



ACTUARIAL VALUATION REPORT

Revised for Act 81 of 2004

for the

City of Pittsburgh

Municipal Pension Fund

as of

January 1, 2003

Report Date: September 3, 2004

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Preface to Actuarial Valuation Report

Revised for Act 81 of 2004

This revised actuarial valuation of the City of Pittsburgh Municipal Pension Fund as of January 1, 2003 has been prepared due to the City's election under Act 81 of 2004 to extend the amortization of investment losses for 2001 and 2002. The 2002 investment loss and the remaining balance, as of January 1, 2003, of the investment loss in 2001 are each amortized over a 30-year period beginning January 1, 2003. This valuation is the same in all other respects as the preceding report dated March 29, 2004.

Section Three, Section Five Tables 03-3 and 03-4, and Section Ten Table 03-7 have been appropriately modified to reflect this change. Section One has not been modified. Any reference to the amortization payment therein is based upon the original amount before the election. The effect of the election is to reduce the aggregate amortization payment by \$952,969 from \$9,862,777 to \$8,909,808. All other sections of this report remain the same as the earlier report.

Section One: Introduction

At the request of the City of Pittsburgh, we have completed an actuarial valuation of the City of Pittsburgh Municipal Pension Fund as of January 1, 2003. Our actuarial valuation is based upon participant data as of January 1, 2003 and upon asset information as of December 31, 2002 as provided by the City. This report has been completed in accordance with generally accepted actuarial principles and practices, and reflects our current understanding of applicable laws and regulatory requirements.

This valuation was prepared to satisfy the funding and disclosure requirements of Act 205 of 1984. It also contains the cost components that may be used to compute the Plan's Minimum Municipal Obligation (MMO).

The City has qualified as Distress Level III, as defined by Act 205 of 1984. The City is also permitted to utilize provisions of Act 82 of 1998, which amended Act 205. As a result, the unfunded actuarial accrued liability as of January 1, 1998 is being amortized over 40 years.

Under Act 205 of 1984, a Level III municipality is mandated to aggregate the assets of its pension plans into a single trust. An annual calculation is made to determine each Plan's portion of the assets. The receipts and disbursements for each Plan are added to the Plan's allocated value from the prior year. Then, the year's investment income is allocated proportionately to each Plan in accordance with procedures set forth in Act 205. As of December 31, 2002, the calculated value of assets in the Municipal Pension Fund is \$91,603,430. Section Nine contains exhibits illustrating the calculation of this amount.

2003 Results

Certain highlights of this actuarial valuation compared with the prior valuation are shown in Section Three. The use of pension bond proceeds to reduce the Unfunded Actuarial Accrued Liability has split the funding of the pension plan into actuarial costs and debt service. The actuarial costs consist of Normal Cost, administrative expense, contributions and amortization payments to eliminate the remainder of the Unfunded Actuarial Accrued Liability. The actuarial information used to develop contribution requirements according to the rules of Act 205, as amended, is shown in Section Five. Debt service payments repay the money that was borrowed and subsequently deposited into the Plan. Information concerning the annual debt service is contained in Section Ten. The demographics of the Plan population are summarized in Section Eight.

The actuarial cost components as of January 1, 2003 compared to the prior year are as follows:

	Current Year 2003	Prior Year 2002
<i>Normal Cost</i> as a Percentage of Total W-2 Payroll	5.163%	4.713%
<i>Expenses</i> as a Percentage of Total W-2 Payroll	0.800%	0.900%
<i>Amortization Payment</i>	\$9,862,777	\$6,962,749

The change in actuarial costs from year to year can be affected by changes in Plan provisions, assumption changes, and experience changes. A summary of the Plan provisions is set forth in Section Four. The most recent pension bonds were issued in March 1998. The 2003 debt service payment for these bonds is approximately \$3.91 million. The annual debt service payment for the bonds issued in 1996 is approximately \$3.09 million. Over time, the debt service and amortization schedules will allow the City to eliminate the Unfunded Actuarial Accrued Liability with payments that increase less and have a lower present value than the increasing amortization schedule included in prior actuarial valuations.

Assumption Changes

An experience study was prepared as of January 1, 2001. The purpose of the experience study is to compare the Plan's actual experience with the valuation assumptions. Several assumption changes have been made as of January 1, 2003, to implement some of the changes recommended in the January 1, 2001 experience study. The assumed retirement age is no longer a single calculated age for each participant. A participant is now assumed to have a probability of retirement in each year from early retirement eligibility through an assumed maximum retirement age. The assumed rates of retirement were developed based on the experience study of actual retirement rates by age for plan participants. The interest rate used to calculate the liabilities has been lowered from 9.0 percent to 8.75 percent. The liabilities for pre-retirement death benefits are now valued explicitly, so the load for this benefit has been removed. A direct method for determining social security benefits for those employees who are still subject to an offset to their retirement benefit has been used. The new assumptions are described in more detail in Section Seven. These assumption changes decreased the Unfunded Actuarial Accrued Liability by \$5,300,394.

Experience Changes

Plan experience during the year affects the Plan cost for the following year. Both the normal cost and the amortization payment can change.

Normal cost is the portion of the total cost allocated to the current year by the actuarial cost method. Unless Plan provisions or assumptions change, normal cost usually remains fairly stable, changing only moderately from year to year. The changes that do occur relate to changes in the age and service distribution of the participant group.

Generally, experience changes have a greater effect on the current year's actuarial gain or loss than on normal cost. Since foresight can never be perfect, actuarial assumptions will not perfectly match the experience that actually develops from year to year. The determination and amortization of actuarial gains and losses provide the mechanism for correcting these gains and losses and maintaining the Plan's funding on a sound basis.

The actuarial gain or loss computed in the current valuation reflects differences since the prior valuation between actual experience and the experience anticipated by the actuarial assumptions. It also includes an adjustment for the difference between actual contributions made for the prior year and the theoretical amount based on the prior valuation. This adjustment is termed "contribution gain or loss."

~~Act 205 requires the amortization of actuarial gains or losses over a 15-year period. An actuarial gain will reduce the total amortization payment, and an actuarial loss will increase the payment.~~

The Plan has experienced a net actuarial loss of \$25,395,207 since the prior valuation. The primary reason for the loss was that return on investment was significantly lower than the valuation assumption.

Benefit Improvements

As of the valuation date, several benefit changes have been adopted for Pittsburgh Water and Sewer Authority non-union employees and union employees who have negotiated for the changes. The benefit improvement package includes the elimination of the reduction for social security benefits. Employees hired prior to January 1, 1975 will receive the same benefits as employees hired on or after January 1, 1975 and before January 1, 1988. Employee contribution refunds will include an interest credit of 5 percent interest per year. Employees represented by the Pittsburgh Joint Collective Bargaining Council negotiated for these benefit changes in 2003 and the increased cost for these employees will be included in a future valuation. As more employees become eligible for these benefits in the future, the unfunded liability and normal cost percentage will continue to increase. The normal retirement age requirement for Emergency Medical Services employees has been lowered to age 55, with the service requirement unchanged. These changes added an additional \$6,262,573 to the Unfunded Actuarial

Accrued Liability and accounted for the increase in the normal cost percentage from 4.713 percent to 5.163 percent of payroll.

Act 82

Act 82 of 1998 also has an impact on the actuarial costs of this pension plan. Act 82 allowed the City to change the amortization schedule for its Unfunded Actuarial Accrued Liability since during 1998 pension bond proceeds were deposited into the pension plan that changed the ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability by more than 25 percent.

Act 82 allowed the City to amortize the January 1, 1998 Unfunded Actuarial Accrued Liability, reduced by pension bond proceeds deposited during 1998, over a 40-year period. The annual amortization payment is calculated in several steps. An amortization payment is calculated that eliminates the Unfunded Actuarial Accrued Liability net of 1998 bond proceeds over a 40-year period using 8.75 percent interest. Next, the future value of these payments at the end of the 40-year period is calculated using 8.75 percent interest. Finally, an amortization payment is calculated using 10 percent interest that will have the same future value as the previous calculation. The 10 percent amortization amount becomes the amortization payment starting in 1998.

Act 82 requires that valuations include a comparative interest rate tabulation. This annual tabulation compares the balance of the accumulated Act 82 amortization payments using the actual earnings of the fund during the year with the balance assuming a 10 percent rate of return. If the fund earns more than 10 percent during the year, there will be an actuarial gain. If the fund earns less than 10 percent, there will be an actuarial loss. The gain or loss from the comparative interest rate tabulation will be combined with the other actuarial gains or losses for the year to determine the aggregate annual gain or loss.

Accounting Information

This valuation also includes certain actuarial information required for accounting purposes. Section Six is a summary of the actuarial present values of accumulated Plan benefits and the pension benefit obligation.


Section Two: Certification

In the actuary's opinion, the actuarial assumptions used in the valuation are reasonably related to the experience of the Plan and to reasonable expectations. They represent the actuary's best estimate of anticipated experience under the Plan. To the best of our knowledge, the report is complete and accurate, based on the data herein.

We will be happy to answer any questions concerning this report and provide further information as needed.

MOCKENHAUPT BENEFITS GROUP

Prepared and Certified by:



G. Herbert Loomis, F.S.A., E.A., M.A.A.A.
Consulting Actuary

Section Three: Valuation Highlights

Participant Count	01/01/03	01/01/02	Change
Total Active	2,352	2,311	41
Vested	1,467	1,454	13
Not Vested	885	857	28
Total In Payment Status	1,590	1,650	(60)
Retirement Benefits	1,197	1,214	(17)
Disability Benefits	314	335	(21)
Survivor Benefits	79	101	(22)
Deferred	25	24	1
Total	3,967	3,985	(18)

Average Monthly Benefit

In Payment Status

Retirement Benefits	\$705	\$697	\$ 8
Disability Benefits	\$741	\$734	\$ 7
Survivor Benefits	\$326	\$320	\$ 6
Deferred	\$762	\$752	\$ 10

Active Participant Averages

Hire Age	32.6	32.3	0.3
Attained Age	47.2	46.8	0.4
Normal Retirement Age	60.4	60.4	0.0
Assumed Future Service	15.0	16.0	(1.0)
Monthly Compensation	\$2,832	\$2,732	\$ 100

Financial Data

Market Value of Assets	\$91,603,430	\$111,528,051	\$ (19,924,621)
Accumulated Employee Contributions	\$48,137,868	\$ 45,345,030	\$ 2,792,838

Cost Components

Normal Cost as a percentage of total payroll	5.163%	4.713%	0.450%
Expenses as a percentage of total payroll	0.800%	0.900%	-0.100%
Total	5.963%	5.613%	0.350%
Amortization Payment	\$8,909,808	\$6,962,749	\$1,947,059

Section Four: Summary of Plan Provisions

Plan Year ▼ Twelve-month period beginning January 1 and ending December 31

Plan Established ▼ May 28, 1915

Principal Definitions

Employee ▼ Any full-time employee of the City of Pittsburgh other than a firefighter or police officer, and full-time employees of the Pittsburgh Water and Sewer Authority

Retirement Benefit Commencement Date ▼ Assumed to be the first day of the month coincident with or next following eligibility for and election to retire

Service Increment ▼ An additional monthly benefit of 1 percent of average compensation for each completed year of service in excess of 20 years to a maximum of \$100

Service ▼ Assumed to be completed years of service calculated from date of hire through date of retirement or severance

Normal Form of Payment ▼ Monthly pension benefit payable for life

Participation Requirements

Entry Date ▼ Following completion of 90-day probationary period

Compensation ▼ Base wages, plus "acting" or "in-grade" pay

Average Compensation ▼ Averaged over the 3-year period prior to retirement or severance

Members hired after December 31, 1987 ▼ Averaged over the 4-year period prior to retirement or severance

Normal Retirement

Eligibility

Employees other than Emergency Medical Services ▼ Later of age 60 or completion of 8 years of service

Emergency Medical Services Employees ▼ Later of age 55 or completion of 8 years of service

Monthly Benefit ▼ Equal to 50% of average compensation and service increment, if any

▼ Prorated for service less than 20 years

▼ Upon reaching age 65 reduced by 50% of social security benefit; the reduction shall not exceed 50% of the monthly benefit. This reduction shall not apply to City non-union employees and to union employees whose union has negotiated to eliminate the reduction.

*Members hired prior to January 1, 1975
whose union has not negotiated the benefits level
for employees hired on or after January 1, 1975
and before January 1, 1988.*

If pay is less than \$450:

- ▼ Equal to 60% of 3-year average pay
 - ▼ Not less than \$130
 - ▼ Plus service increment, if any
- OR

If pay is greater than \$450:

- ▼ 55% of first \$650 of 3-year average pay
and 30% of excess
- ▼ Not less than \$270
- ▼ Plus service increment, if any
- ▼ Eligible retired members and spouses will
receive additional monthly payment equal
to coverage premium
- ▼ Employees hired after December 31, 1987
not eligible

Supplemental Medical

Early Retirement

Eligibility

Benefit Amount

- ▼ Later of age 50 *or* completion of 8 years of service
- ▼ Normal retirement benefit based upon
average compensation at actual retirement
- ▼ May be deferred to age 60 *or* paid
immediately in reduced amount
- ▼ Reduction will be 1/2 percent per
month for each month that payment
commences prior to age 60

Members hired prior to January 1, 1975

- ▼ If 25 years of service, reduction applied only
on benefits attributed to earnings in excess
of \$7,800

Disability

Eligibility

Benefit Amount

- ▼ Permanent disablement in line of duty *or*
- ▼ Permanent disablement (not in line of
duty) after completing 8 years of service
- ▼ Normal retirement benefit at date of
disablement
- ▼ Not prorated for service less than 20
years
- ▼ Participants hired after December 31, 1974 will have
their benefit reduced by 50% of their social security
benefit upon reaching age 65. The reduction shall not
exceed 50% of the benefit.

Members Hired After December 31, 1987

- ▼ Normal retirement benefit if at least age 60 with 8 years of service
- ▼ Upon reaching age 65, reduced by 50% of the social security benefit. The reduction shall not exceed 50 percent of the benefit
- ▼ Disabled before age 60 with at least 8 years of service calculated as of age 60 with service being greater of:
 - (a) Service at disablement or
 - (b) The lesser of 20 years and completed service (assuming work until age 60)
- ▼ Benefit is reduced so that the sum of the plan benefit and workers' compensation does not exceed member's regular salary at time of disablement

Benefit Commencement Date

- ▼ First day of calendar month following determination of disablement *and*
- ▼ Continuing for the duration of disability prior to normal retirement date and life thereafter

Vesting

- ▼ Attainment of age 40 *and*
- ▼ Completion of 8 years of service

Members hired prior to January 1, 1975

- ▼ ~~Completion of 15 years of service/no age requirement~~

Vested Terminated Participants

- ▼ Normal retirement benefit if contributions continue to age 50
- ▼ Benefit deferred to age 60, a benefit reduced as for early retirement may be elected at age 50.

Death Benefits Before Retirement

Death After Early Retirement Eligibility

- ▼ Surviving spouse entitled to 50% of pension that would have been payable if member retired at date of death

Death Before Early Retirement Eligibility

- ▼ Member's beneficiary receives amount equal to member's contributions

Death Benefits After Retirement

- ▼ Member's beneficiary receives amount equal to the excess, if any, of member's contributions over retirement benefit paid on member's behalf

Members Hired Prior to 1988

- ▼ Married employee may deduct up to \$100 per month from retirement benefit to provide a \$100 per month benefit payable to surviving spouse until death or remarriage

Spouse Predeceases Retiree

- ▼ Monthly benefit restored to full level for remainder of retiree's life
- ▼ At no time shall total benefit payment on behalf of member be less than the member's contributions to the fund

Members Hired After December 31, 1987

- ▼ Married member may elect a reduced pension
- ▼ Spouse will receive 50% of the reduced pension
- ▼ Member's pension not restored to full level if spouse predeceases retiree
- ▼ Total benefit payments on behalf of member will be no less than member's contribution to fund

Employee Contributions

Members hired prior to January 1, 1988

- ▼ 4% of compensation
- ▼ 5% of compensation

Interest Credit

*For non-union employees
and unions that have negotiated for
the interest credit*

- ▼ 5% compound interest per year

Section Five: Development of Contribution Requirements

Table 03-1: Normal Cost and Actuarial Accrued Liability

Normal Cost	
Retirement Benefits	\$2,446,326
Disability Benefits	805,037
Preretirement Death Benefits	112,620
Postretirement Death Benefits	0
Refunds to Withdrawals	707,929
Medicare Premium Benefits	99,875
Vested Benefits	<u>373,451</u>
Total	\$4,545,238

Actuarial Accrued Liability

Actuarial Present Value of Benefits at Attained Age

	<u>Deferred</u>	<u>In Payment</u>	<u>Active</u>	<u>All</u>
Retirement Benefits	\$1,428,461	\$ 71,974,613	\$ 104,691,641	\$178,094,715
Disability Benefits	0	19,856,890	21,769,823	41,626,713
Survivor Benefits	0	2,215,928	0	2,215,928
Preretirement Death Benefits	0	0	4,928,006	4,928,006
Postretirement Death Benefits	0	0	0	0
Refunds to Withdrawals	0	0	2,757,429	2,757,429
Medicare Premium Benefits	0	0	9,961,806	9,961,806
Vested Benefits	<u>0</u>	<u>0</u>	<u>6,346,269</u>	<u>6,346,269</u>
Total	\$1,428,461	\$ 94,047,431	\$150,454,974	\$245,930,866

Actuarial Present Value of Future Normal Costs

Retirement Benefits	\$ 17,661,692
Disability Benefits	6,114,345
Preretirement Death Benefits	835,051
Postretirement Death Benefits	0
Refunds to Withdrawals	5,540,886
Medicare Premium Benefits	619,114
Vested Benefits	<u>2,954,257</u>
Total	\$ 33,725,345

Actuarial Accrued Liability **\$212,205,521**

Unfunded Actuarial Accrued Liability

Actuarial Accrued Liability	\$212,205,521
Actuarial Value of Assets	<u>(91,603,430)</u>
Unfunded Actuarial Accrued Liability	\$120,602,091

Table 03-2: Actuarial (Gain) Loss Determination

Reconciliation of Funded Status

Unfunded Actuarial Accrued Liability as of January 1, 2002		\$93,771,987
Normal Cost Assumed		4,712,853
Interest Charged at Valuation Rate		8,863,636
Contributions Made		
- Municipality	\$ 372,530	
- State Aid Allocated	2,456,480	
- Employees	<u>3,661,611</u>	\$ (6,490,621)
Interest Credited at Valuation Rate		(245,635)
Special Adjustment for Increase in Act 82 Interest Rate		<u>(191,248)</u>
Expected Unfunded Actuarial Accrued Liability Before Adjustments		\$ 100,420,972
Experience from Investment Return		
- Comparative Interest Rate Amortization Tab. (Gain) Loss	\$ 4,138,031	
- Other Investment Return (Gain) Loss	<u>16,639,230</u>	\$ 20,777,261
Experience (Gain) Loss from all Other Sources		(1,558,321)
Increase (Decrease) in Actuarial Accrued Liability		
- Benefit Modifications for Actives	\$ 6,262,573	
- Benefit Modifications for Retirees	0	
- Changes in Actuarial Assumptions	<u>(5,300,394)</u>	\$ 962,179
Actual Unfunded Actuarial Accrued Liability		<u>\$ 120,602,091</u>

Loss (Gain) to be Amortized

Experience (Gain) Loss from January 1, 2002		\$ 19,218,940
Actuarially Required Contributions and Bond Proceeds with Interest	\$12,912,523	
Actual Contributions with Interest	<u>(6,736,256)</u>	
Contribution (Gain) Loss		<u>6,176,267</u>
Loss (Gain) to be Amortized		\$ 25,395,207

Comparative Interest Rate Amortization Tabulation

Balance Calculated Using Actual Investment Return

Act 82 Amortization Balance at January 1, 2002	\$15,992,195	
Act 82 Amortization Payment for 2002	<u>3,132,592</u>	
Comparative Interest Rate Balance at January 1, 2002		\$19,124,788
Actual Investment Return on Balance		<u>(2,225,552)</u>
Actual Act 82 Amortization Balance at January 1, 2003		\$16,899,236

Balance Calculated Using 10 Percent Investment Return

Comparative Interest Rate Balance at January 1, 2002		\$19,124,788
Interest at 10 Percent		<u>1,912,479</u>
Comparative Act 82 Amortization Balance at January 1, 2003		\$ 21,037,267

Comparative Interest Rate Amortization Tabulation (Gain) Loss \$ 4,138,031

Table 03-3: Amortization of Unfunded Actuarial Accrued Liability

Source	Original Amount	Year Est.	Target Year	Remaining Balance	Rem. Pymts	Annual Amount
Initial	\$53,226,758	1998	2037	\$59,923,823	35	\$3,132,592
Assumption Change	\$(4,327,036)	1998	2017	\$(3,820,860)	15	\$(429,460)
Experience Loss	\$531,346	1999	2013	\$ 448,586	11	\$59,900
Experience Gain	\$ (8,518,572)	2000	2014	\$(7,567,487)	12	\$(959,570)
Experience Loss	\$15,454,485	2001	2015	\$14,354,388	13	\$1,739,546
Ben. Mod. - Active	\$15,075,742	2002	2021	\$14,781,065	19	\$1,492,502
Experience Loss	\$1,076,675	2002	2016	\$1,040,005	14	\$121,102
Investment Loss	\$15,617,085	2002	2032	\$15,085,185	30	\$1,320,365
Agg. Change through Last Valuation	N/A	N/A	2023	\$ 34,320,882	21	\$ 3,344,385
Assumption Change	\$(5,300,394)	2003	2022	\$(5,300,394)	20	\$(524,443)
Ben. Mod. - Active	\$6,262,573	2003	2022	\$6,262,573	20	\$ 619,645
Ben. Mod. - Retired	N/A					
Experience Loss	\$4,617,946	2003	2017	\$4,617,946	15	\$ 519,052
Investment Loss	\$20,777,261	2003	2032	\$20,777,261	30	\$1,818,577
Agg. Change-2003	N/A	N/A	2027	\$26,357,386	25	\$ 2,432,831
Aggregate Changes	N/A	N/A	2025	\$60,678,268	23	\$ 5,777,216
Aggregate	N/A	N/A		\$120,602,091		\$ 8,909,808

Details of Calculation of Act 82 Payment

Act 82 Unfunded Actuarial Accrued Liability	\$53,226,758
40-Year Amortization Payment	\$ 4,437,482
Future Value at end of 40-Year period	\$1,525,108,142
Payment to provide same future value with 10% annual earnings	\$3,132,592

Calculation of 2002 Experience (Gain) Loss Not Due to Investment Experience

Total Actuarial (Gain) Loss for 2002	\$25,395,207
Investment Losses from 2002	\$(20,777,261)
Net Actuarial and Contribution (Gain) Loss	\$ 4,617,946

Calculation of 2001 Experience (Gain) Loss Not Due to Investment Experience

Total Actuarial (Gain) Loss for 2001	\$16,693,760
Investment Losses from 2001	\$(15,617,085)
Net Actuarial and Contribution (Gain) Loss	\$ 1,076,675

Table 03-4: Required Municipal Contributions

The Financial Requirement of the Plan is based on the Normal Cost Percentage and other components shown below. The Normal Cost Percentage is applied to the payroll of the members for the applicable fiscal year.

Normal Cost (Table 03-1)	\$ 4,545,238
Total Annual Payroll	\$88,033,792
Percentages for Budget	
• Normal Cost (Normal Cost divided by Total Annual Payroll)	5.163%
• Administrative Expense (as a % of payroll)	0.800%
• Gross Normal Cost	5.963%
Net Amortization Payment (Table 03-3)	\$ 8,909,808
Funding Adjustment	\$ 0

Section Six: Accounting Information

Accumulated Plan Benefits		<u>01/01/03</u>	<u>01/01/02</u>
Assets at Market Value		<u>\$ 91,603,430</u>	<u>\$ 111,528,051</u>
Actuarial Present Value of Vested Benefits			
Retired	\$ 94,047,431		
Deferred	1,428,461		
Employee Contributions	3,712,482		
Active	<u>87,891,179</u>		
Total		<u>\$187,079,553</u>	<u>\$173,271,700</u>
Unfunded Actuarial Present Value of Vested Benefits		<u>\$ 95,476,123</u>	<u>\$ 61,743,649</u>
Actuarial Present Value of Accrued Benefits			
Retired	\$ 94,047,431		
Deferred	1,428,461		
Employee Contributions	907,728		
Active	<u>97,651,226</u>		
Total		<u>\$194,034,846</u>	<u>\$174,232,408</u>
Unfunded Actuarial Present Value of Accrued Benefits		<u>\$102,431,416</u>	<u>\$ 62,704,357</u>

Pension Benefit Obligation

Active Members

Retirement Benefits	\$70,475,575
Disability Benefits	15,078,406
Preretirement Death Benefits	3,426,782
Postretirement Death Benefits	0
Refunds to Withdrawals	1,797,950
Medicare Benefits	7,635,695
Vested Benefits	<u>4,722,705</u>

Subtotal \$103,137,113

Deferred Vested \$ 1,428,461

Retirees 71,974,613

Disabled 19,856,890

Survivors 2,215,928

Total Pension Benefit Obligation* \$198,613,005

Net Assets Available for Benefits at Market Value (91,603,430)

Unfunded Pension Benefit Obligation \$ 107,009,575

*Total Pension Benefit Obligation is the Actuarial Accrued Liability determined under the Projected Unit Credit Actuarial Cost Method as described in the recently superceded GASB Statement No. 5.

Section Seven: Actuarial Basis of Valuation

Actuarial Assumptions: January 1, 2003

Economic

Interest Rate

8.75 percent increase per annum

Salary Projection

4.0 percent increase per annum

Merit Increase: 0.5 percent increase per annum

Inflation: 3.5 percent increase per annum

Social Security Benefits

Actives: Offset based on social security law in 2003, projected using an annual increase in the National Average Wage of 4 percent and an annual increase in the Social Security Consumer Price Index of 3 percent

Retirees: Offset based on:

- Actual benefit if 65 or older
- One third of original pension amount, if younger than 65

Medicare Premiums

For 2003, \$58.70 per month. The premium for years thereafter is assumed to increase at a rate of 6.5 percent per annum.

Employee Characteristics

Mortality

Healthy: UP-1984 Table, with female ages set back five years

Disabled: UP-1984 Table, with male ages set forward five years

Withdrawal

Sample rates:

Age	Rate
20	8.20%
25	7.98%
30	7.67%
35	7.18%
40	6.40%
45	5.24%
50	3.49%
55	1.28%
60	0.12%

Disablement

Sample rates:

Age	Male	Female
30	0.09%	0.11%
40	0.21%	0.41%
50	0.65%	0.82%
60	1.93%	1.48%

Retirement Age

Percentage of employees eligible for early retirement who retire at each age:

Age	Non-Emergency Medical Services	Emergency Medical Services EE
50	4	3
51	3	3
52	3	3
53	3	3
54	3	3
55	3.5	50
56	3.5	20
57	3.5	20
58	3.5	20
59	3.5	20
60	6.5	20
61	10	20
62	20	40
63	20	40
64	20	40
65	20	100
66	40	N/A
67	50	N/A
68	100	N/A

Exclusions

Non-participants

Percentage Married

Active: 80 percent of male participants and 65 percent of female participants

Spouse Age

Female spouse assumed to be two years younger than male spouse

Actuarial Basis of Valuation: Actuarial Cost Method

The actuarial costs of this Plan are determined under the Entry Age Normal Actuarial Cost Method as described in Act 205 of 1984. The total contribution (the financial requirements of the Pension Plan) is made up of three components: normal cost, administrative expense and amortization payment or funding adjustment.

Normal Cost

For each active participant covered by the Plan, normal cost is calculated to be the annual contribution necessary to completely fund the participant's pension by the participant's retirement age. Contributions are assumed to begin with the year of employment and to be a constant percentage of the participant's annual pay.

For the Plan, normal cost is expressed as a percentage of the total annual payroll of the participants used in the budgeting of required contributions.

Administrative Expense

Estimated annual expense to be incurred by the fund for the contribution year for which the financial requirements are determined.

Actuarial Accrued Liability

Total actuarial present value of all future benefits less the actuarial present value of the future normal costs. The total unfunded actuarial accrued liability as of the valuation date is the actuarial accrued liability less the total value of all assets owned by the Plan.

Amortization Payment

Sum of the annual level amortization contribution requirements specified by the Act for the applicable portions of the unfunded actuarial accrued liability. The Plan's unfunded actuarial accrued liability was re-established in 1998. In the subsequent years, experience gains and losses, changes in benefit provisions, and changes in valuation assumptions would result in increases or decreases to the unfunded actuarial accrued liability. If the unfunded actuarial accrued liability is negative, the amortization payment is zero and a funding adjustment is created.

Section Eight: Demographic Summaries

Distribution of Active Members by Age and Service

Years of Service											
Age	Number of People in Category										
	1	2	3	4-5	6-10	11-15	16-20	21-25	26-30	30+	Total by Age
-20	0	0	0	0	0	0	0	0	0	0	0
20-24	12	3	9	1	0	0	0	0	0	0	25
25-29	37	15	23	13	1	0	0	0	0	0	89
30-34	48	16	26	25	24	9	0	0	0	0	148
35-39	48	11	26	23	43	50	12	0	0	0	213
40-44	43	11	25	17	50	85	79	49	0	0	359
45-49	47	14	12	25	68	95	77	151	55	1	545
50-54	32	10	16	18	35	76	70	114	101	18	490
55-59	4	10	7	7	23	34	39	44	55	35	258
60-64	9	6	1	4	12	27	28	25	22	31	165
65+	1	2	0	2	7	12	10	3	9	14	60
Total	281	98	145	135	263	388	315	386	242	99	2,352

Age Distribution of Deferred Vested Participants

All Persons Entitled To Receive Benefits			
Age Group	Number of People	Total Annual Benefit	Average Annual Benefit
Under 30	0	0.00	0.00
30-34	0	0.00	0.00
35-39	0	0.00	0.00
40-44	0	0.00	0.00
45-49	3	\$ 19,943.76	\$ 6,647.92
50-54	8	82,411.44	10,301.43
55-59	8	77,492.04	9,686.51
60-64	4	39,224.88	9,806.22
65-69	0	0.00	0.00
70-74	1	5,066.88	5,066.88
75-79	1	4,480.08	4,480.08
80-84	0	0.00	0.00
84+	0	0.00	0.00
Total	25	\$ 228,619.08	\$ 9,144.76

Age Distribution of Retired Participants

Regular Retirements			
Age Group	Number of People	Total Annual Benefit	Average Annual Benefit
Under 30	0	0.00	0.00
30-34	0	0.00	0.00
35-39	0	0.00	0.00
40-44	0	0.00	0.00
45-49	0	0.00	0.00
50-54	18	\$ 158,085.48	\$ 8,782.53
55-59	58	475,510.32	8,198.45
60-64	113	1,048,784.76	9,281.28
65-69	216	2,086,104.00	9,657.89
70-74	244	2,152,505.16	8,821.74
75-79	261	2,136,101.40	8,184.30
80-84	163	1,235,264.16	7,578.31
84+	124	838,732.56	6,763.97
Total	1,197	\$10,131,087.84	\$ 8,463.73

Age Distribution of Retired Participants

Disability Retirements			
Age Group	Number of People	Total Annual Benefit	Average Annual Benefit
Under 30	0	0.00	0.00
30-34	0	0.00	0.00
35-39	0	0.00	0.00
40-44	6	\$ 72,898.56	\$ 12,149.76
45-49	20	228,931.20	11,446.56
50-54	24	284,936.76	11,872.37
55-59	30	337,767.48	11,258.92
60-64	37	374,174.88	10,112.83
65-69	48	400,186.92	8,337.23
70-74	60	465,139.68	7,752.33
75-79	46	349,636.92	7,600.80
80-84	28	195,978.00	6,999.21
84+	15	83,804.64	5,586.98
Total	314	\$ 2,793,455.04	\$ 8,896.35

Age Distribution of Retired Participants

Survivors			
Age Group	Number of People	Total Annual Benefit	Average Annual Benefit
Under 30	0	0.00	0.00
30-34	0	0.00	0.00
35-39	0	0.00	0.00
40-44	0	0.00	0.00
45-49	0	0.00	0.00
50-54	2	\$ 8,371.44	\$ 4,185.72
55-59	5	16,188.96	3,237.79
60-64	10	51,319.44	5,131.94
65-69	7	31,299.72	4,471.39
70-74	13	45,577.08	3,505.93
75-79	21	90,723.36	4,320.16
80-84	17	54,727.32	3,219.25
84+	4	10,689.84	2,672.46
Total	79	\$308,897.16	\$ 3,910.09

Age Distribution of Retired Participants

All Persons Receiving Benefits			
Age Group	Number of People	Total Annual Benefit	Average Annual Benefit
Under 30	0	0.00	0.00
30-34	0	0.00	0.00
35-39	0	0.00	0.00
40-44	6	\$ 72,898.56	\$ 12,149.76
45-49	20	228,931.20	11,446.56
50-54	44	451,393.68	10,258.95
55-59	93	829,466.76	8,919.00
60-64	160	1,474,279.08	9,214.24
65-69	271	2,517,590.64	9,290.00
70-74	317	2,663,221.92	8,401.33
75-79	328	2,576,461.68	7,855.07
80-84	208	1,485,969.48	7,144.08
84+	143	933,227.04	6,526.06
Total	1,590	\$ 13,233,440.04	\$ 8,322.92

Demographic Data as of January 1, 2003

Changes in Plan Participation for Active Members

Active Members	Number
As of January 1, 2002	2,311
New Entrants	<u>162</u>
Total	2,473
Separation from Active Service	
Transfer to another Plan	0
Separations w/Deferred Benefit	(4)
Separations w/o Deferred Benefit	(78)
Disability	(1)
Death	(2)
Retirement with a Service Retirement Benefit	<u>(36)</u>
Total Separations	(121)
Data Adjustments	
Net Adjustments	<u>0</u>
Active Members as of January 1, 2003	2,352

Changes in Plan Participants for Retired Members and Survivors

	Deferred Vested	Regular Retirements	Disability Retirement	Survivors	Total
As of January 1, 2002	24	1,214	335	101	1,674
New Benefit Recipients	4	39	1	1	45
Death	0	(60)	(23)	(23)	(106)
Other Cessation of Benefits	(3)	0	0	0	(3)
Net Data Adjustments	0	4	1	0	5
As of January 1, 2003	25	1,197	314	79	1,615

Section Nine: Plan Assets

Source of Asset Information

The assets of the Aggregated Trust for the City's pension plans are summarized in the following tables based on the information provided by the City and by Terry & Stephenson, P.C. Assets are shown at market value.

Summary of Values for Aggregated Trust

	<u>1/1/02</u>	<u>1/1/03</u>
Market Value of Assets - Cash Basis	\$381,772,840	\$ 313,952,163
Accrued Interest	1,990,082	1,019,024
Accrued Contributions	0	0
Other Receivables	462	0
Accrued Expenses and Other Payables	<u>(2,513,845)</u>	<u>(2,500,222)</u>
Market Value of Assets - Accrual Basis	\$ 381,249,539	\$ 312,470,965

Summary of Transactions for the Aggregated Trust

Balance as of January 1, 2002		\$381,249,539
Contributions Toward Pension Liability		
- Policemen's	\$ 14,674,254	
- Firemen's	8,556,820	
- Municipal	<u>6,490,621</u>	\$29,721,695
Miscellaneous Contributions and Pass Through Items		<u>5,079,754</u>
Interest and Dividends		10,146,781
Net Appreciation(Decline) in Fair Value Of Investments		(52,974,937)
Payments to Participants		
- Policemen's	\$ 27,477,850	
- Firemen's	14,954,956	
- Municipal	<u>16,330,547</u>	(58,763,353)
Expenses		<u>(1,988,514)</u>
Balance as of December 31, 2002		\$312,470,965

Undivided Participation Calculation Calendar Year 2002 - Accrual Basis

	<u>Policemen's</u>	<u>Firemen's</u>	<u>Municipal</u>	<u>Total</u>
January 1, 2002 Market Value	\$133,279,704	\$136,441,784	\$111,528,051	\$381,249,539
Plan-Specific Contributions	15,822,894	9,402,350	9,547,977	34,773,221
Plan-Specific Distributions	<u>(27,771,605)</u>	<u>(15,171,771)</u>	<u>(16,556,608)</u>	<u>(59,499,984)</u>
Sub-Total	\$121,330,993	\$130,672,363	\$104,519,420	\$356,522,776
Sub-Total Percentages	34.03%	36.65%	29.32%	100.00%
Allocated Expenses	(426,016)	(458,815)	(367,052)	(1,251,883)
Allocated Investment Earnings	<u>(14,564,816)</u>	<u>(15,686,174)</u>	<u>(12,548,938)</u>	<u>(42,799,928)</u>
December 31, 2002 Market Value	\$106,340,161	\$114,527,374	\$91,603,430	\$312,470,965

Contributions and Distributions for 2002 - Accrual Basis

Plan-Specific Contributions	<u>Policemen's</u>	<u>Firemen's</u>	<u>Municipal</u>	<u>Total</u>
State Aid:				
General Municipal Pension System State Aid	\$ 9,173,920	\$ 4,369,600	\$ 2,456,480	\$16,000,000
Supplemental State Aid	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<i>Total State Aid</i>	\$ 9,173,920	\$ 4,369,600	\$ 2,456,480	\$16,000,000
<hr/> Member Contributions	3,674,325	3,524,430	3,661,611	10,860,366
City Contributions	1,826,009	662,790	372,530	2,861,329
Pass Through Contributions	1,148,640	845,530	1,520,795	3,514,965
Miscellaneous Income	<u>0</u>	<u>0</u>	<u>1,536,561</u>	<u>1,536,561</u>
Total Contributions	\$15,822,894	\$9,402,350	\$9,547,977	\$34,773,221

Plan-Specific Distributions

Benefit Payments to Participants	\$27,070,391	\$14,928,263	\$15,885,020	\$ 57,883,674
Refunds to Participants	407,459	26,693	445,527	879,679
Administrative Expenses	<u>293,755</u>	<u>216,815</u>	<u>226,061</u>	<u>736,631</u>
Total Distributions	\$27,771,605	\$15,171,771	\$16,556,608	\$59,499,984

Section Ten: Supplementary Exhibits for Plans Funded With Pension Bond Proceeds

**Table 03-5: Unfunded Actuarial Accrued Liability Excluding Assets
Arising from Pension Bond Proceeds**

Assets Excluding Pension Bond Proceeds

Assets Excluding Bond Proceeds at January 1, 2002 \$20,129,010

Receipts

Employer Contributions	\$4,030,384	
Employee Contributions	3,661,611	
State Aid	2,456,480	
Supplemental State Assistance	0	
Investment Income	549,267	
Net Change in Market Value	(2,731,386)	
Pass Through Contributions	<u>3,057,356</u>	
Total Receipts		11,023,712

Disbursements

Monthly Benefit Payments	\$14,364,225	
Refund of Employee Contributions	445,527	
Administrative Expenses	356,042	
Pass Through Payments	<u>1,520,795</u>	
Total Disbursements		(16,686,589)

Assets Excluding Bond Proceeds at January 1, 2003 \$14,466,133

Unfunded Actuarial Accrued Liability Excluding Assets from Bond Proceeds

Actuarial Accrued Liability (Table 03-1)		\$212,205,521
Assets Excluding Bond Proceeds at January 1, 2003		<u>(14,466,133)</u>
Adjusted Unfunded Actuarial Accrued Liability		\$197,739,388

**Table 03-6: Actuarial (Gain) Loss Determination Excluding Assets
Arising from Pension Bond Proceeds**

Reconciliation of Funded Status

Unfunded Actuarial Accrued Liability as of January 1, 2002		\$185,171,028
Normal Cost Assumed		4,712,853
Interest Charged at Valuation Rate		17,089,549
Contributions Made		
- Municipality	\$4,030,384	
- State Aid Allocated	2,456,480	
- Employees	<u>3,661,611</u>	(10,148,475)
Interest Credited At Valuation Rate		(379,367)
Special Adjustment for Increase in Act 82 Interest Rate		<u>(556,860)</u>
Expected Unfunded Actuarial Accrued Liability Before Adjustments		195,888,728
Experience from Investment Return		
- Comparative Interest Rate Amortization Tabulation (Gain) Loss	\$12,048,776	
- Other Investment Return (Gain) Loss	<u>(9,414,352)</u>	2,634,424
Experience (Gain) Loss from all Other Sources		(1,745,943)
Increase (Decrease) in Actuarial Accrued Liability		
- Benefit Modifications for Actives	\$6,262,573	
- Benefit Modifications for Retirees	0	
- Changes in Actuarial Assumptions	<u>(5,300,394)</u>	<u>\$962,179</u>
Actual Unfunded Actuarial Accrued Liability		<u>\$197,739,388</u>

Loss (Gain) to be Amortized

Experience (Gain) Loss from January 1, 2002		\$ 888,481
Actuarially Required Contributions	\$17,255,388	
Actual Contributions with Interest	<u>(10,527,842)</u>	
Contribution (Gain) Loss		<u>6,727,546</u>
Loss (Gain) to be Amortized		\$ 7,616,027

Comparative Interest Rate Amortization Tabulation

Balance Calculated Using Actual Investment Return

- Act 82 Amortization Balance at January 1, 2002	\$46,564,760	
- Act 82 Amortization Payment for 2002	<u>9,121,224</u>	
- Comparative Interest Rate Balance at January 1, 2002		\$55,685,985
- Actual Investment Return on Balance		<u>(6,480,178)</u>
- Actual Act 82 Amortization Balance at January 1, 2003		\$49,205,807

Balance Calculated Using 10 Percent Investment Return

- Comparative Interest Rate Balance at January 1, 2002		\$ 55,685,985
- Interest at 10 Percent		<u>5,568,598</u>
- Comparative Act 82 Amortization Balance at January 1, 2003		\$ 61,254,583

Comparative Interest Rate Amortization Tabulation (Gain) Loss \$ 12,048,776

**Table 03-7: Amortization of Unfunded Actuarial Accrued Liability
Excluding Assets Arising from Pension Bond Proceeds**

Source	Original Amount	Year Est.	Target Year	Remaining Balance	Remaining Payments	Annual Amount
Initial	\$154,981,297	1998	2037	\$174,481,258	35	\$9,121,224
Assump. Chg	\$(4,327,036)	1998	2017	\$(3,820,860)	15	\$(429,460)
Experience Loss	\$270,401	1999	2013	\$ 228,284	11	\$30,483
Experience Gain	\$(3,675,180)	2000	2014	\$(3,264,851)	12	\$(413,989)
Experience Loss	\$ 2,412,237	2001	2015	\$ 2,240,527	13	\$ 271,520
Ben Mod – Active	\$15,075,742	2002	2021	\$14,781,064	19	\$ 1,492,502
Experience Loss	\$ 1,211,257	2002	2016	\$ 1,170,003	14	\$ 136,239
Investment Loss	\$ 3,463,728	2002	2032	\$ 3,345,757	30	\$ 292,845
Agg. Changes thru Last Val	N/A	N/A	2026	\$14,679,924	24	\$1,380,140
Assum. Chg.	\$(5,300,394)	2003	2022	\$(5,300,394)	20	\$(524,443)
Ben. Mod. - Act.	\$6,262,573	2003	2022	\$6,262,573	20	\$ 619,645
Ben. Mod. - Ret.	N/A					
Experience Loss	\$ 4,981,603	2003	2017	\$ 4,981,603	15	\$ 559,927
Investment Loss	\$ 2,634,424	2003	2032	\$ 2,634,424	30	\$ 230,584
Agg. Chgs – 2003	N/A	N/A	2021	\$8,578,206	19	\$ 885,713
Agg. Changes	N/A	N/A	2023	\$23,258,130	21	\$ 2,265,853
Aggregate	N/A	N/A		\$197,739,388		\$11,387,077

Details of the Calculation of Act 82 Payment

Act 82 Unfunded Actuarial Accrued Liability	\$ 154,981,297
40-Year Amortization Payment	\$ 12,920,696
Future Value at end of 40-Year period	\$4,440,684,474
Payment to provide the same future value with 10% annual earnings	\$ 9,121,224

Calculation of 2002 Experience (Gain) Loss Not Due to Investment Experience

Total Actuarial (Gain) Loss for 2002	\$ 7,616,027
Investment Losses from 2002	<u>\$(2,634,424)</u>
Net Actuarial and Contribution (Gain) Loss	\$ 4,981,603

Calculation of 2001 Experience (Gain) Loss Not Due to Investment Experience

Total Actuarial (Gain) Loss for 2001	\$ 4,674,985
Investment Losses from 2001	<u>\$(3,463,728)</u>
Net Actuarial and Contribution (Gain) Loss	\$ 1,211,257

Debt Service Schedule by Plan Year
Pension Bond Issue of December 15, 1996

	Date of Original Borrowing	Total Principal Borrowed	Total Principal to this Plan	Percentage to this Plan	Date of Refinancing
	12/15/96	\$37,710,000.00	\$37,710,000.00	100%	N/A
Plan Year	Required Principal Pymt.	Required Interest Pymt.	Annual Debt Service	Premium or Discount Amortized	Principal Balance at Valuation Date
1997		\$1,834,529.78	\$1,834,529.78		\$37,710,000.00
1998	\$525,000.00	2,564,976.25	3,089,976.25		37,710,000.00
1999	560,000.00	2,533,905.00	3,093,905.00		37,185,000.00
2000	590,000.00	2,499,965.00	3,089,965.00		36,625,000.00
2001	630,000.00	2,463,050.00	3,093,050.00		36,035,000.00
2002	670,000.00	2,423,065.00	3,093,065.00		35,405,000.00
2003	715,000.00	2,379,772.50	3,094,772.50		34,735,000.00
2004	760,000.00	2,332,930.00	3,092,930.00		34,020,000.00
2005	810,000.00	2,282,285.00	3,092,285.00		33,260,000.00
2006	865,000.00	2,227,631.25	3,092,631.25		32,450,000.00
2007	925,000.00	2,169,008.75	3,094,008.75		31,585,000.00
2008	985,000.00	2,106,210.00	3,091,210.00		30,660,000.00
2009	1,055,000.00	2,038,890.00	3,093,890.00		29,675,000.00
2010	1,125,000.00	1,966,950.00	3,091,950.00		28,620,000.00
2011	1,200,000.00	1,890,225.00	3,090,225.00		27,495,000.00
2012	1,285,000.00	1,808,220.00	3,093,220.00		26,295,000.00
2013	1,375,000.00	1,717,690.00	3,092,690.00		25,010,000.00
2014	1,475,000.00	1,617,940.00	3,092,940.00		23,635,000.00
2015	1,580,000.00	1,511,015.00	3,091,015.00		22,160,000.00
2016	1,695,000.00	1,396,390.00	3,091,390.00		20,580,000.00
2017	1,820,000.00	1,273,365.00	3,093,365.00		18,885,000.00
2018	1,950,000.00	1,141,415.00	3,091,415.00		17,065,000.00
2019	2,095,000.00	998,792.50	3,093,792.50		15,115,000.00
2020	2,250,000.00	844,545.00	3,094,545.00		13,020,000.00
2021	2,415,000.00	678,937.50	3,093,937.50		10,770,000.00
2022	2,590,000.00	501,260.00	3,091,260.00		8,355,000.00
2023	2,780,000.00	310,625.00	3,090,625.00		5,765,000.00
2024	2,985,000.00	105,967.50	3,090,967.50		2,985,000.00

Debt Service Schedule by Plan Year
Pension Bond Issue of March 10, 1998

	Date of Original Borrowing	Total Principal Borrowed	Total Principal to this Plan	Percentage to this Plan	Date of Refinancing
	3/10/98	\$255,865,000.00	\$57,569,624.42	22.3%	N/A
Plan Year	Required Principal Pymt.	Required Interest Pymt.	Annual Debt Service	Premium or Discount Amortized	Principal Balance at Valuation Date
1997					
1998		1,873,403.84	\$1,873,403.84		\$57,569,624.42
1999	\$ 225,000.00	3,740,451.43	3,965,451.43		57,569,624.42
2000	225,000.00	3,727,795.18	3,952,795.18		57,344,624.42
2001	225,000.00	3,715,071.43	3,940,071.43		57,119,624.42
2002	225,000.00	3,702,111.43	3,927,111.43		56,894,624.42
2003	225,000.00	3,689,050.18	3,914,050.18		56,669,624.42
2004	225,000.00	3,675,853.93	3,900,853.93		56,444,624.42
2005	563,624.99	3,652,273.94	4,215,898.93		56,219,624.42
2006	521,999.99	3,619,574.69	4,141,574.68		55,655,999.43
2007	553,499.99	3,586,902.44	4,140,402.43		55,133,999.44
2008	577,124.99	3,552,346.23	4,129,471.22		54,580,499.45
2009	623,249.99	3,512,858.03	4,136,108.02		54,003,374.46
2010	677,249.99	3,469,880.22	4,147,130.21		53,380,124.47
2011	726,749.99	3,426,005.22	4,152,755.21		52,702,874.48
2012	1,775,249.98	3,347,373.91	5,122,623.89		51,976,124.49
2013	2,471,624.98	3,212,979.43	5,684,604.41		50,200,874.51
2014	2,630,249.97	3,049,022.22	5,679,272.19		47,729,249.53
2015	2,860,874.97	2,870,560.66	5,731,435.63		45,098,999.56
2016	3,050,999.97	2,678,424.72	5,729,424.69		42,238,124.59
2017	4,105,124.96	2,445,850.66	6,550,975.62		39,187,124.62
2018	2,977,874.97	2,215,653.17	5,193,528.14		35,081,999.66
2019	4,506,749.95	1,970,149.48	6,476,899.43		32,104,124.69
2020	4,814,999.95	1,662,531.73	6,477,531.68		27,597,374.74
2021	5,143,499.95	1,333,901.23	6,477,401.18		22,782,374.79
2022	5,495,624.94	982,810.12	6,478,435.06		17,638,874.84
2023	5,871,374.95	607,699.11	6,479,074.06		12,143,249.90
2024	6,271,874.95	206,971.86	6,478,846.81		6,271,874.95

Section Eleven: Glossary

Accrued Benefit

The portion of the participant's retirement benefit that is attributable to service completed before the calculation date. The calculation typically uses actual service as of the calculation date and may involve other factors such as average pay at the determination date and projected service through the retirement eligibility date.

Act 205 of 1984

Municipal Pension Plan Funding Standard and Recovery Act of December 18, 1984, P.L. 1005, No. 205. The Act controls pension funding in Pennsylvania. This Act also provides for reporting of actuarial information and for a recovery program for qualifying municipalities.

Actuarial Accrued Liability

The portion of the actuarial cost assigned to prior years.

Actuarial Assumptions

Factors used by the actuary to forecast future events. These factors include items relating to future economic conditions, the survival of the participants and their beneficiaries, and the length of employment.

Actuarial Cost Method

A means of assigning costs to periods of employment. This method is used to determine a funding level that will provide sufficient assets to pay benefits for each participant upon retirement. Act 205 specifies that the entry age normal cost method, as described in the Act, should be used for this determination.

Actuarial Gain or Loss

The effect on the actuarial accrued liability of differences between events as predicted by the actuarial assumptions and those that actually occurred. This difference can increase or decrease the contribution in future years.

Actuarial Present Value

The lump sum value that is equivalent to an expected series of future payments. This value is determined by using the actuarial assumptions. An actuarial present value, as of the valuation date, represents the amount of funds that would be sufficient to provide the series of payments, if experience precisely matches the actuarial assumptions.

Actuarial Value of Assets

The value of current plan assets which is used by the actuary to evaluate the current funding status and determine future funding requirements. Pennsylvania Code, Title 16, Part IV, Section 203.2(a) requires that this value be between 80 and 120 percent of the fair market value of the assets.

Administrative Expenses

The average of expenses to administer the plan that is paid in the year preceding the most recent valuation and the anticipated expenses for the year following this valuation. The average is converted to a percentage of payroll and used as part of the Minimum Municipal Obligation calculation.

Amortization Payment

The annual payment required to eventually eliminate the unfunded actuarial accrued liability according to the schedule established in Act 205.

Funding Adjustment

Occurs when the actuarial value of assets exceeds the actuarial accrued liability; it is defined by Act 205 as 10 percent of the excess. This adjustment reduces the amount that must be contributed to the pension plan.

General Municipal Pension System State Aid

Annually municipalities receive a portion of the insurance premium tax levied on casualty insurance companies headquartered outside of Pennsylvania. If they have paid firefighters, they also receive a portion of the premium tax on out-of-state fire insurance companies. These taxes are distributed according to formula contained in Act 205.

Minimum Municipal Obligation

The amount that must be contributed to a pension plan by a municipality for a given year. The calculation of this amount uses the normal cost, anticipated administrative expenses, amortization payment or funding adjustment, and anticipated employee contributions to determine a municipality's contribution requirement. General Municipal Pension System State Aid may be used to reduce the contribution.

Normal Cost

The actuarial cost assigned to a given year to pay for the portion of the anticipated benefit derived from service during that year.

Unfunded Actuarial Accrued Liability

The amount by which the actuarial accrued liability exceeds the actuarial value of assets. A valuation will identify the value of changes in the unfunded actuarial accrued liability that result from changes in plan benefits, actuarial assumptions, or actuarial gains and losses.

Vesting

The participant's non-forfeitable right to receive a benefit, provided that the participant survives until benefit eligibility.