



**OHIO PUBLIC EMPLOYEES
RETIREMENT SYSTEM**

**ANNUAL ACTUARIAL VALUATION OF
RETIREMENT ALLOWANCES**

DECEMBER 31, 1999

GABRIEL, ROEDER, SMITH & COMPANY



TABLE OF CONTENTS

<i>Section</i>	<i>Pages</i>	<i>Item</i>
	2	Introduction
		Retirement System Totals
	3	Financing benefit promises
	4-5	Comments concerning financing of retirement allowances
	6	Active members in valuation
	7-9	Financial Information
	10	Comparison of Asset Values and Rates of Return
	11	Expected Population Development
	12-16	Active and Retired Member Information
I		Benefits and Conditions Evaluated
	1-7	Summary of Benefits
	8-12	Sample Benefit Computations
II		Recommendations for Reserve Transfers
III		State Division
IV		Local Government Division
V		Law Enforcement Division – Group A
VI		Law Enforcement Division – Group B
	1	Members in valuation
	2	Contributions to support retirement allowances
	3	Comparative Statement of Contribution Rates
	4	Development of UAAL
	5	Comparative schedule of funding
	6-7	Statistical schedules
VII		Allowances Being Paid to Retirants and Beneficiaries
	1	Totals by year of retirement
	2-7	Annuity and Pension Reserve Fund
	8-14	Survivors' Benefit Fund
VIII	1-7	Actuarial Methods and Assumptions
IX		Financial Principles
	1-5	Principles and operational techniques
	6-7	Glossary
	8	Meaning of "Unfunded Actuarial Accrued Liabilities"
X		GASB Reporting



GABRIEL, ROEDER, SMITH & COMPANY

Consultants & Actuaries

1000 Town Center • Suite 1000 • Southfield, Michigan 48075 • 248-799-9000 • 800-521-0498 • fax 248-799-9020

August 8, 2000

The Retirement Board
Public Employees Retirement System of Ohio
Columbus, Ohio

Ladies and Gentlemen:

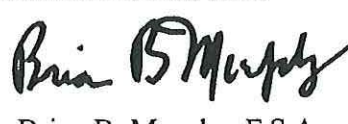
The results of the *December 31, 1999 annual actuarial valuation* of the Public Employees Retirement System of Ohio, based upon Chapter 145 of the Code as amended are presented in this report. (The gain/loss analysis of experience and projections of retiree health and Medicare are covered in separate reports.) The purpose of the valuation is to measure the system's funding progress and to determine employer contribution rates for the coming year in accordance with established funding policy.

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.

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

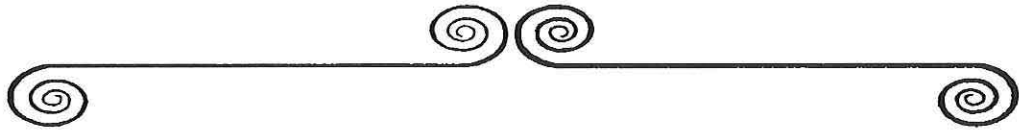
The valuation was completed in accordance with standards of practice prescribed by the Actuarial Standards Board and in conformance with Chapter 145 of the Revised Code of Ohio. To the best of our knowledge this report is complete and accurate and the actuarial methods and assumptions produced results which are reasonable.

Respectfully submitted,
GABRIEL, ROEDER, SMITH & COMPANY

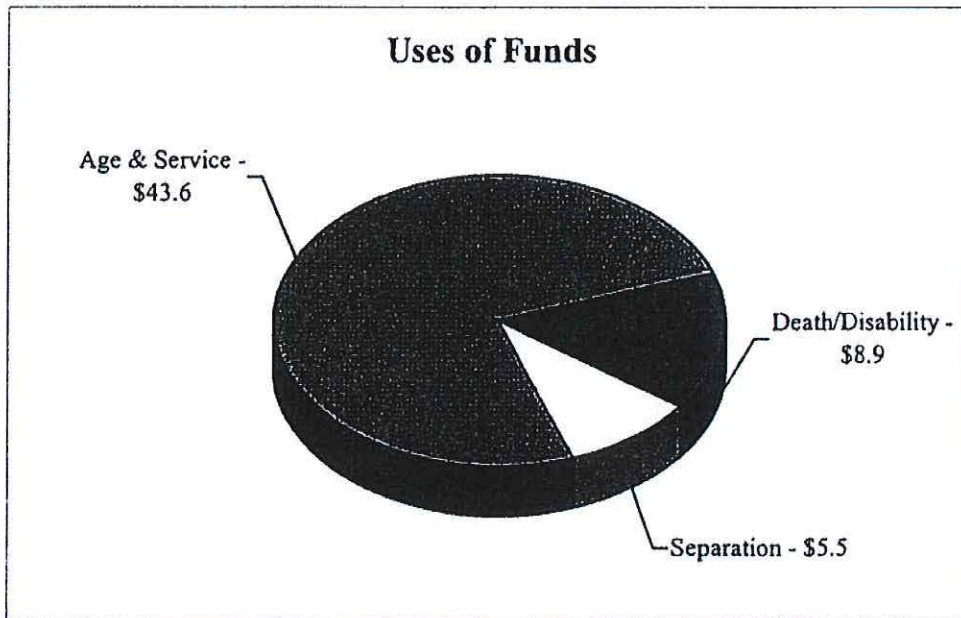
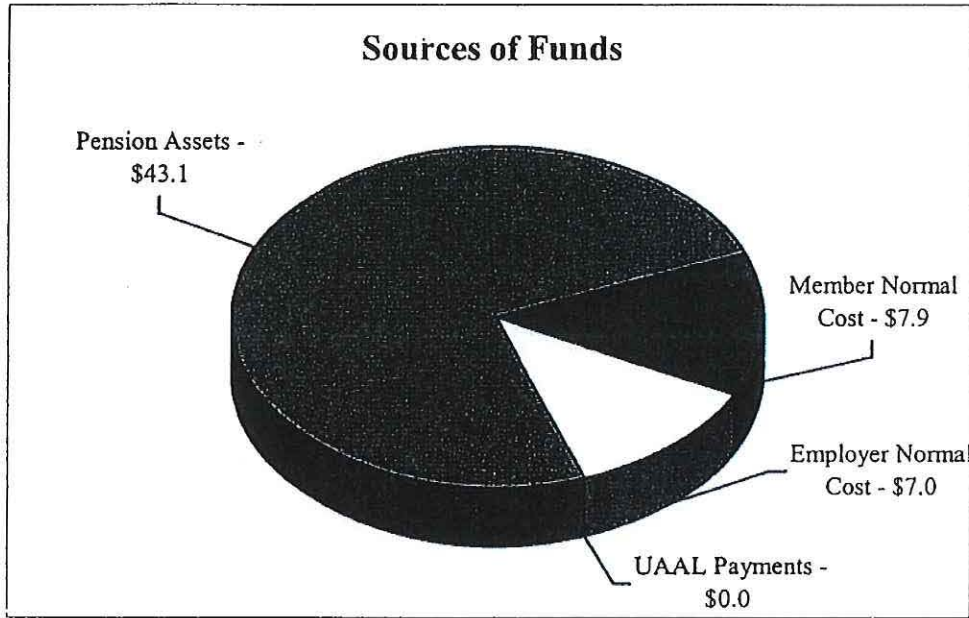
 
Norman L. Jones, F.S.A. Brian B. Murphy, F.S.A.

BBM/alv

Retirement System Totals



**FINANCING \$58.0 BILLION* OF PENSION BENEFIT PROMISES
FOR PRESENT ACTIVE AND RETIRED MEMBERS
DECEMBER 31, 1999
(DOLLAR AMOUNTS IN BILLIONS)**



* Present value of future benefits – all divisions combined.

COMMENTS REGARDING THE FINANCING OF RETIREMENT ALLOWANCES

The December 31, 1999 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 either (i) sufficient funds to amortize unfunded actuarial accrued liabilities over a period not to exceed 30 years, or (ii) a margin for future unfavorable experience.

Key valuation results are summarized below.

Division	Active Members		Retirement Allowance Portion of Employer Rate	Amortization Years for Unfunded Pension Accrued Liabilities	
	Number	Annual Payroll (\$Millions)		This Year	Prior year
State	112,761	\$ 3,592	9.01%	*	*
Local Government	240,005	5,586	9.25%	2	*
Law Enforcement Group A	889	37	12.40%	18	5
Law Enforcement Group B	6,877	262	12.40%	21	5
Totals	360,532	\$ 9,477			

* Accrued liabilities are fully funded.

Retirants and beneficiaries included in the valuation totaled 129,656 as follows:

Division	Number	\$ Millions			Ratio of Assets to Liabilities
		Monthly Benefits Valued	Actuarial Liabilities	Assets#	
A & PR	115,431	\$127.52	\$16,139	\$16,139	100.0 %
SBF	14,225	7.89	911	911	100.0 %
Total	129,656	\$135.41	\$17,050	\$17,050	100.0 %

After recommended reserve transfers.

COMMENTS

Benefit Changes. The valuation includes the effect of changes enacted by the legislature in May 2000, as follows:

- HB 628 included increases in benefit multipliers and survivor benefits. In addition, ad hoc increases were granted to current retirants and beneficiaries. Changes are effective September 21, 2000.
- SB 144 provides for interest on refunds of accumulated contributions for members terminating with any years of service and a partial employer match for members terminating with 5 or more years of service. Interest and employer match provisions are effective December 13, 2000.
- HB 416 provides for earlier retirement for sheriffs, deputy sheriffs and township police. The change in eligibility is effective January 1, 2001.

The legislation required a splitting of the prior single Law Enforcement Division into two new rate groups, as follows:

- Benefit Group A: Law Enforcement members other than sheriffs, deputy sheriffs and township police are covered under the provisions of HB 628 and SB 144, but not by the provisions of HB 416.
- Benefit Group B: Law Enforcement members including sheriffs, deputy sheriffs and township police are covered under the provisions of HB 628 and HB 416, but not by the provisions of SB 144 unless they do not benefit from the provisions of HB 416.

Contribution Rate Allocation: The valuation also reflects the re-allocation of total employer contribution rates between base retirement and retiree health benefits as follows:

Contributions for	State		Local Government		Law Enforcement	
	Prior	Current	Prior	Current	Prior	Current
Base retirement	9.11%	9.01%	9.35%	9.25%	12.50%	12.40%
Retiree health & Medicare	4.20%	4.30%	4.20%	4.30%	4.20%	4.30%
Total	13.31%	13.31%	13.55%	13.55%	16.70%	16.70%

Experience. Experience was favorable this year. Investment return recognized for the valuation was above the assumed level and salary increases were at or below the assumed level. Additional information concerning 1999 experience will be presented in a separate report of gain/loss experience.

Conclusion. Based on the results of the December 31, 1999 regular annual actuarial valuation, it is our opinion that the Public Employees Retirement System of Ohio continues to be in sound financial condition in accordance with actuarial principles of level percent of payroll financing.

**ACTIVE MEMBERS IN VALUATION
GROUP AVERAGES - COMPARATIVE STATEMENT**

Valuation Group	Dec. 31	No. of Active Members	Group Averages				
			Attained Age	Accrued Service Yrs.	Annual Payroll		
					Average	Increase	
STATE	1975	83,220	40.6 yrs.	6.5 yrs.	\$ 9,441	6.4 %	@
	1980	92,872	39.4	7.3	13,934	8.1 %	@
	1985	89,256	39.2	8.4	18,677	7.4 %	@
	1990	98,939	40.7	8.1	25,281	6.2 %	@
	1995	114,596	40.4	8.8	27,962	2.0 %	@
	1996	115,712	40.3	8.9	28,684	2.6 %	
	1997	114,036	40.5	9.1	29,858	4.1 %	
	1998	112,323	41.0	9.4	31,159	4.4 %	
	1999	112,761	41.2	9.6	31,851	2.2 %	
	LOCAL GOV'T	1975	149,557	40.8 yrs.	6.1 yrs.	\$ 8,771	4.3 %
1980		160,797	40.7	7.4	13,035	8.2 %	@
1985		158,285	40.1	8.3	15,983	6.2 %	@
1990		173,220	41.5	7.9	19,506	4.1 %	@
1995		223,431	41.2	7.6	20,384	0.9 %	@
1996		229,954	41.2	7.7	20,839	2.2 %	
1997		231,668	41.4	7.8	21,481	3.1 %	
1998		234,601	41.6	8.0	22,334	4.0 %	
1999		240,005	41.7	8.0	23,276	4.2 %	
LAW ENFORCEMENT GROUP A		1999	889	39.3 yrs.	11.4 yrs.	\$ 42,119	-
LAW ENFORCEMENT GROUP B	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 %	@
	1996	6,742	39.3	11.3	33,987	4.8 %	
	1997	7,256	39.3	11.5	35,680	5.0 %	
	1998	7,507	39.3	11.6	36,931	3.5 %	
1999	6,877	39.3	11.4	38,039	3.0 %		

@ 5 year annual compound rate.

**MARKET VALUE RECONCILIATION OF ASSETS
(ALL DIVISIONS COMBINED)**

	Calendar Year Ended December 31	
	1999	1998
Beginning Market Value	\$51,399,531,028	\$45,283,541,063
Revenues		
Member Contributions	826,331,533	799,281,516
Employer Contributions	1,327,889,681	1,266,445,268
Retiree Health Premiums	19,189,167	18,401,595
Total Revenues	2,173,410,381	2,084,128,379
Expenditures		
Retirement Benefits	1,505,940,162	1,402,239,075
Refunds of Member Contributions	120,631,483	125,609,907
System Paid Retiree Health Care	479,644,355	398,519,742
Member Paid Retiree Health Care	19,189,167	18,401,595
Retiree Medicare Reimbursement	43,954,994	42,076,921
Administrative Expenses	31,414,286	30,227,332
Other	4,135,535	5,794,748
Total Expenditures	2,204,909,982	2,022,869,320
Investment Return		
Ordinary Income	2,406,504,189	1,802,694,053
Realized Capital Value Changes	3,028,502,222	1,530,323,955
Unrealized Capital Value Changes	1,091,277,450	2,721,712,898
Total Investment Return	6,526,283,861	6,054,730,906
Ending Market Value	\$57,894,315,288	\$51,399,531,028

DEVELOPMENT OF FUNDING VALUE OF ASSETS
(BASED UPON 4 YEAR PHASE-IN OF DIFFERENCES BETWEEN ACTUAL AND ASSUMED RETURN)

Year Ended December 31	1997	1998	1999	2000	2001	2002
A. Funding Value Beginning of Year	\$38,402,909,983	\$42,562,579,341	\$48,141,431,295			
B. Market Value End of Year	45,283,541,063	51,399,531,028	57,894,315,288			
C. Market Value Beginning of Year	39,750,587,206	45,283,541,063	51,399,531,028			
D. Non-Investment/Administrative Net Cash Flow	170,590,039	91,486,391	(85,315)			
E. Investment Return						
E1. Market Total:B-C-D	5,362,363,818	6,024,503,574	6,494,869,575			
E2. Assumed Rate of Return	7.75%	7.75%	7.75%			
E3. Assumed Amount of Return	2,982,835,888	3,302,144,997	3,730,957,619			
E4. Amount Subject to Phase In: E1-E3	2,379,527,930	2,722,358,577	2,763,911,956			
F. Phased-In Recognition of Investment Return						
F1. Current year: 0.25xE4	594,881,983	680,589,644	690,977,989			
F2. First Prior Year	26,566,834	594,881,983	680,589,644	\$ 690,977,989		
F3. Second Prior Year	883,182,106	26,566,834	594,881,983	680,589,644	\$ 690,977,989	
F4. Third Prior Year	(498,387,492)	883,182,105	26,566,833	594,881,983	680,589,644	\$ 690,977,989
F5. Total Recognized Investment Gain	1,006,243,431	2,185,220,566	1,993,016,449	1,966,449,616	1,371,567,633	690,977,989
G. Funding Value End of Year: A+D+E3+F5	42,562,579,341	48,141,431,295	53,865,320,048			
H. Difference Between Market and Funding Value	2,720,961,722	3,258,099,733	4,028,995,240	2,062,545,622	690,977,989	-
I. Recognized Rate of Return	10.36%	12.88%	11.89%			

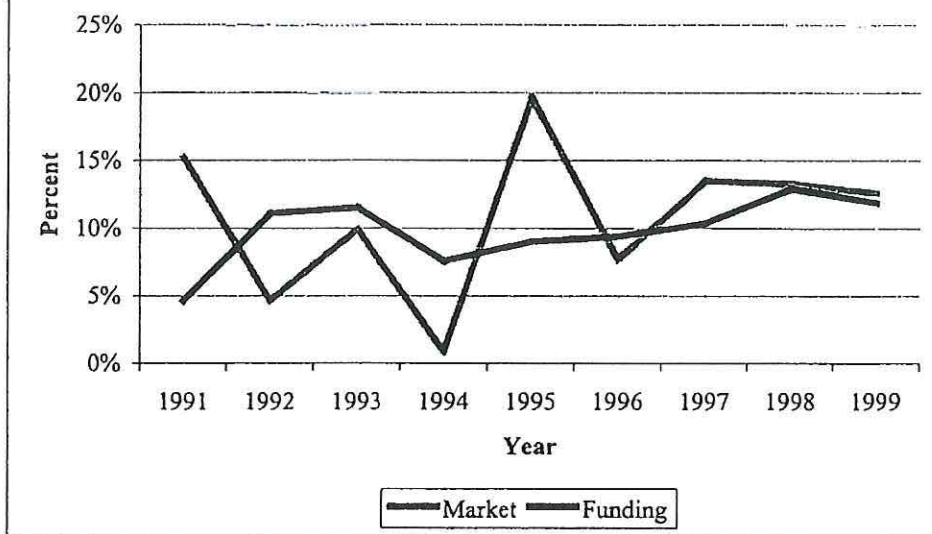
The Funding Value of Assets recognizes assumed investment return (line E3) fully each year. Differences between actual and assumed investment return (line E4) are phased-in over a closed 4 year period. During periods when investment performance exceeds the assumed rate, Funding Value of Assets will tend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

**ALLOCATION OF FUNDING VALUE OF ASSETS
AMONG DIVISIONS AND USAGE
DECEMBER 31, 1999**

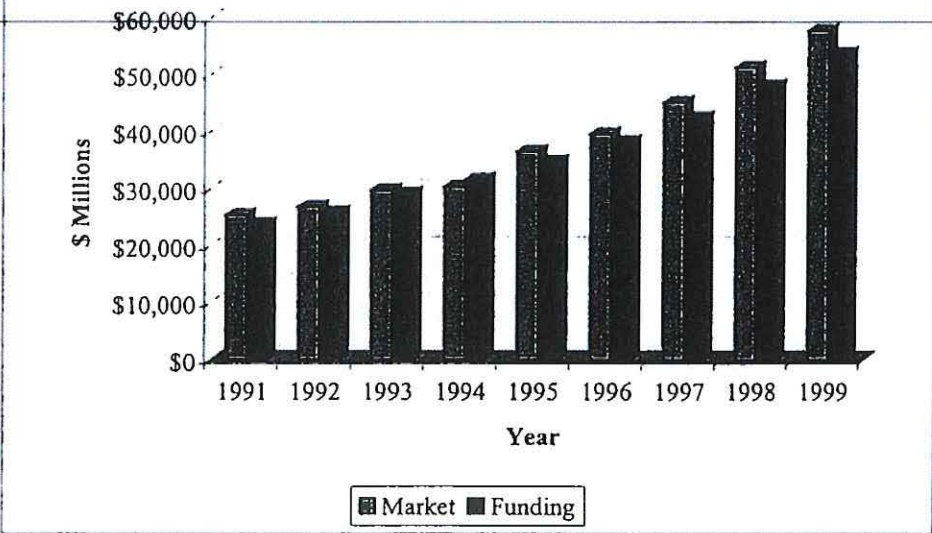
	State	Local	Law A	Law B	Total
Retirement Assets					
Active and Inactive Member Assets					
Employer Accumulation Fund					
Pension	\$ 6,380,713,371	\$ 8,621,151,314	\$ 100,472,317	\$ 528,381,342	\$ 15,630,718,344
Survivor	732,955,538	985,772,100	9,507,517	59,890,415	1,788,125,570
Employee Savings Fund	2,738,920,054	3,967,099,054	33,217,785	205,552,268	6,944,789,161
Market Value Adjustment -Pension	1,252,436,658	1,701,004,087	10,988,899	94,481,355	3,058,910,999
Market Value Adjustment-Survivor	83,896,719	120,438,961	781,487	6,519,271	211,636,438
Total Active and Inactive Assets	11,188,922,340	15,395,465,516	154,968,005	894,824,651	27,634,180,512
Retired Assets					
Annuity and Pension Reserve					
Service Retirement	5,276,609,905	6,882,992,929	0	233,876,455	12,393,479,289
Disability Retirement	840,806,390	1,223,043,871	0	181,642,964	2,245,493,225
Total A& PR Fund	6,117,416,295	8,106,036,800	0	415,519,419	14,638,972,514
Survivor Benefit Fund					
S-1	100,216,491	141,739,829	0	6,363,073	248,319,393
S-2	187,509,118	337,739,370	0	13,059,473	538,307,961
Total Survivor Benefit Fund	287,725,609	479,479,199	0	19,422,546	786,627,354
Total Retired Assets	6,405,141,904	8,585,515,999	0	434,941,965	15,425,599,868
Total Retirement Assets	17,594,064,244	23,980,981,515	154,968,005	1,329,766,616	43,059,780,380
Health Assets					
Employer Accumulation Fund	3,577,851,262	6,112,607,235	45,625,956	248,735,050	9,984,819,503
Market Value Adjustment	294,087,908	502,436,726	3,750,307	20,445,224	820,720,165
Total Health Assets	3,871,939,170	6,615,043,961	49,376,263	269,180,274	10,805,539,668
Total Funding Value of Assets	\$ 21,466,003,414	\$ 30,596,025,476	\$ 204,344,268	\$ 1,598,946,890	\$ 53,865,320,048

The above reserves were reported to the Actuary by PERS. The Actuary calculated the Market Value Adjustment. In 1999, the Actuary also separated the assets between the two Law groups. The separation shown between Law A and Law B for health assets is an approximation that may be revised following completion of the Actuarial Valuation of the Retiree Health Plan later this year.

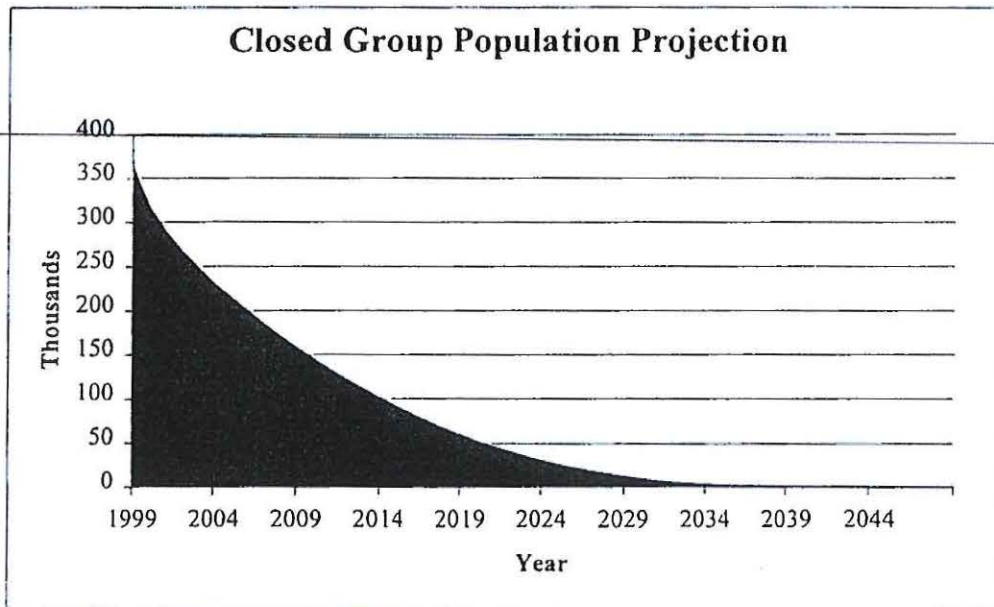
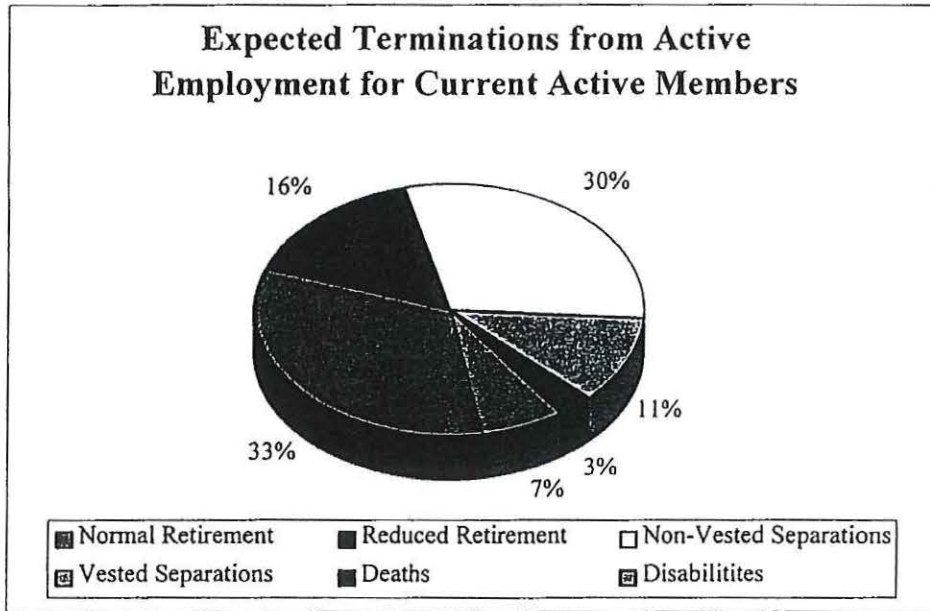
Comparison of Rates of Return



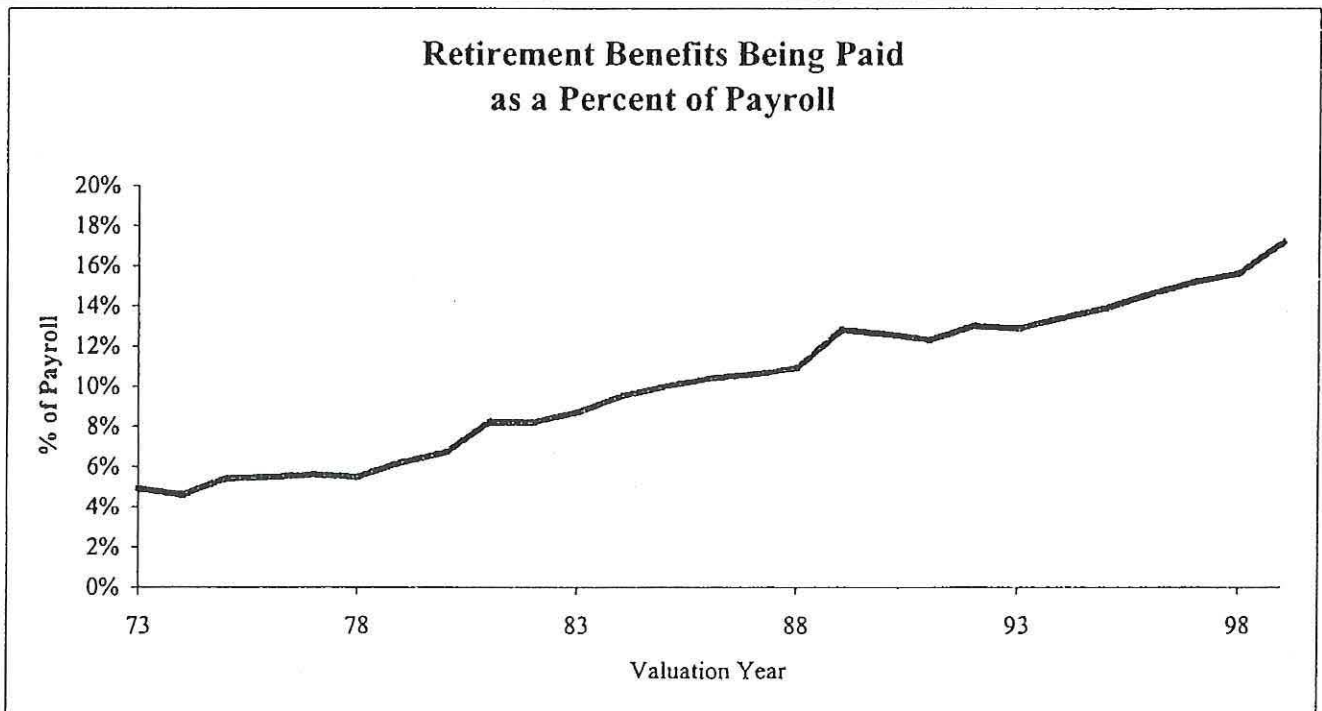
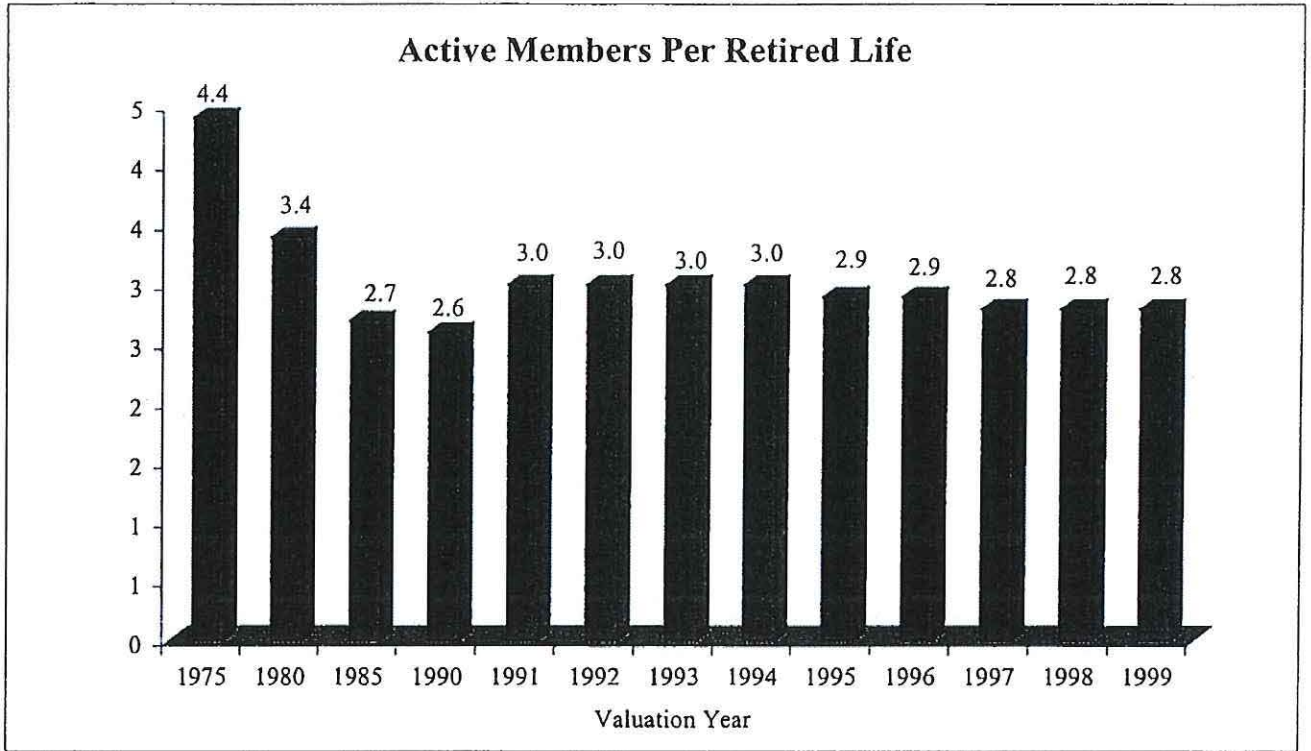
Comparison of Asset Values



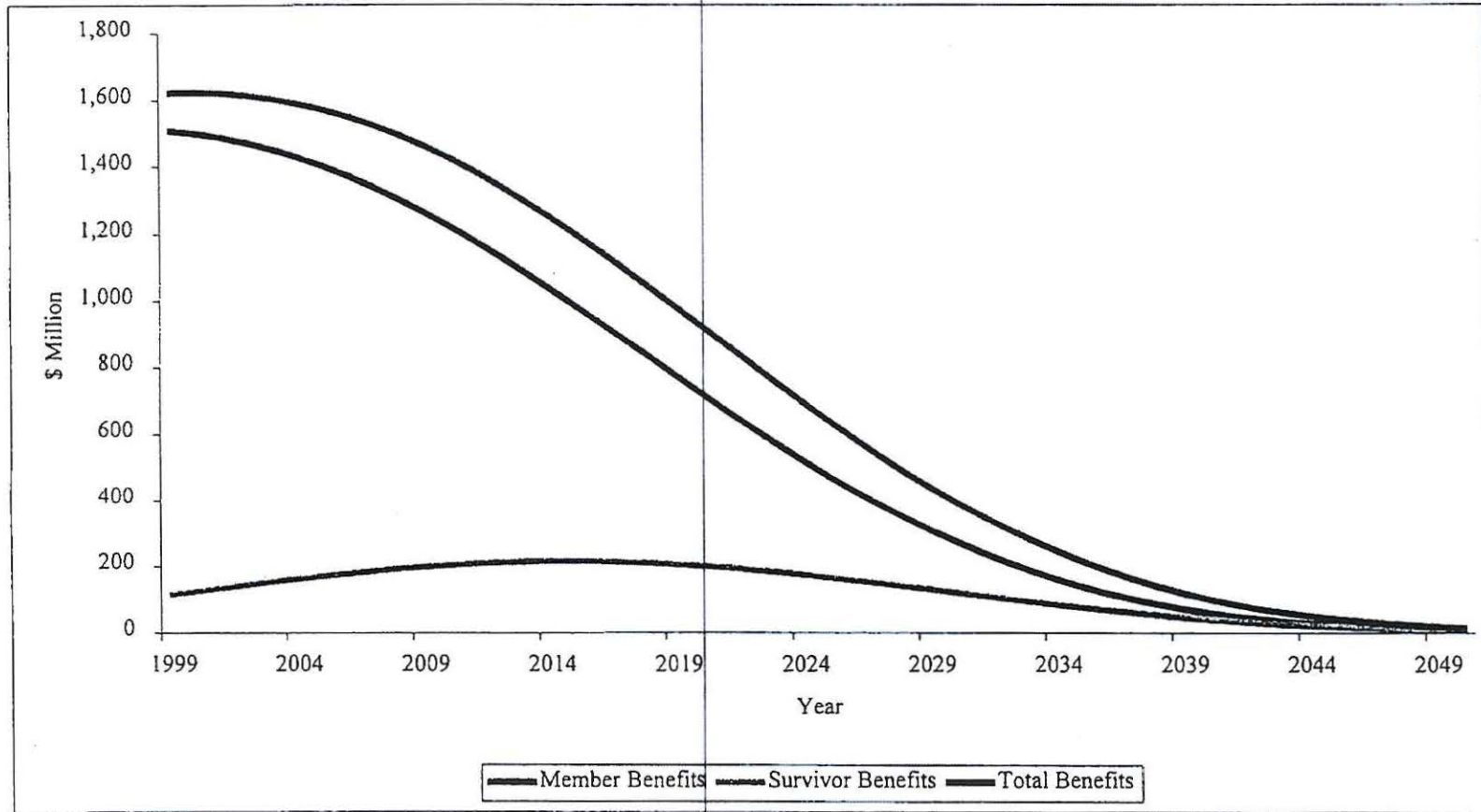
**DEVELOPMENT OF PRESENT POPULATION
DECEMBER 31, 1999**



The charts show the expected future development of the present population in simplified terms. The retirement system presently covers 360,532 active members. Eventually, 30% of the population is expected to terminate covered employment prior to retirement and forfeit eligibility for a monthly benefit. 60% 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 9 years, over half of the covered membership is expected to consist of new hires.



PROJECTED FUTURE BENEFIT PAYMENTS ON BEHALF OF PRESENT RETIRED LIVES



Total future payments:	\$39.2 billion
From present assets:	\$17.0 billion
From future earnings:	\$22.2 billion

ALL DIVISIONS
ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	14,198							14,198	\$60,684,911
20-24	25,781	314						26,095	249,928,011
25-29	25,874	5,171	154					31,199	646,610,810
30-34	20,536	12,064	4,420	134				37,154	970,935,485
35-39	18,653	11,260	10,901	4,539	473			45,826	1,308,074,557
40-44	17,855	10,857	10,143	8,641	6,064	367		53,927	1,631,945,342
45-49	14,681	10,033	9,154	7,182	8,201	4,388	190	53,829	1,725,050,364
50	2,297	1,858	1,694	1,212	1,262	1,176	207	9,706	322,188,080
51	2,346	1,756	1,728	1,193	1,217	1,200	281	9,721	320,868,348
52	2,148	1,629	1,618	1,238	1,159	1,125	304	9,221	301,289,154
53	2,227	1,780	1,755	1,270	1,183	1,024	399	9,638	311,720,221
54	1,420	1,110	1,141	792	717	600	261	6,041	194,163,233
55	1,385	996	1,104	863	693	538	271	5,850	183,640,198
56	1,294	924	1,003	795	710	444	238	5,408	165,679,674
57	1,382	1,061	1,105	942	731	479	278	5,978	176,794,707
58	1,124	932	972	784	672	407	242	5,133	155,162,055
59	1,015	777	878	733	613	346	178	4,540	131,931,046
60	903	702	762	609	515	345	200	4,036	116,630,714
61	835	625	582	528	461	276	166	3,473	98,243,942
62	733	560	604	472	409	271	141	3,190	88,806,645
63	656	487	409	337	282	182	119	2,472	62,904,154
64	576	399	358	278	239	176	105	2,131	53,695,187
65	508	339	298	240	216	132	90	1,823	43,056,728
66	506	274	204	162	115	101	86	1,448	31,884,555
67	472	229	162	120	115	85	56	1,239	24,703,581
68	423	182	175	122	80	57	53	1,092	20,341,401
69	438	209	125	99	75	50	50	1,046	17,718,791
70 & Over	2,186	1,291	492	360	337	226	226	5,118	62,347,743
Totals	162,452	67,819	51,941	33,645	26,539	13,995	4,141	360,532	\$9,476,999,637

**ALL DIVISIONS
ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY YEARS OF SERVICE**

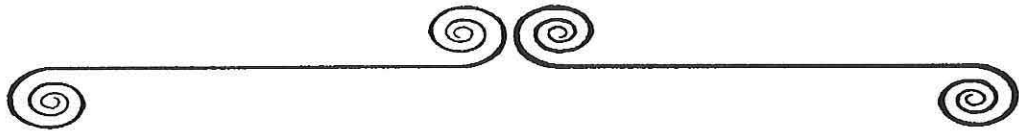
Service Years	Active Member Count			Active Member Pays	
	Males	Females	Total	Total	Average
0	31,392	37,382	68,774	\$680,618,062	\$9,896
1	15,858	18,649	34,507	565,483,553	16,388
2	10,973	12,767	23,740	482,237,575	20,313
3	8,693	10,297	18,990	444,171,044	23,390
4	7,765	8,676	16,441	409,828,290	24,927
5	7,595	8,225	15,820	437,331,618	27,644
6	6,442	7,101	13,543	369,601,522	27,291
7	5,566	6,410	11,976	348,509,736	29,101
8	6,279	7,287	13,566	400,050,242	29,489
9	5,873	7,041	12,914	420,116,498	32,532
10	5,630	6,543	12,173	395,948,785	32,527
11	5,028	6,211	11,239	380,332,892	33,840
12	4,692	5,442	10,134	350,502,236	34,587
13	4,381	4,958	9,339	331,021,981	35,445
14	4,363	4,693	9,056	323,355,091	35,706
15 & Up	40,134	38,186	78,320	3,137,890,512	40,065
Totals	170,664	189,868	360,532	\$9,476,999,637	\$26,286

RETIREMENT SYSTEM TOTALS
DECEMBER 31, 1999
(\$ MILLIONS)

Division	Active Members		Retired Lives		Actuarial Accrued Liabilities			Assets	Unfunded Accrued Liabilities	Amort. Years
	Number	Annual Payroll	Number	Annual Allowances	Active & Inactive Members	Retired Lives	Total			
State	112,761	\$ 3,592	46,538	\$ 670	\$ 10,299	\$ 7,119	\$17,418	\$ 17,594	\$ (176)	*
Local	240,005	5,586	81,271	918	14,643	9,483	24,126	23,981	145	2
Law Enforcement A	889	37	-	-	158	-	158	155	3	18
Law Enforcement B	6,877	262	1,847	37	921	447	1,368	1,330	38	21
Totals	360,532	\$ 9,477	129,656	\$ 1,625	\$ 26,021	\$17,049	\$43,070	\$ 43,060	\$ 10	

* *Accrued liabilities are fully funded.*

Section I
Benefits and Conditions Evaluated



BENEFITS AND CONDITIONS EVALUATED

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

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 (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 as determined in the following schedule:

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

Maximum allowance is 100% of FAS. Minimum allowance is based upon twice the member’s savings funding balance at retirement together with interest credits.

Age & Service Benefits - Law Enforcement Members eligible to retire under Ohio Revised Code section 145.33(B)(2)(a)

Age and service eligibility - A law enforcement member 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.

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. 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 enforcement members is based upon twice the member's savings fund balance at retirement together with interest credits.

Age & Service Benefits - Law Enforcement Members eligible to retire under Ohio Revised Code section 145.33(B)(2)(b)

Age and service eligibility - A law enforcement member who is a Sheriff, Deputy Sheriff, or Township Constable or Police Officer 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. 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 enforcement members is based upon twice the member's savings fund balance at retirement together with interest credits.

Health Care Coverage. Health care coverage is available to persons being paid a monthly allowance from PERS. Members retiring with a normal or early service retirement allowance after June 13, 1986 must have 10 or more years of 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 service credit to be eligible for this benefit.

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 of service but before attaining age 60, a member is eligible for a disability allowance.
- 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 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.

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 ¼ year of such service occurring within the 2-1/2 years prior to death, or was receiving a disability benefit, qualified survivors may receive the following monthly benefits. The benefit paid will be the greater of the applicable benefits paid under the following two schedules (H.B. 628):

Schedule 1

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

Schedule 2

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

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

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.

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 the average percentage change in the Consumer Price Index (CPI) plus an accumulation amount if prior year CPIs exceeded 3.0%. Any percentage of change in the CPI in any year that is in excess of 3.0% is accumulated and used to determine increases in future years. The maximum annual increase is 3.0%. The minimum recomputed allowance equals the initial allowance.

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 At Retirement	Amount of 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 enforcement 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.

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 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).

Member contributions. State and local government members contribute 8.5% of salary. The maximum statutory rate is 10% of salary.

Law Enforcement Benefit Group A members contribute 9.0% of salary.

Law Enforcement Benefit Group B members who primarily are Sheriffs, Deputy Sheriffs & Township Constables or Police Officers contribute 10.1% of salary effective 1/1/2001.

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 with the exception of certain members in Law Enforcement Benefit Group B. 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.

Beginning interest will be credited annually to member contribution balances. The rate of interest credited is determined by the PERS Board and will not be greater than 6%.

If the member has, or had at the time of death, at least 5 years, but less than 10 years of service credit, an additional 33% of the member's contribution balance will be paid to the member or survivor. If the member has, or had at the time of death, at least 10 years of service credit, an additional 67% of the member's contribution balance 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.

Law Enforcement Benefit Group B members who were hired at an age that would permit them to achieve 25 years of Law Enforcement service credit prior to age 52 if they did not terminate employment are **not** eligible for the enhanced refund provisions described above. Such members may receive refunds of contributions in accordance with law as it existed prior to the passage of Senate Bill 144.

Employer contributions. Each employer contributes the remainder amounts necessary to finance PERS benefits. ~~Employer contributions are expressed as percents of member covered payroll. The~~ maximum statutory rate for state and local government members is 14%. The maximum statutory rate for law enforcement members is 18.1% (H.B. 416, effective 1/1/2001).

**SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER - NORMAL RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED**

Data:

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

Computations:

F.	Formula Benefit: $(0.022 \times 30 \text{ years} + 0.025 \times 3 \text{ years}) \times \$32,000 =$	\$ 23,520
G.	Reduction for Line E Election: $(1 - 0.81756) \times (F) =$	<u>4,291</u>
H.	Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$	19,229
I.	Benefit Payable to Spouse after Retiree's Death	19,229
J.	Benefit Payable to Retiree after Spouse's Death	<u>23,520</u>

Projected Benefits:

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2000	\$ 19,229	\$ 19,229	\$ 23,520
2001	19,806	19,806	24,226
2002	20,383	20,383	24,931
2003	20,960	20,960	25,637
2004	21,536	21,536	26,342
2005	22,113	22,113	27,048
2006	22,690	22,690	27,754
2007	23,267	23,267	28,459
2008	23,844	23,844	29,165
2009	24,421	24,421	29,870

**SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER - EARLY RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED**

Data:

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

Computations:

F.	Formula Benefit: $0.022 \times 26 \text{ years} \times \$32,000 =$	\$ 18,304
G.	Adjustment factor for Early Retirement (from schedule)	80%
H.	Adjusted benefit: $(F) \times (G) =$	14,643
I.	Reduction for Line E Election: $(1 - 0.81756) \times (H) =$	<u>2,672</u>
J.	Benefit Payable to Retiree while Spouse is Alive: $(H) - (I)$	11,972
K.	Benefit Payable to Spouse after Retiree's Death	11,972
L.	Benefit Payable to Retiree after Spouse's Death	14,643

Projected Benefits:

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2000	\$ 11,972	\$ 11,972	\$ 14,643
2001	12,331	12,331	15,082
2002	12,690	12,690	15,522
2003	13,049	13,049	15,961
2004	13,408	13,408	16,400
2005	13,767	13,767	16,840
2006	14,127	14,127	17,279
2007	14,486	14,486	17,718
2008	14,845	14,845	18,158
2009	15,204	15,204	18,597

SAMPLE BENEFIT COMPUTATION
SECTION 145.33 (B)(2)(B) LAW MEMBER - NORMAL RETIREMENT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED

Data:

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

Computations:

F.	Formula Benefit: $(0.025 \times 25 \text{ years} + 0.021 \times 3 \text{ years}) \times \$38,000 =$	\$ 26,144
G.	Reduction for Line E Election: $(1 - 0.88728) \times (F) =$	<u>2,947</u>
H.	Benefit Payable to Retiree while Spouse is Alive: $(F) - (G) =$	23,197
I.	Benefit Payable to Spouse after Retiree's Death	23,197
J.	Benefit Payable to Retiree after Spouse's Death	26,144

Projected Benefits:

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2000	\$ 23,197	\$ 23,197	\$ 26,144
2001	23,893	23,893	26,928
2002	24,589	24,589	27,713
2003	25,285	25,285	28,497
2004	25,981	25,981	29,281
2005	26,677	26,677	30,066
2006	27,373	27,373	30,850
2007	28,068	28,068	31,634
2008	28,764	28,764	32,419
2009	29,460	29,460	33,203

**SAMPLE BENEFIT COMPUTATION
STATE OR LOCAL MEMBER – TERMINATION BENEFIT
RETIRING DECEMBER 31, 1999
UNDER BENEFIT PROVISIONS EVALUATED**

Data:

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

Computations:

H.	Formula Benefit: $(0.022 \times 15 \text{ years} + 0.025 \times 0 \text{ years}) \times \$32,000 =$	\$ 10,560
I.	Adjustment factor for Early Retirement (from schedule)	85%
J.	Adjusted benefit: $(H) \times (I) =$	8,976
K.	Reduction for Line F Election: $(1 - 0.80900) \times (J) =$	1,714
L.	Benefit Payable to Retiree while Spouse is Alive: $(J) - (K) =$	7,262
M.	Benefit Payable to Spouse after Retiree's Death	7,262
N.	Benefit Payable to Retiree after Spouse's Death	8,976
O.	In lieu of a lifetime benefit, terminatee may elect to receive a refund of accumulated contributions with interest plus an additional 67% of eligible accumulated contributions because terminatee had more than 10 years of service.	73,480

Projected Benefits:

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2000	\$ 7,262	\$ 7,262	\$ 8,976
2001	7,479	7,479	9,245
2002	7,697	7,697	9,515
2003	7,915	7,915	9,784
2004	8,133	8,133	10,053
2005	8,351	8,351	10,322
2006	8,569	8,569	10,592
2007	8,787	8,787	10,861
2008	9,004	9,004	11,130
2009	9,222	9,222	11,400

SAMPLE BENEFIT COMPUTATION
SECTION 145.33 (B)(2)(B) LAW MEMBER – TERMINATION BENEFIT
RETIRING DECEMBER 31, 1999
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

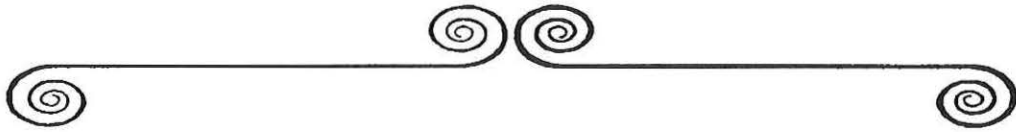
Computations:

H.	Formula Benefit: $(0.015 \times 15 \text{ years}) \times \$38,000 =$	\$ 8,550
I.	Reduction for Line F Election: $(1 - 0.86885) \times (H) =$	<u>1,121</u>
J.	Benefit Payable to Retiree while Spouse is Alive: $(H) - (I) =$	7,429
K.	Benefit Payable to Spouse after Retiree's Death	7,429
L.	Benefit Payable to Retiree after Spouse's Death	8,550
M.	In lieu of a lifetime benefit, terminatee may elect to receive a refund of accumulated contributions at the time of termination.	<u>46,000</u>

Projected Benefits:

Year Ended December 31,	Retiree's Benefit (Both Alive)	Spouse's Benefit (After Retiree's Death)	Retiree's Benefit (After Spouse's Death)
2000	\$ 7,429	\$ 7,429	\$ 8,550
2001	7,652	7,652	8,807
2002	7,874	7,874	9,063
2003	8,097	8,097	9,320
2004	8,320	8,320	9,576
2005	8,543	8,543	9,833
2006	8,766	8,766	10,089
2007	8,989	8,989	10,346
2008	9,212	9,212	10,602
2009	9,434	9,434	10,859

Section II
Recommendations for Reserve Transfers



DECEMBER 31, 1999 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, PERS 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 PERS 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.

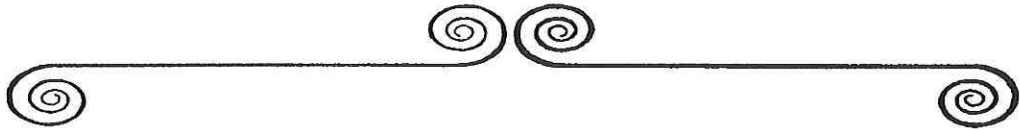
It is recommended that the transfers shown on the following page be made from the Employer Accumulation Fund to the Annuity & Pension Reserve Fund and Survivor Benefit Funds as indicated. The Accrued Transfers is an estimate of pending future transfers for interim cases, and does not require a year end transfer.

**RESERVES AND TRANSFERS AFFECTING THE EMPLOYER ACCUMULATION FUND
DECEMBER 31, 1999**

Ohio Public Employees Retirement System

	Assets Before Transfers	Transfers		Assets After Transfers	Liabilities	Ratio
		Accrued	Other			
State						
A&PR FUND						
JR&SR	\$ 5,276,609,905	\$ 72,379,095	\$ 455,055,675	\$5,804,044,675	\$ 5,804,044,675	
DR	840,806,390	66,687,193	75,991,225	983,484,808	983,484,808	
TOTAL A&PR	6,117,416,295	139,066,288	531,046,900	6,787,529,483	6,787,529,483	100.0%
SBF						
S-1	100,216,491	1,290,417	11,288,760	112,795,668	112,795,668	
S-2	187,509,118	2,576,019	29,016,181	219,101,318	219,101,318	
TOTAL SBF	287,725,609	3,866,436	40,304,941	331,896,986	331,896,986	100.0%
TOTAL STATE	\$ 6,405,141,904	\$142,932,724	\$571,351,841	\$7,119,426,469	\$ 7,119,426,469	100.0%
Local						
A&PR FUND						
JR&SR	\$ 6,882,992,929	\$109,675,857	\$ 516,728,530	\$7,509,397,316	\$ 7,509,397,316	
DR	1,223,043,871	73,638,191	119,031,579	1,415,713,641	1,415,713,641	
TOTAL A&PR	8,106,036,800	183,314,048	635,760,109	8,925,110,957	8,925,110,957	100.0%
SBF						
S-1	141,739,829	4,120,916	20,304,420	166,165,165	166,165,165	
S-2	337,739,370	5,985,133	48,453,536	392,178,039	392,178,039	
TOTAL SBF	479,479,199	10,106,049	68,757,956	558,343,204	558,343,204	100.0%
TOTAL LOCAL	\$ 8,585,515,999	\$193,420,097	\$704,518,065	\$9,483,454,161	\$ 9,483,454,161	100.0%
Law Group A						
A&PR FUND						
JR&SR	\$ 0	\$0	\$0	\$0	0	
DR	0	0	0	0	0	
TOTAL A&PR	0	0	0	0	0	
SBF						
S-1	0	0	0	0	0	
S-2	0	0	0	0	0	
TOTAL SBF	0	0	0	0	0	
TOTAL LAW GROUP A	\$ 0	\$ 0	\$0	\$0	\$ 0	
Law Group B						
A&PR FUND						
JR&SR	\$ 233,876,455	\$4,442,722	(4,728,843)	\$233,590,334	\$ 233,590,334	
DR	181,642,964	12,365,915	(1,561,837)	192,447,042	192,447,042	
TOTAL A&PR	415,519,419	16,808,637	(6,290,680)	426,037,376	426,037,376	100.0%
SBF						
S-1	6,363,073	230,690	659,729	7,253,492	7,253,492	
S-2	13,059,473	583,342	(239,568)	13,403,247	13,403,247	
TOTAL SBF	19,422,546	814,032	420,161	20,656,739	20,656,739	100.0%
TOTAL LAW GROUP B	\$ 434,941,965	\$ 17,622,669	\$(5,870,519)	\$446,694,115	\$ 446,694,115	100.0%
GRAND TOTAL	\$15,425,599,868	\$353,975,490	\$1,269,999,387	\$17,049,574,745	\$17,049,574,745	100.0%

Section III
State Division



STATE 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, 1999

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	52,238	\$1,789,978,365	\$34,266	40.9	9.6
Women	60,523	1,801,608,593	29,767	41.5	9.5
Totals	112,761	\$3,591,586,958	\$31,851	41.2	9.6

Also included in the valuation were 15,995 inactive members eligible for deferred retirement allowances or contribution refunds and 1,559 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

Fund / Type of Allowance	Number	Current Total \$	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	36,337	\$45,536,776	\$5,800,567,775
Disability Retirement	5,416	7,357,839	983,484,808
Money Purchase	106	34,174	3,476,900
Total A & PR Fund	41,859	52,928,789	6,787,529,483
Total SBF	4,679	2,902,930	331,896,986
Grand Total	46,538	\$55,831,719	\$7,119,426,469

**STATE DIVISION
EMPLOYER CONTRIBUTIONS TO SUPPORT
RETIREMENT ALLOWANCES**

**EXPRESSED AS PERCENTS OF ACTIVE MEMBER PAYROLL
DECEMBER 31, 1999**

Contributions for	Contributions Computed December 31	
	1999	1998
Normal Cost		
Age and Service Allowances	9.77 %	9.31 %
Disability Allowances	1.89 %	1.83 %
Survivor's Benefits	0.72 %	0.60 %
Separation Benefits	3.80 %	2.97 %
Total Normal Cost	16.18 %	14.71 %
(Member Current Contributions)	8.50 %	8.50 %
Employer Normal Cost	7.68 %	6.21 %
Unfunded Actuarial Accrued Liabilities		
Financing Years*	#	#
Total Available Contribution	1.33 %	2.90 %
Total Employer Contribution Rate	9.01 %	9.11 %

State Division accrued liabilities are fully funded.

* The period sufficient to produce an Employer Contribution Rate of 9.01% of payroll for retirement allowances and survivor benefits.

STATE DIVISION COMPARATIVE STATEMENT

December 31	Active Members in Valuation				Total Employer Contributions as % of Payroll				
	No.	Annual Payroll			Normal Cost	Unfunded Accrued	Basic Total	Retiree Health	Grand Total
		Total	Average	Increase					
		(Millions)							
1990	98,939	\$ 2,501	\$ 25,281	5.7 %	6.51 %	2.78 %	9.29 %	4.42 %	13.71 %
1991&	107,025	2,693	25,163	(0.5)%	6.57 %	2.45 %	9.02 %	4.29 %	13.31 %
1992	109,701	2,767	25,224	0.2 %	6.41 %	2.61 %	9.02 %	4.29 %	13.31 %
1993	112,748	2,894	25,673	1.8 %	6.40 %	2.62 %	9.02 %	4.29 %	13.31 %
1994	115,238	3,063	26,580	3.5 %	6.66 %	2.36 %	9.02 %	4.29 %	13.31 %
1995	114,596	3,204	27,962	5.2 %	6.67 %	2.35 %	9.02 %	4.29 %	13.31 %
1996@	115,712	3,319	28,684	2.6 %	6.21 %	2.81 %	9.02 %	4.29 %	13.31 %
1997	114,036	3,405	29,858	4.1 %	6.21 %	2.90 %	9.11 %	4.20 %	13.31 %
1998	112,323	3,500	31,159	4.4 %	6.21 %	2.90 %	9.11 %	4.20 %	13.31 %
1999	112,761	3,592	31,851	2.2 %	6.24 %	2.77 %	9.01 %	4.30 %	13.31 %
1999#	112,761	3,592	31,851	2.2 %	7.68 %	1.33 %	9.01 %	4.30 %	13.31 %

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

STATE DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
COMPARATIVE STATEMENT

	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Actuarial Present Value December 31, of			
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 6,787,529,483	\$ -	\$ 6,787,529,483
Allowances currently being paid from the Survivors Benefit Fund	331,896,986	-	331,896,986
Age and service allowances based on service rendered before and likely to be rendered after valuation date	11,929,305,426	3,437,794,501	8,491,510,925
Disability allowances likely to be paid present active members who become permanently disabled	1,457,111,092	645,516,174	811,594,918
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	575,713,048	247,409,502	328,303,546
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	2,052,263,031	1,385,532,194	666,730,837
Total	\$23,133,819,066	\$5,716,252,371	\$17,417,566,695
Actuarial Value of Assets			17,594,064,244
Unfunded Actuarial Accrued Liability			\$ (176,497,549)

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

Dec. 31	Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed	Valuation	Unfunded	Amort. Years	
	Total	Average	Total	Assets			
1990@	\$2,501	\$25,281	\$ 5,091	\$3,391	\$1,700	34	0.68
1991&	2,693	25,163	5,528	4,030	1,498	32	0.56
1992	2,767	25,224	5,934	4,552	1,382	25	0.50
1993	2,894	25,673	6,671	5,357	1,314	22	0.45
1994	3,063	26,580	7,182	5,956	1,226	21	0.40
1995	3,204	27,962	7,811	6,706	1,105	17	0.34
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	9,809	11,061	(1,252)	-	-
1999#	3,592	31,851	10,298	10,474	(176)	-	-

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

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

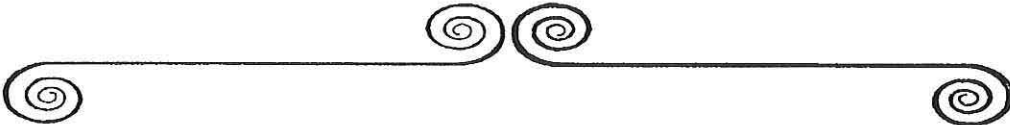
STATE DIVISION
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	932							932	\$4,816,493
20-24	4,372	14						4,386	41,755,070
25-29	3,960	681	8					4,649	105,032,723
30-34	3,036	2,269	665	8				5,978	186,936,929
35-39	2,421	1,948	2,107	893	73			7,442	264,756,195
40-44	1,936	1,484	1,720	1,796	1,042	41		8,019	308,597,365
45-49	1,595	1,193	1,403	1,420	1,521	775	46	7,953	326,180,149
50	246	230	244	221	215	264	35	1,455	63,401,219
51	282	213	240	235	236	284	69	1,559	69,399,869
52	233	199	206	222	179	252	49	1,340	59,702,509
53	252	212	256	198	204	196	100	1,418	63,462,007
54	150	140	177	137	106	118	63	891	40,141,702
55	143	124	128	125	104	112	68	804	35,768,375
56	131	111	132	96	82	95	69	716	32,620,952
57	139	124	128	124	78	76	75	744	31,181,849
58	99	126	101	90	88	71	50	625	26,862,931
59	97	82	102	108	62	54	31	536	22,609,420
60	78	76	82	83	61	54	48	482	20,425,886
61	95	65	68	79	50	38	37	432	17,671,336
62	74	58	83	58	43	35	33	384	15,497,588
63	56	49	50	37	43	27	25	287	12,115,251
64	53	38	42	34	24	21	20	232	9,191,394
65	49	27	33	28	24	17	12	190	6,908,031
66	47	28	18	27	7	14	13	154	5,838,440
67	41	21	18	13	14	8	16	131	4,530,566
68	27	15	18	15	10	7	9	101	3,952,995
69	35	12	8	11	3	4	5	78	2,368,020
70 & Over	146	52	27	22	18	22	33	320	8,253,101
Totals	20,725	9,591	8,064	6,080	4,287	2,585	906	52,238	\$1,789,978,365

STATE DIVISION
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	987							987	\$4,990,372
20-24	4,946	31						4,977	44,692,951
25-29	4,196	809	21					5,026	111,256,876
30-34	3,245	2,165	871	29				6,310	177,799,411
35-39	2,823	1,952	2,203	941	119			8,038	252,594,990
40-44	2,612	1,863	1,985	1,787	1,251	74		9,572	320,196,376
45-49	2,236	1,796	1,840	1,392	1,598	821	46	9,729	342,026,182
50	349	318	319	267	247	197	41	1,738	62,195,987
51	355	297	366	223	221	173	49	1,684	59,422,661
52	292	261	360	243	222	167	75	1,620	57,348,166
53	346	302	377	250	235	180	66	1,756	61,947,269
54	202	196	223	154	162	131	51	1,119	39,329,899
55	177	151	241	190	148	108	47	1,062	36,776,024
56	150	137	201	167	157	79	37	928	32,282,335
57	157	134	216	199	165	91	30	992	33,738,138
58	127	120	189	182	162	77	34	891	31,133,734
59	104	106	176	163	145	85	22	801	27,484,608
60	99	88	137	115	103	66	27	635	21,074,024
61	74	70	112	104	110	46	19	535	19,118,705
62	57	65	102	110	97	50	22	503	17,035,799
63	49	51	77	61	59	31	14	342	11,423,424
64	35	32	61	52	52	27	16	275	8,920,722
65	32	31	38	50	32	27	18	228	7,571,871
66	40	26	25	27	22	27	15	182	5,283,434
67	23	16	15	18	20	18	8	118	3,455,604
68	31	13	25	17	13	7	9	115	2,927,996
69	14	11	13	15	14	9	7	83	2,748,307
70 & Over	54	37	35	42	45	34	30	277	6,832,728
Totals	23,812	11,078	10,228	6,798	5,399	2,525	683	60,523	\$1,801,608,593

Section IV
Local Government Division



LOCAL GOVERNMENT 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, 1999

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	111,513	\$2,819,394,398	\$25,283	42.4	8.5
Women	128,492	2,766,978,282	21,534	41.1	7.6
Totals	240,005	\$5,586,372,680	\$23,276	41.7	8.0

Also included in the valuation were 27,594 inactive members eligible for deferred retirement allowances or contribution refunds and 6,061 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

Fund / Type of Allowance	Number	Current Total \$	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	63,342	\$60,560,124	\$7,504,188,068
Disability Retirement	8,353	11,075,564	1,415,713,641
Money Purchase	279	50,727	5,209,248
Total A & PR Fund	71,974	71,686,415	8,925,110,957
Total SBF	9,297	4,834,686	558,343,202
Grand Total	81,271	\$76,521,101	\$9,483,454,159

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

Contributions for	Contributions Computed December 31	
	1999	1998
Normal Cost		
Age and Service Allowances	9.28 %	8.84 %
Disability Allowances	2.11 %	2.03 %
Survivor's Benefits	0.72 %	0.58 %
Separation Benefits	4.07 %	3.22 %
Total Normal Cost	16.18 %	14.67 %
(Member Current Contributions)	8.50 %	8.50 %
Employer Normal Cost	7.68 %	6.17 %
Unfunded Actuarial Accrued Liabilities		
Financing Years*	2	#
Total Available Contribution	1.57 %	3.18 %
Total Employer Contribution Rate	9.25 %	9.35 %

Local Government Division accrued liabilities are fully funded.

* The period sufficient to produce an Employer Contribution Rate of 9.25% of payroll for retirement allowances and survivor benefits.

LOCAL GOVERNMENT DIVISION COMPARATIVE STATEMENT

December 31	Active Members in Valuation				Total Employer Contributions as % of Payroll				
	No.	Annual Payroll			Normal Cost	Unfunded Accrued	Basic Total	Retiree Health	Grand Total
		Total	Average	Increase					
		(Millions)							
1990*	173,220	\$ 3,379	\$ 19,506	4.4 %	6.02 %	2.67 %	8.69 %	5.26 %	13.95 %
1991&	211,835	3,789	17,884	(8.3)%	5.95 %	2.49 %	8.44 %	5.11 %	13.55 %
1992	218,295	3,953	18,109	1.3 %	5.80 %	2.64 %	8.44 %	5.11 %	13.55 %
1993	220,410	4,159	18,869	4.2 %	5.85 %	2.59 %	8.44 %	5.11 %	13.55 %
1994	221,987	4,366	19,666	4.2 %	6.16 %	2.28 %	8.44 %	5.11 %	13.55 %
1995	223,431	4,555	20,384	3.7 %	6.17 %	2.27 %	8.44 %	5.11 %	13.55 %
1996*	229,954	4,792	20,839	2.2 %	6.16 %	2.28 %	8.44 %	5.11 %	13.55 %
1997	231,668	4,976	21,481	3.1 %	6.15 %	3.20 %	9.35 %	4.20 %	13.55 %
1998	234,601	5,240	22,334	4.0 %	6.17 %	3.18 %	9.35 %	4.20 %	13.55 %
1999	240,005	5,586	23,276	4.2 %	6.21 %	3.04 %	9.25 %	4.30 %	13.55 %
1999#	240,005	5,586	23,276	4.2 %	7.68 %	1.57 %	9.25 %	4.30 %	13.55 %

After benefit changes.

* Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

LOCAL GOVERNMENT DIVISION
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES
DECEMBER 31, 1999

	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Actuarial Present Value December 31, of			
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 8,925,110,957	\$ -	\$ 8,925,110,957
Allowances currently being paid from the Survivors Benefit Fund	558,343,202	-	558,343,202
Age and service allowances based on service rendered before and likely to be rendered after valuation date	16,800,240,681	4,858,510,237	11,941,730,444
Disability allowances likely to be paid present active members who become permanently disabled	2,290,862,968	1,095,050,162	1,195,812,806
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	845,360,274	363,940,110	481,420,164
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	3,259,634,839	2,235,750,476	1,023,884,363
Total	\$32,679,552,921	\$8,553,250,985	\$24,126,301,936
Actuarial Value of Assets			23,980,981,515
Unfunded Actuarial Accrued Liability			\$ 145,320,421

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

Dec. 31	Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed	Valuation	Unfunded	Amort. Years	
	Total	Average	Total	Assets			
1990@	\$ 3,379	\$19,506	\$ 6,666	\$ 4,335	\$ 2,331	37	0.69
1991&	3,789	17,884	7,479	5,181	2,298	36	0.61
1992	3,953	18,109	8,147	6,046	2,101	27	0.53
1993	4,159	18,869	9,291	7,147	2,144	26	0.52
1994	4,366	19,666	9,894	7,814	2,080	28	0.48
1995	4,555	20,384	10,630	8,856	1,774	21	0.39
1996@	4,792	20,839	11,286	9,940	1,346	15	0.28
1997	4,976	21,481	11,973	11,218	755	5	0.15
1998	5,240	22,334	12,912	13,135	(223)	0	0.00
1999	5,586	23,276	13,912	15,315	(1,403)	0	0.00
1999#	5,586	23,276	14,643	14,498	145	2	0.03

After benefit changes.

@ Revised actuarial assumptions.

& Reflects inclusion of part-time, seasonal, and temporary employees in compliance with OBRA 90 and revised actuarial assumptions.

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

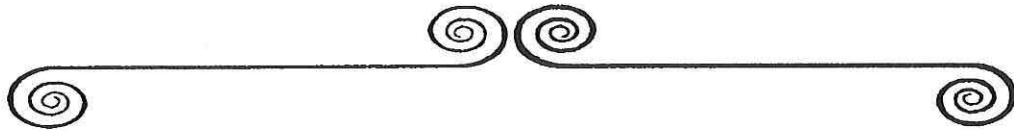
LOCAL GOVERNMENT DIVISION
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	5,508							5,508	\$24,312,514
20-24	7,427	91						7,518	72,247,383
25-29	7,274	1,391	38					8,703	171,393,235
30-34	6,249	3,181	1,093	33				10,556	266,545,553
35-39	5,639	3,291	2,990	1,190	119			13,229	372,863,303
40-44	5,316	3,246	3,096	2,411	1,804	136		16,009	486,549,843
45-49	4,535	2,883	2,655	2,124	2,728	1,557	64	16,546	532,770,991
50	727	549	486	351	416	413	80	3,022	101,096,305
51	739	523	447	357	393	435	95	2,989	97,622,252
52	719	466	416	314	373	414	117	2,819	91,918,764
53	722	520	433	342	344	391	135	2,887	92,765,357
54	456	309	307	212	202	213	92	1,791	55,739,873
55	480	278	283	226	202	179	100	1,748	54,387,232
56	501	280	251	194	185	156	75	1,642	47,515,923
57	555	338	332	203	195	153	98	1,874	52,703,526
58	473	289	262	196	157	141	105	1,623	46,792,360
59	457	259	236	192	147	100	77	1,468	39,444,423
60	384	232	239	167	117	115	68	1,322	35,244,336
61	372	237	183	151	130	96	68	1,237	31,736,791
62	332	222	201	138	112	91	57	1,153	29,476,491
63	331	212	133	104	79	56	47	962	20,225,983
64	317	184	118	91	67	62	34	873	18,904,340
65	281	152	113	70	57	43	33	749	14,666,027
66	280	134	82	47	30	21	28	622	10,865,848
67	284	111	76	42	25	28	18	584	9,099,597
68	256	96	73	39	20	18	18	520	7,112,612
69	276	127	55	34	24	15	22	553	7,521,250
70 & Over	1,430	844	274	177	122	81	78	3,006	27,872,286
Totals	52,320	20,445	14,872	9,405	8,048	4,914	1,509	111,513	\$2,819,394,398

LOCAL GOVERNMENT DIVISION
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	6,769							6,769	\$26,542,459
20-24	8,832	174						9,006	86,193,148
25-29	9,652	1,886	84					11,622	221,297,790
30-34	7,561	3,734	1,567	62				12,924	289,779,367
35-39	7,586	3,689	3,101	1,313	158			15,847	368,553,435
40-44	7,876	4,069	3,073	2,232	1,730	111		19,091	465,251,352
45-49	6,238	4,049	3,079	1,978	1,964	1,087	31	18,426	473,645,829
50	968	740	629	339	331	255	45	3,307	87,157,364
51	962	703	654	349	329	246	61	3,304	86,239,380
52	899	687	619	430	357	244	57	3,293	85,595,103
53	898	724	674	450	358	216	88	3,408	86,493,035
54	608	449	420	270	227	120	53	2,147	55,064,506
55	583	439	434	309	221	129	49	2,164	53,677,954
56	511	392	407	322	266	107	49	2,054	50,297,278
57	529	459	421	407	278	146	60	2,300	56,284,632
58	422	392	415	304	252	109	46	1,940	48,141,392
59	354	324	360	263	248	95	40	1,684	40,248,606
60	340	305	298	228	221	102	53	1,547	37,746,990
61	294	250	214	183	163	90	41	1,235	28,231,868
62	269	211	212	160	149	90	23	1,114	25,316,219
63	218	172	147	132	97	67	30	863	18,421,820
64	165	145	135	99	94	59	34	731	15,997,398
65	145	129	113	91	100	45	26	649	13,631,368
66	139	84	78	60	53	38	29	481	9,564,993
67	124	80	53	45	54	30	11	397	7,271,184
68	109	58	58	50	37	25	17	354	6,283,345
69	111	58	49	38	34	21	16	327	4,905,865
70 & Over	554	357	155	118	152	88	84	1,508	19,144,602
Totals	63,716	24,759	17,449	10,232	7,873	3,520	943	128,492	\$2,766,978,282

Section V
Law Enforcement Division
Benefit Group A



LAW ENFORCEMENT DIVISION BENEFIT GROUP A

This Benefit Group consists of Law Enforcement Members other than Sheriffs, Deputy Sheriffs, and Township Police. 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, 1999

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	797	\$33,776,660	\$42,380	39.4	11.6
Women	92	3,667,357	39,863	38.5	9.8
Totals	889	\$37,444,017	\$42,119	39.3	11.4

Also included in the valuation were 0 inactive members eligible for deferred retirement allowances or contribution refunds and 0 members active in the money purchase plan.*

*Retired Members in Valuation December 31, 1999**

Fund / Type of Allowance	Number	Current Total \$	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	0	\$0	\$0
Disability Retirement	0	0	0
Money Purchase	0	0	0
Total A & PR Fund	0	0	0
Total SBF	0	0	0
Grand Total	0	\$0	\$0

* Law Enforcement inactive members and retired lives who terminated active membership prior to 1/1/2000 are included in Benefit Group B.

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

Contributions for	Contributions Computed December 31	
	1999	1998
Normal Cost		
Age and Service Allowances	13.60 %	12.90 %
Disability Allowances	3.34 %	3.60 %
Survivor's Benefits	0.89 %	0.87 %
Separation Benefits	2.96 %	2.11 %
Total Normal Cost	20.79 %	19.48 %
(Member Current Contributions)	9.00 %	9.00 %
Employer Normal Cost	11.79 %	10.48 %
Unfunded Actuarial Accrued Liabilities		
Financing Years*	18	5
Total Available Contribution	0.61 %	2.02 %
Total Employer Contribution Rate	12.40 %	12.50 %

* *The period sufficient to produce an Employer Contribution Rate of 12.40% of payroll for retirement allowances and survivor benefits.*

LAW ENFORCEMENT DIVISION BENEFIT GROUP A COMPARATIVE STATEMENT

December 31	Active Members in Valuation				Total Employer Contributions as % of Payroll				
	No.	Annual Payroll			Normal Cost	Unfunded Accrued	Basic Total	Retiree Health	Grand Total
		Total	Average	Increase					
		(Thousands)							
1990	5,804	\$156,339	\$26,936	5.4 %	9.52 %	1.29 %	10.81 %	5.19 %	16.00 %
1991@	6,088	169,008	27,761	3.1 %	9.32 %	1.49 %	10.81 %	5.89 %	16.70 %
1992	5,852	169,337	28,937	4.2 %	9.65 %	1.16 %	10.81 %	5.89 %	16.70 %
1993	6,032	182,576	30,268	4.6 %	9.53 %	1.28 %	10.81 %	5.89 %	16.70 %
1994	6,252	196,467	31,425	3.8 %	9.71 %	1.10 %	10.81 %	5.89 %	16.70 %
1995	6,605	214,273	32,441	3.2 %	9.69 %	1.12 %	10.81 %	5.89 %	16.70 %
1996@	6,742	229,138	33,987	4.8 %	10.50 %	0.74 %	11.24 %	5.46 %	16.70 %
1997	7,256	258,897	35,680	5.0 %	10.49 %	2.01 %	12.50 %	4.20 %	16.70 %
1998	7,507	277,239	36,931	3.5 %	10.48 %	2.02 %	12.50 %	4.20 %	16.70 %
1999+	889	37,444	42,119	n/a	10.74 %	1.66 %	12.40 %	4.30 %	16.70 %
1999#	889	37,444	42,119	n/a	11.79 %	0.61 %	12.40 %	4.30 %	16.70 %

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

LAW ENFORCEMENT DIVISION BENEFIT GROUP A
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Actuarial Present Value December 31, of			
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 0	\$ -	\$ 0
Allowances currently being paid from the Survivors Benefit Fund	-	-	-
Age and service allowances based on service rendered before and likely to be rendered after valuation date	183,328,139	51,386,196	131,941,943
Disability allowances likely to be paid present active members who become permanently disabled	32,767,099	12,581,517	20,185,582
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	8,177,235	3,307,625	4,869,610
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	12,448,404	11,190,189	1,258,215
Total	\$236,720,877	\$78,465,527	\$158,255,350
Actuarial Value of Assets			154,968,005
Unfunded Actuarial Accrued Liability			\$ 3,287,345

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

Dec. 31	Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed Total	Valuation Assets	Unfunded	Amort. Years	
	Total	Average					
1990	\$ 156	\$26,936	\$ 388	\$ 341	\$ 47	32	0.30
1991@	169	27,761	438	399	39	19	0.23
1992	169	28,937	467	452	15	8	0.09
1993	183	30,268	533	512	21	10	0.11
1994	196	31,425	580	555	25	13	0.13
1995	214	32,441	638	612	26	12	0.12
1996@	229	33,987	711	676	35	30	0.15
1997	259	35,680	821	773	48	10	0.19
1998	277	36,931	914	895	19	5	0.07
1999+	37	42,119	155	155	0	0	0.00
1999#	37	42,119	158	155	3	18	0.08

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

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

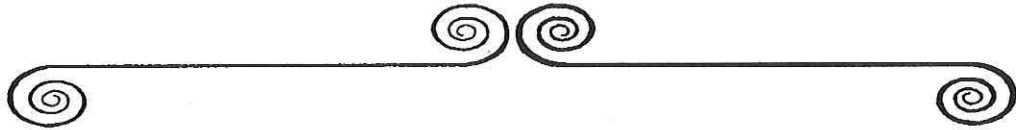
**LAW ENFORCEMENT DIVISION BENEFIT GROUP A
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
20-24	14							14	\$375,540
25-29	66	27						93	2,992,518
30-34	35	44	13					92	3,379,723
35-39	15	22	60	27				124	5,070,484
40-44	9	15	26	71	56			177	7,923,252
45-49	6	5	13	33	66	35	1	159	7,600,811
50	1	1	2	2	9	13	2	30	1,501,883
51	2		1	1	4	12	1	21	945,173
52			1	2	2	8	1	14	694,953
53	1	2	1	1	5	6	2	18	769,112
54					2	3		5	235,251
55	1		1	1	2	2	2	9	390,940
56			2	1	2	1	2	8	347,821
57					3	2	5	10	492,514
58	1			1	1	2		5	225,790
59				1	2	1	2	6	275,212
60			1	2	1	2		6	318,558
61					1			1	43,457
62				1	1		1	3	124,649
63		1						1	26,810
64						1		1	42,209
Totals	151	117	121	144	157	88	19	797	\$33,776,660

**LAW ENFORCEMENT DIVISION BENEFIT GROUP A
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
20-24	1							1	\$24,080
25-29	14	1						15	479,397
30-34	3	7	5					15	542,760
35-39	4	4	4	4				16	599,452
40-44	2		3	14	3			22	982,464
45-49			1	3	6	3		13	570,634
50			2		2			4	243,912
52			2		1			3	100,136
55			1					1	40,195
56				1				1	39,839
67					1			1	44,488
Totals	24	12	18	22	13	3		92	\$3,667,357

Section VI
Law Enforcement Division
Benefit Group B



LAW ENFORCEMENT DIVISION BENEFIT GROUP B

This Benefit Group consists of Law Enforcement Members including Sheriffs, Deputy Sheriffs, and Township Police. 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, 1999

Groups	Number	Annual Payroll	Average		
			Pay	Age	Service
Men	6,116	\$234,942,607	\$38,414	39.4	11.6
Women	761	26,653,375	35,024	38.5	9.8
Totals	6,877	\$261,595,982	\$38,039	39.3	11.4

Also included in the valuation were 280 inactive members eligible for deferred retirement allowances or contribution refunds and 10 members active in the money purchase plan.

Retired Members in Valuation December 31, 1999

Fund / Type of Allowance	Number	Current Total \$	Actuarial Liabilities
A & PR Fund			
Superannuation Retirement	920	\$1,569,971	\$233,590,334
Disability Retirement	678	1,335,317	192,447,042
Money Purchase	0	0	0
Total A & PR Fund	1,598	2,905,288	426,037,376
Total SBF	249	158,279	20,656,737
Grand Total	1,847	\$3,063,567	\$446,694,113

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

Contributions for	Contributions Computed December 31	
	1999	1998
Normal Cost		
Age and Service Allowances	14.39 %	12.90 %
Disability Allowances	3.52 %	3.60 %
Survivor's Benefits	0.88 %	0.87 %
Separation Benefits	2.81 %	2.11 %
Total Normal Cost	21.60 %	19.48 %
(Member Current Contributions)	10.10 %	9.00 %
Employer Normal Cost	11.50 %	10.48 %
Unfunded Actuarial Accrued Liabilities		
Financing Years*	21	5
Total	0.90 %	2.02 %
Total Employer Contribution Rate	12.40 %	12.50 %

* *The period sufficient to produce an Employer Contribution Rate of 12.40% of payroll for retirement allowances and survivor benefits.*

**LAW ENFORCEMENT DIVISION BENEFIT GROUP B
COMPARATIVE STATEMENT**

December 31	Active Members in Valuation				Total Employer Contributions as % of Payroll				
	No.	Annual Payroll			Normal Cost	Unfunded Accrued	Basic Total	Retiree Health	Grand Total
		Total	Average	Increase					
		(Thousands)							
1990	5,804	\$156,339	\$26,936	5.4 %	9.52 %	1.29 %	10.81 %	5.19 %	16.00 %
1991@	6,088	169,008	27,761	3.1 %	9.32 %	1.49 %	10.81 %	5.89 %	16.70 %
1992	5,852	169,337	28,937	4.2 %	9.65 %	1.16 %	10.81 %	5.89 %	16.70 %
1993	6,032	182,576	30,268	4.6 %	9.53 %	1.28 %	10.81 %	5.89 %	16.70 %
1994	6,252	196,467	31,425	3.8 %	9.71 %	1.10 %	10.81 %	5.89 %	16.70 %
1995	6,605	214,273	32,441	3.2 %	9.69 %	1.12 %	10.81 %	5.89 %	16.70 %
1996@	6,742	229,138	33,987	4.8 %	10.50 %	0.74 %	11.24 %	5.46 %	16.70 %
1997	7,256	258,897	35,680	5.0 %	10.49 %	2.01 %	12.50 %	4.20 %	16.70 %
1998	7,507	277,239	36,931	3.5 %	10.48 %	2.02 %	12.50 %	4.20 %	16.70 %
1999+	6,877	261,596	38,039	3.0 %	10.70 %	1.70 %	12.40 %	4.30 %	16.70 %
1999#	6,877	261,596	38,039	3.0 %	11.50 %	0.90 %	12.40 %	4.30 %	16.70 %

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

LAW ENFORCEMENT DIVISION BENEFIT GROUP B
DEVELOPMENT OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

	(1) Total Actuarial Present Value	Allocation by Entry Age	
		(2) Portion Covered By Future Normal Cost Contributions	(3) Actuarial Accrued Liabilities (1)-(2)
Actuarial Present Value December 31, of			
Allowances currently being paid from the Annuity & Pension Reserve Fund	\$ 426,037,376	\$ -	\$ 426,037,376
Allowances currently being paid from the Survivors Benefit Fund	20,656,737	-	20,656,737
Age and service allowances based on service rendered before and likely to be rendered after valuation date	1,165,941,662	402,239,985	763,701,677
Disability allowances likely to be paid present active members who become permanently disabled	202,544,545	96,847,982	105,696,563
Survivor benefits likely to be paid to spouses and children of present active members who die before retiring	50,439,022	23,517,887	26,921,135
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	103,733,980	78,472,845	25,261,135
Total	\$1,969,353,322	\$601,078,699	\$1,368,274,623
Actuarial Value of Assets			1,329,766,616
Unfunded Actuarial Accrued Liability			\$ 38,508,007

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

Dec. 31	Active Payroll		Active and Inactive Member Accrued Liabilities for Retirement Allowances				Unfunded /Payroll
			Computed	Valuation	Unfunded	Amort. Years	
	Total	Average	Total	Assets			
1990	\$ 156	\$26,936	\$ 388	\$ 341	\$ 47	32	0.30
1991@	169	27,761	438	399	39	19	0.23
1992	169	28,937	467	452	15	8	0.09
1993	183	30,268	533	512	21	10	0.11
1994	196	31,425	580	555	25	13	0.13
1995	214	32,441	638	612	26	12	0.12
1996@	229	33,987	711	676	35	30	0.15
1997	259	35,680	821	773	48	10	0.19
1998	277	36,931	914	895	19	5	0.07
1999+	262	38,039	852	904	(52)	0	0.00
1999#	262	38,039	922	883	39	21	0.15

+ Law group split into groups A and B for 1999 valuation.

After benefit changes.

@ Revised actuarial assumptions.

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

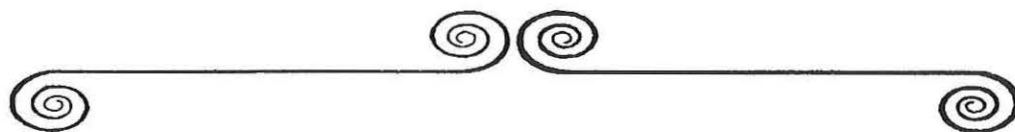
**LAW ENFORCEMENT DIVISION BENEFIT GROUP B
MALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
15-19	2							2	\$23,073
20-24	151	4						155	3,674,053
25-29	632	340	3					975	30,651,673
30-34	356	601	187	1				1,145	41,437,925
35-39	143	311	376	153	4			987	38,446,718
40-44	88	137	209	306	158	4		902	37,336,163
45-49	66	92	140	207	297	108	2	912	38,730,962
50	4	17	9	30	38	31	4	133	5,943,904
51	5	18	16	24	32	49	6	150	6,695,395
52	5	12	13	25	22	39	5	121	5,470,452
53	7	19	11	28	33	34	8	140	5,902,436
54	3	15	11	16	17	14	2	78	3,262,384
55	1	4	15	8	14	8	5	55	2,321,517
56	1	3	9	14	14	6	6	53	2,366,223
57	2	6	7	7	10	10	10	52	2,232,932
58	1	5	5	10	11	7	7	46	1,892,541
59	3	4	2	4	7	11	6	37	1,604,009
60	2	1	5	14	11	6	4	43	1,785,313
61		2	5	11	7	6	1	32	1,417,922
62	1	4	6	4	6	5	5	31	1,276,653
63	2	2	2	3	3	1	3	16	653,685
64	6		2	1	2	6	1	18	605,012
65	1		1	1	2		1	6	239,157
66		2	1	1	2	1	1	8	301,544
67		1		2	1		2	6	209,853
68			1	1				2	64,453
69	2	1		1		1		5	175,349
70 & Over	1	1	1	1		1	1	6	221,306
Totals	1,485	1,602	1,037	873	691	348	80	6,116	\$234,942,607

**LAW ENFORCEMENT DIVISION BENEFIT GROUP B
FEMALE ACTIVE MEMBERS IN VALUATION DECEMBER 31, 1999
BY ATTAINED AGE AND YEARS OF SERVICE**

Attained Ages	Years of Service to Valuation Date							Total Number	Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30+		
20-24	38							38	\$965,786
25-29	80	36						116	3,506,598
30-34	51	63	19	1				134	4,513,817
35-39	22	43	60	18				143	5,189,980
40-44	16	43	31	24	20	1		135	5,108,527
45-49	5	15	23	25	21	2		91	3,524,806
50	2	3	3	2	4	3		17	647,506
51	1	2	4	4	2	1		14	543,618
52		4	1	2	3	1		11	459,071
53	1	1	3	1	4	1		11	381,005
54	1	1	3	3	1	1		10	389,618
55			1	4	2			7	277,961
56		1	1		4			6	209,303
57			1	2	2	1		6	161,116
58	1			1	1			3	113,307
59		2	2	2	2			8	264,768
60					1			1	35,607
61		1						1	23,863
62				1	1			2	79,246
63					1			1	37,181
64				1				1	34,112
65					1			1	40,274
66					1			1	30,296
67						1	1	2	92,289
70 & Over	1							1	23,720
Totals	219	215	152	91	71	12	1	761	\$26,653,375

Section VII
Allowances Being Paid to Retirants & Beneficiaries



**MONTHLY ALLOWANCES OF RETIRED LIVES
BY YEAR OF RETIREMENT
AS OF DECEMBER 31, 1999**

Year of Retirement	No.	Initial	Post-Ret. Increase	Total	Average
1999	6,513	\$ 8,688,084	\$ 0	\$ 8,688,084	\$1,334
1998	7,372	8,857,940	174,199	9,032,139	1,225
1997	7,107	8,675,592	403,102	9,078,694	1,277
1996	7,063	7,962,867	580,926	8,543,793	1,210
1995	6,463	7,097,493	653,017	7,750,510	1,199
1994	5,708	5,343,620	639,115	5,982,735	1,048
1993	5,304	5,262,823	782,876	6,045,699	1,140
1992	6,015	5,666,139	1,092,438	6,758,577	1,124
1991	5,114	4,760,794	1,095,827	5,856,621	1,145
1985-1990	31,455	23,482,525	7,851,962	31,334,487	996
1980-1984	20,646	9,492,656	5,617,754	15,110,410	732
1975-1979	13,213	4,264,641	3,868,046	8,132,687	616
1970-1974	5,381	1,050,798	1,628,891	2,679,689	498
1965-1969	1,613	215,409	479,178	694,587	431
1960-1964	525	57,416	144,152	201,568	384
Before 1960	164	13,970	38,797	52,767	322
TOTAL	129,656	\$100,892,767	\$25,050,280	\$125,943,047	\$971

The benefit amounts shown above do not include benefits that will become effective in 2000 in connection with House Bill 628.

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

Valuation Date	Annual Allowances			Reported Assets*	Actuarial Liabilities	Ratio of Assets to Liabilities	Ratio of Active to Retired
	No.	\$ Millions	% of Payroll#				
6/30/72	36,314	\$ 74	4.7 %	\$ 769	\$ 741	103.7 %	5.7
6/30/73	38,940	83	4.9 %	871	831	104.7 %	5.5
6/30/74	41,453	92	4.6 %	984	933	105.5 %	6.4
6/30/75	45,197	115	5.4 %	1,162	1,111	104.7 %	5.2
6/30/76	48,675	129	5.5 %	1,294	1,253	103.2 %	4.9
6/30/77	52,240	150	5.6 %	1,513	1,478	102.3 %	5.2
6/30/78	55,827	169	5.5 %	1,724	1,698	101.5 %	4.9
6/30/79	59,303	190	5.9 %	2,007	1,973	101.7 %	4.4
12/31/79	60,887	207	6.4 %	2,209	2,154	102.6 %	4.3
12/31/80	64,231	231	6.7 %	2,477	2,424	102.2 %	4.0
12/31/1981@	68,089	272	8.2 %	3,084	2,994	103.0 %	3.7
12/31/1982@	71,253	299	8.2 %	3,173	3,068	103.4 %	3.5
12/31/83	74,442	333	8.7 % **	3,554	3,428	103.7 %	3.3
12/31/84	77,493	386	9.5 % **	3,993	3,993	100.0 %	3.2
12/31/85	80,999	429	10.0 % **	4,498	4,456	100.9 %	3.1
12/31/86	84,892	474	10.4 % **	4,965	4,935	100.6 %	3.0
12/31/87	86,924	518	10.6 % **	5,485	5,437	100.9 %	3.0
12/31/88	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
12/31/90	94,088	706	11.7 % **	7,438	7,338	101.4 %	3.0
12/31/91	95,843	762	11.5 % **	8,014	7,904	101.4 %	3.4
12/31/92	98,609	835	12.1 % **	8,814	8,692	101.4 %	3.4
12/31/93	100,651	901	12.5 % **	9,390	9,356	100.4 %	3.4
12/31/94	102,587	958	12.6 % **	9,964	9,893	100.7 %	3.3
12/31/95	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
12/31/97	110,470	1,233	14.3 % **	12,843	12,755	100.7 %	3.2
12/13/98	113,000	1,327	14.7 % **	13,885	13,751	101.0 %	3.1
12/31/99	115,431	1,426	15.0 % **	14,978	14,820	101.1 %	3.1
12/31/1999+	115,431	1,530	16.1 % **	14,978	16,139	92.8 %	3.1

* Including certain recommended transfers and accrued transfers.

Through 1979, June allowances are compared to December payroll.

@ Revised actuarial assumptions.

** Excluding health insurance and Medicare payments which now total 4.9% of active member payroll.

+ Including estimated effect of legislated benefit changes.

**ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
TYPE OF BENEFIT AND AMOUNT BY SEX OF RECIPIENT**

Type of Allowance	Men		Women		Total	
	Number	Monthly Allowances	Number	Monthly Allowances	Number	Monthly Allowances
Superannuation Retirement						
Plan A - Joint & 50%	11,985	\$17,246,674	3,332	\$ 3,579,277	15,317	\$ 20,825,951
Plan B - Straight Life	15,571	18,749,944	34,896	31,918,852	50,467	50,668,796
Plan C - Special Joint & Survivor	2,664	4,945,790	2,697	3,165,683	5,361	8,111,473
Plan D - Joint & 100%	12,232	15,688,394	1,710	1,402,411	13,942	17,090,805
Plan E - Life & 0 to 5 Years Guaranteed	189	211,816	162	123,676	351	335,492
- Life & 6 to 10 Years Guaranteed	350	392,219	184	155,096	534	547,315
- Life & 11 to 15 Years Guaranteed	592	668,158	208	162,648	800	830,806
- Life & 16 to 20 Years Guaranteed	13	24,209	5	5,626	18	29,835
Money Purchase	287	71,577	98	13,325	385	84,902
Survivor Beneficiary - Life Benefit	676	333,017	12,982	8,734,809	13,658	9,067,826
Survivor Beneficiary - Temporary Benefit	31	41,675	120	116,896	151	158,571
Total Superannuation	44,590	\$58,373,473	56,394	\$49,378,299	100,984	\$ 107,751,772
Disability Retirement	7,816	\$ 11,863,706	6,631	\$ 7,905,015	14,447	\$ 19,768,721
Total from A & PR	52,406	\$70,237,179	63,025	\$57,283,314	115,431	\$127,520,493

The benefit amounts shown on this page include the estimated effect of ad-hoc benefit adjustments related to House Bill 628.

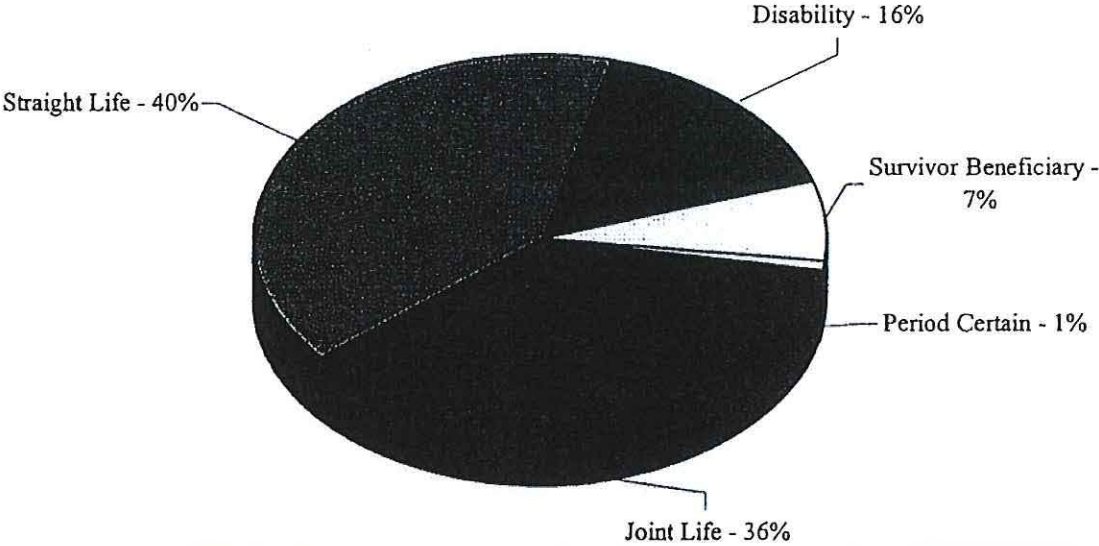
**ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
TYPE OF BENEFIT AND AMOUNT BY SEX OF RECIPIENT**

Type of Allowance	Men		Women		Total	
	Number	Monthly Allowances	Number	Monthly Allowances	Number	Monthly Allowances
Superannuation Retirement						
Plan A - Joint & 50%	11,985	\$17,246,674	3,332	\$ 3,579,277	15,317	\$ 20,825,951
Plan B - Straight Life	15,571	18,749,944	34,896	31,918,852	50,467	50,668,796
Plan C - Special Joint & Survivor	2,664	4,945,790	2,697	3,165,683	5,361	8,111,473
Plan D - Joint & 100%	12,232	15,688,394	1,710	1,402,411	13,942	17,090,805
Plan E - Life & 0 to 5 Years Guaranteed	189	211,816	162	123,676	351	335,492
- Life & 6 to 10 Years Guaranteed	350	392,219	184	155,096	534	547,315
- Life & 11 to 15 Years Guaranteed	592	668,158	208	162,648	800	830,806
- Life & 16 to 20 Years Guaranteed	13	24,209	5	5,626	18	29,835
Money Purchase	287	71,577	98	13,325	385	84,902
Survivor Beneficiary - Life Benefit	676	333,017	12,982	8,734,809	13,658	9,067,826
Survivor Beneficiary - Temporary Benefit	31	41,675	120	116,896	151	158,571
Total Superannuation	44,590	\$58,373,473	56,394	\$49,378,299	100,984	\$ 107,751,772
Disability Retirement	7,816	\$ 11,863,706	6,631	\$ 7,905,015	14,447	\$ 19,768,721
Total from A&P-R	52,406	\$70,237,179	63,025	\$57,283,314	115,431	\$127,520,493

The benefit amounts shown on this page include the estimated effect of ad-hoc benefit adjustments related to House Bill 628.

**ANNUITIES BEING PAID BY TYPE
DECEMBER 31, 1999**

Annuity and Pension Reserve Fund

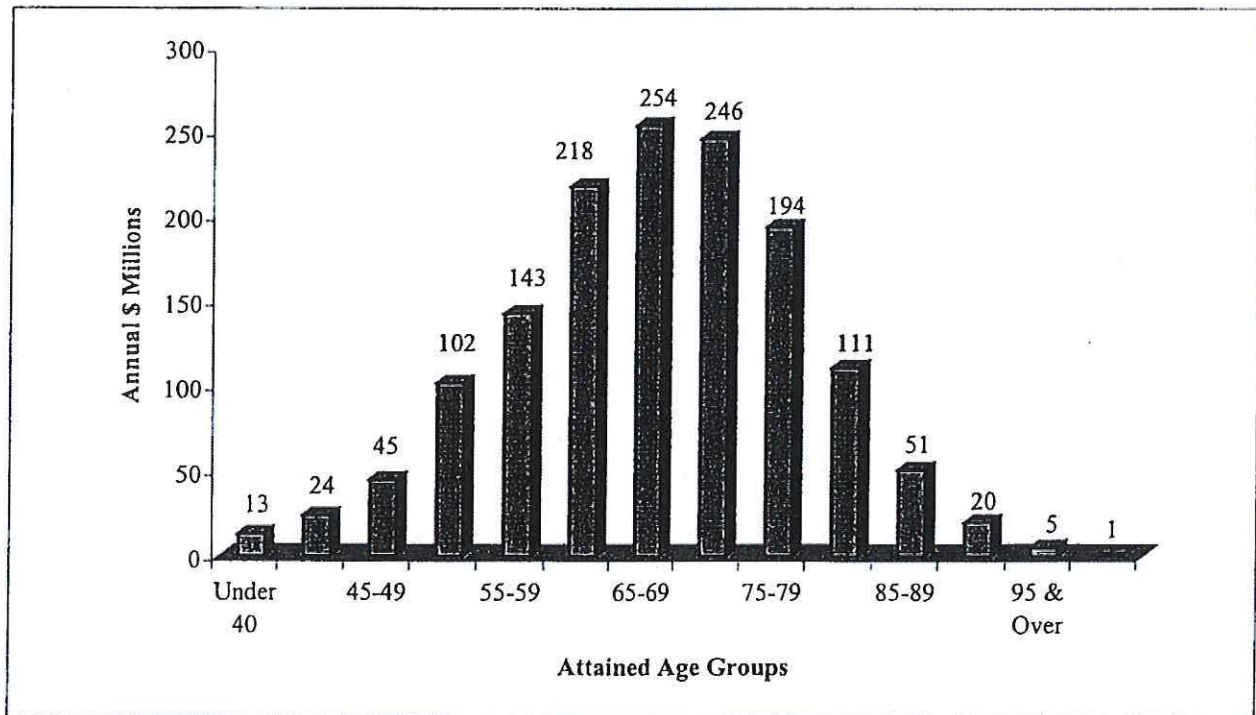
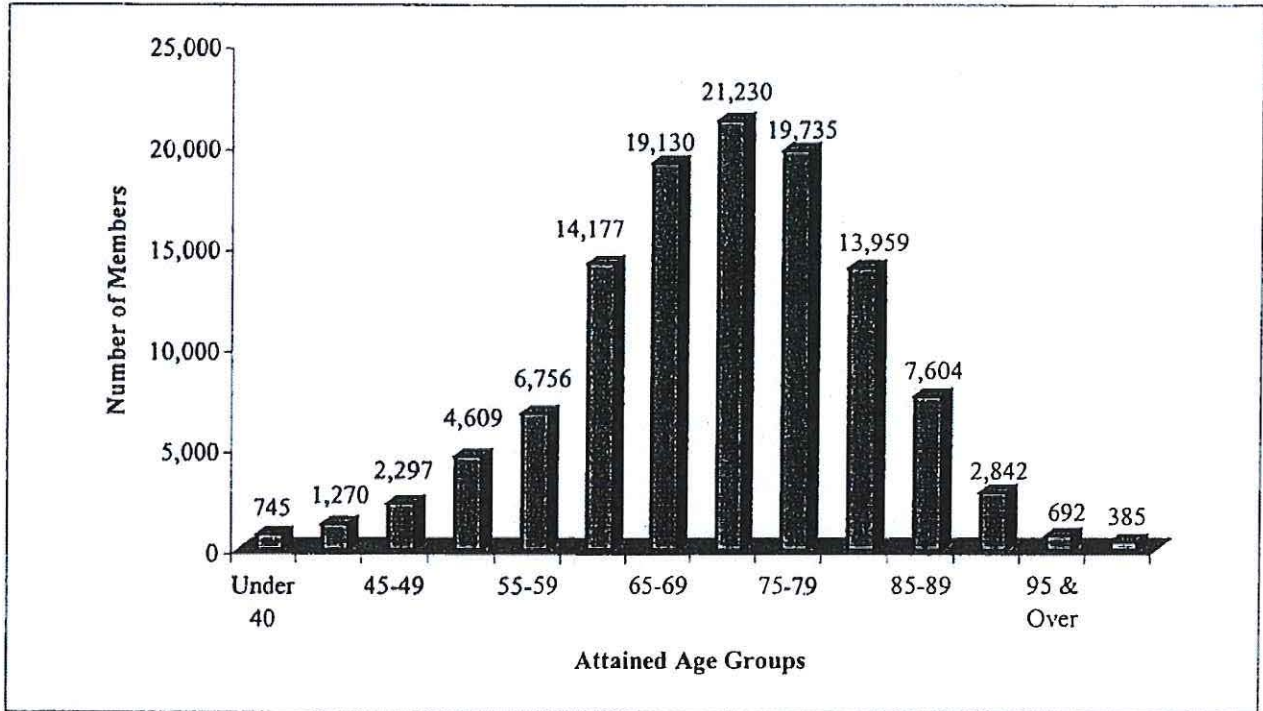


**ANNUITY AND PENSION RESERVE FUND
RETIRANTS AND BENEFICIARIES DECEMBER 31, 1999
CURRENT MONTHLY TOTAL \$ BY ATTAINED AGES**

Attained Ages	Superannuation		Disability		Totals	
	No.	Monthly Total \$	No.	Monthly Total \$	No.	Monthly Total \$
Under 20	14	\$ 7,089			14	\$ 7,089
20-24	5	4,180			5	4,180
25-29	8	3,068	16	\$ 21,242	24	24,310
30-34	17	6,562	132	203,805	149	210,367
35-39	34	15,705	519	845,963	553	861,668
40-44	62	50,802	1,208	1,981,332	1,270	2,032,134
45-49	349	615,335	1,948	3,105,535	2,297	3,720,870
50-54	2,257	4,882,776	2,352	3,605,773	4,609	8,488,549
55-59	4,253	8,700,745	2,503	3,243,176	6,756	11,943,921
60-64	11,893	15,526,451	2,284	2,606,788	14,177	18,133,239
65-69	17,690	19,744,231	1,440	1,432,832	19,130	21,177,063
70-74	20,175	19,643,875	1,055	862,389	21,230	20,506,264
75-79	19,102	15,694,174	633	468,405	19,735	16,162,579
80-84	13,690	9,072,025	269	150,027	13,959	9,222,052
85-89	7,535	4,230,999	69	32,105	7,604	4,263,104
90-94	2,824	1,625,804	18	6,434	2,842	1,632,238
95 & Over	691	375,126	1	521	692	375,647
Period Certain	385	81,657			385	81,657
Totals	100,984	\$100,280,604	7,447	\$18,566,827	115,881	\$118,847,431

The figures on this page do not include benefit changes related to House Bill 628.

**ANNUITY AND PENSION RESERVE FUND
BENEFITS BEING PAID BY ATTAINED AGES
DECEMBER 31, 1999**



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

Attained Age Group	1999	1998	1997	1996	1995	1994	1993	1992	1991	1990
Under 30	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
30-39	0.6%	0.6%	0.6%	0.6%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
40-49	3.1%	2.9%	2.8%	2.7%	2.4%	2.1%	2.0%	1.9%	1.7%	1.5%
50-59	9.8%	9.2%	8.6%	7.9%	7.6%	7.2%	7.1%	6.9%	6.6%	6.5%
60-69	28.9%	29.1%	29.4%	29.9%	30.5%	30.9%	32.0%	32.8%	33.2%	34.4%
70-79	35.5%	36.3%	37.1%	37.7%	38.2%	38.6%	38.3%	38.5%	38.8%	38.5%
80-89	18.7%	18.6%	18.4%	18.2%	17.9%	17.8%	17.4%	16.8%	16.6%	16.1%
90 & Over	3.1%	3.0%	2.9%	2.8%	2.7%	2.7%	2.5%	2.4%	2.3%	2.2%
Period Certain	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.2%	0.2%	0.3%	0.3%
TOTALS	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Average Age	71.4	71.5	71.6	71.6	71.8	71.4	71.8	71.7	71.7	71.6

This page illustrates the gradual aging of the retiree population. The percentage of recipients over 80 years old is now 21.8% compared with 21.6% last year.

STATE DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999

Group	Number	Current Total	Actuarial Liabilities
S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation			
Men	95	\$ 70,853	\$ 7,497,317
Women	922	904,565	105,298,351
Totals	1,017	\$975,418	\$112,795,668
S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount			
Widower - no child	333	\$162,649	\$ 19,002,583
Widower - child	59	32,966	5,651,648
Child's record	85	31,342	1,191,247
Parent	2	1,695	142,705
Other	1	1,122	241,066
Subtotals - male	480	229,774	26,229,249
Widower - no child	2,113	\$1,105,013	\$131,365,977
Widower - child	241	152,845	29,426,513
Child's record	338	152,122	8,218,745
Parent	3	1,500	196,225
Other	0	0	0
Subtotals - female	2,695	1,411,480	169,207,460
Child only	190	103,254	5,606,238
Totals	3,365	\$1,744,508	\$201,042,947
Total Benefits Being Paid from Survivor Benefit Fund			
Men	575	300,627	33,726,566
Women	3,617	2,316,045	274,505,811
Children	190	103,254	5,606,238
Totals	4,382	\$2,719,926	\$313,838,615

The figures on this page include an estimate of the effect of House Bill 628.

**LOCAL GOVERNMENT DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999**

Group	Number	Current Total	Actuarial Liabilities
S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation			
Men	130	\$ 84,031	\$ 8,429,548
Women	1,644	1,333,992	157,735,617
Totals	1,774	\$1,418,023	\$166,165,165
S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount			
Widower - no child	567	\$ 236,123	\$ 26,852,253
Widower - child	87	36,931	6,217,263
Child's record	117	32,841	1,555,156
Other	0	0	0
Subtotals - male	771	305,895	34,624,672
Widower - no child	4,467	\$2,011,049	\$241,126,280
Widower - child	518	278,395	53,124,068
Child's record	764	304,530	18,461,235
Parent	3	1,611	141,831
Subtotals - female	5,752	2,595,585	312,853,414
Child only	336	162,717	9,243,899
Totals	6,859	\$3,064,197	\$356,721,985
Total Benefits Being Paid from Survivor Benefit Fund			
Men	901	389,926	43,054,220
Women	7,396	3,929,577	470,589,031
Children	336	162,717	9,243,899
Totals	8,633	\$4,482,220	\$522,887,150

The figures on this page include an estimate of the effect of House Bill 628.

**LAW ENFORCEMENT GROUP B DIVISION
SURVIVOR BENEFIT FUND TABULATED BY
TYPE OF BENEFIT BEING PAID AND MONTHLY AMOUNT
DECEMBER 31, 1999**

Group	Number	Current Total	Actuarial Liabilities
S-1 - Survivor Benefit to Beneficiary of Deceased Member Joint and Survivor Computation			
Men	0	\$ 0	\$ 0
Women	40	49,723	7,253,492
Totals	40	\$ 49,723	\$7,253,492
S-2 - Survivor Benefit to Beneficiary of Deceased Member Fixed Rate Amount			
Widower - no child	0	\$ 0	\$ 0
Widower - child	2	1,434	260,316
Child's record	3	1,380	111,198
Other	0	0	0
Subtotals - male	5	2,814	371,514
Widower - no child	73	\$ 41,488	\$ 6,345,137
Widower - child	32	19,544	3,861,529
Child's record	54	20,681	1,037,201
Other	1	612	69,295
Subtotals - female	160	82,325	11,313,162
Child only	16	8,732	368,578
Totals	181	\$ 93,871	\$12,053,254
Total Benefits Being Paid from Survivor Benefit Fund			
Men	5	2,814	371,514
Women	200	132,048	18,566,654
Children	16	8,732	368,578
Totals	221	\$143,594	\$19,306,746

The figures on this page include an estimate of the effect of House Bill 628.

**STATE DIVISION
DEFERRED SURVIVOR BENEFICIARIES
TABULATED BY SEX AND DEFERRED AGE
DECEMBER 31, 1999**

Group	Number	Current Total	Actuarial Liabilities
Widowers			
Deferred to age 50	13	\$ 9,489	\$ 1,049,678
Deferred to age 62	65	36,207	2,479,765
Deferred to age 65	7	1,461	97,471
Total	85	47,157	3,626,914
Widows			
Deferred to age 50	43	35,877	5,002,984
Deferred to age 62	168	99,802	9,410,047
Deferred to age 65	1	167	18,426
Total	212	135,846	14,431,457
Totals	297	\$183,003	\$18,058,371

The figures on this page include an estimate of the effect of House Bill 628.

**LOCAL GOVERNMENT DIVISION
DEFERRED SURVIVOR BENEFICIARIES
TABULATED BY SEX AND DEFERRED AGE
DECEMBER 31, 1999**

Group	Number	Current Total	Actuarial Liabilities
Widowers			
Deferred to age 50	12	\$ 8,842	\$ 795,929
Deferred to age 62	99	39,147	2,867,776
Deferred to age 65	9	1,611	162,556
Total	120	49,600	3,826,261
Widows			
Deferred to age 50	83	68,845	9,808,987
Deferred to age 62	458	233,390	21,753,938
Deferred to age 65	3	630	66,868
Total	544	302,865	31,629,793
Totals	664	\$352,465	\$35,456,054

The figures on this page include an estimate of the effect of House Bill 628.

**LAW ENFORCEMENT DIVISION BENEFIT GROUP B
 DEFERRED SURVIVOR BENEFICIARIES
 TABULATED BY SEX AND DEFERRED AGE
 DECEMBER 31, 1999**

Group	Number	Current Total	Actuarial Liabilities
Widowers			
Deferred to age 50	1	\$ 106	\$ 5,364
Total	1	106	5,364
Widows			
Deferred to age 50	4	2,781	353,570
Deferred to age 62	23	11,798	991,059
Total	27	14,579	1,344,629
Totals	28	\$14,685	\$1,349,993

The figures on this page include an estimate of the effect of House Bill 628.

SURVIVOR BENEFIT FUND
REPORTED ASSETS AND LIABILITIES
DIVISIONS COMBINED

Valuation Date	Monthly Allowances				\$ Millions		Ratio of Assets to Liabilities
	Current		Deferred		Reported Assets	Actuarial Liabilities	
	No.	Amount	No.	Amount			
6/30/72	6,102	\$ 891,467	1,012	\$ 96,003	\$ 144.7	\$ 127.0	114 %
6/30/73	6,477	1,053,363	1,009	99,678	164.6	146.3	113 %
6/30/74	6,826	1,136,949	1,037	106,479	181.7	157.5	115 %
6/30/75	7,346	1,422,944	1,054	113,690	205.3	177.9	115 %
6/30/76	7,847	1,557,217	991	118,986	224.8	189.4	119 %
6/30/77	8,153	1,659,897	1,003	125,094	257.0	204.6	126 %
6/30/78	8,559	1,799,580	1,004	135,944	301.2	224.5	134 %
6/30/79	8,824	1,914,251	1,039	146,549	355.2	245.1	145 %
12/31/79	8,971	2,033,403	1,044	155,890	383.0	259.5	148 %
12/31/80	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 %
12/31/83	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 %
12/31/85	11,889	3,278,253	979	259,842	532.8	469.6	113 %
12/31/86	12,054	3,489,915	960	268,931	575.5	451.2	128 %
12/31/87	12,153	3,656,420	933	279,327	626.1	472.9	132 %
12/31/88	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 %
12/31/90	12,182	4,330,622	907	321,218	542.5	537.1	101 %
12/31/91	12,268	4,528,326	860	314,414	567.9	557.1	102 %
12/31/92	12,318	4,750,848	852	329,509	589.8	583.3	101 %
12/31/93	12,437	4,985,681	862	345,937	620.7	607.7	102 %
12/31/94	12,569	5,207,186	845	347,178	641.5	628.5	102 %
12/31/95	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 %
12/31/97	12,856	6,074,566	932	433,430	743.0	740.5	100 %
12/13/98	13,079	6,337,739	1,060	500,514	780.2	779.6	100 %
12/31/1999+	13,236	6,609,854	989	486,262	801.4	803.9	100 %
12/31/1999#	13,236	7,345,740	989	550,153	801.4	910.9	88 %

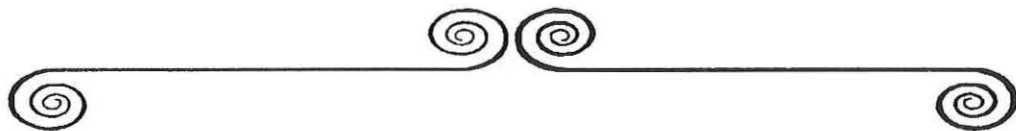
@ Revised actuarial assumptions.

* Benefits increased.

After benefit changes.

+ Reported asset amounts include accrued transfers.

Section VIII
Actuarial Methods and Assumptions



**SUMMARY OF
ACTUARIAL METHODS AND ASSUMPTIONS USED FOR PERS
ACTUARIAL VALUATIONS
ASSUMPTIONS ADOPTED BY RETIREMENT BOARD
After Consulting With Actuary**

The 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. Both the economic and decrement assumptions were established following the December 31, 1995 actuarial valuations.

ECONOMIC ASSUMPTIONS

The investment return rate used in making the valuations was 7.75% per year, compounded annually (net after administrative expenses). The assumed real rate of return is the portion of total investment return that is more than the assumed total wage growth rate. Considering other financial assumptions, the 7.75% investment return rate translates to an assumed real rate of return of 3.00%.

Pay increase assumptions for individual active members are shown for sample ages on pages VIII-4, VIII-5, & VIII-6. Part of the assumption for each age is for merit and/or seniority increase, and the other 4.75% recognizes wage inflation and overall productivity increases. There is no specific assumption regarding price inflation.

The active member payroll is assumed to increase 4.75% annually, which is the portion of the individual pay increase assumptions attributable to wage inflation and overall productivity increases.

The number of active members is assumed to continue at the present number.

NON-ECONOMIC ASSUMPTIONS

The post-retirement mortality rates used in evaluating age and service survivor benefit allowances to be paid were 90% of rates in the 1971 Group Annuity Mortality Male and Female Tables, projected to

1984. Related values are shown on page VIII-7. The mortality rates for disability allowances were the same as those for age and service retirees 10 years older.

The probabilities of normal and early age and service retirement are shown on page V-3.

The probabilities of withdrawal from service, disability and death-in-service are shown for sample ages on pages VIII-4, VIII-5 & VIII-6. 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 enforcement members).

Decrements are assumed to occur middle of year. *Pay increases* are assumed to occur beginning of year.

The probabilities of having an eligible survivor (spouse, child, parent) in the event of death in service were 80% for state and local government members and 90% for law enforcement members.

Female spouses are assumed to be 3 years younger than male spouses for active member valuation purposes.

Adjustment factors used for valuation purposes include the following:

- a 2% factor is applied to normal retirement, early retirement and vesting liabilities to recognize subsidized option factors,
- a 1% factor is applied to normal retirement and early retirement liabilities to recognize subsidized service purchases,
- Law Enforcement accrued liabilities are reduced approximately 1.5% to recognize the fact that total service reported is not entirely Law Enforcement service,
- reported accumulated contributions (which exclude credited interest) are adjusted for interest crediting using factors based upon historical crediting interest rates and assumed pay increases.

Employer contributions were assumed to be *paid in equal installments* throughout the employer fiscal year.

The Funding Value of Assets recognize assumed investment return fully each year. Differences between actual and assumed investment return are phased in over a closed 4 year period.

Present assets (cash & investments) at funding value are shown on pages 8 and 9.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (M.A.A.A.)

Probabilities of Normal Age and Service Retirement

Ages	Percent of Eligible Active Members Retiring Within Next Year				
	State		Local Government		Law * Enforcement
	Men	Women	Men	Women	
50-54	15%	20%	23%	20%	25%
55-58	15%	20%	23%	20%	20%
59	18%	21%	20%	20%	20%
60	20%	22%	25%	25%	15%
61	21%	25%	25%	28%	15%
62	22%	30%	27%	30%	15%
63	25%	30%	28%	30%	15%
64	25%	30%	30%	30%	15%
65	25%	25%	25%	25%	30%
66	25%	20%	25%	25%	30%
67	25%	20%	20%	20%	25%
68	25%	20%	20%	20%	25%
69-79	25%	20%	20%	20%	30%
80	100%	100%	100%	100%	100%
Ref	505	506	507	508	511

* For Law Benefit Group B, the rates from 48 to 50 are 25%, and the rates for 68 and up are 100%

Probabilities of Early Retirement

Ages	Percent of Eligible Active Members Retiring Within Next Year				
	State		Local Government		Law Enforcement
	Men	Women	Men	Women	
48					3%
49					3%
50					7%
51					7%
55	15%	18%	10%	12%	
56	15%	18%	10%	12%	
57	15%	18%	10%	12%	
58	15%	18%	10%	12%	
59	15%	18%	10%	12%	
60	12%	15%	12%	13%	
61	12%	15%	12%	13%	
62	12%	15%	15%	13%	
63	15%	15%	15%	13%	
64	18%	18%	15%	13%	
Ref	503	504	509	510	515

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

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			39.00%	35.00%					
	1			17.00%	17.00%					
	2			13.00%	14.00%					
	3			9.00%	10.00%					
	4			6.50%	8.00%					
25	5 & Over	0.04%	0.02%	6.20%	7.30%	0.07%	0.06%	3.86%	4.75%	8.61%
30		0.05%	0.03%	5.16%	6.66%	0.08%	0.06%	2.62%	4.75%	7.37%
35		0.07%	0.04%	4.18%	5.20%	0.16%	0.11%	2.06%	4.75%	6.81%
40		0.11%	0.06%	3.36%	4.00%	0.27%	0.21%	1.66%	4.75%	6.41%
45		0.19%	0.08%	2.64%	3.36%	0.46%	0.37%	1.20%	4.75%	5.95%
50		0.34%	0.13%	2.28%	2.90%	0.75%	0.69%	0.88%	4.75%	5.63%
55		0.55%	0.19%	2.08%	2.52%	1.26%	0.94%	0.68%	4.75%	5.43%
60		0.84%	0.32%	0.60%	0.70%	2.06%	1.50%	0.54%	4.75%	5.29%
Ref		0.7 * 68	0.7 * 69	183 324	184 325	191	120	148		

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

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

Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year						Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal		Disability		Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men	Women	Men	Women			
	0			36.00%	34.50%					
	1			17.00%	18.00%					
	2			13.00%	14.00%					
	3			10.00%	11.00%					
	4			8.00%	9.00%					
25	5 & Over	0.04%	0.02%	6.80%	8.40%	0.07%	0.06%	3.80%	4.75%	8.55%
30		0.05%	0.03%	5.40%	7.28%	0.11%	0.09%	2.40%	4.75%	7.15%
35		0.07%	0.04%	4.40%	5.72%	0.25%	0.15%	1.95%	4.75%	6.70%
40		0.11%	0.06%	3.52%	4.40%	0.39%	0.26%	1.70%	4.75%	6.45%
45		0.19%	0.08%	3.08%	3.76%	0.62%	0.39%	1.40%	4.75%	6.15%
50	0.34%	0.13%	2.82%	3.36%	0.95%	0.63%	1.00%	4.75%	5.75%	
55	0.55%	0.19%	2.58%	2.96%	1.46%	0.97%	0.65%	4.75%	5.40%	
60	0.84%	0.32%	0.60%	0.80%	1.88%	1.70%	0.54%	4.75%	5.29%	
Ref		0.7 * 68	0.7 * 69	185 326	186 327	192	193	149		

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

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

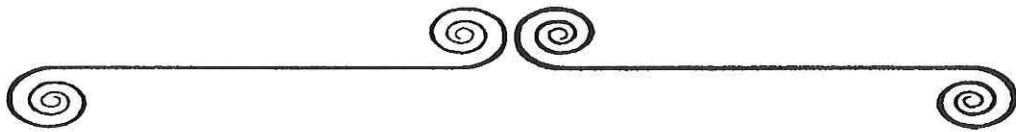
Sample Ages	Years of Service	Percent of Active Members Separating Within the Next Year				Pay Increase Assumptions For An Individual Employee		
		Death		Withdrawal	Disability	Merit & Seniority	Base (Economy)	Increase Next Year
		Men	Women	Men & Women	Men & Women			
	0			18.00%				
	1			10.00%				
	2			8.00%				
	3			7.00%				
	4			6.00%				
25	5 & Over	0.04%	0.02%	4.80%	0.20%	5.10%	4.75%	9.85%
30		0.05%	0.03%	3.52%	0.26%	3.10%	4.75%	7.85%
35		0.07%	0.04%	2.78%	0.42%	2.10%	4.75%	6.85%
40		0.11%	0.06%	2.32%	0.62%	1.70%	4.75%	6.45%
45		0.19%	0.08%	1.96%	1.06%	1.35%	4.75%	6.10%
50		0.34%	0.13%	1.62%	1.54%	1.14%	4.75%	5.89%
55		0.55%	0.19%	1.60%	2.12%	1.00%	4.75%	5.75%
60		0.84%	0.32%	0.50%	2.76%	0.70%	4.75%	5.45%
Ref		0.7 * 68	0.7 * 69	187 328	194	150		

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

Single Life Retirement Values

Sample Attained Ages	Present Value of \$1 Monthly for Life Increasing 3.0% Annually (First Increase After 1 Year)		Future Life Expectancy (years)	
	Males	Females	Males	Females
50	\$169.73	\$186.48	28.55	34.58
55	156.48	175.64	24.26	29.89
60	141.12	162.15	20.19	25.31
65	123.82	146.02	16.40	20.92
70	105.70	127.19	13.02	16.76
75	88.21	106.96	10.17	13.03
80	71.30	87.22	7.75	9.89
Ref:	68 x 0.90	69 x 0.90		

Section IX
Financial Principles



FINANCIAL PRINCIPLES AND OPERATIONAL TECHNIQUES OF PERS

Promises Made, and To Be Paid For. As each year is completed, PERS in effect hands an "IOU" to each member then acquiring a year of service credit --- the "IOU" says: "The Public Employees Retirement System of Ohio 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 PERS 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 3rd 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 PERS).

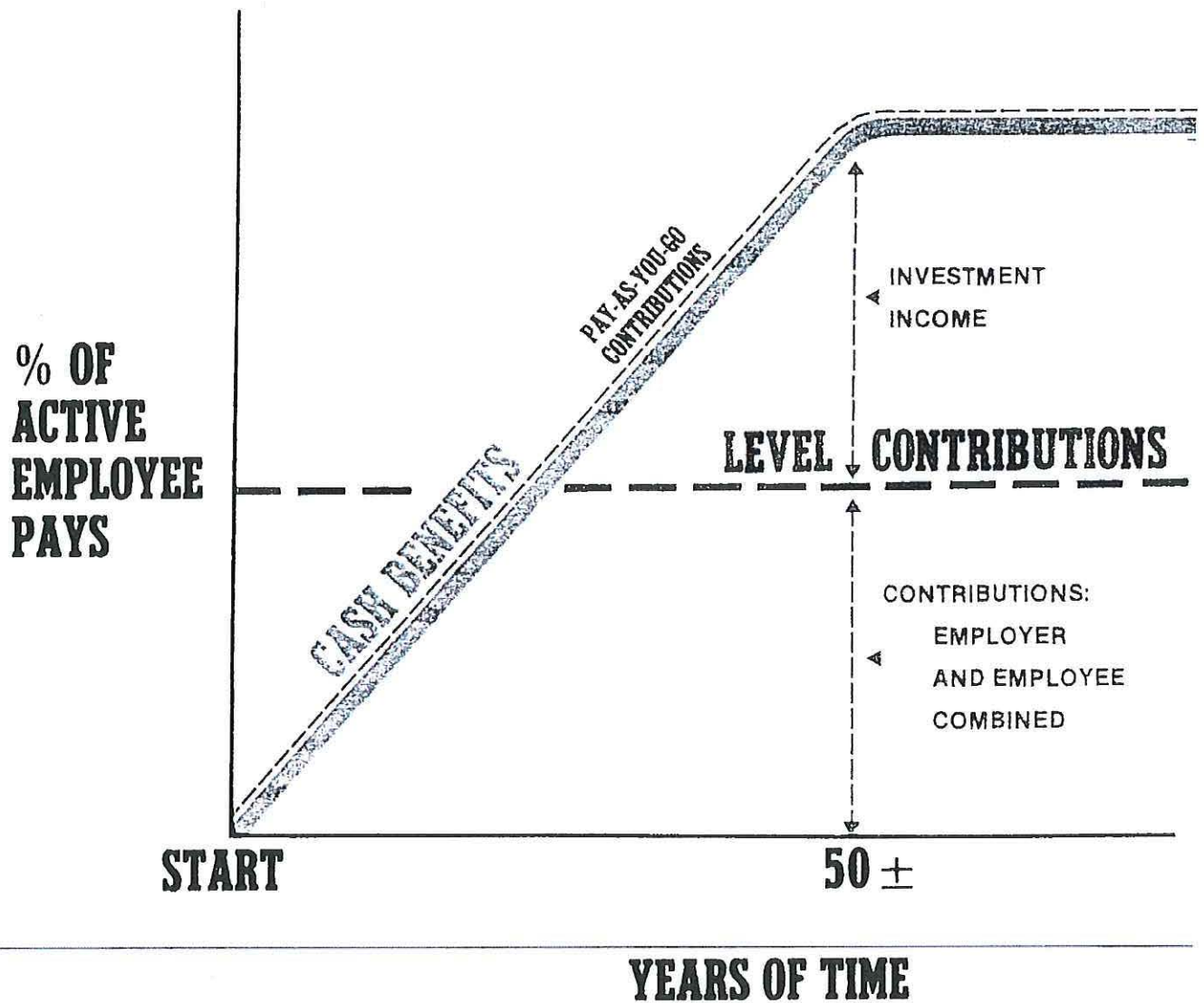
Computing Contributions to Support Fund Benefits. From a given schedule of benefits and from employee and asset data, the actuary calculates the contribution rates to support the benefits by means of *an actuarial valuation and a funding method.*

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.

PERS 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

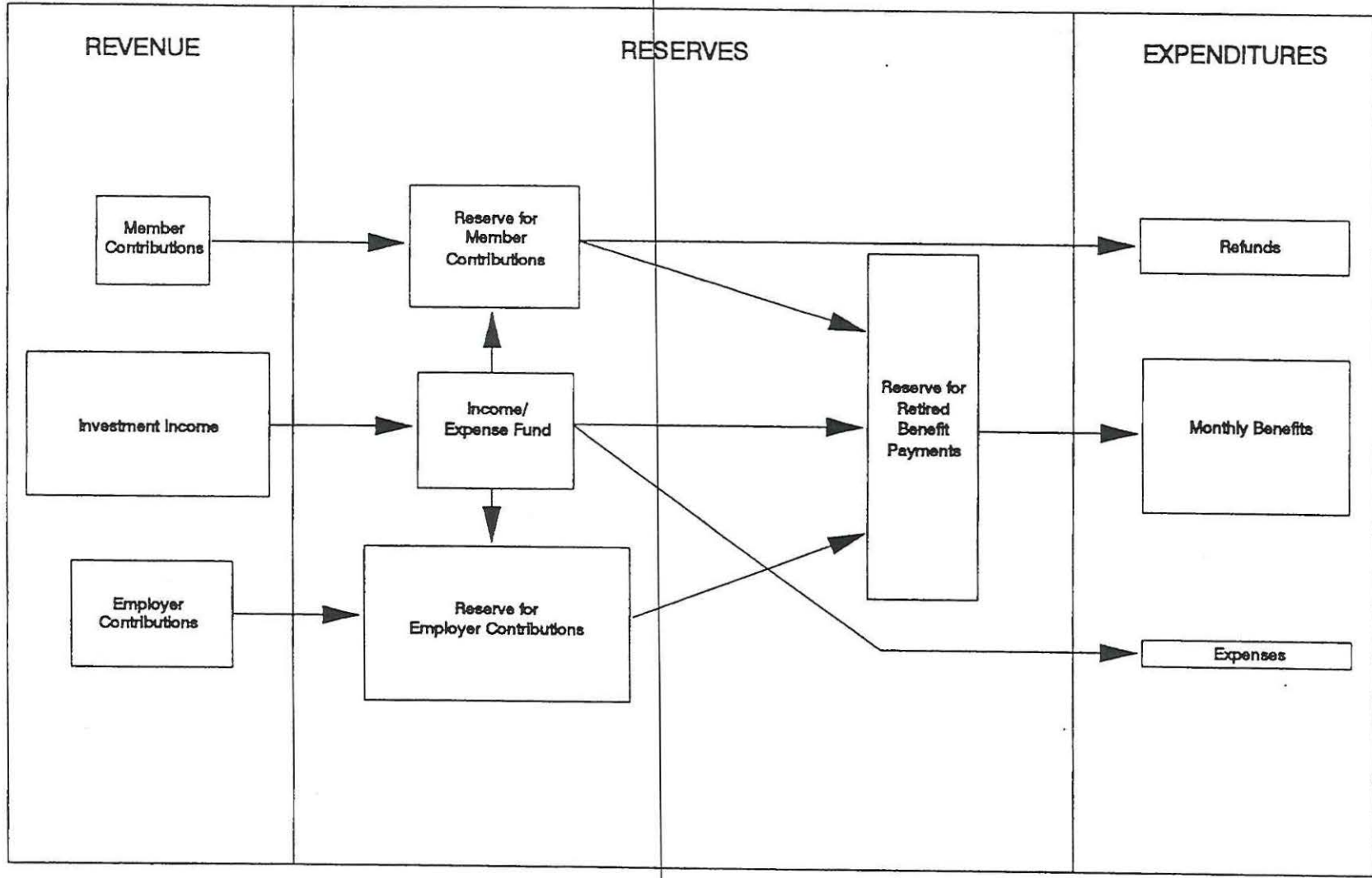
- D. + *Assumptions concerning future experience* in various risk areas

- 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. 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 A.S.A. and ultimately to Fellowship with the designation F.S.A.

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.

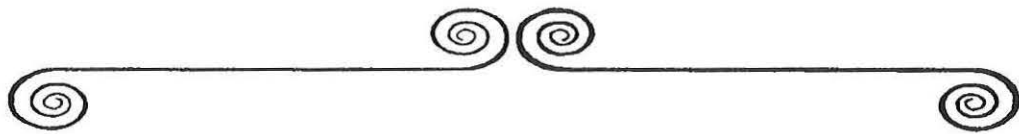
Each time a plan adds a new benefit which applies to service already rendered, an "actuarial accrued liability" is created, which is also an "unfunded actuarial accrued liability" because the plan can't print instant cash to cover the value of the new benefit promises. Payment for such unfunded actuarial accrued liabilities is spread over a period of years, commonly in the 15-40 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 X
GASB Reporting



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

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

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
1987	\$16,231	\$11,975	\$4,256	74 %	\$4,543	94 %
1988	17,246	13,249	3,997	77 %	5,307	75 %
1989	18,310	14,629	3,681	80 %	5,597	66 %
1990	20,125	16,245	3,880	81 %	6,036	64 %
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 %

* Revised actuarial assumptions.

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

Year Ended December 31	Annual Required Contributions	Percentage Contributed
1989	\$571,866,966	100%
1990	558,119,779	100%
1991	607,811,880	100%
1992	646,170,989	100%
1993	663,680,518	100%
1994	693,802,578	100%
1995	725,893,573	100%
1996	777,781,045	100%
1997	811,485,028	100%
1998	886,684,171	100%
1999	935,429,955	100%

* *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**

	December 31, 1999				
	State Group	Local Group	Law A Group	Law B Group	Total
Accrued Liabilities					
Active and Inactive Members	\$ 10,298,140,226	\$ 14,642,847,777	\$ 158,255,350	\$ 921,580,510	\$ 26,020,823,863
Retirees and Beneficiaries	7,119,426,469	9,483,454,159	0	446,694,113	17,049,574,741
Total Accrued Liabilities	\$ 17,417,566,695	\$ 24,126,301,936	\$ 158,255,350	\$ 1,368,274,623	\$ 43,070,398,604
Assets					
Active and Inactive Members					
EAF*	\$ 6,399,384,344	\$ 8,708,985,252	\$ 109,979,834	\$ 576,519,607	\$ 15,794,869,037
ESF	2,738,920,054	3,967,099,054	33,217,785	205,552,268	6,944,789,161
MVA	1,336,333,377	1,821,443,048	11,770,386	101,000,626	3,270,547,437
Total Active and Inactive Assets	10,474,637,775	14,497,527,354	154,968,005	883,072,501	26,010,205,635
Retirees and Beneficiaries					
A & PR Fund*	6,787,529,483	8,925,110,957	0	426,037,376	16,138,677,816
SBF Fund*	331,896,986	558,343,204	0	20,656,739	910,896,929
Total R&B Assets	7,119,426,469	9,483,454,161	0	446,694,115	17,049,574,745
Total Assets	\$ 17,594,064,244	\$ 23,980,981,515	\$ 154,968,005	\$ 1,329,766,616	\$ 43,059,780,380
Unfunded Actuarial Accrued Liability	\$ (176,497,549)	\$ 145,320,421	\$ 3,287,345	\$ 38,508,007	\$ 10,618,224

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

* After reserve transfers