

**CITY OF EVANSTON
POLICE PENSION FUND**

**ACTUARIAL VALUATION
AS OF JANUARY 1, 2012 FOR THE
FISCAL YEAR ENDING DECEMBER 31, 2012**

May 25, 2012

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Tepfer Consulting Group, Ltd. was retained by the **City of Evanston and the City of Evanston Police Pension Fund** to perform an independent actuarial valuation for the Police Pension Fund. This valuation is permitted under 40 ILCS 5/22, Section 503.2.

The actuarial valuation was performed for the year ended December 31, 2012 and indicates a **statutorily required contribution in accordance with 40 ILCS 5/3, Section 125 of \$5,970,034 or 43.07% of member payroll, a recommended minimum contribution of \$8,109,454 or 58.50% of payroll, and an Annual Required Contribution in accordance with paragraph 36f of Statement No. 25 of the Governmental Accounting Standards Board of \$7,576,919 or 54.66% of payroll.** These contributions are net of contributions made by active member police officers during the fiscal year.

The results shown in this report have been calculated under the supervision of a qualified Actuary as defined in appropriate State statutes. All results are based upon demographic data submitted by the Police Pension Fund, financial data submitted by the Police Pension Fund, applications of actuarial assumptions, and generally accepted actuarial methods.

In our opinion, all calculations and procedures are in conformity with generally accepted actuarial principles and practices; and the results presented comply with the requirements of the applicable State statute, Actuarial Standards Board, or Statements of Governmental Accounting Standards, as applicable.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and future expectations, and represent a reasonable and adequate approach to the financing of the retirement program. The costs, actuarial liabilities and other information presented in this report, in our opinion, fully and fairly disclose the actuarial position of the plan.

I, Arthur H. Tepfer, am an Enrolled Actuary in good standing under the Employee Retirement Income Security Act of 1974. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. I certify that the results presented in this report are accurate and correct to the best of my knowledge.

TEPFER CONSULTING GROUP, LTD.



Arthur H. Tepfer, A.S.A., M.A.A.A.
Enrolled Actuary #11-02352

May 25, 2012

VALUATION OBJECTIVES

The **City of Evanston Police Pension Fund** provides benefits to members when they retire, die, become disabled or terminate employment. As with any plan providing these types of benefits, an appropriate budgeting pattern must be established to enable appropriate funds to be accumulated to meet all payments when due. The actual cost of the plan can best be expressed in the following simplistic manner:

ACTUAL COST EQUALS	Benefits Paid
	Plus
	Expenses Paid
	Less
	Investment Income Earned

If the actual cost is incurred on a "pay as you go" basis, then the future generations of members will be paying for the benefits of current plan participants. Proper financial planning calls for budgeting the actual cost of the plan over the working lifetime of current plan membership in order to establish an equitable allocation. An actuarial valuation is the procedure used to determine an appropriate amount to be contributed to the pension plan each year in order to attain this equity.

An actuarial valuation is an estimate at a particular point in time of the predicted incidence of the future benefit costs. Since the total actual cost of the plan is essentially unknown, pre-funding (budgeting for future benefit costs) requires certain assumptions about future events. Assumptions are made for such things as salary increases, terminations of participants, disablement of participants, death of participants and anticipated investment earnings. These assumptions, although not affecting the actual costs of the plan, will affect the incidence of predicted future costs. For proper funding, it is required that the Actuary select assumptions which are appropriate in light of the economic, demographic, and legislative environment as they relate to the pension program. The assumptions we have made concerning these future events are described more fully in Appendix 2 of this report. Based on these assumptions, a projection of future benefits was made and a current contribution level sufficient to provide the anticipated benefit payments was determined through the use of an actuarial cost method.

VALUATION OBJECTIVES
(Continued)

Selection of the Actuarial Cost Method

An actuarial cost method, sometimes called a “funding method”, therefore, is essentially an approach to budgeting the estimated future costs. There are many actuarial cost methods which are available to the actuary and each method operates differently. However, all funding methods accomplish the same objective—to assign to each fiscal year of the employer the portion assumed to have accrued in that year. The portion of the actuarial value of benefits assigned to a particular year in respect of an individual participant or the fund as a whole is called the **normal cost**. All funding methods are described by how the normal cost is calculated.

The actuarial cost method prescribed by the State statutes to determine the **statutorily minimum required contribution** for periods on or after January 1, 2011 is the Projected Unit Credit Cost Method. Under this actuarial cost method, the ongoing cost as a percentage of total payroll will increase. In this method, the normal cost is determined by first calculating the projected dollar amount of each participant’s accumulated benefit under the plan as of both the first day of the fiscal year and as of the last day of the fiscal year and then determining the difference between these two amounts. The second step in deriving the normal cost for a given participant is to multiply the dollar amount of this difference by the actuarial present value of \$1 of benefit.

The actuarial cost method selected by our firm to determine the **recommended plan contribution** is the Entry Age Normal Cost Method. Under this actuarial cost method, ideally, the ongoing cost as a percentage of total payroll should remain fairly stable. In this method, the normal cost is determined by assuming each participant covered by the plan entered the plan under the same conditions that will apply to future plan entrants. The annual normal cost assigned to each year of an employee’s career is calculated as a level percentage of the employees assumed earnings each year. These normal costs accumulate to the present value of the employee’s benefit at retirement age.

Under both the Entry Age Normal Cost Method and the Projected Unit Credit Cost Method, the total funding of projected benefit costs is allocated between an **unfunded liability**, representing past benefit history, and future normal costs. This allocation is based on the assumption that the municipality will pay the normal cost for each plan year on a regular basis. It should be noted that although the term “unfunded liability” is applied to both funding methods, the resulting amount is different because of the method of calculation. Another feature of these methods is that only the unfunded liability is affected by the experience of the plan, and therefore any adjustments are made in the future amortization payments.

In addition to the methodology changes described above, P.L. 96-1495 also addressed the valuation of pension fund assets—the second component in the determination of the unfunded liability. The statute now provides that the actuarial value of a pension fund’s assets be set equal to the market value of the assets on March 30, 2011 and that, in determining the actuarial value of assets after that date, any actuarial gains or losses from investment returns incurred in a fiscal year be recognized in equal amounts over the 5-year period following that fiscal year.

VALUATION OBJECTIVES
(Continued)

The actuarial valuation process is usually repeated each year and is to a certain extent self-correcting. As part of these actuarial cost methods, any deviation of actual experience from the chosen actuarial assumptions will be reflected in future contributions. A complete description of these actuarial cost methods is explained in Appendix 4 of this report.

Appendix 3 of this report contains a summary of the principal provisions of the applicable statute.

Despite the statutory language which requires an application of the Projected Unit Credit method, we feel that funding under this method as a **level percentage of payroll** severely undermines the benefit security of the retirement system and transfers the payment for currently earned pensions to future generations of taxpayers. For these reasons, our valuation report presents a recommended minimum contribution which will operate to maintain the fundamental fiscal soundness of the retirement program, although a statutorily required contribution has also been calculated. The calculation of the recommended minimum contribution is based upon an amortization payment of 90% of any unfunded accrued liabilities as a **level dollar amount** over 30 years from January 1, 2011, the effective date of P.A. 96-1495. The calculation of the statutorily required contribution is based upon an amortization payment of 90% of any unfunded accrued liabilities as a **level percentage of payroll** over 30 years from January 1, 2011, the effective date of P.L. 96-1495.

Although, I do not agree with the statutorily required level percentage of payroll methodology of determining the amortization of the unfunded accrued liability, I would be remiss if I did not advise my funds as to a "statutorily" acceptable calculation under the State law. ***I patently consider the calculation methodology under the statute to be actuarially unsound for funding of municipal retirement programs.***

Effective for periods beginning after June 15, 1996, the Governmental Accounting Standards Board has issued Statement No. 25 "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans". This Statement establishes a financial reporting framework for defined benefit pension plans that distinguishes between two categories of information: (a) current financial information about plan assets and financial activities and (b) actuarially determined information, from a long-term perspective, about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due. The calculation of the Annual Required Contribution (ARC) is described in paragraph 36f of the Statement and is based upon an amortization payment of any unfunded accrued liabilities as either a level dollar amount or a level percentage of total payroll over a maximum of 40 years from the effective date of the Statement. Any significant increase in the total unfunded actuarial liability resulting from a change in actuarial methodology should be amortized over a period not less than 10 years.

Actuarial experience since the last actuarial valuation

As part of the actuarial valuation process, it is helpful to examine the actual experience of the fund as compared to the experience which is expected by the actuarial assumptions. The measurement of any deviations of actual to expected experience is commonly referred to as a

VALUATION OBJECTIVES (Continued)

“Gain and Loss Analysis”. In performing this analysis, the actuary analyzes each actuarial assumption used in the valuation process. It is highly unlikely that actual experience will follow expected experience on a year-by-year basis. It is hoped that over the long term, if the actuarial assumptions are “reasonable”, the total gains and losses will offset each other.

A “gain and loss analysis” is a useful tool to examine whether the actuarial assumptions used to determine the municipal tax levy are suitable. Care must be taken in placing too much credibility in a short-term analysis as the assumptions are more appropriately measured over the long term. Nonetheless, an annual evaluation of the actuarial assumptions will assist in identifying trends which, if unnoticed, can lead to inappropriate conclusions. When these trends are recognized, it is the actuary’s responsibility to modify one or more of the assumptions to better anticipate future experience.

Some assumptions are easier to measure than others. In small plans, credible analysis can generally be made regarding the economic (financial) assumptions. These primarily include investment and salary increase assumptions. Unfortunately, it is often impossible to establish credible long term analysis of demographic assumptions (rates of termination, disability, retirement and mortality). Therefore, in choosing demographic assumptions, the actuary generally relies upon standardized tabular assumptions modified only by fund-specific characteristics.

The actuarial gain and loss analysis for the current year is presented in Exhibit 3-C and 3-D of the report. Exhibit 3-C shows the impact of the actuarial gains or losses on the statutorily required contribution through a reconciliation of this contribution from the end of the prior valuation year to the end of the current valuation year. Exhibit 3-D derives the actuarial gain or loss in total as well as separating the individual financial and demographic components.

The overall experience gain (loss) for the year was \$ (73,994) or 0.05% of the accrued liability at the beginning of the plan year. The dollar amount for the plan’s current statutorily required contribution is 116.35% of the prior year’s contribution. When measured as a percentage of payroll, the contribution level has changed from 39.11% to 43.07%.

Factors Influencing the Choice of Actuarial Assumptions

As part of the consulting process, it is our policy to talk with selected members of the Board of Trustees and the Sponsor’s representatives for the **City of Evanston Police Pension Fund** in order to obtain information which will enable the Actuary to properly choose the actuarial assumptions which are most appropriate for the current cost determination for the pension fund.

**VALUATION OBJECTIVES
(Continued)**

Prior to the meeting, statistics are compiled concerning historical investment returns, salary increases, retirement incidence and other factors which are influential in the actuarial assumption setting process. Based upon an analysis of the specifics as they relate to the **City of Evanston Police Pension Fund** and a general understanding of the inter-relationships of the actuarial assumptions, the Board, the Sponsor and the Actuary reach a mutual agreement as to the assumptions which will be used in the current actuarial valuation.

Published statistics regarding experience for police and firefighters are available from the State of Illinois Department of Insurance. These statistics form the basis of the actuarial assumptions selected by the State Actuary in the valuation of pension funds covered under the Downstate Pension System. We have found in our consulting, that whenever appropriate, the actuarial assumptions used by the State Actuary are relied upon as a starting point. However, in order to make the calculations more "**Evanston-sensitive**", the analysis of the actual historical performance is carefully examined.

Experience Analysis

As discussed earlier, each year the actuarial process examines the experience of the fund. General parameters indicate that a variance of less than 3% of the unfunded liability is acceptable to assure that the assumptions used remain suitable. The measurement compares the actual unfunded liability to the expected unfunded liability. The total gain and loss developed is then analyzed by individual assumption to assure appropriateness. Based upon the results of this year's analysis, both in aggregate and individually, we have determined that the chosen assumptions remain suitable for continued use. Please see the section regarding change in fiscal year to further explain the change in the annual contribution.

Demographic considerations

For this valuation it was noted that the force continues to remain stable as to its size and demographic composition. In the current valuation, it was observed that the number of inactive participants (174, exclusive of terminated participants who are due a refund of their contributions) as compared to active participants (163) in the Fund is slightly higher than the State average (52% of the total participants are inactive as compared to a State average of 39%); on a liability basis the Fund is also slightly higher than the State averages. Nonetheless, the average age and service of the active participating group is essentially at the State average.

Of further concern, is the fact that there are currently 18 police officers who are eligible to retire and 15 police officers who will become eligible in the next 5 years. This represents about 20% of the current active group. Additionally, pension payments have been escalating. Nonetheless, absent a large growth in the active force, with proper funding, the fund's position should become more favorable for the foreseeable future and although improving the fund is still not in a strong financial condition.

As would be expected in this situation, a very large portion of the assets available for investment has been committed to provide benefits for existing pensioners and beneficiaries. Essentially

**VALUATION OBJECTIVES
(Continued)**

then, all of the assets in the plan are already dedicated to cover the liabilities for the currently retired participants. Additionally, pension disbursements on an annual basis total approximately \$8.7 million and investment earnings are currently insufficient to provide for these payments on an ongoing basis and generally have been for the past few years.

As indicated last year, municipal contributions and contributions by active police officers are being used to pay current expenses. These funds are generally the major source of new funds for investment purposes to accumulate reserves. Even with improved investment returns, the maturing of the employee group requires that the fund be carefully monitored during the next few years to assure that an orderly funding progress is maintained. If investment income remains insufficient to pay the existing pensioners, then City and participant contributions will continue to be used.

The Trustees should be advised that this is a potentially dangerous situation regarding the fund. Nonetheless, the fund currently is modestly growing and is clearly on a path to recovery.

Financial considerations

In these uncertain times, the fund continues to experience very limited short-term investment growth as can be noted in the charts in Section 5B and 5C of this valuation. Nonetheless, the fund continues to maintain adequate funded ratios. The fund has earned marginal rates of return over the short term. As shown in Exhibit 5-C of our report, the composite rate of return for the fund since 2009 is 3.68%, however longer term results indicate a sounder overall rate of return. The investment smoothing method adopted initially by the fund and now mandated by statute serves to level the contribution and shield against annual investment volatility. However, it is not unnoticed that annual pension payments far exceed the investment income and an annual investment return of over 12% would be needed to cover the outgoing benefit expenses. Clearly municipal contributions will remain at high levels until the fund can annually increase its investment return.

Effect of change in fiscal year

P.A. 96-1495, effective January 1, 2011 provided the following language relating to amortization payments:

“...an annual amount sufficient to bring the total assets of the pension fund up to 90% of the total actuarial liabilities of the pension fund by the end of municipal fiscal year 2040, as annually updated and determined by an enrolled actuary...”

There has been speculation as to what constitutes municipal fiscal year 2040 for funds which maintain off calendar years. We took a conservative view last year and assumed the final amortization payment would occur on February 28, 2040. With the change in fiscal year we now assume that the final amortization payment will occur on December 31, 2040 which has a positive effect of extending the amortization period and thereby lowering the amortization cost in the current fiscal year. This anomaly should not occur in future years.

RESULTS OF VALUATION

The following exhibits present the results of our actuarial valuation of the **City of Evanston Police Pension Fund** for the fiscal year January 1, 2012 through December 31, 2012.

Exhibit 1 indicates that the recommended minimum contribution, calculated using the Entry Age Normal Cost method (EANC), from the City is \$8,109,454 or 58.50% of total participating payroll. **Under the Entry Age Normal actuarial cost method selected, this percentage of payroll should remain reasonably level over the lifetime of the plan.**

Exhibit 1 also indicates that the statutory minimum contribution, calculated using the Projected Unit Credit method (PUC), from the City is \$5,970,034 or 43.07% of total participating payroll. **Under the Projected Unit Credit actuarial cost method selected, this percentage of payroll should increase over the lifetime of the plan.**

Exhibits 2 and 3 provide specific information used to develop the recommended minimum and statutorily required City contribution.

Exhibit 4 presents a brief description of the demographic characteristics of the current member group.

Exhibit 5 shows information relating to the pension assets.

Appendix 1 provides information in accordance with the Governmental Accounting Standards Board relating to financial disclosure of pension costs in the auditor's report.

**GENERAL VALUATION RESULTS FOR FISCAL YEAR
JANUARY 1, 2012 THROUGH DECEMBER 31, 2012**

Recommended Minimum Contribution

1.	Entry Age Normal Cost:	\$ 3,458,656
2.	Unfunded Actuarial Accrued Liability (or Surplus):	86,190,871
3.	Actuarial Value of Assets:	72,266,706
4.	Annual Salaries of Active Police Officers:	13,328,613
5.	Recommended Minimum Contribution from the City:	8,109,454
	Contribution Percentage:	58.50%*

Statutory Minimum Contribution

1.	Projected Unit Credit Normal Cost:	\$ 3,655,007
2.	Unfunded Actuarial Accrued Liability (or Surplus):	78,337,651
3.	Actuarial Value of Assets:	72,266,706
4.	Annual Salaries of Active Police Officers:	13,328,613
5.	Statutory Minimum Contribution from the City:	5,970,034
	Contribution Percentage:	43.07%*

* Projected for the fiscal year ending December 31, 2012.

SUMMARY OF SPECIFIC VALUATION RESULTS

	<u>Number</u>	<u>Actuarial Present Value of Projected Benefits</u>	<u>Entry Age Normal Cost</u>	<u>Projected Unit Credit Normal Cost</u>
1. Active Police Officers:	163			
Retirement Pension:		\$71,286,461	\$2,472,900	\$2,719,989
Survivors Pension:		2,519,983	138,768	141,425
Disability Pension:		9,739,827	633,248	612,977
Withdrawal Pension:		2,490,435	213,740	180,616
TOTAL	163	\$86,036,706	\$3,458,656	\$3,655,007
2. Inactive Police Officers and Survivors:				
Normal Retirees:	123	\$89,471,089		
Widows (Survivors):	29	6,507,081		
Children (Survivors):	0	0		
Disabled Retirees:	16	8,762,138		
Deferred Vested:	6	1,093,787		
Terminated/Separated:	15	173,113		
TOTAL	189	\$106,007,208		

**SUMMARY OF SPECIFIC VALUATION RESULTS
(Continued)**

	<u>Entry Age Normal (EAN)</u>	<u>Projected Unit Credit (PUC)</u>
3. Total Actuarial Present Value of Projected Benefits:	\$192,043,914	N/A
4. Actuarial Present Value of Future Normal Costs:	33,586,337	N/A
5. Actuarial Accrued Liability: [(3) - (4)]	158,457,577	150,604,357
6. Actuarial Value of Assets:	72,266,706	72,266,706
7. Unfunded Actuarial Accrued Liability (or Surplus): [(5) - (6)]	86,190,871	78,337,651
8. Funded Ratio Percentage: [(6) ÷ (5)] x 100	45.61%	47.98%

HISTORY OF FUNDED PERCENTAGES

For the Year beginning March 1	EAN		PUC	
	<u>Valuation Assets</u>	<u>Accrued Liabilities</u>	<u>Accrued Liabilities</u>	<u>Funded Percentage</u>
2012*	\$72,266,706	\$158,457,577	\$150,604,357	47.98%
2011	71,347,257	156,201,256	148,719,446	47.97
2010	68,998,555	166,228,478	N/A	N/A
2009	66,514,296	154,971,310	N/A	N/A
2008	64,355,691	145,458,945	N/A	N/A

*Fiscal year changed to January 1

DEVELOPMENT OF RECOMMENDED MINIMUM CITY CONTRIBUTION

	Fiscal Year January 1, 2012 through <u>December 31, 2012</u>
1. Entry Age Normal Cost:	\$3,458,656
2. Recommended Minimum Payment to Amortize 90 % of the Entry Age Normal Unfunded Accrued Liability <u>as a level dollar amount</u> over 28.99932 Years from January 1, 2012:	5,354,727
3. Interest on (1) and (2):	616,937
4. Credit for Surplus:	0
5. Total Recommended Minimum Contribution for Fiscal Year 2012: [(1) + (2) + (3) + (4)]	9,430,320
6. Active Member Contributions (9.91% of Salaries):	1,320,866
7. Net Recommended Minimum City Contribution: [(5) - (6)]	8,109,454

DEVELOPMENT OF STATUTORILY REQUIRED CITY CONTRIBUTION
(NOTE THAT THIS CONTRIBUTION CALCULATION IS NOT RECOMMENDED)

	Fiscal Year January 1, 2012 through <u>December 31, 2012</u>
1. Projected Unit Credit Normal Cost:	\$3,655,007
2. Minimum Payment to Amortize 90% of the Projected Unit Credit Unfunded Accrued Liability <u>as a level percentage of payroll</u> over 28.99932 Years from January 1, 2012:	3,158,918
3. Interest on (1) and (2):	476,975
4. Credit for Surplus:	0
5. Total Statutorily Required Contribution for Fiscal Year 2012: [(1) + (2) + (3) + (4)]	7,290,900
6. Active Member Contributions (9.91% of Salaries):	1,320,866
7. Net Statutorily Required City Contribution: [(5) - (6)]	5,970,034

**RECONCILIATION OF THE CHANGE
IN THE STATUTORILY REQUIRED CITY CONTRIBUTION**

1.	Statutorily Required Contribution for Year ending 12/31/2011:	\$5,131,019*
2.	Increase in Normal Cost and Amortization Payment due to anticipated pay changes:	273,870
3.	Increase/(Decrease) in Normal Cost resulting from actual pay changes:	47,116
4.	Effect of Asset Smoothing:	32,122
5.	Increase/(Decrease) resulting from changes in assumptions:	0
6.	Increase/(Decrease) resulting from other demographic and financial sources (retirements, deaths, new entrants, salary changes, etc.):	485,907
7.	Statutorily Required Contribution for Year ending December 31, 2012:	\$5,970,034

*Short fiscal year contribution

DERIVATION OF EXPERIENCE GAIN(LOSS) AND COST METHOD CHANGE
AS OF JANUARY 1, 2012

1.	PUC Unfunded Actuarial Accrued Liability at March 1, 2011:	\$77,372,189
2.	PUC Normal Cost Due at March 1, 2011:	2,899,150
3.	Interest on (1) and (2) to January 1, 2012 (at 7.00% per year):	4,682,495
4.	Contributions made for the prior year with interest to January 1, 2012:	6,690,177
5.	Expected PUC Unfunded Actuarial Accrued Liability at January 1, 2012 Before Assumption Changes [(1) + (2) + (3) - (4)]:	78,263,657
6.	Change in PUC Unfunded Actuarial Accrued Liability due to Assumptions Change at January 1, 2012:	0
7.	Expected PUC Unfunded Actuarial Accrued Liability at January 1, 2012 [(5) + (6)]:	78,263,657
8.	Actual PUC Unfunded Actuarial Accrued Liability at January 1, 2012:	86,190,871
9.	Gain (Loss) for the prior Plan Year [(7) - (8)]:	<u>\$ (73,994)</u>

DERIVATION OF EXPERIENCE GAIN(LOSS) AS OF JANUARY 1, 2012

The experience gain (loss) reported above is the net result of the following:

1.	<u>FINANCIAL SOURCES</u>	
	a) Investment experience (based upon market value of assets):	\$ (2,989,930)
	b) Contribution experience:	309,514
	c) Benefit Payments experience:	170,082
	d) Salary increases (greater)/lower than expected:	<u>(208,636)</u>
	Total from Financial Sources:	(2,718,970)
2.	<u>DEMOGRAPHIC SOURCES</u>	
	Mortality, retirement, disability, termination, etc.:	3,521,427
3.	<u>ACTUARIAL ADJUSTMENTS</u>	
	Market value adjustment for asset smoothing, including expenses	(876,451)
4.	<u>GAIN (LOSS) ALL SOURCES</u>	
	Total Gain (Loss) for the prior Plan Year [(1) + (2) + (3)]	\$ (73,994)

SUMMARY OF DEMOGRAPHIC INFORMATION AS OF JANUARY 1, 2012

	<u>Number</u>	<u>Projected Annual Salaries (Fiscal Year 2012)</u>
Active Police Officers:	163	\$13,328,613

	<u>Number</u>	<u>Total Monthly Benefits</u>
Normal Retirees:	123	\$583,510
Survivors (Widows):	29	73,257
Survivors (Children):	0	0
Disabled Retirees:	16	49,311
Deferred Vested:	6	0
Terminated/Separated:	15	173,113 *

* Return of Contributions

The actuarial valuation was performed as of January 1, 2012 to determine contribution requirements for fiscal year 2012.

AGE AND SERVICE DISTRIBUTION

Attained Age	COMPLETED YEARS OF SERVICE										Average Salaries			
	0-1	2-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total			
15-19														
20-24	4												4	58,930
25-29	4	19	2										25	69,276
30-34	1	18	19	2									40	75,120
35-39	1	2	19	4									26	80,783
40-44	1		8	11	6	1							27	86,911
45-49			1	2	5	7							15	92,333
50-54			1	1	3	8	3						16	95,786
55-59			1	2		1	1	3					9	100,970
60-64						1							1	82,889
65+														
TOTAL	11	39	51	22	14	18	4	3	1				163	\$ 81,770

Age = 38.46 Years

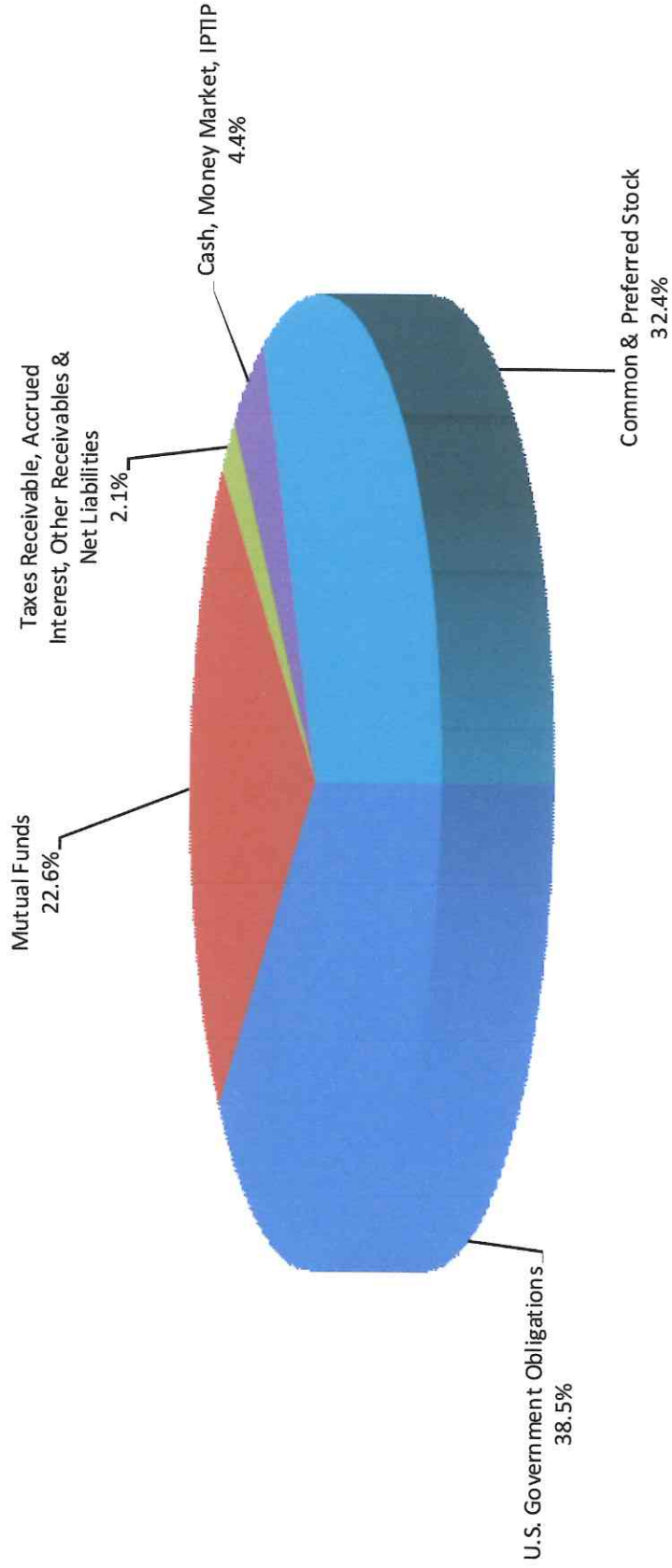
Service = 10.57 Years

ASSET INFORMATION

Cash, Money Market, IPTIP	\$3,211,981
Certificates of Deposit	0
State and Local Obligations	0
U.S. Government Obligations	27,897,001
Insurance Company Contracts	0
Pooled Investment Accounts	0
Mutual Funds	16,375,844
Common & Preferred Stocks	23,484,485
Taxes Receivable	1,081,425
Accrued Interest	351,179
Other Receivables	129,904.
Net Liabilities	(23,307)
	<hr/>
Net Present Assets at Market Value	\$72,508,512

The chart on the following page shows the percentage of invested assets.

ASSET INFORMATION



DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

	Item	Amount	Weight for Timing	Weighted Amount
1.	Market Value of Assets, March 1, 2011*			\$72,465,514
2.	Actual Income and Disbursements in prior year weighted for timing			
	Contributions Received During 12/31/11 fye	6,516,034	50.00%	3,258,017
	Miscellaneous Revenue	0	50.00%	0
	Benefit Payments and Expenses Made During 12/31/11 fye	7,465,245	(50.00)%	<u>(3,732,623)</u>
	Total			(474,606)
3.	Market Value of assets adjusted for actual income disbursements [(1) + 2(d)]*			\$71,990,909
4.	Assumed rate of return on plan assets for the year			7.00%
5.	Expected return on assets [(3) x (4)]			\$ 4,199,470
6.	Market Value of Assets, March 1, 2011*			<u>\$72,465,514</u>
7.	Income (less investment income) for prior year			6,516,034
8.	Disbursements paid in prior year			7,465,245
9.	Market Value of Assets, January 1, 2012*			\$72,508,512
10.	Actual Return [(9) + (8) - (7) - (6)]			992,209
11.	Investment Gain/(Loss) for Prior Year [(10) - (5)]			\$ (3,207,261)

DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS
(Continued)

12. Market Value of Assets, January 1, 2012:*				\$72,508,512
13. Deferred investment gains and (losses) for last 4 years:				
	<u>Plan Year Beginning</u>	<u>Gain/(Loss)</u>	<u>Percent Deferred</u>	<u>Deferred Amount</u>
a)	2011**	\$ (3,207,261)	80%	\$ (2,565,809)
b)	2010	2,359,495	60%	1,415,697
c)	2009	5,567,670	25%	1,391,918
d)	Total	\$ 4,719,904		\$ 241,806
14. Actuarial value of plan assets for GASB reporting, January 1, 2012: Item (12) less item 13(d)*				\$72,266,706
15. Taxes receivable:				0
16. Actuarial value of plan assets for funding January 1, 2012 :				\$72,266,706

Notes: * excluding taxes receivable

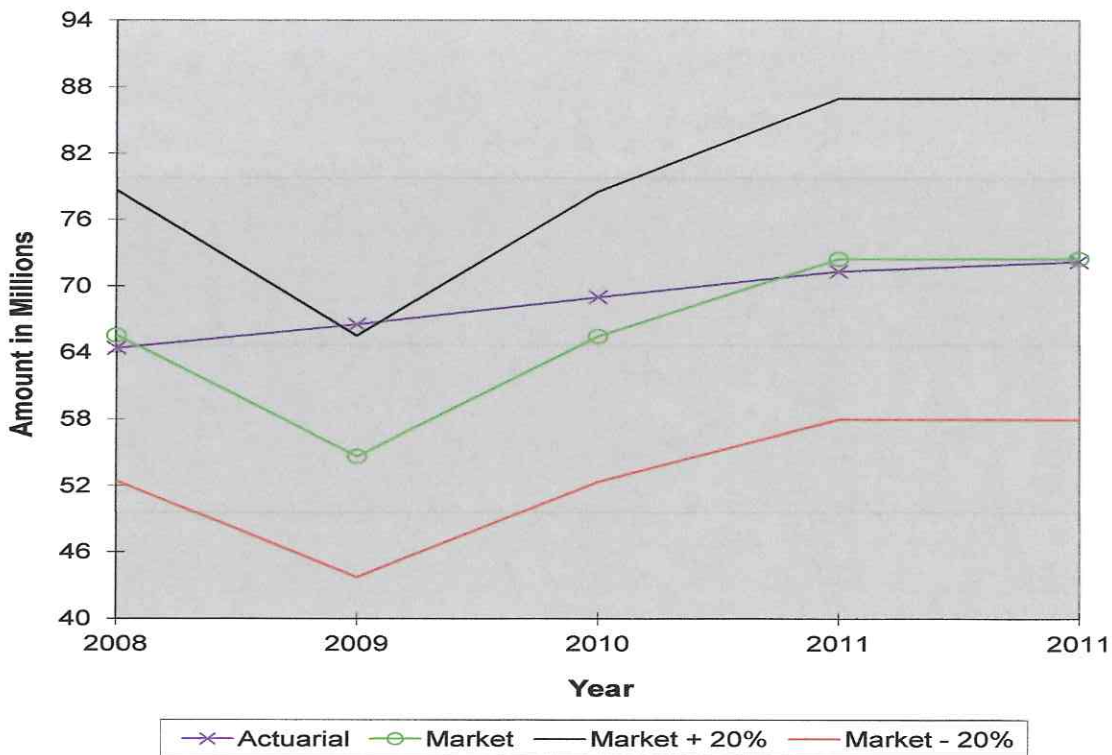
* **The calculated value is determined by adjusting the market value of assets to reflect investment gains and losses (the difference between the actual investment return and the expected investment return) during years prior to 2010 at 25% per year and during years following 2009 at 20% per year..

ASSET HISTORY

<u>For the Year beginning March 1</u>	<u>Actuarial Value of Assets</u>	<u>Market Value of Assets</u>
2011*	\$72,266,706	\$72,508,512
2011	71,347,527	72,465,513
2010	68,998,555	65,449,707
2009	66,514,296	54,618,299
2008	64,365,651	65,525,333

*In 2012 the fiscal year was changed to January 1

The chart below presents a comparison between the Actuarial Value of Assets and the Market Value of Assets for the current year and the five preceding years. The chart also illustrates the corridor 20% above and 20% below the Market Value of Assets.



ANALYSIS OF INVESTMENT RETURN

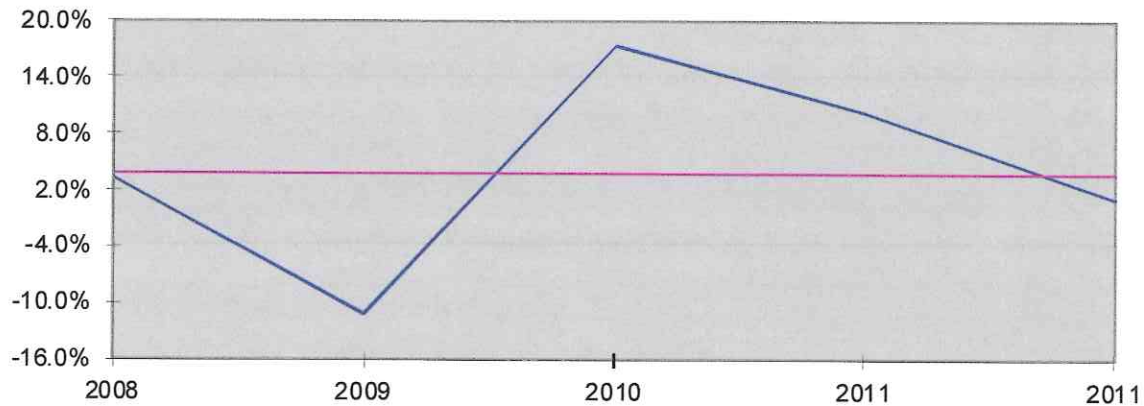
<u>Fiscal Year Ending February 28</u>	<u>Annual Rate of Return</u>
2011*	1.11%
2011	10.24
2010	17.26
2009	-11.17
2008	3.18

Composite

2008-2011	3.68%
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*Fiscal Year changed to December 31

The following chart presents a progression of these percentages in graphical form.



THIRTY - YEAR PROJECTION OF PAYMENTS

Year	-----Termination-----		-----Payouts from Active Group Upon-----		Retirement	Disability	-----Payouts from-----		Total
	Lump Sum	Deferred Pension	Death	Retired Group			Deferred Pensioners		
2012	44,020	0	38,586	311,693	49,313	8,472,950	173,113	9,089,675	
2013	35,689	0	54,631	624,358	92,242	8,413,347	0	9,220,267	
2014	31,810	0	54,375	946,416	135,326	8,348,339	31,143	9,547,409	
2015	25,585	0	69,885	1,246,451	179,905	8,278,326	31,783	9,831,935	
2016	14,045	0	83,478	1,517,302	226,709	8,190,888	32,397	10,064,819	
2017	11,006	0	99,393	1,820,649	275,386	8,090,265	32,979	10,329,678	
2018	4,482	0	114,262	2,201,063	326,461	7,975,143	33,520	10,654,931	
2019	0	0	129,329	2,498,685	378,914	7,857,763	56,937	10,921,628	
2020	0	0	144,900	2,809,520	433,888	7,711,821	57,867	11,157,996	
2021	0	0	159,853	3,130,027	487,826	7,571,850	58,698	11,408,254	
2022	0	0	175,409	3,441,260	543,545	7,391,557	83,146	11,634,917	
2023	0	0	190,462	3,790,562	598,011	7,223,111	115,216	11,917,362	
2024	0	0	206,061	4,122,541	653,531	7,005,576	116,840	12,104,549	
2025	0	0	220,307	4,445,846	706,663	6,767,776	118,283	12,258,875	
2026	0	0	235,226	4,950,046	764,726	6,525,486	119,493	12,594,977	
2027	0	0	247,730	5,380,811	822,939	6,249,049	120,456	12,820,985	
2028	0	0	262,060	5,893,085	888,314	5,953,623	121,153	13,118,235	
2029	0	0	271,757	6,310,052	942,709	5,661,357	160,474	13,346,349	
2030	0	0	284,839	6,866,832	1,005,025	5,332,798	161,277	13,650,771	
2031	0	0	291,046	7,479,091	1,057,355	4,990,316	161,668	13,979,476	
2032	0	0	302,590	8,030,725	1,102,918	4,636,826	161,609	14,234,668	
2033	0	0	306,076	8,529,926	1,144,676	4,304,038	161,049	14,445,765	
2034	0	0	314,870	9,066,612	1,193,015	3,939,831	159,947	14,674,275	
2035	0	0	315,965	9,530,801	1,223,463	3,575,778	158,289	14,804,296	
2036	0	0	321,786	9,959,245	1,272,749	3,215,975	155,975	14,925,730	
2037	0	0	320,824	10,293,854	1,300,294	2,864,972	153,009	14,932,953	
2038	0	0	323,326	10,590,645	1,341,841	2,527,348	149,385	14,932,545	
2039	0	0	317,364	10,843,006	1,353,878	2,207,206	145,109	14,866,563	
2040	0	0	317,039	11,016,227	1,389,641	1,908,127	160,463	14,791,497	
2041	0	0	310,201	11,141,495	1,417,721	1,633,207	155,334	14,657,958	

GASB STATEMENT NO. 25 DISCLOSURE INFORMATION

DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION OF THE MUNICIPALITY

	Fiscal Year January 1, 2012 through <u>December 31, 2012</u>
1. Entry Age Normal Cost	\$3,458,656
2. Actuarial Accrued Liability	158,457,577
3. Actuarial Value of Assets	72,266,706
4. Unfunded Actuarial Accrued Liability	86,190,871
5. Payment to Amortize Unfunded Actuarial Accrued Liability Over 40 Years from Effective Date of Application of GASB 25 (21 years remaining)	5,439,129
6. Total Annual Required Contribution for Fiscal Year December 31, 2012: [(1) + (5)]	8,897,785
7. Active Member Contributions (9.91% of Salaries):	1,320,866
8. Annual Required Contribution (ARC) payable at the beginning of the current fiscal year: [(6) - (7)]	7,576,919

GASB STATEMENT NO. 25 DISCLOSURE INFORMATION
(Continued)

NOTES:

- The Annual Required Contribution as of January 1, 2012 has been determined under the Governmental Accounting Standards Board Statement No. 25 and is required disclosure for the fiscal year ending December 31, 2012. The Entry Age Normal Cost and the Actuarial Accrued Liability were determined using the Entry Age Normal Cost Actuarial Cost Method.
- The Entry Age Normal Cost has been determined as a level percentage of projected payroll of the active members of the group. The amortization method for the Unfunded Actuarial Accrued Liability is determined as a level percentage of payroll amount over a closed Amortization Period as permitted in Governmental Accounting Standards Board Statement No. 25.
- All values were determined on the basis of the actuarial assumptions and methods as more fully described in Appendix 2 of this report.

**ACTUARIAL ASSUMPTIONS
(Economic)**

Investment Return

7.00% per annum, compounded annually (net of expenses).

Salary Increases

Representative values of assumed salary increases are as follows:

<u>Age</u>	<u>Increase %</u>
25	4.8611
30	2.9848
35	2.0341
40	1.5239
45	1.3083
50	1.1846
55	1.1220

An additional inflation allowance of 2.50% per year is added to the above.

Payroll Growth

It was assumed that payroll will grow 4.00% per year.

Actuarial Asset Basis

The Pension Fund previously used an actuarial value of assets for both government accounting and funding purposes which recognized future gains and losses based on a 4-year smoothed market method. Starting with the actuarial valuation as of March 1, 2011, the actuarial value of assets recognizes future gains and losses based on a 5-year smoothed market method.

In a 5-year smoothed market method, the current market value of assets is reduced (increased) for the current year and each of three succeeding years, by a portion of the gain/(loss) in market value during the prior year. Such gain/(loss) is determined as the excess/(deficit) of the current market value of assets over the market value of assets as of the prior year, increased to reflect interest at the actuarial rate and adjusted to reflect contributions and benefit payments during the prior year. The portion of such gain/(loss) by which the current market value of assets is reduced (increased) shall be 80% in the current year, 60% in the first succeeding year, 40% in the second succeeding year and 20% in the third succeeding year.

Additionally, in accordance with government accounting standards, the actuarial value of assets is adjusted to remove any contributions receivable on the reporting date.

**ACTUARIAL ASSUMPTIONS
(Demographic)**

Mortality

Active Lives

RP-2000 Combined Healthy Mortality Table (male) with blue collar adjustment and with a 200% load for participants under age 50 and 125% for participants age 50 and over. Five percent (5%) of deaths amongst active police officers are assumed to be in the performance of their duty.

Non-Active Lives

RP-2000 Combined Healthy Mortality Table (male) with blue collar adjustment and with a 200% load for participants under age 50 and 125% for participants age 50 and over.

Termination

Illustrative rates of withdrawal from the plan for reasons other than death or disability are as follows:

<u>Age</u>	<u>Rate of Withdrawal</u>
25	.0734
30	.0416
35	.0223
40	.0119
45	.0102
50	---

It is assumed that terminated police officers will not be rehired.

Disability Rates

Incidence of disability amongst police officers eligible for disability benefits:

<u>Age</u>	<u>Rate</u>
25	.0013
30	.0026
35	.0044
40	.0071
45	.0108
50	.0159

15% of disabilities amongst active police officers are assumed to be in the performance of their duty.

**ACTUARIAL ASSUMPTIONS
(Demographic)**

Retirement Rates

Retirements are assumed to occur between the ages of 50 and 69 in accordance with the following table:

<u>Age</u>	<u>Rate of Retirement</u>	<u>Age</u>	<u>Rate of Retirement</u>
50	.36	60	.22
51	.22	61	.30
52	.18	62	.39
53	.19	63	.48
54	.19	64	.57
55	.20	65	.65
56	.20	66	.74
57	.20	67	.83
58	.21	68	.91
59	.21	69	1.00

Marital Status

85% of police officers are assumed to be married.

Spouse's Age

Wives are assumed to be 3 years younger than their husbands.

**ACTUARIAL ASSUMPTIONS
(Additional)**

Expenses

None assumed.

Actuarial Cost Method:

Projected Unit Credit for statutory minimum

Entry Age Normal for recommended and GASB reporting

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Definitions

Tier 1 – For Police Officers first entering Article 3 prior to January 1, 2011

Tier 2 – For Police Officers first entering Article 3 after December 31, 2010

Police Officer (3-106): Any person appointed to the police force and sworn and commissioned to perform police duties.

Persons excluded from Fund (3-109): Part-time officers, special police officer, night watchmen, traffic guards, clerks and civilian employees of the department. Also, police officers who fail to pay the required fund contributions or who elect the Self-Managed Plan option.

Creditable Service (3-110): Time served by a police officer, excluding furloughs in excess of 30 days, but including leaves of absences for illness or accident and periods of disability where no disability pension payments have been received and also including up to 3 years during which disability payments have been received provided contributions are made.

Pension (3-111)

Normal Pension Age

Tier 1 - Age 50 with 20 or more years of creditable service.

Tier 2 - Age 55 with 10 or more years of creditable service.

Normal Pension Amount

Tier 1 - 50% of the greater of the annual salary held in the year preceding retirement or the annual salary held on the last day of service, plus 2½% of such annual salary for service from 20 to 30 year (maximum 25%).

Tier 2 - 2½% of Final Average salary for each year of service. Final Average Salary is the highest salary based on the highest consecutive 96 months of the final 120 months of service

Early Retirement at age 50 with 10 or more years of service but with a penalty of ½% for each month prior to age 55.

Annual Salary capped at \$106,800 increased yearly by the lesser of ½ of the Consumer Price Index- Urban (CPI-U) or 3%.

Minimum Monthly Benefit: \$1,000

Maximum Benefit Percentage: 75% of salary

**SUMMARY OF PRINCIPAL PLAN PROVISIONS
(Continued)**

Termination Retirement Pension Date

Separation of service after completion of between 8 and 20 years of creditable service.

Termination Pension Amount

Commencing at age 60, 2½% of annual salary held in the year preceding termination times years of creditable service or refund of contributions, or for persons terminating on or after July 1, 1987, 2½% of annual salary held on the last day of service times years of credible service, whichever is greater.

Pension Increase

Non-Disabled

Tier 1 - 3% increase of the original pension amount after attainment of age 55 for each year elapsed since retirement, followed by an additional 3% of the original pension amount on each January thereafter. Effective July 1, 1993, 3% of the amount of pension payable at the time of the increase including increases previously granted, rather than 3% of the originally granted pension amount.

Tier 2 - The lesser of ½ of the Consumer Price Index- Urban (CPI-U) or 3% increase of the original pension amount after attainment of age 60, followed by an additional 3% of the original pension amount on each January 1 thereafter.

Disabled

3% increase of the original pension amount after attainment of age 60 for each year he or she received pension payments, followed by an additional 3% of the original pension amount in each January 1 thereafter.

Pension to Survivors (3-112)

Death of Retired Member

Tier 1 - 100% of pension amount to surviving spouse (or dependent children).

Tier 2 – 66 2/3% of pension amount to surviving spouse (or dependent children), subject to the following increase: the lesser of ½ of the Consumer Price Index- Urban (CPI-U) or 3%.increase of the original pension amount after attainment of age 60, followed by an additional 3% of the original pension amount on each January 1 thereafter.

Death While in Service (Not in line of duty)

With 20 years of creditable service, the pension amount earned as of the date of death.

With between 10 and 20 years of creditable service, 50% of the salary attached to the rank for the year prior to the date of death.

Death in Line of Duty

100% of the salary attached to the rank for the last day of service year prior to date of death.

SUMMARY OF PRINCIPAL PLAN PROVISIONS
(Continued)

Minimum Survivor Pension

\$1,000 per month to all surviving spouses.

Disability Pension - Line of Duty (3-114.1)

Eligibility

Suspension or retirement from police service due to sickness, accident or injury while on duty.

Pension

Greater of 65% of salary attached to rank at date of suspension or retirement and the retirement pension available. Minimum \$1,000 per month.

Disability Pension - Not on Duty (3-114.2)

Eligibility

Suspension or retirement from police service for any cause other than while on duty.

Pension

50% of salary attached to rank at date of suspension or retirement. Minimum \$1,000 per month.

Other Provisions

Marriage After Retirement (3-120)

No surviving spouse benefit available.

Refund (3-124)

At death prior to completion of 10 years of service, contributions are returned without interest to widow.

At termination with less than 20 years of service, contributions are refunded upon request.

Contributions by Police Officers (3-125.1)

Beginning January 1, 2001, 9.91% of salary including longevity, but excluding overtime pay, holiday pay, bonus pay, merit pay or other cash benefit.

GLOSSARY

Actuarial Accrued Liability

See *Entry Age Normal Cost Method* and *Projected Unit Credit Cost Method*.

Actuarial Assumptions

The economic and demographic predictions used to estimate the present value of the plan's future obligations. They include estimates of investment earnings, salary increases, mortality, withdrawal and other related items. The *Actuarial Assumptions* are used in connection with the *Actuarial Cost Method* to allocate plan costs over the working lifetimes of plan participants.

Actuarial Cost Method

The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants. Also referred to as an *Actuarial Funding Method*.

Actuarial Funding Method

See *Actuarial Cost Method*

Actuarial Gain (Loss)

The excess of the actual *Unfunded Actuarial Accrued Liability* over the expected *Unfunded Actuarial Accrued Liability* represents an *Actuarial Loss*. If the expected *Unfunded Actuarial Accrued Liability* is greater, an *Actuarial Gain* has occurred.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of *Actuarial Assumptions*.

Actuarial Value of Assets

The asset value derived by using the plan's *Asset Valuation Method*.

Asset Valuation Method

A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Employee Retirement Income Security Act of 1974 (ERISA)

The primary federal legislative act establishing funding, participation, vesting, benefit accrual, reporting, and disclosure standards for pension and welfare plans.

**GLOSSARY
(Continued)**

Entry Age Normal Cost Method

One of the standard actuarial funding methods in which the *Present Value of Projected Plan Benefits* of each individual included in the *Actuarial Valuation* is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The portion of this *Actuarial Present Value* allocated to a valuation year is called the *Normal Cost*. The portion of this *Actuarial Present Value* not provided for at a valuation date by the *Actuarial Present Value* of future *Normal Costs* is called the *Actuarial Accrued Liability*.

Normal Cost

The portion of the *Present Value of Projected Plan Benefits* that is allocated to a particular plan year by the *Actuarial Cost Method*. See *Entry Age Normal Cost Method* for a description of the *Normal Cost* under the *Entry Age Normal Cost Method*. See *Projected Unit Credit Cost Method* for a description of the *Normal Cost* under the *Projected Unit Credit Cost Method*.

Present Value of Future Normal Costs

The present value of future normal costs determined based on the *Actuarial Cost Method* for the plan. Under the *Entry Age Normal Cost Method*, this amount is equal to the excess of the *Present Value of Projected Plan Benefits* over the sum of the *Actuarial Value of Assets* and *Unfunded Actuarial Accrued Liability*.

Present Value of Projected Plan Benefits

The present value of future plan benefits reflecting projected credited service and salaries. The present value is determined based on the plan's actuarial assumptions.

Projected Unit Credit Cost Method

One of the standard actuarial funding methods in which the *Present Value of Projected Plan Benefits* of each individual included in the *Actuarial Valuation* is allocated by a consistent formula to valuation years. The *Actuarial Present Value* allocated to a valuation year is called the *Normal Cost*. The *Actuarial Present Value* of benefits allocated to all periods prior to a valuation year is called the *Actuarial Accrued Liability*.

Statement No. 25 of the Governmental Accounting Standards Board (GASB No. 25)

The accounting statement that established the standards of financial accounting and reporting for the financial statements of defined benefit pension plans.

Unfunded Actuarial Accrued Liability

The excess of the *Actuarial Accrued Liability* over the *Actuarial Value of Assets*.