



# **ACTUARIAL VALUATION REPORT**

*for the*

**City of Pittsburgh  
Municipal Pension Fund**

*as of*

**January 1, 2001**

**Report Date: March 27, 2002**

# Table of Contents

	<u>Page</u>
Section One: Introduction .....	1
Section Two: Certification .....	5
Section Three: Valuation Highlights .....	6
Section Four: Summary of Plan Provisions.....	7
Section Five: Development of Contribution Requirements	
Table 01-1: Normal Cost and Actuarial Accrued Liability.....	11
Table 01-2: Actuarial (Gain) Loss Determination .....	12
Table 01-3: Amortization of Unfunded Actuarial Accrued Liability.....	13
Table 01-4: Required Municipal Contributions (MMO) .....	14
Section Six: Accounting Information	
Accumulated Plan Benefits .....	15
Pension Benefit Obligation.....	16
Section Seven: Actuarial Basis for Valuation	
Actuarial Assumptions.....	17
Actuarial Cost Method.....	19
Section Eight: Demographic Summaries .....	20
Section Nine: Plan Assets .....	27
Section Ten: Supplementary Exhibits for Plans Funded with Pension Bond Proceeds	
Table 01-5: Unfunded Actuarial Accrued Liability Excluding Assets Arising from Pension Bond Proceeds.....	29
Table 01-6: Actuarial (Gain) Loss Determination Excluding Assets Arising from Pension Bond Proceeds.....	30
Table 01-7: Amortization of Unfunded Actuarial Accrued Liability Excluding Assets Arising from Pension Bond Proceeds .....	31
Debt Service Schedule by Plan Year, Pension Bond Issue of December 15, 1996.....	32
Debt Service Schedule by Plan Year, Pension Bond Issue of March 10, 1998.....	33
Section Eleven: Glossary.....	34

## 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, 2001. Our actuarial valuation is based upon participant data as of January 1, 2001 and upon asset information as of December 31, 2000 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, 2000, the calculated value of assets in the Municipal Pension Fund is \$124,934,799. Section Nine contains exhibits illustrating the calculation of this amount.

### 2001 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, 2001 compared to the prior year are as follows:

	Current Year 2001	Prior Year 2000
<i>Normal Cost</i> as a Percentage of Total W-2 Payroll	4.125%	4.311%
<i>Expenses</i> as a Percentage of Total W-2 Payroll	0.900%	0.900%
<i>Amortization Payment</i>	\$3,547,609	\$1,788,649

The change in actuarial costs from year to year can be affected by changes in Plan provisions, assumption changes, and experience changes. No changes in Plan provisions were made between the prior and current valuations. A summary of the Plan provisions is set forth in Section Four. The most recent pension bonds were issued in March 1998. The 2001 debt service payment for these bonds is approximately \$3.94 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**

Act 205 requires that the City have an experience study prepared as of January 1, 2001. The purpose of the experience study is to compare the Plan's actual experience with the valuation assumptions. This comparison may indicate that actuarial assumptions should be changed. Changes in assumptions may be made for the 2002 valuation, if necessary.

### **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 \$15,454,485 since the prior valuation. The primary reason for the loss was that return on investment was significantly lower than the valuation assumption. In recent years, a number of participants terminated employment and elected to vest their benefits by continuing to make contributions to the Municipal Pension Fund. Data on these vested participants was not available before this valuation. Their inclusion in this valuation results in a loss if they terminated in prior years. Vested participants who terminated in 2000 would receive less of a benefit than expected and therefore create an actuarial gain. Other changes that reduced the actuarial loss have to do with improvements in valuing social security offsets to retirement and disability benefits. In the past, disabled participants were valued as if their benefit was not reduced by the social security offset. We have learned that disability benefits should be reduced at age 65. Date of hire data for retired participants was provided that allows for the more accurate determination of which retirees will have their benefits reduced at age 65. Also, improvements have been made in calculating the value of these offsets.

## **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:



Kevin P. Counihan, F.S.A., E.A.  
Consulting Actuary



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

## Section Three: Valuation Highlights

---

Participant Count	01/01/01	01/01/00	Change
Total Active	2,287	2,310	(23)
Vested	1,436	1,433	3
Not Vested	851	877	(26)
Total In Payment Status	1,684	1,710	(26)
Retirement Benefits	1,238	1,279	(41)
Disability Benefits	345	347	(2)
Survivor Benefits	101	84	17
Deferred	<u>19</u>	<u>0</u>	<u>19</u>
<b>Total</b>	<b>3,990</b>	<b>4,020</b>	<b>30</b>
<b>Average Monthly Benefit</b>			
<b>In Payment Status</b>			
Retirement Benefits	\$695	\$699	\$(4)
Disability Benefits	\$716	\$691	\$25
Survivor Benefits	\$283	\$335	\$(52)
Deferred	\$651	\$0	\$651
<b>Active Participant Averages</b>			
Hire Age	32.0	31.7	0.3
Attained Age	46.3	45.6	0.7
Normal Retirement Age	60.4	60.3	0.1
Assumed Future Service	16.0	17.0	(1.0)
Monthly Compensation	\$2,640	\$2,569	\$ 71
<b>Financial Data</b>			
Market Value of Assets	\$124,934,799	\$140,158,265	\$(15,223,466)
Accumulated Employee Contributions	\$ 34,467,114	\$ 33,065,742	\$ 1,401,372
<b>Cost Components</b>			
Normal Cost as a percentage of total payroll	4.125%	4.311%	-0.186%
Expenses as a percentage of total payroll	0.900%	0.900%	0.000%
Total	5.025%	5.211%	-0.186%
Amortization Payment	\$ 3,547,609	\$ 1,788,649	\$ 1,758,960



## Section Four: Summary of Plan Provisions

---

Plan Year	▼ Twelve-month period beginning January 1 and ending December 31
Plan Established	▼ May 28, 1915
<b>Principal Definitions</b>	
<i>Employee</i>	▼ 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
<i>Retirement Benefit Commencement Date</i>	▼ Assumed to be the first day of the month coincident with or next following eligibility for and election to retire
<i>Service Increment</i>	▼ 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
<i>Service</i>	▼ Assumed to be completed years of service calculated from date of hire through date of retirement or severance
<i>Normal Form of Payment</i>	▼ Monthly pension benefit payable for life
<b>Participation Requirements</b>	
<i>Entry Date</i>	▼ Following completion of 90-day probationary period
<i>Compensation</i>	▼ Base wages, plus "acting" or "in-grade" pay
<i>Average Compensation</i>	▼ Averaged over the 3-year period prior to retirement or severance
<i>Members hired after December 31, 1987</i>	▼ Averaged over the 4-year period prior to retirement or severance
<b>Normal Retirement</b>	
<i>Eligibility</i>	▼ Later of age 60 or completion of 8 years of service
<i>Monthly Benefit</i>	▼ 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

*Members hired prior to January 1, 1975*

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*

- ▼ Later of age 50 or
- ▼ Completion of 8 years of service

*Benefit Amount*

- ▼ 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*

- ▼ Permanent disablement in line of duty or
- ▼ Permanent disablement (not in line of duty) after completing 8 years of service

*Benefit Amount*

- ▼ 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 upon reaching age 65 by 50% of their social security benefit. 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
- ▼ Member's beneficiary receives amount equal to member's contributions

*Death Before Early Retirement Eligibility*

*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
- ▼ 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

*Spouse Predeceases Retiree*

*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

## Section Five: Development of Contribution Requirements

---

**Table 01-1: Normal Cost and Actuarial Accrued Liability**

<b>Normal Cost</b>	
Retirement Benefits	\$1,494,699
Disability Benefits	618,375
Preretirement Death Benefits	63,306
Postretirement Death Benefits	0
Refunds to Withdrawals	636,791
Medicare Premium Benefits	68,601
Vested Benefits	<u>419,184</u>
<b>Total</b>	<b>\$3,300,956</b>

**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	\$1,029,084	\$ 72,556,846	\$ 70,214,098	\$143,800,028
Disability Benefits	0	20,840,320	17,985,546	38,825,866
Survivor Benefits	0	2,523,823	0	2,523,823
Preretirement Death Benefits	0	0	2,499,659	2,499,659
Postretirement Death Benefits	0	0	0	0
Refunds to Withdrawals	0	0	1,989,249	1,989,249
Medicare Premium Benefits	0	0	7,881,151	7,881,151
Vested Benefits	<u>0</u>	<u>0</u>	<u>11,786,721</u>	<u>11,786,721</u>
<b>Total</b>	<b>\$1,029,084</b>	<b>\$ 95,920,989</b>	<b>\$112,356,424</b>	<b>\$209,306,497</b>

**Actuarial Present Value of Future Normal Costs**

Retirement Benefits	\$ 10,156,483
Disability Benefits	4,538,973
Preretirement Death Benefits	448,354
Postretirement Death Benefits	0
Refunds to Withdrawals	4,943,198
Medicare Premium Benefits	324,966
Vested Benefits	<u>3,238,711</u>
<b>Total</b>	<b>\$ 23,650,685</b>

**(\$23,650,685)**

**Actuarial Accrued Liability**

**\$185,655,812**

**Unfunded Actuarial Accrued Liability**

Actuarial Accrued Liability	\$185,655,812
Actuarial Value of Assets	<u>(124,934,799)</u>
Unfunded Actuarial Accrued Liability	<b>\$ 60,721,013</b>

**Table 01-2: Actuarial (Gain) Loss Determination**

**Reconciliation of Funded Status**

Unfunded Actuarial Accrued Liability as of January 1, 2000		\$43,557,079
Normal Cost Assumed		3,920,226
Interest Charged at Valuation Rate		4,272,957
Contributions Made		
- Municipality	\$ 694,463	
- State Aid Allocated	1,918,600	
- Employees	<u>3,238,242</u>	(5,851,305)
Interest Credited at Valuation Rate		(246,269)
Special Adjustment for Increase in Act 82 Interest Rate		<u>(103,689)</u>
Expected Unfunded Actuarial Accrued Liability Before Adjustments		\$ 45,548,999
Experience from Investment Return		
- Comparative Interest Rate Amortization Tab. (Gain) Loss	\$ 1,407,575	
- Other Investment Return (Gain) Loss	<u>15,615,796</u>	17,023,371
Experience (Gain) Loss from all Other Sources		(1,851,357)
Increase (Decrease) in Actuarial Accrued Liability		
- Benefit Modifications for Actives	\$0	
- Benefit Modifications for Retirees	0	
- Changes in Actuarial Assumptions	0	\$ 0
Actual Unfunded Actuarial Accrued Liability		<u>\$ 60,721,013</u>

**Loss (Gain) to be Amortized**

Experience (Gain) Loss from January 1, 2000		\$ 15,172,014
Actuarially Required Contributions and Bond Proceeds with Interest	\$6,380,045	
Actual Contributions with Interest	<u>(6,097,574)</u>	
Contribution (Gain) Loss		<u>\$ 282,471</u>
Loss (Gain) to be Amortized		\$ 15,454,485

**Comparative Interest Rate Amortization Tabulation**

Balance Calculated Using Actual Investment Return		
Act 82 Amortization Balance at January 1, 2000	\$7,236,287	
Act 82 Amortization Payment for 2000	<u>3,132,592</u>	
Comparative Interest Rate Balance at January 1, 2000		\$10,368,879
Actual Investment Return on Balance		<u>(370,687)</u>
Actual Act 82 Amortization Balance at January 1, 2001		\$ 9,998,192

**Balance Calculated Using 10 Percent Investment Return**

Comparative Interest Rate Balance at January 1, 2000		\$10,368,879
Interest at 10 Percent		<u>1,036,888</u>
Comparative Act 82 Amortization Balance at January 1, 2001		\$ 11,405,767

**Comparative Interest Rate Amortization Tabulation (Gain) Loss** **\$ 1,407,575**

**Table 01-3: Amortization of Unfunded Actuarial Accrued Liability**

Source	Original Amount	Year Est.	Target Year	Remaining Balance	Rem. Pymts	Annual Amount
<b>Initial</b>	\$53,226,758	1998	2037	\$57,051,224	37	\$3,132,592
<b>Assumption Change</b>	\$(4,327,036)	1998	2017	\$(4,049,780)	17	\$(434,873)
<b>Experience Loss</b>	\$531,346	1999	2013	\$ 493,523	13	\$60,475
<b>Experience Gain</b>	\$ (8,518,572)	2000	2014	\$(8,228,439)	14	\$(969,545)
<b>Agg. Change through Last Valuation</b>	N/A	N/A	2015	\$(11,784,696)	15	\$(1,343,943)
<b>Assumption Change</b>	N/A					
<b>Ben.Mod. - Active</b>	N/A					
<b>Ben.Mod. - Retired</b>	N/A					
<b>Experience Loss</b>	\$15,454,485	2001	2015	\$15,454,485	15	\$ 1,758,960
<b>Agg. Change-2001</b>	N/A	N/A	2015	\$15,454,485	15	\$ 1,758,960
<b>Aggregate Changes</b>	N/A	N/A	2015	\$ 3,669,789	15	\$ 415,017
<b>Aggregate</b>	N/A	N/A		\$60,721,013		\$ 3,547,609

**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

**Table 01-4: 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 01-1)	\$ 3,300,956
Total Annual Payroll	\$80,014,902
Percentages for Budget	
• Normal Cost (Normal Cost divided by Total Annual Payroll)	4.125%
• Administrative Expense (as a % of payroll)	0.900%
• Gross Normal Cost	5.025%
Net Amortization Payment (Table 01-3)	\$ 3,547,609
Funding Adjustment	\$ 0



## Section Six: Accounting Information

---

<b>Accumulated Plan Benefits</b>		<u>01/01/01</u>	<u>01/01/00</u>
<b>Assets at Market Value</b>		<u>\$124,934,799</u>	<u>\$140,158,265</u>
<b>Actuarial Present Value of Vested Benefits</b>			
Retired	\$ 95,920,989		
Deferred	1,029,084		
Employee Contributions	7,882,037		
Active	<u>52,669,128</u>		
<b>Total</b>		<u>\$157,501,238</u>	<u>\$156,652,909</u>
<b>Unfunded Actuarial Present Value of Vested Benefits</b>		<u>\$ 32,566,439</u>	<u>\$ 16,494,644</u>
<b>Actuarial Present Value of Accrued Benefits</b>			
Retired	\$ 95,920,989		
Deferred	1,029,084		
Employee Contributions	5,327,568		
Active	<u>55,454,926</u>		
<b>Total</b>		<u>\$157,732,567</u>	<u>\$156,855,406</u>
<b>Unfunded Actuarial Present Value of Accrued Benefits</b>		<u>\$ 32,797,768</u>	<u>\$ 16,697,141</u>

## Pension Benefit Obligation

### Active Members

Retirement Benefits	\$45,973,065
Disability Benefits	13,578,523
Preretirement Death Benefits	1,679,763
Postretirement Death Benefits	0
Refunds to Withdrawals	1,328,260
Medicare Benefits	5,798,539
Vested Benefits	<u>7,638,900</u>
Subtotal	\$75,997,050
Deferred Vested	\$ 1,029,084
Retirees	72,556,846
Disabled	20,840,320
Survivors	2,523,823
Total Pension Benefit Obligation*	\$172,947,123
Net Assets Available for Benefits at Market Value	<u>(124,934,799)</u>
Unfunded Pension Benefit Obligation	<u>\$ 48,012,324</u>

\*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, 2001*

#### **Economic**

Interest Rate

9.0 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 2000 Replacement Ratios remaining constant to retirement.

Retirees: Offset based on:

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

#### **Medicare Premiums**

For 2001, \$50 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

Active members are assumed to retire one year earlier than two-thirds of the way between: (a) age 60 with 8 years of service (or current age, if later); and (b) age 65 with 8 years of service (or current age, if later)

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

**Other**

Preretirement Death Benefits

2.5 percent of the pension, disability and withdrawal liabilities

## **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

Age	Years of Service										Total by Age
	1	2	3	4-5	6-10	11-15	16-20	21-25	26-30	30+	
-20	0	0	0	0	0	0	0	0	0	0	0
20-24	30	0	1	0	0	0	0	0	0	0	31
25-29	46	16	10	4	3	0	0	0	0	0	79
30-34	42	27	8	24	33	11	0	0	0	0	145
35-39	40	13	8	21	56	63	21	0	1	0	223
40-44	39	11	10	27	71	99	115	61	1	0	434
45-49	30	12	18	26	76	89	100	185	22	0	558
50-54	25	7	9	10	39	82	68	85	49	21	395
55-59	8	3	0	7	24	47	34	59	24	41	247
60-64	5	1	1	6	14	29	17	16	16	24	129
65+	1	2	0	3	5	9	6	6	3	11	46
<b>Total</b>	<b>266</b>	<b>92</b>	<b>65</b>	<b>128</b>	<b>321</b>	<b>429</b>	<b>361</b>	<b>412</b>	<b>116</b>	<b>97</b>	<b>2,287</b>

### Age Distribution of Deferred Vested Participants

<b>All Persons Entitled To Receive Benefits</b>			
<b>Age Group</b>	<b>Number of People</b>	<b>Total Annual Benefit</b>	<b>Average Annual Benefit</b>
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	2	\$ 13,043.40	\$ 6,521.70
50-54	7	66,541.92	9,505.99
55-59	5	35,374.08	7,074.82
60-64	2	19,357.20	9,678.60
65-69	1	4,612.68	4,612.68
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
<b>Total</b>	<b>19</b>	<b>\$ 148,476.24</b>	<b>\$ 7,814.54</b>

### 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	19	\$ 138,450.00	\$ 7,286.84
55-59	68	532,364.04	7,828.88
60-64	127	1,229,201.64	9,678.75
65-69	233	2,221,071.84	9,532.50
70-74	282	2,475,302.76	8,777.67
75-79	237	1,866,553.80	7,875.75
80-84	159	1,131,700.56	7,117.61
84+	113	726,012.60	6,424.89
<b>Total</b>	<b>1,238</b>	<b>\$10,320,657.24</b>	<b>\$ 8,336.56</b>



## 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	1	\$ 11,583.60	\$ 11,583.60
40-44	8	85,705.68	10,713.21
45-49	24	259,957.68	10,831.57
50-54	27	304,015.44	11,259.83
55-59	26	255,119.28	9,812.28
60-64	49	477,493.32	9,744.46
65-69	51	400,833.84	7,859.49
70-74	67	530,917.56	7,924.14
75-79	50	363,240.36	7,264.81
80-84	27	187,613.40	6,948.64
84+	15	86,803.56	5,786.90
<b>Total</b>	<b>345</b>	<b>\$ 2,963,283.72</b>	<b>\$ 8,589.23</b>

### 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	\$ 3,656.88	\$ 1,828.44
55-59	10	32,934.24	3,293.42
60-64	9	41,252.76	4,583.64
65-69	11	43,285.68	3,935.06
70-74	23	78,566.76	3,415.95
75-79	22	81,227.88	3,692.18
80-84	22	53,084.76	2,412.94
84+	2	8,484.72	4,242.36
<b>Total</b>	<b>101</b>	<b>\$ 342,493.68</b>	<b>\$ 3,391.03</b>

## 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	1	\$ 11,583.60	\$ 11,583.60
40-44	8	85,705.68	10,713.21
45-49	24	259,957.68	10,831.57
50-54	48	446,122.32	9,294.22
55-59	104	820,417.56	7,888.63
60-64	185	1,747,947.72	9,448.37
65-69	295	2,665,191.36	9,034.55
70-74	372	3,084,787.08	8,292.44
75-79	309	2,311,022.04	7,479.04
80-84	208	1,372,398.72	6,598.07
84+	130	821,300.88	6,317.70
<b>Total</b>	<b>1,684</b>	<b>\$ 13,626,434.64</b>	<b>\$ 8,091.71</b>

**Demographic Data as of January 1, 2001**

**Changes in Plan Participation for Active Members**

<b>Active Members</b>	<b>Number</b>
As of January 1, 2000	2,310
New Entrants	<u>126</u>
Total	2,436

**Separation from Active Service**

Transfer to another Plan	0
Separations w/Deferred Benefit	(11)
Separations w/o Deferred Benefit	(109)
Disability	(6)
Death	(8)
Retirement with a Service Retirement Benefit	<u>(15)</u>
Total Separations	(149)

**Data Adjustments**

Net Adjustments	<u>0</u>
Active Members as of January 1, 2001	2,287

**Changes in Plan Participants for Retired Members and Survivors**

	Deferred Vested	Regular Retirements	Disability Retirement	Survivors	Total
<b>As of January 1, 2000</b>	0	1,279	347	84	1,710
New Benefit Recipients	11	15	6	1	33
Death	0	(47)	(24)	0	(71)
Other Cessation of Benefits	0	0	0	0	0
Net Data Adjustments	8	(9)	16	16	31
<b>As of January 1, 2001</b>	19	1,238	345	101	1,703

## 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>1/1/00</u>	<u>1/1/01</u>
Market Value of Assets - Cash Basis	\$466,742,166	\$424,491,433
Accrued Interest	1,433,242	1,032,204
Accrued Contributions	0	0
Other Receivables	4,965	976
Accrued Expenses and Other Payables	<u>(571,744)</u>	<u>(2,466,181)</u>
Market Value of Assets - Accrual Basis	\$467,608,629	\$423,058,432

### Summary of Transactions for the Aggregated Trust

Balance as of January 1, 2000		\$467,608,629
Contributions Toward Pension Liability		
- Policemen's	\$13,106,108	
- Firemen's	8,910,200	
- Municipal	<u>5,851,305</u>	\$27,867,613
Miscellaneous Contributions and Pass Through Items		3,377,274
Interest and Dividends		24,600,511
Net Appreciation(Decline) in Fair Value Of Investments		(40,940,283)
Payments to Participants		
- Policemen's	\$25,979,602	
- Firemen's	13,926,548	
- Municipal	<u>17,132,760</u>	(57,038,910)
Expenses		<u>(2,416,402)</u>
Balance as of December 31, 2000		\$423,058,432

**Undivided Participation Calculation Calendar Year 2000 - Accrual Basis**

	<u>Policemen's</u>	<u>Firemen's</u>	<u>Municipal</u>	<u>Total</u>
January 1, 2000 Market Value	\$169,357,576	\$158,092,788	\$140,158,265	\$467,608,629
Plan-Specific Contributions	14,168,637	9,595,419	7,480,831	31,244,887
Plan-Specific Distributions	<u>(26,247,246)</u>	<u>(14,100,890)</u>	<u>(17,364,571)</u>	<u>(57,712,707)</u>
Sub-total	\$157,278,967	\$153,587,317	\$130,274,525	\$441,140,809
Sub-total Percentages	35.65%	34.82%	29.53%	100.00%
Allocated Expenses	(621,239)	(606,775)	(514,591)	(1,742,605)
Allocated Investment Earnings	<u>(5,825,128)</u>	<u>(5,689,509)</u>	<u>(4,825,135)</u>	<u>(16,339,772)</u>
December 31, 2000 Market Value	\$150,832,600	\$147,291,033	\$124,934,799	\$423,058,432

**Contributions and Distributions for 2000 - Accrual Basis**

<b>Plan-Specific Contributions</b>	<u>Policemen's</u>	<u>Firemen's</u>	<u>Municipal</u>	<u>Total</u>
State Aid:				
General Municipal Pension System State	\$ 7,125,850	\$ 4,205,550	\$ 1,918,600	\$13,250,000
Supplemental	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
<i>Total State Aid</i>	\$ 7,125,850	\$ 4,205,550	\$ 1,918,600	\$13,250,000
Member Contributions	3,397,869	3,180,675	3,238,242	9,816,786
City Contributions	2,582,389	1,523,975	694,463	4,800,827
Pass Through Contributions	1,062,529	685,219	1,611,176	3,358,924
Miscellaneous Income	<u>0</u>	<u>0</u>	<u>18,350</u>	<u>18,350</u>
<b>Total Contributions</b>	<b>\$14,168,637</b>	<b>\$9,595,419</b>	<b>\$ 7,480,831</b>	<b>\$31,244,887</b>

**Plan-Specific Distributions**

Benefit Payments to Participants	\$25,796,989	\$13,877,297	\$16,251,540	\$ 55,925,826
Refunds to Participants	182,613	49,251	881,220	1,113,084
Administrative Expenses	<u>267,644</u>	<u>174,342</u>	<u>231,811</u>	<u>673,797</u>
<b>Total Distributions</b>	<b>\$26,247,246</b>	<b>\$14,100,890</b>	<b>\$17,364,571</b>	<b>\$57,712,707</b>

## Section Ten: Supplementary Exhibits for Plans Funded with Pension Bond Proceeds

---

**Table 01-5: Unfunded Actuarial Accrued Liability Excluding Assets  
Arising from Pension Bond Proceeds**

Assets Excluding Pension Bond Proceeds		
Assets Excluding Pension Bond Proceeds at January 1, 2000		\$29,060,030
<b>Receipts</b>		
Employer Contributions	\$7,204,649	
Employee Contributions	3,238,242	
State Aid	1,918,600	
Supplemental State Assistance	0	
Investment Income	1,542,492	
Net Change in Market Value	(2,612,575)	
Pass Through Contributions	<u>1,629,526</u>	
Total Receipts		\$12,920,934
<b>Disbursements</b>		
Monthly Benefit Payments	14,640,364	
Refund of Employee Contributions	881,220	
Administrative Expenses	373,057	
Pass Through Payments	<u>1,611,176</u>	
Total Disbursements		(17,505,817)
<b>Assets Excluding Bond Proceeds at January 1, 2000</b>		<b>\$24,475,147</b>
<b>Unfunded Actuarial Accrued Liability Excluding Assets from Bond Proceeds</b>		
Actuarial Accrued Liability (Table 01-1)		\$185,655,812
Assets Excluding Bond Proceeds at January 1, 2000		<u>(24,475,147)</u>
Adjusted Unfunded Actuarial Accrued Liability		\$161,180,665

**Table 01-6: Actuarial (Gain) Loss Determination Excluding Assets  
Arising from Pension Bond Proceeds**

<b>Reconciliation of Funded Status</b>		
Unfunded Actuarial Accrued Liability as of January 1, 2000		\$154,655,314
Normal Cost Assumed		3,920,226
Interest Charged at Valuation Rate		14,271,799
Contributions Made		
- Municipality	\$7,204,649	
- State Aid Allocated	1,918,600	
- Employees	<u>3,238,242</u>	(12,361,491)
Interest Credited At Valuation Rate		(532,917)
Special Adjustment for Increase in Act 82 Interest Rate		<u>(301,913)</u>
Expected Unfunded Actuarial Accrued Liability Before Adjustments		159,651,018
Experience from Investment Return		
- Comparative Interest Rate Amortization Tabulation (Gain) Loss	\$4,098,462	
- Other Investment Return (Gain) Loss	<u>(387,560)</u>	3,710,902
Experience (Gain) Loss from all Other Sources		(2,181,255)
Increase (Decrease) in Actuarial Accrued Liability		
- Benefit Modifications for Actives	\$0	
- Benefit Modifications for Retirees	0	
- Changes in Actuarial Assumptions	0	0
Actual Unfunded Actuarial Accrued Liability		<u>\$161,180,665</u>
<b>Loss (Gain) to be Amortized</b>		
Experience (Gain) Loss from January 1, 2000		\$ 1,529,647
Actuarially Required Contributions	\$13,776,998	
Actual Contributions with Interest	<u>(12,894,408)</u>	
Contribution (Gain) Loss		<u>882,590</u>
Loss (Gain) to be Amortized		\$ 2,412,237
<b>Comparative Interest Rate Amortization Tabulation</b>		
Balance Calculated Using Actual Investment Return		
- Act 82 Amortization Balance at January 1, 2000	\$21,070,027	
- Act 82 Amortization Payment for 2000	<u>9,121,224</u>	
- Comparative Interest Rate Balance at January 1, 2000		\$30,191,251
- Actual Investment Return on Balance		<u>(1,079,337)</u>
- Actual Act 82 Amortization Balance at January 1, 2001		\$29,111,914
Balance Calculated Using 10 Percent Investment Return		
- Comparative Interest Rate Balance at January 1, 2000		\$ 30,191,251
- Interest at 10 Percent		<u>3,019,125</u>
- Comparative Act 82 Amortization Balance at January 1, 2001		\$ 33,210,376
<b>Comparative Interest Rate Amortization Tabulation (Gain) Loss</b>		<b>\$ 4,098,462</b>



**Table 01-7: 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
<b>Initial</b>	\$154,981,297	1998	2037	\$166,117,062	37	\$9,121,224
<b>Assump. Chg</b>	\$(4,327,036)	1998	2017	\$(4,049,780)	17	\$(434,873)
<b>Experience Loss</b>	\$270,401	1999	2013	\$ 251,153	13	\$30,776
<b>Experience Gain</b>	\$(3,675,180)	2000	2014	\$(3,550,007)	14	\$(418,292)
<b>Agg. Changes through Last Valuation</b>	N/A	N/A	2016	\$(7,348,634)	16	\$(822,390)
<b>Assum. Chg.</b>	N/A					
<b>Ben.Mod. - Act.</b>	N/A					
<b>Ben.Mod. - Ret.</b>	N/A					
<b>Exp. Loss</b>	\$2,412,237	2001	2015	\$2,412,237	15	\$ 274,550
<b>Agg. Changes -- 2001</b>	N/A	N/A	2015	\$2,412,237	15	\$ 274,550
<b>Agg. Changes</b>	N/A	N/A	2016	\$(4,936,397)	16	\$( 547,840)
<b>Aggregate</b>	N/A	N/A		\$161,180,665		\$8,573,384

**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

**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.