

pmc

March 13, 1990

Foster Higgins

Board of Pensions and Retirement
City of Philadelphia
Two Penn Center, 20th Floor
Philadelphia, Pennsylvania 19102

Ladies and Gentlemen:

We respectfully present the results of our July 1, 1989 actuarial valuation of the City of Philadelphia Municipal Retirement System.

The employee data and the financial information used in this report were provided by the City and the Board of Pensions and Retirement. The actuarial valuation report may be used to support contributions to the Retirement System for the fiscal year ending June 30, 1991.

A summary of the results from the actuarial valuation are:

Actuarial Accrued Liability as of July 1, 1989	\$3,734,028,000
---	-----------------

Assets as of July 1, 1989 for Valuation Purposes	\$1,616,256,000
---	-----------------

Unfunded Actuarial Accrued Liability as of July 1, 1989	\$2,117,773,000
--	-----------------

City Normal Cost as a Percent of Payroll
for the Year, Assuming Payment is Made
at the Beginning of Year (Before Deduction
of Contributions from the Commonwealth of
Pennsylvania):

1967 Plan

Municipal Division	5.830%
Police Division	8.695
Fire Division	8.553

Plan 87

Municipal Division	4.593%
Elected Division	5.807
Police Division	6.630
Fire Division	6.773

<u>Combined Plans</u>	6.636%
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Board of Pensions and Retirement
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The actuarial assumptions underlying these calculations represent the actuary's best estimate of anticipated future experience of the Retirement System. The valuation was prepared using the Board approved changes in the actuarial assumptions as a result of the finding of the 5-year experience study as of July 1, 1989 and the change in the asset adjustment method. The net impact of the assumption changes on the annual payment toward the unfunded actuarial accrued liability is a reduction of \$10,789,000.

This year's costs also reflect the cost impact of the early retirement window and cost-of-living adjustments to the police and firemen retirees' benefits. These two changes had a net cost impact of increasing the annual payment toward the unfunded actuarial accrued liability by \$15,446,000. However, the cost-of-living adjustment to the police and firemen retirees' benefits will be partially reimbursed by the State on a pay-as-you-go basis over the next 10 years.

The City's funding policy provides for (i) payment of the normal cost in accordance with the calculations made by the actuary plus (ii) level dollar payments toward amortization of the Bogen and Dombrowski unfunded actuarial accrued liabilities plus (iii) payments increasing 6.0% per annum toward the amortization of the unfunded actuarial accrued liability established on July 1, 1985 plus (iv) level dollar payments toward amortization of any plan changes or actuarial gains and losses which occur after July 1, 1985.

For the year beginning July 1, 1990 and ending June 30, 1991, these requirements provide for the following payments:

(Illustration on following page)

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Annual Payment Toward
Unfunded Actuarial Accrued Liability
(\$000 Omitted)

	<u>Payments</u>	
	<u>Beginning of Year</u>	<u>End of Year</u>
Dombrowski Liability	\$ 3,498	\$ 3,813
Bogen Liability	4,618	5,034
Initial July 1, 1985 Unfunded Liability	101,691	110,843
Changes Effective July 1, 1986	(12,275)	(13,380)
Changes Effective July 1, 1987	2,479	2,702
Changes Effective July 1, 1988	12,263	13,367
Changes Effective July 1, 1989	<u>9,706</u>	<u>10,580</u>
Total Payment	\$121,980	\$132,959

A measure of the funding status is produced from the ratio of the actuarial value of the assets to the actuarial accrued liability. A comparison of this ratio as of July 1, 1988 and July 1, 1989 follows:

	<u>(\$000 Omitted)</u>	
	<u>1988</u>	<u>1989</u>
Actuarial Value of Assets	\$1,548,541	\$1,616,256
Actuarial Accrued Liability	\$3,519,251	\$3,734,028
Funding Ratio	44.0%	43.3%

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This report contains supporting data and background material pertinent to the determination of the normal cost and accrued liabilities of the Retirement System.

Respectfully submitted by:

A. FOSTER HIGGINS & CO., INC.

A handwritten signature in dark ink, appearing to read "Albert Pike, 3rd". The signature is fluid and cursive, with a large initial "A" and a long, sweeping underline.

Albert Pike, 3rd, F.C.A.
Principal

AP/KAK/JAH/snw/sdt
PCYA/VAL/90/1A

CITY OF PHILADELPHIA
MUNICIPAL RETIREMENT SYSTEM

ACTUARIAL VALUATION REPORT
AS OF
JULY 1, 1989

Prepared by:

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March 13, 1990
Washington, D.C.

Foster Higgins

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PART I
SUMMARY AND ANALYSIS OF FINDINGS

This is a summary of the findings of the actuarial valuation and analysis of the change in cost and liabilities as of July 1, 1989 of the City of Philadelphia Municipal Retirement System.

A. Summary of Findings

The results of the actuarial valuation for all divisions combined is presented in the following table. Determined as of July 1, 1989, these values are the basis upon which the City contributions for the fiscal year beginning July 1, 1990 and ending June 30, 1991 will be calculated. The valuation reflects the funding requirements of the Municipal Pension Plan Funding Standard and Recovery Act (Act 205) enacted December 18, 1984.

<u>July 1, 1989 Actuarial Valuation</u> (\$000 Omitted)	
1. Participants	
a. Active	31,383
b. Retired and Beneficiaries	23,398
c. Disabled	4,633
d. Terminated Vested	520
e. Total	<u>59,934</u>
2. Total Annual Salaries	\$ 852,857
3. Net Actuarial Accrued Liability	\$3,734,028
4. Assets for Valuation Purposes	\$1,616,256
5. Unfunded Actuarial Accrued Liability	\$2,117,773
6. City Normal Cost as of Percent of Payroll (Before Deduction of Contributions from Commonwealth)	
a. Assuming Beginning of Year Payment	6.636%
b. Assuming End of Year Payment	7.233%

Part II presents further detail with respect to these determinations. In addition, it includes a comparison between official funding policies with funding standards specified under generally accepted accounting principles (GAAP) and the estimated progress of the fund for the 20-year period of July 1, 1989 through June 30, 2009.

B. Analysis of Findings

A comparison of the current July 1, 1989 valuation with the prior July 1, 1988 valuation is as follows:

	Valuation		
	(\$000 Omitted)		
	July 1, 1988	July 1, 1989	Change
City Normal Cost Rate Assuming Payment at Beginning of Year			
<u>1967 Plan:</u>			
Municipal Division	6.694%	5.830	-.864%
Police Division	9.167	8.695	-.472
Fire Division	9.081	8.553	-.528
 <u>Plan 87:</u>			
Municipal Division	5.402%	4.593	-.809%
Elected Officials	5.944	5.807	-.137
Police Division	7.260	6.630	-.630
Fire Division	<u>6.802</u>	<u>6.773</u>	<u>-.029</u>
Total	7.405%	6.636%	-.769%
Unfunded Actuarial Accrued Liability	\$1,970,709	\$2,117,773	\$147,064

The above normal cost rate changes are primarily the result of actuarial assumption changes adopted as a result of the 5-year experience study as of July 1, 1989. The unfunded actuarial accrued liability change

results from the early retirement window and the State-mandated cost-of-living adjustment for the police and firemen retirees' benefits.

C. Actuarial Experience and Other Changes

During the plan year ending June 30, 1989, the aggregate change in the unfunded actuarial accrued liability was an increase of \$66,519,000, as summarized by the table on the following page. The majority of the increases during the year were the direct result of benefit enhancements -- the early retirement window and the State-mandated COLA which increased liabilities by \$111,204,000.

The actuarial experience is a net gain of \$29,686,000. This includes favorable investment experience with a return on the old adjusted asset value of 9.1% as compared to the assumed rate of 9%. The excess return offset the impact of the change in bond rationalization which created a loss due to the continued drop in interest rates from July 1, 1988 through June 30, 1989.

The Asset Valuation Method has been changed as of July 1, 1989 as approved by the Board. The impact this change has made on experience is an actuarial gain.

There was a net loss in the aggregate on the non-economic assumptions due to actual experience as compared to the assumed rates of retirement, death, disability, non-vested termination, and salary increases.

Finally, there was a net decrease in liability due to the adoption of the changes in rates of retirement, death, disability, and non-vested termination as developed in the recent 5-year experience study as of July 1, 1989 and approved by the Board.

D. Employee Contributions

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This table shows employee contribution rates as of July 1, 1989:

	<u>Municipal</u>	<u>Elected</u>	<u>Police</u>	<u>Fire</u>
1967 Plan	3.78%	--	6.00%	6.00%
Plan 87	1.97%	8.62%	5.00%	5.00%

For Plan 87, municipal employees are to contribute 30% of the gross normal cost. Police and firefighters are to contribute 5% of pay, but not less than 30% or more than 50% of gross normal cost. Elected officials contribute 30% of the gross normal cost calculated under the municipal plan plus 100% of the gross normal cost due to additional benefits payable under the elected officials plan.

E. Funding Method

Act 205 requires the unfunded actuarial accrued liability be funded in annual level dollar payments. Because the City of Philadelphia has been classified as a Distress Level III municipality, it is exempted from this requirement with respect to unfunded liabilities as of July 1, 1985 and are amortizing the unfunded actuarial accrued liability as follows:

1. The remaining July 1, 1985 unfunded actuarial accrued liability (net of the Bogen and Dombrowski class action obligations) is amortized over 40 years ending June 30, 2019 in annual payments increasing 6% per annum.
2. Changes in the actuarial accrued liability realized after July 1, 1985 are amortized in level dollar payments over the period of years shown as follows:

a. Changes in actuarial assumptions	20 years
b. Experience gains and losses	15 years
c. Benefit modifications for active members	20 years
d. Benefit modifications for non-active members	10 years

This valuation determines the City's contribution requirements for the fiscal year ending June 30, 1991. Because of the one-year delay in the recognition of the report's findings, the unfunded actuarial accrued liability is adjusted from July 1, 1989 to July 1, 1990 to recognize the one-year delay. The following table summarizes the derivation of the unfunded actuarial accrued liability payment for the fiscal year ending June 30, 1991:

Total Annual Payment for
Fiscal Year Ending June 30, 1991
Toward the Unfunded Actuarial Accrued Liability
(\$000 Omitted)

	<u>End-of-Year Payments</u>
1. Expected June 30, 1991 Payment Based on July 1, 1988 Actuarial Valuation:	
a. Dombrowski	\$ 3,813
b. Bogen	5,034
c. Remaining	113,532
d. Subtotal	<u>\$122,379</u>
2. Changes in Payment Based on July 1, 1989 Actuarial Valuation:	
a. (Gains)/Losses (15-Year Amortization)	\$ 5,923
b. Asset Method Change (15-Year Amortization)	(1,909)
c. Actuarial Assumption Changes (20-Year Amortization)	(8,880)
d. Non-Active Benefit Changes (10-Year Amortization)	7,297
e. Active Benefit Changes (20-Year Amortization)	8,149
f. Subtotal	<u>\$ 10,580</u>
3. Total Annual Payment as of June 30, 1991 Based on July 1, 1989 Valuation: (1d) + (2d)	<u>\$132,959</u>

F. Other Report Sections

Part III presents supporting tables including an employee age/service "scatter" along with salaries by age groupings and by service groupings. In addition, tables showing current pension amounts by age are presented.

Part IV summarizes financial information used in the valuation, including a statement of assets and a statement of receipts and disbursements for the fiscal year ending June 30, 1989.

Part V presents the salient features of the Retirement System on which valuation determinations are based.

Part VI presents the actuarial cost method, factors and assumptions used in determining costs.

Part VII presents the actuarial present value of projected benefit obligation determined in accordance with Statement No. 5 of the Government Accounting Standards Board. This Part reflects a measurement of the accrued benefits for the Retirement System as of July 1, 1989 and relates the value of these accrued benefits to the cost value of funds available.

PART II
DERIVATION OF COSTS

In this part, the costs of the Retirement System are developed. Cost estimates have been determined on the basis of the entry age actuarial cost method. The cost estimates derived in this July 1, 1989 actuarial valuation will be used as the basis for pension costs for the fiscal year ending June 30, 1991. Pension costs are made up of two components, the normal cost and the payment towards the unfunded actuarial accrued liability.

Derivation of Normal Cost

The normal cost is determined as the sum of the individual normal costs determined for each member based on the assumption that the plan had always been in existence and the actuarial assumptions underlying the cost determinations had been exactly realized. Benefits payable under every circumstance (i.e., retirement, death, disability and termination) are included in the calculations. From this normal cost is subtracted the anticipated employee contributions to be made during the year to determine the City normal cost (before deducting contributions from the Commonwealth of Pennsylvania). The City's normal cost is divided by total payroll to determine the normal cost as a percent of pay for each division and the entire System.

Derivation of the Unfunded Actuarial Accrued Liability

The actuarial accrued liability is determined as the sum of the actuarial present value of all normal costs which would have accumulated if the assumed normal cost had always been contributed in the past and the actuarial assumptions had been exactly realized.

The valuation assets are determined as of July 1, 1989 on an actuarial asset method, adopted this year, which will smooth investment experience over a 5-year period to minimize the volatility of the market and interest environment on the Retirement System's cost. The method adopted spreads gains or losses, as measured against the 9% investment yield assumption, over 5 years prospectively.

From the accrued liability is subtracted the assets of the fund to determine the unfunded actuarial accrued liability as of the valuation date.

Experience gains and losses are determined as the difference between the expected unfunded actuarial accrued liability and the actual unfunded actuarial accrued liability (as determined in the preceding paragraphs) both calculated as of the valuation date.

The portion of the unfunded actuarial accrued liability attributable to the Dombrowski class action suit is amortized in level dollar payments over 40 years ending June 30, 2009. The portion of the unfunded actuarial accrued liability attributable to the Bogen class action suit is amortized in level dollar payments over 20 years ending June 30, 1992. The remaining July 1, 1985 unfunded actuarial accrued liability is amortized over 40 years ending June 30, 2019 in annual payments increasing 6.0% per annum. Changes in the actuarial accrued liability realized after July 1, 1985 are amortized in level dollar payments over the period of years shown on the following page.

- a. Changes in actuarial assumptions: 20 years
- b. Experience gains and losses: 15 years
- c. Benefit modifications applicable to active members: 20 years
- d. Benefit modifications applicable to non-active members: 10 years

A detailed analysis of the derivation of plan costs is presented in the following Tables 1 through 6.

TABLE 1
DERIVATION OF NORMAL COST AS OF JULY 1, 1989 1/
(\$000 OMITTED)

	1967 PLAN			PLAN 87				TOTAL
	MUNICIPAL	POLICE	FIRE	MUNICIPAL	ELECTED	POLICE	FIRE	
1. Number of Active Members	21,016	5,651	2,279	1,686	11	611	129	31,383
2. Total Normal Cost								
a. Service Retirement	\$ 30,305	\$ 18,319	\$ 7,345	\$ 1,290	\$ 52	\$ 1,048	\$ 229	\$ 58,589
b. Pre-Retirement Death	3,711	1,166	478	180	5	90	21	5,650
c. Disability Retirement	5,128	4,102	1,643	179	3	356	81	11,492
d. Vested Termination	7,113	983	420	318	1	263	57	9,156
e. Refund of Non-Vested Members' Contributions	3,458	887	385	137	4	92	20	4,983
f. Health Care Benefit	0	27	12	0	0	2	1	42
g. Administrative Expenses	2,504	889	348	110	1	40	8	3,900
h. Total	\$ 52,219	\$ 26,373	\$10,631	\$ 2,214	\$ 67	\$ 1,891	\$ 417	\$ 93,811
3. Expected Employee Contributions	\$ 20,372	\$ 10,768	\$ 4,379	\$ 664	\$ 40	\$ 813	\$ 177	\$ 37,212
4. City Normal Cost: (2h) - (3)	\$ 31,847	\$ 15,605	\$ 6,252	\$ 1,550	\$ 27	\$ 1,078	\$ 240	\$ 56,598
5. Current Total Annual Payroll	\$546,289	\$179,462	\$73,103	\$33,740	\$463	\$16,261	\$3,539	\$852,857
6. City Normal Cost as a Percent of Pay Assuming Payment at Beginning of Year: (4) / (5)	5.830%	8.695%	8.553%	4.593%	5.807%	6.630%	6.773%	6.636%
7. City Normal Cost as a Percent of Pay Assuming Payment at End of Year: (6) x 1.09	6.355%	9.478%	9.323%	5.006%	6.330%	7.227%	7.383%	7.233%

1/ Numbers may not add due to rounding.

TABLE 2

DERIVATION OF UNFUNDED ACTUARIAL
ACCRUED LIABILITY AS OF JULY 1, 1989 1/
(\$000 OMITTED)

	1967 PLAN			PLAN 87				TOTAL
	MUNICIPAL	POLICE	FIRE	MUNICIPAL	ELECTED	POLICE	FIRE	
1. Number of Members								
a. Active	21,016	5,651	2,279	1,686	11	611	129	31,383
b. Retired	15,064	5,809	2,525	0	0	0	0	23,398
c. Disabled	1,994	2,114	525	0	0	0	0	4,633
d. Terminated Vested	405	97	18	0	0	0	0	520
e. Total	38,479	13,671	5,347	1,686	11	611	129	59,934
2. Total Annual Benefits								
a. Retired	\$ 113,664	\$ 64,548	\$ 25,935	\$ 0	\$ 0	\$ 0	\$ 0	\$ 204,147
b. Disabled	16,973	25,227	6,886	0	0	0	0	49,086
c. Terminated Vested	2,432	490	83	0	0	0	0	3,005
d. Total	\$ 133,069	\$ 90,265	\$ 32,904	\$ 0	\$ 0	\$ 0	\$ 0	\$ 256,238
3. Present Value of Benefits								
a. Active Members								
(i) Service Retirement	\$ 943,587	\$ 600,625	\$262,562	\$14,505	\$1,410	\$13,790	\$3,022	\$1,839,502
(ii) Pre-Retirement Death	96,002	26,494	11,366	2,047	106	1,159	270	137,444
(iii) Disability Retirement	123,969	82,684	34,611	2,175	84	4,589	1,046	249,159
(iv) Vested Termination	165,820	13,847	5,126	3,817	35	3,526	780	192,952
(v) Refund of Non-Vested Members' Contributions	10,248	1,282	233	1,385	7	1,204	257	14,616
(vi) Health Care Benefit	0	443	204	0	0	28	7	682
(vii) Subtotal	\$1,339,626	\$ 725,376	\$314,103	\$23,930	\$1,642	\$24,296	\$5,382	\$2,434,355
b. Non-Active Members								
(i) Service Retired	\$ 897,073	\$ 563,045	\$207,340	\$ 0	\$ 0	\$ 0	\$ 0	\$1,667,458
(ii) Disabled	124,864	214,953	57,814	0	0	0	0	397,630
(iii) Terminated Vested	16,382	5,434	880	0	0	0	0	22,696
(iv) Non-Vested Members' Contributions	1,312	161	93	0	0	0	0	1,566
(v) Health Care Benefit	0	3,493	1,747	0	0	0	0	2,239
(vi) Subtotal	\$1,039,630	\$ 787,085	\$267,874	\$ 0	\$ 0	\$ 0	\$ 0	\$2,094,589
c. Total	\$2,379,256	\$1,512,461	\$581,977	\$23,930	\$1,642	\$24,296	\$5,382	\$4,528,944
4. Present Value of Future Normal Costs								
a. Service Retirement	\$ 264,004	\$ 153,911	\$ 58,465	\$13,005	\$ 353	\$12,849	\$2,776	\$ 505,362
b. Pre-Retirement Death	34,637	9,816	3,793	1,847	33	1,109	256	51,490
c. Disability Retirement	47,621	34,383	13,071	1,955	25	4,350	976	102,182
d. Vested Termination	72,233	8,382	3,233	3,420	13	3,334	718	91,332
e. Refund of Non-Vested Members' Contributions	31,276	7,159	2,873	1,275	28	1,147	239	43,996
f. Health Care Benefit	0	223	96	0	0	27	7	352
g. Total	\$ 449,771	\$ 213,873	\$ 81,532	\$21,502	\$ 451	\$22,815	\$4,972	\$ 794,915

1/ Numbers may not add due to rounding.

TABLE 2 (CONTINUED)

DERIVATION OF UNFUNDED ACTUARIAL
ACCRUED LIABILITY AS OF JULY 1, 1989 1/
 (\$000 OMITTED)

	1967 PLAN			PLAN 87				TOTAL
	MUNICIPAL	POLICE	FIRE	MUNICIPAL	ELECTED	POLICE	FIRE	
5. Actuarial Accrued Liability: (3) - (4)								
a. Active Members								
(i) Service Retirement	\$ 679,583	\$ 446,715	\$ 204,097	\$ 1,500	\$1,057	\$ 942	\$ 246	\$1,334,139
(ii) Pre-Retirement Death	61,364	16,679	7,573	200	73	50	15	85,954
(iii) Disability Retirement	76,347	48,301	21,540	220	60	239	70	146,777
(iv) Vested Termination	93,588	5,465	1,893	397	23	192	62	101,619
(v) Refund of Non-Vested Members' Contributions	(21,028)	(5,877)	(2,640)	110	(21)	57	17	(29,380)
(vi) Health Care Benefit	0	220	109	0	0	1	0	330
(vii) Subtotal	\$ 889,855	\$ 511,503	\$ 232,571	\$ 2,428	\$1,192	\$1,481	\$ 410	\$1,639,440
b. Non-Active Members								
(i) Service Retired	\$ 897,073	\$ 563,045	\$ 207,340	\$ 0	\$ 0	\$ 0	\$ 0	\$1,667,458
(ii) Disabled	124,864	214,953	57,814	0	0	0	0	397,630
(iii) Terminated Vested	16,382	5,434	880	0	0	0	0	22,696
(iv) Non-Vested Members' Contributions	1,312	161	93	0	0	0	0	1,566
(v) Health Care Benefit	0	3,493	1,747	0	0	0	0	5,239
(vi) Subtotal	\$1,039,630	\$ 787,085	\$ 267,874	\$ 0	\$ 0	\$ 0	\$ 0	\$2,094,589
c. Total	\$1,929,485	\$1,298,588	\$ 500,445	\$ 2,428	\$1,192	\$1,481	\$ 410	\$3,734,028
6. Assets for Valuation Purposes	\$ 878,789	\$ 519,174	\$ 211,181	\$ 3,967	\$ 116	\$2,331	\$ 696	\$1,616,256
7. Unfunded Actuarial Accrued Liability: (5c) - (6)	\$1,050,696	\$ 779,414	\$ 289,264	\$ (1,539)	\$1,076	\$ (850)	\$ (286)	\$2,117,773

1/ Numbers may not add due to rounding.

TABLE 4(A)
DEVELOPMENT OF MUNICIPAL DIVISION (1967 PLAN) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
(S000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	EXPECTED BALANCE JULY 1, 1990	FISCAL YEAR ENDING JUNE 30, 1991 AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation:				
a. Dombrowski	\$ 18,372	\$ 18,013	19	\$ 2,013
b. Bogen	6,726	4,674	2	2,657
c. Remaining	<u>1,034,721</u>	<u>1,074,113</u>	--	<u>57,037 2/</u>
d. Subtotal	\$1,059,819	\$1,096,801	--	\$61,707
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ 1,277	\$ 1,392	15	\$ 173
b. Asset Method Change	(6,236)	(6,797)	15	(843)
c. Actuarial Assumption Changes	(52,577)	(57,308)	20	(6,278)
d. Non-Active Benefit Changes	0	0	10	0
e. Active Benefit Changes	<u>48,412</u>	<u>52,769</u>	20	<u>5,781</u>
f. Subtotal	\$ (9,124)	\$ (9,944)	--	\$(1,167)
3. Total: (1d) + (2f)	\$1,050,696	\$1,086,857	--	\$60,540

1/ Numbers may not add due to rounding.

2/ Payment increasing 6% per annum, all other payments are level dollar.

TABLE 4(B)

DEVELOPMENT OF POLICE DIVISION (1967 PLAN) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
(\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	EXPECTED BALANCE JULY 1, 1990	FISCAL YEAR ENDING JUNE 30, 1991 AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation:				
a. Dombrowski	\$ 11,753	\$ 11,523	19	\$ 1,287
b. Bogen	4,303	2,990	2	1,700
c. Remaining	<u>707,600</u>	<u>731,133</u>	--	<u>42,274 2/</u>
d. Subtotal	\$723,656	\$745,646	--	\$45,261
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ 33,174	\$ 36,160	15	\$ 4,486
b. Asset Method Change	(6,219)	(6,779)	15	(841)
c. Actuarial Assumption Changes	(15,344)	(16,725)	20	(1,832)
d. Non-Active Benefit Changes	30,611	33,366	10	5,199
e. Active Benefit Changes	<u>13,537</u>	<u>14,755</u>	20	<u>1,616</u>
f. Subtotal	\$ 55,758	\$ 60,776	--	\$ 8,628
3. Total: (1d) + (2f)	\$779,414	\$806,422	--	\$53,889

1/ Numbers may not add due to rounding.

2/ Payment increasing 6% per annum, all other payments are level dollar.

TABLE 4(C)

DEVELOPMENT OF FIRE DIVISION (1967 PLAN) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
(\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	FISCAL YEAR ENDING JUNE 30, 1991		
		EXPECTED BALANCE JULY 1, 1990	AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation:				
a. Dombrowski	\$ 4,680	\$ 4,588	19	\$ 513
b. Bogen	1,713	1,191	2	677
c. Remaining	<u>261,521</u>	<u>271,667</u>	--	<u>14,237 2/</u>
d. Subtotal	\$267,914	\$277,446	--	\$15,427
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ 10,581	\$ 11,533	15	\$ 1,431
b. Asset Method Change	(1,721)	(1,876)	15	(233)
c. Actuarial Assumption Changes	(6,155)	(6,709)	20	(735)
d. Non-Active Benefit Changes	12,352	13,463	10	2,098
e. Active Benefit Changes	<u>6,294</u>	<u>6,860</u>	20	<u>752</u>
f. Subtotal	\$ 21,351	\$ 23,271	--	\$ 3,312
3. Total: (1d) + (2f)	\$289,265	\$300,717	--	\$18,739

1/ Numbers may not add due to rounding.

2/ Payment increasing 6% per annum, all other payments are level dollar.

TABLE 4(D)

DEVELOPMENT OF MUNICIPAL DIVISION (PLAN 87) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
(\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	FISCAL YEAR ENDING JUNE 30, 1991		
		EXPECTED BALANCE JULY 1, 1990	AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation	\$ (798)	\$ (771)	--	\$ (99)
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ (548)	\$ (597)	15	\$ (74)
b. Asset Method Change	34	37	15	5
c. Actuarial Assumption Changes	(228)	(248)	20	(27)
d. Non-Active Benefit Changes	0	0	10	0
e. Active Benefit Changes	<u>0</u>	<u>0</u>	20	<u>0</u>
f. Subtotal	\$ (742)	\$ (808)	--	\$ (96)
3. Total: (1) + (2f)	\$ (1,540)	\$ (1,579)	--	\$ (195)

1/ Numbers may not add due to rounding.

TABLE 4(F)

DEVELOPMENT OF POLICE DIVISION (PLAN 87) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
(\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	FISCAL YEAR ENDING JUNE 30, 1991		ANNUAL PAYMENT
		EXPECTED BALANCE JULY 1, 1990	AMORTIZATION PERIOD REMAINING	
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation	\$ (469)	\$ (453)	--	\$ (58)
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ (377)	\$ (411)	15	\$ (51)
b. Asset Method Change	20	22	15	3
c. Actuarial Assumption Changes	(24)	(26)	20	(3)
d. Non-Active Benefit Changes	0	0	10	0
e. Active Benefit Changes	<u>0</u>	<u>0</u>	20	<u>0</u>
f. Subtotal	\$ (381)	\$ (415)		\$ (51)
3. Total: (1) + (2f)	\$ (850)	\$ (868)	--	\$ (109)

1/ Numbers may not add due to rounding.

TABLE 4(C)

DEVELOPMENT OF FIRE DIVISION (PLAN 87) ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
 (\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	EXPECTED BALANCE JULY 1, 1990	FISCAL YEAR ENDING JUNE 30, 1991 AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation	\$ (63)	\$ (62)	--	\$ (7)
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$(223)	\$(243)	15	\$(30)
b. Asset Method Change	6	7	15	1
c. Actuarial Assumption Changes	(7)	(7)	20	(1)
d. Non-Active Benefit Changes	0	0	10	0
e. Active Benefit Changes	<u>0</u>	<u>0</u>	20	<u>0</u>
f. Subtotal	\$(224)	\$(243)	--	\$(30)
3. Total: (1) + (2f)	\$(287)	\$(304)	--	\$(37)

1/ Numbers may not add due to rounding.

TABLE 4(H)

DEVELOPMENT OF TOTAL ANNUAL PAYMENT TOWARD THE
UNFUNDED ACTUARIAL ACCRUED LIABILITY FOR FISCAL YEAR ENDING JUNE 30, 1991 1/
 (\$000 OMITTED)

	OUTSTANDING BALANCE JULY 1, 1989	EXPECTED BALANCE JULY 1, 1990	FISCAL YEAR ENDING JUNE 30, 1991 AMORTIZATION PERIOD REMAINING	ANNUAL PAYMENT
1. Expected July 1, 1989 Unfunded Actuarial Accrued Liability Based on July 1, 1988 Valuation:				
a. Dombrowski	\$ 34,805	\$ 34,125	19	\$ 3,813
b. Bogen	12,742	8,855	2	5,034
c. Remaining	<u>2,003,707</u>	<u>2,076,782</u>	--	<u>113,533 2/</u>
d. Subtotal	\$2,051,254	\$2,119,762	--	\$122,379
2. Changes in Unfunded Actuarial Accrued Liability as of July 1, 1989:				
a. (Gains)/Losses	\$ 43,801	\$ 47,743	15	\$ 5,923
b. Asset Method Change	(14,115)	(15,385)	15	(1,909)
c. Actuarial Assumption Changes	(74,372)	(81,065)	20	(8,880)
d. Non-Active Benefit Changes	42,962	46,829	10	7,297
e. Active Benefit Changes	<u>68,242</u>	<u>74,384</u>	20	<u>8,149</u>
f. Subtotal	\$ 66,519	\$ 72,506	--	\$ 10,579
3. Total: (1d) + (2f)	\$2,117,773	\$2,192,267	--	\$132,959

1/ Numbers may not add due to rounding.

2/ Payment increasing 6% per annum, all other payments are level dollar.

TABLE 5

**SCHEDULE OF ANNUAL PAYMENTS TO FUND THE
ANTICIPATED JULY 1, 1990 UNFUNDED ACTUARIAL ACCRUED LIABILITY 1/
(\$000 OMITTED)**

FISCAL YEAR ENDING JUNE 30	ANNUAL PAYMENT (MADE AT END OF YEAR) TOWARD:								PROGRESS OF UNFUNDED ACTU- ARIAL ACCRUED LIABILITY	ESTIMATED ANNUAL PAYROLL	ANNUAL PERCENT AS A PERCENT OF PAYROLL
	1967 PLAN			PLAN 87				TOTAL			
	MUNICIPAL	POLICE	FIRE	MUNICIPAL	ELECTED	POLICE	FIRE				
1990	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$2,192,267	\$ 852,857	N/A
1991	\$ 60,540	\$ 53,889	\$ 18,739	\$(195)	\$133	\$(109)	\$(37)	\$132,959	2,256,613	904,029	14.7%
1992	64,042	56,139	19,637	(195)	133	(109)	(37)	139,609	2,320,099	958,270	14.6
1993	65,099	56,825	19,911	(195)	133	(109)	(37)	141,625	2,387,283	1,015,766	13.9
1994	69,035	59,353	20,920	(195)	133	(109)	(37)	149,097	2,453,041	1,076,712	13.8
1995	73,207	62,032	21,988	(195)	133	(109)	(37)	157,018	2,516,796	1,141,315	13.8
1996	77,630	64,873	23,121	(195)	133	(109)	(37)	165,415	2,577,893	1,209,794	13.7
1997	82,318	67,884	24,322	(195)	133	(109)	(37)	174,315	2,635,589	1,282,382	13.6
1998	86,847	70,534	25,387	(195)	133	(109)	(37)	182,559	2,690,233	1,359,325	13.4
1999	92,115	73,916	26,736	(195)	133	(109)	(37)	192,557	2,739,797	1,440,884	13.4
2000	97,698	77,502	28,166	(195)	133	(109)	(37)	203,157	2,783,222	1,527,337	13.3
2001	103,617	76,104	27,584	(195)	133	(109)	(37)	207,096	2,826,616	1,618,977	12.8
2002	109,891	80,133	29,192	(195)	133	(109)	(37)	219,006	2,862,006	1,716,116	12.8
2003	125,509	88,425	33,024	(195)	133	(109)	(37)	246,748	2,872,839	1,819,083	13.6
2004	132,508	90,775	34,381	(195)	133	(117)	(56)	257,429	2,873,965	1,928,228	13.4
2005	133,336	89,541	35,564	(97)	(16)	(51)	(30)	258,247	2,874,374	2,043,922	12.6
2006	141,927	90,983	36,395	(27)	(4)	(3)	(1)	269,269	2,863,799	2,166,557	12.4
2007	150,322	96,375	38,546	(27)	(4)	(3)	(1)	285,208	2,836,333	2,296,550	12.4
2008	158,738	102,049	40,805	(27)	(4)	(3)	(1)	301,556	2,790,046	2,434,343	12.4
2009	168,171	108,107	43,221	(27)	(4)	(3)	(1)	319,465	2,721,686	2,580,404	12.4
2010	176,158	113,242	45,270	(27)	(4)	(3)	(1)	334,635	2,632,003	2,735,228	12.2
2011	187,255	120,265	47,969	0	0	0	0	355,489	2,513,394	2,899,342	12.3
2012	198,490	127,481	50,847	0	0	0	0	376,818	2,362,782	3,073,302	12.3
2013	210,399	135,130	53,898	0	0	0	0	399,427	2,176,005	3,257,701	12.3
2014	223,023	143,238	57,132	0	0	0	0	423,393	1,948,453	3,453,163	12.3
2015	236,405	151,832	60,560	0	0	0	0	448,796	1,675,017	3,660,352	12.3
2016	250,589	160,942	64,193	0	0	0	0	475,724	1,350,044	3,879,973	12.3
2017	265,624	170,599	68,045	0	0	0	0	504,268	967,281	4,112,772	12.3
2018	281,562	180,834	72,128	0	0	0	0	534,524	519,812	4,359,538	12.3
2019	298,455	191,685	76,455	0	0	0	0	566,595	0	4,621,110	12.3

1/ Numbers may not add due to rounding.

Comparison of Funding with Requirements of GAAP

The funding policy adopted by the City provides that the Bogen unfunded actuarial accrued liability be amortized in level dollar payments over 20 years ending June 30, 1992 and the Dombrowski unfunded actuarial accrued liability be amortized in level dollar payments over 40 years ending June 30, 2009, as ordered by the Court of Common Pleas of Philadelphia County. The remaining unfunded actuarial accrued liability as of July 1, 1985 is amortized over 40 years ending June 30, 2019 with payments increasing 6.0% per annum. Changes in the actuarial accrued liability realized after July 1, 1985 are amortized in level dollar payments as follows:

- | | |
|--|----------|
| a. Changes in actuarial assumptions: | 20 years |
| b. Experience gains and losses: | 15 years |
| c. Benefit modifications applicable to active members: | 20 years |
| d. Benefit modifications applicable to non-active members: | 10 years |

Table 6 compares this funding policy to amortize the unfunded actuarial accrued liability with the funding standards specified under generally accepted accounting principles (GAAP). The standards specified by GAAP require that the unfunded actuarial accrued liability be funded over 40 years in level dollar payments.

For purposes of this table, the anticipated July 1, 1981 unfunded actuarial accrued liability was used as the starting point. Adjustments resulting from benefit modifications, changes in assumptions, funding method, and/or actuarial experience recognized in subsequent valuations have been reflected in the table. Under GAAP standards, adjustments determined under subsequent valuations are amortized over a 40-year period from when first recognized.

The table shows the annual and accumulated "deficit" between the funding policies of the City and those under GAAP (Columns (10) and (11), respectively). It is important to note that because the funding policies of the City result in the complete amortization of the unfunded actuarial accrued liability, the accumulated deficit between the City's funding policy and GAAP decreases to 0 at the end of the last 40-year GAAP amortization period.

TABLE 6

COMPARISON OF OFFICIAL UNFUNDED ACCRUED LIABILITY FUNDING
WITH FUNDING UNDER THE PROVISIONS OF APB NO. 8 1/
(5000 OMITTED)

SCHEDULE OF ANNUAL PAYMENTS TO FUND THE ANTICIPATED JULY 1, 1990 UNFUNDED ACCRUED LIABILITY								REFLECTION OF COMPARISON BETWEEN OFFICIAL SCHEDULE AND 40-YEAR AMORTIZATION UNDER GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP)		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
ANNUAL PAYMENT (MADE AT END OF YEAR) TOWARD:										
1967 PLAN				PLAN 87						
FISCAL YEAR ENDING JUNE 30	MUNICIPAL UNFUNDED ACCRUED LIABILITY	POLICE UNFUNDED ACCRUED LIABILITY	FIRE UNFUNDED ACCRUED LIABILITY	MUNICIPAL UNFUNDED ACCRUED LIABILITY	ELECTED UNFUNDED ACCRUED LIABILITY	POLICE UNFUNDED ACCRUED LIABILITY	FIRE UNFUNDED ACCRUED LIABILITY	GAAP 40-YEAR AMORTI- ZATION (PER APB NO. 8)	GAAP "DEFICIT" (9)-(8)	ACCUMULATED "DEFICIT" (PRIOR YEAR) x 1.09 + (10)
								TOTAL (1)+(2)+(3)+ (4)+(5)+(6)+(7)		
1982	N/A	N/A	N/A	N/A	N/A	N/A	N/A	\$ 68,257	\$136,206	\$ 67,950
1983	N/A	N/A	N/A	N/A	N/A	N/A	N/A	72,118	136,206	138,153
1984	N/A	N/A	N/A	N/A	N/A	N/A	N/A	73,696	130,870	207,761
1985	N/A	N/A	N/A	N/A	N/A	N/A	N/A	77,912	130,870	279,417
1986	N/A	N/A	N/A	N/A	N/A	N/A	N/A	84,717	125,707	345,554
1987	N/A	N/A	N/A	N/A	N/A	N/A	N/A	95,276	136,909	418,287
1988	N/A	N/A	N/A	N/A	N/A	N/A	N/A	88,533	129,411	496,810
1989	N/A	N/A	N/A	N/A	N/A	N/A	N/A	96,819	131,435	576,139
1990	N/A	N/A	N/A	N/A	N/A	N/A	N/A	116,105	141,451	653,338
1991	\$ 60,540	\$ 53,889	\$ 18,739	\$(195)	\$(37)	\$133	\$(109)	132,959	148,192	727,372
1992	64,042	56,139	19,637	(195)	(37)	133	(109)	139,609	148,192	801,418
1993	65,099	56,825	19,911	(195)	(37)	133	(109)	141,625	148,192	880,112
1994	69,035	59,353	20,920	(195)	(37)	133	(109)	149,097	148,192	958,416
1995	73,207	62,032	21,988	(195)	(37)	133	(109)	157,018	148,192	1,035,846
1996	77,630	64,873	23,121	(195)	(37)	133	(109)	165,415	148,192	1,111,849
1997	82,318	67,884	24,322	(195)	(37)	133	(109)	174,315	148,192	1,185,793
1998	86,847	70,534	25,387	(195)	(37)	133	(109)	182,559	148,192	1,258,147
1999	92,115	73,916	26,736	(195)	(37)	133	(109)	192,557	148,192	1,327,015
2000	97,698	77,502	28,166	(195)	(37)	133	(109)	203,157	148,192	1,391,481
2001	103,617	76,104	27,584	(195)	(37)	133	(109)	207,096	148,192	1,457,810
2002	109,891	80,133	29,192	(195)	(37)	133	(109)	219,006	148,192	1,518,198
2003	125,509	88,425	33,024	(195)	(37)	133	(109)	246,748	148,192	1,556,280
2004	132,508	90,775	34,381	(195)	(56)	133	(117)	257,429	148,192	1,587,108
2005	133,336	89,541	35,564	(97)	(30)	(16)	(51)	258,247	148,192	1,619,891
2006	141,927	90,983	36,395	(27)	(1)	(4)	(3)	269,269	148,192	1,644,604

1/ Numbers may not add due to rounding.

TABLE 6 (CONTINUED)

COMPARISON OF OFFICIAL UNFUNDED ACCRUED LIABILITY FUNDING
WITH FUNDING UNDER THE PROVISIONS OF APB NO. 8 1/
 (\$000 OMITTED)

SCHEDULE OF ANNUAL PAYMENTS TO FUND THE ANTICIPATED JULY 1, 1990 UNFUNDED ACCRUED LIABILITY								REFLECTION OF COMPARISON BETWEEN OFFICIAL SCHEDULE AND 40-YEAR AMORTIZATION UNDER GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP)			
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	
ANNUAL PAYMENT (MADE AT END OF YEAR) TOWARD:											
	1967 PLAN			PLAN 87							
FISCAL YEAR ENDING JUNE 30	MUNICIPAL UNFUNDED ACCRUED LIABILITY	POLICE UNFUNDED ACCRUED LIABILITY	FIRE UNFUNDED ACCRUED LIABILITY	MUNICIPAL UNFUNDED ACCRUED LIABILITY	ELECTED UNFUNDED ACCRUED LIABILITY	POLICE UNFUNDED ACCRUED LIABILITY	FIRE UNFUNDED ACCRUED LIABILITY	GAAP 40-YEAR AMORTI- ZATION (PER APB NO. 8)	GAAP "DEFICIT" (9)-(8)	ACCUMULATED "DEFICIT" (PRIOR YEAR) x 1.09 + (10)	
								TOTAL (1)+(2)+(3)+(4)+(5)+(6)+(7)			
2007	\$150,322	\$ 96,375	\$38,546	\$(27)	\$(1)	\$(4)	\$(3)	\$285,208	\$148,192	\$(137,016)	\$1,655,602
2008	158,738	102,049	40,805	(27)	(1)	(4)	(3)	301,556	148,192	(153,365)	1,651,241
2009	168,171	108,107	43,221	(27)	(1)	(4)	(3)	319,465	148,192	(171,273)	1,628,580
2010	176,158	113,242	45,270	(27)	(1)	(4)	(3)	334,635	148,192	(186,443)	1,588,709
2011	187,255	120,265	47,969	0	0	0	0	355,489	148,192	(207,297)	1,524,395
2012	198,490	127,481	50,847	0	0	0	0	376,818	148,192	(228,627)	1,432,964
2013	210,399	135,130	53,898	0	0	0	0	399,427	148,192	(251,236)	1,310,695
2014	223,023	143,238	57,132	0	0	0	0	423,393	148,192	(275,201)	1,153,457
2015	236,405	151,832	60,560	0	0	0	0	448,796	148,192	(300,605)	956,663
2016	250,589	160,942	64,193	0	0	0	0	475,724	148,192	(327,533)	715,230
2017	265,624	170,599	68,045	0	0	0	0	504,268	148,192	(356,076)	423,524
2018	281,562	180,834	72,128	0	0	0	0	534,524	148,192	(386,332)	75,310
2019	298,455	191,685	76,455	0	0	0	0	566,595	148,192	(418,404)	(336,316)
2020	0	0	0	0	0	0	0	0	148,192	148,192	(218,393)
2021	0	0	0	0	0	0	0	0	148,192	148,192	(89,857)
2022	0	0	0	0	0	0	0	0	11,985	11,985	(85,959)
2023	0	0	0	0	0	0	0	0	11,985	11,985	(81,710)
2024	0	0	0	0	0	0	0	0	17,322	17,322	(71,742)
2025	0	0	0	0	0	0	0	0	17,322	17,322	(60,878)
2026	0	0	0	0	0	0	0	0	22,485	22,485	(43,872)
2027	0	0	0	0	0	0	0	0	11,282	11,282	(36,538)
2028	0	0	0	0	0	0	0	0	18,781	18,781	(21,045)
2029	0	0	0	0	0	0	0	0	16,756	16,756	(6,183)
2030	0	0	0	0	0	0	0	0	6,740	6,740	0

1/ Numbers may not add due to rounding.

Estimated Progress of Pension Fund

The estimated progress of the pension fund for the fiscal years 1990 through 2009 is presented in Table 7. The adjusted market value of fund assets as of July 1, 1989 is used as the starting point. This projection is useful in showing the emerging benefit payments of the fund and the concurrent fund growth. The projection is based upon the same assumptions as used to determine the annual cost and related liabilities of the System.

The City contribution of normal cost plus the scheduled payments toward amortizing the unfunded actuarial accrued liability is used in the projection. The first year of the projection reflects the anticipated City contribution based upon the July 1, 1988 valuation. Subsequent contributions are based upon the July 1, 1989 valuation. The normal cost component of the contribution increases annually by 6.0%, reflecting anticipated increases in the aggregate salary. The employee contributions shown in the projection also increase annually, reflecting assumed salary increases at 6%.

The projection of the fund is limited to the period ending with the fiscal year ending June 30, 2009. Fluctuations from the figures shown within this 20-year period are to be expected.

The underlying trend of fund growth will tend to follow that shown in the table even though the actual numbers will vary. The projection shows that the City and employee combined contributions to the fund no longer exceed the benefits being paid. This results primarily from the impact of the early retirement window. However, expected contributions when combined with expected investment earnings cover the cashflow requirements to meet benefit payments and allow for continued growth of the fund.

TABLE 7

ESTIMATED PROGRESS OF CITY OF PHILADELPHIA MUNICIPAL RETIREMENT
SYSTEM FUND FOR THE PERIOD JULY 1, 1989 THROUGH JUNE 30, 2009 1/
(\$000 OMITTED)

<u>FISCAL YEAR</u> <u>ENDING JUNE 30</u>	<u>FUND AT</u> <u>BEGINNING</u> <u>OF YEAR</u>	<u>CITY</u> <u>CONTRIBUTIONS 2/</u>	<u>EMPLOYEE</u> <u>CONTRIBUTIONS 2/</u>	<u>BENEFIT</u> <u>PAYMENTS 2/</u>	<u>INVESTMENT</u> <u>INCOME</u>	<u>NET</u> <u>INCREASE</u>	<u>FUND AT END</u> <u>OF YEAR</u>
1990	\$1,616,256	\$184,959	\$ 39,084	\$282,616	\$134,504	\$ 75,932	\$1,692,187
1991	1,692,187	198,354	43,111	286,741	141,334	96,057	1,788,245
1992	1,788,245	208,928	45,698	293,425	149,794	110,995	1,899,240
1993	1,899,240	215,103	48,440	302,096	159,517	120,964	2,020,204
1994	2,020,204	226,984	51,346	312,190	170,080	136,221	2,156,425
1995	2,156,425	239,579	54,427	323,723	181,960	152,242	2,308,667
1996	2,308,667	252,928	57,692	336,934	195,214	168,901	2,477,568
1997	2,477,568	267,079	61,154	350,931	209,941	187,244	2,664,812
1998	2,664,812	280,889	64,823	366,391	226,263	205,584	2,870,396
1999	2,870,396	296,787	68,713	383,233	244,182	226,448	3,096,844
2000	3,096,844	313,641	72,835	401,442	263,929	248,963	3,345,807
2001	3,345,807	324,209	77,205	420,152	285,690	266,953	3,612,760
2002	3,612,760	343,146	81,838	439,623	309,048	294,409	3,907,169
2003	3,907,169	378,336	86,748	460,707	334,817	339,194	4,246,363
2004	4,246,363	396,913	91,953	482,737	364,587	370,716	4,617,078
2005	4,617,078	406,100	97,470	505,207	397,189	395,552	5,012,630
2006	5,012,630	425,993	103,318	527,588	432,045	433,768	5,446,398
2007	5,446,398	451,335	109,517	549,099	470,395	482,148	5,928,546
2008	5,928,546	477,651	116,088	569,917	513,147	536,969	6,465,515
2009	6,465,515	506,125	123,054	589,343	560,913	600,749	7,066,264

1/ Numbers may not add due to rounding.

2/ City contributions are assumed to be made at end of year. Employee contributions and benefit payments are assumed to be made mid-year.

PART III
PLAN MEMBERSHIP

Data with respect to active, retired, disabled and terminated vested members as of July 1, 1989 was provided by the Philadelphia Board of Pensions and Retirement for use in the determination of benefit liabilities and annual costs.

The active member data, supplied on tape and on listing, contained information for all employees who were members of the Retirement System as of July 1, 1989. The data contained basic identifying information on each employee in addition to the annual rate of base compensation, overtime pay, longevity payments and employee contribution totals. The data was reviewed for consistency and completeness. The data was also matched against the July 1, 1988 data to verify continued coverage of those members who remained active. Members in 1988 who did not appear as active or new non-active members were then analyzed and allocated to the most probable non-active status.

The non-active member data, also supplied on tape and on listing, contained information for all retired, disabled and terminated vested members as of July 1, 1989. However, no information was available regarding the beneficiaries of current non-active members.

The "Reconciliation of Included Members," shown as follows, summarizes the changes in plan membership for the period between valuations. Based upon the information provided, changes in status due to retirement, disablement, death and new entrants could be identified. However, information regarding transfers, return to employment, and data corrections was not available. As a result, the term "Net Other Terminations" includes the following:

<u>Active:</u>	Terminated and left member contributions on deposit Died without a spouse or beneficiary Returned to work Transferred from one division to another
<u>Retired or Disabled:</u>	Died during the period Returned to employment
<u>Terminated Vested:</u>	Retired or died during the period Returned to employment

The "Summary of Annual Payroll and Annual Benefits" provides a breakdown of payroll for active members and benefit payments for non-active members.

As the following tables illustrate, total plan membership remained relatively stable during the period. The significant increase to the retired members and some of the decrease in active members reflect the early retirement window which occurred since last year. The net change in the number of members and the percentage change is as follows:

	<u>Number of Members</u>	<u>Percentage Increase (Decrease)</u>
Active	-1,680	- 5.1%
Retired	+1,708	+11.9
Surviving Spouses	+ 125	+ 2.0
Other Beneficiaries	+ 63	+ 8.0
Disabled	+ 213	+ 4.8
Terminated Vested	+ 25	+ 5.0

A distribution of the active employees for each division by present age and salary, by service as of July 1, 1989 and salary, and by service and age are presented in Tables 9(A), (B), and (C) through 15(A), (B), and (C).

A distribution of terminated vested members by age and monthly pension is shown in Table 16. Tables 17(A), (B), and (C) present distributions of the municipal division retired and disabled members by number of members, total monthly pensions and the average monthly pension. This information is shown separately for members retiring before and after July 1, 1988. Similarly,

Tables 18(A), (B), and (C) and 19(A), (B), and (C) show this information for retired and disabled police members and fire members respectively.

TABLE 8(A)
RECONCILIATION OF INCLUDED MEMBERS

	1967 PLAN			PLAN 87				
	MUNICIPAL	POLICE	FIRE	MUNICIPAL	ELECTED	POLICE	FIRE	TOTAL
A. <u>Active Members</u>								
1. Active as of July 1, 1988	22,723	6,320	2,492	1,147	11	288	82	33,063
2. New Entrants	+1,252	+ 8	+ 1	+702	0	+318	+50	+2,331
3. Separations from Active Service								
a. Refunded Contributions	- 721	-154	- 11	-225	0	- 4	- 1	-1,116
b. Terminated Vested 1/	- 19	- 5	- 1	0	0	0	0	- 25
c. Became Disabled	- 128	-181	- 57	0	0	0	0	- 366
d. Died	- 69	- 17	- 8	0	0	0	0	- 94
e. Retired	-1,776	-506	-160	0	0	0	0	-2,442
f. Net Other Terminations 2/	- 246	+186	+ 23	+ 62	- 0	+ 2	- 2	+ 32
4. Active as of July 1, 1989	21,016	5,651	2,279	1,686	11	611	129	31,383
B. <u>Retired Members</u>								
1. Retired as of July 1, 1988	9,313	3,558	1,518	0	0	0	0	14,389
2. New Retirees	+1,776	+506	+160	0	0	0	0	+2,442
3. Terminations								
a. Death	- 281	-101	- 55	0	0	0	0	- 437
b. Other	- 230	- 39	- 28	0	0	0	0	- 297
4. Retired as of July 1, 1989	10,578	3,924	1,595	0	0	0	0	16,097
C. <u>Surviving Spouses</u>								
1. Receiving Benefit as of July 1, 1988	3,682	1,758	890	0	0	0	0	6,330
2. New Spouses	+ 297	+103	+ 60	0	0	0	0	+ 460
3. Net Other Terminations	- 178	-100	- 57	0	0	0	0	- 335
4. Receiving Benefit as of July 1, 1989	3,801	1,761	893	0	0	0	0	6,455
D. <u>Other Beneficiaries</u>								
1. Receiving Benefit as of July 1, 1988	634	114	35	0	0	0	0	783
2. New Beneficiaries	+ 53	+ 15	+ 3	0	0	0	0	+ 71
3. Net Other Terminations	- 2	- 5	- 1	0	0	0	0	- 8
4. Receiving Benefit as of July 1, 1989	685	124	37	0	0	0	0	846

1/ Estimated at 5% of 7/1/88 count.

2/ Includes transfers.

TABLE 8(A) (CONTINUED)
RECONCILIATION OF INCLUDED MEMBERS

	<u>1967 PLAN</u>			<u>PLAN 87</u>				
	<u>MUNICIPAL</u>	<u>POLICE</u>	<u>FIRE</u>	<u>MUNICIPAL</u>	<u>ELECTED</u>	<u>POLICE</u>	<u>FIRE</u>	<u>TOTAL</u>
<u>E. Disabled Members</u>								
1. Disabled as of July 1, 1988	1,972	1,965	483	0	0	0	0	4,420
2. New Disabilities	+128	+181	+57	0	0	0	0	+366
3. Net Other Terminations	-106	- 32	-15	0	0	0	0	-153
4. Disabled as of July 1, 1989	<u>1,994</u>	<u>2,114</u>	<u>525</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>4,633</u>
<u>F. Terminated Vested Members</u>								
1. Terminated Vested as of July 1, 1988	386	92	17	0	0	0	0	495
2. New Vested Terminations 1/	+ 19	+ 5	+1	0	0	0	0	+ 25
3. Net Other Terminations	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
4. Terminated Vested as of July 1, 1989	<u>405</u>	<u>97</u>	<u>18</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>520</u>

1/ Estimated at 5% of 7/1/88 count.

TABLE 8(B)
SUMMARY OF ANNUAL PAYROLL AND ANNUAL BENEFITS
(\$000 OMITTED)

	<u>1967 PLAN</u>			<u>PLAN 87</u>				<u>TOTAL</u>
	<u>MUNICIPAL</u>	<u>POLICE</u>	<u>FIRE</u>	<u>MUNICIPAL</u>	<u>ELECTED</u>	<u>POLICE</u>	<u>FIRE</u>	
A. Active Members								
1. Active as of July 1, 1988	\$591,579	\$195,743	\$75,710	\$23,868	\$461	\$ 7,359	\$2,069	\$896,788
2. New Entrants and Pay Increases	(45,290)	(16,281)	(2,607)	9,872	2	8,202	1,470	(43,931)
3. Active as of July 1, 1989	\$546,289	\$179,462	\$73,103	\$33,740	\$463	\$16,261	\$3,539	\$852,857
B. Retired Members								
1. Retired as of July 1, 1988	\$ 76,782	\$ 45,889	\$17,930	\$ 0	\$ 0	\$ 0	\$ 0	\$140,601
2. Net New Retirees	22,023	10,089	3,217	0	0	0	0	36,029
3. Retired as of July 1, 1989	\$ 98,805	\$ 55,978	\$21,847	\$ 0	\$ 0	\$ 0	\$ 0	\$176,630
C. Surviving Spouses								
1. Receiving Benefit as of July 1, 1988	\$ 11,617	\$ 7,667	\$ 3,745	\$ 0	\$ 0	\$ 0	\$ 0	\$ 23,029
2. Net New Spouses	1,037	329	147	0	0	0	0	1,513
3. Receiving Benefit as of July 1, 1989	\$ 12,654	\$ 7,996	\$ 3,892	\$ 0	\$ 0	\$ 0	\$ 0	\$ 24,542
D. Other Beneficiaries								
1. Receiving Benefit as of July 1, 1988	\$ 1,862	\$ 391	\$ 153	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,406
2. Net New Beneficiaries	343	183	43	0	0	0	0	569
3. Receiving Benefit as of July 1, 1989	\$ 2,205	\$ 574	\$ 196	\$ 0	\$ 0	\$ 0	\$ 0	\$ 2,975
E. Disabled Members								
1. Disabled as of July 1, 1988	\$ 15,492	\$ 19,475	\$ 5,410**	\$ 0	\$ 0	\$ 0	\$ 0	\$ 40,377
2. Net New Disabilities	1,481	5,752	1,476	0	0	0	0	8,709
3. Disabled as of July 1, 1989	\$ 16,973	\$ 25,227	\$ 6,886	\$ 0	\$ 0	\$ 0	\$ 0	\$ 49,086
F. Terminated Vested Members*								
1. Terminated Vested as of July 1, 1988	\$ 2,500	\$ 496	\$ 80	\$ 0	\$ 0	\$ 0	\$ 0	\$ 3,076
2. New Vested Terminations	-68	-6	+3	0	0	0	0	-71
3. Terminated Vested as of July 1, 1989	\$ 2,432	\$ 490	\$ 83	\$ 0	\$ 0	\$ 0	\$ 0	\$ 3,005

* Does not include new 1987 or 1988 terminated vested.
** Corrected from prior valuation.

TABLE 9(A)

MUNICIPAL (1967 PLAN) ANNUAL EARNINGS BY AGE GROUPS

AGE GROUP	M A L E			F E M A L E			A L L		
	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS
0-19	15	265480	17699	20	288312	14416	35	553792	15823
20-24	240	4558705	18995	252	4266351	16930	492	8825056	17937
25-29	993	23629388	23796	736	15249487	20719	1729	38878875	22486
30-34	1837	49294701	26834	1182	26309143	22258	3019	75603844	25043
35-39	2176	62281466	28632	1383	31463502	22750	3559	93744968	26345
40-44	2415	73409923	30397	1429	34202213	23934	3844	107612136	27995
45-49	1716	51893126	30241	1281	29653769	23149	2997	81546895	27210
50-54	1553	46448339	29909	1005	22583520	22471	2558	69031859	26987
55-59	919	26234500	28547	631	14005368	22196	1550	40239868	25961
60-64	514	14592606	28390	351	7311590	20831	865	21904196	25323
65-69	133	3528856	26533	109	2053191	18837	242	5582047	23066
70-74	50	1401043	28021	38	570116	15003	88	1971159	22400
75-79	20	479756	23988	10	135530	13553	30	615286	20510
80-84	3	93775	31258	2	21062	10531	5	114837	22967
85+	2	44435	22218	1	20078	20078	3	64513	21504
TOTAL	12586	358156099	28458	8430	188133232	22317	21016	546289331	25995

('AGE' REPRESENTS ATTAINED AGE.)

TABLE 9(B)

MUNICIPAL (1967 PLAN) ANNUAL EARNINGS BY SERVICE GROUPS

SERVICE GROUP	M A L E			F E M A L E			A L L		
	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS	NUMBER OF PEOPLE	TOTAL ANNUAL EARNINGS	AVERAGE ANNUAL EARNINGS
0	513	9616809	18746	654	7632722	11671	1167	17249531	14781
1	794	16775214	21127	587	9769716	16643	1381	26544930	19222
2	748	17348428	23193	666	13346903	20040	1414	30695331	21708
3	612	15186940	24815	486	10837979	22300	1098	26024919	23702
4	521	13215357	25365	479	10708832	22357	1000	23924189	23924
5	699	18728992	26794	460	10769756	23413	1159	29498748	25452
6-10	2331	67675968	29043	1623	38662481	23822	3954	106338449	26898
11-15	2308	69201088	29983	1148	28297632	24650	3456	97498720	28211
16-20	2250	70444350	31309	1101	27226533	24729	3351	97670883	29147
21-25	1046	34047596	32550	666	16455796	24708	1712	50503392	29500
26-30	558	18532601	33213	344	8948020	26012	902	27480621	30466
31+	206	7382756	35839	216	5476862	25356	422	12859618	30473
	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0
TOTAL	12586	358156099	28458	8430	188133232	22317	21016	546289331	25995

TABLE 9(C)

MUNICIPAL (1967 PLAN) SERVICE GROUPS BY AGE GROUPS

AGE GROUP	0	1	S 2	E 3	R 4	V 5	I 6-10	C 11-15	E OVER	P TOTAL
0-19	9	4	2	0	0	0	0	0	0	15
20-24	80	77	35	24	14	7	3	0	0	240
25-29	131	178	186	149	88	88	173	0	0	993
30-34	119	164	183	142	123	206	644	249	7	1837
35-39	54	150	110	106	93	130	480	712	341	2176
40-44	51	97	89	62	74	102	379	564	997	2415
45-49	30	58	51	48	39	40	215	299	936	1716
50-54	21	25	41	37	36	46	159	198	990	1553
55-59	12	22	30	21	24	40	121	161	488	919
60-64	4	13	13	11	22	30	90	96	235	514
65-69	2	3	6	6	6	9	48	20	33	133
70-74	0	1	1	3	1	1	16	6	21	50
75-79	0	1	1	2	1	0	3	3	9	20
80-84	0	0	0	1	0	0	0	0	2	3
85+	0	1	0	0	0	0	0	0	1	2
TOTAL	513	794	748	612	521	699	2331	2308	4060	12586
0-19	15	3	2	0	0	0	0	0	0	20
20-24	92	60	56	24	10	8	2	0	0	252
25-29	106	98	135	96	74	69	152	6	0	736
30-34	135	120	145	101	100	103	323	152	3	1182
35-39	106	107	136	99	78	71	298	247	241	1383
40-44	90	74	87	65	77	72	290	219	455	1429
45-49	50	70	36	38	45	52	208	184	598	1281
50-54	31	29	30	29	45	26	140	152	523	1005
55-59	17	15	24	16	24	29	107	115	284	631
60-64	5	7	12	12	21	18	72	52	152	351
65-69	3	1	2	3	2	8	22	14	54	109
70-74	4	3	1	2	1	3	5	6	13	38
75-79	0	0	0	1	1	1	3	0	4	10
80-84	0	0	0	0	0	0	1	1	0	2
85+	0	0	0	0	1	0	0	0	0	1
TOTAL	654	587	666	486	479	460	1623	1148	2327	8430