disability was changed to a more restrictive definition which is expected to result in a reduction in future disability cases.

# TRADITIONAL PENSION PLAN – PRE SENATE BILL 343

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## AGE & SERVICE BENEFITS - STATE AND LOCAL GOVERNMENT MEMBERS

**Age and service eligibility.** A member who (i) has attained age 60 years and has 5 or more years of service credit or 60 contributing months, or (ii) has attained age 55 years and has 25 or more years of service credit, or (iii) has 30 or more years of service credit, may retire with an age and service retirement allowance.

**Age and service allowance.** A retiring member's age and service allowance is equal to Ohio service credit times the greater of \$86, or 2.2% of FAS for the first 30 years of service plus 2.5% for years of service over 30 years (H.B. 628). The allowance is then adjusted by factors based on attained age or years of service (whichever yields the higher percentage) as determined in the following schedule:

<b>Attained Age</b>	<b>OR</b>	<b>Years of Service Credit</b>	<b>Percentage of Base Amount</b>
58		25	75%
59		26	80
60		27	85
61		N/A	88
N/A		28	90
62		N/A	91
63		N/A	94
N/A		29	95
64		N/A	97
65		30 or more	100

Maximum allowance is 100% of FAS or the limits under IRC Section 415(b). Minimum allowance is based upon twice the member's savings funding balance at retirement together with interest credits, annuitized with unisex factors that reflect plan interest and mortality assumptions, but not the plan's COLA.

## **TRADITIONAL PENSION PLAN – PRE SENATE BILL 343**

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### **AGE & SERVICE BENEFITS – LAW MEMBERS (PUBLIC SAFETY) ELIGIBLE TO RETIRE UNDER OHIO REVISED CODE SECTION 145.33(B)(2)(B)**

*Age and service eligibility.* A law member whose secondary duties are to preserve the peace, to protect life and property, and to enforce the laws of the state and who (i) has attained age 52 and has 25 or more years of credited service, or (ii) has attained age 62 and has 15 or more years of credited service, or (iii) has attained age 52 and has 15 or more years of credited service, may retire with an age and service allowance. A member covered by these provisions may retire early at age 48 with 25 or more years of service and receive the following percentage of the base benefit: 75%, 80%, 86%, or 93% at retirement ages 48, 49, 50 and 51 respectively.

*Age and service allowance.* A retiring member's age and service allowance under eligibility (i) or (ii) above is equal to 2.5% of FAS times the first 25 years of service credit plus 2.1% of FAS times service credit in excess of 25 years (H.B. 628). Maximum allowance is 90% of FAS or the limits under IRC Section 415(b). A retiring member's age and service allowance under eligibility (iii) above is equal to 1.5% of FAS times years of service credit. Minimum allowance for all law members is based upon twice the member's savings fund balance at retirement together with interest credits.

### **AGE & SERVICE BENEFITS - LAW MEMBERS (LAW ENFORCEMENT) ELIGIBLE TO RETIRE UNDER OHIO REVISED CODE SECTION 145.33(B)(2)(A)**

*Age and service eligibility.* A law member whose primary duties are to preserve the peace, to protect life and property, and to enforce the laws of the state and who (i) has attained age 48 and has 25 or more years of credited service, or (ii) has attained age 62 and has 15 or more years of credited service, or (iii) has attained age 52 and has 15 or more years of credited service, may retire with an age and service allowance.

*Age and service allowance.* A retiring member's age and service allowance under eligibility (i) or (ii) above is equal to 2.5% of FAS times the first 25 years of service credit plus 2.1% of FAS times service credit in excess of 25 years (H.B. 628). Maximum allowance is 90% of FAS or the limits under IRC Section 415(b). A retiring member's age and service allowance under eligibility (iii) above is equal to 1.5% of FAS times years of service credit. Minimum allowance for all law members is based upon twice the member's savings fund balance at retirement together with interest credits.

## **TRADITIONAL PENSION PLAN – PRE SENATE BILL 343**

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### **DISABILITY RETIREMENT**

The disability program was revised in 1992, in order to comply with the Older Workers Benefit Protection Act. Employees becoming members after July 29, 1992 are covered by the post July 29, 1992 program. Other members were able to elect coverage under the pre July 29, 1992 program (original plan) or elect to be covered by the post July 29, 1992 program (revised plan).

Features of the original plan are:

- a) Upon becoming permanently disabled after completion of at least 5 years or 60 contributing months of service but before attaining age 60, a member is eligible for a disability allowance. The service requirement is waived for Law Enforcement members with an on-duty illness or injury.
- b) The amount of the allowance is the service the member would have had if employment had continued to age 60 times (i) 2.2% of FAS (H.B. 628), or (ii) \$86, whichever produces the greater benefit.
- c) Maximum allowance is 75% of FAS, minimum allowance is 30% of FAS.

Features of the revised plan are:

- a) A member may apply at any age after completion of 5 years or 60 contributing months of service. The service requirement is waived for Law Enforcement members with an on-duty illness or injury.
- b) A disability benefit equal to the greater of 45% of FAS or the actual service credit times 2.2% of FAS (H.B. 628) with no early retirement reduction (maximum 60% of FAS). The disability benefit period is to age 65 if the member is disabled prior to age 60. The benefit period declines gradually from 60 months for members disabled at ages 60 and 61 to 12 months for members disabled at age 69 or older.
- c) After the disability benefit ends, a service retirement benefit equal to the greater of (i) the accrued benefit based on actual service, or (ii) 2.2% of FAS (H.B. 628) times service credit including the period of disability (maximum 45% of FAS). In addition, an amount equal to the cost-of-living increases the member would have received had the member retired on the basis of age and service is paid.

## TRADITIONAL PENSION PLAN – PRE SENATE BILL 343

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### SURVIVOR BENEFITS

**Death while eligible to retire.** If a member dies in service after becoming eligible to retire with an age and service allowance and leaves a surviving spouse or other sole dependent beneficiary, the survivor receives the same amount that would have been paid had the member retired the last day of the month of death and elected the 100% joint and survivor form of payment.

**Survivor (death-in-service) allowances.** If a deceased member had at least 1-1/2 years of contributing service credit, with at least 1/4 year of such service occurring within the 2-1/2 years prior to death, or was receiving a disability benefit, qualified survivors may receive the following monthly benefits. The benefit paid will be the greater of the applicable benefits paid under the following two schedules (H.B. 628):

#### *Schedule 1*

<u>Number of Qualified Survivors Affecting the Benefit</u>	<u>Annual Benefit as a % of Deceased Member's FAS</u>	<u>Minimum Monthly Benefit</u>
1	25%	\$250
2	40%	\$400
3	50%	\$500
4	55%	\$500
5 or more	60%	\$500

#### *Schedule 2*

<u>Years of Service</u>	<u>Annual Benefit as a % of Deceased Member's FAS</u>
20	29%
21	33%
22	37%
23	41%
24	45%
25	48%
26	51%
27	54%
28	57%
29 or more	60%

Qualifying survivors who are paid benefits under Schedule 2 share equally in the benefits, except that if there is a surviving spouse, the spouse receives the greater of 25% of FAS or \$250.

## **TRADITIONAL PENSION PLAN – PRE SENATE BILL 343**

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A *qualified spouse* is the surviving spouse of a deceased member who is age 62 or at any age if the deceased member had 10 or more years of Ohio service credit or if the surviving spouse is caring for a qualified child or is adjudged physically or mentally incompetent.

A *qualified child* is a child who has never been married and under the age of 18 (or 22 if attending an approved school), or regardless of age is adjudged physically or mentally incompetent at the time of the member's death.

A *qualified parent* is a dependent parent aged 65 or older (earlier if mentally or physically incompetent) who received at least one-half support from the member during the 12-month period immediately preceding the member's death.

Qualified *survivors of disability benefit recipients* have the FAS used in calculating their benefits adjusted for each year between the effective date of the disability benefit and the recipient's date of death. The FAS is adjusted by the lesser of (1) 3% or (2) the actual average percentage change in the CPI.

### **BENEFITS AT RETIREMENT**

*Optional Benefit Forms.* Retiring members may elect to have benefits paid in straight life form, in a form that guarantees a minimum number of monthly payments, or in a form that provides a continuation of all or a portion of the monthly benefit to a beneficiary after the death of the retiree. If a retiring member elects benefits in other than straight life form, the monthly amount is adjusted. The adjustment is based upon interest, COLA, and mortality assumptions (with a blend of male and female mortality rates to produce unisex election factors consistent with the gender distribution of members electing optional forms of payment).

## TRADITIONAL PENSION PLAN – PRE SENATE BILL 343

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**PLOP.** Effective 01/01/2004, retiring members may also elect to receive a Partial Lump Sum Option Payment (PLOP) (S.B.247). The PLOP is an option that allows a retiree to initially receive a partial lump sum benefit payment along with a reduced monthly retirement allowance. The lump sum payment cannot be less than 6 times or more than 36 times the monthly amount that would be payable to the member under the plan of payment selected and shall not result in a monthly allowance that is less than 50% of the monthly benefit. The total amount paid as a lump sum and monthly benefit shall be the actuarial equivalent of the amount that would have been paid had the lump sum not been selected.

**QEBA.** Qualified Excess Benefit Arrangement was established 01/01/2004 (H.B.190). The QEBA is operated in accordance with Internal Revenue Code Section 415(m). Under this arrangement the recipient may be paid the portion of his/her retirement benefit that was previously limited due to IRC Section 415(b).

**Post-retirement increases.** Each July after June 30, 1971 or the annual anniversary established 12 months after the initial date of retirement, each allowance is increased by 3.0% of the corresponding base allowance, except that no allowance shall exceed the limits established by Section 415 of the Internal Revenue Code.

**Post-retirement death benefit.** Upon the death of an age and service or disability retiree, a death benefit in the following amount is payable:

<b>Service Credit at Retirement</b>	<b>Amount of Death Benefit</b>
5 to 9 years	\$ 500
10 to 14 years	1,000
15 to 19 years	1,500
20 to 24 years	2,000
25 or more years	2,500

**Deferred benefits.** A member with at least 5 years of service credit who leaves service before being eligible for an immediate allowance and who does not withdraw accumulated contributions will be entitled to a deferred allowance at age 60. For law members, the age at which benefits commence depends on the amount of service credit. The amount of the allowance will be based on credited service and final average salary at time of leaving service.



## **TRADITIONAL PENSION PLAN – PRE SENATE BILL 343**

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### **REFUND OF MEMBERS ACCUMULATED CONTRIBUTIONS**

In the event a member leaves service prior to retirement, the member may elect to receive a refund of contributions with interest and may be eligible to receive an additional amount as described below. These refund provisions are available to all members. If a member dies prior to retirement and survivor benefits are not payable, the member's contributions with interest are paid to a designated beneficiary or other survivor. Interest is credited annually to member contribution balances. The rate of interest credited is determined by the OPERS Board and will not be greater than 6%. At the present time, 1% interest is credited to member contribution balances.

If the member has, or had at the time of death, at least 5 years but less than 10 years of qualified service, an additional 33% of the member's eligible contributions will be paid to the member or survivor. If the member has, or had at the time of death, at least 10 years of qualified service credit, an additional 67% of the member's eligible contributions will be paid to the member or survivor. The additional amount is not paid if the member is a re-employed retiree, or in the case of a deceased member, was receiving disability benefits at the time of death.

### **SUPPLEMENTAL BENEFITS**

***Health Care Coverage.*** Health care coverage is available to persons being meeting retiree health care eligibility requirements. Members retiring with a normal or early service retirement allowance after January 1, 2015 must have 20 or more years of qualified service credit to be eligible for this benefit.

## **TRADITIONAL PENSION PLAN – PRE SENATE BILL 343**

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### **ADDITIONAL ANNUITY PROGRAM**

The additional annuity program provides Traditional Plan and re-employed retiree members the opportunity of supplementing their retirement income. Members make additional contributions (independent of the contributions described on page III-2) to an account that earns investment income based upon the return of the OPERS Stable Value Fund. At termination, the member may take the additional annuity account balance either as a lump sum or annuitized in monthly payments.

### **RE-EMPLOYED RETIREES**

Re-employed age and service retirees contribute to the “Money Purchase Plan”. In most instances, re-employed retirees will continue to receive their retirement allowance during re-employment. Upon termination of re-employment, members are eligible to apply for either a refund of contributions prior to age 65 or a Money Purchase Plan benefit as a lump sum or annuity after age 65. The Money Purchase Plan benefit is equal to member contributions and allowable interest plus an additional 67% matching amount. If monthly benefits are elected, joint and survivor options are also available.

## COMBINED PLAN – PRE SENATE BILL 343

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### AGE & SERVICE BENEFITS - STATE AND LOCAL GOVERNMENT MEMBERS\*

**Eligibility.** A member who (i) has attained age 60 years and has 5 or more years of service credit in the Plan or 60 contributing months in the Plan, or (ii) has attained age 55 years and has 25 or more years of service credit, or (iii) has 30 or more years of service credit, may retire under the Combined Plan with an age and service retirement allowance under the defined benefit portion of the Plan and with a retirement benefit under the defined contribution portion of the Plan.

*\*Law Enforcement and Public Safety members must contribute to the Traditional Pension Plan only.*

**Age and service retirement allowance (Defined Benefit portion of the Plan).** A retiring member's age and service retirement allowance is equal to Ohio service credit in the Plan times 1.0% of FAS for the first 30 years of service plus 1.25% for years of service over 30 years. The allowance is then adjusted by factors based on attained age or years of service (whichever yields the higher percentage) as determined in the following schedule:

Attained Age	OR	Years of Service Credit	Percentage of Base Amount
58		25	75%
59		26	80
60		27	85
61		N/A	88
N/A		28	90
62		N/A	91
63		N/A	94
N/A		29	95
64		N/A	97
65		30 or more	100

Maximum allowance is 100% of FAS or the limits under IRC Section 415(b).

**Retirement benefit (Defined Contribution portion of the Plan).** The member's retirement benefit under this portion of the Combined Plan is based on the amounts credited to the Participant Contribution Account, Rollover Account, and Miscellaneous Account and the gains and losses on the amounts in those Accounts.

## **COMBINED PLAN – PRE SENATE BILL 343**

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### **DISABILITY RETIREMENT**

A Combined Plan member may apply after completion of 5 years in the Plan or 60 contributing months of service in the Plan. Combined Plan members may be covered under the original or revised disability plan. Combined Plan members who apply for disability may:

- 1) Take a lump sum distribution of the Participant Contribution Account, Rollover Account, and Miscellaneous Account and any additional amount they are entitled to from the Employers' Accumulation Fund, or
- 2) Transfer all service credit and the Participant's Accounts (as listed above) in the Combined Plan to the Traditional Pension Plan to be paid a disability benefit under the Traditional Pension Plan guidelines.

### **SURVIVOR BENEFITS**

Combined Plan members are eligible for the same survivor benefits as those listed under the Traditional Pension Plan and must qualify for survivor benefits under the same guidelines as those members in the Traditional Pension Plan.

### **BENEFITS AT RETIREMENT**

*Optional Benefit Forms under the Defined Benefit portion of the Plan.* Retiring members may elect to have their age and service retirement allowance in straight life form, in a form that guarantees a minimum number of monthly payments, or in a form that provides a continuation of all or a portion of the monthly benefit to a beneficiary after the death of the retiree. If a retiring member elects benefits in other than straight life form, the monthly amount is adjusted. The adjustment is based upon interest, COLA, and mortality assumptions (with a blend of male and female mortality rates to produce unisex election factors consistent with the gender distribution of members electing optional forms of payment).

## COMBINED PLAN – PRE SENATE BILL 343

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**Optional Benefit Forms under the Defined Contribution portion of the Plan.** Retiring members may elect to have retirement benefits paid in a partial lump sum, subject to any rules adopted by the Board; monthly annuity payments (with joint and survivor options) similar to those offered under the defined benefit portion of the Plan; periodic payments over a period certain; periodic payments of a specific monthly amount; payments with a deferred start date; or a combination of these options.

**QEBA.** Qualified Excess Benefit Arrangement was established 01/01/2004 (H.B.190). The QEBA is operated in accordance with Internal Revenue Code Section 415(m). Under this arrangement the recipient may be paid the portion of his/her retirement benefit that was previously limited due to IRC Section 415(b). The QEBA is available to Combined Plan members for the age and service retirement allowance under the defined benefit portion of the Plan.

**Post-retirement increases.** Each July after June 30, 1971 or the annual anniversary established 12 months after the initial date of retirement, each age and service retirement allowance under the defined benefit portion of the plan is increased by 3.0% of the corresponding base allowance, except that no allowance shall exceed the limits established by Section 415 of the Internal Revenue Code.

**Post-retirement death benefit.** Upon the death of an age and service retiree, a death benefit in the following amount is payable:

<b>Service Credit at Retirement</b>	<b>Amount of Death Benefit</b>
5 to 9 years	\$ 500
10 to 14 years	1,000
15 to 19 years	1,500
20 to 24 years	2,000
25 or more years	2,500

## COMBINED PLAN – PRE SENATE BILL 343

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### REFUNDS AND VESTING

A participant in the Combined Plan shall at all times be 100% vested in the Participant Contribution Account, Miscellaneous Contribution Account, and the Rollover Account.

If the member has at least 5 years but less than 10 years of qualified service credit in the Plan, an additional 33% of the member's eligible contributions will be paid from the Employers' Accumulation Fund. If the member has at least 10 years of qualified service credit in the Plan, an additional 67% of the member's eligible contributions will be paid to the member. Amounts paid to purchase service credit earn interest at the same rates as the Traditional Pension Plan and are payable as a refund.

In the event a member leaves service prior to retirement, the member may elect to receive a refund of their Participant Contribution Account, the Rollover Account, the Miscellaneous Account, and any additional amounts they are entitled to from the Employers' Accumulation Fund (as described above).

### SUPPLEMENTAL BENEFITS

***Health Care Coverage.*** Health care coverage is available to persons meeting retiree health care eligibility requirements. Members retiring with a normal or early service retirement allowance after January 1, 2015 must have 20 or more years of qualified service credit to be eligible for this benefit.

## **MEMBER-DIRECTED PLAN**

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**AGE & SERVICE BENEFITS - STATE AND LOCAL GOVERNMENT MEMBERS.** (Law Enforcement and Public Safety members must contribute to the Traditional Pension Plan Only.)

*Eligibility.* A participant who has attained age fifty-five (55) may retire under the Member-Directed Plan.

*Retirement benefits.* The member's retirement benefit is based on the value of the Participant Contribution Account, the Rollover Account, the Miscellaneous Account, and any vested portion of the Employer Contribution Account.

### **DISABILITY RETIREMENT**

Not available under the Member-Directed Plan. Members may:

- 1) If age fifty-five (55), terminate employment and begin receiving retirement benefits, or
- 2) Take a lump sum distribution of their Participant Contribution Account, Rollover Account, Miscellaneous Account and any vested portion of the Employer Contribution Account.

### **SURVIVOR BENEFITS**

Not available under the Member-Directed Plan. Survivors must take a lump sum distribution of the member's Participant Contribution Account, Rollover Account, Miscellaneous Account and any vested portion of the Employer Contribution Account.

### **BENEFITS AT RETIREMENT**

*Optional Benefit Forms.* Retiring members may elect to have retirement benefits paid in a partial lump sum, subject to any rules adopted by the Board; monthly annuity payments (with joint and survivor options) similar to those offered under the defined benefit portion of the Combined Plan; periodic payments over a period certain; periodic payments of a specific monthly amount; payments with a deferred start date; or a combination of these options.

## **MEMBER-DIRECTED PLAN**

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### **REFUNDS AND VESTING.**

A participant shall at all times be 100% vested in the Participant Contribution Account, Miscellaneous Contribution Account, and the Rollover Account. A participant shall vest in the Employer Contribution Account according to the Participant's attained years of participation in the Plan as follows:

One year of participation	20%
Two years of participation	40%
Three years of participation	60%
Four years of participation	80%
Five years of participation	100%

In the event a member leaves service prior to retirement, the member may elect to receive a refund of their Participant Contribution Account, Rollover Account, and Miscellaneous Account and any vested amounts in the Employer Contribution Account (as described above).

### **SUPPLEMENTAL BENEFITS**

***Health Care Coverage.*** A portion of the employer contribution for Member-Directed participants is credited to a Retiree Medical Account (RMA). Amounts contributed to the RMA may be used after separation from service and a refund or retirement distribution is made to pay qualified health, dental and vision care expenses. Beginning January 1, 2009, members vest in their RMA based on their attained years of participation in the Plan as follows:

Less than 1 year	0%
1 year	20%
2 years	40%
3 years	60%
4 years	80%
5 years	100%



**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN**  
**STATE OR LOCAL MEMBER (TRANSITION GROUP A) - NORMAL RETIREMENT**  
**RETIRING DECEMBER 31, 2013**  
**UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	\$32,000	Final Average Earnings
B.	33	Years of Credited Service
C.	59	Age of Retiree
D.	56	Age of Spouse
E.	100%	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)

---

**Computations:**

F.	Formula Benefit: $(0.022 \times 30 \text{ years} + 0.025 \times 3 \text{ years}) \times \$32,000 =$	\$ 23,520
G.	Reduction for Line E Election: $\# (1 - 0.85714) \times (F) =$	<u>3,360</u>
H.	Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$	20,160
I.	Benefit Payable to Spouse after Retiree's Death	20,160
J.	Benefit Payable to Retiree after Spouse's Death	23,520

---

**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 20,160	\$ 20,160	\$ 23,520
2015	20,765	20,765	24,226
2016	21,370	21,370	24,931
2017	21,974	21,974	25,637
2018	22,579	22,579	26,342
2019	23,184	23,184	27,048
2020	23,789	23,789	27,754
2021	24,394	24,394	28,459
2022	24,998	24,998	29,165
2023	25,603	25,603	29,870

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN  
STATE OR LOCAL MEMBER (TRANSITION GROUP A) - EARLY RETIREMENT  
RETIRING DECEMBER 31, 2013  
UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	<u>\$32,000</u>	Final Average Earnings
B.	<u>26</u>	Years of Credited Service
C.	<u>59</u>	Age of Retiree
D.	<u>56</u>	Age of Spouse
E.	<u>100%</u>	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)

---

**Computations:**

F.	Formula Benefit: $0.022 \times 26 \text{ years} \times \$32,000 =$	\$ 18,304
G.	Adjustment Factor for Early Retirement (from schedule)	80%
H.	Adjusted Benefit: $(F) \times (G) =$	14,643
I.	Reduction for Line E Election: $\# (1 - 0.85714) \times (H) =$	<u>2,092</u>
J.	Benefit Payable to Retiree while Spouse is Alive: $(H) - (I)$	12,551
K.	Benefit Payable to Spouse after Retiree's Death	12,551
L.	Benefit Payable to Retiree after Spouse's Death	14,643

---

**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 12,551	\$ 12,551	\$ 14,643
2015	12,928	12,928	15,082
2016	13,304	13,304	15,522
2017	13,681	13,681	15,961
2018	14,057	14,057	16,400
2019	14,434	14,434	16,840
2020	14,810	14,810	17,279
2021	15,187	15,187	17,718
2022	15,563	15,563	18,158
2023	15,940	15,940	18,597

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN  
SECTION 145.33 (B)(2)(b) PUBLIC SAFETY  
MEMBER (TRANSITION GROUP A) - NORMAL RETIREMENT  
RETIRING DECEMBER 31, 2013  
UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	<u>    \$38,000    </u>	Final Average Earnings
B.	<u>      28      </u>	Years of Credited Service
C.	<u>      49      </u>	Age of Retiree
D.	<u>      46      </u>	Age of Spouse
E.	<u>     100%     </u>	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)

---

**Computations:**

F.	Formula Benefit: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 \times 80\% =$	\$ 20,915
G.	Reduction for Line E Election: $\# (1 - 0.91705) \times (F) =$	<u>1,735</u>
H.	Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$	19,180
I.	Benefit Payable to Spouse after Retiree's Death	19,180
J.	Benefit Payable to Retiree after Spouse's Death	20,915

---

**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 19,180	\$ 19,180	\$ 20,915
2015	19,755	19,755	21,542
2016	20,331	20,331	22,170
2017	20,906	20,906	22,797
2018	21,482	21,482	23,425
2019	22,057	22,057	24,052
2020	22,632	22,632	24,680
2021	23,208	23,208	25,307
2022	23,783	23,783	25,935
2023	24,359	24,359	26,562

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN  
SECTION 145.33 (B)(2)(a) LAW ENFORCEMENT  
MEMBER (TRANSITION GROUP A) - NORMAL RETIREMENT  
RETIRING DECEMBER 31, 2013  
UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	<u>    \$38,000    </u>	Final Average Earnings
B.	<u>      28      </u>	Years of Credited Service
C.	<u>      49      </u>	Age of Retiree
D.	<u>      46      </u>	Age of Spouse
E.	<u>     100%     </u>	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)

---

**Computations:**

F.	Formula Benefit: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 =$	\$ 26,144
G.	Reduction for Line E Election: $\# (1 - 0.91705) \times (F) =$	<u>2,169</u>
H.	Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$	23,975
I.	Benefit Payable to Spouse after Retiree's Death	23,975
J.	Benefit Payable to Retiree after Spouse's Death	26,144

---

**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 23,975	\$ 23,975	\$ 26,144
2015	24,694	24,694	26,928
2016	25,414	25,414	27,713
2017	26,133	26,133	28,497
2018	26,852	26,852	29,281
2019	27,571	27,571	30,066
2020	28,291	28,291	30,850
2021	29,010	29,010	31,634
2022	29,729	29,729	32,419
2023	30,448	30,448	33,203

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN  
STATE OR LOCAL MEMBER (TRANSITION GROUP A) – TERMINATION BENEFIT  
RETIRING DECEMBER 31, 2013  
UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	\$32,000	Final Average Earnings
B.	15	Years of Credited Service
C.	45	Age of Member
D.	42	Age of Spouse
E.	60:57	Ages at Which Benefits are Payable
F.	100%	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)
G.	\$44,000	Accumulated Contributions with Interest at Termination Date

---

**Computations:**

H.	Formula Benefit: $(0.022 \times 15 \text{ years} + 0.025 \times 0 \text{ years}) \times \$32,000 =$	\$ 10,560
I.	Adjustment Factor for Early Retirement (from schedule)	85%
J.	Adjusted Benefit: $(H) \times (I) =$	8,976
K.	Reduction for Line E Election: $\# (1 - 0.84967) \times (J) =$	<u>1,349</u>
L.	Benefit Payable to Retiree while Spouse is Alive: $(J) - (K) =$	7,627
M.	Benefit Payable to Spouse after Retiree's Death	7,627
N.	Benefit Payable to Retiree after Spouse's Death	8,976
O.	In lieu of a lifetime benefit, terminatee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible accumulated contributions because terminatee had more than 10 years of service.	73,480

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**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 7,627	\$ 7,627	\$ 8,976
2015	7,856	7,856	9,245
2016	8,085	8,085	9,515
2017	8,313	8,313	9,784
2018	8,542	8,542	10,053
2019	8,771	8,771	10,322
2020	9,000	9,000	10,592
2021	9,229	9,229	10,861
2022	9,457	9,457	11,130
2023	9,686	9,686	11,400

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

**SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN**  
**SECTION 145.33 (B)(2)(a) PUBLIC SAFETY/LAW ENFORCEMENT MEMBER**  
**(TRANSITION GROUP A) – TERMINATION BENEFIT**  
**RETIRING DECEMBER 31, 2013**  
**UNDER BENEFIT PROVISIONS EVALUATED**

---

**Data:**

A.	<u>    \$38,000    </u>	Final Average Earnings
B.	<u>       15       </u>	Years of Credited Service
C.	<u>       37       </u>	Age of Retiree
D.	<u>       34       </u>	Age of Spouse
E.	<u>      52:49     </u>	Ages at Which Benefits are Payable
F.	<u>      100%     </u>	Percentage of Pension to Continue to Spouse after retiree's death (Retiree makes the choice of 100% Joint and Survivor with Pop-Up)
G.	<u>    \$46,000    </u>	Accumulated Contributions at Termination Date

---

**Computations:**

H.	Formula Benefit: $(0.015 \times 15 \text{ years}) \times \$38,000 =$	\$ 8,550
I.	Reduction for Line E Election: $\# (1 - 0.90207) \times (H) =$	<u>837</u>
J.	Benefit Payable to Retiree while Spouse is Alive: $(H) - (I) =$	7,713
K.	Benefit Payable to Spouse after Retiree's Death	7,713
L.	Benefit Payable to Retiree after Spouse's Death	8,550
M.	In lieu of a lifetime benefit, terminnee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible accumulated contributions because terminnee had more than 10 years of service.	76,820

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**Projected Benefits:\***

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2014	\$ 7,713	\$ 7,713	\$ 8,550
2015	7,944	7,944	8,807
2016	8,176	8,176	9,063
2017	8,407	8,407	9,320
2018	8,639	8,639	9,576
2019	8,870	8,870	9,833
2020	9,101	9,101	10,089
2021	9,333	9,333	10,346
2022	9,564	9,564	10,602
2023	9,796	9,796	10,859

\* Assumes the annual percentage change in the Consumer Price Index (CPI) is 3% or greater in all future years.  
# Based on conversion factors for optional forms of payment in effect December 31, 2013.

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**SECTION IV**

RECOMMENDATIONS FOR RESERVE TRANSFERS

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## **DECEMBER 31, 2013 RETIRED LIFE VALUATION RESERVE TRANSFERS**

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Reserve transfers from the Employer Accumulation Fund to the A & PR Fund and/or Survivor Benefit Funds are recommended in the following instances.

- Whenever the December 31 valuation shows unfunded accrued liabilities or assets in excess of computed liabilities in any of the retired life funds.
- To cover the cost of ad-hoc postretirement benefit increases.
- To adjust retired life reserves for any changes in computed liabilities resulting from assumption changes.

By making these annual adjustments in addition to the regular transfers when allowances are added to the rolls, the ratio of assets to liabilities for retired members and beneficiaries will stay at 100%. Year to year changes in this ratio before recommended transfers will normally be isolated to mortality experience within the retired life group.

In 1992, OPERS began making interim benefit payments for certain retirements to shorten the delay between the retirement effective date and receipt of the first monthly check. However, reserve transfers are not made until benefit amounts are final. Transfers for these cases have been accrued based upon supplemental information supplied by OPERS staff and are shown on the following page. The accruals, when added to other assets, are intended to put retired life reserves in the same position they would have been in if reserve transfers for the interim benefit cases had been coincident with benefit commencement.

It is recommended that the transfers shown on the following page be made from the Employer Accumulation Fund to the Annuity & Pension Reserve Fund and Survivor Benefit Funds as indicated. The Accrued Transfers is an estimate of pending future transfers for interim cases, and does not require a year end transfer. Any accrued transfers that have been made prior to OPERS' extract date and hence are not included in the "Accrued Transfers" column on pages IV-2 through IV-5 should be netted off the "Other" column on pages IV-2 through IV-5.



**TRADITIONAL PLAN**  
**RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND**  
**DECEMBER 31, 2013**

	Assets Before Transfers	Transfers		Assets After Transfers	Liabilities	Ratio
		Accrued	Other			
<b>State</b>						
A&PR FUND						
SR	\$ 17,635,423,460	\$ 180,693,527	\$ (101,028,513)	\$ 17,715,088,474	\$ 17,715,088,474	
MP	53,114,321	0	239,080	53,353,401	53,353,401	
AA	236,201	0	11,233	247,434	247,434	
JR	(1,708)	0	1,708	0	0	
CR	85,135,338	264,312	12,020,083	97,419,733	97,419,733	
DR	2,214,006,900	7,661,665	(1,025,058)	2,220,643,507	2,220,643,507	
BD	486,280,976	11,039,245	5,262,652	502,582,873	502,582,873	
<b>TOTAL A&amp;PR</b>	<b>20,474,195,488</b>	<b>199,658,749</b>	<b>(84,518,815)</b>	<b>20,589,335,422</b>	<b>20,589,335,422</b>	<b>100.0%</b>
SBF						
AA	0	0	0	0	0	
S-1	115,596,520	3,769,300	(442,426)	118,923,394	118,923,394	
S-2	489,334,245	3,386,736	(1,446,172)	491,274,809	491,274,809	
<b>TOTAL SBF</b>	<b>604,930,765</b>	<b>7,156,036</b>	<b>(1,888,598)</b>	<b>610,198,203</b>	<b>610,198,203</b>	<b>100.0%</b>
<b>TOTAL STATE</b>	<b>\$ 21,079,126,253</b>	<b>\$ 206,814,785</b>	<b>\$ (86,407,413)</b>	<b>\$ 21,199,533,625</b>	<b>\$ 21,199,533,625</b>	<b>100.0%</b>
<b>Local</b>						
A&PR FUND						
SR	\$ 24,322,412,128	\$ 231,502,535	\$ (193,330,526)	\$ 24,360,584,137	\$ 24,360,584,137	
MP	133,844,502	461,053	3,141,175	137,446,730	137,446,730	
AA	59,382,409	148,687	329,859	59,860,955	59,860,955	
JR	9,580	0	(9,580)	0	0	
CR	109,999,051	0	19,671,726	129,670,777	129,670,777	
DR	2,768,190,839	5,592,223	(9,526,180)	2,764,256,882	2,764,256,882	
BD	603,820,838	16,532,053	5,446,048	625,798,939	625,798,939	
<b>TOTAL A&amp;PR</b>	<b>27,997,659,347</b>	<b>254,236,551</b>	<b>(174,277,478)</b>	<b>28,077,618,420</b>	<b>28,077,618,420</b>	<b>100.0%</b>
SBF						
AA	0	0	0	0	0	
S-1	173,575,784	2,624,809	(1,645,433)	174,555,160	174,555,160	
S-2	813,054,826	7,307,939	(5,227,251)	815,135,514	815,135,514	
<b>TOTAL SBF</b>	<b>986,630,610</b>	<b>9,932,748</b>	<b>(6,872,684)</b>	<b>989,690,674</b>	<b>989,690,674</b>	<b>100.0%</b>
<b>TOTAL LOCAL</b>	<b>\$ 28,984,289,957</b>	<b>\$ 264,169,299</b>	<b>\$ (181,150,162)</b>	<b>\$ 29,067,309,094</b>	<b>\$ 29,067,309,094</b>	<b>100.0%</b>

**TRADITIONAL PLAN  
RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND  
DECEMBER 31, 2013**

	Assets Before Transfers	Transfers		Assets After Transfers	Liabilities	Ratio
		Accrued	Other			
<b>Public Safety</b>						
A&PR FUND						
SR	\$ 8,675,871	\$ 0	\$ (100,653)	8575218	8575218	
MP	42,386	0	(42,386)	0	0	
AA	0	0	0	0	0	
JR	0	0	0	0	0	
CR	0	0	0	0	0	
DR	14,229,793	0	525,959	14,755,752	14,755,752	
BD	2,381,806	0	(229,408)	2,152,398	2,152,398	
TOTAL A&PR	25,329,856	0	153,512	25,483,368	25,483,368	100.0%
SBF						
AA	0	0	0	0	0	
S-1	0	0	0	0	0	
S-2	18,180,892	0	(588,342)	17,592,550	17,592,550	
TOTAL SBF	18,180,892	0	(588,342)	17,592,550	17,592,550	100.0%
<b>TOTAL PUBLIC SAFETY</b>	<b>\$ 43,510,748</b>	<b>\$ 0</b>	<b>\$ (434,830)</b>	<b>\$ 43,075,918</b>	<b>\$ 43,075,918</b>	<b>100.0%</b>
<b>Law Enforcement</b>						
A&PR FUND						
SR	\$ 1,353,295,527	\$ 24,091,070	\$ (2,109,088)	\$ 1,375,277,509	\$ 1,375,277,509	
MP	0	0	0	0	0	
AA	0	0	0	0	0	
JR	0	0	0	0	0	
CR	358,006	0	12,921	370,927	370,927	
DR	560,680,797	1,280,709	5,122,940	567,084,446	567,084,446	
BD	101,837,430	1,738,271	2,192,731	105,768,432	105,768,432	
TOTAL A&PR	2,016,171,760	27,110,050	5,219,504	2,048,501,314	2,048,501,314	100.0%
SBF						
AA	0	0	0	0	0	
S-1	12,218,514	181,961	187,189	12,587,664	12,587,664	
S-2	32,827,074	1,145,462	(575,581)	33,396,955	33,396,955	
TOTAL SBF	45,045,588	1,327,423	(388,392)	45,984,619	45,984,619	100.0%
<b>TOTAL LAW ENFORCEMENT</b>	<b>\$ 2,061,217,348</b>	<b>\$ 28,437,473</b>	<b>\$ 4,831,112</b>	<b>\$ 2,094,485,933</b>	<b>\$ 2,094,485,933</b>	<b>100.0%</b>
<b>GRAND TOTAL</b>	<b>\$ 52,168,144,306</b>	<b>\$ 499,421,557</b>	<b>\$ (263,161,293)</b>	<b>\$ 52,404,404,570</b>	<b>\$ 52,404,404,570</b>	<b>100.0%</b>

**COMBINED PLAN  
RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND  
DECEMBER 31, 2013**

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	Assets Before Transfers	Transfers		Assets After Transfers	Liabilities	Ratio
		Accrued	Other			
<b>State</b>						
A&PR FUND						
CA	\$ 476,819	\$ 0	\$ 5,243	\$ 482,062	\$ 482,062	
CB	906,171	137,459	22,357	1,065,987	1,065,987	
TOTAL A&PR	1,382,990	137,459	27,600	1,548,049	1,548,049	
<b>TOTAL STATE</b>	<b>\$ 1,382,990</b>	<b>\$ 137,459</b>	<b>\$ 27,600</b>	<b>\$ 1,548,049</b>	<b>\$ 1,548,049</b>	
<b>Local</b>						
A&PR FUND						
CA	\$ 1,824,869	\$ 156,382	\$ 5,052	\$ 1,986,303	\$ 1,986,303	
CB	2,273,651	220,420	271	2,494,342	2,494,342	
TOTAL A&PR	4,098,520	376,801	5,324	4,480,645	4,480,645	100.0%
<b>TOTAL LOCAL</b>	<b>\$ 4,098,520</b>	<b>\$ 376,801</b>	<b>\$ 5,324</b>	<b>\$ 4,480,645</b>	<b>\$ 4,480,645</b>	<b>100.0%</b>
<b>GRAND TOTAL</b>	<b>\$ 5,481,510</b>	<b>\$ 514,260</b>	<b>\$ 32,924</b>	<b>\$ 6,028,694</b>	<b>\$ 6,028,694</b>	<b>100.0%</b>

**MEMBER DIRECTED PLAN**  
**RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND**  
**DECEMBER 31, 2013**

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	Assets Before Transfers	Transfers		Assets After Transfers	Liabilities	Ratio
		Accrued	Other			
<b>State</b>						
A&PR FUND						
MD	\$ 2,016,368	\$ 121,690	\$ (28,849)	\$ 2,109,209	\$ 2,109,209	
TOTAL A&PR	2,016,368	121,690	(28,849)	2,109,209	2,109,209	
<b>TOTAL STATE</b>	<b>\$ 2,016,368</b>	<b>\$ 121,690</b>	<b>\$ (28,849)</b>	<b>\$ 2,109,209</b>	<b>\$ 2,109,209</b>	
<b>Local</b>						
A&PR FUND						
MD	\$ 4,400,212	\$ 382,310	\$ (7,500)	\$ 4,775,022	\$ 4,775,022	
TOTAL A&PR	4,400,212	382,310	(7,500)	4,775,022	4,775,022	100.0%
<b>TOTAL LOCAL</b>	<b>\$ 4,400,212</b>	<b>\$ 382,310</b>	<b>\$ (7,500)</b>	<b>\$ 4,775,022</b>	<b>\$ 4,775,022</b>	<b>100.0%</b>
<b>GRAND TOTAL</b>	<b>\$ 6,416,580</b>	<b>\$ 504,000</b>	<b>\$ (36,349)</b>	<b>\$ 6,884,231</b>	<b>\$ 6,884,231</b>	<b>100.0%</b>

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**SECTION V**  
STATE DIVISION

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## STATE DIVISION

Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

### *Defined Benefit Active Members in Valuation December 31, 2013*

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
<b>Traditional Plan</b>					
Men	51,616	\$ 2,153,165,519	\$ 41,715	40.4 yrs.	9.4 yrs.
Women	63,132	2,451,201,581	38,827	40.0	8.9
Traditional Plan Total	114,748	\$ 4,604,367,100	\$ 40,126	40.2 yrs.	9.1 yrs.
<b>Combined Plan</b>					
Men	1,045	\$ 56,913,925	\$ 54,463	41.9 yrs.	6.6 yrs.
Women	1,577	84,318,171	53,467	41.8	6.1
Combined Plan Total	2,622	\$ 141,232,096	\$ 53,864	41.8 yrs.	6.3 yrs.
<b>Grand Total</b>	<b>117,370</b>	<b>\$ 4,745,599,196</b>	<b>\$ 40,433</b>	<b>40.2 yrs.</b>	<b>9.1 yrs.</b>

Also included in the valuation were 201,686 inactive members and 4,463 members active in the money purchase plan.

### *Retired Members in Valuation December 31, 2013*

Fund/Type of Allowance	Number	Current Monthly Benefits	Actuarial Liabilities
<b>Traditional Plan</b>			
A & PR Fund			
Superannuation Retirement	55,429	\$ 135,473,073	\$ 17,812,755,641
Disability Retirement	8,763	20,567,430	2,723,226,380
Money Purchase	815	435,574	53,353,401
Total A & PR Fund	65,007	156,476,077	20,589,335,422
Total SBF	4,673	5,320,574	610,198,203
Traditional Plan Total	69,680	\$ 161,796,651	\$ 21,199,533,625
<b>Combined Plan</b>			
A & PR Fund			
CMDB	28	\$ 7,343	\$ 1,065,987
CMDC	12	3,439	482,062
Total A & PR Fund	40	10,782	1,548,049
Combined Plan Total	40	\$ 10,782	\$ 1,548,049
<b>Member Directed Plan</b>			
A & PR Fund	34	13,693	2,109,209
Member Directed Plan Total	34	\$ 13,693	\$ 2,109,209
<b>Grand Total</b>	<b>69,754</b>	<b>\$ 161,821,126</b>	<b>\$ 21,203,190,883</b>

**STATE DIVISION  
EMPLOYER CONTRIBUTIONS TO SUPPORT  
DEFINED BENEFIT RETIREMENT ALLOWANCES  
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

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Valuation Date December 31	2013			2012
Contributions for	2016			2015
Normal Cost	<u>Traditional Plan</u>	<u>Combined Plan</u>	<u>Traditional and Combined Plans</u>	<u>Traditional and Combined Plans</u>
Age and Service Allowances	7.17 %	4.34 %	7.07 %	7.07 %
Disability Allowances	2.05 %	1.88 %	2.04 %	2.05 %
Survivor's Benefits	0.40 %	0.35 %	0.40 %	0.40 %
Separation Benefits	3.70 %	0.99 %	3.62 %	3.63 %
Total Normal Cost	13.32 %	7.56 %	13.13 %	13.15 %
(Member Contributions)	10.00 %	0.00 %	9.64 %	9.66 %
Employer Normal Cost	3.32 %	7.56 %	3.49 %	3.49 %
<b>Unfunded Actuarial Accrued Liabilities</b>				
Total Available Contribution	6.68 %	2.44 %	6.51 %	7.51 %
Amortization Years	33	0	33	51
<b>Total Pension Employer Contribution Rate</b>	<b>10.00 %</b>	<b>10.00 %</b>	<b>10.00 %</b>	<b>11.00 %</b>

The term “Amortization Years” refers to the period sufficient to produce the Total Employer Contribution Rate for retirement allowances and survivor benefits and incorporates all scheduled employer and member contribution rate increases and scheduled employer rate reallocations between the pension and retiree health programs.

**STATE DIVISION  
COMPARATIVE STATEMENT**

Valuation Date December 31	Contribution Rate Effective January 1	Defined Benefit Active Members in Valuation				Computed Employer Contributions as % of Payroll				
		No.	Annual Payroll			Normal Cost	Unfunded Accrued Liability	Pension Total	Retiree Health	Grand Total
			Total	Average	Increase					
1999#	2002	112,761	(\$Millions) \$ 3,592	\$ 31,851	2.2 %	7.68 %	0.63 %	8.31 %	5.00 %	13.31 %
2000	2003	113,099	3,868	34,201	7.4 %	7.69 %	0.62 %	8.31 %	5.00 %	13.31 %
2001@	2004	109,219	3,996	36,589	7.0 %	6.17 %	3.14 %	9.31 %	4.00 %	13.31 %
2002	2005	110,017	4,129	37,531	2.6 %	5.95 %	3.36 %	9.31 %	4.00 %	13.31 %
2003##	2006	108,249	4,079	37,679	0.4 %	5.70 %	3.34 %	9.04 %	4.50 %	13.54 %
2004	2007	110,207	4,165	37,794	0.3 %	5.67 %	2.60 %	8.27 %	5.50 %	13.77 %
2005@	2008	114,620	4,339	37,858	0.2 %	5.43 %	1.57 %	7.00 %	7.00 %	14.00 %
2006	2009	115,930	4,522	39,005	3.0 %	4.97 %	2.03 %	7.00 %	7.00 %	14.00 %
2007	2010	118,466	4,703	39,695	1.8 %	5.44 %	1.56 %	7.00 %	7.00 %	14.00 %
2008	2011	114,925	4,780	41,590	4.8 %	5.44 %	4.56 %	10.00 %	4.00 %	14.00 %
2009	2012	117,008	4,763	40,704	(2.1)%	5.45 %	4.55 %	10.00 %	4.00 %	14.00 %
2010@	2013	118,240	4,811	40,691	0.0 %	5.36 %	7.64 %	13.00 %	1.00 %	14.00 %
2011	2014	118,273	4,844	40,952	0.6 %	5.37 %	8.63 %	14.00 %	0.00 %	14.00 %
2012#	2015	117,430	4,690	39,938	(2.5)%	3.49 %	7.51 %	11.00 %	3.00 %	14.00 %
2013	2016	117,370	4,746	40,433	1.2 %	3.49 %	6.51 %	10.00 %	4.00 %	14.00 %

# After benefit changes.

@ Revised actuarial assumptions.

## Combined Plan members are included beginning with the December 31, 2003 valuation.



**STATE DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**DECEMBER 31, 2013**

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Actuarial Present Value	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 20,592,992,680	\$ -	\$ 20,592,992,680
Allowances currently being paid from the Survivors Benefit Fund	610,198,203	-	610,198,203
Age and service allowances based on service rendered before and likely to be rendered after valuation date	13,691,612,760	2,667,126,203	11,024,486,557
Disability allowances likely to be paid present active members who become permanently disabled	1,724,013,554	772,251,348	951,762,206
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	444,656,768	150,574,550	294,082,218
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	2,283,900,738	1,429,001,181	854,899,557
<b>Total</b>	<b>\$ 39,347,374,703</b>	<b>\$ 5,018,953,282</b>	<b>\$ 34,328,421,421</b>
Actuarial Value of Assets			27,775,606,480
Unfunded Actuarial Accrued Liability			<b>\$ 6,552,814,941</b>

**STATE DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**COMPARATIVE STATEMENT**  
**(\$ IN MILLIONS EXCEPT AVERAGES)**

Dec. 31	Defined Benefit Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed Total	Valuation Assets	Unfunded	Amortization Years	
	Total	Average					
1999#	3,592	\$31,851	\$ 10,298	\$ 10,474	\$ (176)	-	-
2000	3,868	34,201	11,273	11,558	(285)	-	-
2001@	3,996	36,589	11,352	11,863	(511)	-	-
2002	4,129	37,531	11,822	8,965	2,857	38	0.69
2003##	4,079	37,679	12,230	9,030	3,200	43	0.78
2004	4,165	37,794	12,441	9,664	2,777	34	0.67
2005@	4,339	37,858	13,326	10,296	3,030	39	0.70
2006	4,522	39,005	14,006	12,131	1,875	35	0.41
2007	4,703	39,695	14,526	13,442	1,084	20	0.23
2008	4,780	41,590	14,872	7,488	7,384	N/A	1.54
2009	4,763	40,704	14,843	6,648	8,195	N/A	1.71
2010@	4,811	40,691	14,903	7,113	7,790	48	1.62
2011	4,844	40,952	14,754	6,616	8,138	37	1.68
2012#	4,690	39,938	13,135	5,270	7,865	37	1.68
2013	4,746	40,433	13,125	6,572	6,553	32	1.38

# After benefit changes.

@ Revised actuarial assumptions.

## Combined Plan members are included beginning with the December 31, 2003 valuation.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll (“UNFUNDED/PAYROLL” above) is significant. Unfunded actuarial accrued liabilities represent plan debt, while active member payroll represents the plan’s capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength, and vice-versa.

**STATE DIVISION**  
**MALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION**  
**DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	846							846
Tot. Pay	\$5,331,660							\$5,331,660
Avg. Pay	\$6,302							\$6,302
20-24	8,918	30						8,948
Tot. Pay	\$88,119,617	\$534,448						\$88,654,065
Avg. Pay	\$9,881	\$17,815						\$9,908
25-29	4,958	737	24					5,719
Tot. Pay	\$124,785,940	\$30,370,403	\$958,332					\$156,114,675
Avg. Pay	\$25,169	\$41,208	\$39,931					\$27,298
30-34	2,825	1,675	522	12				5,034
Tot. Pay	\$90,675,620	\$80,994,329	\$26,561,365	\$615,811				\$198,847,125
Avg. Pay	\$32,098	\$48,355	\$50,884	\$51,318				\$39,501
35-39	1,803	1,173	1,132	394	8			4,510
Tot. Pay	\$64,973,897	\$60,140,461	\$63,931,152	\$22,274,622	\$583,545			\$211,903,677
Avg. Pay	\$36,037	\$51,271	\$56,476	\$56,535	\$72,943			\$46,985
40-44	1,435	1,033	1,082	1,320	438	10		5,318
Tot. Pay	\$53,272,042	\$55,460,186	\$62,685,804	\$79,656,455	\$28,392,706	\$565,527		\$280,032,720
Avg. Pay	\$37,123	\$53,688	\$57,935	\$60,346	\$64,824	\$56,553		\$52,658
45-49	1,264	838	871	1,052	1,348	609	12	5,994
Tot. Pay	\$47,986,920	\$43,926,379	\$49,645,802	\$64,011,153	\$90,948,872	\$40,789,438	\$848,742	\$338,157,306
Avg. Pay	\$37,964	\$52,418	\$56,999	\$60,847	\$67,469	\$66,978	\$70,729	\$56,416
50-54	1,047	784	828	944	1,068	1,572	258	6,501
Tot. Pay	\$38,170,399	\$42,484,777	\$46,643,275	\$56,160,097	\$69,914,556	\$107,236,530	\$17,530,785	\$378,140,419
Avg. Pay	\$36,457	\$54,190	\$56,332	\$59,492	\$65,463	\$68,217	\$67,949	\$58,167
55-59	814	624	721	801	804	930	475	5,169
Tot. Pay	\$29,056,335	\$33,166,724	\$39,932,494	\$48,393,930	\$52,134,018	\$63,417,007	\$34,990,897	\$301,091,405
Avg. Pay	\$35,696	\$53,152	\$55,385	\$60,417	\$64,843	\$68,190	\$73,665	\$58,249
60-64	501	417	457	467	486	491	322	3,141
Tot. Pay	\$16,179,768	\$21,128,003	\$26,158,810	\$28,227,915	\$30,559,666	\$31,958,010	\$25,106,508	\$179,318,680
Avg. Pay	\$32,295	\$50,667	\$57,240	\$60,445	\$62,880	\$65,088	\$77,971	\$57,090
65-69	241	144	141	139	150	127	122	1,064
Tot. Pay	\$5,386,769	\$6,162,835	\$7,606,324	\$8,578,998	\$10,092,407	\$8,969,226	\$10,427,345	\$57,223,904
Avg. Pay	\$22,352	\$42,797	\$53,946	\$61,719	\$67,283	\$70,624	\$85,470	\$53,782
70 & Over	184	63	49	37	29	25	30	417
Tot. Pay	\$3,193,448	\$1,395,612	\$2,488,053	\$1,690,712	\$2,257,046	\$1,805,578	\$2,433,359	\$15,263,808
Avg. Pay	\$17,356	\$22,153	\$50,777	\$45,695	\$77,829	\$72,223	\$81,112	\$36,604
<b>Totals</b>	24,836	7,518	5,827	5,166	4,331	3,764	1,219	52,661
<b>Tot. Pay</b>	\$567,132,415	\$375,764,157	\$326,611,411	\$309,609,693	\$284,882,816	\$254,741,316	\$91,337,636	\$2,210,079,444
<b>Avg. Pay</b>	\$22,835	\$49,982	\$56,051	\$59,932	\$65,778	\$67,678	\$74,928	\$41,968

**STATE DIVISION**  
**FEMALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION**  
**DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	1,075							1,075
Tot. Pay	\$5,735,446							\$5,735,446
Avg. Pay	\$5,335							\$5,335
20-24	11,584	39						11,623
Tot. Pay	\$104,253,500	\$790,217						\$105,043,717
Avg. Pay	\$9,000	\$20,262						\$9,038
25-29	5,821	851	13					6,685
Tot. Pay	\$159,964,518	\$36,331,890	\$574,645					\$196,871,053
Avg. Pay	\$27,481	\$42,693	\$44,203					\$29,450
30-34	3,980	2,101	618	18				6,717
Tot. Pay	\$119,477,409	\$98,671,646	\$31,144,410	\$823,057				\$250,116,522
Avg. Pay	\$30,019	\$46,964	\$50,395	\$45,725				\$37,236
35-39	2,219	1,553	1,331	388	17			5,508
Tot. Pay	\$78,771,067	\$77,714,401	\$72,577,510	\$21,381,669	\$942,877			\$251,387,524
Avg. Pay	\$35,498	\$50,041	\$54,529	\$55,107	\$55,463			\$45,640
40-44	1,897	1,330	1,213	1,233	446	22		6,141
Tot. Pay	\$71,811,176	\$67,426,163	\$65,967,035	\$72,850,707	\$27,814,995	\$1,182,536		\$307,052,612
Avg. Pay	\$37,855	\$50,696	\$54,383	\$59,084	\$62,365	\$53,752		\$50,000
45-49	1,588	1,272	1,096	1,105	1,237	689	16	7,003
Tot. Pay	\$61,712,314	\$65,233,753	\$59,304,794	\$61,509,016	\$78,673,032	\$41,990,168	\$945,530	\$369,368,607
Avg. Pay	\$38,862	\$51,284	\$54,110	\$55,664	\$63,600	\$60,944	\$59,096	\$52,744
50-54	1,412	1,273	1,161	1,118	1,196	1,503	302	7,965
Tot. Pay	\$54,391,310	\$62,482,999	\$60,359,373	\$60,528,968	\$71,560,454	\$97,826,090	\$20,050,240	\$427,199,434
Avg. Pay	\$38,521	\$49,083	\$51,989	\$54,140	\$59,833	\$65,087	\$66,392	\$53,635
55-59	957	1,039	1,041	1,022	1,078	1,003	413	6,553
Tot. Pay	\$34,383,406	\$50,148,981	\$52,247,967	\$54,393,189	\$62,842,862	\$60,916,712	\$27,537,874	\$342,470,991
Avg. Pay	\$35,928	\$48,267	\$50,190	\$53,222	\$58,296	\$60,735	\$66,678	\$52,262
60-64	435	555	678	647	699	602	287	3,903
Tot. Pay	\$15,373,537	\$27,508,596	\$35,378,895	\$34,677,652	\$40,713,203	\$36,071,110	\$19,562,027	\$209,285,020
Avg. Pay	\$35,341	\$49,565	\$52,181	\$53,598	\$58,245	\$59,919	\$68,160	\$53,622
65-69	140	170	202	181	187	186	100	1,166
Tot. Pay	\$3,357,278	\$7,884,173	\$9,392,395	\$8,916,934	\$10,687,439	\$10,274,523	\$6,039,900	\$56,552,642
Avg. Pay	\$23,981	\$46,377	\$46,497	\$49,265	\$57,152	\$55,239	\$60,399	\$48,501
70 & Over	76	49	55	36	47	59	48	370
Tot. Pay	\$1,065,343	\$1,257,475	\$2,187,714	\$1,659,650	\$2,327,837	\$3,029,477	\$2,908,688	\$14,436,184
Avg. Pay	\$14,018	\$25,663	\$39,777	\$46,101	\$49,528	\$51,347	\$60,598	\$39,017
<b>Totals</b>	31,184	10,232	7,408	5,748	4,907	4,064	1,166	64,709
<b>Tot. Pay</b>	\$710,296,304	\$495,450,294	\$389,134,738	\$316,740,842	\$295,562,699	\$251,290,616	\$77,044,259	\$2,535,519,752
<b>Avg. Pay</b>	\$22,778	\$48,422	\$52,529	\$55,105	\$60,233	\$61,833	\$66,076	\$39,183

**STATE DIVISION**  
**INACTIVE MEMBERS IN DEFINED BENEFIT VALUATION**  
**DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

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Attained Ages	Years of Service to Valuation Date							Total Number
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
20-24	18,781							18,781
25-29	36,960	176						37,136
30-34	56,452	646	28					57,126
35-39	26,736	780	189	7				27,712
40-44	18,815	763	316	103	4			20,001
45-49	10,331	869	471	171	67	7		11,916
50-54	8,093	1,009	674	318	152	55	1	10,302
55-59	7,037	971	768	424	176	25	2	9,403
60-64	4,676	559	404	175	62	15	4	5,895
65-69	2,166	173	79	26	11	4	1	2,460
70 & Over	890	47	9	5	1	1	1	954
<b>Totals</b>	<b>190,937</b>	<b>5,993</b>	<b>2,938</b>	<b>1,229</b>	<b>473</b>	<b>107</b>	<b>9</b>	<b>201,686</b>

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**SECTION VI**

LOCAL GOVERNMENT DIVISION

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## LOCAL GOVERNMENT DIVISION

Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

### *Defined Benefit Active Members in Valuation December 31, 2013*

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
<b>Traditional Plan</b>					
Men	93,780	\$ 3,393,940,121	\$ 36,190	44.8 yrs.	10.1 yrs.
Women	109,019	3,550,325,521	32,566	44.4	10.1
Traditional Plan Total	202,799	\$ 6,944,265,642	\$ 34,242	44.6 yrs.	10.1 yrs.
<b>Combined Plan</b>					
Men	1,973	\$ 88,275,849	\$ 44,742	44.8 yrs.	7.1 yrs.
Women	2,644	101,725,758	38,474	43.6	6.7
Combined Plan Total	4,617	\$ 190,001,607	\$ 41,153	44.1 yrs.	6.9 yrs.
<b>Grand Total</b>	<b>207,416</b>	<b>\$ 7,134,267,249</b>	<b>\$ 34,396</b>	<b>44.6 yrs.</b>	<b>10.0 yrs.</b>

Also included in the valuation were 270,186 inactive members and 16,996 members active in the money purchase plan.

### *Retired Members in Valuation December 31, 2013*

Fund/Type of Allowance	Number	Current Monthly Benefits	Actuarial Liabilities
<b>Traditional Plan</b>			
A & PR Fund			
Superannuation Retirement	102,521	\$ 187,676,289	\$ 24,550,115,869
Disability Retirement	12,398	26,170,413	3,390,055,821
Money Purchase	2,549	1,124,785	137,446,730
Total A & PR Fund	117,468	214,971,487	28,077,618,420
Total SBF	9,837	8,815,923	989,690,674
Traditional Plan Total	127,305	\$ 223,787,410	\$ 29,067,309,094
<b>Combined Plan</b>			
A & PR Fund			
CMDB	72	\$ 17,343	\$ 2,494,342
CMDC	52	13,886	1,986,303
Total A & PR Fund	124	31,229	4,480,645
Combined Plan Total	124	\$ 31,229	\$ 4,480,645
<b>Member Directed Plan</b>			
A & PR Fund	97	31,566	4,775,022
Member Directed Plan Total	97	\$ 31,566	\$ 4,775,022
<b>Grand Total</b>	<b>127,526</b>	<b>\$ 223,850,205</b>	<b>\$ 29,076,564,761</b>

**LOCAL GOVERNMENT DIVISION  
EMPLOYER CONTRIBUTIONS TO SUPPORT  
DEFINED BENEFIT RETIREMENT ALLOWANCES  
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

<b>Valuation Date December 31</b>	<b>2013</b>			<b>2012</b>
<b>Contributions for</b>	<b>2016</b>			<b>2015</b>
<b>Normal Cost</b>	<b><u>Traditional Plan</u></b>	<b><u>Combined Plan</u></b>	<b><u>Traditional and Combined Plans</u></b>	<b><u>Traditional and Combined Plans</u></b>
Age and Service Allowances	7.25 %	4.47 %	7.18 %	7.16 %
Disability Allowances	1.62 %	1.45 %	1.62 %	1.62 %
Survivor's Benefits	0.47 %	0.42 %	0.47 %	0.47 %
Separation Benefits	3.64 %	1.08 %	3.57 %	3.58 %
<b>Total Normal Cost</b>	<b>12.98 %</b>	<b>7.42 %</b>	<b>12.84 %</b>	<b>12.83 %</b>
(Member Contributions)	10.00 %	0.00 %	9.68 %	9.70 %
<b>Employer Normal Cost</b>	<b>2.98 %</b>	<b>7.42 %</b>	<b>3.16 %</b>	<b>3.13 %</b>
<b>Unfunded Actuarial Accrued Liabilities</b>				
Total Available Contribution	7.02 %	2.58 %	6.84 %	7.87 %
Amortization Years	21	0	21	18
<b>Total Pension Employer Contribution Rate</b>	<b>10.00 %</b>	<b>10.00 %</b>	<b>10.00 %</b>	<b>11.00 %</b>

The term “Amortization Years” refers to the period sufficient to produce the Total Employer Contribution Rate for retirement allowances and survivor benefits and incorporates all scheduled employer and member contribution rate increases and scheduled employer rate reallocations between the pension and retiree health programs.



**LOCAL GOVERNMENT DIVISION  
COMPARATIVE STATEMENT**

Valuation Date December 31	Contribution Rate Effective January 1	Defined Benefit Active Members in Valuation				Computed Employer Contributions as % of Payroll				
		No.	Annual Payroll			Normal Cost	Unfunded Accrued Liability	Pension Total	Retiree Health	Grand Total
			Total (\$Millions)	Average	Increase					
1999#	2002	240,005	\$ 5,586	\$ 23,276	4.2 %	7.68 %	0.87 %	8.55 %	5.00 %	13.55 %
2000	2003	245,831	5,999	24,401	4.8 %	7.68 %	0.87 %	8.55 %	5.00 %	13.55 %
2001@	2004	243,202	6,451	26,526	8.7 %	6.14 %	3.41 %	9.55 %	4.00 %	13.55 %
2002	2005	247,377	6,721	27,171	2.4 %	5.92 %	3.63 %	9.55 %	4.00 %	13.55 %
2003##	2006	237,082	6,702	28,269	4.0 %	5.66 %	3.54 %	9.20 %	4.50 %	13.70 %
2004	2007	236,907	6,896	29,110	3.0 %	5.57 %	2.78 %	8.35 %	5.50 %	13.85 %
2005@	2008	236,073	7,066	29,933	2.8 %	5.00 %	2.00 %	7.00 %	7.00 %	14.00 %
2006	2009	237,981	7,234	30,399	1.6 %	4.53 %	2.47 %	7.00 %	7.00 %	14.00 %
2007	2010	237,225	7,438	31,354	3.1 %	5.12 %	1.88 %	7.00 %	7.00 %	14.00 %
2008	2011	233,163	7,566	32,451	3.5 %	5.14 %	4.86 %	10.00 %	4.00 %	14.00 %
2009	2012	223,004	7,334	32,889	1.3 %	5.14 %	4.86 %	10.00 %	4.00 %	14.00 %
2010@	2013	215,144	7,196	33,447	1.7 %	5.12 %	7.88 %	13.00 %	1.00 %	14.00 %
2011	2014	209,452	7,115	33,968	1.6 %	5.14 %	8.86 %	14.00 %	0.00 %	14.00 %
2012#	2015	208,188	7,061	33,918	(0.1)%	3.13 %	7.87 %	11.00 %	3.00 %	14.00 %
2013	2016	207,416	7,134	34,396	1.4 %	3.16 %	6.84 %	10.00 %	4.00 %	14.00 %

# After benefit changes.

@ Revised actuarial assumptions.

## Combined Plan members are included beginning with the December 31, 2003 valuation.

**LOCAL GOVERNMENT DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**DECEMBER 31, 2013**

<b>Actuarial Present Value</b>	<b>(1) Total Actuarial Present Value</b>	<b>Allocation by Entry Age</b>	
		<b>(2) Portion Covered By Future Normal Cost Contributions</b>	<b>(3) Actuarial Accrued Liabilities (1)-(2)</b>
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 28,086,874,087	\$ -	\$ 28,086,874,087
Allowances currently being paid from the Survivors Benefit Fund	989,690,674	-	989,690,674
Age and service allowances based on service rendered before and likely to be rendered after valuation date	20,730,806,235	4,097,724,950	16,633,081,285
Disability allowances likely to be paid present active members who become permanently disabled	2,030,063,015	932,890,036	1,097,172,979
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	797,795,567	263,063,937	534,731,630
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	3,477,591,398	2,157,231,865	1,320,359,533
<b>Total</b>	<b>\$ 56,112,820,976</b>	<b>\$ 7,450,910,788</b>	<b>\$ 48,661,910,188</b>
Actuarial Value of Assets			40,515,854,561
Unfunded Actuarial Accrued Liability			<b>\$ 8,146,055,627</b>

**LOCAL GOVERNMENT DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**COMPARATIVE STATEMENT**  
**(\$ IN MILLIONS EXCEPT AVERAGES)**

Dec. 31	Defined Benefit Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed Total	Valuation Assets	Unfunded	Amortization Years	
	Total	Average					
1999#	\$ 5,586	\$23,276	\$ 14,643	\$ 14,498	\$145	2	0.03
2000	5,999	24,401	15,881	16,131	(250)	-	-
2001@	6,451	26,526	15,983	16,651	(668)	-	-
2002	6,721	27,171	16,710	12,682	4,028	25	0.60
2003##	6,702	28,269	17,645	13,148	4,497	27	0.67
2004	6,896	29,110	18,269	14,223	4,046	23	0.59
2005@	7,066	29,933	19,484	14,921	4,563	25	0.65
2006	7,234	30,399	20,147	17,523	2,624	19	0.36
2007	7,438	31,354	20,838	19,656	1,182	9	0.16
2008	7,566	32,451	21,590	11,561	10,029	N/A	1.33
2009	7,334	32,889	21,620	11,599	10,021	N/A	1.37
2010@	7,196	33,447	21,668	13,212	8,456	22	1.18
2011	7,115	33,968	21,631	11,418	10,213	25	1.44
2012#	7,061	33,918	19,583	11,981	7,602	15	1.08
2013	7,134	34,396	19,586	11,440	8,146	20	1.14

# After benefit changes.

@ Revised actuarial assumptions.

## Combined Plan members are included beginning with the December 31, 2003 valuation.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll (“UNFUNDED / PAYROLL” above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan’s capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength, and vice-versa.

**LOCAL GOVERNMENT DIVISION  
MALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION  
DECEMBER 31, 2013  
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	4,529							4,529
Tot. Pay	\$31,293,115							\$31,293,115
Avg. Pay	\$6,909							\$6,909
20-24	7,276	138						7,414
Tot. Pay	\$100,515,779	\$3,176,868						\$103,692,647
Avg. Pay	\$13,815	\$23,021						\$13,986
25-29	5,209	1,399	82					6,690
Tot. Pay	\$125,511,500	\$52,444,311	\$3,207,270					\$181,163,081
Avg. Pay	\$24,095	\$37,487	\$39,113					\$27,080
30-34	3,647	2,482	1,089	82				7,300
Tot. Pay	\$98,804,505	\$104,763,338	\$49,490,495	\$3,824,353				\$256,882,691
Avg. Pay	\$27,092	\$42,209	\$45,446	\$46,638				\$35,189
35-39	2,907	2,111	2,073	819	37			7,947
Tot. Pay	\$79,170,036	\$90,574,912	\$105,677,781	\$42,216,083	\$1,929,632			\$319,568,444
Avg. Pay	\$27,234	\$42,906	\$50,978	\$51,546	\$52,152			\$40,212
40-44	2,773	2,019	2,169	2,044	789	31		9,825
Tot. Pay	\$76,470,536	\$85,733,153	\$109,340,346	\$110,943,826	\$44,376,641	\$1,640,980		\$428,505,482
Avg. Pay	\$27,577	\$42,463	\$50,410	\$54,278	\$56,244	\$52,935		\$43,614
45-49	2,537	1,974	1,997	1,982	1,922	854	22	11,288
Tot. Pay	\$65,498,157	\$78,486,701	\$97,410,804	\$112,238,676	\$111,913,121	\$50,832,426	\$1,464,788	\$517,844,673
Avg. Pay	\$25,817	\$39,760	\$48,779	\$56,629	\$58,227	\$59,523	\$66,581	\$45,876
50-54	2,520	1,896	2,078	1,970	2,022	2,072	480	13,038
Tot. Pay	\$61,106,135	\$73,769,290	\$93,947,868	\$102,976,712	\$115,631,404	\$124,535,491	\$30,603,143	\$602,570,043
Avg. Pay	\$24,248	\$38,908	\$45,211	\$52,272	\$57,187	\$60,104	\$63,757	\$46,216
55-59	2,392	1,727	1,860	1,890	1,795	1,673	802	12,139
Tot. Pay	\$52,368,516	\$61,026,887	\$80,405,126	\$93,615,844	\$96,009,861	\$99,309,223	\$52,845,732	\$535,581,189
Avg. Pay	\$21,893	\$35,337	\$43,229	\$49,532	\$53,487	\$59,360	\$65,892	\$44,121
60-64	1,887	1,283	1,331	1,132	1,187	930	562	8,312
Tot. Pay	\$34,793,824	\$41,702,518	\$52,998,966	\$53,380,295	\$62,092,292	\$55,416,619	\$37,507,042	\$337,891,556
Avg. Pay	\$18,439	\$32,504	\$39,819	\$47,156	\$52,310	\$59,588	\$66,739	\$40,651
65-69	1,431	782	650	420	371	280	211	4,145
Tot. Pay	\$16,032,151	\$19,129,968	\$23,414,125	\$17,346,023	\$17,981,455	\$15,399,152	\$12,597,567	\$121,900,441
Avg. Pay	\$11,203	\$24,463	\$36,022	\$41,300	\$48,468	\$54,997	\$59,704	\$29,409
70 & Over	1,221	764	532	260	165	82	102	3,126
Tot. Pay	\$8,943,262	\$8,402,383	\$9,219,383	\$5,631,811	\$4,720,830	\$3,068,786	\$5,336,153	\$45,322,608
Avg. Pay	\$7,325	\$10,998	\$17,330	\$21,661	\$28,611	\$37,424	\$52,315	\$14,499
<b>Totals</b>	38,329	16,575	13,861	10,599	8,288	5,922	2,179	95,753
<b>Tot. Pay</b>	\$750,507,516	\$619,210,329	\$625,112,164	\$542,173,623	\$454,655,236	\$350,202,677	\$140,354,425	\$3,482,215,970
<b>Avg. Pay</b>	\$19,581	\$37,358	\$45,099	\$51,153	\$54,857	\$59,136	\$64,412	\$36,367

**LOCAL GOVERNMENT DIVISION**  
**FEMALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION**  
**DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19	4,711							4,711
Tot. Pay	\$27,707,489							\$27,707,489
Avg. Pay	\$5,881							\$5,881
20-24	7,059	178						7,237
Tot. Pay	\$87,920,093	\$2,767,830						\$90,687,923
Avg. Pay	\$12,455	\$15,550						\$12,531
25-29	6,148	1,506	93					7,747
Tot. Pay	\$149,869,177	\$47,006,954	\$2,923,582					\$199,799,713
Avg. Pay	\$24,377	\$31,213	\$31,436					\$25,791
30-34	4,975	3,318	1,176	89				9,558
Tot. Pay	\$123,062,826	\$125,668,839	\$46,477,687	\$3,387,170				\$298,596,522
Avg. Pay	\$24,736	\$37,875	\$39,522	\$38,058				\$31,240
35-39	3,671	2,756	2,795	1,003	61			10,286
Tot. Pay	\$92,469,304	\$105,714,725	\$123,416,249	\$44,855,616	\$2,843,774			\$369,299,668
Avg. Pay	\$25,189	\$38,358	\$44,156	\$44,721	\$46,619			\$35,903
40-44	3,680	2,609	2,733	2,531	964	59		12,576
Tot. Pay	\$88,821,839	\$96,028,477	\$119,135,628	\$120,656,910	\$45,346,255	\$2,789,124		\$472,778,233
Avg. Pay	\$24,136	\$36,807	\$43,592	\$47,672	\$47,040	\$47,273		\$37,594
45-49	3,430	2,571	2,550	2,274	2,150	1,021	42	14,038
Tot. Pay	\$77,775,832	\$90,491,021	\$106,081,531	\$106,993,281	\$110,077,253	\$50,628,570	\$1,969,172	\$544,016,660
Avg. Pay	\$22,675	\$35,197	\$41,601	\$47,051	\$51,199	\$49,587	\$46,885	\$38,753
50-54	3,326	2,697	2,792	2,470	2,101	2,036	467	15,889
Tot. Pay	\$70,045,634	\$89,852,160	\$109,939,344	\$106,413,243	\$102,214,712	\$108,892,302	\$24,781,111	\$612,138,506
Avg. Pay	\$21,060	\$33,316	\$39,377	\$43,082	\$48,651	\$53,483	\$53,064	\$38,526
55-59	2,712	2,325	2,738	2,675	2,252	1,602	649	14,953
Tot. Pay	\$53,188,599	\$71,520,583	\$99,147,354	\$109,398,107	\$103,338,484	\$83,314,271	\$35,857,564	\$555,764,962
Avg. Pay	\$19,612	\$30,762	\$36,212	\$40,896	\$45,887	\$52,006	\$55,250	\$37,167
60-64	1,547	1,457	1,723	1,622	1,554	1,070	423	9,396
Tot. Pay	\$28,368,002	\$44,297,318	\$61,102,643	\$64,890,214	\$67,653,898	\$52,480,794	\$23,534,172	\$342,327,041
Avg. Pay	\$18,337	\$30,403	\$35,463	\$40,006	\$43,535	\$49,047	\$55,636	\$36,433
65-69	744	554	620	545	502	351	177	3,493
Tot. Pay	\$8,113,829	\$12,695,330	\$19,879,883	\$19,443,128	\$20,670,601	\$16,185,085	\$8,999,122	\$105,986,978
Avg. Pay	\$10,906	\$22,916	\$32,064	\$35,675	\$41,176	\$46,111	\$50,842	\$30,343
70 & Over	546	306	276	232	171	127	121	1,779
Tot. Pay	\$3,583,915	\$3,587,323	\$4,671,119	\$5,771,604	\$5,037,612	\$5,127,539	\$5,168,472	\$32,947,584
Avg. Pay	\$6,564	\$11,723	\$16,924	\$24,878	\$29,460	\$40,374	\$42,715	\$18,520
<b>Totals</b>	42,549	20,277	17,496	13,441	9,755	6,266	1,879	111,663
<b>Tot. Pay</b>	\$810,926,539	\$689,630,560	\$692,775,020	\$581,809,273	\$457,182,589	\$319,417,685	\$100,309,613	\$3,652,051,279
<b>Avg. Pay</b>	\$19,059	\$34,010	\$39,596	\$43,286	\$46,866	\$50,976	\$53,385	\$32,706

**LOCAL GOVERNMENT DIVISION  
INACTIVE MEMBERS IN DEFINED BENEFIT VALUATION  
DECEMBER 31, 2013  
BY ATTAINED AGE AND YEARS OF SERVICE**

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Attained Ages	Years of Service to Valuation Date							Total Number
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
20-24	28,453							28,453
25-29	37,612	379						37,991
30-34	43,631	976	86					44,693
35-39	33,117	1,311	384	29				34,841
40-44	26,803	1,600	651	190	20			29,264
45-49	19,514	1,663	935	347	122	13		22,594
50-54	18,838	1,973	1,258	551	196	75	2	22,893
55-59	18,536	2,164	1,639	790	324	40	7	23,500
60-64	12,706	1,422	816	343	115	13	9	15,424
65-69	6,744	474	209	68	24	7	3	7,529
70 & Over	2,818	119	47	14	2	3	1	3,004
<b>Totals</b>	<b>248,772</b>	<b>12,081</b>	<b>6,025</b>	<b>2,332</b>	<b>803</b>	<b>151</b>	<b>22</b>	<b>270,186</b>

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**SECTION VII**  
PUBLIC SAFETY DIVISION

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## PUBLIC SAFETY DIVISION

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Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

### *Active Members in Valuation December 31, 2013*

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	73	\$ 3,218,333	\$ 44,087	38.0 yrs.	9.1 yrs.
Women	12	465,377	38,781	37.4	6.6
<b>Totals</b>	<b>85</b>	<b>\$ 3,683,710</b>	<b>\$ 43,338</b>	<b>37.9 yrs.</b>	<b>8.7 yrs.</b>

Also included in the valuation were 38 inactive members and 2 members active in the money purchase plan.

### *Retired Members in Valuation December 31, 2013*

Fund/Type of Allowance	Number	Current Monthly Benefits	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	32	\$ 55,231	\$ 8,575,218
Disability Retirement	39	116,622	16,908,150
Money Purchase	0	0	0
Total A & PR Fund	71	\$ 171,853	\$ 25,483,368
Total SBF	100	128,405	17,592,550
<b>Grand Total</b>	<b>171</b>	<b>\$ 300,258</b>	<b>\$ 43,075,918</b>



**PUBLIC SAFETY DIVISION  
EMPLOYER CONTRIBUTIONS TO SUPPORT  
RETIREMENT ALLOWANCES  
EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

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<b>Valuation Date December 31</b>	<b>2013</b>	<b>2012</b>
<b>Contributions for</b>	<b>2016</b>	<b>2015</b>
<b>Normal Cost</b>		
Age and Service Allowances	7.32 %	7.15 %
Disability Allowances	3.57 %	3.48 %
Survivor's Benefits	0.53 %	0.54 %
Separation Benefits	4.69 %	4.79 %
Total Normal Cost	16.11 %	15.96 %
(Member Contributions)	12.00 %	12.00 %
Employer Normal Cost	4.11 %	3.96 %
<b>Unfunded Actuarial Accrued Liabilities</b>		
Total Available Contribution	9.99 %	11.14 %
Amortization Years	20	N/A
<b>Total Pension Employer Contribution Rate</b>	<b>14.10 %</b>	<b>15.10 %</b>

*N/A The unfunded actuarial accrued liabilities are unable to be amortized based upon the total pension contribution rate.*

The term "Amortization Years" refers to the period sufficient to produce the Total Employer Contribution Rate for retirement allowances and survivor benefits and incorporates all scheduled employer and member contribution rate increases and scheduled employer rate reallocations between the pension and retiree health programs.

**PUBLIC SAFETY DIVISION  
COMPARATIVE STATEMENT \***

Valuation Date December 31	Contribution Rate Effective January 1	Active Members in Valuation				Computed Employer Contributions as % of Payroll				
		No.	Annual Payroll			Normal Cost	Unfunded Accrued Liability	Pension Total	Retiree Health	Grand Total
			Total	Average	Increase					
			(\$Thousands)							
2005@	2008	135	\$ 6,078	\$ 45,023	6.7 %	9.01 %	1.39 %	10.40 %	7.00 %	17.40 %
2006	2009	127	5,851	46,067	2.3 %	8.73 %	1.90 %	10.63 %	7.00 %	17.63 %
2007	2010	120	5,638	46,985	2.0 %	8.95 %	1.92 %	10.87 %	7.00 %	17.87 %
2008	2011	127	6,219	48,969	4.2 %	8.32 %	5.78 %	14.10 %	4.00 %	18.10 %
2009	2012	94	4,061	43,205	(11.8)%	7.77 %	6.33 %	14.10 %	4.00 %	18.10 %
2010@	2013	88	3,650	41,480	(4.0)%	6.22 %	10.88 %	17.10 %	1.00 %	18.10 %
2011	2014	84	3,629	43,202	4.2 %	6.12 %	11.98 %	18.10 %	0.00 %	18.10 %
2012#	2015	87	3,751	43,119	(0.2)%	3.96 %	11.14 %	15.10 %	3.00 %	18.10 %
2013	2016	85	3,684	43,338	0.5 %	4.11 %	9.99 %	14.10 %	4.00 %	18.10 %

# After benefit changes.

\* Prior to 2005, Public Safety and Law Enforcement results were reported together. Historical information prior to 2005 may be found on page VIII-3.

@ Revised actuarial assumptions.

**PUBLIC SAFETY DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**DECEMBER 31, 2013**

Actuarial Present Value	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 25,483,368	\$ -	\$ 25,483,368
Allowances currently being paid from the Survivors Benefit Fund	17,592,550	-	17,592,550
Age and service allowances based on service rendered before and likely to be rendered after valuation date	7,482,924	2,422,334	5,060,590
Disability allowances likely to be paid present active members who become permanently disabled	2,298,206	1,174,789	1,123,417
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	376,914	171,164	205,750
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	2,221,182	1,617,105	604,077
<b>Total</b>	<b>\$ 55,455,144</b>	<b>\$ 5,385,392</b>	<b>\$ 50,069,752</b>
Actuarial Value of Assets			44,560,262
Unfunded Actuarial Accrued Liability			<b>\$ 5,509,490</b>

**PUBLIC SAFETY DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**COMPARATIVE STATEMENT \***  
**(\$ IN MILLIONS EXCEPT AVERAGES)**

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Dec. 31	Defined Benefit Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed	Valuation	Unfunded	Amortization	
	Total	Average	Total	Assets		Years	
2005@	\$6	\$45,023	\$16	\$(44)	\$60	N/A	10.00
2006	6	46,067	16	(64)	80	N/A	13.33
2007	6	46,985	18	(82)	100	N/A	16.67
2008	6	48,969	18	9	9	79	1.50
2009	4	43,205	12	0	12	N/A	3.00
2010@	4	41,480	7	(7)	14	N/A	3.50
2011	4	43,202	8	(1)	9	45	2.25
2012#	4	43,119	7	(14)	21	N/A	5.25
2013	4	43,338	7	1	6	19	1.50

# After benefit changes.

N/A The unfunded actuarial accrued liabilities are unable to be amortized based upon the total pension contribution rate.

\* Prior to 2005, Public Safety and Law Enforcement results were reported together. Historical information prior to 2005 may be found on page VIII-5.

@ Revised actuarial assumptions.

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While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll (“UNFUNDED/PAYROLL” above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan’s capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength, and vice-versa.

**PUBLIC SAFETY DIVISION**  
**MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
Tot. Pay								
Avg. Pay								
20-24	1							1
Tot. Pay	\$47,492							\$47,492
Avg. Pay	\$47,492							\$47,492
25-29	14	3						17
Tot. Pay	\$673,920	\$118,754						\$792,674
Avg. Pay	\$48,137	\$39,585						\$46,628
30-34	5	5	2					12
Tot. Pay	\$188,630	\$203,305	\$100,963					\$492,898
Avg. Pay	\$37,726	\$40,661	\$50,482					\$41,075
35-39	1	6	4	2				13
Tot. Pay	\$52,124	\$258,656	\$212,881	\$91,240				\$614,901
Avg. Pay	\$52,124	\$43,109	\$53,220	\$45,620				\$47,300
40-44	2	4	4	4				14
Tot. Pay	\$65,589	\$157,518	\$156,942	\$185,151				\$565,200
Avg. Pay	\$32,795	\$39,380	\$39,236	\$46,288				\$40,371
45-49			2			2		4
Tot. Pay			\$103,742			\$55,889		\$159,631
Avg. Pay			\$51,871			\$27,945		\$39,908
50-54	1	1	1	1		3		7
Tot. Pay	\$27,354	\$62,019	\$44,709	\$61,051		\$105,743		\$300,876
Avg. Pay	\$27,354	\$62,019	\$44,709	\$61,051		\$35,248		\$42,982
55-59				2			1	3
Tot. Pay				\$94,862			\$46,880	\$141,742
Avg. Pay				\$47,431			\$46,880	\$47,247
60-64		1						1
Tot. Pay		\$69,375						\$69,375
Avg. Pay		\$69,375						\$69,375
65-69		1						1
Tot. Pay		\$33,544						\$33,544
Avg. Pay		\$33,544						\$33,544
70 & Over								
Tot. Pay								
Avg. Pay								
<b>Totals</b>	24	21	13	9	5	1		73
<b>Tot. Pay</b>	\$1,055,109	\$903,171	\$619,237	\$432,304	\$161,632	\$46,880		\$3,218,333
<b>Avg. Pay</b>	\$43,963	\$43,008	\$47,634	\$48,034	\$32,326	\$46,880		\$44,087

**PUBLIC SAFETY DIVISION**  
**FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
Tot. Pay								
Avg. Pay								
20-24	2							2
Tot. Pay	\$54,723							\$54,723
Avg. Pay	\$27,362							\$27,362
25-29	3							3
Tot. Pay	\$120,351							\$120,351
Avg. Pay	\$40,117							\$40,117
30-34	1	1						2
Tot. Pay	\$50,148	\$29,480						\$79,628
Avg. Pay	\$50,148	\$29,480						\$39,814
35-39								
Tot. Pay								
Avg. Pay								
40-44								
Tot. Pay								
Avg. Pay								
45-49					1			1
Tot. Pay					\$81,241			\$81,241
Avg. Pay					\$81,241			\$81,241
50-54	1	1				1		3
Tot. Pay	\$31,681	\$31,206				\$33,858		\$96,745
Avg. Pay	\$31,681	\$31,206				\$33,858		\$32,248
55-59		1						1
Tot. Pay		\$32,689						\$32,689
Avg. Pay		\$32,689						\$32,689
60-64								
Tot. Pay								
Avg. Pay								
65-69								
Tot. Pay								
Avg. Pay								
70 & Over								
Tot. Pay								
Avg. Pay								
<b>Totals</b>	7	3			1	1		12
<b>Tot. Pay</b>	\$256,903	\$93,375			\$81,241	\$33,858		\$465,377
<b>Avg. Pay</b>	\$36,700	\$31,125			\$81,241	\$33,858		\$38,781

**PUBLIC SAFETY DIVISION**  
**INACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

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Attained Ages	Years of Service to Valuation Date							Total Number
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
20-24								
25-29	13							13
30-34	10							10
35-39	5	3						8
40-44	5							5
45-49	1							1
50-54				1				1
55-59								
60-64								
65-69								
70 & Over								
<b>Totals</b>	<b>34</b>	<b>3</b>		<b>1</b>				<b>38</b>

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**SECTION VIII**

LAW ENFORCEMENT DIVISION

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## LAW ENFORCEMENT DIVISION

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Data on active, inactive, retired and money purchase members that was used in the valuation is tabulated briefly below.

### *Active Members in Valuation December 31, 2013*

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	6,656	\$ 397,594,994	\$ 59,735	41.3 yrs.	14.3 yrs.
Women	893	50,016,905	56,010	41.7	13.9
<b>Totals</b>	<b>7,549</b>	<b>\$ 447,611,899</b>	<b>\$ 59,294</b>	<b>41.4 yrs.</b>	<b>14.2 yrs.</b>

Also included in the valuation were 911 inactive members and 58 members active in the money purchase plan.

### *Retired Members in Valuation December 31, 2013*

Fund/Type of Allowance	Number	Current Monthly Benefits	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	2,757	\$ 9,132,075	\$ 1,375,648,436
Disability Retirement	1,600	4,878,960	672,852,878
Money Purchase	0	0	0
Total A & PR Fund	4,357	\$ 14,011,035	\$ 2,048,501,314
Total SBF	328	367,850	45,984,619
<b>Grand Total</b>	<b>4,685</b>	<b>\$ 14,378,885</b>	<b>\$ 2,094,485,933</b>

**LAW ENFORCEMENT DIVISION  
 EMPLOYER CONTRIBUTIONS TO SUPPORT  
 RETIREMENT ALLOWANCES  
 EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL**

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<b>Valuation Date December 31</b>	<b>2013</b>	<b>2012</b>
<b>Contributions for</b>	<b>2016</b>	<b>2015</b>
<b>Normal Cost</b>		
Age and Service Allowances	11.42 %	11.39 %
Disability Allowances	4.03 %	4.03 %
Survivor's Benefits	0.54 %	0.55 %
Separation Benefits	2.45 %	2.46 %
Total Normal Cost	18.44 %	18.43 %
(Member Contributions)	13.00 %	13.00 %
Employer Normal Cost	5.44 %	5.43 %
<b>Unfunded Actuarial Accrued Liabilities</b>		
Total Available Contribution	8.66 %	9.67 %
Amortization Years	16	16
<b>Total Pension Employer Contribution Rate</b>	<b>14.10 %</b>	<b>15.10 %</b>

The term “Amortization Years” refers to the period sufficient to produce the Total Employer Contribution Rate for retirement allowances and survivor benefits and incorporates all scheduled employer and member contribution rate increases and scheduled employer rate reallocations between the pension and retiree health programs.

**LAW ENFORCEMENT DIVISION  
COMPARATIVE STATEMENT \***

Valuation Date December 31	Contribution Rate Effective January 1	Active Members in Valuation				Computed Employer Contributions as % of Payroll				
		No.	Annual Payroll			Normal Cost	Unfunded Accrued Liability	Pension Total	Retiree Health	Grand Total
			Total	Average	Increase					
			(\$Thousands)							
1999#	2002	7,766	\$ 299,040	\$ 38,506	4.3 %	11.54 %	0.16 %	11.70 %	5.00 %	16.70 %
2000	2003	8,045	324,918	40,387	4.9 %	11.59 %	0.11 %	11.70 %	5.00 %	16.70 %
2001@	2004	7,892	335,432	42,503	5.2 %	8.88 %	3.82 %	12.70 %	4.00 %	16.70 %
2002	2005	8,030	356,694	44,420	4.5 %	8.77 %	3.93 %	12.70 %	4.00 %	16.70 %
2003	2006	8,253	384,388	46,576	4.9 %	8.65 %	3.78 %	12.43 %	4.50 %	16.93 %
2004	2007	8,173	392,672	48,045	3.2 %	8.63 %	3.04 %	11.67 %	5.50 %	17.17 %
2005@	2008	7,976	395,189	49,547	3.0 %	9.65 %	0.75 %	10.40 %	7.00 %	17.40 %
2006	2009	8,092	413,182	51,061	3.1 %	9.65 %	0.98 %	10.63 %	7.00 %	17.63 %
2007	2010	8,265	437,223	52,901	3.6 %	9.95 %	0.92 %	10.87 %	7.00 %	17.87 %
2008	2011	8,173	448,694	54,900	3.8 %	8.43 %	5.67 %	14.10 %	4.00 %	18.10 %
2009	2012	8,006	447,232	55,862	1.8 %	8.16 %	5.94 %	14.10 %	4.00 %	18.10 %
2010@	2013	7,702	438,830	56,976	2.0 %	7.56 %	9.54 %	17.10 %	1.00 %	18.10 %
2011	2014	7,545	437,605	57,999	1.8 %	7.18 %	10.92 %	18.10 %	0.00 %	18.10 %
2012#	2015	7,470	438,500	58,702	1.2 %	5.43 %	9.67 %	15.10 %	3.00 %	18.10 %
2013	2016	7,549	447,612	59,294	1.0 %	5.44 %	8.66 %	14.10 %	4.00 %	18.10 %

# After benefit changes.

@ Revised actuarial assumptions.

\* Prior to 2005, Law Enforcement and Public Safety are combined for purposes of this schedule.

**LAW ENFORCEMENT DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**DECEMBER 31, 2013**

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Actuarial Present Value	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 2,048,501,314	\$ -	\$ 2,048,501,314
Allowances currently being paid from the Survivors Benefit Fund	45,984,619	-	45,984,619
Age and service allowances based on service rendered before and likely to be rendered after valuation date	1,741,917,851	459,835,656	1,282,082,195
Disability allowances likely to be paid present active members who become permanently disabled	334,707,178	161,205,928	173,501,250
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	53,470,220	21,759,568	31,710,652
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	121,747,791	99,344,102	22,403,689
Total	\$ 4,346,328,973	\$ 742,145,254	\$ 3,604,183,719
Actuarial Value of Assets			3,075,220,756
Unfunded Actuarial Accrued Liability			\$ 528,962,963

**LAW ENFORCEMENT DIVISION**  
**DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES**  
**COMPARATIVE STATEMENT \***  
**(\$ IN MILLIONS EXCEPT AVERAGES)**

Dec. 31	Defined Benefit Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed Total	Valuation Assets	Unfunded	Amortization Years	
	Total	Average					
1999#	\$299	\$38,506	\$ 1,080	\$ 1,038	\$ 42	20	0.14
2000	325	40,387	1,175	1,137	38	18	0.12
2001@	335	42,503	1,071	1,149	(78)	-	-
2002	357	44,420	1,135	854	281	36	0.79
2003	384	46,576	1,170	838	332	41	0.86
2004	393	48,045	1,197	868	329	43	0.84
2005@	395	49,547	1,298	926	372	N/A	0.94
2006	413	51,061	1,356	1,069	287	N/A	0.69
2007	437	52,901	1,430	1,214	216	N/A	0.49
2008	449	54,900	1,500	771	729	N/A	1.62
2009	447	55,862	1,534	807	727	N/A	1.63
2010@	439	56,976	1,542	966	576	19	1.31
2011	438	57,999	1,546	813	733	23	1.67
2012#	439	58,702	1,480	945	535	14	1.22
2013	448	59,294	1,510	981	529	15	1.18

# After benefit changes.

@ Revised actuarial assumptions.

\* Prior to 2005, Law Enforcement and Public Safety are combined for purposes of this schedule.

While no one or two numeric indices can fully describe the financial condition of a retirement plan, the ratio of unfunded actuarial accrued liabilities divided by active member payroll (“UNFUNDED/PAYROLL” above) is significant. Unfunded accrued liabilities represent plan debt, while active member payroll represents the plan’s capacity to collect contributions to pay toward debt --- thus the ratio is a relative index of condition. The lower the ratio, the greater the financial strength, and vice-versa.

**LAW ENFORCEMENT DIVISION**  
**MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
Tot. Pay								
Avg. Pay								
20-24	124	4						128
Tot. Pay	\$4,325,599	\$202,312						\$4,527,911
Avg. Pay	\$34,884	\$50,578						\$35,374
25-29	393	202	5					600
Tot. Pay	\$16,565,541	\$10,998,698	\$325,411					\$27,889,650
Avg. Pay	\$42,152	\$54,449	\$65,082					\$46,483
30-34	174	415	219	3				811
Tot. Pay	\$7,622,123	\$23,447,508	\$13,614,959	\$150,679				\$44,835,269
Avg. Pay	\$43,805	\$56,500	\$62,169	\$50,226				\$55,284
35-39	108	231	569	288	6			1,202
Tot. Pay	\$4,694,928	\$13,079,738	\$35,367,800	\$18,538,189	\$392,489			\$72,073,144
Avg. Pay	\$43,472	\$56,622	\$62,158	\$64,369	\$65,415			\$59,961
40-44	87	136	380	736	279	4		1,622
Tot. Pay	\$3,614,063	\$7,795,320	\$22,933,676	\$47,693,821	\$18,865,286	\$295,647		\$101,197,813
Avg. Pay	\$41,541	\$57,319	\$60,352	\$64,801	\$67,618	\$73,912		\$62,391
45-49	31	58	142	330	404	162	3	1,130
Tot. Pay	\$1,286,506	\$3,372,997	\$8,357,107	\$21,199,787	\$27,659,199	\$11,574,382	\$214,783	\$73,664,761
Avg. Pay	\$41,500	\$58,155	\$58,853	\$64,242	\$68,463	\$71,447	\$71,594	\$65,190
50-54	17	26	71	110	207	170	24	625
Tot. Pay	\$697,389	\$1,420,565	\$4,211,487	\$6,787,382	\$13,439,476	\$11,367,433	\$1,896,443	\$39,820,175
Avg. Pay	\$41,023	\$54,637	\$59,317	\$61,703	\$64,925	\$66,867	\$79,018	\$63,712
55-59	17	13	28	74	79	88	55	354
Tot. Pay	\$666,810	\$702,268	\$1,688,652	\$4,477,465	\$4,827,868	\$6,042,954	\$4,112,627	\$22,518,644
Avg. Pay	\$39,224	\$54,021	\$60,309	\$60,506	\$61,112	\$68,670	\$74,775	\$63,612
60-64	4	8	15	22	38	27	29	143
Tot. Pay	\$159,764	\$479,698	\$841,295	\$1,226,995	\$2,306,609	\$1,726,945	\$2,034,319	\$8,775,625
Avg. Pay	\$39,941	\$59,962	\$56,086	\$55,773	\$60,700	\$63,961	\$70,149	\$61,368
65-69	4	2	7	3	10	3	3	32
Tot. Pay	\$70,049	\$155,977	\$391,046	\$191,202	\$527,813	\$199,966	\$221,335	\$1,757,388
Avg. Pay	\$17,512	\$77,989	\$55,864	\$63,734	\$52,781	\$66,655	\$73,778	\$54,918
70 & Over		2	4			1	2	9
Tot. Pay		\$90,229	\$206,149			\$62,399	\$175,837	\$534,614
Avg. Pay		\$45,115	\$51,537			\$62,399	\$87,919	\$59,402
<b>Totals</b>	959	1,097	1,440	1,566	1,023	455	116	6,656
<b>Tot. Pay</b>	\$39,702,772	\$61,745,310	\$87,937,582	\$100,265,520	\$68,018,740	\$31,269,726	\$8,655,344	\$397,594,994
<b>Avg. Pay</b>	\$41,400	\$56,286	\$61,068	\$64,027	\$66,489	\$68,725	\$74,615	\$59,735

**LAW ENFORCEMENT DIVISION**  
**FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013**  
**BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service To Valuation Date							Total
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
Tot. Pay								
Avg. Pay								
20-24	15							15
Tot. Pay	\$530,042							\$530,042
Avg. Pay	\$35,336							\$35,336
25-29	54	20	1					75
Tot. Pay	\$2,242,684	\$1,054,628	\$51,326					\$3,348,638
Avg. Pay	\$41,531	\$52,731	\$51,326					\$44,649
30-34	21	60	30	1				112
Tot. Pay	\$1,023,881	\$3,291,750	\$1,654,760	\$50,366				\$6,020,757
Avg. Pay	\$48,756	\$54,863	\$55,159	\$50,366				\$53,757
35-39	15	35	84	31	1			166
Tot. Pay	\$687,501	\$1,924,952	\$4,950,523	\$1,841,589	\$40,395			\$9,444,960
Avg. Pay	\$45,833	\$54,999	\$58,935	\$59,406	\$40,395			\$56,897
40-44	15	22	36	100	26	3		202
Tot. Pay	\$682,718	\$1,233,354	\$2,152,471	\$6,022,190	\$1,780,764	\$153,066		\$12,024,563
Avg. Pay	\$45,515	\$56,062	\$59,791	\$60,222	\$68,491	\$51,022		\$59,528
45-49	2	10	26	46	37	17		138
Tot. Pay	\$174,583	\$525,437	\$1,375,258	\$2,716,268	\$2,349,532	\$1,139,228		\$8,280,306
Avg. Pay	\$87,292	\$52,544	\$52,895	\$59,049	\$63,501	\$67,013		\$60,002
50-54	2	8	14	25	23	21	3	96
Tot. Pay	\$39,896	\$383,538	\$756,339	\$1,396,569	\$1,242,036	\$1,267,726	\$217,587	\$5,303,691
Avg. Pay	\$19,948	\$47,942	\$54,024	\$55,863	\$54,002	\$60,368	\$72,529	\$55,247
55-59	1	4	6	19	17	15	7	69
Tot. Pay	\$31,685	\$186,414	\$291,004	\$1,064,978	\$968,577	\$911,923	\$536,248	\$3,990,829
Avg. Pay	\$31,685	\$46,604	\$48,501	\$56,051	\$56,975	\$60,795	\$76,607	\$57,838
60-64	1	1	3	4	4	2	1	16
Tot. Pay	\$12,505	\$64,157	\$184,708	\$224,620	\$231,706	\$94,759	\$59,925	\$872,380
Avg. Pay	\$12,505	\$64,157	\$61,569	\$56,155	\$57,927	\$47,380	\$59,925	\$54,524
65-69				2	1		1	4
Tot. Pay				\$81,845	\$65,597		\$53,297	\$200,739
Avg. Pay				\$40,923	\$65,597		\$53,297	\$50,185
70 & Over								
Tot. Pay								
Avg. Pay								
<b>Totals</b>	126	160	200	228	109	58	12	893
<b>Tot. Pay</b>	\$5,425,495	\$8,664,230	\$11,416,389	\$13,398,425	\$6,678,607	\$3,566,702	\$867,057	\$50,016,905
<b>Avg. Pay</b>	\$43,059	\$54,151	\$57,082	\$58,765	\$61,272	\$61,495	\$72,255	\$56,010

**LAW ENFORCEMENT DIVISION  
INACTIVE MEMBERS IN VALUATION DECEMBER 31, 2013  
BY ATTAINED AGE AND YEARS OF SERVICE**

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Attained Ages	Years of Service to Valuation Date							Total Number
	0-4	5-9	10-14	15-19	20-24	25-29	30+	
15-19								
20-24	9							9
25-29	65	4						69
30-34	90	28	5					123
35-39	102	29	13	2				146
40-44	119	27	19	11	2			178
45-49	102	18	16	10	7	4		157
50-54	54	13	11	11	4	3		96
55-59	33	8	9	9	6			65
60-64	33	3	2	2	1			41
65-69	13	2						15
70 & Over	11	1						12
<b>Totals</b>	<b>631</b>	<b>133</b>	<b>75</b>	<b>45</b>	<b>20</b>	<b>7</b>		<b>911</b>



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**SECTION IX**

ALLOWANCES BEING PAID TO  
RETIREES AND BENEFICIARIES

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**MONTHLY ALLOWANCES OF RETIRED LIVES  
BY YEAR OF RETIREMENT  
AS OF DECEMBER 31, 2013**

<b>Year of Retirement</b>	<b>No.</b>	<b>Initial</b>	<b>Post-Ret. Increase</b>	<b>Total</b>	<b>Average</b>
2013	11,812	\$23,090,368	\$ 333,831	\$ 23,424,199	\$ 1,983
2012	11,121	22,796,104	780,862	23,576,966	2,120
2011	12,280	27,258,042	1,747,233	29,005,275	2,362
2010	11,089	22,431,178	2,110,937	24,542,115	2,213
2009	10,863	22,622,787	2,766,618	25,389,405	2,337
2008	9,495	17,990,213	2,739,935	20,730,148	2,183
2007	9,047	16,580,357	3,033,414	19,613,771	2,168
2006	9,572	16,729,112	3,544,846	20,273,958	2,118
2005	8,907	15,995,668	3,861,221	19,856,889	2,229
2004	8,391	14,192,444	3,845,844	18,038,288	2,150
2003	7,871	13,505,119	4,051,891	17,557,010	2,231
2002	8,695	14,510,633	4,803,361	19,313,994	2,221
2001	7,142	11,204,201	4,027,560	15,231,761	2,133
2000	6,847	10,042,269	3,863,508	13,905,777	2,031
1999	6,017	8,380,087	3,366,180	11,746,267	1,952
1998	5,889	7,592,153	3,182,515	10,774,668	1,830
1997	5,424	7,154,753	3,185,992	10,340,745	1,906
1992-1996	21,670	24,100,655	12,517,784	36,618,439	1,690
1987-1991	14,992	14,102,486	9,853,427	23,955,913	1,598
1982-1986	9,009	5,679,117	4,889,443	10,568,560	1,173
1977-1981	4,174	1,919,404	2,369,888	4,289,292	1,028
1972-1976	1,368	421,675	758,979	1,180,654	863
1967-1971	298	68,786	190,560	259,346	870
1962-1966	128	28,578	91,486	120,064	938
Before 1962	35	7,638	29,332	36,970	
<b>TOTAL</b>	<b>202,136</b>	<b>\$318,403,827</b>	<b>\$81,946,647</b>	<b>\$400,350,474</b>	<b>\$1,981</b>

**MONTHLY ALLOWANCES OF RETIRED LIVES  
BY YEARS OF SERVICE  
AS OF DECEMBER 31, 2013**

<b>Years of Service</b>	<b>No.</b>	<b>Initial</b>	<b>Post-Ret. Increase</b>	<b>Total</b>	<b>Average</b>
<5 or n/a	7,860	\$ 2,904,195	\$ 425,397	\$ 3,329,592	\$ 424
5	4,300	1,648,371	458,866	2,107,237	490
6	3,433	1,453,272	400,644	1,853,916	540
7	3,275	1,507,220	403,383	1,910,603	583
8	3,075	1,534,986	387,810	1,922,796	625
9	2,321	1,304,209	324,040	1,628,249	702
10	9,550	4,612,410	1,308,348	5,920,758	620
11	5,739	3,309,509	880,633	4,190,142	730
12	5,672	3,476,202	936,856	4,413,058	778
13	5,194	3,606,005	949,956	4,555,961	877
14	4,899	3,526,131	962,336	4,488,467	916
15	5,385	4,172,289	1,160,372	5,332,661	990
16	5,160	4,227,445	1,194,209	5,421,654	1,051
17	4,754	4,344,017	1,230,019	5,574,036	1,172
18	4,711	4,512,819	1,301,099	5,813,918	1,234
19	4,682	4,745,614	1,341,912	6,087,526	1,300
20	5,805	6,401,871	1,776,118	8,177,989	1,409
21	4,986	5,869,711	1,688,658	7,558,369	1,516
22	4,740	6,067,176	1,703,667	7,770,843	1,639
23	4,697	6,365,734	1,767,645	8,133,379	1,732
24	4,387	6,439,716	1,785,767	8,225,483	1,875
25	9,267	14,984,622	4,051,779	19,036,401	2,054
26	5,654	9,835,735	2,831,759	12,667,494	2,240
27	5,717	10,787,837	3,071,350	13,859,187	2,424
28	6,217	13,260,662	3,728,311	16,988,973	2,733
29	6,073	14,025,016	3,579,184	17,604,200	2,899
30	27,418	68,350,577	15,676,323	84,026,900	3,065
31	8,369	21,741,435	5,227,565	26,969,000	3,222
32	6,473	17,410,078	4,308,137	21,718,215	3,355
33	5,006	14,065,593	3,384,259	17,449,852	3,486
34	3,960	11,420,439	2,879,370	14,299,809	3,611
35	3,601	10,557,751	2,714,277	13,272,028	3,686
36	2,552	7,541,157	1,947,953	9,489,110	3,718
37	2,037	6,115,197	1,595,213	7,710,410	3,785
38	1,483	4,424,820	1,189,387	5,614,207	3,786
39	1,170	3,429,408	991,414	4,420,822	3,778
40 & Over	2,514	8,424,598	2,382,631	10,807,229	4,299
<b>TOTAL</b>	<b>202,136</b>	<b>\$318,403,827</b>	<b>\$81,946,647</b>	<b>\$400,350,474</b>	<b>\$1,981</b>

**ANNUITY AND PENSION RESERVE FUND**  
**ANNUAL ALLOWANCE, REPORTED ASSETS AND ACTUARIAL LIABILITIES**  
**COMPARATIVE STATEMENT**  
**(\$ MILLIONS)**

Valuation Date	Annual Allowances			Reported Assets*	Actuarial Liabilities	Ratio of Assets to Liabilities	Ratio of DB Active to Retired
	No.	\$ Millions	% of DB Payroll				
12/31/1984	77,493	\$ 386	9.5 % **	\$ 3,993	\$ 3,993	100.0 %	3.2
12/31/1985	80,999	429	10.0 % **	4,498	4,456	100.9 %	3.1
12/31/1986	84,892	474	10.4 % **	4,965	4,935	100.6 %	3.0
12/31/1987	86,924	518	10.6 % **	5,485	5,437	100.9 %	3.0
12/31/1988	89,972	581	10.9 % **	6,182	6,173	100.1 %	2.9
12/31/1989@	92,504	661	12.4 % **	6,985	6,911	101.1 %	2.9
12/31/1990	94,088	706	11.7 % **	7,438	7,338	101.4 %	3.0
12/31/1991	95,843	762	11.5 % **	8,014	7,904	101.4 %	3.4
12/31/1992	98,609	835	12.1 % **	8,814	8,692	101.4 %	3.4
12/31/1993	100,651	901	12.5 % **	9,390	9,356	100.4 %	3.4
12/31/1994	102,587	958	12.6 % **	9,964	9,893	100.7 %	3.3
12/31/1995	104,806	1,036	13.0 % **	10,808	10,737	100.7 %	3.3
12/31/1996@	107,617	1,141	13.7 % **	11,819	11,762	100.5 %	3.3
12/31/1997	110,470	1,233	14.3 % **	12,843	12,755	100.7 %	3.2
12/13/1998	113,000	1,327	14.7 % **	13,885	13,751	101.0 %	3.1
12/31/1999+	115,431	1,530	16.1 % **	14,978	16,139	92.8 %	3.1
12/31/2000	118,620	1,641	16.1 % **	16,980	16,980	100.0 %	3.1
12/31/2001@	121,875	1,775	16.5 % **	18,001	18,001	100.0 %	3.0
12/31/2002	126,409	1,958	17.5 % **	20,085	20,085	100.0 %	2.9
12/31/2003	130,433	2,136	19.1 % **	22,535	22,535	100.0 %	2.7
12/31/2004	134,535	2,311	20.2 % **	24,470	24,470	100.0 %	2.6
12/31/2005@	138,996	2,508	21.2 % **	27,084	27,084	100.0 %	2.6
12/31/2006	144,037	2,710	22.3 % **	29,304	29,304	100.0 %	2.5
12/31/2007	148,493	2,916	23.2 % **	31,547	31,547	100.0 %	2.5
12/31/2008	153,931	3,148	24.6 % **	34,060	34,060	100.0 %	2.3
12/31/2009	159,518	3,419	27.2 % **	37,098	37,098	100.0 %	2.2
12/31/2010@	166,247	3,705	29.8 % **	40,184	40,818	100.0 %	2.1
12/31/2011	174,679	4,065	32.8 % **	45,001	45,001	100.0 %	1.9
12/31/2012	180,759	4,352	35.7 % **	48,044	48,044	100.0 %	1.8
12/31/2013	187,198	4,629	37.5 % **	50,754	50,754	100.0 %	1.8

\* Including certain recommended transfers and accrued transfers.

@ Revised actuarial assumptions.

\*\* Excluding health insurance and Medicare payments.

+ Including estimated effect of legislated benefit changes.

**ANNUITY AND PENSION RESERVE FUND  
 RETIREES AND BENEFICIARIES DECEMBER 31, 2013  
 TYPE OF BENEFIT, MONTHLY AMOUNT AND ACTUARIAL LIABILITIES**

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Type of Allowance	Number	Current Total	Actuarial Liabilities
Superannuation Retirement			
Plan A - Joint & 50%	22,804	\$ 54,864,788	\$ 7,617,230,194
Plan B - Straight Life	75,302	146,893,908	17,590,883,850
Plan C - Special Joint & Survivor	18,951	48,392,809	6,765,944,474
Plan D - Joint & 100%	25,043	58,712,279	9,330,196,751
Plan E - Life & 0 to 5 Years Guaranteed	370	653,173	81,040,789
- Life & 6 to 10 Years Guaranteed	538	970,702	118,916,848
- Life & 11 to 15 Years Guaranteed	753	1,162,089	146,805,055
- Life & 16 to 20 Years Guaranteed	72	162,184	25,175,522
Plan F - Multiple Continuing Beneficiaries	807	2,012,601	375,864,016
Money Purchase	3,364	1,560,359	190,800,131
Survivor Beneficiary - Life Benefit	16,311	18,508,828	1,703,161,445
Survivor Beneficiary - Temporary Benefit	83	90,577	4,781,012
<b>Total Superannuation</b>	<b>164,398</b>	<b>\$ 333,984,297</b>	<b>\$ 43,950,800,087</b>
Disability Retirement	22,800	\$ 51,733,425	\$ 6,803,043,229
<b>Total from A &amp; PR</b>	<b>187,198</b>	<b>\$ 385,717,722</b>	<b>\$ 50,753,843,316</b>

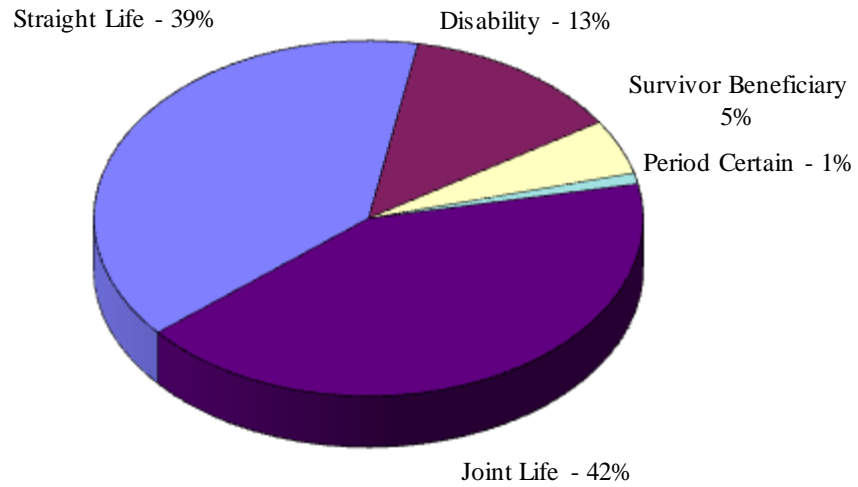
**ANNUITY AND PENSION RESERVE FUND  
 RETIREES AND BENEFICIARIES DECEMBER 31, 2013  
 TYPE OF BENEFIT AND AMOUNT BY GENDER OF RECIPIENT**

Type of Allowance	Men		Women		Total	
	Number	Monthly Allowances	Number	Monthly Allowances	Number	Monthly Allowances
Superannuation Retirement						
Plan A - Joint & 50%	15,084	\$ 38,638,773	7,720	\$ 16,226,015	22,804	\$ 54,864,788
Plan B - Straight Life	23,147	51,750,645	52,155	95,143,263	75,302	146,893,908
Plan C - Special Joint & Survivor	8,185	24,922,553	10,766	23,470,256	18,951	48,392,809
Plan D - Joint & 100%	20,031	49,029,418	5,012	9,682,861	25,043	58,712,279
Plan E - Life & 0 to 5 Years Guaranteed	151	292,102	219	361,071	370	653,173
- Life & 6 to 10 Years Guaranteed	273	492,667	265	478,035	538	970,702
- Life & 11 to 15 Years Guaranteed	425	641,765	328	520,324	753	1,162,089
- Life & 16 to 20 Years Guaranteed	47	99,975	25	62,209	72	162,184
Plan F - Multiple Continuing Beneficiaries	301	910,560	506	1,102,041	807	2,012,601
Money Purchase	2,226	1,230,255	1,138	330,104	3,364	1,560,359
Survivor Beneficiary - Life Benefit	1,778	1,279,142	14,533	17,229,686	16,311	18,508,828
Survivor Beneficiary - Temporary Benefit	23	21,912	60	68,665	83	90,577
Total Superannuation	71,671	\$ 169,309,767	92,727	\$ 164,674,530	164,398	\$ 333,984,297
Disability Retirement	11,615	\$ 29,052,294	11,185	\$ 22,681,131	22,800	\$ 51,733,425
<b>Total from A &amp; PR</b>	<b>83,286</b>	<b>\$ 198,362,061</b>	<b>103,912</b>	<b>\$ 187,355,661</b>	<b>187,198</b>	<b>\$ 385,717,722</b>

**ANNUITIES BEING PAID BY TYPE**  
**DECEMBER 31, 2013**

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**Annuity and Pension Reserve Fund**



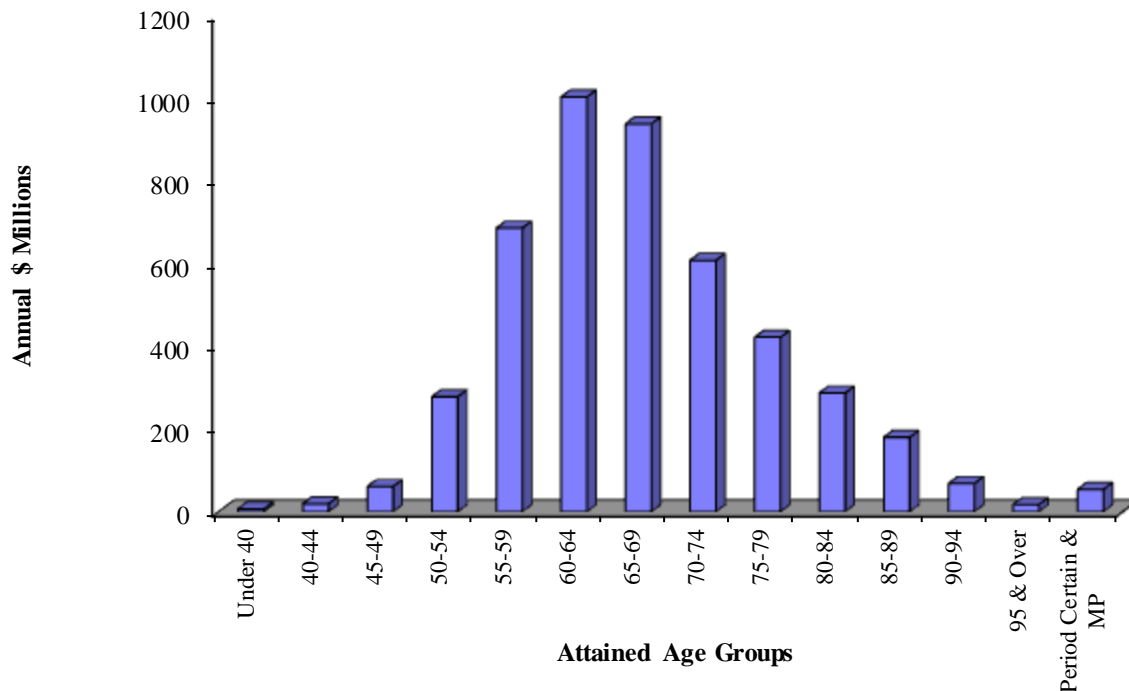
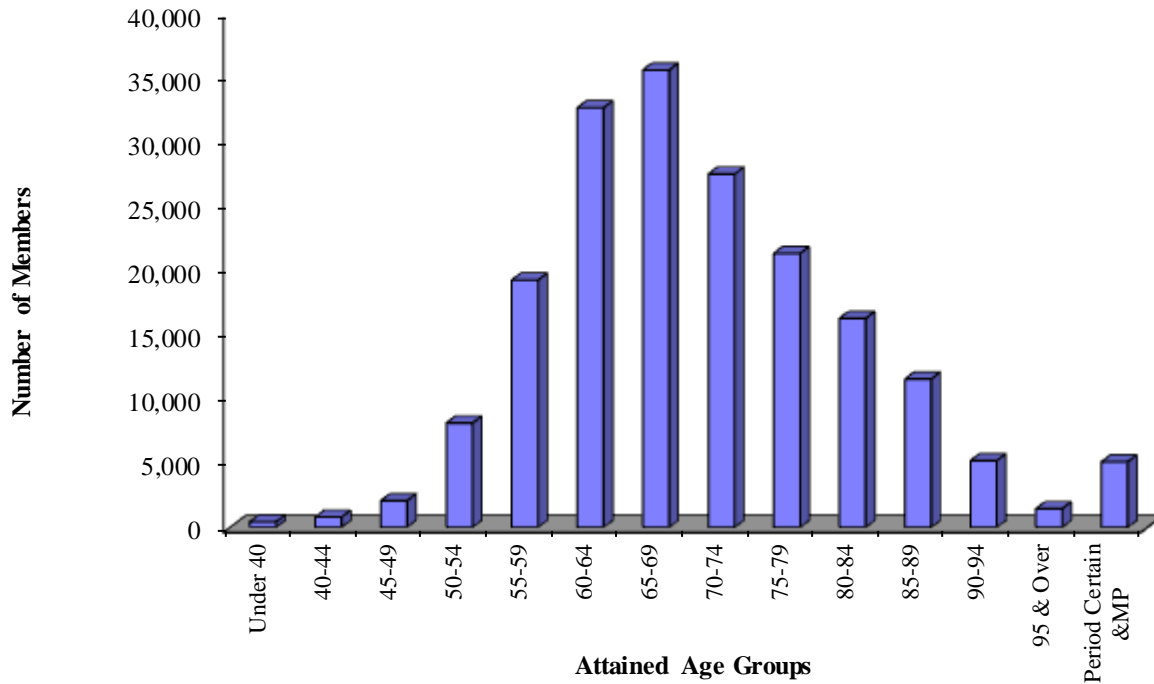
**ANNUITY AND PENSION RESERVE FUND  
RETIREES AND BENEFICIARIES DECEMBER 31, 2013  
CURRENT MONTHLY TOTAL \$ BY ATTAINED AGES**

Attained Ages	Superannuation		Disability		Totals	
	No.	Monthly Total	No.	Monthly Total	No.	Monthly Total
Under 20	14	\$ 9,151			14	\$ 9,151
20-24	19	16,017			19	16,017
25-29	22	15,396	4	\$ 6,335	26	21,731
30-34	28	21,645	56	90,271	84	111,916
35-39	36	17,417	251	428,489	287	445,906
40-44	59	39,831	743	1,548,085	802	1,587,916
45-49	342	780,351	1,737	4,341,357	2,079	5,121,708
50-54	4,719	14,352,680	3,404	8,855,548	8,123	23,208,228
55-59	14,088	44,529,219	5,144	12,614,481	19,232	57,143,700
60-64	27,419	71,645,370	5,214	11,912,239	32,633	83,557,609
65-69	32,557	71,557,867	3,006	6,616,073	35,563	78,173,940
70-74	25,850	47,699,210	1,625	3,000,684	27,475	50,699,894
75-79	20,469	33,770,254	844	1,358,671	21,313	35,128,925
80-84	15,830	23,325,830	425	557,844	16,255	23,883,674
85-89	11,274	14,678,843	266	311,649	11,540	14,990,492
90-94	5,129	5,603,740	67	78,951	5,196	5,682,691
95 & Over	1,446	1,412,969	14	12,748	1,460	1,425,717
Period Certain & Money Purchase	5,097	4,508,507			5,097	4,508,507
<b>Totals</b>	<b>164,398</b>	<b>\$333,984,297</b>	<b>22,800</b>	<b>\$51,733,425</b>	<b>187,198</b>	<b>\$385,717,722</b>



**ANNUITY AND PENSION RESERVE FUND  
BENEFITS BEING PAID BY ATTAINED AGES  
DECEMBER 31, 2013**

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**ANNUITY AND PENSION RESERVE FUND  
PERCENT OF RECIPIENTS  
BY AGE GROUPS  
AND YEAR**

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<b>Attained Age Group</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>	<b>2010</b>	<b>2009</b>	<b>2008</b>	<b>2007</b>	<b>2006</b>	<b>2005</b>	<b>2004</b>	<b>2003</b>	<b>2002</b>	<b>2001</b>	<b>2000</b>	<b>1999</b>
Under 30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
30-39	0.2%	0.2%	0.2%	0.3%	0.3%	0.4%	0.4%	0.5%	0.5%	0.5%	0.5%	0.6%	0.6%	0.6%	0.6%
40-49	1.5%	1.8%	2.0%	2.2%	2.5%	2.7%	2.9%	3.1%	3.3%	3.4%	3.5%	3.5%	3.3%	3.2%	3.1%
50-59	14.6%	15.4%	15.9%	15.9%	16.0%	15.9%	15.9%	16.1%	15.8%	14.7%	13.7%	12.9%	11.7%	10.7%	9.8%
60-69	36.5%	35.5%	34.8%	33.5%	32.6%	31.4%	30.7%	29.6%	28.9%	28.8%	28.6%	28.3%	28.1%	28.2%	28.9%
70-79	26.1%	25.8%	25.4%	25.7%	26.2%	26.7%	27.2%	27.7%	28.5%	29.4%	30.4%	31.5%	32.7%	34.0%	35.5%
80-89	14.8%	15.3%	15.8%	16.6%	16.9%	17.4%	17.7%	17.9%	18.0%	18.2%	18.3%	18.4%	18.7%	18.5%	18.7%
90 & Over	3.6%	3.6%	3.6%	3.6%	3.4%	3.4%	3.3%	3.2%	3.2%	3.2%	3.2%	3.1%	3.1%	3.0%	3.1%
Period Certain & MP	2.7%	2.4%	2.3%	2.2%	2.1%	2.1%	1.9%	1.9%	1.8%	1.8%	1.8%	1.7%	1.8%	1.8%	0.3%
<b>TOTALS</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>
Average Age	70.0	69.9	69.9	70.0	70.0	70.1	70.1	70.2	70.2	70.4	70.6	70.7	71.0	71.2	71.4

**STATE DIVISION**  
**SURVIVOR BENEFIT FUND TABULATED BY**  
**TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT**  
**DECEMBER 31, 2013**

Group	Number	Current Total	Actuarial Liabilities
<b>S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation</b>			
Men	167	\$ 177,427	\$ 18,623,444
Women	643	972,177	100,299,950
Totals	810	\$ 1,149,604	\$ 118,923,394
<b>S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount</b>			
Widower - no child	683	\$ 783,842	\$ 97,934,825
Widower - child	49	48,025	7,879,627
Child's record	127	75,363	5,055,604
Parent	0	0	0
Other	0	0	0
Child only	178	148,309	7,938,886
Subtotals - male	1,037	\$ 1,055,539	\$ 118,808,942
Widower - no child	2,148	\$ 2,561,294	\$ 316,378,061
Widower - child	129	150,086	26,707,790
Child's record	135	79,565	5,828,416
Parent	1	993	52,418
Other	2	1,661	259,887
Child only	188	161,753	8,965,442
Subtotals - female	2,603	\$ 2,955,352	\$ 358,192,014
Totals	3,640	\$ 4,010,891	\$ 477,000,956
<b>Total Benefits Being Paid from Survivor Benefit Fund</b>			
Men	1,204	\$ 1,232,966	\$ 137,432,386
Women	3,246	3,927,529	458,491,964
<b>Totals</b>	<b>4,450</b>	<b>\$ 5,160,495</b>	<b>\$ 595,924,350</b>

**LOCAL GOVERNMENT DIVISION  
SURVIVOR BENEFIT FUND TABULATED BY  
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT  
DECEMBER 31, 2013**

Group	Number	Current Total	Actuarial Liabilities
<b>S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation</b>			
Men	215	\$ 185,398	\$ 18,235,104
Women	1,345	1,541,115	156,320,056
<b>Totals</b>	<b>1,560</b>	<b>\$ 1,726,513</b>	<b>\$ 174,555,160</b>
<b>S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount</b>			
Widower - no child	1,099	\$ 913,419	\$ 110,563,312
Widower - child	82	64,725	11,139,527
Child's record	214	103,873	7,634,603
Parent	0	0	0
Other	3	1,798	185,853
Child only	328	250,653	16,267,700
Subtotals - male	1,726	\$ 1,334,468	\$ 145,790,995
Widower - no child	5,122	\$ 4,764,622	\$ 570,398,219
Widower - child	265	258,305	44,692,690
Child's record	291	154,635	12,038,417
Parent	2	2,192	169,407
Other	6	4,144	488,533
Child only	349	261,648	13,288,128
Subtotals - female	6,035	\$ 5,445,546	\$ 641,075,394
<b>Totals</b>	<b>7,761</b>	<b>\$ 6,780,014</b>	<b>\$ 786,866,389</b>
<b>Total Benefits Being Paid from Survivor Benefit Fund</b>			
Men	1,941	\$ 1,519,866	\$ 164,026,099
Women	7,380	6,986,661	797,395,450
<b>Totals</b>	<b>9,321</b>	<b>\$ 8,506,527</b>	<b>\$ 961,421,549</b>

**PUBLIC SAFETY DIVISION  
SURVIVOR BENEFIT FUND TABULATED BY  
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT  
DECEMBER 31, 2013**

Group	Number	Current Total	Actuarial Liabilities
<b>S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation</b>			
Men	0	\$ 0	\$ 0
Women	0	0	0
<b>Totals</b>	<b>0</b>	<b>\$ 0</b>	<b>\$ 0</b>
<b>S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount</b>			
Widower - no child	3	\$ 3,721	\$ 299,655
Widower - child	0	0	0
Child's record	1	560	21,303
Other	0	0	0
Child only	7	5,448	312,286
Subtotals - male	11	\$ 9,729	\$ 633,244
Widower - no child	78	\$ 107,538	\$ 15,936,612
Widower - child	2	2,440	424,834
Child's record	1	784	61,831
Other	5	5,200	384,412
Child only	0	0	0
Subtotals - female	86	\$ 115,962	\$ 16,807,689
<b>Totals</b>	<b>97</b>	<b>\$ 125,691</b>	<b>\$ 17,440,933</b>
<b>Total Benefits Being Paid from Survivor Benefit Fund</b>			
Men	11	\$ 9,729	\$ 633,244
Women	86	115,962	16,807,689
<b>Totals</b>	<b>97</b>	<b>\$ 125,691</b>	<b>\$ 17,440,933</b>

**LAW ENFORCEMENT DIVISION  
SURVIVOR BENEFIT FUND TABULATED BY  
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT  
DECEMBER 31, 2013**

Group	Number	Current Total	Actuarial Liabilities
<b>S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation</b>			
Men	0	\$ 0	\$ 0
Women	60	106,686	12,587,664
<b>Totals</b>	<b>60</b>	<b>\$ 106,686</b>	<b>\$ 12,587,664</b>
<b>S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount</b>			
Widower - no child	8	\$ 7,788	\$ 1,245,314
Widower - child	1	829	155,141
Child's record	12	8,088	657,332
Other	0	0	0
Child only	24	22,747	1,399,804
Subtotals - male	45	\$ 39,452	\$ 3,457,591
Widower - no child	148	\$ 160,839	\$ 22,679,268
Widower - child	23	27,101	4,996,352
Child's record	27	14,231	997,862
Other	16	11,395	468,480
Child only	0	0	0
Subtotals - female	214	\$ 213,566	\$ 29,141,962
<b>Totals</b>	<b>259</b>	<b>\$ 253,018</b>	<b>\$ 32,599,553</b>
<b>Total Benefits Being Paid from Survivor Benefit Fund</b>			
Men	45	\$ 39,452	\$ 3,457,591
Women	274	320,252	41,729,626
<b>Totals</b>	<b>319</b>	<b>\$ 359,704</b>	<b>\$ 45,187,217</b>

**STATE DIVISION  
DEFERRED SURVIVOR BENEFICIARIES  
TABULATED BY GENDER AND DEFERRED AGE  
DECEMBER 31, 2013**

---

<b>Group</b>	<b>Number</b>	<b>Current Total</b>	<b>Actuarial Liabilities</b>
Widowers			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	56	38,292	3,363,811
Deferred to age 65	0	0	0
<b>Total</b>	56	<b>\$ 38,292</b>	<b>\$ 3,363,811</b>
Widows			
Deferred to age 50	1	\$ 887	\$ 123,260
Deferred to age 62	165	119,979	10,737,318
Deferred to age 65	1	921	49,464
<b>Total</b>	167	<b>\$ 121,787</b>	<b>\$ 10,910,042</b>
<b>Totals</b>	<b>223</b>	<b>\$ 160,079</b>	<b>\$ 14,273,853</b>

**LOCAL GOVERNMENT DIVISION  
DEFERRED SURVIVOR BENEFICIARIES  
TABULATED BY GENDER AND DEFERRED AGE  
DECEMBER 31, 2013**

---

<b>Group</b>	<b>Number</b>	<b>Current Total</b>	<b>Actuarial Liabilities</b>
<b>Widowers</b>			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	117	60,724	4,957,533
Deferred to age 65	0	0	0
<b>Total</b>	<b>117</b>	<b>\$ 60,724</b>	<b>\$ 4,957,533</b>
<b>Widows</b>			
Deferred to age 50	1	\$ 1,042	\$ 170,113
Deferred to age 62	398	247,630	23,141,479
Deferred to age 65	0	0	0
<b>Total</b>	<b>399</b>	<b>\$ 248,672</b>	<b>\$ 23,311,592</b>
<b>Totals</b>	<b>516</b>	<b>\$ 309,396</b>	<b>\$ 28,269,125</b>



**PUBLIC SAFETY DIVISION  
 DEFERRED SURVIVOR BENEFICIARIES  
 TABULATED BY GENDER AND DEFERRED AGE  
 DECEMBER 31, 2013**

---

<b>Group</b>	<b>Number</b>	<b>Current Total</b>	<b>Actuarial Liabilities</b>
Widowers			
Deferred to age 50	0	\$ 0	\$ 0
Total	0	\$ 0	\$ 0
Widows			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	3	2,714	151,617
Total	3	\$ 2,714	\$ 151,617
<b>Totals</b>	<b>3</b>	<b>\$ 2,714</b>	<b>\$ 151,617</b>

**LAW ENFORCEMENT DIVISION  
 DEFERRED SURVIVOR BENEFICIARIES  
 TABULATED BY GENDER AND DEFERRED AGE  
 DECEMBER 31, 2013**

---

<b>Group</b>	<b>Number</b>	<b>Current Total</b>	<b>Actuarial Liabilities</b>
Widowers			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	0	0	0
Total	0	\$ 0	\$ 0
Widows			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	9	8,146	797,402
Total	9	\$ 8,146	\$ 797,402
<b>Totals</b>	<b>9</b>	<b>\$ 8,146</b>	<b>\$ 797,402</b>

**SURVIVOR BENEFIT FUND**  
**REPORTED ASSETS AND LIABILITIES**  
**DIVISIONS COMBINED**

Valuation Date	Monthly Allowances				\$ Millions		Ratio of Assets to Liabilities
	Current		Deferred		Reported Assets+	Actuarial Liabilities	
	No.	Amount	No.	Amount			
12/31/1979	8,971	\$ 2,033,403	1,044	\$ 155,890	\$ 383.0	\$ 259.5	148 %
12/31/1980	9,389	2,220,641	1,022	170,246	429.4	285.4	150 %
12/31/1981@	9,629	2,468,950	1,045	191,228	460.6	336.0	137 %
12/31/1982@	9,913	2,654,686	1,006	199,239	499.7	330.6	151 %
12/31/1983	10,132	2,812,639	1,020	225,475	454.7	352.8	129 %
12/31/1984*	11,819	3,119,531	990	248,373	492.2	451.1	109 %
12/31/1985	11,889	3,278,253	979	259,842	532.8	469.6	113 %
12/31/1986	12,054	3,489,915	960	268,931	575.5	451.2	128 %
12/31/1987	12,153	3,656,420	933	279,327	626.1	472.9	132 %
12/31/1988	12,237	3,822,085	941	283,026	490.8	490.8	100 %
12/31/1989@	12,198	4,177,540	941	320,792	525.3	522.1	101 %
12/31/1990	12,182	4,330,622	907	321,218	542.5	537.1	101 %
12/31/1991	12,268	4,528,326	860	314,414	567.9	557.1	102 %
12/31/1992	12,318	4,750,848	852	329,509	589.8	583.3	101 %
12/31/1993	12,437	4,985,681	862	345,937	620.7	607.7	102 %
12/31/1994	12,569	5,207,186	845	347,178	641.5	628.5	102 %
12/31/1995	12,608	5,408,577	866	376,573	668.9	652.4	103 %
12/31/1996@	12,724	5,822,113	878	395,594	711.6	710.6	100 %
12/31/1997	12,856	6,074,566	932	433,430	743.0	740.5	100 %
12/13/1998	13,079	6,337,739	1,060	500,514	780.2	779.6	100 %
12/31/1999#	13,236	7,345,740	989	550,153	801.4	910.9	88 %
12/31/2000	13,317	9,026,315	666	348,886	1,037.4	1,037.4	100 %
12/31/2001@	13,588	9,449,543	993	490,441	1,086.4	1,086.4	100 %
12/31/2002	13,708	9,764,826	902	470,284	1,120.2	1,120.2	100 %
12/31/2003	13,988	10,246,174	842	493,329	1,193.1	1,193.1	100 %
12/31/2004	13,903	10,503,169	858	524,733	1,227.1	1,227.1	100 %
12/31/2005@	14,108	10,948,727	831	528,162	1,289.3	1,289.3	100 %
12/31/2006	14,172	11,333,735	832	508,430	1,332.6	1,332.6	100 %
12/31/2007	14,186	11,714,551	832	510,846	1,375.9	1,375.9	100 %
12/31/2008	14,238	12,122,501	847	526,623	1,425.6	1,425.6	100 %
12/31/2009	14,301	12,576,956	840	527,032	1,479.4	1,479.4	100 %
12/31/2010@	14,407	13,047,857	829	524,242	1,545.7	1,545.7	100 %
12/31/2011	14,370	13,424,237	800	505,111	1,589.7	1,589.7	100 %
12/31/2012#	14,224	13,769,795	796	519,459	1,629.3	1,629.3	100 %
12/31/2013	14,187	14,152,417	751	480,335	1,663.5	1,663.5	100 %

@ Revised actuarial assumptions.

\* Benefits increased.

# After benefit changes.

+ Includes certain recommended transfers and accrued transfers.

## RETIREES AND BENEFICIARIES DECEMBER 31, 2013

### HISTORICAL AVERAGES

All Retirees								
December 31	# Count	Average Age at Retirement	Average Service at Retirement	Average Pension at Retirement	Average Age on Valuation Date	Average Pension on Valuation Date	Median Pension on Valuation Date	Average FAS at Retirement
2013	202,136	57.4	22.8	\$19,290	69.5	\$24,209	\$20,784	\$38,763
2012	195,779	57.4	22.7	18,827	69.3	23,461	20,088	37,743
2011	189,849	57.3	22.6	18,218	69.3	22,611	19,212	36,552
2010	181,483	57.2	22.4	17,379	69.3	21,598	18,144	35,025
2009	174,659	57.2	22.2	16,724	69.3	20,730	17,256	33,808
2008	169,016	57.2	22.0	15,942	69.4	19,750	16,284	32,401
2007	163,511	57.2	21.9	15,318	69.4	18,917	15,480	31,214
2006	159,041	57.3	21.7	14,711	69.4	18,096	14,700	29,975
Traditional Plan								
December 31	# Count	Average Age at Retirement	Average Service at Retirement	Average Pension at Retirement	Average Age on Valuation Date	Average Pension on Valuation Date	Median Pension on Valuation Date	Average FAS at Retirement
2013	201,841	57.4	22.8	\$19,299	69.5	\$24,220	\$20,796	\$38,760
2012	195,622	57.4	22.7	18,832	69.3	23,468	20,088	37,741
2011	189,753	57.3	22.6	18,221	69.3	22,614	19,224	36,549
2010	181,433	57.2	22.4	17,380	69.3	21,600	18,144	35,025
2009	174,637	57.2	22.2	16,725	69.3	20,731	17,256	33,808
2008	169,000	57.2	22.0	15,942	69.4	19,751	16,284	32,401
2007	163,505	57.2	21.9	15,318	69.4	18,917	15,480	31,214
2006	159,039	57.3	21.7	14,711	69.4	18,096	14,700	29,974
Combined Plan								
December 31	# Count	Average Age at Retirement	Average Service at Retirement	Average Pension at Retirement	Average Age on Valuation Date	Average Pension on Valuation Date	Median Pension on Valuation Date	Average FAS at Retirement
2013	164	64.9	8.7	\$2,839	67.0	\$2,962	\$2,682	\$43,403
2012	95	64.2	8.5	2,785	66.2	2,891	2,556	45,218
2011	58	64.2	7.9	2,757	66.0	2,828	2,202	49,751
2010	32	64.3	7.9	2,158	65.9	2,219	1,962	40,548
2009	12	65.0	7.6	1,590	66.6	1,635	1,740	35,139
2008	12	64.0	7.4	1,239	64.8	1,260	1,092	29,454
2007	4	61.1	4.8	1,620	62.0	1,644	1,644	43,743
2006	2	62.1	3.8	1,656	62.3	1,656	1,656	50,116
Member Directed Plan								
December 31	# Count	Average Age at Retirement	Average Service at Retirement	Average Pension at Retirement	Average Age on Valuation Date	Average Pension on Valuation Date	Median Pension on Valuation Date	Average FAS at Retirement
2013	131	NA	NA	NA	NA	NA	NA	NA
2012	62	NA	NA	NA	NA	NA	NA	NA
2011	38	NA	NA	NA	NA	NA	NA	NA
2010	18	NA	NA	NA	NA	NA	NA	NA
2009	10	NA	NA	NA	NA	NA	NA	NA
2008	4	NA	NA	NA	NA	NA	NA	NA
2007	2	NA	NA	NA	NA	NA	NA	NA
2006	NA							

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**SECTION X**

ACTUARIAL METHODS AND ASSUMPTIONS

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**SUMMARY OF  
ACTUARIAL METHODS AND ASSUMPTIONS USED FOR OPERS  
ACTUARIAL VALUATIONS  
ASSUMPTIONS ADOPTED BY THE RETIREMENT BOARD  
AFTER CONSULTING WITH THE ACTUARY**

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*The individual entry age actuarial cost method of valuation* was used in determining liabilities and normal cost. Differences in the past between assumed experience and actual experience (“actuarial gains and losses”) become part of actuarial accrued liabilities.

Unfunded actuarial accrued liabilities are amortized to produce payments (principal & interest) which are level percent of payroll contributions.

*The actuarial assumptions used* in the valuation are shown in this Section. Assumptions were established following the December 31, 2010 actuarial valuation and updated in conjunction with the passage of Senate Bill 343.

***ECONOMIC ASSUMPTIONS***

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*The investment return rate* assumed in the valuations was 8.00% per year, compounded annually (net after administrative expenses).

*The wage inflation rate* assumed in this valuation was 3.75% per year. The wage inflation rate is defined to be the portion of total pay increases for an individual that are due to macroeconomic forces including productivity, price inflation, and labor market conditions. The wage inflation rate does not include pay changes related to individual merit and seniority effects.

*The price inflation* component of the investment return rate and the wage inflation rate is assumed to be 3.00%.

*The assumed real rate of return* over wage inflation is defined to be the portion of total investment return that is more than the assumed total wage growth rate. Considering other economic assumptions, the 8.00% investment return rate translates to an assumed real rate of return over wage inflation of 4.25%. The assumed real rate of return over price inflation is 5.00%.

*The active member population* (the sum of the Traditional and Combined Plan active members) is assumed to remain constant. For purposes of financing the unfunded actuarial accrued liabilities, total payroll (the sum of the Traditional and Combined Plan active payroll) is assumed to grow at the wage inflation rate – 3.75% per year.

*Pay increase assumptions* for individual active members are shown for sample ages on pages X-8 through X-11. Part of the assumption for each age is for merit and/or seniority increase, and the other 3.75% recognizes wage inflation, including price inflation, productivity increases, and other macroeconomic forces.

## NON-ECONOMIC ASSUMPTIONS

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***The post-retirement mortality rates*** used in evaluating age and service and survivor benefit allowances to be paid are based upon the RP-2000 mortality table projected 20 years using Projection Scale AA. For males, 105% of the Combined Healthy male mortality rates are used. For females, 100% of the Combined Healthy female mortality rates are used. Related values are shown on page X-12. The mortality rates used in evaluating disability allowances are based upon the RP-2000 mortality table with no projection. For males, 120% of the Disabled female mortality rates are used set forward 2 years. For females, 100% of the Disabled female mortality rates are used. The mortality rates were established based upon the experience of the OPERS membership in total. Based upon the experience observed during the most recent 5-year period study, it appears that the current rates provide for an approximate 13% margin for future mortality improvement.

***The probabilities of unreduced and reduced age and service retirement*** are shown on pages X-3 through X-7. For State and Local Government members that satisfy the 30-year unreduced retirement condition prior to age 65, the service-based unreduced retirement probabilities are used. For State and Local Government members that satisfy the 30-year unreduced retirement condition on or after age 65, the age-based unreduced retirement probabilities are used.

***The probabilities of withdrawal from service, disability and death-in-service*** are shown for sample ages on pages X-8 through X-11. For withdrawal from service it was assumed that members terminating before age 35, members terminating with less than 5 years of service, and a percentage of all other members would withdraw their contributions and forfeit their entitlement to an employer financed benefit. The percentage is 100% at age 35 and is reduced for each year of age after 35, becoming 0% at age 55 (age 45 for law members).

***For purposes of death-in-service and disability benefits***, it is assumed that Combined Plan members will take a benefit from the Traditional Plan, unless a lump sum distribution from the Combined Plan would have a greater value.

***The funding value of defined benefit assets*** recognizes assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 4-year period. Funding value is not permitted to deviate from market value by more than 12%. Traditional and Combined Plan retiree health funding values of assets are developed independently beginning with the December 31, 2004 valuation.

***Present assets (cash & investments) at funding value*** are shown on pages II-2 through II-9.

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The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA). Great care was taken in the production of this report, but there may be cases where schedules do not add, or where they do not exactly balance to other related schedules due to rounding.

# PROBABILITIES OF UNREDUCED AGE AND SERVICE RETIREMENT

## Transition Group A

Ages	Percent of Eligible Active Members Retiring Within Next Year			
	State		Local Government	
	Men	Women	Men	Women
65	22%	22%	20%	20%
66	22%	22%	20%	20%
67	20%	20%	15%	20%
68	20%	20%	15%	17%
69	20%	20%	15%	17%
70	20%	20%	15%	17%
71	20%	20%	15%	17%
72	15%	20%	15%	17%
73	15%	20%	15%	17%
74	15%	20%	15%	17%
75	15%	20%	15%	17%
76	15%	20%	15%	17%
77	15%	25%	15%	17%
78	15%	25%	15%	17%
79	15%	25%	15%	22%
80	25%	25%	20%	22%
81	25%	25%	20%	22%
82	25%	25%	20%	22%
83	25%	25%	20%	22%
84	25%	25%	20%	22%
85 & Over	100%	100%	100%	100%
Ref	2094	2095	2096	2097

Ages	Percent of Eligible Active Members Retiring Within Next Year	
	Public Safety	Law Enforcement
	48	
49		20%
50		20%
51		20%
52	30%	20%
53	30%	20%
54	25%	20%
55	25%	20%
56	25%	23%
57	25%	23%
58	20%	25%
59	20%	25%
60	35%	30%
61	35%	25%
62	35%	25%
63	35%	25%
64	35%	25%
65	35%	25%
66	35%	25%
67	35%	25%
68	35%	25%
69	35%	25%
70 & Over	100%	100%
Ref	1334	2084

Service	Percent of Eligible Active Members Retiring Within Next Year			
	State		Local Government	
	Men	Women	Men	Women
30	37%	40%	35%	35%
31	28%	33%	26%	30%
32-39	24%	26%	23%	24%
40	35%	33%	32%	24%
41	35%	33%	32%	24%
42	35%	33%	32%	24%
43	35%	33%	32%	20%
44	35%	33%	32%	20%
45	25%	25%	32%	20%
46	25%	25%	25%	20%
47	25%	25%	25%	20%
48	25%	25%	25%	20%
49	25%	25%	25%	20%
50 & Over	100%	100%	100%	100%
Ref	2091	2093	2098	2099



# PROBABILITIES OF UNREDUCED AGE AND SERVICE RETIREMENT

## Transition Group B

Ages	Percent of Eligible Active Members Retiring Within Next Year			
	State		Local Government	
	Men	Women	Men	Women
66	22%	22%	20%	20%
67	22%	22%	20%	20%
68	20%	20%	15%	20%
69	20%	20%	15%	17%
70	20%	20%	15%	17%
71	20%	20%	15%	17%
72	20%	20%	15%	17%
73	15%	20%	15%	17%
74	15%	20%	15%	17%
75	15%	20%	15%	17%
76	15%	20%	15%	17%
77	15%	20%	15%	17%
78	15%	25%	15%	17%
79	15%	25%	15%	17%
80	15%	25%	15%	22%
81	25%	25%	20%	22%
82	25%	25%	20%	22%
83	25%	25%	20%	22%
84	25%	25%	20%	22%
85 & Over	100%	100%	100%	100%
Ref	2094	2095	2096	2097

Ages	Percent of Eligible Active Members Retiring Within Next Year	
	Public Safety	Law Enforcement
	50	
51		20%
52		20%
53		20%
54	25%	20%
55	25%	20%
56	25%	20%
57	25%	20%
58	20%	23%
59	20%	23%
60	35%	25%
61	35%	25%
62	35%	30%
63	35%	25%
64	35%	25%
65	35%	25%
66	35%	25%
67	35%	25%
68	35%	25%
69	35%	25%
70	100%	25%
71		25%
72 & Over		100%
Ref	1334	2084

Service	Percent of Eligible Active Members Retiring Within Next Year			
	State		Local Government	
	Men	Women	Men	Women
32	37%	40%	35%	35%
33	28%	33%	26%	30%
34-41	24%	26%	23%	24%
42	35%	33%	32%	24%
43	35%	33%	32%	24%
44	35%	33%	32%	24%
45	35%	33%	32%	20%
46	35%	33%	32%	20%
47	25%	25%	32%	20%
48	25%	25%	25%	20%
49	25%	25%	25%	20%
50	25%	25%	25%	20%
51	25%	25%	25%	20%
52 & Over	100%	100%	100%	100%
Ref	2091	2093	2098	2099

# PROBABILITIES OF UNREDUCED AGE AND SERVICE RETIREMENT

## Transition Group C

67&5 Condition	Percent of Eligible Active Members Retiring Within Next Year			
	State		Local Government	
	Men	Women	Men	Women
Age				
67	22%	22%	20%	20%
68	22%	22%	20%	20%
69	20%	20%	15%	20%
70	20%	20%	15%	17%
71	20%	20%	15%	17%
72	20%	20%	15%	17%
73	20%	20%	15%	17%
74	15%	20%	15%	17%
75	15%	20%	15%	17%
76	15%	20%	15%	17%
77	15%	20%	15%	17%
78	15%	20%	15%	17%
79	15%	25%	15%	17%
80	15%	25%	15%	17%
81	15%	25%	15%	22%
82	25%	25%	20%	22%
83	25%	25%	20%	22%
84	25%	25%	20%	22%
85 & Over	100%	100%	100%	100%
Ref	2094	2095	2096	2097

Ages	Percent of Eligible Active Members Retiring Within Next Year	
	Public Safety	Law Enforcement
	52	
53		20%
54		20%
55		20%
56	25%	20%
57	25%	20%
58	20%	20%
59	20%	20%
60	35%	23%
61	35%	23%
62	35%	25%
63	35%	25%
64	35%	30%
65	35%	25%
66	35%	25%
67	35%	25%
68	35%	25%
69	35%	25%
70	100%	25%
71		25%
72		25%
73		25%
74 & Over		100%
Ref	1334	2084

55&32 Condition	Percent of Eligible Active Members Retiring Within Next Year				
	Year of Eligibility	State		Local Government	
		Men	Women	Men	Women
1	37%	40%	35%	35%	
2	28%	33%	26%	30%	
3-10	24%	26%	23%	24%	
11	35%	33%	32%	24%	
12	35%	33%	32%	24%	
13	35%	33%	32%	24%	
14	35%	33%	32%	20%	
15	35%	33%	32%	20%	
16	25%	25%	32%	20%	
17	25%	25%	25%	20%	
18	25%	25%	25%	20%	
19	25%	25%	25%	20%	
20	25%	25%	25%	20%	
21 & over	100%	100%	100%	100%	
Ref	2091	2093	2098	2099	

# PROBABILITIES OF REDUCED RETIREMENT

## Transition Group A

Ages	Percent of Eligible Active Members Retiring Within Next Year				
	State		Local Government		Public Safety
	Men	Women	Men	Women	
48					8%
49					8%
50					8%
51					8%
52					
53					
54					
55	10%	10%	9%	11%	
56	10%	10%	9%	11%	
57	10%	10%	9%	11%	
58	10%	10%	9%	11%	
59	10%	11%	9%	11%	
60	10%	12%	9%	11%	
61	10%	13%	9%	12%	
62	15%	15%	13%	13%	
63	15%	15%	14%	14%	
64	15%	15%	12%	15%	
Ref	2085	2086	2087	2088	1496

## Transition Group B

Ages	Percent of Eligible Active Members Retiring Within Next Year					
	State		Local Government		Public Safety	Law Enforcement
	Men	Women	Men	Women		
48					8%	8%
49					8%	8%
50					8%	
51					8%	
52					8%	
53					8%	
54						
55	10%	10%	9%	11%		
56	10%	10%	9%	11%		
57	10%	10%	9%	11%		
58	10%	10%	9%	11%		
59	10%	11%	9%	11%		
60	10%	12%	9%	11%		
61	10%	13%	9%	12%		
62	15%	15%	13%	13%		
63	15%	15%	14%	14%		
64	15%	15%	12%	15%		
65	15%	15%	12%	15%		
Ref	2085	2086	2087	2088	469	1496

**PROBABILITIES OF REDUCED RETIREMENT**

**Transition Group C**

Ages	Percent of Eligible Active Members Retiring Within Next Year					
	State		Local Government		Public Safety	Law Enforcement
	Men	Women	Men	Women		
48						8%
49						8%
50						8%
51						8%
52					8%	
53					8%	
54					8%	
55					8%	
56						
57	10%	10%	9%	11%		
58	10%	10%	9%	11%		
59	10%	10%	9%	11%		
60	10%	10%	9%	11%		
61	10%	11%	9%	11%		
62	10%	12%	9%	11%		
63	10%	13%	9%	12%		
64	15%	15%	13%	13%		
65	15%	15%	14%	14%		
66	15%	15%	12%	15%		
Ref	2085	2086	2087	2088	1496	1496

**STATE  
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT  
& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			45.00%	45.00%					
	1			30.00%	30.00%					
	2			17.00%	18.00%					
	3			12.00%	13.00%					
	4			10.00%	10.00%					
25	5 & Over	0.03%	0.01%	7.20%	8.28%	0.12%	0.12%	4.30%	3.75%	8.05%
30		0.04%	0.02%	5.16%	6.66%	0.15%	0.15%	3.00%	3.75%	6.75%
35		0.07%	0.03%	3.82%	4.82%	0.26%	0.26%	2.20%	3.75%	5.95%
40		0.10%	0.04%	2.82%	3.32%	0.42%	0.42%	1.80%	3.75%	5.55%
45		0.14%	0.06%	2.14%	2.50%	0.58%	0.58%	1.40%	3.75%	5.15%
50		0.19%	0.09%	1.90%	2.30%	0.74%	0.74%	1.20%	3.75%	4.95%
55		0.33%	0.17%	1.90%	2.30%	1.10%	1.10%	0.90%	3.75%	4.65%
60		0.61%	0.34%	1.90%	2.30%	1.78%	1.78%	0.70%	3.75%	4.45%
Ref		#506x0.9sb0	#455x0.75sb0	751 #1202x1	755 #1203x1	#385x0.808	#385x0.808	301		

The pay increase assumptions are age based only, and not service based.

**LOCAL GOVERNMENT  
SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT  
& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			40.00%	40.00%					
	1			26.00%	26.00%					
	2			16.00%	17.00%					
	3			11.00%	13.00%					
	4			10.00%	10.00%					
25	5 & Over	0.03%	0.01%	6.74%	8.30%	0.11%	0.10%	4.30%	3.75%	8.05%
30		0.04%	0.02%	5.24%	6.54%	0.14%	0.11%	3.00%	3.75%	6.75%
35		0.07%	0.03%	3.96%	4.94%	0.23%	0.17%	2.20%	3.75%	5.95%
40		0.10%	0.04%	2.86%	3.52%	0.36%	0.27%	1.80%	3.75%	5.55%
45		0.14%	0.06%	2.38%	2.76%	0.50%	0.36%	1.40%	3.75%	5.15%
50		0.19%	0.09%	2.30%	2.60%	0.73%	0.53%	1.20%	3.75%	4.95%
55		0.33%	0.17%	2.30%	2.60%	1.08%	0.79%	0.90%	3.75%	4.65%
60	0.61%	0.34%	2.30%	2.60%	1.24%	1.09%	0.70%	3.75%	4.45%	
Ref		#506x0.9sb0	#455x0.75sb0	752 #1205x1	754 #1206x1	#333x0.808	#334x0.808	301		

The pay increase assumptions are age based only, and not service based.

**PUBLIC SAFETY**  
**SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT**  
**& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			19.00%	19.00%					
	1			17.00%	17.00%					
	2			10.00%	10.00%					
	3			10.00%	10.00%					
	4			10.00%	10.00%					
25	5 & Over	0.03%	0.01%	10.00%	10.00%	0.21%	0.34%	6.30%	3.75%	10.05%
30		0.04%	0.02%	8.80%	8.80%	0.38%	0.45%	4.00%	3.75%	7.75%
35		0.07%	0.03%	6.20%	6.20%	0.65%	0.88%	1.60%	3.75%	5.35%
40		0.10%	0.04%	3.50%	3.50%	0.83%	1.22%	0.85%	3.75%	4.60%
45		0.14%	0.06%	2.20%	2.20%	1.01%	1.60%	0.60%	3.75%	4.35%
50		0.19%	0.09%	2.00%	2.00%	1.70%	2.01%	0.50%	3.75%	4.25%
55		0.33%	0.17%	2.00%	2.00%	2.37%	2.92%	0.50%	3.75%	4.25%
60	0.61%	0.34%	2.00%	2.00%	3.01%	3.44%	0.50%	3.75%	4.25%	
Ref		#506x0.9sb0	#455x0.75sb0	756 #1211xl	756 #1211xl	#699x0.86	#743x0.86	303		

The pay increase assumptions are age based only, and not service based.

**LAW ENFORCEMENT**  
**SEPARATIONS FROM ACTIVE EMPLOYMENT BEFORE AGE & SERVICE RETIREMENT**  
**& INDIVIDUAL PAY INCREASE ASSUMPTIONS**

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			16.00%	16.00%					
	1			10.00%	12.00%					
	2			8.00%	8.00%					
	3			6.00%	7.00%					
	4			5.00%	7.00%					
25	5 & Over	0.03%	0.01%	3.54%	3.80%	0.21%	0.34%	6.30%	3.75%	10.05%
30		0.04%	0.02%	2.66%	2.90%	0.38%	0.45%	4.00%	3.75%	7.75%
35		0.07%	0.03%	2.14%	2.30%	0.65%	0.88%	1.60%	3.75%	5.35%
40		0.10%	0.04%	1.48%	1.50%	0.83%	1.22%	0.85%	3.75%	4.60%
45		0.14%	0.06%	1.20%	1.30%	1.01%	1.60%	0.60%	3.75%	4.35%
50		0.19%	0.09%	1.20%	1.20%	1.70%	2.01%	0.50%	3.75%	4.25%
55		0.33%	0.17%	1.20%	1.20%	2.37%	2.92%	0.50%	3.75%	4.25%
60		0.61%	0.34%	1.20%	1.20%	3.01%	3.44%	0.50%	3.75%	4.25%
Ref		#506x0.9sb0	#455x0.75sb0	753 #876x1	445 #575x1	#699x0.86	#743x0.86	303		

The pay increase assumptions are age based only, and not service based.



## SINGLE LIFE RETIREMENT VALUES

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<b>Sample Attained Ages</b>	<b>Present Value of \$1 Monthly for Life Increasing 3.0% Annually (First Increase After 1 Year)</b>		<b>Future Life Expectancy (years)</b>	
	<b>Males</b>	<b>Females</b>	<b>Males</b>	<b>Females</b>
50	\$177.31	\$181.07	32.36	34.63
55	165.65	170.43	27.64	29.88
60	151.34	157.52	23.09	25.31
65	134.71	142.57	18.81	21.02
70	116.28	125.95	14.89	17.06
75	95.74	107.82	11.29	13.47
80	74.64	88.38	8.17	10.23
Ref:	:#454xl.05sb0	:#455xl1sb0		

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

### DECEMBER 31, 2013

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<b>Marriage Assumption:</b>	70% of males and 60% of females are assumed to be married for purposes of death-in-service benefits for State and Local members. 90% of males and 90% of females are assumed to be married for purposes of death-in-service benefits for Law members. Male spouses are assumed to be three years older than female spouses for active member valuation purposes. In retired or inactive cases where spouse information is needed, but not available, the three year age difference is also assumed.
<b>Pay Increase Timing:</b>	Beginning of year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
<b>Final Average Salary:</b>	For present value of future benefit purposes, final average salary was calculated in accordance with pay increase assumptions, but was not permitted to fall below the final average salary reported in the data.
<b>Decrement Timing:</b>	Decrements are assumed to occur mid-year.
<b>Eligibility Testing:</b>	Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.
<b>Decrement Relativity:</b>	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
<b>Decrement Operation:</b>	Disability and mortality decrements do not operate during the first 5 years of service.
<b>Death after Disability:</b>	Death after disability benefits were approximated by assuming that the disability benefit would be paid as a joint and 35% survivor benefit for people in the original disability plan and as a joint and 20% survivor benefit for people in the post 1992 plan.
<b>Service Credit Accruals:</b>	It is assumed that members accrue one year of service credit per year. A (0.80)% factor is applied to State active member liabilities (other than for refunds) and a (1.00)% factor is applied to Local active member liabilities (other than for refunds) to recognize that a portion of the membership is part time.

## MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

### DECEMBER 31, 2013 (CONCLUDED)

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- Miscellaneous Loads:**
- A load of approximately 0.36% of payroll is included in the computed normal cost to recognize subsidized service purchases.
  - Law active accrued liabilities for retirement are reduced by 10% to recognize that total service reported is not entirely Law service, and that non-Law service cannot be used to satisfy Law eligibility conditions.
  - A load of approximately 1% of Combined Plan payroll is included in the Combined Plan computed normal cost to recognize expected administrative expenses.
  - Approximately \$3 million was added to the Combined Plan actuarial accrued liability to reflect assumed future transfers out of Combined Plan assets to repay start-up loans.
- Transition Groups Under Senate Bill #343:** A member's transition group (i.e., Group A, Group B, or Group C) was determined as of the valuation date based upon the assumption (for transition group determination only) that active members would continue in active service.
- Cost of Living Adjustments:** For individuals retiring after January 7, 2013, cost of living adjustments were assumed to be 3% for calendar years 2013 through 2017 and 2.8% thereafter.
- Incidence of Contributions:** Contributions are assumed to be received continuously throughout the year based upon contribution rates presented in the Summary of Benefits, and the actual payroll payable at the time contributions are made.
- Benefit Service:** Exact fractional service is used to determine the amount of benefit payable.
- Normal Form of Benefit:** The assumed normal form of benefit is a straight life benefit, except where otherwise noted.
- Missing Member Data:** Active and inactive records with missing dates of birth, if any, were given dates of birth that resulted in an entry age of 30 based upon the reported service. Active and inactive records with missing gender codes, if any, were assumed to be female.

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**SECTION XI**  
FINANCIAL PRINCIPLES

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## FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF OPERS

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***Promises Made, and To Be Paid For.*** As each year is completed, OPERS in effect hands an “IOU” to each member then acquiring a year of service credit --- the “IOU” says: “The Ohio Public Employees Retirement System owes you one year’s worth of retirement benefits, payments in cash commencing when you qualify for retirement.”

The related *key financial questions* are:

***Which generation of taxpayers contributes the money to cover the IOU?***

***The present taxpayers***, who receive the benefit of the member’s present year of service? ***Or the future taxpayers***, who happen to be in Ohio at the time the IOU becomes a cash demand, years and often decades later?

***The law governing OPERS financing intends that this year’s taxpayers contribute the money to cover the IOUs being handed out this year.*** With this financial objective, ***the employer contribution rate is expected to remain approximately level from generation to generation of taxpayers.***

There are systems which have a design for deferring contributions to future taxpayers. Lured by a lower contribution rate now, they put aside the consequence that the contribution rate must then relentlessly grow to a level much higher than would be required if a level contribution pattern were followed.

An inevitable by-product of the level-cost design is the accumulation of reserve assets, for decades, and the income produced when the assets are invested. ***Investment income*** becomes ***the 3<sup>rd</sup> and largest contributor*** for benefits to employees, and is interlocked with the contribution amounts required from employees and employers.

Translated to actuarial terminology, this level-cost objective means that the contribution rates must total at least the following:

Normal Cost (the cost of members' service being rendered this year)

... plus ...

Interest on Unfunded Actuarial Accrued Liabilities (unfunded actuarial accrued liabilities are the difference between: liabilities for service already rendered; and the accrued assets of OPERS).

***Computing Contributions to Support Fund Benefits.*** From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of *an actuarial valuation and a funding method.*

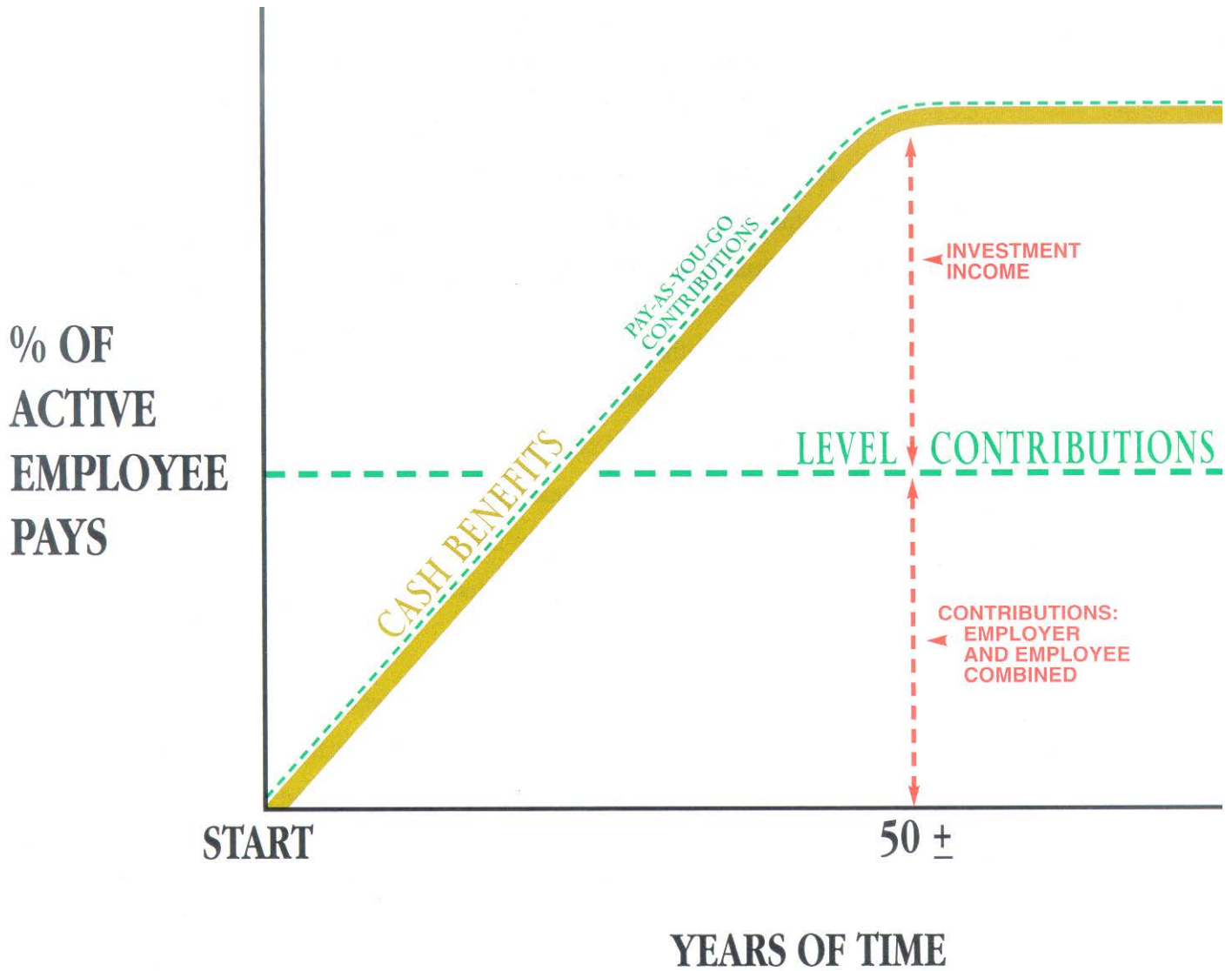
An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual retirement.

In an actuarial valuation, assumptions must be made as to what the above rates will be for the next year and for decades in the future. The assumptions are established by the Retirement Board after receiving the advice of the actuary.

***Reconciling Differences Between Assumed Experience and Actual Experience.*** Once actual experience has occurred and has been observed, it will not coincide exactly with assumed experience, regardless of the skill of the actuary and the many calculations made. The future can not be predicted with 100% precision.

OPERS copes with these continually changing differences by having annual actuarial valuations. Each actuarial valuation is a complete recalculation of assumed future experience, taking into account all past differences between assumed and actual experience. The result is *continuing adjustments in financial position.*

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**CASH BENEFITS LINE.** This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

**LEVEL CONTRIBUTION LINE.** Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability



## THE ACTUARIAL VALUATION PROCESS

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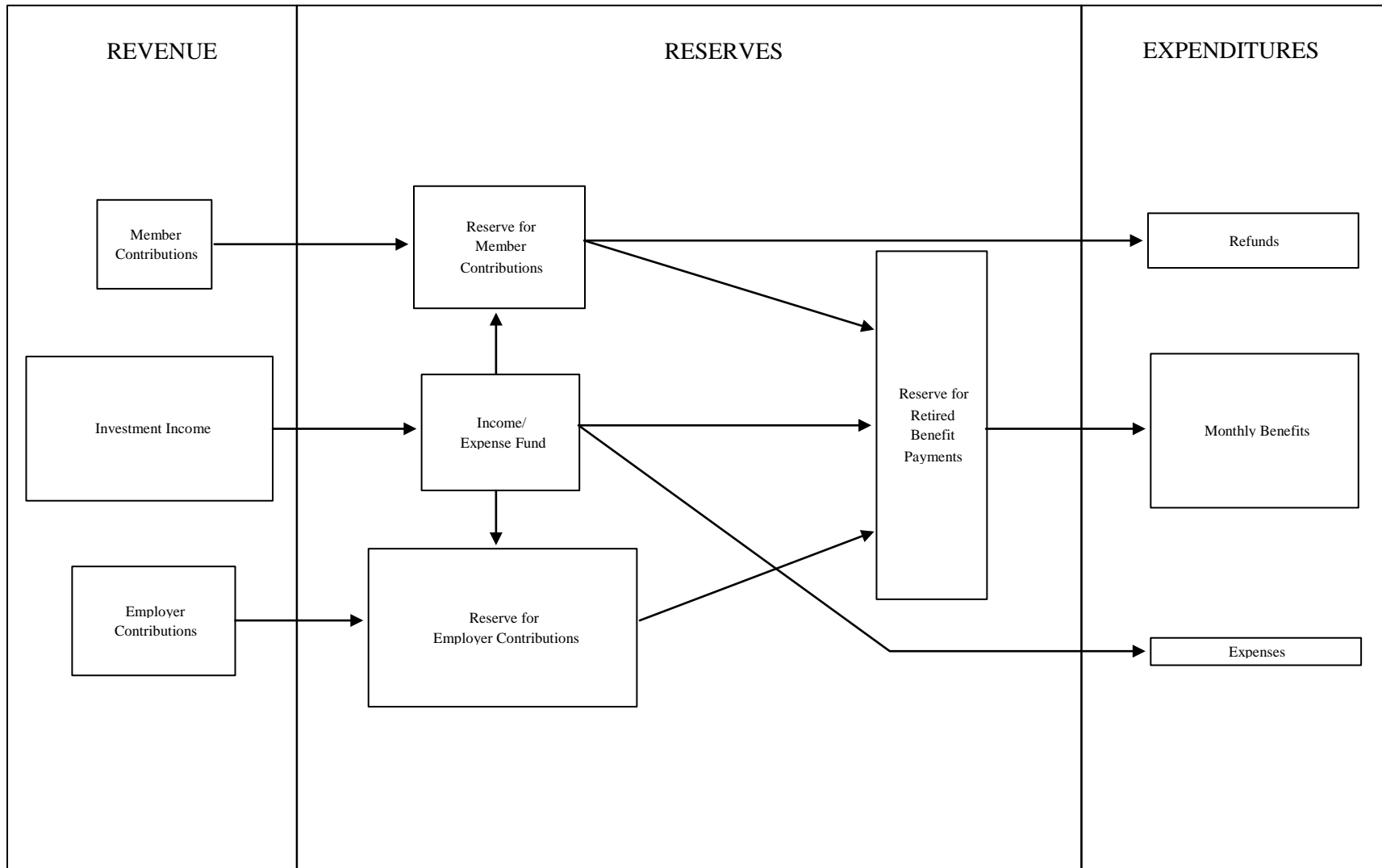
*The financing diagram* on the opposite page shows the relationship between *the two fundamentally different philosophies of paying* for retirement benefits: the method where contributions match cash benefit payments (or barely exceed cash benefit payments, as in the Federal Social Security program) which is thus an *increasing contribution method*; and, the *level contribution method* which attempts to equalize contributions between the generations.

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*The actuarial valuation* is the mathematical process by which the level contribution rate is determined. The activity constituting the valuation may be summarized as follows:

- A. **Census Data**, including:
  - Retired lives now receiving benefits
  - Former employees with vested benefits not yet payable
  - Active employees
  
- B. + **Asset data** (cash & investments)
  
- C. + **Benefit provisions** that establish eligibility and amounts of payments to members
  
- D. + **Assumptions concerning future experience** in various risk areas
  
- E. + **The funding method** for employer contributions (the long-term, planned pattern for employer contributions)
  
- F. + **Mathematically combining the assumptions, the funding method, and the data**
  
- G. = Determination of:
  - Plan Financial Position; and/or
  - New Employer Contribution Rate

# Flow of Money Through the Retirement System



## GLOSSARY

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***Accrued Service.*** The service credited under the plan which was rendered before the date of the actuarial valuation.

***Accumulated Benefit Obligation.*** The actuarial present value of vested and non-vested benefits based on service to date and past and current salary levels.

***Actuarial Accrued Liability.*** The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”

***Actuarial Assumptions.*** Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.

***Actuarial Cost Method.*** A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”

***Actuarial Equivalent.*** A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.

***Actuarial Present Value.*** The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.

**Actuary.** A person who is trained in the applications of probability and compound interest to problems in business and finance that involve payment of money in the future, contingent upon the occurrence of future events. Most actuaries in the United States are Members of the American Academy of Actuaries (MAAA). The Society of Actuaries is an international research, education and membership organization for actuaries in the life and health insurance, employee benefits, and pension fields. It administers a series of examinations leading initially to Associateship and the designation ASA and ultimately to Fellowship with the designation FSA.

**Amortization.** Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.

**Experience Gain (Loss).** A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.

**Funding Value of Assets.** The value of current plan assets recognized for valuation purposes. Generally based on a phased-in recognition of all or a portion of market related investment return. Sometimes referred to as Actuarial Value of Assets.

**Normal Cost.** The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

**Plan Termination Liability.** The actuarial present value of future plan benefits based on the assumption that there will be no further accruals for future service and salary. The termination liability will generally be less than the liabilities computed on a “going concern” basis and is not normally determined in a routine actuarial valuation.

**Reserve Account.** An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

**Unfunded Actuarial Accrued Liability.** The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”

## MEANING OF “UNFUNDED ACTUARIAL ACCRUED LIABILITIES”

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“*Actuarial accrued liabilities*” are *the present value of the portions of promised benefits that are not covered by future normal cost contributions* --- a liability has been established (“accrued”) because the service has been rendered but the resulting monthly cash benefit may not be payable until years in the future.

If “actuarial accrued liabilities” at any time exceed the plan’s accrued assets (cash & investments), the difference is “*unfunded actuarial accrued liabilities.*” This is the common condition. If the plan’s assets equaled the plan’s “actuarial accrued liabilities”, the plan would be termed “fully funded.” This is an unusual condition.

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Each time a plan adds a new benefit which applies to service already rendered, an “actuarial accrued liability” is created, which is also an “unfunded actuarial accrued liability” because the plan can’t print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 15-30 year range.

Unfunded actuarial accrued liabilities can occur in another way: if actual plan experience is less favorable than assumed, the difference is added to unfunded actuarial accrued liabilities. For example, in plans where benefits are directly related to an employee’s pay near time of retirement, unfunded actuarial accrued liabilities increased rapidly during the 1970’s because unexpected rates of pay increase created additional actuarial accrued liabilities which could not be matched by reasonable investment results. Most of the unexpected pay increases were the direct result of inflation, which is a very destructive force on financial stability.

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The existence of unfunded actuarial accrued liabilities is not bad but the changes from year to year in amount of unfunded actuarial accrued liabilities are important--- “bad” or “good” or somewhere in between.

Nor are unfunded actuarial accrued liabilities a bill payable immediately, but it is important that policy-makers prevent the amount from becoming unreasonably high and *it is vital for plans to have a sound method for making payments toward them* so that they are controlled.

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## **SECTION XII**

### **GASB REPORTING**

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**This information is presented in draft form for review by the System's auditor. Please let us know if there are any items that the auditor changes so that we may maintain consistency with the System's financial statements.**

**SCHEDULE OF DEFINED BENEFIT FUNDING PROGRESS  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
(\$ AMOUNTS IN MILLIONS)  
TRADITIONAL, COMBINED, AND MEMBER DIRECTED PLANS**

The schedule below measures the funding progress with respect to the *retirement allowance* portion of OPERS benefits for compliance with GASB Statement No. 25. Assets and liabilities related to post-employment health care benefits are specifically excluded from the schedule. Assets do, however, include market value adjustments.

<b>Valuation Year</b>	<b>Actuarial Accrued Liabilities (AAL)</b>	<b>Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Ratio of Assets to AAL</b>	<b>Active Member Payroll</b>	<b>UAAL as a % of Active Member Payroll</b>
1994	\$28,260	\$25,066	\$3,194	89 %	\$7,625	42 %
1995	30,556	27,651	2,905	90 %	7,973	36 %
1995*	30,224	27,651	2,573	91 %	7,973	32 %
1996	32,631	30,534	2,097	94 %	8,340	25 %
1997	34,971	33,846	1,125	97 %	8,640	13 %
1998	37,714	38,360	(646)	102 %	9,017	0 %
1999	43,070	43,060	10	100 %	9,477	0 %
2000	46,347	46,844	(497)	101 %	10,192	0 %
2001	49,095	48,748	347	99 %	10,782	3 %
2001*	47,492	48,748	(1,256)	103 %	10,782	0 %
2002	50,872	43,706	7,166	86 %	11,207	64 %
2003	54,774	46,746	8,028	85 %	11,165	72 %
2004	57,604	50,452	7,152	88 %	11,454	62 %
2005	61,146	54,473	6,673	89 %	11,807	57 %
2005*	62,498	54,473	8,025	87 %	11,807	68 %
2006	66,161	61,296	4,865	93 %	12,175	40 %
2007	69,734	67,151	2,583	96 %	12,583	21 %
2008	73,466	55,315	18,150	75 %	12,801	142 %
2009	76,555	57,629	18,926	75 %	12,548	151 %
2010	79,630	60,600	19,031	76 %	12,450	153 %
2010*	80,485	63,649	16,836	79 %	12,450	135 %
2011	84,530	65,436	19,094	77 %	12,399	154 %
2012	87,105	67,855	19,250	78 %	12,193	158 %
2012#	83,878	67,855	16,023	81 %	12,193	131 %
2013	86,645	71,411	15,234	82 %	12,331	124 %

\* Revised actuarial assumptions.

# After benefit changes.

**SCHEDULE OF DEFINED BENEFIT FUNDING PROGRESS  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
(\$ AMOUNTS IN MILLIONS)  
TRADITIONAL PLAN**

The schedule below measures the funding progress with respect to the *retirement allowance* portion of OPERS benefits for compliance with GASB Statement No. 25. Assets and liabilities related to post-employment health care benefits are specifically excluded from the schedule. Assets do, however, include market value adjustments.

<b>Valuation Year</b>	<b>Actuarial Accrued Liabilities (AAL)</b>	<b>Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Ratio of Assets to AAL</b>	<b>Active Member Payroll</b>	<b>UAAL as a % of Active Member Payroll</b>
1994	\$28,260	\$25,066	\$3,194	89 %	\$7,625	42 %
1995	30,556	27,651	2,905	90 %	7,973	36 %
1995*	30,224	27,651	2,573	91 %	7,973	32 %
1996	32,631	30,534	2,097	94 %	8,340	25 %
1997	34,971	33,846	1,125	97 %	8,640	13 %
1998	37,714	38,360	(646)	102 %	9,017	0 %
1999	43,070	43,060	10	100 %	9,477	0 %
2000	46,347	46,844	(497)	101 %	10,192	0 %
2001	49,095	48,748	347	99 %	10,782	3 %
2001*	47,492	48,748	(1,256)	103 %	10,782	0 %
2002	50,872	43,706	7,166	86 %	11,207	64 %
2003	54,756	46,737	8,019	85 %	11,056	73 %
2004	57,573	50,430	7,143	88 %	11,313	63 %
2005	61,099	54,433	6,666	89 %	11,633	57 %
2005*	62,447	54,433	8,014	87 %	11,633	69 %
2006	66,089	61,235	4,854	93 %	11,971	41 %
2007	69,639	67,067	2,572	96 %	12,347	21 %
2008	73,346	55,230	18,116	75 %	12,546	144 %
2009	76,407	57,519	18,888	75 %	12,290	154 %
2010	79,459	60,461	18,997	76 %	12,165	156 %
2010*	80,307	63,515	16,792	79 %	12,165	138 %
2011	84,325	65,274	19,052	77 %	12,103	157 %
2012	86,876	67,670	19,206	78 %	11,884	162 %
2012#	83,664	67,670	15,994	81 %	11,884	135 %
2013	86,407	71,175	15,232	82 %	12,000	127 %

\* Revised actuarial assumptions.

# After benefit changes.



**SCHEDULE OF DEFINED BENEFIT FUNDING PROGRESS  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
(\$ AMOUNTS IN MILLIONS)  
COMBINED PLAN**

---

The schedule below measures the funding progress with respect to the *retirement allowance* portion of OPERS benefits for compliance with GASB Statement No. 25. Assets and liabilities related to post-employment health care benefits are specifically excluded from the schedule. Assets do, however, include market value adjustments.

<b>Valuation Year</b>	<b>Actuarial Accrued Liabilities (AAL)</b>	<b>Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Ratio of Assets to AAL</b>	<b>Active Member Payroll</b>	<b>UAAL as a % of Active Member Payroll</b>
1994						
1995						
1996						
1997						
1998						
1999						
2000						
2001						
2001						
2002						
2003	\$18	\$9	\$9	50 %	\$109	8 %
2004	31	22	9	71 %	141	6 %
2005	47	40	7	85 %	174	4 %
2005*	51	40	11	78 %	174	6 %
2006	72	61	11	85 %	205	5 %
2007	95	84	11	88 %	236	5 %
2008	120	85	35	71 %	255	14 %
2009	148	110	38	74 %	258	15 %
2010	171	138	33	81 %	284	12 %
2010*	177	134	43	76 %	284	15 %
2011	203	161	42	79 %	296	14 %
2012	226	183	43	81 %	310	14 %
2012#	212	183	29	86 %	310	9 %
2013	230	229	1	100 %	331	0 %

\* Revised actuarial assumptions.

# After benefit changes.

**SCHEDULE OF DEFINED BENEFIT FUNDING PROGRESS  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
(\$ AMOUNTS)  
MEMBER DIRECTED PLAN**

---

The schedule below measures the funding progress with respect to the *retirement allowance* portion of OPERS benefits for compliance with GASB Statement No. 25. Assets and liabilities related to post-employment health care benefits are specifically excluded from the schedule. Assets do, however, include market value adjustments.

<b>Valuation Year</b>	<b>Actuarial Accrued Liabilities (AAL)</b>	<b>Valuation Assets</b>	<b>Unfunded Actuarial Accrued Liabilities (UAAL)</b>	<b>Ratio of Assets to AAL</b>	<b>Active Member Payroll</b>	<b>UAAL as a % of Active Member Payroll</b>
1991						
1992						
1993						
1994						
1995						
1995						
1996						
1997						
1998						
1999						
2000						
2001						
2001						
2002						
2003						
2004						
2005						
2005*						
2006						
2007						
2008	\$166,354	\$147,976	\$18,378	89 %	NA	NA
2009	252,670	205,639	47,031	81 %	NA	NA
2010	489,792	438,982	50,810	90 %	NA	NA
2010*	496,004	454,025	41,979	92 %	NA	NA
2011	1,172,900	1,156,151	16,749	99 %	NA	NA
2012	2,665,552	2,523,879	141,673	95 %	NA	NA
2013	6,884,231	6,826,536	57,695	99 %	NA	NA

\* Revised actuarial assumptions.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS\***  
**FOR COMPLIANCE WITH GASB STATEMENT NO. 25**

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<b>Traditional Plan</b>		
<b>Valuation Date December 31</b>	<b>Year Ended December 31</b>	<b>Annual Required Contributions</b>
2004	2006	8.44%
2005	2008	7.12%
2006	2009	7.13%
2007	2010	7.14%
2008	2011	13.33%
2009	2012	13.64%
2010	2013	13.52%
2011	2014	14.15%
2012	2015	11.16%
2013	2016	10.16%

<b>Combined Plan</b>		
<b>Valuation Date December 31</b>	<b>Year Ended December 31</b>	<b>Annual Required Contributions</b>
2004	2006	8.33%
2005	2008	7.29%
2006	2009	7.33%
2007	2010	7.22%
2008	2011	10.00%
2009	2012	10.00%
2010	2013	13.00%
2011	2014	14.00%
2012	2015	11.00%
2013	2016	10.00%

<b>Member Directed Plan</b>		
<b>Valuation Date December 31</b>	<b>Year Ended December 31</b>	<b>Annual Required Contributions</b>
2008	2011	\$ 1,570
2009	2012	4,019
2010	2013	4,342
2011	2014	1,669
2012	2015	14,121
2013	2016	5,751

\* The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.

**SCHEDULE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY@  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
TRADITIONAL, COMBINED AND MEMBER DIRECTED PLANS**

	December 31, 2013					
	General			Public Safety	Law Enforcement	Grand Total
	State	Local	Total			
<b>Accrued Liabilities</b>						
Active and Inactive Members	\$ 13,125,230,538	\$ 19,585,345,427	\$ 32,710,575,965	\$ 6,993,834	\$ 1,509,697,786	\$ 34,227,267,585
Retirees and Beneficiaries	21,203,190,883	29,076,564,761	50,279,755,644	43,075,918	2,094,485,933	52,417,317,495
Total Accrued Liabilities	\$ 34,328,421,421	\$ 48,661,910,188	\$ 82,990,331,609	\$ 50,069,752	\$ 3,604,183,719	\$ 86,644,585,080
<b>Assets</b>						
Active and Inactive Members						
EAF*	\$ 3,036,837,126	\$ 5,870,064,111	\$ 8,906,901,237	\$ 612,268	\$ 596,502,309	\$ 9,504,015,814
ESF	4,834,116,521	7,463,387,318	12,297,503,839	2,954,773	527,964,924	12,828,423,536
Unallocated	45,441,698	66,275,955	111,717,653	73,149	5,048,198	116,839,000
Market Value Adjustment	(1,343,979,748)	(1,960,437,584)	(3,304,417,332)	(2,155,846)	(148,780,608)	(3,455,353,786)
Total Active and Inactive Assets	\$ 6,572,415,597	\$ 11,439,289,800	\$ 18,011,705,397	\$ 1,484,344	\$ 980,734,823	\$ 18,993,924,564
Retirees and Beneficiaries						
A & PR Fund*	\$ 20,592,992,680	\$ 28,086,874,087	\$ 48,679,866,767	\$ 25,483,368	\$ 2,048,501,314	\$ 50,753,851,449
SBF Fund*	610,198,203	989,690,674	1,599,888,877	17,592,550	45,984,619	1,663,466,046
Total R&B Assets	\$ 21,203,190,883	\$ 29,076,564,761	\$ 50,279,755,644	\$ 43,075,918	\$ 2,094,485,933	\$ 52,417,317,495
Total Assets	\$ 27,775,606,480	\$ 40,515,854,561	\$ 68,291,461,041	\$ 44,560,262	\$ 3,075,220,756	\$ 71,411,242,059
Unfunded Actuarial Accrued Liability	\$ 6,552,814,941	\$ 8,146,055,627	\$ 14,698,870,568	\$ 5,509,490	\$ 528,962,963	\$ 15,233,343,021

@ The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.

\* After reserve transfers.

**SCHEDULE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY@  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
TRADITIONAL PLAN**

	December 31, 2013					
	General			Public Safety	Law Enforcement	Grand Total
	State	Local	Total			
<b>Accrued Liabilities</b>						
Active and Inactive Members	\$13,030,407,794	\$19,455,725,451	\$32,486,133,245	\$ 6,993,834	\$1,509,697,786	\$34,002,824,865
Retirees and Beneficiaries	21,199,533,625	29,067,309,094	50,266,842,719	43,075,918	2,094,485,933	52,404,404,570
Total Accrued Liabilities	\$34,229,941,419	\$48,523,034,545	\$82,752,975,964	\$ 50,069,752	\$3,604,183,719	\$86,407,229,435
<b>Assets</b>						
Active and Inactive Members						
EAF*	\$ 2,942,866,750	\$ 5,731,164,805	\$ 8,674,031,555	\$ 612,268	\$ 596,502,309	\$ 9,271,146,132
ESF	4,833,228,207	7,461,994,663	12,295,222,870	2,954,773	527,964,924	12,826,142,567
Unallocated	45,441,698	66,275,955	111,717,653	73,149	5,048,198	116,839,000
Market Value Adjustment	(1,339,258,892)	(1,953,286,644)	(3,292,545,536)	(2,155,846)	(148,780,608)	(3,443,481,990)
Total Active and Inactive Assets	\$ 6,482,277,763	\$11,306,148,779	\$17,788,426,542	\$ 1,484,344	\$ 980,734,823	\$18,770,645,709
Retirees and Beneficiaries						
A & PR Fund*	\$20,589,335,422	\$28,077,618,420	\$48,666,953,842	\$ 25,483,368	\$2,048,501,314	\$50,740,938,524
SBF Fund*	610,198,203	989,690,674	1,599,888,877	17,592,550	45,984,619	1,663,466,046
Total R&B Assets	\$21,199,533,625	\$29,067,309,094	\$50,266,842,719	\$ 43,075,918	\$2,094,485,933	\$52,404,404,570
Total Assets	\$27,681,811,388	\$40,373,457,873	\$68,055,269,261	\$ 44,560,262	\$3,075,220,756	\$71,175,050,279
Unfunded Actuarial Accrued Liability	\$ 6,548,130,031	\$ 8,149,576,672	\$14,697,706,703	\$ 5,509,490	\$ 528,962,963	\$15,232,179,156

@ The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.

\* After reserve transfers.

**SCHEDULE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY@  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
COMBINED PLAN**

	December 31, 2013					
	General			Public Safety	Law Enforcement	Grand Total
	State	Local	Total			
<b>Accrued Liabilities</b>						
Active and Inactive Members	\$ 94,822,744	\$129,619,976	\$224,442,720			\$224,442,720
Retirees and Beneficiaries	1,548,049	4,480,645	6,028,694			6,028,694
Total Accrued Liabilities	\$ 96,370,793	\$134,100,621	\$230,471,414			\$230,471,414
<b>Assets</b>						
Active and Inactive Members						
EAF*	\$ 94,037,801	\$139,003,362	\$233,041,163			\$233,041,163
ESF	736,653	1,157,896	1,894,549			1,894,549
Unallocated	0	0	0			0
Market Value Adjustment	(4,636,620)	(6,962,542)	(11,599,162)			(11,599,162)
Total Active and Inactive Assets	\$ 90,137,834	\$133,198,716	\$223,336,550			\$223,336,550
Retirees and Beneficiaries						
A & PR Fund*	\$ 1,548,049	\$ 4,480,645	\$ 6,028,694			\$ 6,028,694
SBF Fund*	0	0	0			0
Total R&B Assets	\$ 1,548,049	\$ 4,480,645	\$ 6,028,694			\$ 6,028,694
Total Assets	\$ 91,685,883	\$137,679,361	\$229,365,244			\$229,365,244
Unfunded Actuarial Accrued Liability	\$ 4,684,910	(\$3,578,740)	\$ 1,106,170			\$ 1,106,170

@ The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.

\* After reserve transfers.

**SCHEDULE OF UNFUNDED ACTUARIAL ACCRUED LIABILITY@  
FOR COMPLIANCE WITH GASB STATEMENT NO. 25  
MEMBER DIRECTED PLAN**

	December 31, 2013					
	General			Public Safety	Law Enforcement	Grand Total
	State	Local	Total			
<b>Accrued Liabilities</b>						
Active and Inactive Members	\$ -	\$ -	\$ -			\$ -
Retirees and Beneficiaries	2,109,209	4,775,022	6,884,231			6,884,231
Total Accrued Liabilities	\$ 2,109,209	\$ 4,775,022	\$ 6,884,231			\$ 6,884,231
<b>Assets</b>						
Active and Inactive Members						
EAF*	\$ (67,425)	\$ (104,056)	\$ (171,481)			\$ (171,481)
ESF	151,661	234,759	386,420			386,420
Unallocated	0	0	0			0
Market Value Adjustment	(84,236)	(188,398)	(272,634)			(272,634)
Total Active and Inactive Assets	\$ -	\$ (57,695)	\$ (57,695)			\$ (57,695)
Retirees and Beneficiaries						
A & PR Fund*	\$ 2,109,209	\$ 4,775,022	\$ 6,884,231			\$ 6,884,231
SBF Fund*	0	0	0			0
Total R&B Assets	\$ 2,109,209	\$ 4,775,022	\$ 6,884,231			\$ 6,884,231
Total Assets	\$ 2,109,209	\$ 4,717,327	\$ 6,826,536			\$ 6,826,536
Unfunded Actuarial Accrued Liability	\$ -	\$ 57,695	\$ 57,695			\$ 57,695

@ The amounts reported in this schedule do not include contributions for post-employment healthcare benefits.

\* After reserve transfers.

## REQUIRED SUPPLEMENTARY INFORMATION FOR COMPLIANCE WITH GASB STATEMENT NO. 25

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The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest valuation date follows:

Valuation date	December 31, 2013
Actuarial cost method	Individual entry age
Amortization method for unfunded actuarial accrued liabilities	Level percent closed - Traditional and Combined Level dollar closed - Member Directed
Equivalent Single Amortization Period (Years from December 31, 2015)	
Traditional Plan	24
Combined Plan	0
Member Directed Plan	30
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment rate of return	8.00%
Projected salary increases including wage inflation at 3.75%	4.25% - 10.05%
Cost-of-living adjustments	Pre 1/7/2013 Retirees: 3.0% simple Post 1/7/2013 Retirees: 3.0% simple through 2018, then 2.8% simple

	<b>Traditional</b>	<b>Combined</b>	<b>Member Directed</b>	<b>Total</b>
Retirees and beneficiaries receiving benefits	201,841	164	131	202,136
Terminated plan members entitled to but not yet receiving benefits				
Less than 5 years of service	439,343	1,067	0	440,410
5 or more years of service	31,851	560	0	32,411
Total	471,194	1,627	0	472,821
Active plan members				
Less than 5 years of service	135,269	2,745	0	138,014
5 or more years of service	189,912	4,494	0	194,406
Total	325,181	7,239	0	332,420
Total				
Less than 5 years of service	574,612	3,812	0	578,424
5 or more years of service	423,604	5,218	131	428,953
Total	998,216	9,030	131	1,007,377