

#### OHIO PUBLIC EMPLOYEES RETIREMENT SYSTEM

ACTUARIAL VALUATION OF DEFINED BENEFIT ALLOWANCES – TRADITIONAL, COMBINED AND MEMBER DIRECTED PLANS DECEMBER 31, 2011

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August 30, 2012

The Retirement Board Ohio Public Employees Retirement System Columbus, Ohio

#### Ladies and Gentlemen:

The results of the *December 31, 2011 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 information provided.

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.

The Retirement Board August 30, 2012 Page 2

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, 2011 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.

The signing actuaries are Members of the American Academy of Actuaries (MAAA) 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

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#### **SECTION I**

EXECUTIVE SUMMARY

#### **INTRODUCTION**

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, 2011 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 material benefit changes since the last valuation. Actuarial assumptions and methods have been changed since the prior actuarial valuation based upon an experience study issued October 28, 2011.

A summary of the primary valuation results as of December 31, 2011 are presented on the following pages.

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

				2011				20	10
		General			Law				
			Total	Public	Law	Total	Grand		ptions
A. Demographic Information	State	Local	General	Safety	Enforcement	Law	Total	New	Old
- ·									
1. Active Number Counts	115.054	205 157	221.011	0.4	7.545	7.620	220 640	224 507	224.505
a. Traditional Plan b. Combined Plan	115,854 2,419	205,157 4,295	321,011 <u>6,714</u>	84 <u>0</u>	7,545 <u>0</u>	7,629 <u>0</u>	328,640 <u>6,714</u>	334,507 6,667	334,50° 6,66°
c. Total	118,273	209,452	327,725	<u>0</u> 84	7,545	7,629	335,354	341,174	341,174
2. Active Payroll	110,273	207,132	321,123	01	7,515	7,025	333,331	311,171	311,17
a. Traditional Plan	\$ 4,717	\$ 6,945	\$ 11,662	\$ 4	\$ 438	\$ 441	\$ 12,103	\$ 12,165	\$ 12,16
b. Combined Plan	126	<u>170</u>	<u>296</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>296</u>	<u>284</u>	284
c. Total	\$ 4,844	\$ 7,115	\$ 11,958	\$ 4	\$ 438	\$ 441	\$ 12,399	\$ 12,450	\$ 12,450
3. Retired Number Counts	66,039	119,321	185,360	169	4,320	4,489	189,849	181,483	181,48
4. Deferred / Inactive Number Counts	183,166	265,058	448,224	35	934	969	449,193	404,009	404,00
5. Member Directed Active Number Counts	<u>3,282</u>	<u>5,999</u>	<u>9,281</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>9,281</u>	<u>8,652</u>	8,652
6. Total Number Counts	370,760	599,830	970,590	288	12,799	13,087	983,677	935,318	935,318
B. Defined Benefit Assets									
Market Value (MV)     Rate of Return on MV	\$ 24,156	\$ 35,133	\$ 59,289	\$ 37	\$ 2,521	\$ 2,558	\$ 61,847 0.36 %	\$ 63,649 13.43 %	\$ 63,649 13.43 %
<ul><li>3. Funding Value (FV)</li><li>4. Rate of Return on FV</li></ul>	\$ 25,558	\$ 37,172	\$ 62,730	\$ 39	\$ 2,667	\$ 2,706	\$ 65,436 6.09 %	\$ 63,649 13.64 %	\$ 60,60 8.26 %
5. Ratio of FV to MV							105.8%	100.0%	95.2%
C. Defined Benefit Actuarial Results									
1. Normal Cost as a % of Payroll	15.37%	15.14%	15.25%	18.12%	20.18%	20.18%	15.42%	15.39%	15.47%
2. Actuarial Accrued Liability (AAL)									
a. Active	\$ 13,749	\$ 20,221	\$ 33,970	\$ 7	\$ 1,519	\$ 1,526	\$ 35,497	\$ 35,764	\$ 35,56
b. Retired	18,942	25,754	44,696	41	1,854	1,895	46,591	42,363	41,71
c. Deferred/Inactive	1,006	1,409	<u>2,415</u>	1	<u>27</u>	27	<u>2,442</u>	2,357	2,34
d. Total	\$ 33,696	\$ 47,385	\$ 81,081	\$ 49	\$ 3,400	\$ 3,449	\$ 84,530	\$ 80,485	\$ 79,630
3. Unfunded AAL (UAAL)	\$ 8,138	\$ 10,213	\$ 18,351	\$ 9	\$ 733	\$ 742	\$ 19,094	\$ 16,836	\$ 19,03
4. Funded Ratio	75.8 %	78.4 %	77.4 %	81.2 %	78.4 %	78.5 %	77.4 %	79.1 %	76.1 %
D. Amortization Years to Fully Amortize UAAL *	38	26	30	46	24	24	30	24	29
E. Contribution Rates				CY 201	4			CY	2013
1. Pension Contributions									
a. Employer Normal Cost	5.37%	5.14%	5.25%	6.12%	7.18%	7.19%	5.31%	5.30%	5.38%
b. Member Contribution Rate	10.00%	10.00%	10.00%	12.00%	13.00%	12.99%	10.11%	10.09%	10.09%
c. UAAL Contribution Rate	8.63%	8.86%	8.75%	11.98%	10.92%	10.91%	8.84%	7.85%	7.77%
d. Total	24.00%	24.00%	24.00%	30.10%	31.10%	31.09%	24.26%	23.24%	23.24%
2. Retiree Health Contribution Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%
3. Total Employer Contribution Rate	14.00%	14.00%	14.00%	18.10%	18.10%	18.10%	14.15%	14.15%	14.15%

<sup>\*</sup> Based on schedule of employer and member contribution rates shown on page III-3. For the 2011 results, the amortization years shown are from December 31, 2012. For GASB purposes, amortization years are determined based upon scheduled contribution rate increases through 2014. See page XII-10 for additional explanation.

Reported pays for certain State employees were increased by 2% assuming these employees will experience fewer future furlough days than experienced during 2011.

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

				2011				201	.0
		General			Law				
	State	Local	Total General	Public	Law Enforcement	Total Law	Grand Total	Assump New	otions Old
A. Demographic Information	State	Local	General	Safety	Enforcement	Law	1 otai	New	Ola
Active Number Counts	115,854	205,157	321,011	84	7,545	7,629	328,640	334,507	334,507
2. Active Payroll	\$ 4,717	\$ 6,945	\$ 11,662	\$ 4	\$ 438	\$ 441	\$ 12,103	\$ 12,165	\$ 12,165
3. Retired Number Counts	66,021	119,243	185,264	169	4,320	4,489	189,753	181,433	181,433
4. Deferred / Inactive Number Counts	182,675	264,237	446,912	35	934	969	447,881	402,869	402,869
5. Total Number Counts	364,550	588,637	953,187	288	12,799	13,087	966,274	918,809	918,809
B. Defined Benefit Assets									
<ol> <li>Market Value (MV)</li> <li>Rate of Return on MV</li> </ol>	\$ 24,095	\$ 35,039	\$ 24,095	\$ 37	\$ 2,521	\$ 2,558	\$ 61,693 0.36 %	\$ 63,515 13.44 %	\$ 63,515 13.44 %
<ul><li>3. Funding Value (FV)</li><li>4. Rate of Return on FV</li></ul>	\$ 25,494	\$ 37,073	\$ 62,567	\$ 39	\$ 2,667	\$ 2,706	65,274 6.09 %	\$ 63,515 13.66 %	\$ 60,461 8.27 %
5. Ratio of FV to MV							105.8%	100.0%	95.2%
C. Defined Benefit Actuarial Results									
1. Normal Cost as a % of Payroll	15.28%	15.05%	15.14%	18.12%	20.18%	20.18%	15.34%	15.32%	15.37%
Actuarial Accrued Liability (AAL)     a. Active     b. Retired     c. Deferred/Inactive     d. Total	\$ 13,666 18,941 <u>1,004</u> \$ 33,611	\$ 20,108 25,752 <u>1,406</u> \$ 47,266	\$ 33,774 44,693 2,410 \$ 80,877	\$ 7 41 <u>1</u> \$ 49	\$ 1,519 1,854 <u>27</u> \$ 3,400	\$ 1,526 1,895 <u>27</u> \$ 3,449	\$ 35,301 46,588 2,437 \$ 84,325	\$ 35,592 42,362 2,354 \$ 80,307	\$ 35,398 41,715 2,345 \$ 79,459
3. Unfunded AAL (UAAL)	\$ 8,117	\$ 10,192	\$ 18,309	\$ 9	\$ 733	\$ 742	\$ 19,052	\$ 16,792	\$ 18,997
4. Funded Ratio	75.9 %	78.4 %	77.4 %	81.2 %	78.4 %	78.5 %	77.4 %	79.1 %	76.1 %
D. Amortization Years to Fully Amortize UAAL *	39	26	31	46	24	24	30	25	30
E. Contribution Rates				CY 2014				CY 20	013
Pension Contributions     a. Employer Normal Cost     b. Member Contribution Rate     c. UAAL Contribution Rate     d. Total	5.28% 10.00% <u>8.72%</u> 24.00%	5.05% 10.00% <u>8.95%</u> 24.00%	5.14% 10.00% <u>8.86%</u> 24.00%	6.12% 12.00% <u>11.98%</u> 30.10%	7.18% 13.00% 10.92% 31.10%	7.19% 12.99% 10.91% 31.09%	5.23% 10.11% <u>8.92%</u> 24.26%	5.23% 10.09% <u>7.92%</u> 23.24%	5.28% 10.09% <u>7.87%</u> 23.24%
2. Retiree Health Contribution Rate	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	1.00%
3. Total Employer Contribution Rate	14.00%	14.00%	14.00%	18.10%	18.10%	18.10%	14.15%	14.15%	14.15%

<sup>\*</sup> Based on schedule of employer and member contribution rates shown on page III-3. For the 2011 results, the amortization years shown are from December 31, 2012. For GASB purposes, amortization years are determined based upon scheduled contribution rate increases through 2014. See page XII-10 for additional explanation.

Reported pays for certain State employees were increased by 2% assuming these employees will experience fewer future furlough days than experienced during 2011.

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

		2011		2010						
	Ge	ne ral	Grand	Aggumnt	ions					
	State	Local	Total	Assumpt New	Old					
A. Demographic Information										
1. Active Number Counts	2,419	4,295	6,714	6,667	6,667					
2. Active Payroll	\$ 126	\$ 170	\$ 296	\$ 285	\$ 285					
3. Retired Number Counts	12	46	58	32	32					
4. Deferred / Inactive Number Counts	<u>491</u>	<u>821</u>	<u>1,312</u>	<u>1,140</u>	<u>1,140</u>					
5. Total Number Counts	2,922	5,162	8,084	7,839	7,839					
B. Defined Benefit Assets										
<ol> <li>Market Value (MV)</li> <li>Rate of Return on MV</li> </ol>	\$ 61	\$ 92	\$ 153 0.47 %	\$ 134 7.82 %	\$ 134 7.82 %					
<ul><li>3. Funding Value (FV)</li><li>4. Rate of Return on FV</li></ul>	\$ 64	\$ 97	\$ 161 6.12 %	\$ 134 1.81 %	\$ 138 5.15 %					
5. Ratio of FV to MV			105%	100%	103%					
C. Defined Benefit Actuarial Results										
1. Normal Cost as a % of Payroll	16.99%	16.83%	16.89%	16.89%	17.00%					
Actuarial Accrued Liability (AAL)     a. Active     b. Retired     c. Deferred/Inactive     d. Total	\$ 83 0 2 \$ 85	\$ 113 1 3 \$ 118	\$ 196 2 <u>5</u> \$ 203	\$ 172 1 4 \$ 177	\$ 16° \$ 2 \$ 17°					
3. Unfunded AAL (UAAL)	\$ 21	\$ 21	\$ 42	\$ 43	\$ 33					
4. Funded Ratio	75.1 %	82.3 %	79.3 %	75.5 %	80.5 %					
D. Amortization Years to Fully Amortize UAAL *	2	1	2	3	2					
E. Contribution Rates		CY 2014		CY 201	13					
<ol> <li>Total Normal Cost</li> <li>Member Contribution Rate</li> <li>Employer Normal Cost</li> </ol>	16.99% 10.00% 6.99%	16.83% 10.00% 6.83%	16.89% 10.00% 6.89%	16.89% 10.00% 6.89%	17.00% <u>10.00%</u> 7.00%					
4. Other Contributions #	7.01%	7.17%	7.11%	7.11%	7.00%					
5. Total Employer Contribution Rate	14.00%	14.00%	14.00%	14.00%	14.00%					

<sup>\*</sup> Based on schedule of employer and member contribution rates shown on page III-3. For the 2011 results, the amortization years shown are from December 31, 2012.

Reported pays for certain State employees were increased by 2% assuming these employees will experience fewer future furlough days than experienced during 2011.

<sup>#</sup> 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

		2011	2010					
	Gene	eral						
	_		Grand	Assum	•			
	State	Local	Total	New	Old			
A. Demographic Information								
1. Active Number Counts	3,282	5,999	9,281	8,652	8,652			
2. Retired Number Counts	6	32	38	18	18			
3. Deferred / Inactive Number Counts	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>			
4. Total Number Counts	3,288	6,031	9,319	8,670	8,670			
B. Defined Benefit Assets								
Market Value (MV)     Rate of Return on MV	\$ 171,115	\$940,549	\$1,111,664 0.41 %	\$454,025 12.98 %	\$454,025 12.98 %			
3. Funding Value (FV) 4. Rate of Return on FV	\$ 177,963	\$978,188	\$1,156,151 6.10 %	\$454,025 13.82 %	\$438,982 8.95 %			
5. Ratio of FV to MV			104.0%	100.0%	96.7%			
C. Defined Benefit Actuarial Results								
1. Normal Cost as a % of Payroll								
2. Actuarial Accrued Liability (AAL)								
a. Active	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0			
b. Retired c. Deferred/Inactive	159,649 0	1,013,251	1,172,900 0	496,004 0	489,792 0			
d. Total	159,649	1,013,251	1,172,900	496,004	489,792			
3. Unfunded AAL (UAAL)	(\$18,314)	\$ 35,063	\$ 16,749	\$ 41,979	\$ 50,810			
4. Funded Ratio			98.6 %	91.5 %	89.6 %			

#### **COMMENTS AND CONCLUSION**

The December 31, 2011 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
  30 years for the System in total.

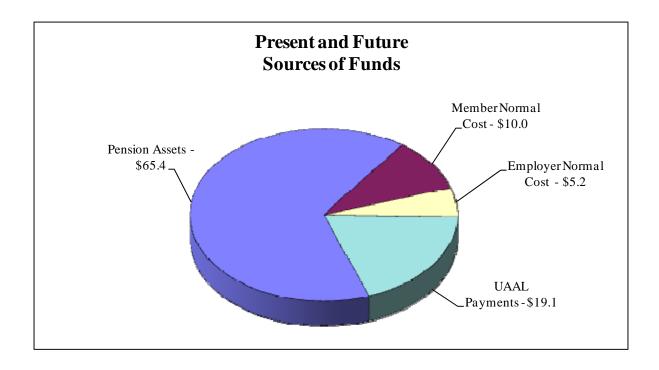
Actuarial Assumptions and Methods. The December 31, 2011 actuarial valuation reflects new assumptions adopted in October 2011 as the result of an Experience Study covering the years 2006-2010. Actuarial assumptions and methods are described in section X of this report.

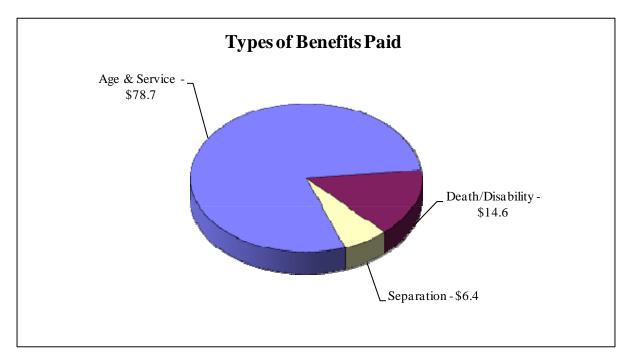
Experience. The computed amortization period, taking into account all scheduled increases in contribution rates is 30 years, compared with the 29 year period that had been reported in the December 31, 2010 valuation. Measured on a market value basis, investment return was 0.36%. This figure is based upon an actuarial calculation and may not agree with figures reported elsewhere. The return on the funding value of assets was 6.09% due to only partial recognition of the 2011 market value loss. Since the expected return on the funding value of assets is 8%, the actual return of 6.09% resulted in a increase to the amortization years. Individual salary increases during 2011 were less than expected on average which improved the amortization period. However, a decrease in active member total payroll during 2011 resulted in an increase to the amortization years. Continued decreases in the active member payroll would result in continued upward pressure on the amortization period. Information concerning 2011 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, 2011 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 \$99.7 BILLION\* OF DEFINED BENEFIT PROMISES FOR PRESENT ACTIVE AND RETIRED MEMBERS DECEMBER 31, 2011

#### (DOLLAR AMOUNTS IN BILLIONS)





<sup>\*</sup> Present value of future benefits – all divisions combined.

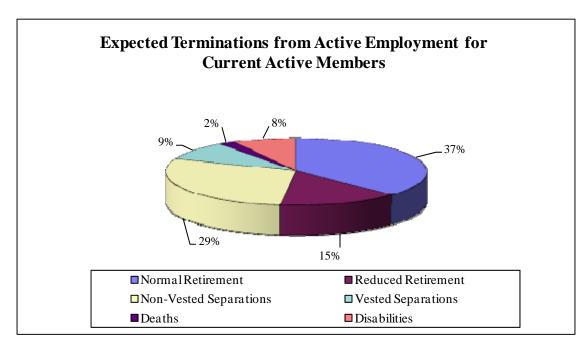
### DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION GROUP AVERAGES - COMPARATIVE STATEMENT

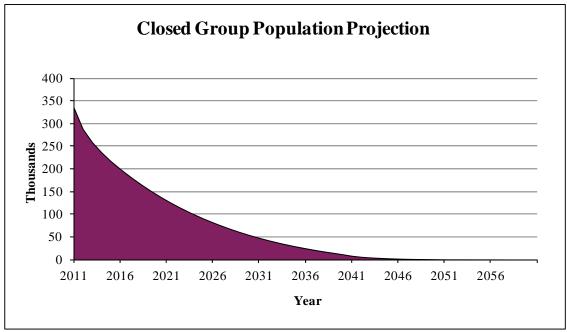
		No. of		Group Av	erages		
		Active	Attained	Accrued		al Payroll	
Valuation Group	Dec. 31	Members	Age	Service Yrs.	Average	Increase	
STATE	1975	83,220	40.6 yrs.	6.5 yrs.	\$ 9,441	6.4 %	@
	1980	92,872	39.4	7.3	13,934	8.1 %	@
	1985	89,256	39.2	8.4	18,677	7.4 %	@
	1990	98,939	40.7	8.1	25,281	6.2 %	@
	1995	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 %	
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 %	
LAW *	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 %	
TOTAL	2003	353,584	42.5 yrs.	9.4 yrs.	\$ 31,577	-	
	2004	355,287	42.7	9.5	32,240	2.1 %	
	2005 2006	358,804 362,130	42.8 42.9	9.5 9.5	32,906 33,621	2.1 % 2.2 %	
	2007	364,076	42.9	9.6	34,562	2.8 %	
	2008	356,388	43.2	9.8	35,919	3.9 %	
	2009	348,112	43.3	10.0	36,047	0.4 %	
	2010 2011	341,174 335,354	43.3 43.2	10.0 9.9	36,491 36,974	1.2 % 1.3 %	
	2011	333,334	43.2	9.9	30,974	1.5 %	

<sup>@ 5-</sup>year annual compound rate.

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

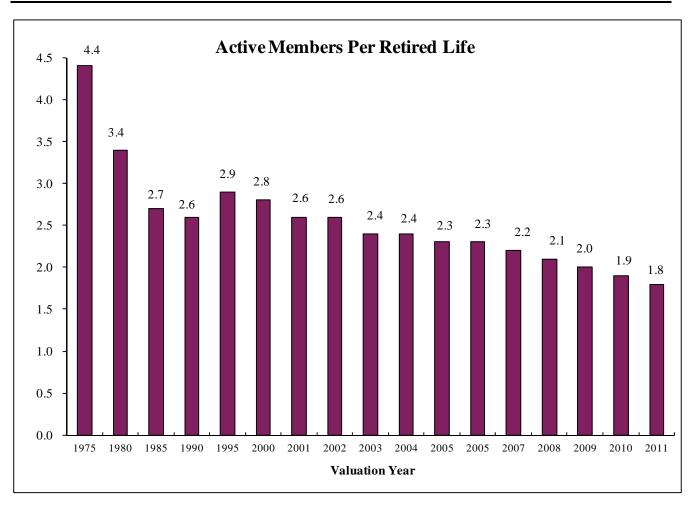
### DEVELOPMENT OF PRESENT DEFINED BENEFIT POPULATION DECEMBER 31, 2011

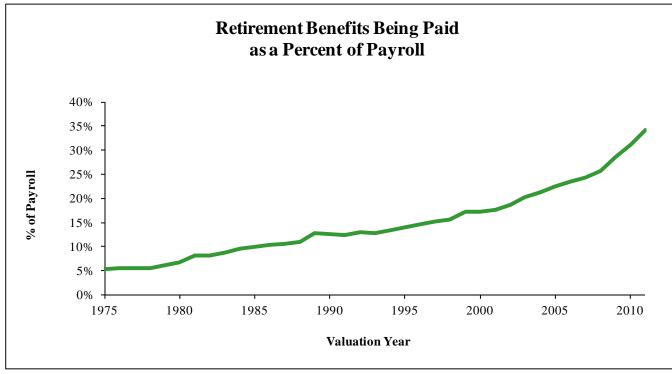




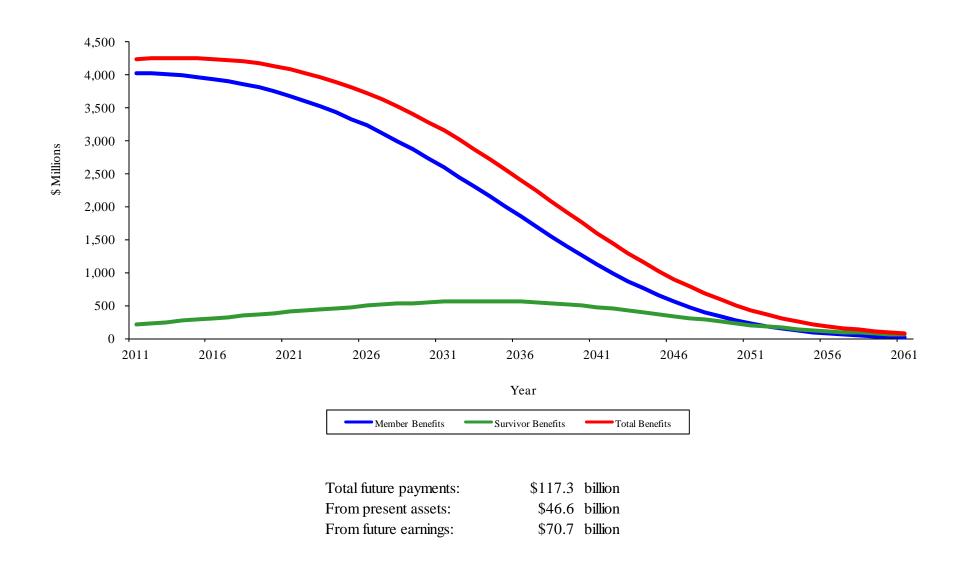
The charts above show the expected future development of the present population in simplified terms. The defined benefit portion of the Retirement System presently covers 335,354 active members. Eventually, 29% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. 61% 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. 10% 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, 2011





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



## ALL DIVISIONS DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011

#### BY ATTAINED AGE AND YEARS OF SERVICE

Attained			Years of	Service To Valua	\$55,555         \$55,755         \$54,024           6,744         7,798         3,548         154           358,995,697         \$454,786,387         \$206,638,187         \$8,846,193           \$53,232         \$58,321         \$58,241         \$57,443           6,684         7,415         6,553         1,956           332,074,881         \$414,636,286         \$399,604,876         \$118,703,485           \$49,682         \$55,919         \$60,980         \$60,687           6,076         6,540         4,717         2,670           292,137,110         \$345,449,515         \$279,782,111         \$171,143,327           \$48,080         \$52,821         \$59,314         \$64,099           3,699         4,005         2,810         1,633           173,541,169         \$206,975,527         \$160,507,378         \$108,356,324           \$46,916         \$51,679         \$57,120         \$66,354           1,137         1,110         743         \$60           \$46,781,365         \$53,185,089         \$39,214,144         \$33,339,129           \$41,145         \$47,914         \$52,778         \$59,534           \$536         416         276         287			
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19	9,878							9,878
Tot. Pay	\$60,450,956							\$60,450,956
Avg. Pay	\$6,120							\$6,120
20-24	32,417	434						32,851
Tot. Pay	\$346,035,180	\$8,163,068						\$354,198,248
Avg. Pay	\$10,674	\$18,809						\$10,782
11vg. 1 dy	Ψ10,074	Ψ10,009						ψ10,702
25-29	21,021	5,029	258					26,308
Tot. Pay	\$515,248,696	\$187,142,983	\$9,801,808					\$712,193,487
Avg. Pay	\$24,511	\$37,213	\$37,992					\$27,071
30-34	16,269	10,281	4,166	152				30,868
Tot. Pay	\$430,886,787	\$442,345,874	\$189,633,201					\$1,069,602,718
Avg. Pay	\$26,485	\$43,026	\$45,519					\$34,651
		•		·				
35-39	10,307	7,925	8,724	· ·				29,856
Tot. Pay	\$305,517,640	\$350,093,140	\$431,960,493					\$1,235,907,245
Avg. Pay	\$29,642	\$44,176	\$49,514	\$51,380	\$45,838			\$41,396
40-44	10,235	7,666	8,578	7,873	3,373	133		37,858
Tot. Pay	\$298,127,242	\$331,013,361	\$418,484,642	\$437,382,122	\$188,060,442	\$7,185,215		\$1,680,253,024
Avg. Pay	\$29,128	\$43,179	\$48,786	\$55,555	\$55,755	\$54,024		\$44,383
45-49	9,208	7,346	7,678	6711	7 709	2 5 4 9	154	42,476
Tot. Pay	\$252,418,731	\$305,940,176	\$361,301,366	· ·		, , , , , , , , , , , , , , , , , , ,		\$1,948,926,737
Avg. Pay	\$232,418,731	\$41,647	\$47,057					\$45,883
Avg. 1 ay	Ψ21,713	Ψ-1,0-7	φ+1,051	ψ33,232	\$30,321	\$30,241	Ψ37,++3	ψ+3,003
50-54	8,677	7,026	7,810					46,121
Tot. Pay	\$226,691,719	\$276,195,937	\$346,718,655					\$2,114,625,839
Avg. Pay	\$26,126	\$39,311	\$44,394	\$49,682	\$55,919	\$60,980	\$60,687	\$45,850
55-59	6,870	6,013	6,851	6,076	6,540	4,717	2,670	39,737
Tot. Pay	\$165,758,021	\$227,746,245	\$291,393,296	\$292,137,110	-	·	•	\$1,773,409,625
Avg. Pay	\$24,128	\$37,876	\$42,533					\$44,629
60.64	4 225	2.704	4.077	2.000	4.005	2.010	1 (22	24.552
60-64 Tot. Pay	4,335 \$88,938,971	3,794 \$131,239,722	4,277 \$176,505,311			·	,	24,553 \$1,046,064,402
Avg. Pay	\$20,516	\$34,591	\$41,268					\$42,604
Avg. 1 ay	\$20,510	\$34,391	\$41,200	\$40,910	\$31,079	\$37,120	\$00,334	\$42,004
65-69	2,443	1,576	1,509	· ·				9,078
Tot. Pay	\$29,440,187	\$40,479,350	\$55,248,280	\$46,781,365	\$53,185,089	\$39,214,144	\$33,339,129	\$297,687,544
Avg. Pay	\$12,051	\$25,685	\$36,613	\$41,145	\$47,914	\$52,778	\$59,534	\$32,792
70 & Over	2,077	1,270	908	536	416	276	287	5,770
Tot. Pay	\$15,605,982	\$16,066,537	\$17,767,296	\$15,450,647				\$106,144,873
Avg. Pay	\$7,514	\$12,651	\$19,568					\$18,396
Totals	133,737	58,360	50,759	35 681	30 777	18 780	7 260	335,354
Tot. Pay	\$2,735,120,112	\$2,316,426,393	\$2,298,814,348	\$1,805,935,305	\$1,683,141,086	\$1,104,485,515	\$455,541,939	\$12,399,464,698
Avg. Pay	\$20,451	\$39,692	\$45,289	\$50,613	\$54,688	\$58,812	\$62,747	\$36,974

# ALL DIVISIONS DEFINED BENEFIT ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY GENDER AND YEARS OF SERVICE

Service	Ac	tive Member Co	unt	Active Member Pays					
Years	Males	Females	Total	Total	Average				
			-0 -1		***				
0	27,382	31,235	58,617	\$ 729,126,322	\$12,439				
1	12,425	14,500	26,925	573,190,864	21,288				
2	8,192	8,574	16,766	428,451,884	25,555				
3	6,910	8,754	15,664	474,524,044	30,294				
4	7,248	8,517	15,765	529,827,001	33,608				
5	6,487	7,808	14,295	531,850,654	37,205				
6	5,714	6,999	12,713	486,118,233	38,238				
7	5,085	6,075	11,160	455,027,235	40,773				
8	4,788	5,379	10,167	418,265,981	41,140				
9	4,550	5,475	10,025	425,164,290	42,410				
10	4,866	5,798	10,664	451,780,062	42,365				
11	4,996	6,546	11,542	513,886,682	44,523				
12	4,881	5,684	10,565	483,809,645	45,794				
13	4,296	5,105	9,401	446,416,066	47,486				
14	3,996	4,591	8,587	402,921,892	46,922				
15 & Up	45,026	47,472	92,498	5,049,103,843	54,586				
Totals	156,842	178,512	335,354	\$12,399,464,698	\$36,974				

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

	2011		201	.0			
		% of Accrued		% of Accrued			
	Total \$	Liabilities	Total \$	Liabilities			
Beginning of Year							
1. Total Accrued Liabilities *	\$80,484.77	100.0 %	\$76,555.02	100.0 %			
2. Valuation Assets #	63,649.06	79.1 %	57,629.42	75.3 %			
Unfunded Actuarial Accrued     Liabilities	\$16,835.71	20.9 %	\$18,925.60	24.7 %			
Experience Gains(Losses)							
4. Gains (losses) in economic risk areas							
a. Pay increases	\$ 362.46	0.5 %	\$ 775.96	1.0 %			
b. Investment return	(1,196.46)	(1.5)%	150.09	0.2 %			
c. Total	(834.00)	(1.0)%	926.05	1.2 %			
5. Gains (losses) from							
decrement experience							
a. Service retirement	(179.05)	(0.2)%	(20.59)	0.0 %			
b. Disability retirement	92.60	0.1 %	61.98	0.1 %			
c. Death-in-service	36.03	0.0 %	32.08	0.0 %			
d. Other separations	16.45	0.0 %	98.08	0.1 %			
e. Total	(33.97)	(0.1)%	171.55	0.2 %			
6. Total experience gains							
(losses): (4c) + (5e)	\$ (867.97)	(1.1)%	\$ 1,097.60	1.4 %			
End of Year							
7. Total Accrued Liabilities	\$84,529.74	100.0 %	\$79,630.07	100.0 %			
8. Valuation Assets	65,436.13	77.4 %	60,599.50	76.1 %			
9. Unfunded Actuarial Accrued							
Liabilities	\$19,093.61	22.6 %	\$19,030.57	23.9 %			

<sup>\*</sup> Beginning of year accrued liability for 2011 is based on new assumptions adopted after the completion of the December 31, 2010 valuation.

<sup>#</sup> The funding value of assets as of December 31, 2010 was set to the market value.

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

	201	1	201	
		% of Accrued		% of Accrued
	Total \$	Liabilities	Total \$	Liabilities
Beginning of Year				
1. Total Accrued Liabilities *	\$80,307.29	100.0 %	\$76,407.06	100.0 %
2. Valuation Assets #	63,515.01	79.1 %	57,519.36	75.3 %
Unfunded Actuarial Accrued     Liabilities	\$16,792.28	20.9 %	\$18,887.70	24.7 %
Experience Gains (Losses)				
4. Gains (losses) in economic risk areas				
a. Pay increases	\$ 359.46	0.4 %	\$ 773.67	1.0 %
b. Investment return	(1,193.76)	(1.5)%	153.52	0.2 %
c. Total	(834.30)	(1.1)%	927.19	1.2 %
5. Gains (losses) from decrement experience				
a. Service retirement	(178.97)	(0.2)%	(20.47)	0.0 %
b. Disability retirement	88.08	0.1 %	59.22	0.1 %
c. Death-in-service	36.06	0.0 %	32.04	0.0 %
d. Other separations	15.88	0.0 %	99.76	0.1 %
e. Total	(38.95)	0.0 %	170.55	0.2 %
6. Total experience gains				
(loss es): $(4c) + (5e)$	\$ (873.25)		\$ 1,097.74	
End of Year				
7. Total Accrued Liabilities	\$84,325.49	100.0 %	\$79,458.52	100.0 %
8. Valuation Assets	65,273.93	77.4 %	60,461.44	76.1 %
9. Unfunded Actuarial Accrued				
Liabilities	\$19,051.56	22.6 %	\$18,997.08	23.9 %

<sup>\*</sup> Beginning of year accrued liability for 2011 is based on new assumptions adopted after the completion of the December 31, 2010 valuation.

<sup>#</sup> The funding value of assets as of December 31, 2010 was set to the market value.

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

	201	1	20	)10
	Total \$	% of Accrued Liabilities	Total \$	% of Accrued Liabilities
Beginning of Year				
1. Total Accrued Liabilities *	\$176.98	100.0 %	\$147.71	100.0 %
2. Valuation Assets #	133.60	75.5 %	109.85	74.4 %
Unfunded Actuarial Accrued     Liabilities	\$ 43.38	24.5 %	\$ 37.86	25.6 %
Experience Gains (Losses)				
4. Gains (losses) in economic risk areas				
a. Pay increases	\$ 3.00	1.7 %	\$ 2.29	1.5 %
b. Investment return	(2.69)	(1.5)%	(3.44)	(2.3)%
c. Total	0.31	0.2 %	(1.15)	(0.8)%
5. Gains (losses) from				
decrement experience a. Service retirement	(0.09)	(0.1)%	(0.12)	(0.1)%
b. Disability retirement	4.52	2.6 %	2.78	1.9 %
c. Death-in-service	(0.02)	0.0 %	0.04	0.0 %
d. Other separations	0.55	0.3 %	(1.67)	(1.1)%
e. Total	4.96	2.8 %	1.03	0.7 %
6. Total experience gains				
(losses): (4c) + (5e)	\$ 5.27	3.0 %	\$ (0.12)	(0.1)%
End of Year				
7. Total Accrued Liabilities	\$203.08	100.0 %	\$171.06	100.0 %
8. Valuation Assets	161.04	79.3 %	137.63	80.5 %
9. Unfunded Actuarial Accrued				
Liabilities	\$ 42.04	20.7 %	\$ 33.43	19.5 %

<sup>\*</sup> Beginning of year accrued liability for 2011 is based on new assumptions adopted after the completion of the December 31, 2010 valuation.

<sup>#</sup> The funding value of assets as of December 31, 2010 was set to the market value.



#### FINANCIAL DATA FOR CALENDAR YEAR 2011 CONSOLIDATED ASSET RECONCILIATION ALL PLANS, ALL DIVISIONS

		Traditional Pension Plan	(	Portion of Combined nsion Plan	N	1ember-		Fotal Pension efined Benefit	H	401(h) Health Care		Member Directed VEBA		Health	C	Portion of ombined nsion Plan				al Defined ntribution		Total 2011
Beginning Market Value @ 12/31/11  Assets Held in Trust for Benefits  Assets Held for Upcoming Year Budget		63,413,744,726 101,260,795		<u> </u>		-		63,547,798,702 \$ 101,260,795		-	\$	<u> </u>		2,396,366,052		-		-		446,195,141	Ċ	76,390,359,895 101,260,795
Total Beginning Market Value @ 12/31/11	\$	63,515,005,521	\$	133,599,951	\$	454,025	\$	63,649,059,497 \$	Þ	12,319,743,979	\$	76,622,073	\$ 12	2,396,366,052	Þ	167,550,828	\$ .	2/8,644,313	\$	146,195,141	\$	76,491,620,690
External Cash Flows:																						
Revenues:  Member Contributions / Deposits	\$	1.286,724,703	¢	237.864	¢		\$	1.286.962.567 \$	r		\$		ф		r	29,391,560	¢	36,288,383	σ	65.679.943	\$	1,352,642,510
Employer Contributions / Deposits	\$	1,286,724,703	\$	23,288,993	Э	-	Э	1,286,962,367 \$	Þ	508,030,790	Ф	15,991,930	\$	524,022,720	\$	5,934	\$	33,791,406	\$	33,797,340	Э	1,870,545,180
Retiree Paid Health Care Premiums		1,209,430,127		23,200,993		-		1,312,723,120		148,370,246		15,991,950		148,370,246		3,934		33,791,400		33,797,340		148.370.246
Refund from HC Vendors (Formulary & Guarantees)		-		-		-		-		84,515,422		-		84,515,422		-		-		-		84,515,422.00
Federal Subsidies (Med D, ERRP & Direct Subsidy)								_		192,118,407		-		192,118,407				_		_		192,118,407.00
Other Income / Cancelled Warrants		340,460		_		_		340,460		10,915,043		_		10,915,043		_		_		_		11,255,503
Total Revenues	\$	2,576,501,290	\$	23,526,857	\$	-	\$	2,600,028,147 \$	\$		\$	15,991,930	\$	959,941,838	\$	29,397,494	\$	70,079,789	\$	99,477,283	\$	3,659,447,268
		,,,		- / /				,,,		, ., .,		- , ,		,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		. , , .		, ,		, ,		-,,
Disbursements:																						
Refunds of Member Accounts	\$	(302,812,289)	\$	(821,946)	) \$	-	\$	(303,634,235) \$	\$	-	\$	- 5	\$	- 5	\$	(5,640,903)	\$	(14,396,904)	\$	(20,037,807)	\$	(323,672,042)
Retirement Benefits		(4,329,452,581)		(187,052)	)	(71,192)		(4,329,710,825)		-		-		-		(118,163)		(89,279)		(207,442)		(4,329,918,267)
Retiree Paid Post Retirement Health Care		-		-		-		-		(148,370,246)		-		(148,370,246)		-		-		-		(148,370,246)
ER Paid Post Retirement Health Care		-		-		-		-		(1,304,629,646)		(895,574)	(	1,305,525,220)		-		-		-		(1,305,525,220)
ER Paid Post Retirement Medicare		-		-		-		-		(109,072,281)		-		(109,072,281)		-		-		-		(109,072,281)
RMA Funding		-		-		-		-		(13,489,405)		-		(13,489,405)		-		-		-		(13,489,405)
Administrative Expenses		(72,677,919)		-		-		(72,677,919)		(17,466,208)	_	(996,285)		(18,462,493)		(2,759,418)		(2,754,236)		(5,513,654)		(96,654,066)
Total Disbursements	\$	(4,704,942,789)	\$	(1,008,998)	) \$	(71,192)	\$	(4,706,022,979) \$	\$	(1,593,027,786)	\$	(1,891,859)	\$ (	1,594,919,645)	\$	(8,518,484)	\$	(17,240,419)	\$	(25,758,903)	\$	(6,326,701,527)
Net External Cash Flow	\$	(2,128,441,499)	\$	22,517,859	\$	(71,192)	\$	(2,105,994,832) \$	\$	(649,077,878)	\$	14,100,071	\$	(634,977,807)	\$	20,879,010	\$	52,839,370	\$	73,718,380	\$	(2,667,254,259)
Inter-Plan Activity																						
Member Balance Transfers & Plan Switches	\$	4,126,746	\$	(1,571,029)	) \$	725,647	\$	3,281,364 \$	\$	- :	\$	- 5	\$	- 5	\$	(985,809)	\$	(2,295,555)	\$	(3,281,364)	\$	_
DCP Fixed Assets Advanced by TP		112.475		-		-		112,475		_		(25,870)		(25,870)		(30,334)		(56,271)		(86,605)		_
Mitigation Rate		4,990,382		(2,252,949)	)	_		2,737,433		_		-		-		-		(2,737,433)		(2,737,433)		_
Interest on 12/31/10 Advance Balance		848,061		-		-		848,061		_		(2,302)		(2,302)		(289,241)		(556,518)		(845,759)		-
Income Applied to Advance (Loan) Balance		-		-		-		-		-		-		-		-		-		-		-
Total Inter-Plan Activity	\$	10,077,664	\$	(3,823,978)	) \$	725,647	\$	6,979,333 \$	\$	- :	\$	(28,172)	\$	(28,172)	\$	(1,305,384)	\$	(5,645,777)	\$	(6,951,161)	\$	-
Investment Income:																						
Interest and Dividends	\$	1.308,772,914	\$	2,968,499	\$	14.078	\$	1.311.755.491 \$	t	337.095.161	\$	1.738.493	\$	338.833.654	ŧ	410.981	\$	634.855	¢	1,045,836	\$	1.651.634.981
Other Ordinary Investment Income	Ψ	1,331,242,330	Ψ	3,019,463	Ψ	14,319	Ψ	1,334,276,112	۲	3,579,587	Ψ	1,768,340	Ψ	5,347,927	۴	(6)	Ψ	(9)	Ψ	(15)	Ψ	1,339,624,024
Realized Capital Value Changes		(2,165,958,777)		(4,912,728)	)	(23,298)		(2,170,894,803)		(401,560,941)		(2,877,126)		(404,438,067)		(6,437,015)		(9,943,455)		(16,380,470)		(2,591,713,340)
External Asset Management Fees		(178,044,428)		(403,833)		(1,915)		(178,450,176)		(13,648,040)		(236,503)		(13,884,543)		(255,484)		(445,727)		(701,211)		(193,035,930)
Rounding		-		(-103,033)	,	(1,513)		-		(15,040,040)		-		(15,00-1,5-15)		-		-		-		(175,055,750)
Investment Return	\$	296,012,039	\$	671,401	\$	3,184	\$	296,686,624 \$	\$	(74,534,233)	\$	393,204	\$	(74,141,029)	\$	(6,281,524)	\$	(9,754,336)	\$	(16,035,860)	\$	206,509,735
Ending Market Value @ 12/31/11	\$	61,692,653,725	\$	152,965,233	\$	1,111,664	\$	61,846,730,622 \$	\$	11,596,131,868	\$	91,087,176	\$ 1	1,687,219,044	\$	180,842,930	\$	316,083,570	\$	196,926,500	\$	74,030,876,166

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

Year Ended December 31	2010	2010**	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$57,629,417,411	57,629,417,411	63,649,059,497			
B. Market Value End of Year	63,649,059,497	63,649,059,497	61,846,730,622			
C. Market Value Beginning of Year	57,733,761,582	57,733,761,582	63,649,059,497			
<ul> <li>D. Non-Investment/Administrative Net Cash Flow</li> <li>D1. Member Contributions</li> <li>D2. Employer and other Non-Member Contributions</li> <li>D3. Refund of Member Accounts</li> <li>D4. Retirement Benefits</li> <li>D5. Member Balance Transfers</li> <li>D6. Total Net Cash Flow: D1+D2+D3+D4+D5</li> </ul>	1,277,263,108 1,180,697,746 (220,131,313) (3,961,305,796) 1,993,522 (1,721,482,733)	1,277,263,108 1,180,697,746 (220,131,313) (3,961,305,796) 1,993,522 (1,721,482,733)	1,286,962,567 1,315,803,013 (303,634,235) (4,329,710,825) 3,281,364 (2,027,298,116)			
E. Investment Return E1. Market Total: B-C-D6 E2. Assumed Rate of Return E3. Assumed Amount of Return E4. Amount Subject to Phase-In: E1-E3	7,636,780,648 8.00% 4,541,494,084 3,095,286,564	7,636,780,648 8.00% 4,541,494,084 3,095,286,564	224,969,241 8.00% 5,010,832,835 (4,785,863,594)			
F. Phased-In Recognition of Investment Return F1. Current year: 0.25xE4 F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Total Phase-Ins	773,821,641 1,351,809,420 (1,975,542,045) - 150,089,016	773,821,641 1,351,809,420 (1,975,542,045) - 150,089,016	(1,196,465,899) - - - (1,196,465,899)	(\$1,196,465,899) - - - (1,196,465,899)	(\$1,196,465,899) - (1,196,465,899)	(\$1,196,465,897) (1,196,465,897)
<ul> <li>G. Funding Value End of Year</li> <li>G1. Preliminary Funding Value End of Year: A+D6+E3+F5</li> <li>G2. Upper Corridor Limit: 112% x B</li> <li>G3. Lower Corridor Limit: 88% x B</li> <li>G4. Funding Value End of Year</li> <li>H. Difference Between Market and Funding Value</li> </ul>	\$60,599,517,778 71,286,946,637 56,011,172,357 60,599,517,778 3,049,541,719	60,599,517,778 71,286,946,637 56,011,172,357 63,649,059,497	65,436,128,317 69,268,338,297 54,425,122,947 65,436,128,317 (3,589,397,695)	(2,392,931,796)	(1,196,465,897)	_
I. Recognized Rate of Return	8.26 %	13.64 %	6.09 %	( )	( ) / / /	
J. Market Rate of Return	13.43 %	13.43 %	0.36 %			
K. Ratio of Funding Value to Market Value	95 %	100 %	106 %			

<sup>\*\*</sup>Funding Value was set to Market Value as of December 31, 2010.

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

Year Ended December 31	2010	2010**	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$57,519,359,607	\$57,519,359,607	\$63,515,005,521			
B. Market Value End of Year	63,515,005,521	63,515,005,521	61,692,653,725			
C. Market Value Beginning of Year	57,630,423,957	57,630,423,957	63,515,005,521			
<ul> <li>D. Non-Investment/Administrative Net Cash Flow</li> <li>D1. Member Contributions</li> <li>D2. Employer and other Non-Member Contributions</li> <li>D3. Refund of Member Accounts</li> <li>D4. Retirement Benefits</li> <li>D5. Member Balance Transfers</li> <li>D6. Total Net Cash Flow: D1+D2+D3+D4+D5</li> </ul>	1,277,113,073 1,156,321,523 (219,808,143) (3,961,217,461) 4,334,961 (1,743,256,047)	1,277,113,073 1,156,321,523 (219,808,143) (3,961,217,461) 4,334,961 (1,743,256,047)	1,286,724,703 1,294,766,969 (302,812,289) (4,329,452,581) 4,126,746 (2,046,646,452)			
E. Investment Return E1. Market Total:B-C-D6 E2. Assumed Rate of Return E3. Assumed Amount of Return E4. Amount Subject to Phase-In: E1-E3	7,627,837,611 8.00% 4,531,818,527 3,096,019,084	7,627,837,611 8.00% 4,531,818,527 3,096,019,084	224,294,656 8.00% 4,999,334,584 (\$4,775,039,928)			
F. Phased-In Recognition of Investment Return F1. Current year: 0.25xE4 F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Total Phase-Ins	774,004,771 1,352,029,747 (1,972,512,446) - 153,522,072	774,004,771 1,352,029,747 (1,972,512,446) - 153,522,072	(\$1,193,759,982) - - - (1,193,759,982)	(\$1,193,759,982) - - (1,193,759,982)	(\$1,193,759,982)	(\$1,193,759,982) (1,193,759,982)
G. Funding Value End of Year G1. Preliminary Funding Value End of Year: A+D6+E3+F5 G2. Upper Corridor Limit: 112% x B G3. Lower Corridor Limit: 88% x B G4. Funding Value End of Year	\$60,461,444,159 71,136,806,184 55,893,204,858 60,461,444,159	\$60,461,444,159 71,136,806,184 55,893,204,858 63,515,005,521	\$65,273,933,671 69,095,772,172 54,289,535,278 65,273,933,671			
H. Difference Between Market and Funding Value	3,053,561,362	-	(3,581,279,946)	(2,387,519,964)	(1,193,759,982)	-
I. Recognized Rate of Return	8.27 %	13.66 %	6.09 %			
J. Market Rate of Return	13.44 %	13.44 %	0.36 %			
K. Ratio of Funding Value to Market Value	95.00 %	100.00 %	106.00 %			

<sup>\*\*</sup>Funding Value was set to Market Value as of December 31, 2010.

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

Year Ended December 31	2010	2010**	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$ 109,852,165	109,852,165	133,599,951			
B. Market Value End of Year	133,599,951	133,599,951	152,965,233			
C. Market Value Beginning of Year	103,129,693	103,129,693	133,599,951			
<ul> <li>D. Non-Investment/Administrative Net Cash Flow</li> <li>D1. Member Contributions</li> <li>D2. Employer and Other Non-Member Contributions</li> <li>D3. Refund of Member Accounts</li> <li>D4. Retirement Benefits</li> <li>D5. Member Balance Transfers</li> <li>D6. Total Net Cash Flow: D1+D2+D3+D4+D5</li> </ul>	150,035 24,376,223 (323,170) (61,125) (2,574,390) 21,567,573	150,035 24,376,223 (323,170) (61,125) (2,574,390) 21,567,573	237,864 21,036,044 (821,946) (187,052) (1,571,029) 18,693,881			
E. Investment Return E1. Market Total:B-C-D6 E2. Assumed Rate of Return E3. Assumed Amount of Return E4. Amount Subject to Phase-In: E1-E3	8,902,685 8.00% 9,650,876 (748,191)	8,902,685 8.00% 9,650,876 (748,191)	671,401 8.00% 11,435,751 (10,764,350)			
F. Phased-In Recognition of Investment Return F1. Current year: 0.25xE4 F2. First Prior Year F3. Second Prior Year F4. Third Prior Year F5. Total Phase-Ins	(187,048) (224,615) (3,024,314) - (3,435,977)	(187,048) (224,615) (3,024,314) - (3,435,977)	(2,691,088) - - - (2,691,088)	(\$2,691,088) - - (2,691,088)	(\$2,691,088) - (2,691,088)	(\$2,691,086) (2,691,086)
<ul> <li>G. Funding Value End of Year</li> <li>G1. Preliminary Funding Value End of Year: A+D6+E3+F5</li> <li>G2. Upper Corridor Limit: 112% x B</li> <li>G3. Lower Corridor Limit: 88% x B</li> <li>G4. Funding Value End of Year</li> </ul>	\$137,634,637 149,631,945 117,567,957 \$137,634,637	\$137,634,637 149,631,945 117,567,957 133,599,951	161,038,495 171,321,061 134,609,405 \$161,038,495			
H. Difference Between Market and Funding Value	(4,034,686)	-	(8,073,262)	(5,382,174)	(2,691,086)	-
I. Recognized Rate of Return	5.15 %	1.81 %	6.12 %			
J. Market Rate of Return	7.82 %	7.82 %	0.47 %			
K. Ratio of Funding Value to Market Value	103.00 %	100.00 %	105.00 %			

<sup>\*\*</sup>Funding Value was set to Market Value as of December 31, 2010.

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

Year Ended December 31	2010	2010**	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$205,639	\$205,639	454,025			
B. Market Value End of Year	454,025	454,025	1,111,664			
C. Market Value Beginning of Year	207,932	207,932	454,025			
<ul> <li>D. Non-Investment/Administrative Net Cash Flow</li> <li>D1. Member Contributions</li> <li>D2. Employer and Other Non-Member Contributions</li> <li>D3. Refund of Member Accounts</li> <li>D4. Retirement Benefits</li> <li>D5. Member Balance Transfers</li> </ul>	- - (27,210) 232,951	- - (27,210) 232,951	- - (71,192) 725,647			
D6. Total Net Cash Flow: D1+D2+D3+D4+D5	205,741	205,741	654,455			
E. Investment Return E1. Market Total:B-C-D6 E2. Assumed Rate of Return E3. Assumed Amount of Return E4. Amount Subject to Phase-In: E1-E3	40,352 8.00% 24,681 15,671	40,352 8.00% 24,681 15,671	3,184 8.00% 62,500 (59,316)			
<ul> <li>F. Phased-In Recognition of Investment Return</li> <li>F1. Current year: 0.25xE4</li> <li>F2. First Prior Year</li> <li>F3. Second Prior Year</li> <li>F4. Third Prior Year</li> </ul>	3,918 4,288 (5,285)	3,918 4,288 (5,285)	(14,829) - - -	(\$14,829) - -	(\$14,829)	(\$14,829)
F5. Total Phase-Ins	2,921	2,921	(14,829)	(14,829)	(14,829)	(14,829)
<ul> <li>G. Funding Value End of Year</li> <li>G1. Preliminary Funding Value End of Year: A+D6+E3+F5</li> <li>G2. Upper Corridor Limit: 112% x B</li> <li>G3. Lower Corridor Limit: 88% x B</li> <li>G4. Funding Value End of Year</li> </ul>	\$438,982 508,508 399,542 \$438,982	\$438,982 508,508 399,542 454,025	\$1,156,151 1,245,064 978,264 \$1,156,151			
H. Difference Between Market and Funding Value	15,043	-	(44,487)	(29,658)	(14,829)	-
I. Recognized Rate of Return	8.95 %	13.82 %	6.10 %			
J. Market Rate of Return	12.98 %	12.98 %	0.41 %			
K. Ratio of Funding Value to Market Value	97.00 %	100.00 %	104.00 %			

<sup>\*\*</sup> Funding Value was set to Market Value as of December 31, 2010.

### ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS DECEMBER 31, 2011

#### TRADITIONAL, COMBINED AND MEMBER DIRECTED PLANS

			ı	Total DB System		
	•			Public	Law	
	_	State	Local	Safety	Enforcement	Total
(1)	Employer Accumulation Fund					
	(a) Allocated Amounts	\$ 1,195,920,758	\$ 3,037,054,005	(\$4,087,081)	\$ 247,239,098	\$ 4,476,126,780
	(b) Unallocated Amounts Allocated by 1(a)	(29,624,614)	(77,403,058)	<u>106,907</u>	(6,467,096)	(113,387,861)
	(c) Total EAF	\$ 1,166,296,144	\$ 2,959,650,947	(\$3,980,174)	\$ 240,772,002	\$ 4,362,738,919
(2)	Employee Savings Fund					
	(a) Total Member Deposits	\$ 5,150,833,006	\$ 8,017,659,712	\$ 3,091,627	\$ 533,791,577	\$13,705,375,923
	(b) ESF Allocated by (2)(a)	\$ 4,622,797,407	\$ 7,195,512,904	\$ 2,774,473	\$ 479,032,654	\$12,300,117,438
(3)	Retired Assets					
	(a) Allocated Amounts	\$18,326,591,118	\$24,873,085,921	\$38,403,523	\$1,796,691,988	\$45,034,772,550
	(b) Additional and DC Annuities	244,044	46,081,971	<u>0</u>	<u>0</u>	46,326,015
	(c) Total Retiree Assets	\$18,326,835,162	\$24,919,167,892	\$38,403,523	\$1,796,691,988	\$45,081,098,565
<b>(4)</b>	Subtotal: $(1)(c)+(2)(b)+(3)(c)$	\$24,115,928,713	\$35,074,331,743	\$37,197,822	\$2,516,496,644	\$61,743,954,922
(5)	Assets Held For Upcoming Year Budget Allocated According to (4)	40,141,046	58,373,277	62,072	4,199,305	102,775,700
(6)	Total Employer + Employee Defined Benefit Assets: (4)+(5)	\$24,156,069,759	\$35,132,705,020	\$37,259,894	\$2,520,695,949	\$61,846,730,622
<b>(7)</b>	Market Value Adjustment Allocated According to (6)	<u>1,401,945,481</u>	2,038,961,991	<u>2,162,950</u>	146,327,273	3,589,397,695
(8)	Funding Value of Defined Benefit Assets (6)+(7)	\$25,558,015,240	\$37,171,667,011	\$39,422,844	\$2,667,023,222	\$65,436,128,317

## ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS DECEMBER 31, 2011 TRADITIONAL PLAN

			7	Fraditional Plan		
				Public	Law	_
	_	State	Local	Safety	Enforcement	Total
(1)	Employer Accumulation Fund (EAF)					
	(a) Allocated Amounts	\$ 1,136,359,630	\$ 2,946,327,505	(\$4,087,081)	\$ 247,239,098	\$ 4,325,839,152
	(b) Unallocated Amounts Allocated by (1)(a)	(29,724,050)	(77,067,842)	<u>106,907</u>	(6,467,096)	(113,152,081)
	(c) Total EAF	\$ 1,106,635,580	\$ 2,869,259,663	(\$3,980,174)	\$ 240,772,002	\$ 4,212,687,071
<b>(2)</b>	Employee Savings Fund (ESF)					
	(a) Total Member Deposits (Accumulated by Determined Division)	\$ 5,150,413,955	\$ 8,017,255,405	\$ 3,091,627	\$ 533,791,577	\$13,704,552,564
	(b) ESF Allocated by (2)(a)	\$ 4,622,059,571	\$ 7,194,806,553	\$ 2,774,473	\$ 479,032,654	\$12,298,673,251
(3)	Retired Assets					
	(a) Allocated Amounts	\$18,326,183,786	24,870,912,391	\$38,403,523	\$1,796,691,988	\$45,032,191,688
	(b) Additional Annuities	<u>244,044</u>	46,081,971	<u>0</u>	<u>0</u>	46,326,015
	(c) Total Retiree Assets	\$18,326,427,830	\$24,916,994,362	\$38,403,523	\$1,796,691,988	\$45,078,517,703
<b>(4)</b>	Subtotal: $(1)(c)+(2)(b)+(3)(c)$	\$24,055,122,981	\$34,981,060,578	\$37,197,822	\$2,516,496,644	\$61,589,878,025
(5)	Assets Held For Upcoming Year Budget Allocated According to (4)	40,141,046	58,373,277	<u>62,072</u>	4,199,305	102,775,700
(6)	Total Employer + Employee Defined Benefit Assets: (4)+(5)	\$24,095,264,027	\$35,039,433,855	\$37,259,894	\$2,520,695,949	\$61,692,653,725
<b>(7</b> )	Market Value Adjustment Allocated According to (6)	1,398,738,434	2,034,051,289	2,162,950	146,327,273	3,581,279,946
(8)	Funding Value of Defined Benefit Assets (6)+(7)	\$25,494,002,461	\$37,073,485,144	\$39,422,844	\$2,667,023,222	\$65,273,933,671

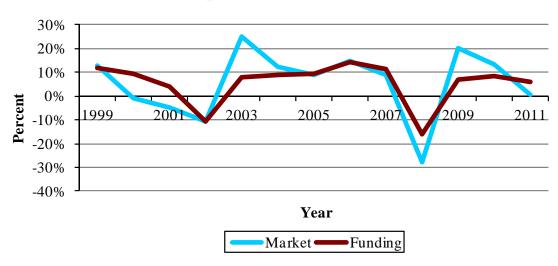
## ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS DECEMBER 31, 2011 COMBINED PLAN

						Combined Plan			
						Public	Law		
		Sta	nte	L	ocal	Safety	Enforcement	Т	<u>'otal</u>
(1)	Employer Accumulation Fund								
	(a) Allocated Amounts	\$5	9,646,074	\$	90,444,924	\$0	\$0	\$	150,090,998
	(b) Unallocated Amounts Allocated by (1)(a)		(1,161)		(1,761)	<u>0</u>	<u>0</u>		(2,922)
	(c) Total EAF	\$5	9,644,913	\$	590,443,163	\$0	\$0	\$	150,088,076
<b>(2)</b>	Employee Savings Fund								
	(a) Total Member Deposits (Reported by Division)	\$	401,206	\$	367,583	\$0	\$0	\$	768,789
	(b) ESF Allocated by (2)(a)	\$	711,255	\$	651,649	\$0	\$0	\$	1,362,904
(3)	Retired Assets								
	(a) Allocated Amounts	\$	278,449	\$	1,235,804	\$0	\$0	\$	1,514,253
	(b) DC Annuities		<u>0</u>		<u>0</u>	<u>0</u>	<u>0</u>		<u>0</u>
	(c) Total Retiree Assets	\$	278,449	\$	1,235,804	\$0	\$0	\$	1,514,253
<b>(4)</b>	Subtotal: $(1)(c)+(2)(b)+(3)(c)$	\$6	0,634,617	\$	592,330,616	\$0	\$0	\$	152,965,233
(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)	Total Employer + Employee Defined Benefit Assets: (4)+(5)	\$60	,634,617	\$9	2,330,616	<b>\$0</b>	\$0	\$15	2,965,233
(7)	Market Value Adjustment Allocated According to (6)		<u>3,200,199</u>		4,873,063	<u>0</u>	<u>0</u>		8,073,262
(8)	Funding Value of Defined Benefit Assets (6)+(7)	\$63	,834,816	<b>\$9</b>	7,203,679	<b>\$0</b>	<b>\$0</b>	\$16	1,038,495

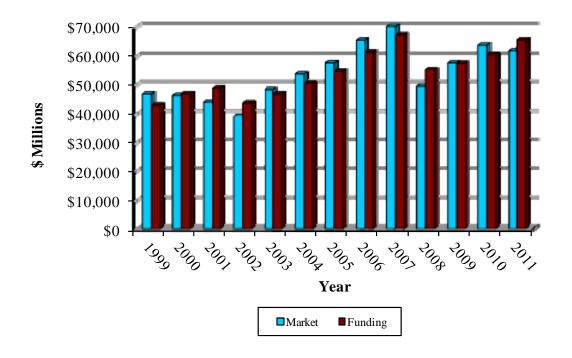
## ALLOCATION OF FUNDING VALUE OF ASSETS AMONG DIVISIONS DECEMBER 31, 2011 MEMBER DIRECTED PLAN

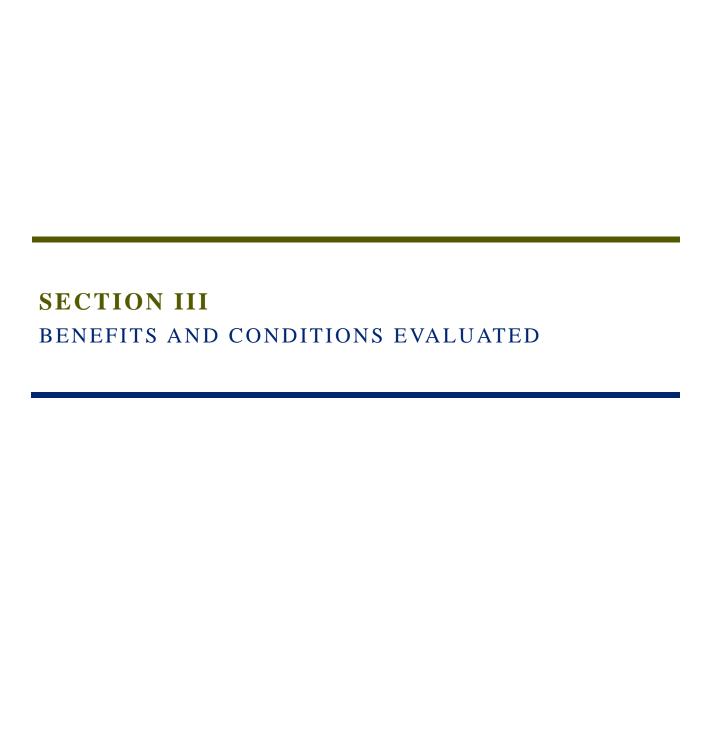
		Member Directed Plan						
						Public	Law	
			State		Local	Safety	Enforcement	 Total
<b>(1)</b>	Employer Accumulation Fund							
	(a) Allocated Amounts	\$	(84,946)	\$	281,576	\$0	\$0	\$ 196,630
	(b) Unallocated Amounts Allocated by 1(a)		100,597		(333,455)	<u>0</u>	<u>0</u>	(232,858)
	(c) Total EAF	\$	15,651	\$	(51,879)	\$0	\$0	\$ (36,228)
(2)	Employee Savings Fund							
	(a) Total Member Deposits	\$	17,845	\$	36,724	\$0	\$0	\$ 54,569
	(b) ESF Allocated by (2)(a)	\$	26,581	\$	54,702	\$0	\$0	\$ 81,283
(3)	Retired Assets							
	(a) Allocated Amounts	\$	128,883	\$	937,726	\$0	\$0	\$ 1,066,609
	(b) DC Annuities		<u>0</u>		<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
	(c) Total Retiree Assets	\$	128,883	\$	937,726	\$0	\$0	\$ 1,066,609
<b>(4)</b>	Subtotal: $(1)(c)+(2)(b)+(3)(c)$	\$	171,115	\$	940,549	\$0	\$0	\$ 1,111,664
(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)	Total Employer + Employee Defined Benefit Assets: (4)+(5)	\$	171,115	\$	940,549	<b>\$0</b>	\$0	\$ 1,111,664
<b>(7</b> )	Market Value Adjustment Allocated According to (6)		<u>6,848</u>		<u>37,639</u>	<u>0</u>	<u>0</u>	44,487
(8)	Funding Value of Defined Benefit Assets (6)+(7)	\$	177,963	\$	978,188	\$0	\$0	\$ 1,156,151

#### **Comparison of Rates of Return**



#### **Comparison of Defined Benefit Pension Asset Values**





#### BENEFITS AND CONDITIONS EVALUATED

#### **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 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

#### **TERMS**

*Final average salary* ("FAS") means the average of the annual earnings for the 3 highest calendar years of compensation.

**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.* State and local government members contribute 10.0% of earnable salary in 2011. The maximum statutory rate is 10% of earnable salary.

Law enforcement members whose primary duties are to preserve the peace, to protect life and property, and to enforce the laws of the state contribute 11.6% of earnable salary in 2011 increasing to 13.00% by 2014. Remaining Law enforcement members (Public Safety) contribute 11.0% of earnable salary in 2011 increasing to 12.00% by 2013.

*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%. The maximum statutory rate for law enforcement employers is 18.1% (H.B. 416, effective 1/1/2001).

#### BENEFITS AND CONDITIONS EVALUATED

#### **CONTRIBUTIONS (CONT'D)**

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

		Local	Law	Public
Year	State	Government	Enforcement	Safety
2011 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:

	All
Year	Divisions
2011	4.00%
2012	4.00%
2013	1.00%
2014 and Later	0.00%

The schedule was adopted at the July 21, 2010 Board meeting and is subject to change if conditions warrant.

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

		Local	Law	Public
Year	State	Government	Enforcement	Safety
2011	10.00%	10.00%	11.60%	11.00%
2012	10.00%	10.00%	12.10%	11.50%
2013	10.00%	10.00%	12.60%	12.00%
2014 and Later	10.00%	10.00%	13.00%	12.00%

#### 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:

Attained		Years of	Percentage of
Age	OR	Service Credit	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). 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.

### 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 at age 48 with 25 or more years of service subject to the reduction described in 145.33 (C)(1).

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.

#### **DISABILITY RETIREMENT**

The disability program was revised 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.

#### **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 ½ 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

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

Schedule 2

	Annual Benefit as a % of
Years of Service	<b>Deceased Member's FAS</b>
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.

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).

**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:

Service Credit	Amount of
at Retirement	Death Benefit
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.

#### 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 paid a monthly allowance from OPERS. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of qualified service credit to be eligible for this benefit.

*Medicare premiums*. Medicare part B premiums are paid for those eligible, upon proof of coverage. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of qualified service credit to be eligible for this benefit.

#### **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.

#### 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.

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		Years of	Percentage of
Age	OR	Service Credit	Base Amount
50		25	750/
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.

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

#### **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).

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.

**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. The PLOP is available to Combined Plan members for the age and service retirement allowance under the defined benefit portion of the Plan and for the monthly annuity under the defined contribution portion of the Plan.

**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:

Service Credit	Amount of
at Retirement	Death Benefit
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

#### **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 being paid a monthly allowance from OPERS. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of qualified service credit to be eligible for this benefit.

*Medicare premiums*. Medicare part B premiums are paid for those eligible, upon proof of coverage. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of qualified service credit to be eligible for this benefit.

#### MEMBER-DIRECTED PLAN

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.

#### MEMBER-DIRECTED PLAN

#### **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.

**PLOP.** Effective 01/01/2004, retiring members who elect a monthly annuity under the Member-Directed Plan 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 annuity. The lump sum payment cannot be less than 6 times nor 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 annuity 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. The PLOP is available to Member-Directed Plan members only if they elect a monthly annuity.

#### **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).

#### **MEMBER-DIRECTED PLAN**

#### **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 - NORMAL RETIREMENT RETIRING DECEMBER 31, 2011 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: $(1 - 0.84810) \times (F) =$	3,573
H.	Benefit Payable to Retiree while Spouse is Alive: (F) - (G) =	19,947
	Benefit Payable to Spouse after Retiree's Death Benefit Payable to Retiree after Spouse's Death	19,947 23,520

Year Ended	Retiree's Benefit	Spouse's Benefit	Retiree's Benefit
December 31,	(Both Alive)	(After Retiree's Death)	(After Spouse's Death)
2012	\$ 19,947	\$ 19,947	\$ 23,520
2013	20,545	20,545	24,226
2014	21,144	21,144	24,931
2015	21,742	21,742	25,637
2016	22,341	22,341	26,342
2017	22,939	22,939	27,048
2018	23,537	23,537	27,754
2019	24,136	24,136	28,459
2020	24,734	24,734	29,165
2021	25,333	25,333	29,870

# SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN STATE OR LOCAL MEMBER - EARLY RETIREMENT RETIRING DECEMBER 31, 2011 UNDER BENEFIT PROVISIONS EVALUATED

#### Data:

Α.	\$32,000	Final Average Earnings
B.	26	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: $0.022 \times 26 \text{ years } \times \$32,000 =$	\$ 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: $(1 - 0.84810) \times (H) =$	2,224
J.	Benefit Payable to Retiree while Spouse is Alive: (H) - (I)	12,419
	Benefit Payable to Spouse after Retiree's Death Benefit Payable to Retiree after Spouse's Death	12,419 14,643

Year Ended	Retiree's Benefit	Spouse's Benefit	Retiree's Benefit
December 31,	(Both Alive)	(After Retiree's Death)	(After Spouse's Death)
2012	\$ 12,419	\$ 12,419	\$ 14,643
2013	12,792	12,792	15,082
2014	13,164	13,164	15,522
2015	13,537	13,537	15,961
2016	13,910	13,910	16,400
2017	14,282	14,282	16,840
2018	14,655	14,655	17,279
2019	15,027	15,027	17,718
2020	15,400	15,400	18,158
2021	15,772	15,772	18,597

# SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN SECTION 145.33 (B)(2)(b) PUBLIC SAFETY MEMBER - NORMAL RETIREMENT RETIRING DECEMBER 31, 2011 UNDER BENEFIT PROVISIONS EVALUATED

#### Data:

A.	\$38,000	Final Average Earnings
B.	28	Years of Credited Service
C.	49	Age of Retiree
D.	46	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: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 \times 80\% =$	\$ 20,915
G.	Reduction for Line E Election: $(1 - 0.91118) \times (F) =$	 1,858
H.	Benefit Payable to Retiree while Spouse is Alive: (F) - (G) =	19,057
I.	Benefit Payable to Spouse after Retiree's Death	19,057
J.	Benefit Payable to Retiree after Spouse's Death	20,915

Year Ended	Retiree's Benefit	Spouse's Benefit	Retiree's Benefit
 December 31,	(Both Alive)	(After Retiree's Death)	(After Spouse's Death)
 2012	\$ 19,057	\$ 19,057	\$ 20,915
2013	19,629	19,629	21,542
2014	20,200	20,200	22,170
2015	20,772	20,772	22,797
2016	21,344	21,344	23,425
2017	21,916	21,916	24,052
2018	22,487	22,487	24,680
2019	23,059	23,059	25,307
2020	23,631	23,631	25,935
2021	24,202	24,202	26,562

# SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN SECTION 145.33 (B)(2)(a) LAW ENFORCEMENT MEMBER - NORMAL RETIREMENT RETIRING DECEMBER 31, 2011

#### UNDER BENEFIT PROVISIONS EVALUATED

#### Data:

Α.	\$38,000	Final Average Earnings
B.	28	Years of Credited Service
C.	49	Age of Retiree
D.	46	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: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 =$	\$ 26,144
G.	Reduction for Line E Election: $(1 - 0.91118) \times (F) =$	 2,322
H.	Benefit Payable to Retiree while Spouse is Alive: (F) - (G) =	23,822
	Benefit Payable to Spouse after Retiree's Death Benefit Payable to Retiree after Spouse's Death	23,822 26,144

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2012	\$ 23,822	\$ 23,822	\$ 26,144
2013	24,537	24,537	26,928
2014	25,251	25,251	27,713
2015	25,966	25,966	28,497
2016	26,681	26,681	29,281
2017	27,395	27,395	30,066
2018	28,110	28,110	30,850
2019	28,825	28,825	31,634
2020	29,539	29,539	32,419
2021	30,254	30,254	33,203

#### SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN STATE OR LOCAL MEMBER – TERMINATION BENEFIT RETIRING DECEMBER 31, 2011 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: $(0.022 \text{ x } 15 \text{ years} + 0.025 \text{ x } 0 \text{ years}) \text{ x } \$32,000 =$	\$ 10,560
I.	Adjustment factor for Early Retirement (from schedule)	85%
J.	Adjusted benefit: (H) $x$ (I) =	8,976
K.	Reduction for Line F Election: $(1 - 0.84024) \times (J) =$	1,434
L.	Benefit Payable to Retiree while Spouse is Alive: (J) - (K) =	7,542
M.	Benefit Payable to Spouse after Retiree's Death	7,542
N.	Benefit Payable to Retiree after Spouse's Death	8,976
O.	In lieu of a lifetime benefit, terminee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible	73,480
	accumulated contributions because terminee had more than 10 years of service.	13,400

Year Ended	Retiree's Benefit	Spouse's Benefit	Retiree's Benefit
December 31,	(Both Alive)	(After Retiree's Death)	(After Spouse's Death)
2012	\$ 7,542	\$ 7,542	\$ 8,976
2013	7,768	7,768	9,245
2014	7,995	7,995	9,515
2015	8,221	8,221	9,784
2016	8,447	8,447	10,053
2017	8,673	8,673	10,322
2018	8,900	8,900	10,592
2019	9,126	9,126	10,861
2020	9,352	9,352	11,130
2021	9,578	9,578	11,400

### SAMPLE BENEFIT COMPUTATION – TRADITIONAL PLAN SECTION 145.33 (B)(2)(a) PUBLIC SAFETY / LAW ENFORCEMENT

### MEMBER – TERMINATION BENEFIT RETIRING DECEMBER 31, 2011

#### **UNDER BENEFIT PROVISIONS EVALUATED**

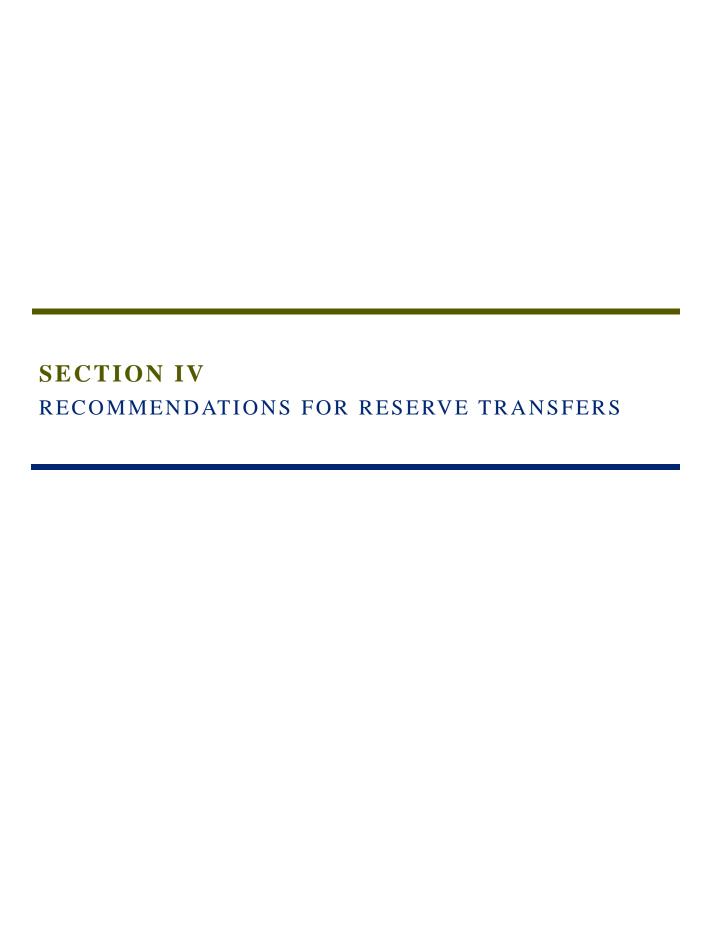
#### Data:

A.	\$38,000	_ Final Average Earnings
B.	15	Years of Credited Service
C.	37	Age of Retiree
D.	34	Age of Spouse
E.	52:49	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.	\$46,000	_Accumulated Contributions at Termination Date

#### **Computations:**

H.	Formula Benefit: (0.015 x 15 years) x \$38,000 =	\$ 8,550
I.	Reduction for Line F Election: $(1 - 0.89538) \times (H) =$	895
J.	Benefit Payable to Retiree while Spouse is Alive: (H) - (I) =	7,655
	Benefit Payable to Spouse after Retiree's Death Benefit Payable to Retiree after Spouse's Death	7,655 8,550
M.	In lieu of a lifetime benefit, terminee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible accumulated contributions because terminee had more than 10 years of service.	76,820

Year Ended	Retiree's Benefit	Spouse's Benefit	Retiree's Benefit
December 31,	(Both Alive)	(After Retiree's Death)	(After Spouse's Death)
2012	\$ 7,655	\$ 7,655	\$ 8,550
2013	7,885	7,885	8,807
2014	8,114	8,114	9,063
2015	8,344	8,344	9,320
2016	8,574	8,574	9,576
2017	8,803	8,803	9,833
2018	9,033	9,033	10,089
2019	9,263	9,263	10,346
2020	9,492	9,492	10,602
2021	9,722	9,722	10,859



#### DECEMBER 31, 2011 RETIRED LIFE VALUATION RESERVE TRANSFERS

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 adjust retired life reserves for the payment of health insurance premiums and Medicare reimbursements for the previous 12 month period if this has not already been done.
- To cover the cost of ad-hoc post retirement 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 though 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, 2011

	Assets	Tra	nsfers	Assets After		
	Before Transfers	Accrued	Other	Transfers	Liabilities	Ratio
State						
A&PR FUND						
SR	\$15,194,301,945	\$137,782,942	\$331,224,085	\$15,663,308,972	\$15,663,308,972	
MP	29,316,544	120,143	5,129,842	34,566,529	34,566,529	
AA	244,044	0	13,999	258,043	258,043	
JR	270,178	0	(270,178)	0	0	
CR	61,677,144	0	14,056,981	75,734,125	75,734,125	
DR	2,078,143,424	9,153,525	82,732,613	2,170,029,562	2,170,029,562	
BD	390,762,650	5,244,717	22,966,911	418,974,278	418,974,278	
TOTAL A&PR	17,754,715,929	152,301,327	455,854,253	18,362,871,509	18,362,871,509	100.0%
SBF						
AA	0	0	0	0	0	
S-1	111,471,422	630,019	131,180	112,232,621	112,232,621	
S-2	460,240,479	2,116,852	3,838,466	466,195,797	466,195,797	
TOTAL SBF	571,711,901	2,746,871	3,969,646	578,428,418	578,428,418	100.0%
TOTAL STATE	\$18,326,427,830	\$155,048,198	\$459,823,899	\$18,941,299,927	\$18,941,299,927	100.0%
Local						
A&PR FUND						
SR	\$20,642,804,084	\$165,754,749	\$507,238,746	\$21,315,797,579	\$21,315,797,579	
MP	68,946,918	71,805	10,428,361	79,447,084	79,447,084	
AA	46,081,972	253,981	1,007,759	47,343,712	47,343,712	
JR	402,606	0	(402,606)	0	0	
CR	80,859,653	0	20,104,614	100,964,267	100,964,267	
DR	2,649,843,566	6,150,523	77,350,164	2,733,344,253	2,733,344,253	
BD	487,660,257	4,336,231	28,505,762	520,502,250	520,502,250	
TOTAL A&PR	23,976,599,056	176,567,289	644,232,800	24,797,399,145	24,797,399,145	100.0%
SBF						
AA	0	0	0	0	0	
S-1	168,446,536	1,575,076	297,886	170,319,498	170,319,498	
S-2	771,948,771	2,669,945	9,394,708	784,013,424	784,013,424	
TOTAL SBF	940,395,307	4,245,021	9,692,594	954,332,922	954,332,922	100.0%
TOTAL LOCAL	\$24,916,994,363	\$180,812,310	\$653,925,394	\$25,751,732,067	\$25,751,732,067	100.0%

## TRADITIONAL PLAN RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND DECEMBER 31, 2011

	Assets	Tra	nsfers	Assets After		
	Before Transfers	Accrued	Other	Transfers	Liabilities	Ratio
Public Safety						
A&PR FUND						
SR	\$7,874,184	\$ 0	\$185,190	\$8,059,374	\$8,059,374	
MP	0	0	0	0	0	
AA	0	0	0	0	0	
JR	0	0	0	0	0	
CR	0	0	0	0	0	
DR	12,321,560	0	972,939	13,294,499	13,294,499	
BD	1,866,297	262,551	227,702	2,356,550	2,356,550	
TOTAL A&PR	22,062,041	262,551	1,385,831	23,710,423	23,710,423	100.0%
SBF						
AA	0	0	0	0	0	
S-1	119,679	0	(119,679)	0	0	
S-2	16,221,803	154,105	698,587	17,074,495	17,074,495	
TOTAL SBF	16,341,482	154,105	578,908	17,074,495	17,074,495	100.0%
TOTAL PUBLIC SAFETY	\$38,403,523	\$416,656	\$1,964,739	\$40,784,918	\$40,784,918	100.0%
Law Enforcement						
A&PR FUND						
SR	\$1,151,756,657	\$10,908,456	\$15,716,330	\$1,178,381,443	\$1,178,381,443	
MP	790	0	\$(790)	0	0	
AA	0	0	0	0	0	
JR	221	0	\$(221)	0	0	
CR	258,084	0	118,064	376,148	376,148	
DR	526,019,293	1,384,634	21,276,001	548,679,928	548,679,928	
BD	79,055,524	194,950	7,753,227	87,003,701	87,003,701	
TOTAL A&PR	1,757,090,569	12,488,040	44,862,611	1,814,441,220	1,814,441,220	100.0%
SBF						
AA	0	0	0	0	0	
S-1	12,328,563	0	\$(135,669)	12,192,894	12,192,894	
S-2	27,272,856	0	422,580	27,695,436	27,695,436	
TOTAL SBF	39,601,419	0	286,911	39,888,330	39,888,330	100.0%
TOTAL LAW ENFORCEMENT	\$ 1,796,691,988	\$ 12,488,040	\$ 45,149,522	\$ 1,854,329,550	\$ 1,854,329,550	100.0%
GRAND TOTAL	\$45,078,517,704	\$348,765,204	\$1,160,863,554	\$46,588,146,462	\$46,588,146,462	100.0%

## COMBINED PLAN RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND DECEMBER 31, 2011

	Assets	Tran	sfers	Assets After		
	Before Transfers	Accrued	Other	Transfers	Liabilities	Ratio
State						
A&PR FUND						
CA	\$ 65,631	\$0	\$ (572)	\$ 65,059	\$ 65,059	
СВ	212,818	124,902	(23,427)	314,293	314,293	
TOTAL A&PR	278,449	124,902	(23,999)	379,352	379,352	1
TOTAL STATE	\$278,449	\$124,902	(23,999)	\$379,352	\$379,352	
Local						
A&PR FUND						
CA	\$410,280	\$ 109,205	\$13,472	\$532,957	\$532,957	
СВ	825,524	109,228	3,831	938,583	938,583	
TOTAL A&PR	1,235,804	218,433	17,303	1,471,540	1,471,540	100.0%
TOTAL LOCAL	\$1,235,804	\$218,433	\$17,303	\$1,471,540	\$1,471,540	100.0%
GRAND TOTAL	\$1,514,253	\$343,335	(6,696)	\$1,850,892	\$1,850,892	100.0%

## MEMBER DIRECTED PLAN RESERVE TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND DECEMBER 31, 2011

	Assets	Trar	Transfers			
	Before Transfers	Accrued	Other	Transfers	Liabilities	Ratio
State						
A&PR FUND						
MD	\$ 128,883	\$ 0	30,766	\$ 159,649	\$ 159,649	
TOTAL A&PR	128,883	0	30,766	159,649	159,649	
TOTAL STATE	\$ 128,883	\$ 0	30,766	\$ 159,649	\$ 159,649	
Local						
A&PR FUND						
MD	\$937,726	\$ 92,793	(17,269)	\$1,013,250	\$1,013,250	
TOTAL A&PR	937,726	92,793	(17,269)	1,013,250	1,013,250	100.0%
TOTAL LOCAL	\$937,726	\$ 92,793	(17,269)	\$1,013,250	\$1,013,250	100.0%
GRAND TOTAL	\$1,066,609	\$ 92,793	\$ 13,497	\$1,172,899	\$1,172,899	100.0%

#### **SECTION V**

STATE DIVISION

#### **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, 2011

		Annual	Average			
Groups	Number	Payroll	Pay	Age	Service	
Traditional Plan						
Men	52,451	\$2,220,069,972	\$42,327	40.5 yrs.	9.5 yrs.	
Women	63,403	2,496,976,724	39,383	40.5	9.1	
Tranditional Plan Total	115,854	\$4,717,046,696	40,715	40.5 yrs.	9.3 yrs.	
Combined Plan						
Men	995	\$52,772,239	\$53,037	41.5 yrs.	5.8 yrs.	
Women	1,424	73,724,340	51,773	41.6	5.4	
Combined Plan Total	2,419	\$126,496,579	52,293	41.5 yrs.	5.6 yrs.	
Grand Total	118,273	\$4,843,543,275	\$40,952	40.5 yrs.	9.2 yrs.	

Reported pays for certain State employees were increased by 2% assuming these employees will experience fewer future furlough days than experienced during 2011.

Also included in the valuation were 183,166 inactive members and 4,040 members active in the money purchase plan.

Retired Members in Valuation December 31, 2011

			Current	Actuarial
Fund / Type of Allowance	Number	N	Ionthly Benefits	Liabilities
Traditional Plan				
A & PR Fund				
Superannuation Retirement	52,051	\$	118,722,926	\$ 15,739,301,140
Disability Retirement	8,620		19,144,047	2,589,003,840
Money Purchase	579		288,236	34,566,529
Total A & PR Fund	61,250		138,155,209	18,362,871,509
Total SBF	4,771		5,035,481	578,428,418
Traditional Plan Total	66,021	\$	143,190,690	\$ 18,941,299,927
Combined Plan				
A & PR Fund				
CMDB	9	\$	2,173	\$ 314,293
CMDC	3		470	65,059
Total A & PR Fund	12		2,643	379,352
Combined Plan Total	12	\$	2,643	\$ 379,352
Member Directed Plan	-			
A & PR Fund	6	\$	1,112	\$ 159,649
Member Directed Plan Total	6	\$	1,112	\$ 159,649
Grand Total	66,039	\$	143,194,445	\$ 18,941,838,928

#### STATE DIVISION

## EMPLOYER CONTRIBUTIONS TO SUPPORT DEFINED BENEFIT RETIREMENT ALLOWANCES EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL

Valuation Date December 31		2011		2010*		
Contributions for		2014				
			Traditional and	Traditional and		
Normal Cost	<b>Traditional Plan</b>	Combined Plan	Combined Plans	Combined Plans		
Age and Service Allowances	8.36 %	3.61 %	8.55 %	8.62 %		
Disability Allowances	2.60 %	2.03 %	2.58 %	2.51 %		
Survivor's Benefits	0.39 %	0.27 %	0.38 %	0.42 %		
Separation Benefits	3.93 %	1.08 %	3.86 %	3.94 %		
Total Normal Cost	15.28 %	6.99 %	15.37 %	15.49 %		
(Member Contributions)	10.00 %	0.00 %	10.00 %	10.00 %		
Employer Normal Cost	5.28 %	6.99 %	5.37 %	5.49 %		
Unfunded Actuarial Accrued Liabilities						
Total Available Contribution	8.72 %	7.01 %	8.63 %	7.51 %		
Amortization Years	39	2	38	43		
Total Pension Employer Contribution Rate	14.00 %	14.00 %	14.00 %	13.00 %		

<sup>\*</sup> As shown in the December 31, 2010 valuation report before the changes to actuarial assumptions adopted in October 2011.

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**

	Contribution					Comput	ted Employe	r Contributi	ions as % of	f Payroll
Valuation	Rate	Defined B	Defined Benefit Active Members in Valuation				Unfunded			
Date	<b>Effective</b>		A	Annual Payrol	1	Normal	Accrued	Pension	Retiree	Grand
December 31	January 1	No.	Total	Average	Increase	Cost	Liability	Total	Health	Total
			(\$Millions)							
1998	2001	112,323	\$ 3,500	\$ 31,159	4.4 %	6.21 %	2.80 %	9.01 %	4.30 %	13.31 %
1999#	2002	112,761	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 %	5.49 %	7.51 %	13.00 %	1.00 %	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 %

<sup>#</sup> After benefit changes.

 <sup>@</sup> 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, 2011

		Allocation by E	Intry Age
	(1)	(2)	(3)
	Total	Portion	Actuarial
	Actuarial	Covered By	Accrued
	Present	Future Normal	Liabilities
Actuarial Present Value	Value	Cost Contributions	(1)-(2)
Allowances currently being paid from			
the Annuity & Pension Reserve Fund	\$ 18,363,410,510	\$ -	\$ 18,363,410,510
Allowances currently being paid from			
the Survivors Benefit Fund	578,428,418	-	578,428,418
Age and service allowances based on			
service rendered before and likely			
to be rendered after valuation date	15,405,682,545	3,162,190,613	12,243,491,932
Disability allowances likely to be paid			
present active members who become			
permanently disabled	2,236,013,959	975,797,981	1,260,215,978
Survivor benefits likely to be paid to			
spouses and children of present active	127 075 106	141 200 221	205 405 275
members who die before retiring	427,875,496	141,390,221	286,485,275
Congretion honofits (notingle of contain where			
Separation benefits (refunds of contributions and deferred allowances) likely to be paid			
to present active and inactive members	2 470 176 022	1,514,975,124	964,201,808
to present active and mactive members	2,479,176,932	1,314,373,124	904,201,000
Total	\$ 39,490,587,860	\$ 5,794,353,939	\$ 33,696,233,921
10111	\$ 55,150,507,000	Ψ 3,17π,333,737	33,070,233,721
Actuarial Value of Assets			25,558,015,240
			20,000,010,210
Unfunded Actuarial Accrued Liability			\$ 8,138,218,681

#### **STATE DIVISION**

### DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES COMPARATIVE STATEMENT

(\$ IN MILLIONS EXCEPT AVERAGES)

			Active an					
	Defined	Benefit	for Retirement Allowances					
	Active Payroll		Computed	Valuation		Amortization	Unfunded	
Dec. 31	Total	Average	Total	Assets	Unfunded	Years	/Payroll	
1996@	\$3,319	\$28,684	\$ 8,104	\$7,387	\$717	8	0.22	
1997	3,405	29,858	8,591	8,268	323	3	0.09	
1998	3,500	31,159	9,223	9,666	(443)	-	-	
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	14,787	6,220	8,567	61	1.78	
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	

<sup>#</sup> After benefit changes.

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.

<sup>@</sup> Revised actuarial assumptions.

<sup>##</sup> Combined Plan members are included beginning with the December 31, 2003 valuation.

### STATE DIVISION MALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION

### DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained	Years of Service To Valuation Date								
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	
15-19	752							752	
Tot. Pay	\$4,647,869							\$4,647,869	
Avg. Pay	\$6,181							\$6,181	
20-24	8,731	40						8,771	
Tot. Pay	\$86,090,268	\$767,519						\$86,857,787	
Avg. Pay	\$9,860	\$19,188						\$9,903	
25-29	4,890	811	25					5,726	
Tot. Pay	\$116,646,862	\$34,380,584	\$1,041,201					\$152,068,647	
Avg. Pay	\$23,854	\$42,393	\$41,648					\$26,558	
30-34	2,734	1,652	552	8				4,946	
Tot. Pay	\$86,525,333	\$79,682,322	\$28,836,519	\$379,998				\$195,424,172	
Avg. Pay	\$31,648	\$48,234	\$52,240	\$47,500				\$39,512	
35-39	1,789	1,214	1,271	364	8			4,646	
Tot. Pay	\$62,210,800	\$62,564,072	\$72,151,470	\$21,184,607	\$510,953			\$218,621,902	
Avg. Pay	\$34,774	\$51,535	\$56,767	\$58,199	\$63,869			\$47,056	
40-44	1,557	1,108	1,241	1,373	555	12		5,846	
Tot. Pay	\$56,854,754	\$59,196,794	\$70,641,935	\$87,008,112	\$37,192,507	\$798,198		\$311,692,300	
Avg. Pay	\$36,516	\$53,427	\$56,923	\$63,371	\$67,014	\$66,517		\$53,317	
45-49	1,282	947	1,004	1,139	1,481	705	18	6,576	
Tot. Pay	\$45,958,624	\$49,699,413	\$57,362,128	\$71,884,462	\$100,115,425	\$47,664,654	\$1,247,217	\$373,931,923	
Avg. Pay	\$35,849	\$52,481	\$57,134	\$63,112	\$67,600	\$67,609	\$69,290	\$56,863	
50-54	1,026	777	904	955	1,210	1,349	350	6,571	
Tot. Pay	\$36,874,353	\$42,127,016	\$50,140,525	\$58,320,877	\$81,091,266	\$92,816,327	\$23,625,406	\$384,995,770	
Avg. Pay	\$35,940	\$54,218	\$55,465	\$61,069	\$67,018	\$68,804	\$67,501	\$58,590	
55-59	798	740	735	786	851	841	481	5,232	
Tot. Pay	\$27,392,692	\$38,622,412	\$41,375,106	\$49,026,342	\$55,194,873	\$56,357,484	\$35,468,437	\$303,437,346	
Avg. Pay	\$34,327	\$52,192	\$56,293	\$62,374	\$64,859	\$67,012	\$73,739	\$57,996	
60-64	472	387	451	465	484	468	318	3,045	
Tot. Pay	\$15,152,625	\$20,385,475	\$25,986,768	\$28,501,238	\$32,167,870	\$32,012,957	\$25,978,630	\$180,185,563	
Avg. Pay	\$32,103	\$52,676	\$57,620	\$61,293	\$66,463	\$68,404	\$81,694	\$59,174	
65-69	227	122	152	120	115	95	90	921	
Tot. Pay	\$4,761,743	\$4,715,920	\$8,614,142	\$7,512,248	\$7,905,792	\$6,757,629	\$7,507,807	\$47,775,281	
Avg. Pay	\$20,977	\$38,655	\$56,672	\$62,602	\$68,746	\$71,133	\$83,420	\$51,873	
70 & Over	176	71 \$1,770,993	56	\$4 \$1,955,142	\$1,629,922	19 \$1,226,727	28	414 \$12,202,651	
Tot. Pay Avg. Pay	\$1,862,182 \$10,581	\$1,770,883 \$24,942	\$2,174,122 \$38,824	\$1,855,143 \$54,563	\$1,628,822 \$54,294	\$1,336,727 \$70,354	\$2,575,772 \$91,992	\$13,203,651 \$31,893	
Totals	24,434	7,869	6,391	5,244	4,734	3,489	1,285	53,446	
Tot. Pay	\$544,978,105 \$22,304	\$393,912,410	\$358,323,916	\$325,673,027 \$62,104	\$315,807,508	\$237,743,976	\$96,403,269 \$75,022	\$2,272,842,211	
Avg. Pay	\$22,304	\$50,059	\$56,067	\$62,104	\$66,711	\$68,141	\$75,022	\$42,526	

#### **STATE DIVISION**

## FEMALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained	Years of Service To Valuation Date								
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total	
15-19	1,048							1,048	
Tot. Pay	\$5,285,559							\$5,285,559	
Avg. Pay	\$5,043							\$5,043	
20-24	10,318	38						10,356	
Tot. Pay	\$93,857,652	\$752,330						\$94,609,982	
Avg. Pay	\$9,096	\$19,798						\$9,136	
25-29	5,454	921	24					6,399	
Tot. Pay	\$144,763,494	\$39,053,282	\$992,810					\$184,809,586	
Avg. Pay	\$26,543	\$42,403	\$41,367					\$28,881	
	•		Ψ1,507						
30-34	4,784	2,051	596	11				7,442	
Tot. Pay	\$129,561,067	\$97,694,157	\$29,252,254	\$550,080				\$257,057,558	
Avg. Pay	\$27,082	\$47,632	\$49,081	\$50,007				\$34,541	
35-39	2,017	1,510	1,348	381	14			5,270	
Tot. Pay	\$73,240,276	\$77,420,379	\$72,414,036	\$21,291,065	\$726,234			\$245,091,990	
Avg. Pay	\$36,311	\$51,272	\$53,720	\$55,882	\$51,874			\$46,507	
40-44	1,932	1,402	1,296	1,321	545	34		6,530	
Tot. Pay	\$72,551,563	\$70,843,414	\$68,025,288	\$78,952,685	\$33,010,472	\$1,898,864		\$325,282,286	
Avg. Pay	\$37,553	\$50,530	\$52,489	\$59,767	\$60,570	\$55,849		\$49,814	
45-49	1,623	1,356	1,190	1,152	1,469	731	31	7,552	
Tot. Pay	\$59,908,532	\$68,977,943	\$61,126,938	\$66,089,630	\$93,241,798	\$46,379,940	\$1,956,517	\$397,681,298	
Avg. Pay	\$36,912	\$50,869	\$51,367	\$57,369	\$63,473	\$63,447	\$63,113	\$52,659	
50-54	1,502	1,300	1,261	1,137	1,357	1,302	403	8,262	
Tot. Pay	\$55,772,584	\$62,693,543	\$64,030,832	\$63,056,092	\$80,238,672	\$85,746,527	\$25,257,094	\$436,795,344	
Avg. Pay	\$37,132	\$48,226	\$50,778	\$55,458	\$59,129	\$65,858	\$62,673	\$52,868	
			·			·			
55-59	1,013	1,054	1,142	1,027	1,235	899	461	6,831	
Tot. Pay	\$36,217,361	\$52,328,101	\$58,164,936	\$56,739,991	\$72,894,271	\$57,418,629	\$30,530,098	\$364,293,387	
Avg. Pay	\$35,753	\$49,647	\$50,933	\$55,248	\$59,024	\$63,869	\$66,226	\$53,329	
60-64	463	483	663	587	710	533	243	3,682	
Tot. Pay	\$16,061,464	\$22,049,465	\$33,966,491	\$32,766,847	\$41,770,734	\$31,396,339	\$16,142,119	\$194,153,459	
Avg. Pay	\$34,690	\$45,651	\$51,232	\$55,821	\$58,832	\$58,905	\$66,428	\$52,730	
65-69	125	164	196	140	212	130	107	1,074	
Tot. Pay	\$3,187,075	\$6,496,634	\$9,318,648	\$6,987,908	\$11,073,763	\$7,390,631	\$6,351,139	\$50,805,798	
Avg. Pay	\$25,497	\$39,614	\$47,544	\$49,914	\$52,235	\$56,851	\$59,356	\$47,305	
70 & Over	90	52	45	43	52	47	52	381	
Tot. Pay	\$1,421,356	\$1,438,166	\$1,688,073	\$2,291,039	\$2,695,500	\$2,270,022	\$3,030,661	\$14,834,817	
Avg. Pay	\$15,793	\$27,657	\$37,513	\$53,280	\$51,837	\$48,298	\$58,282	\$38,937	
Totals	30,369	10,331	7,761	5,799	5,594	3,676	1,297	64,827	
Tot. Pay	\$691,827,983	\$499,747,414	\$398,980,306	\$328,725,337	\$335,651,444	\$232,500,952	\$83,267,628	\$2,570,701,064	
Avg. Pay	\$22,781	\$48,374	\$51,408	\$56,687	\$60,002	\$63,248	\$64,200	\$39,655	

# STATE DIVISION INACTIVE MEMBERS IN DEFINED BENEFIT VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained		Ye	ears of Ser	vice to Va	luation Da	te		Total
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Number
15-19	256							256
20-24	16,299	3						16,302
25-29	32,616	144						32,760
30-34	56,537	534	27					57,098
35-39	22,526	606	153	12				23,297
40-44	14,482	769	356	86	9			15,702
45-49	8,563	870	538	215	66	11		10,263
50-54	7,616	916	717	347	163	62	2	9,823
55-59	6,578	917	752	428	172	36	1	8,884
60-64	4,324	557	365	175	60	17	3	5,501
65-69	1,838	158	56	20	9	5	1	2,087
70 & Over	1,135	32	17	7	1	1		1,193
Totals	172,770	5,506	2,981	1,290	480	132	7	183,166



## 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, 2011

		Annual	Average		
Groups	Number	Payroll	Pay	Age	Service
Traditional Plan					
Men	94,785	\$3,395,903,326	\$35,827	45.2 yrs.	10.3 yrs.
Women	110,372	3,549,074,801	32,156	44.6	10.2
Tranditional Plan Total	205,157	\$6,944,978,127	\$33,852	44.9 yrs.	10.3 yrs.
Combined Plan					
Men	1,890	\$80,453,873	\$42,568	44.3 yrs.	6.3 yrs.
Women	2,405	89,255,350	37,112	43.2	6.1
Combined Plan Total	4,295	\$169,709,223	\$39,513	43.7 yrs.	6.2 yrs.
Grand Total	209,452	\$7,114,687,350	\$33,968	44.9 yrs.	10.2 yrs.

Also included in the valuation were 265,058 inactive members and 15,323 members active in the money purchase plan.

Retired Members in Valuation December 31, 2011

		Current			Actuarial
Fund / Type of Allowance	Number	Monthly	Benefits	]	Liabilities
Traditional Plan					
A & PR Fund					
Superannuation Retirement	95,234	\$162	2,946,793	\$21	1,464,105,558
Disability Retirement	12,283	24	4,601,077	3	3,253,846,503
Money Purchase	1,732		670,221		79,447,084
Total A & PR Fund	109,249	188	3,218,091	24	1,797,399,145
Total SBF	9,994	8	3,453,346		954,332,922
Traditional Plan Total	119,243	\$196	5,671,437	\$25,751,732,06	
Combined Plan					
A & PR Fund					
CMDB	27	\$	6,311	\$	938,583
CMDC	19		3,721		532,957
Total A & PR Fund	46	\$	10,032	\$	1,471,540
Combined Plan Total	46	\$	10,032	\$	1,471,540
Member Directed Plan					
A & PR Fund	32	\$	7,286	\$	1,013,251
Member Directed Plan Total	32	\$	7,286	\$	1,013,251
Grand Total	119,321	\$190	5,688,755	\$25	5,754,216,858

## LOCAL GOVERNMENT DIVISION EMPLOYER CONTRIBUTIONS TO SUPPORT

## DEFINED BENEFIT RETIREMENT ALLOWANCES

## EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL

Valuation Date December 31		2011		2010*
Contributions for		2014		2013
			Traditional and	Traditional and
Normal Cost	<b>Traditional Plan</b>	Combined Plan	Combined Plans	Combined Plans
Age and Service Allowances	8.62 %	3.76 %	8.80 %	8.68 %
Disability Allowances	2.07 %	1.58 %	2.06 %	1.96 %
Survivor's Benefits	0.46 %	0.31 %	0.45 %	0.48 %
Separation Benefits	3.90 %	1.18 %	3.83 %	4.03 %
Total Normal Cost	15.05 %	6.83 %	15.14 %	15.15 %
(Member Contributions)	10.00 %	0.00 %	10.00 %	10.00 %
Employer Normal Cost	5.05 %	6.83 %	5.14 %	5.15 %
Unfunded Actuarial Accrued Liabilities				
Total Available Contribution	8.95 %	7.17 %	8.86 %	7.85 %
Amortization Years	26	1	26	24
Total Pension Employer Contribution Rate	14.00 %	14.00 %	14.00 %	13.00 %

<sup>\*</sup> As shown in the December 31, 2010 valuation report before the changes to actuarial assumptions adopted in October 2011.

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**

	Contribution					Comput	ed Employe	r Contributi	ions as % of	f Payroll
Valuation	Rate	Defined I	Defined Benefit Active Members in Valuation				Unfunded			
Date	Effective			Annual Payrol	l	Normal	Accrued	Pension	Retiree	Grand
December 31	January 1	No.	Total	Average	Increase	Cost	Liability	Total	Health	Total
			(\$Millions)							
1998	2001	234,601	\$5,240	\$22,334	4.0 %	6.17 %	3.08 %	9.25 %	4.30 %	13.55 %
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 %	5.15 %	7.85 %	13.00 %	1.00 %	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 %

<sup>#</sup> After benefit changes.

 <sup>@</sup> 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, 2011

		Allocation l	oy Entry Age
	(1)	(2)	(3)
	Total	Portion	Actuarial
	Actuarial	Covered By	Accrued
	Present	Future Normal	Liabilities
Actuarial Present Value	Value	Cost Contributions	(1)-(2)
Allowances currently being paid from			
the Annuity & Pension Reserve Fund	\$24,799,883,936	\$ -	\$24,799,883,936
Allowances currently being paid from	0.5.4.222.022		0.5.4.222.022
the Survivors Benefit Fund	954,332,922	-	954,332,922
A se and semice allowerses hased on			
Age and service allowances based on service rendered before and likely			
to be rendered after valuation date	23,012,544,423	4,892,304,266	18,120,240,157
to be refidered after valuation date	23,012,344,423	4,892,304,200	16,120,240,137
Disability allowances likely to be paid			
present active members who become			
permanently disabled	2,617,982,137	1,172,628,092	1,445,354,045
Processing and the	_,-,-,,,,		2,112,221,412
Survivor benefits likely to be paid to			
spouses and children of present active			
members who die before retiring	762,166,465	245,875,843	516,290,622
Separation benefits (refunds of contributions			
and deferred allowances) likely to be paid			
to present active and inactive members	3,825,558,220	2,276,811,231	1,548,746,989
Total	\$55,972,468,103	\$8,587,619,432	\$47,384,848,671
			07.171.667.011
Actuarial Value of Assets			37,171,667,011
Unfunded Actuarial Accuracy Linkility			\$10.212.101.660
Unfunded Actuarial Accrued Liability			\$10,213,181,660

#### LOCAL GOVERNMENT DIVISION

## DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES COMPARATIVE STATEMENT

(\$ IN MILLIONS EXCEPT AVERAGES)

			Active a	and Inactive M	ember Accrue	d Liabilities	
	Define	d Benefit		for Retirem	ent Allowances	S	
	Active	Active Payroll		Valuation		Amortization	Unfunded
Dec. 31	Total	Average	Total	Assets	Unfunded	Years	/Payroll
1998	\$ 5,240	\$22,334	\$ 12,912	\$ 13,135	\$ (223)	-	-
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	21,584	11,799	9,785	27	1.36
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

<sup>#</sup> After benefit changes.

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 viceversa.

<sup>@</sup> Revised actuarial assumptions.

<sup>##</sup> Combined Plan members are included beginning with the December 31, 2003 valuation.

# LOCAL GOVERNMENT DIVISION MALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION DECEMBER 31, 2011

## BY ATTAINED AGE AND YEARS OF SERVICE

Attained			Years of	Service To Valuat	tion Date			
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19	3,813							3,813
Tot. Pay	\$25,327,322							\$25,327,322
Avg. Pay	\$6,642							\$6,642
20-24	6,761	136						6,897
Tot. Pay	\$85,228,165	\$3,035,389						\$88,263,554
Avg. Pay	\$12,606	\$22,319						\$12,797
25-29	4,844	1,491	99					6,434
Tot. Pay	\$110,366,389	\$52,639,630	\$4,040,398					\$167,046,417
Avg. Pay	\$22,784	\$35,305	\$40,812					\$25,963
20.24	2 424	2.524	1 205					<b>5.4.</b> 0
30-34	3,421	2,531	1,205	61				7,218
Tot. Pay	\$89,385,827	\$103,993,587	\$53,886,450	\$2,892,715				\$250,158,579
Avg. Pay	\$26,129	\$41,088	\$44,719	\$47,422				\$34,658
35-39	2,796	2,171	2,221	796	32			8,016
Tot. Pay	\$74,122,102	\$91,775,363	\$108,428,152	\$40,653,296	\$1,582,857			\$316,561,770
Avg. Pay	\$26,510	\$42,273	\$48,820	\$51,072	\$49,464			\$39,491
40-44	2,927	2,168	2,452	2,008	900	32 ¢1.719.945		10,487
Tot. Pay	\$76,074,441	\$90,598,029	\$120,901,176	\$108,962,330	\$49,498,870	\$1,718,845		\$447,753,691
Avg. Pay	\$25,991	\$41,789	\$49,307	\$54,264	\$54,999	\$53,714		\$42,696
45-49	2,675	2,131	2,333	1,991	2,114	928	50	12,222
Tot. Pay	\$65,485,227	\$84,660,789	\$112,191,408	\$105,716,368	\$120,341,009	\$52,935,381	\$2,880,537	\$544,210,719
Avg. Pay	\$24,480	\$39,728	\$48,089	\$53,097	\$56,926	\$57,042	\$57,611	\$44,527
50-54	2,694	2,068	2,234	1,967	2,269	1,870	609	13,711
Tot. Pay	\$62,248,797	\$77,168,876	\$101,824,169	\$98,641,052	\$125,422,791	\$111,432,915	\$37,791,108	\$614,529,708
Avg. Pay	\$23,106	\$37,316	\$45,579	\$50,148	\$55,277	\$59,590	\$62,054	\$44,820
Avg. 1 ay	\$23,100	φ37,310	\$43,379	φ50,146	φ33,211	\$39,390	\$02,034	\$44,620
55-59	2,427	1,826	1,961	1,787	1,944	1,572	943	12,460
Tot. Pay	\$51,603,642	\$62,977,636	\$80,728,437	\$84,875,582	\$103,260,680	\$92,196,370	\$61,552,680	\$537,195,027
Avg. Pay	\$21,262	\$34,489	\$41,167	\$47,496	\$53,118	\$58,649	\$65,273	\$43,114
60-64	1,878	1,433	1,356	1,117	1,141	874	603	8,402
Tot. Pay	\$31,160,888	\$44,984,918	\$53,743,365	\$53,070,762	\$59,809,949	\$52,260,488	\$39,963,401	\$334,993,771
Avg. Pay	\$16,593	\$31,392	\$39,634	\$47,512	\$52,419	\$59,795	\$66,274	\$39,871
Avg. 1 ay	\$10,373	ψ31,372	\$57,054	Ψ+7,512	Ψ32,417	\$37,173	\$00,274	\$37,671
65-69	1,405	754	571	383	307	225	201	3,846
Tot. Pay	\$14,342,140	\$17,189,864	\$19,261,120	\$15,373,594	\$14,755,777	\$11,862,690	\$11,896,472	\$104,681,657
Avg. Pay	\$10,208	\$22,798	\$33,732	\$40,140	\$48,064	\$52,723	\$59,186	\$27,218
70 & Over	1,252	817	514	253	137	100	96	3,169
Tot. Pay	\$8,890,143	\$9,015,314	\$8,998,752	\$6,232,261	\$3,988,991	\$3,405,382	\$5,104,141	\$45,634,984
Avg. Pay	\$7,101	\$11,035	\$17,507	\$24,633	\$29,117	\$34,054	\$53,168	\$14,400
				•				
Totals	36,893	17,526	14,946	10,363	8,844 \$478,660,024	5,601	2,502 \$159,188,339	96,675
Tot. Pay	\$694,235,083 \$18,818	\$638,039,395 \$36,405	\$664,003,427 \$44,427	\$516,417,960 \$49,833	\$478,660,924 \$54,123	\$325,812,071 \$58,170	\$159,188,339 \$63,624	\$3,476,357,199 \$35,959
Avg. Pay	\$10,018	\$30,403	\$44,427	\$ <del>4</del> 7,033	\$34,123	\$38,170	\$05,024	\$33,939

# LOCAL GOVERNMENT DIVISION FEMALE ACTIVE MEMBERS IN DEFINED BENEFIT VALUATION DECEMBER 31, 2011

## BY ATTAINED AGE AND YEARS OF SERVICE

Attained			Years of	Service To Valua				
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19	4,265							4,265
Tot. Pay	\$25,190,206							\$25,190,206
Avg. Pay	\$5,906							\$5,906
20-24	6,487	218						6,705
Tot. Pay	\$76,896,165	\$3,520,751						\$80,416,916
Avg. Pay	\$11,854	\$16,150						\$11,994
25.20	~ 400	4.505	400					- 4.50
25-29	5,480	1,585 \$49,728,141	103					7,168 \$181,015,800
Tot. Pay	\$127,966,852 \$23,352	\$49,728,141	\$3,320,807					
Avg. Pay	\$25,532	\$31,374	\$32,241					\$25,253
30-34	5,135	3,515	1,454	66				10,170
Tot. Pay	\$116,866,105	\$131,748,866	\$56,700,441	\$2,613,384				\$307,928,796
Avg. Pay	\$22,759	\$37,482	\$38,996	\$39,597				\$30,278
35-39	3,573	2,730	3,107	950	62			10,422
Tot. Pay	\$90,141,619	\$102,133,325	\$132,954,152	\$41,599,381	\$2,455,873			\$369,284,350
Avg. Pay	\$25,229	\$37,411	\$42,792	\$43,789	\$39,611			\$35,433
40-44	3,746	2,790	3,155	2,395	1,084	52		13,222
Tot. Pay	\$89,386,029	\$99,639,733	\$133,342,794	\$114,121,526	\$49,008,472	\$2,562,040		\$488,060,594
Avg. Pay	\$23,862	\$35,713	\$42,264	\$47,650	\$45,211	\$49,270		\$36,913
45-49	3,595	2,817	2,957	2,167	2,315	1,045	51	14,947
Tot. Pay	\$79,826,912 \$22,205	\$97,579,499 \$34,640	\$119,245,189 \$40,326	\$97,793,506 \$45,129	\$114,249,438 \$49,352	\$49,935,400 \$47,785	\$2,448,146 \$48,003	\$561,078,090
Avg. Pay	\$22,203	\$34,040	\$40,326	\$43,129	\$49,332	\$47,763	\$46,003	\$37,538
50-54	3,437	2,841	3,332	2,501	2,361	1,832	531	16,835
Tot. Pay	\$70,980,389	\$92,077,203	\$126,355,080	\$104,668,686	\$114,221,426	\$96,012,900	\$27,127,844	\$631,443,528
Avg. Pay	\$20,652	\$32,410	\$37,922	\$41,851	\$48,378	\$52,409	\$51,088	\$37,508
55-59	2,619	2,364	2,961	2,402	2,411	1,306	720	14,783
Tot. Pay	\$50,097,868	\$72,236,171	\$108,164,556	\$97,319,211	\$108,359,708	\$67,172,386	\$38,790,300	\$542,140,200
Avg. Pay	\$19,129	\$30,557	\$36,530	\$40,516	\$44,944	\$51,434	\$53,875	\$36,673
60-64	1,516	1,483	1,792	1,489	1,629	912	438	9,259
Tot. Pay	\$26,366,607	\$43,425,221	\$62,086,576	\$56,923,668	\$70,688,544	\$43,440,896	\$24,141,651	\$327,073,163
Avg. Pay	\$17,392	\$29,282	\$34,647	\$38,229	\$43,394	\$47,633	\$55,118	\$35,325
					•			
65-69	685	531	583	491	464	290	161	3,205
Tot. Pay	\$7,146,188	\$11,831,180	\$17,708,226	\$16,723,689	\$18,823,138	\$13,023,454	\$7,525,608	\$92,781,483
Avg. Pay	\$10,432	\$22,281	\$30,374	\$34,060	\$40,567	\$44,908	\$46,743	\$28,949
70 & Over	558	328	290	206	196	109	109	1,796
Tot. Pay	\$3,362,994	\$3,764,896	\$4,749,652	\$5,072,204	\$6,189,903	\$4,505,951	\$4,271,425	\$31,917,025
Avg. Pay	\$6,027	\$11,478	\$16,378	\$24,622	\$31,581	\$41,339	\$39,187	\$17,771
Totals	41,096	21,202	19,734	12,667	10,522	5,546	2,010	112,777
Tot. Pay	\$764,227,934	\$707,684,986	\$764,627,473	\$536,835,255	\$483,996,502	\$276,653,027	\$104,304,974	\$3,638,330,151
Avg. Pay	\$18,596	\$33,378	\$38,747	\$42,381	\$45,999	\$49,883	\$51,893	\$32,261

# LOCAL GOVERNMENT DIVISION INACTIVE MEMBERS IN DEFINED BENEFIT VALUATION DECEMBER 31, 2011

## BY ATTAINED AGE AND YEARS OF SERVICE

Attained		Ye	ears of Ser	vice to Va	luation Da	te		Total
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Number
15-19	2,167							2,167
20-24	28,289	17						28,306
25-29	38,264	363	1					38,628
30-34	44,060	886	94					45,040
35-39	30,284	1,242	329	31				31,886
40-44	23,563	1,617	707	166	18			26,071
45-49	18,523	1,697	1,038	393	103	13		21,767
50-54	19,270	1,991	1,362	572	213	76	3	23,487
55-59	17,750	2,146	1,611	758	297	33	5	22,600
60-64	11,962	1,281	769	326	111	19	6	14,474
65-69	6,045	464	151	55	16	8	6	6,745
70 & Over	3,646	172	51	11	5	2		3,887
Totals	243,823	11,876	6,113	2,312	763	151	20	265,058



PUBLIC SAFETY DIVISION

## **PUBLIC SAFETY DIVISION**

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, 2011

		Annual		Average	
Groups	Number	Payroll	Pay	Age	Service
Men Women	76 8	\$3,272,176 356,791	\$43,055 44,599	37.5 yrs. 39.2	8.8 yrs. 9.3
Totals	84	\$3,628,967	\$43,202	37.7 yrs.	8.8 yrs.

Also included in the valuation were 35 inactive members and 4 members active in the money purchase plan.

Retired Members in Valuation December 31, 2011

		Current	Actuarial
Fund / Type of Allowance	Number	Monthly Benefits	Liabilities
A & PR Fund			
Superannuation Retirement	30	\$ 49,620	\$ 8,059,373
Disability Retirement	38	105,322	15,651,050
Money Purchase	0	0	0
Total A & PR Fund	68	154,942	23,710,423
Total SBF	101	122,573	17,074,495
Grand Total	169	\$277,515	\$40,784,918

## PUBLIC SAFETY DIVISION EMPLOYER CONTRIBUTIONS TO SUPPORT RETIREMENT ALLOWANCES

#### EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL

Valuation Date December 31	2011	2010*	
Contributions for	2014	2013	
Normal Cost			
Age and Service Allowances	8.41 %	10.58 %	
Disability Allowances	4.22 %	5.23 %	
Survivor's Benefits	0.51 %	0.63 %	
Separation Benefits	4.98 %	3.18 %	
Total Normal Cost	18.12 %	19.62 %	
(Member Contributions)	12.00 %	12.00 %	
Employer Normal Cost	6.12 %	7.62 %	
Unfunded Actuarial Accrued Liabilities			
Total Available Contribution	11.98 %	9.48 %	
Amortization Years	46	N/A	
Total Pension Employer Contribution Rate	18.10 %	17.10 %	

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.

<sup>\*</sup> As shown in the December 31, 2010 valuation report before the changes to actuarial assumptions adopted in October 2011.

## PUBLIC SAFETY DIVISION COMPARATIVE STATEMENT \*

	Contribution						ed Employe	r Contributi	ions as % o	f Payroll
Valuation	Rate	A	ctive Members	s in Valuatio	on		Unfunded			
Date	<b>Effective</b>		An	nual Payroll		Normal	Accrued	Pension	Retiree	Grand
December 31	January 1	No.	Total	Average	Increase	Cost	Liability	Total	Health	Total
			(\$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)%	7.62 %	9.48 %	17.10 %	1.00 %	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 %

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

<sup>@</sup> Revised actuarial assumptions.

# PUBLIC SAFETY DIVISION DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES DECEMBER 31, 2011

		Allocation by	Entry Age
	(1)	(2)	(3)
	Total	Portion	Actuarial
	Actuarial	Covered By	Accrued
	Present	Future Normal	Liabilities
Actuarial Present Value	Value	<b>Cost Contributions</b>	(1)-(2)
Allowances currently being paid from			
the Annuity & Pension Reserve Fund	\$23,710,423	\$ -	\$23,710,423
Allowances currently being paid from			
the Survivors Benefit Fund	17,074,495	-	17,074,495
Age and service allowances based on			
service rendered before and likely			
to be rendered after valuation date	8,030,259	2,690,807	5,339,452
Disability allowances likely to be paid			
present active members who become			
permanently disabled	2,638,883	1,309,073	1,329,810
Survivor benefits likely to be paid to			
spouses and children of present active			
members who die before retiring	339,490	153,273	186,217
Separation benefits (refunds of contributions			
and deferred allowances) likely to be paid	2.542.040	1.620.666	014 274
to present active and inactive members	2,543,940	1,629,666	914,274
Total	\$54,337,490	\$5,782,819	\$48,554,671
Total	φ54,557,490	φ3,762,619	φ <del>4</del> 0,334,071
Actuarial Value of Assets			39,422,844
A COMMENT VILLE OF A DOCKS			37,422,044
Unfunded Actuarial Accrued Liability			\$9,131,827

#### **PUBLIC SAFETY DIVISION**

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

			Active a	d Liabilities					
	Defined	l Benefit		for Retirement Allowances					
	Active	Payroll	Computed	Valuation		Amortization	Unfunded		
Dec. 31	Total	Average	Total	Assets	Unfunded	Years	/Payroll		
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	(8)	15	N/A	3.75		
2010@	4	41,480	7	(7)	14	N/A	3.50		
2011	4	43,202	8	(1)	9	45	2.25		

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

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 viceversa.

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

<sup>@</sup> Revised actuarial assumptions.

# PUBLIC SAFETY DIVISION MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained				Service To Valua			_	
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19								
Tot. Pay								
Avg. Pay								
20-24	8							8
Tot. Pay	\$351,272							\$351,272
Avg. Pay	\$43,909							\$43,909
25-29	12	3						15
Tot. Pay	\$495,128	\$104,939						\$600,067
Avg. Pay	\$41,261	\$34,980						\$40,004
30-34	3	6	2					11
Tot. Pay	\$122,155	\$289,960	\$96,155					\$508,270
Avg. Pay	\$40,718	\$48,327	\$48,078					\$46,206
35-39	4	1	6					11
35-39 Tot. Pay	4   \$141,459	1 \$35,175	6 \$290,725					\$467,359
Avg. Pay	\$35,365	\$35,175	\$48,454					\$42,487
40-44 Tot. Pay	2 \$77,977	2 \$80,723	4 \$172,111	\$192,221	1 \$42,761			13 \$555,803
Avg. Pay	\$38,989	\$40,362	\$43,028	\$182,231 \$45,558	\$42,761			\$42,754
	Ψ30,707	Ψ+0,302	Ψ-3,020	Ψ+3,330	Ψ42,701			ψ+2,73+
45-49		3	2	1	1			7
Tot. Pay		\$132,448	\$89,624	\$6,013 \$6,013	\$48,234			\$276,319
Avg. Pay		\$44,149	\$44,812	\$0,015	\$48,234			\$39,474
50-54		1		1				2
Tot. Pay		\$55,708		\$40,454				\$96,162
Avg. Pay		\$55,708		\$40,454				\$48,081
55-59				3	1			4
Tot. Pay				\$135,180	\$48,022			\$183,202
Avg. Pay				\$45,060	\$48,022			\$45,801
60-64	1	1		1	1			4
Tot. Pay	\$33,020	\$64,111		\$54,889	\$37,592			\$189,612
Avg. Pay	\$33,020	\$64,111		\$54,889	\$37,592			\$47,403
65-69								
Tot. Pay								
Avg. Pay								
70 & Over					1			1
Tot. Pay					\$44,110			\$44,110
Avg. Pay					\$44,110			\$44,110
Totals	30	17	14	10	5		1	76
Tot. Pay	\$1,221,011	\$763,064	\$648,615	\$418,767	\$220,719	\$ -	\$ -	\$3,272,176
Avg. Pay	\$40,700	\$44,886	\$46,330	\$41,877	\$44,144			\$43,055

## **PUBLIC SAFETY DIVISION**

## FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained			Years of S	Service To Valua	ation Date			
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19								
Tot. Pay								
Avg. Pay								
20-24	1							1
Tot. Pay	\$48,289							\$48,289
Avg. Pay	\$48,289							\$48,289
								Ψ+0,207
25-29	2							2
Tot. Pay	\$88,128							\$88,128
Avg. Pay	\$44,064							\$44,064
30-34								
Tot. Pay								
Avg. Pay								
25.20		1						1
35-39 Tot. Pay		1 \$32,949						1 \$32,949
Avg. Pay		\$32,949						\$32,949
		Ψ32,747						Ψ32,747
40-44					1			1
Tot. Pay					\$76,903			\$76,903
Avg. Pay					\$76,903			\$76,903
45-49			1					1
Tot. Pay			\$34,381					\$34,381
Avg. Pay			\$34,381					\$34,381
50-54					1			1
Tot. Pay					\$45,172			1 \$45,172
Avg. Pay					\$45,172			\$45,172 \$45,172
					\$15,172			ψ13,172
55-59		1						1
Tot. Pay		\$30,969						\$30,969
Avg. Pay		\$30,969						\$30,969
60-64								
Tot. Pay								
Avg. Pay								
65-69								
Tot. Pay								
Avg. Pay								
70 & Over Tot. Pay								
Avg. Pay								
Totals	0126 417	2	1	d.	2	<b>.</b>	0	8 \$256.701
Tot. Pay Avg. Pay	\$136,417 \$45,472	\$63,918 \$31,959	\$34,381 \$34,381	\$ -	\$122,075 \$61,038	\$ -	\$ -	\$356,791 \$44,599
Avg. ray	945,412	\$31,739	\$54,561		\$01,038			\$44,399

# PUBLIC SAFETY DIVISION INACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained		Yea	rs of Ser	vice to Va	aluation I	Date		Total
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Number
15-19								
20-24	1							1
25-29	7							7
30-34	10	1						11
35-39	7	1						8
40-44	4			1				5
45-49				1				1
50-54								
55-59				1				1
60-64								
65-69	1							1
70 & Over								
Totals	30	2		3				35

# SECTION VIII LAW ENFORCEMENT DIVISION

## LAW ENFORCEMENT DIVISION

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, 2011

		Annual	Average			
Groups	Number	Payroll	Pay	Age	Service	
Men Women	6,645 900	\$388,742,047 48,863,059	\$58,501 54,292	41.4 yrs. 41.3	14.3 yrs. 13.4	
Totals	7,545	\$437,605,106	\$57,999	41.3 yrs.	14.2 yrs.	

Also included in the valuation were 934 inactive members and 46 members active in the money purchase plan.

Retired Members in Valuation December 31, 2011

		Current	Actuarial
Fund / Type of Allowance	Number	Monthly Benefits	Liabilities
A & PR Fund			
Superannuation Retirement	2,481	\$ 7,723,146	\$ 1,178,757,591
Disability Retirement	1,535	4,489,061	635,683,629
Money Purchase	0	0	0
Total A & PR Fund	4,016	12,212,207	1,814,441,220
Total SBF	304	317,948	39,888,330
Grand Total	4,320	\$12,530,155	\$1,854,329,550

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

Valuation Date December 31	2011	2010*
Contributions for	2014	2013
Normal Cost		
Age and Service Allowances	12.14 %	12.12 %
Disability Allowances	4.81 %	5.19 %
Survivor's Benefits	0.53 %	0.59 %
Separation Benefits	2.70 %	2.60 %
Total Normal Cost	20.18 %	20.50 %
(Member Contributions)	13.00 %	12.60 %
Employer Normal Cost	7.18 %	7.90 %
Unfunded Actuarial Accrued Liabilities		
Total Available Contribution	10.92 %	9.20 %
Amortization Years	24	21
Total Pension Employer Contribution Rate	18.10 %	17.10 %

<sup>\*</sup> As shown in the December 31, 2010 valuation report before the changes to actuarial assumptions adopted in October 2011.

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 \*

	Contribution					Comput	ed Employe	r Contributi	ons as % of	f Payroll
Valuation	Rate	Active Members in Valuation				Unfunded				
Date	Effective		An	nual Payroll		Normal	Accrued	Pension	Retiree	Grand
December 31	January 1	No.	Total	Average	Increase	Cost	Liability	Total	Health	Total
			(\$Thousands)							
1998	2001	7,507	\$277,239	\$36,931	3.5 %	10.48 %	1.92 %	12.40 %	4.30 %	16.70 %
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 %	7.90 %	9.20 %	17.10 %	1.00 %	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 %

<sup>#</sup> After benefit changes.

<sup>@</sup> Revised actuarial assumptions.

<sup>\*</sup> 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, 2011

		Allocation by	y Entry Age
	(1)	(2)	(3)
	Total	Portion	Actuarial
	Actuarial	Covered By	Accrued
	Present	Future Normal	Liabilities
Actuarial Present Value	Value	<b>Cost Contributions</b>	(1)-(2)
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 1,814,441,220	\$ -	\$ 1,814,441,220
Allowances currently being paid from the Survivors Benefit Fund	39,888,330	-	39,888,330
Age and service allowances based on service rendered before and likely to be rendered after valuation date	1,747,280,980	471,781,626	1,275,499,354
Disability allowances likely to be paid present active members who become permanently disabled	394,188,439	183,797,217	210,391,222
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	49,761,832	19,994,680	29,767,152
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	135,244,988	105,123,061	30,121,927
to present detive and indetive incliners	155,277,700	103,123,001	30,121,721
Total	\$4,180,805,789	\$780,696,584	\$3,400,109,205
Actuarial Value of Assets			2,667,023,222
Unfunded Actuarial Accrued Liability			\$ 733,085,983

#### LAW ENFORCEMENT DIVISION

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

			Active an						
	Defined	l Benefit		for Retirement Allowances					
	Active	Payroll	Computed	Valuation		Amortization	<b>Unfunded</b>		
Dec. 31	Total	Average	Total	Assets	Unfunded	Years	/Payroll		
1998	\$277	\$36,931	\$ 914	\$ 895	\$ 19	5	0.07		
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	1,535	871	664	25	1.51		
2010@	439	56,976	1,542	966	576	19	1.31		
2011	438	57,999	1,546	813	733	23	1.67		

<sup>#</sup> After benefit changes.

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 viceversa.

<sup>@</sup> Revised actuarial assumptions.

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

# LAW ENFORCEMENT DIVISION MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained								
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19								
Tot. Pay								
Avg. Pay								
20-24	99	2						101
Tot. Pay	\$3,182,905	\$87,079						\$3,269,984
Avg. Pay	\$32,151	\$43,540						\$32,376
		·						
25-29	298	196	5					499
Tot. Pay	\$13,038,995	\$10,041,662 \$51,233	\$304,205 \$60,841					\$23,384,862
Avg. Pay	\$43,755	\$31,233	\$00,641					\$46,863
30-34	159	453	307	6				925
Tot. Pay	\$7,100,901	\$25,088,222	\$18,082,092	\$300,679				\$50,571,894
Avg. Pay	\$44,660	\$55,382	\$58,899	\$50,113				\$54,672
35-39	116	258	687	257	2			1,320
Tot. Pay	\$5,256,136	\$14,085,187	\$41,035,973	\$16,182,278	\$126,312			\$76,685,886
Avg. Pay	\$45,312	\$54,594	\$59,732	\$62,966	\$63,156			\$58,095
40-44	65	163	387	693	263	3		1,574
Tot. Pay	\$2,888,162	\$8,967,244	\$22,961,519	\$43,396,098	\$17,719,065	\$207,268		\$96,139,356
Avg. Pay	\$44,433	\$55,014	\$59,332	\$62,621	\$67,373	\$69,089		\$61,080
	411,100	,,,,,,	447,444	+,	777,012	400,000		
45-49	29	74	166	258	376	128	4	1,035
Tot. Pay	\$1,129,716	\$3,957,607	\$9,923,362	\$15,541,910	\$24,299,544	\$8,969,320	\$313,776	\$64,135,235
Avg. Pay	\$38,956	\$53,481	\$59,779	\$60,240	\$64,626	\$70,073	\$78,444	\$61,966
50-54	15	29	67	100	187	183	56	637
Tot. Pay	\$683,763	\$1,657,176	\$3,731,298	\$6,016,154	\$11,957,871	\$12,433,950	\$4,438,332	\$40,918,544
Avg. Pay	\$45,584	\$57,144	\$55,691	\$60,162	\$63,946	\$67,945	\$79,256	\$64,236
55-59	12	24	43	58	86	85	64	372
Tot. Pay	\$435,883	\$1,328,193	\$2,429,112	\$3,303,819	\$5,078,687	\$5,759,485	\$4,735,618	\$23,070,797
Avg. Pay	\$36,324	\$55,341	\$56,491	\$56,962	\$59,055	\$67,759	\$73,994	\$62,018
60-64	5	6	13	33	36	21	20	142
Tot. Pay	\$164,367	6 \$275,040	\$610,240	\$1,888,841	\$2,268,993	\$1,295,711	28 \$1,947,673	\$8,450,865
Avg. Pay	\$32,873	\$45,840	\$46,942	\$57,238	\$63,028	\$61,701	\$69,560	\$59,513
	10-,070	·	4			4.2.4,	400,000	
65-69	1	5	6	3	12	3	1	31
Tot. Pay	\$3,041	\$245,752	\$307,157	\$183,926	\$626,619	\$179,740	\$58,103	\$1,604,338
Avg. Pay	\$3,041	\$49,150	\$51,193	\$61,309	\$52,218	\$59,913	\$58,103	\$51,753
70 & Over	1	2	3			1	2	9
Tot. Pay	\$69,307	\$77,278	\$156,697			\$35,522	\$171,482	\$510,286
Avg. Pay	\$69,307	\$38,639	\$52,232			\$35,522	\$85,741	\$56,698
Totals	800	1,212	1,684	1,408	962	424	155	6,645
Tot. Pay	\$33,953,176	\$65,810,440	\$99,541,655	\$86,813,705	\$62,077,091	\$28,880,996	\$11,664,984	\$388,742,047
Avg. Pay	\$42,441	\$54,299	\$59,110	\$61,657	\$64,529	\$68,116	\$75,258	\$58,501

## LAW ENFORCEMENT DIVISION FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained	Years of Service To Valuation Date							
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Total
15-19								
Tot. Pay								
Avg. Pay								
20-24	12							12
Tot. Pay	\$380,464							\$380,464
Avg. Pay	\$31,705							\$31,705
25-29	41	22	2					65
Tot. Pay	\$1,882,848	\$1,194,745	\$102,387					\$3,179,980
Avg. Pay	\$45,923	\$54,307	\$51,194					\$48,923
30-34	22	72	50					156
Tot. Pay	\$1,325,399	73 \$3,848,760	\$2,779,290					\$7,953,449
Avg. Pay	\$40,164	\$52,723	\$55,586					\$50,984
	Ψ10,101	Ψ32,723	Ψ33,300					
35-39	12	40	84	32	2			170
Tot. Pay	\$405,248	\$2,046,690	\$4,685,985	\$1,924,831	\$98,285			\$9,161,039
Avg. Pay	\$33,771	\$51,167	\$55,786	\$60,151	\$49,143			\$53,888
40-44	6	33	43	79	24			185
Tot. Pay	\$294,316	\$1,687,424	\$2,439,819	\$4,759,140	\$1,511,392			\$10,692,091
Avg. Pay	\$49,053	\$51,134	\$56,740	\$60,242	\$62,975			\$57,795
45-49	4	18	25	36	42	11		136
Tot. Pay	\$109,720	\$932,477	\$1,328,336	\$1,963,808	\$2,490,939	\$753,492		\$7,578,772
Avg. Pay	\$27,430	\$51,804	\$53,133	\$54,550	\$59,308	\$68,499		\$55,726
50-54	3	10	12	23	30	17	7	102
Tot. Pay	\$131,833	\$416,415	\$636,751	\$1,331,566	\$1,659,088	\$1,162,257	\$463,701	\$5,801,611
Avg. Pay	\$43,944	\$41,642	\$53,063	\$57,894	\$55,303	\$68,368	\$66,243	\$56,879
55-59	1	4	9	13	12	14	1	54
Tot. Pay	\$10,575	\$222,763	\$531,149	\$736,985	\$613,274	\$877,757	\$66,194	\$3,058,697
Avg. Pay	\$10,575	\$55,691	\$59,017	\$56,691	\$51,106	\$62,697	\$66,194	\$56,643
60-64		1	2	7	4	2	3	19
Tot. Pay		\$55,492	\$111,871	\$334,924	\$231,845	\$100,987	\$182,850	\$1,017,969
Avg. Pay		\$55,492	\$55,936	\$47,846	\$57,961	\$50,494	\$60,950	\$53,577
			,					1
65-69 Tot. Pay			1 \$38,987					1 \$38,987
Avg. Pay			\$38,987					\$38,987
			723,501					720,501
70 & Over								
Tot. Pay Avg. Pay								
	110	201	222	100	4.4.4		4.2	600
Totals Tot. Pay	\$4,540,403	201 \$10,404,766	228 \$12,654,575	190 \$11,051,254	\$6,604,823	44 \$2,894,493	11 \$712,745	900 \$48,863,059
Avg. Pay	\$40,539	\$10,404,766	\$55,503	\$11,031,234	\$57,937	\$2,894,493 \$65,784	\$64,795	\$54,292

# LAW ENFORCEMENT DIVISION INACTIVE MEMBERS IN VALUATION DECEMBER 31, 2011 BY ATTAINED AGE AND YEARS OF SERVICE

Attained		Years of Service to Valuation Date							
Ages	0-4	5-9	10-14	15-19	20-24	25-29	30+	Number	
15-19									
20-24	7							7	
25-29	69	3						72	
30-34	105	25	1					131	
35-39	124	27	20	2				173	
40-44	134	31	15	8	2			190	
45-49	75	10	17	13	3	3		121	
50-54	45	16	12	12	7	2		94	
55-59	36	9	14	9	6			74	
60-64	32	3	4	3				42	
65-69	10	3			1			14	
70 & Over	15				1			16	
Totals	652	127	83	47	20	5		934	

## **SECTION IX**

ALLOWANCES BEING PAID TO RETIREES AND BENEFICIARIES

## MONTHLY ALLOWANCES OF RETIRED LIVES BY YEAR OF RETIREMENT AS OF DECEMBER 31, 2011

Year of			Post-Ret.		
Retirement	No.	Initial	Increase	Total	Average
2011	12,863	\$28,737,750	\$ 121,575	\$ 28,859,325	\$2,244
2010	10,970	22,481,694	778,592	23,260,286	2,120
2009	10,914	22,858,028	1,436,121	24,294,149	2,226
2008	9,572	18,218,627	1,693,106	19,911,733	2,080
2007	9,109	16,777,496	2,071,310	18,848,806	2,069
2006	9,707	17,005,127	2,593,831	19,598,958	2,019
2005	9,082	16,276,667	2,966,803	19,243,470	2,119
2004	8,599	14,489,017	3,066,277	17,555,294	2,042
2003	8,085	13,787,441	3,321,959	17,109,400	2,116
2002	8,948	14,856,307	4,037,196	18,893,503	2,111
2001	7,400	11,585,433	3,482,841	15,068,274	2,036
2000	7,107	10,401,803	3,391,964	13,793,767	1,941
1999	6,254	8,671,009	2,967,859	11,638,868	1,861
1998	6,163	7,897,532	2,844,952	10,742,484	1,743
1997	5,719	7,527,104	2,911,255	10,438,359	1,825
1996	5,602	6,760,324	2,804,729	9,565,053	1,707
1995	5,069	5,903,682	2,591,144	8,494,826	1,676
1990-1994	19,532	19,412,709	10,234,948	29,647,657	1,518
1985-1989	15,582	12,997,856	9,008,605	22,006,461	1,412
1980-1984	8,381	4,620,988	4,275,406	8,896,394	1,061
1975-1979	3,820	1,509,962	2,185,917	3,695,879	968
1970-1974	971	240,710	515,834	756,544	779
1965-1969	272	59,709	187,041	246,750	907
1960-1964	128	28,425	95,832	124,257	971
Before 1960	0	0	0	0	
TOTAL	189,849	\$283,105,400	\$69,585,097	\$352,690,497	\$1,858

# MONTHLY ALLOWANCES OF RETIRED LIVES BY YEARS OF SERVICE AS OF DECEMBER 31, 2011

Years of			Post-Ret.		
Service	No.	Initial	Increase	Total	Average
<5 or n/a	6,598	\$ 2,203,639	\$ 405,835	\$ 2,609,474	\$395
5	4,269	1,588,178	422,504	2,010,682	471
6	3,400	1,391,389	369,829	1,761,218	518
7	3,243	1,420,180	369,805	1,789,985	552
8	2,960	1,395,993	354,311	1,750,304	591
9	2,225	1,184,339	296,248	1,480,587	665
10	9,372	4,325,098	1,173,498	5,498,596	587
11	5,489	2,967,162	783,334	3,750,496	683
12	5,424	3,070,807	853,079	3,923,886	723
13	4,881	3,142,258	855,376	3,997,634	819
14	4,701	3,151,116	870,464	4,021,580	855
15	5,203	3,754,465	1,053,384	4,807,849	924
16	5,017	3,828,192	1,092,333	4,920,525	981
17	4,560	3,895,159	1,109,723	5,004,882	1,098
18	4,540	4,083,960	1,177,387	5,261,347	1,159
19	4,475	4,279,362	1,207,594	5,486,956	1,226
20	5,575	5,823,676	1,593,659	7,417,335	1,330
21	4,726	5,256,105	1,502,728	6,758,833	1,430
22	4,498	5,439,339	1,521,743	6,961,082	1,548
23	4,432	5,699,974	1,558,358	7,258,332	1,638
24	4,159	5,785,042	1,572,512	7,357,554	1,769
25	8,517	13,145,311	3,484,289	16,629,600	1,953
26	5,332	8,852,319	2,466,994	11,319,313	2,123
27	5,387	9,746,234	2,680,546	12,426,780	2,307
28	5,881	12,191,879	3,152,527	15,344,406	2,609
29	5,758	12,902,352	2,968,939	15,871,291	2,756
30	24,704	59,373,605	12,491,428	71,865,033	2,909
31	7,654	19,068,496	4,228,601	23,297,097	3,044
32	5,935	15,266,484	3,521,936	18,788,420	3,166
33	4,589	12,318,296	2,772,060	15,090,356	3,288
34	3,650	10,010,831	2,382,538	12,393,369	3,395
35	3,384	9,474,353	2,279,345	11,753,698	3,473
36	2,435	6,854,893	1,673,572	8,528,465	3,502
37	1,907	5,407,068	1,341,990	6,749,058	3,539
38	1,399	3,931,752	1,015,152	4,946,904	3,536
39	1,138	3,138,443	873,631	4,012,074	3,526
40 & Over	2,432	7,737,651	2,107,845	9,845,496	4,048
TOTAL	189,849	\$283,105,400	\$69,585,097	\$352,690,497	\$1,858

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

	I	Annual Allow	ances			Ratio of	Ratio of
Valuation		\$	% of DB	Reported	Actuarial	Assets to	DB Active
Date	No.	Millions	Payroll	Assets*	Liabilities	Liabilities	to Retired
12/31/1983	74,442	\$ 333	8.7 % **	\$ 3,554	\$ 3,428	103.7 %	3.3
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	40,184	100.0 %	2.1
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

<sup>\*</sup> Including certain recommended transfers and accrued transfers.

<sup>@</sup> Revised actuarial assumptions.

<sup>\*\*</sup> Excluding health insurance and Medicare payments.

<sup>+</sup> Including estimated effect of legislated benefit changes.

# ANNUITY AND PENSION RESERVE FUND RETIREES AND BENEFICIARIES DECEMBER 31, 2011 Type of Benefit, Monthly Amount and Actuarial Liabilities

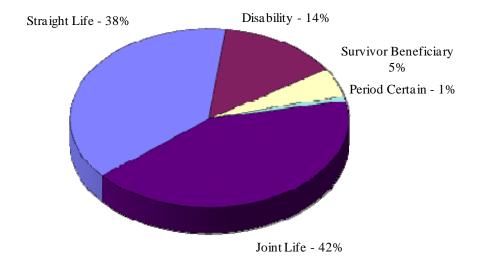
Type of Allowance	Number	Current Total \$	Actuarial Liabilities
Superannuation Retirement			
Plan A - Joint & 50%	22,023	49,669,591	6,968,017,339
Plan B - Straight Life	68,896	125,782,468	15,092,476,933
Plan C - Special Joint & Survivor	17,278	41,690,113	5,932,000,580
Plan D - Joint & 100%	23,332	51,403,896	8,261,543,779
Plan E - Life & 0 to 5 Years Guaranteed	365	571,615	69,727,123
- Life & 6 to 10 Years Guaranteed	517	876,952	107,070,913
- Life & 11 to 15 Years Guaranteed	735	1,050,384	130,289,374
- Life & 16 to 20 Years Guaranteed	56	111,941	17,339,155
Plan F - Multiple Continuing Beneficiaries	577	1,409,961	267,185,659
Money Purchase	2,311	958,457	114,013,615
Survivor Beneficiary - Life Benefit	16,047	16,828,122	1,544,006,769
Survivor Beneficiary - Temporary Benefit	66	68,515	3,589,825
Total Superannuation	152,203	290,422,015	38,507,261,064
Disability Retirement	22,476	48,339,507	6,494,185,022
Total from A & PR	174,679	338,761,522	45,001,446,086

## ANNUITY AND PENSION RESERVE FUND RETIREES AND BENEFICIARIES DECEMBER 31, 2011 TYPE OF BENEFIT AND AMOUNT BY GENDER OF RECIPIENT

	Men		Women		To	otal
		Monthly		Monthly		Monthly
Type of Allowance	Number	Allowances	Number	Allowances	Number	Allowances
Superannuation Retirement						
Plan A - Joint & 50%	14,846	35,593,040	7,177	14,076,551	22,023	49,669,591
Plan B - Straight Life	21,018	44,264,778	47,878	81,517,690	68,896	125,782,468
Plan C - Special Joint & Survivor	7,212	21,151,527	10,066	20,538,586	17,278	41,690,113
Plan D - Joint & 100%	18,867	43,324,392	4,465	8,079,504	23,332	51,403,896
Plan E - Life & 0 to 5 Years Guaranteed	152	257,812	213	313,803	365	571,615
- Life & 6 to 10 Years Guaranteed	256	440,525	261	436,427	517	876,952
- Life & 11 to 15 Years Guaranteed	431	603,490	304	446,894	735	1,050,384
- Life & 16 to 20 Years Guaranteed	37	71,421	19	40,520	56	111,941
Plan F - Multiple Continuing Beneficiaries	226	666,479	351	743,482	577	1,409,961
Money Purchase	1,571	769,212	740	189,245	2,311	958,457
Survivor Beneficiary - Life Benefit	1,557	1,043,018	14,490	15,785,104	16,047	16,828,122
Survivor Beneficiary - Temporary Benefit	17	13,653	49	54,862	66	68,515
Total Superannuation	66,190	148,199,347	86,013	142,222,668	152,203	290,422,015
Disability Retirement	11,512	27,367,564	10,964	20,971,943	22,476	48,339,507
Total from A & PR	77,702	175,566,911	96,977	163,194,611	174,679	338,761,522

## ANNUITIES BEING PAID BY TYPE DECEMBER 31, 2011

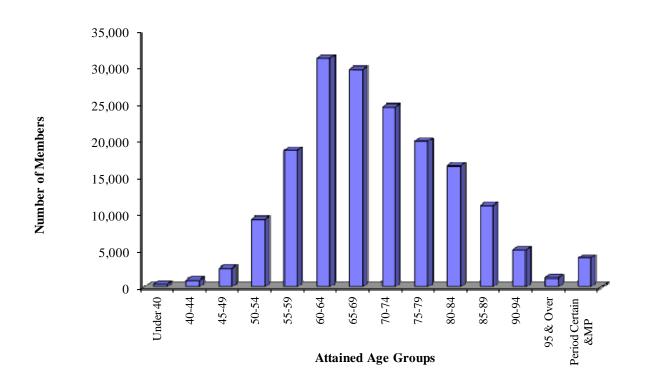
## **Annuity and Pension Reserve Fund**

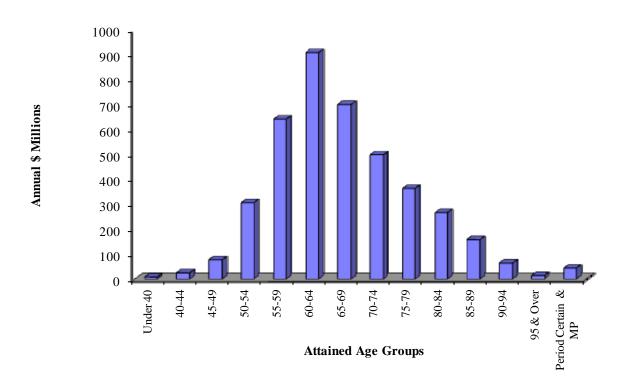


## ANNUITY AND PENSION RESERVE FUND RETIREES AND BENEFICIARIES DECEMBER 31, 2011 CURRENT MONTHLY TOTAL \$ BY ATTAINED AGES

	Supe	rannuation	D	isability		Totals
Attained		Monthly		Monthly		Monthly
Ages	No.	Total \$	No.	Total \$	No.	Total \$
Under 20	11	\$ 4,467			11	\$ 4,467
20-24	12	6,686			12	6,686
25-29	13	9,243	4	6,600	17	15,843
30-34	25	11,943	83	125,541	108	137,484
35-39	27	17,046	274	459,945	301	476,991
40-44	53	34,440	911	2,003,361	964	2,037,801
45-49	524	1,273,687	2,006	4,981,879	2,530	6,255,566
50-54	5,530	16,308,867	3,722	9,139,479	9,252	25,448,346
55-59	13,509	41,682,347	5,053	11,724,728	18,562	53,407,075
60-64	26,055	64,895,482	5,036	10,682,011	31,091	75,577,493
65-69	27,059	53,420,497	2,547	5,050,882	29,606	58,471,379
70-74	23,150	39,268,821	1,380	2,292,164	24,530	41,560,985
75-79	19,113	29,282,867	718	1,019,336	19,831	30,302,203
80-84	16,061	21,611,988	451	550,857	16,512	22,162,845
85-89	10,831	12,829,046	209	222,837	11,040	13,051,883
90-94	4,995	5,057,097	72	71,773	5,067	5,128,870
95 & Over	1,251	1,138,142	10	8,114	1,261	1,146,256
Period Certain &						
Money Purchase	3,984	3,569,349			3,984	3,569,349
Totals	152,203	\$290,422,015	22,476	\$48,339,507	174,679	\$338,761,522

#### ANNUITY AND PENSION RESERVE FUND BENEFITS BEING PAID BY ATTAINED AGES DECEMBER 31, 2011





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

Attained Age Group	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
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%
30-39	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	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	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	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	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	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%	3.4%	3.4%	3.3%	3.2%	3.2%	3.2%	3.2%	3.1%	3.1%	3.0%	3.1%
Period Certain & MP	2.3%	2.2%	2.1%	2.1%	1.9%	1.9%	1.8%	1.8%	1.8%	1.7%	1.8%	1.8%	0.3%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average Age	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, 2011

Group	Number	Current Total	Actuarial Liabilities
C.1. Curriero	Donofit to Donoficio	wy of Dogogod Ma	a maha m
	Benefit to Beneficia Joint and Survivor C	•	ember
	John and Survivor C	omputation	
Men	147	\$ 146,706	\$ 15,990,851
Women	664	935,016	96,241,770
Totals	811	\$1,081,722	\$112,232,621
S-2 - Survivoi	Benefit to Beneficia	ry of Deceased Mo	ember
	Fixed Rate An	nount	
Widower - no child	643	\$ 685,999	\$ 86,462,689
Widower - child	58	56,487	9,386,618
Child's record	150	84,133	5,511,091
Parent	0	0	0
Other	0	0	0
Child only	186	147,843	7,287,112
Subtotals - male	1,037	974,462	\$ 108,647,510
Widower - no child	2,191	\$2,416,559	\$299,556,221
Widower - child	142	156,101	28,047,317
Child's record	146	80,083	6,225,619
Parent	2	2,331	149,518
Other	2	1,585	257,085
Child only	199	157,304	7,926,738
Subtotals - female	2,682	2,813,963	342,162,498
Totals	3,719	\$3,788,425	\$450,810,008
Total Bene	fits Being Paid from	Survivor Benefit Fu	und
Men	1,184	\$ 1,121,168	\$124,638,361
Women	3,346	3,748,979	438,404,268
Totals	4,530	\$4,870,147	\$563,042,629

# LOCAL GOVERNMENT DIVISION SURVIVOR BENEFIT FUND TABULATED BY TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT DECEMBER 31, 2011

		Current	Actuarial
Group	Number	Total	Liabilities
S-1 - Survivor Be	enefit to Beneficia	ry of Deceased M	ember
Joi	nt and Survivor C	omputation	
	200	h 161 515	h 15 55 50 1
Men	200	\$ 161,715	\$ 15,665,694
Women	1,377	1,517,679	154,653,804
Totals	1,577	1,679,394	170,319,498
S-2 - Survivor Be	enefit to Beneficia	ry of Deceased M	ember
	Fixed Rate An		
Widower - no child	1,061	\$ 821,325	\$ 100,476,083
Widower - child	86	66,431	11,507,219
Child's record	241	119,612	8,440,730
Parent	0	0	0
Other	3	1,722	191,539
Child only	344	245,196	15,189,662
Subtotals - male	1,735	1,254,286	135,805,233
XX7' 1 1 '1 1	5 140	Φ4 49 <i>C</i> 672	Φ529. <b>722.</b> 500
Widower - no child	5,149	\$4,486,673	\$538,732,590
Widower - child	301	294,367	51,652,194
Child's record	329	169,937	13,660,669
Parent	2	2,046	124,797
Other	5	3,360	443,487
Child only	353	235,953	12,043,362
Subtotals - female	6,139	5,192,336	616,657,099
Totals	7,874	6,446,622	752,462,332
	·	· ,	
Total Benefits	Being Paid from	Survivor Benefit F	und
Men	1,935	\$1,416,001	\$151,470,927
Women	7,516	6,710,015	771,310,903
Totals	9,451	\$8,126,016	\$922,781,830

#### **PUBLIC SAFETY DIVISION**

## SURVIVOR BENEFIT FUND TABULATED BY TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT DECEMBER 31, 2011

Group	Number	Current	Total	Actuarial Liabilities	
S-1 - Survivo	or Benefit to Benefici	ary of Decea	ased Memb	er	
	Joint and Survivor	Computation			
Men	0	\$	0	\$	0
Women	0		0		0
Totals	0	\$	0	\$	0
S-2 - Survivo	or Benefit to Benefici	ary of Decea	ased Memb	er	
	Fixed Rate A	•			
Widower - no child	3	\$	3,543	\$ 3	314,070
Widower - child	0	Ψ	0	Ψ	0
Child's record	3		1,974		87,516
Other	0		0		0
Child only	6		5,157	3	336,489
Subtotals - male	12		10,674		38,075
Widower - no child	74	\$ 9	96,883	\$14,9	001,562
Widower - child	4		5,040		016,323
Child's record	2		1,740		94,845
Other	5		6,295	2	259,937
Child only	0		0		0
Subtotals - female	85	10	09,958	16,1	72,667
Totals	97	\$ 12	20,632	\$16,9	010,742
Total Ber	nefits Being Paid from	n Survivor Bo	enefit Fund		
Men	12	\$	10,674	\$ 7	38,075
Women	85	10	09,958	16,1	72,667
Totals	97	\$ 12	20,632	\$16,9	10,742

#### LAW ENFORCEMENT DIVISION

## SURVIVOR BENEFIT FUND TABULATED BY TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT DECEMBER 31, 2011

		Current	Actuarial
Group	Number	Total	Liabilities
	enefit to Benefician	·	mber
Jo	int and Survivor Co	omputation	
Men	0	\$ 0	\$ 0
Women	57	99,048	12,192,894
Totals	57	\$ 99,048	\$12,192,894
		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	+,
S-2 - Survivor B	enefit to Beneficia	ry of Deceased Me	mber
	Fixed Rate Am	ount	
Widower - no child	8	\$ 7,515	\$ 1,227,329
Widower - child	2	1,949	349,864
Child's record	14	7,789	579,666
Other	0	0	0
Child only	15	11,984	893,966
Subtotals - male	39	29,237	3,050,825
XX'' 1 1 '1 1	120	Φ 126 241	ф10.1 <b>5</b> 0.00 <b>2</b>
Widower - no child	139	\$ 136,341	\$19,159,882
Widower - child	17	17,667	3,310,557
Child's record	18	8,816	709,396
Other	22	16,333	482,405
Child only	0	0	0
Subtotals - female	196	179,157	23,662,240
Totale	225	¢ 200 204	¢26.712.065
Totals	235	\$ 208,394	\$26,713,065
Total Renefit	s Being Paid from S	Survivor Benefit Fu	und
10m Bellent	Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z		
Men	39	\$ 29,237	\$ 3,050,825
Women	253	278,205	35,855,134
Totals	292	\$ 307,442	\$38,905,959

# STATE DIVISION DEFERRED SURVIVOR BENEFICIARIES TABULATED BY GENDER AND DEFERRED AGE DECEMBER 31, 2011

C	N. 1	Current	Actuarial
Group	Number	Total	Liabilities
Widowers			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	70	44,576	4,168,910
Deferred to age 65	0	0	0
Total	70	44,576	4,168,910
Widows			
Deferred to age 50	2	1,696	243,014
Deferred to age 62	168	118,170	10,932,797
Deferred to age 65	1	892	41,068
Total	171	120,758	11,216,879
		,	, ,
Totals	241	\$165,334	\$15,385,789

# LOCAL GOVERNMENT DIVISION DEFERRED SURVIVOR BENEFICIARIES TABULATED BY GENDER AND DEFERRED AGE DECEMBER 31, 2011

		Current	Actuarial
Group	Number	Total	Liabilities
Widowers			
Deferred to age 50	0	\$ 0	\$ 0
Deferred to age 62	121	70,437	6,711,246
Deferred to age 65	0	0	0
Total	121	70,437	6,711,246
Widows			
Deferred to age 50	3	2,884	471,594
Deferred to age 62	419	254,009	24,368,252
Deferred to age 65	0	0	0
Total	422	256,893	24,839,846
			. ,
Totals	543	\$327,330	\$31,551,092

#### **PUBLIC SAFETY DIVISION**

## DEFERRED SURVIVOR BENEFICIARIES TABULATED BY GENDER AND DEFERRED AGE DECEMBER 31, 2011

Group	Number	Current Total	Actuarial Liabilities	
Widowers				
Deferred to age 50	0	\$ 0	\$ 0	
Total	0	0	0	
Widows				
Deferred to age 50	0	\$ 0	\$ 0	
Deferred to age 62	4	1,941	163,753	
Total	4	1,941	163,753	
Totals	4	\$ 1,941	\$163,753	

#### LAW ENFORCEMENT DIVISION

## DEFERRED SURVIVOR BENEFICIARIES TABULATED BY GENDER AND DEFERRED AGE DECEMBER 31, 2011

Group	Number	Current Total	Actuarial Liabilities
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	12	10,506	982,371
Total	12	10,506	982,371
Totals	12	\$ 10,506	\$982,371

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

		Monthly Allowances		\$ Mil	lions	Ratio of	
Valuation	C	urrent	De	eferred	Reported	Actuarial	Assets to
Date	No.	Amount	No.	Amount	Assets+	Liabilities	Liabilities
6/30/1979	8,824	\$ 1,914,251	1,039	\$ 146,549	\$ 355.2	\$ 245.1	145 %
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	1,532.5	1,532.5	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 %

<sup>@</sup> Revised actuarial assumptions.

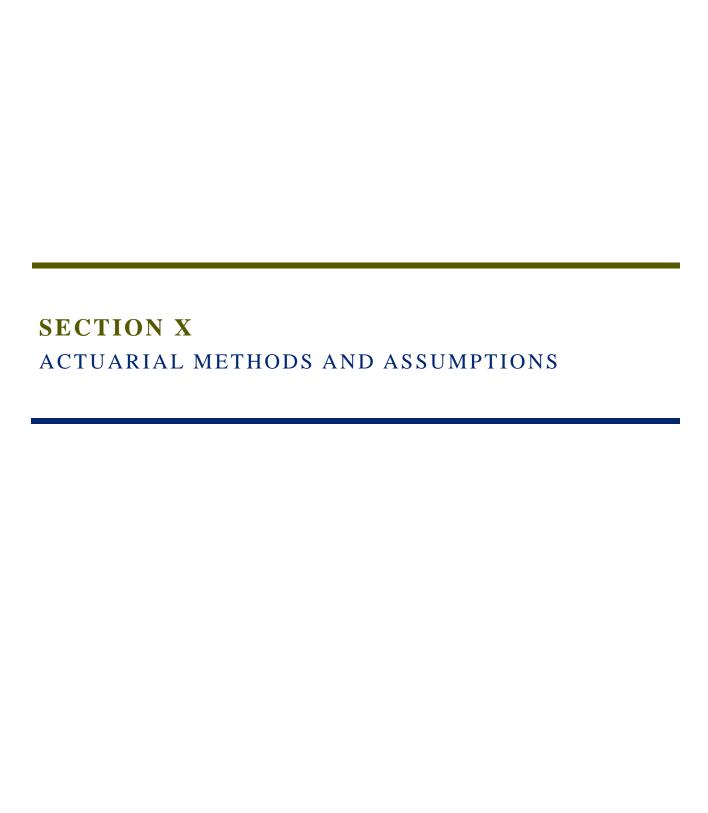
<sup>\*</sup> Benefits increased.

<sup>#</sup> After benefit changes.

<sup>+</sup> Includes certain recommended transfers and accrued transfers.

#### RETIREES AND BENEFICIARIES DECEMBER 31, 2011 HISTORICAL AVERAGES

				All Retirees				
December		Average Age	Average Service	Average Pension	Average Age	Average Pension	Median Pension	Average FAS
31	# count	at Retirement	at Retirement	at Retirement	on Valuation Date	on Valuation Date	on Valuation Date	at Retirement
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
2005	153,935	57.3	21.5	\$14,131	69.5	\$17,322	\$13,956	\$28,817
				Traditional Plan				
December		Average Age	Average Service	Average Pension	Average Age	Average Pension	Median Pension	Average FAS
31	# count	at Retirement	at Retirement	at Retirement	on Valuation Date	on Valuation Date	on Valuation Date	at Retirement
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
2005	153,935	57.3	21.5	\$14,131	69.5	\$17,322	\$13,956	\$28,817
				Combined Plan				
December		Average Age	Average Service	Average Pension	Average Age	Average Pension	Median Pension	Average FAS
31	# count	at Retirement	at Retirement	at Retirement	on Valuation Date	on Valuation Date	on Valuation Date	at Retirement
2011	58	64.2	7.9	\$2,757	66	\$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	7.6	\$1,590	66.6	\$1,635	\$1,740	\$35,139
2008	12	64	7.4	\$1,239	64.8	\$1,260	\$1,092	\$29,454
2007	4	61.1	4.8	\$1,620	62	\$1,644	\$1,644	\$43,743
2006	2	62.1	3.8	\$1,656	62.3	\$1,656	\$1,656	\$50,116
2005	NA							
			,	Member Directed Pla	n			
December		Average Age	Average Service	Average Pension	Average Age	Average Pension	Median Pension	Average FAS
31	# count	at Retirement	at Retirement	at Retirement	on Valuation Date	on Valuation Date	on Valuation Date	at Retirement
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							
2005	NA							



#### **SUMMARY OF**

### ACTUARIAL METHODS AND ASSUMPTIONS USED FOR OPERS ACTUARIAL VALUATIONS

### ASSUMPTIONS ADOPTED BY RETIREMENT BOARD AFTER CONSULTING WITH ACTUARY

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.

#### **ECONOMIC ASSUMPTIONS**

*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 rated 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-5, X-6, X-7 & X-8. 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

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-9. 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 and X-4. 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-5, X-6, X-7 & X-8. 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.

Defined Contribution Accounts under the Combined Plan are assumed to earn 8% per year.

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.

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

	Percent of Eligible Active Members							
		Retiring With	hin Next Year					
	St	ate	Local Government					
Ages	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				

	Percent of Eligible	Active Members
	Retiring With	nin Next Year
	Public	Law
Ages	Safety	Enforcement
48		20%
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

	Percent of Eligible Active Members							
		Retiring With	hin Next Year					
	St	ate	Local Government					
Service	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 REDUCED RETIREMENT

			f Eligible Activing Within Ne		
	Sta			vernment	Public
Ages	Men	Women	Men	Women	Safety
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

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

					tive Membe			ı	crease Assun Individual Er	-
Sample	Years of	De	ath		ting Within the Next Year  Withdrawal Disability			Merit &	Base	Increase
Ages	Service	Men	Women	Men	Women	Men	Women	Seniority	(Economy)	Next Year
11800	Service	111011	***************************************	1,1011	***************************************	111011	, , onen	Semoney	(Leonony)	110110 1011
	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%	0.15%	0.15%	4.30%	3.75%	8.05%
30	J & OVEI	0.03%	0.01%	5.16%	6.66%	0.13%	0.13%	3.00%	3.75%	6.75%
35		0.04%	0.02%	3.82%	4.82%	0.13%	0.18%	2.20%	3.75%	5.95%
40		0.07%	0.03%	2.82%	3.32%	0.52%	0.52%	1.80%	3.75%	5.55%
40		0.1070	0.0470	2.02/0	3.3270	0.5270	0.5270	1.8070	3.7370	3.3370
45		0.14%	0.06%	2.14%	2.50%	0.72%	0.72%	1.40%	3.75%	5.15%
50		0.19%	0.09%	1.90%	2.30%	0.92%	0.92%	1.20%	3.75%	4.95%
55		0.33%	0.17%	1.90%	2.30%	1.36%	1.36%	0.90%	3.75%	4.65%
60		0.61%	0.34%	1.90%	2.30%	2.20%	2.20%	0.70%	3.75%	4.45%
Ref		#506x0.9sb0	#455x0.75sb0	751	755	#385x1	#385x1	301		
				#1202x1	#1203x1					

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

			Percent of Active Members					Pay In	crease Assu	nptions	
			Separating Within the Next Year					For An	For An Individual Employee		
Sample	Years of	De	ath	Withdrawal		Disability		Merit &	Base	Increase	
Ages	Service	Men	Women	Men	Women	Men	Women	Seniority	(Economy)	Next Year	
	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%	0.13%	0.12%	4.30%	3.75%	8.05%	
30		0.04%	0.02%	5.24%	6.54%	0.17%	0.13%	3.00%	3.75%	6.75%	
35		0.07%	0.03%	3.96%	4.94%	0.28%	0.21%	2.20%	3.75%	5.95%	
40		0.10%	0.04%	2.86%	3.52%	0.44%	0.33%	1.80%	3.75%	5.55%	
45		0.14%	0.06%	2.38%	2.76%	0.62%	0.45%	1.40%	3.75%	5.15%	
50		0.19%	0.09%	2.30%	2.60%	0.90%	0.66%	1.20%	3.75%	4.95%	
55		0.33%	0.17%	2.30%	2.60%	1.34%	0.98%	0.90%	3.75%	4.65%	
60		0.61%	0.34%	2.30%	2.60%	1.54%	1.35%	0.70%	3.75%	4.45%	
Ref		#506x0.9sb0	#455x0.75sb0	752	754	#333x1	#334x1	301			
				#1205x1	#1206x1						

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

			Percent of Active Members						crease Assur	nptions
			Separating Within the Next Year					For An Individual Employee		
Sample	Years of	De	ath	Withdrawal		Disability		Merit &	Base	Increase
Ages	Service	Men	Women	Men	Women	Men	Women	Seniority	(Economy)	Next Year
	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%	0.24%	0.40%	6.30%	3.75%	10.05%
30		0.04%	0.02%	8.80%	8.80%	0.44%	0.52%	4.00%	3.75%	7.75%
35		0.07%	0.03%	6.20%	6.20%	0.76%	1.02%	1.60%	3.75%	5.35%
40		0.10%	0.04%	3.50%	3.50%	0.96%	1.42%	0.85%	3.75%	4.60%
45		0.14%	0.06%	2.20%	2.20%	1.18%	1.86%	0.60%	3.75%	4.35%
50		0.19%	0.09%	2.00%	2.00%	1.98%	2.34%	0.50%	3.75%	4.25%
55		0.33%	0.17%	2.00%	2.00%	2.76%	3.40%	0.50%	3.75%	4.25%
60		0.61%	0.34%	2.00%	2.00%	3.50%	4.00%	0.50%	3.75%	4.25%
Ref		#506x0.9sb0	#455x0.75sb0		756	#699x1	#743x1	303		
				#1211x1	#1211x1					

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

			Percent of Active Members					ľ	crease Assur	-
			Separating Within the Next Year					For An Individual Employee		
Sample	Years of	De	ath	Witho	Withdrawal		Disability		Base	Increase
Ages	Service	Men	Women	Men	Women	Men	Women	Seniority	(Economy)	Next Year
	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%	0.24%	0.40%	6.30%	3.75%	10.05%
30		0.04%	0.02%	2.66%	2.90%	0.44%	0.52%	4.00%	3.75%	7.75%
35		0.07%	0.03%	2.14%	2.30%	0.76%	1.02%	1.60%	3.75%	5.35%
40		0.10%	0.04%	1.48%	1.50%	0.96%	1.42%	0.85%	3.75%	4.60%
45		0.14%	0.06%	1.20%	1.30%	1.18%	1.86%	0.60%	3.75%	4.35%
50		0.19%	0.09%	1.20%	1.20%	1.98%	2.34%	0.50%	3.75%	4.25%
55		0.33%	0.17%	1.20%	1.20%	2.76%	3.40%	0.50%	3.75%	4.25%
60		0.61%	0.34%	1.20%	1.20%	3.50%	4.00%	0.50%	3.75%	4.25%
Ref			#455x0.75sb0	753	445	#699x1	#743x1	303	23.270	13_0,0
				#876x1	#575x1					

#### SINGLE LIFE RETIREMENT VALUES

	Present V Monthly	•			
Sample Attained		0% Annually After 1 Year)	Future Life		
Attained	Males	Females	Males	cy (years) Females	
1-5-	2:2020		112414	1	
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:	:#454x1.05sb0	:#455x1sb0			

### MISCELLANEOUS AND TECHNICAL ASSUMPTIONS DECEMBER 31, 2011

Marriage Assumption: 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.

Pay Increase Timing: Beginning of year. This is equivalent to assuming that

reported pays represent amounts paid to members during

the year ended on the valuation date.

Final Average Salary: 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.

**Decrement Timing:** Decrements are assumed to occur mid-year.

**Eligibility Testing:** 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.

**Decrement Relativity:** Decrement rates are used directly from the experience

study, without adjustment for multiple decrement table

effects.

**Decrement Operation:** Disability and mortality decrements do not operate

during the first 5 years of service.

**Death after Disability:** 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.

**Service Credit Accruals:** 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, 2011 (CONCLUDED)

**Miscellaneous Loads:** A load of approximately 0.60% 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. Reported pays for certain State employees were increased by 2% assuming these employees will experience fewer future furlough days than experienced

during 2011.

**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.

payton payable at the time contributions are made.

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

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 were assumed to be

female.

**Benefit Service:** 

#### **SECTION XI**

FINANCIAL PRINCIPLES

#### FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF OPERS

**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).

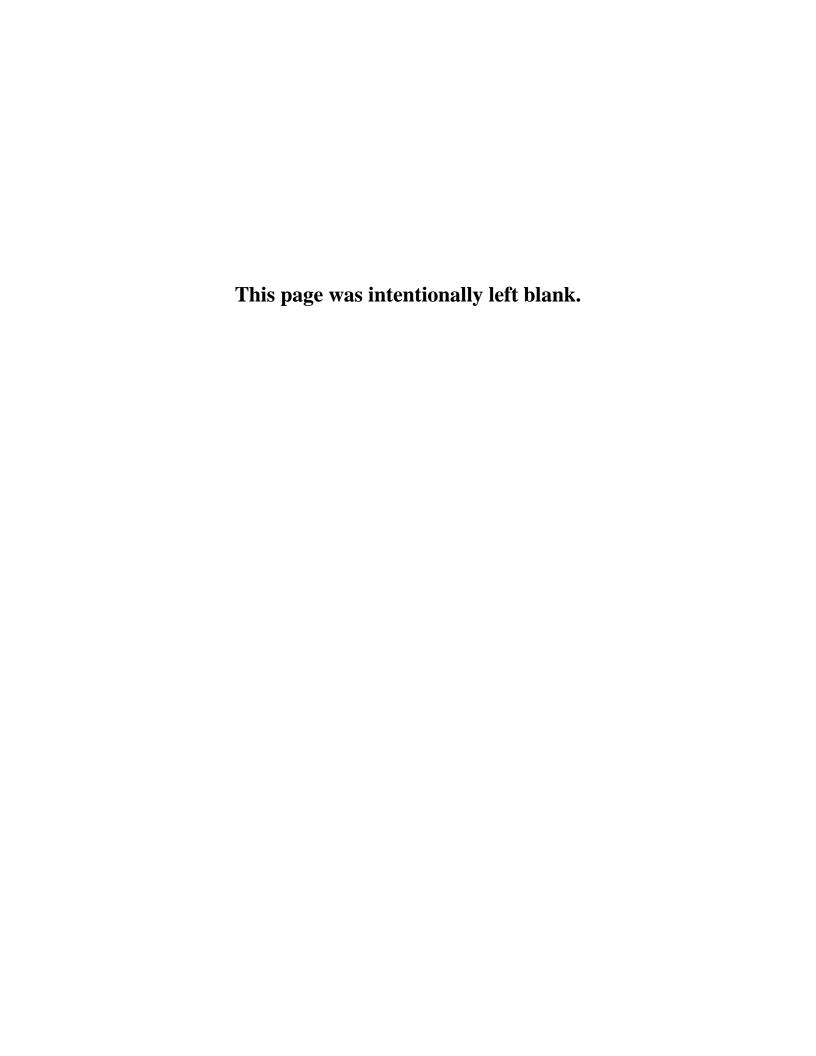
Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of an actuarial valuation and a funding method.

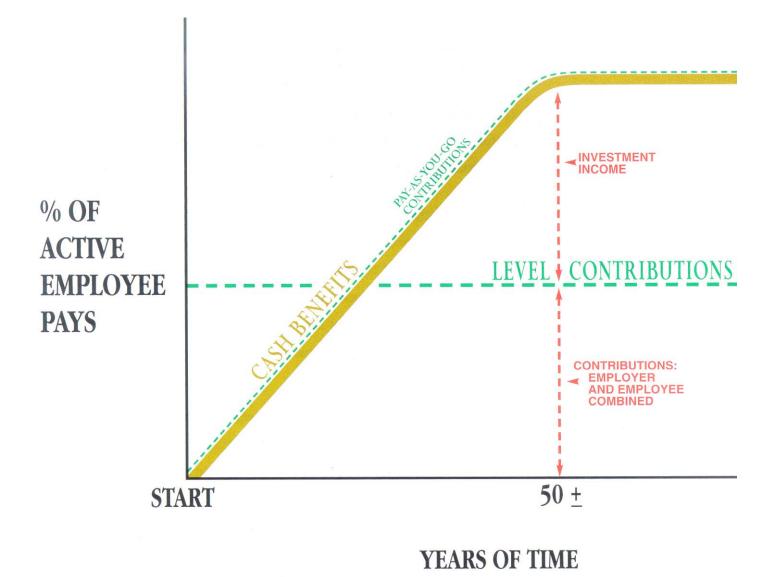
An actuarial valuation has a number of ingredients such as: the rate of investment return which plan assets will earn; the rates of withdrawal of active members who leave covered employment; the rates of mortality; the rates of disability; the rates of pay increases; and the assumed age or ages at actual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





**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

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.

**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

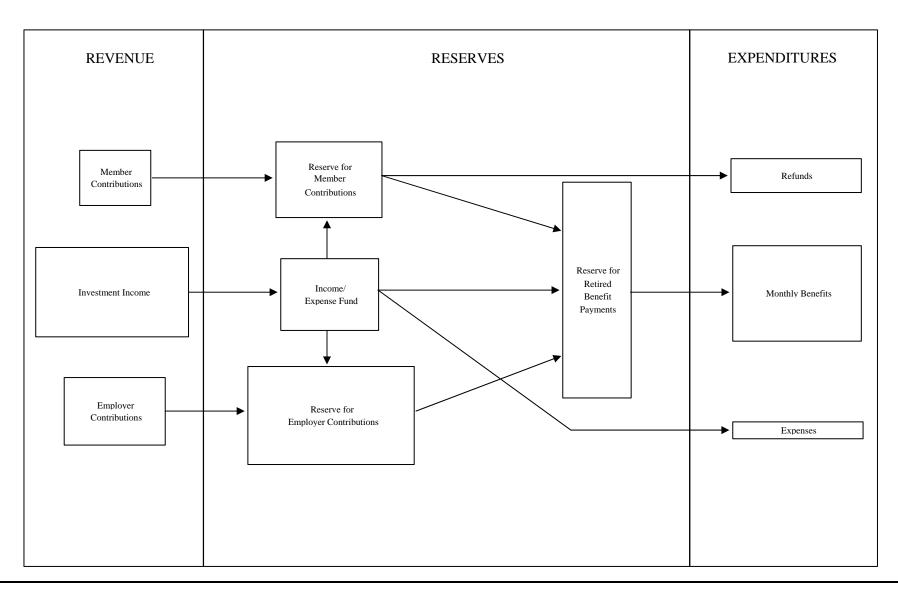
Active employees

- 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

**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"

"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.

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.

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.

### SECTION XII GASB REPORTING

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

			Unfunded			
	Actuarial		Actuarial			UAAL as a
	Accrued		Accrued	Ratio of	Active	% of Active
Valuation	Liabilities	Valuation	Liabilities	Assets	Member	Member
Year	(AAL)	Assets	(UAAL)	to AAL	Payroll	Payroll
1991	\$22,027	\$18,108	\$3,919	82 %	\$6,651	59 %
1992	23,961	20,364	3,597	85 %	6,889	52 %
1993	26,506	23,063	3,443	87 %	7,236	48 %
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 %

<sup>\*</sup> Revised actuarial assumptions.

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

			Unfunded			
	Actuarial		Actuarial			UAAL as a
	Accrued		Accrued	Ratio of	Active	% of Active
Valuation	Liabilities	Valuation	Liabilities	Assets	Member	Member
Year	(AAL)	Assets	(UAAL)	to AAL	Payroll	Payroll
1991	\$22,027	\$18,108	\$3,919	82 %	\$6,651	59 %
1992	23,961	20,364	3,597	85 %	6,889	52 %
1993	26,506	23,063	3,443	87 %	7,236	48 %
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 %

<sup>\*</sup> Revised actuarial assumptions.

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

Valuation Year	Actuarial Accrued Liabilities (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a % of Active Member Payroll
					-	-
1991						
1992						
1993						
1994						
1995						
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 %

<sup>\*</sup> Revised actuarial assumptions.

## SCHEDULE OF DEFINED BENEFIT FUNDING PROGRESS FOR COMPLIANCE WITH GASB STATEMENT NO. 25 (\$ AMOUNTS)

#### MEMBER DIRECTED PLAN

Valuation Year	Actuarial Accrued Liabilities (AAL)	Valuation Assets	Unfunded Actuarial Accrued Liabilities (UAAL)	Ratio of Assets to AAL	Active Member Payroll	UAAL as a % of Active Member Payroll
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

<sup>\*</sup> Revised actuarial assumptions.

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

Traditional Plan							
Valuation Date December 31	Year Ended December 31	Annual Required Contributions					
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%					

Combined Plan								
Valuation Date December 31	Year Ended December 31	Annual Required Contributions						
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%						

Member Directed Plan							
Valuation Date December 31	Year Ended December 31	Annual Required Contributions					
2008	2011	\$ 1,570					
2009	2012	\$ 4,019					
2010	2013	\$ 4,342					
2011	2014	\$ 1,669					

<sup>\*</sup> 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, 2011									
	State	Local	General	Public Safety	Law Enforcement						
	Group	Group	Group	Group	Group	Total					
Accrued Liabilities											
Active and Inactive Members	\$14,754,394,993	\$21,630,631,813	\$36,385,026,806	\$ 7,769,753	\$1,545,779,655	\$37,938,576,214					
Retirees and Beneficiaries	18,941,838,928	25,754,216,858	44,696,055,786	40,784,918	1,854,329,550	46,591,170,254					
Total Accrued Liabilities	\$33,696,233,921	\$47,384,848,671	\$81,081,082,592	\$ 48,554,671	\$3,400,109,205	\$84,529,746,468					
Assets											
Active and Inactive Members											
EAF*	\$ 551,292,378	\$ 2,124,601,981	\$ 2,675,894,359	\$ (6,361,569)	\$ 183,134,440	\$ 2,852,667,230					
ESF	4,622,797,407	7,195,512,904	11,818,310,311	2,774,473	479,032,654	12,300,117,438					
Unallocated	40,141,046	58,373,277	98,514,323	62,072	4,199,305	102,775,700					
Market Value Adjustment	1,401,945,481	2,038,961,991	3,440,907,472	2,162,950	146,327,273	3,589,397,695					
Total Active and Inactive Assets	\$ 6,616,176,312	\$11,417,450,153	\$18,033,626,465	\$ (1,362,074)	\$812,693,672	\$18,844,958,063					
Retirees and Beneficiaries											
A & PR Fund*	\$18,363,410,510	\$24,799,883,936	\$43,163,294,446	\$ 23,710,423	\$1,814,441,220	\$45,001,446,089					
SBF Fund*	578,428,418	954,332,922	1,532,761,340	17,074,495	39,888,330	1,589,724,165					
Total R&B Assets	\$18,941,838,928	\$25,754,216,858	\$44,696,055,786	\$ 40,784,918	\$1,854,329,550	\$46,591,170,254					
Total Assets	\$25,558,015,240	\$37,171,667,011	\$62,729,682,251	\$ 39,422,844	\$2,667,023,222	\$65,436,128,317					
Unfunded Actuarial Accrued Liability	\$8,138,218,681	\$10,213,181,660	\$18,351,400,341	\$ 9,131,827	\$ 733,085,983	\$19,093,618,151					

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

<sup>\*</sup> After reserve transfers.

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

		December 31, 2011									
	State	Local	General	Public Safety	Law Enforcement						
	Group	Group	Group	Group	Group	Total					
Accrued Liabilities											
Active and Inactive Members	\$14,669,736,393	\$21,514,057,498	\$36,183,793,891	\$ 7,769,753	\$1,545,779,655	\$37,737,343,299					
Retirees and Beneficiaries	18,941,299,927	25,751,732,067	44,693,031,994	40,784,918	1,854,329,550	46,588,146,462					
Total Accrued Liabilities	\$33,611,036,320	\$47,265,789,565	\$80,876,825,885	\$ 48,554,671	\$3,400,109,205	\$84,325,489,761					
Assets											
Active and Inactive Members											
EAF*	\$ 491,763,483	\$ 2,034,521,958	\$ 2,526,285,441	\$ (6,361,569)	\$ 183,134,440	\$ 2,703,058,312					
ESF	4,622,059,571	7,194,806,553	11,816,866,124	2,774,473	479,032,654	12,298,673,251					
Unallocated	40,141,046	58,373,277	98,514,323	62,072	4,199,305	102,775,700					
Market Value Adjustment	1,398,738,434	2,034,051,289	3,432,789,723	2,162,950	146,327,273	3,581,279,946					
Total Active and Inactive Assets	\$ 6,552,702,534	\$11,321,753,077	\$17,874,455,611	\$ (1,362,074)	\$ 812,693,672	\$18,685,787,209					
Retirees and Beneficiaries											
A & PR Fund*	\$18,362,871,509	\$24,797,399,145	\$43,160,270,654	\$ 23,710,423	\$1,814,441,220	\$44,998,422,297					
SBF Fund*	578,428,418	954,332,922	1,532,761,340	17,074,495	39,888,330	1,589,724,165					
Total R&B Assets	\$18,941,299,927	\$25,751,732,067	\$44,693,031,994	\$ 40,784,918	\$1,854,329,550	\$46,588,146,462					
Total Assets	\$25,494,002,461	\$37,073,485,144	\$62,567,487,605	\$ 39,422,844	\$2,667,023,222	\$65,273,933,671					
Unfunded Actuarial Accrued Liability	\$ 8,117,033,859	\$ 10,192,304,421	\$18,309,338,280	\$ 9,131,827	\$ 733,085,983	\$19,051,556,090					

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

<sup>\*</sup> After reserve transfers.

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

			Decen	nber 31, 2011		
	State	Local	General	Public Safety	Law Enforcement	
	Group	Group	Group	Group	Group	Total
Accrued Liabilities						
Active and Inactive Members	\$ 84,658,600	\$116,574,315	\$201,232,915			\$201,232,915
Retirees and Beneficiaries	379,352	1,471,540	1,850,892			1,850,892
Total Accrued Liabilities	\$ 85,037,952	\$118,045,855	\$203,083,807			\$203,083,807
Assets						
Active and Inactive Members						
EAF*	\$59,544,010	\$ 90,207,427	\$149,751,437			\$149,751,437
ESF	711,255	651,649	1,362,904			1,362,904
Unallocated	0	0	0			0
Market Value Adjustment	3,200,199	4,873,063	8,073,262			8,073,262
Total Active and Inactive Assets	\$63,455,464	\$ 95,732,139	\$159,187,603			\$159,187,603
Retirees and Beneficiaries						
A & PR Fund*	\$ 379,352	\$ 1,471,540	\$ 1,850,892			\$ 1,850,892
SBF Fund*	0	0	0			C
Total R&B Assets	\$ 379,352	\$ 1,471,540	\$ 1,850,892			\$ 1,850,892
Total Assets	\$63,834,816	\$ 97,203,679	\$161,038,495			\$161,038,495
Unfunded Actuarial Accrued Liability	\$ 21,203,136	\$ 20,842,176	\$ 42,045,312			\$ 42,045,312

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

<sup>\*</sup> After reserve transfers.

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

	December 31, 2011								
	State		Local		General	Public Safety	Law Enforcement		
	Group		Group		Group	Group	Group		Total
Accrued Liabilities									
Active and Inactive Members	\$ -	\$	-	\$	-			\$	-
Retirees and Beneficiaries	159,649		1,013,251		1,172,900				1,172,900
Total Accrued Liabilities	\$ 159,649	\$	1,013,251	\$	1,172,900			\$	1,172,900
Assets									
Active and Inactive Members									
EAF*	\$ (15,115)	\$	(127,404)	\$	(142,519)			\$	(142,519
ESF	26,581		54,702		81,283				81,283
Unallocated	0		0		0				0
Market Value Adjustment	6,848		37,639		44,487				44,487
Total Active and Inactive Assets	\$ 18,314	\$	(35,063)	\$	(16,749)			\$	(16,749
Retirees and Beneficiaries									
A & PR Fund*	\$ 159,649	\$	1,013,251	\$	1,172,900			\$	1,172,900
SBF Fund*	0		0		0				0
Total R&B Assets	\$ 159,649	\$	1,013,251	\$	1,172,900			\$	1,172,900
Total Assets	\$ 177,963	\$	978,188	\$	1,156,151			\$	1,156,151
Unfunded Actuarial Accrued Liability	\$ (18,314)	\$	35,063	\$	16,749			\$	16,749

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

<sup>\*</sup> After reserve transfers.

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

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, 2011

Actuarial cost method Individual entry age

Amortization method for unfunded Level percent open - Traditional and Combined

actuarial accrued liabilities Level dollar open - Member Directed

Equivalent Single Amortization Period (Years from December 31, 2013)

Traditional Plan 29

Combined Plan 1

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 3.0% simple

Membership of the Traditional, Combined and Member Directed Plans consisted of the following at December 31, 2011, the date of the latest actuarial valuation:

	Traditional	Combined	Member Directed	Total
	11444101141	Communica	2110000	1000
Retirees and beneficiaries receiving benefits	189,753	58	38	189,849
Terminated plan members entitled to but				
not yet receiving benefits				
Less than 5 years of service	416,378	956	0	417,334
5 or more years of service	31,503	356	0	31,859
Total	447,881	1,312	0	449,193
Active plan members				
Less than 5 years of service	130,975	2,762	0	133,737
5 or more years of service	197,665	3,952	0	201,617
Total	328,640	6,714	0	335,354
Total				
Less than 5 years of service	547,353	3,718	0	551,071
5 or more years of service	418,921	4,366	38	423,325
Total	966,274	8,084	38	974,396



August 30, 2012

Ms. Karen E. Carraher Executive Director Ohio Public Employees Retirement System 277 East Town Street Columbus, Ohio 43215

Re: Report of December 31, 2011 Actuarial Valuation

Dear Karen:

Enclosed are the 5 bound copies of the final report.

Sincerely,

Mita Drazilov, MAAA, ASA

Mita Drajilor

MD:sc Enclosures

cc: Mr. Tom Heseltine Clifton Gunderson LLP