

**MUNICIPAL POLICE EMPLOYEES'  
RETIREMENT SYSTEM  
JUNE 30, 2004  
ACTUARIAL VALUATION**

## *Hall Actuarial Associates*

---

*Charles G. Hall*  
*F.C.A., M.A.A.A., A.S.A.*  
*Enrolled Actuary*

*1624 LaSalle Parc*  
*Baton Rouge, La. 70806*  
*(225) 928-7866*

November 9, 2004

Board of Trustees  
**MUNICIPAL POLICE EMPLOYEES'**  
**RETIREMENT SYSTEM**

7722 OFFICE PARK BOULEVARD, Suite 200  
Baton Rouge, Louisiana 70809-7601

Gentlemen:

This report presents the results of the actuarial valuation of assets and liabilities, as well as funding requirements, for the Municipal Police Employees' Retirement System as of June 30, 2004.

This report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of my knowledge, fairly reflects the actuarial present value of accrued benefits of the Municipal Police Employees' Retirement System.

In preparing this valuation, I have relied upon the information provided regarding plan provisions, plan membership, plan assets and other matters as detailed in the exhibits of this report. In particular, I have relied upon the statement of assets as audited by Duplantier, Hrapmann, Hogan and Maher, Certified Public Accountants.

The present values shown herein have been estimated on the basis of actuarial method, as specified in Louisiana Revised Statutes Title 11 Section 22(7). The Actuarial Assumptions, which have been approved by the Board of Trustees, are appropriate for the purposes of this valuation, are reasonable in the aggregate, and when applied in combination represents my best estimates of the anticipated experience under the plan.

# Hall Actuarial Associates

Board of Trustees

**MPERS**

November 9, 2004

A brief summary of the more important figures developed in this valuation, with comparable results from previous valuations are as follows:

	<u>June 30, 2004</u>	<u>-----Prior Years-----</u>	
		<u>June 30, 2003</u>	<u>June 30, 2002</u>
I. Membership Census			
1) Retirees	3,648	3,544	3,438
2) Actives	6,013	5,957	5,924
3) DROP	265	247	272
II. Annual Benefits	\$ 69,061,812	\$65,454,708	\$61,576,524
III. Total Payroll	208,756,800	197,254,559	187,567,901
IV. Valuation Assets	1,138,387,070	1,076,306,717	1,189,425,524
V. Investment Yield			
(To Actuarial Value)	7.80%	-6.81%	-4.06%
(Net of mergers)	7.80%	-7.43%	-4.94%
VI. Cost to Fund Annual Pension Accruals (Normal Costs)	39,375,832 18.86%	40,219,989 20.39%	38,148,120 20.34%
VII. Unfunded Actuarial Accrued Liability	423,352,255	379,484,302	195,180,068
VIII. Funded Percentage	72.89%	73.93%	85.90%
IX. Funding Requirements to Pay (Mid-year Payments)			
1) Employee Rate	7.50%	7.50%	7.50%
2) Employer Rate <sup>1</sup> (Current Year)	20.75%	21.75%	15.50%
Premium Tax Allocation	11,872,950	10,135,228	8,689,205
3) Projected Employer Rate <sup>1</sup> (Next Year)	20.25%	21.50%	15.25% <sup>2</sup>

The above Funding requirement measures the cost of benefits in effect on June 30, 2004, and does reflect changes due to Acts of the last regular Legislative Session.

<sup>1</sup>The governing statutes mandate that the employer rate shall not be less than 9%. The rate is based on the estimated allocation from the Insurance Premium Tax Fund.

<sup>2</sup>Act 1079 of 2003 changed amortization period effective June 30, 2002

Board of Trustees

MPERS

November 9, 2004

**History of Changes in Funding Requirements**

It should be noted that in the past the casualty insurance premium has been critical to the successful funding of pension benefits. Previously, employees and employers contributed a combined 14% of payroll each year which is now 14.0% below the actuarial funding requirement. This deficit in funding percentage has, in the past, been supplemented by a portion of the insurance premium taxes collected by the State. This premium income is not fixed as a percentage of payroll unlike the employee contribution rate. The table below indicates the past relationship between premium tax allocation and membership salary growth:

**Tax Revenue as a Percentage of Covered Salary**

<u>Year</u>	<u>Tax Revenue</u>	<u>Salary</u>	<u>Percentage</u>
1988	11,413,944	76,057,176	15.01%
1998	3,041,136	131,639,692	2.31%
1999	0	143,669,670	0.00%
2000	0		0.00%
2001	0	181,737,834	0.00%
2002	4,806,272	187,567,901	2.56%
2003	8,689,205	197,254,559	4.41%
2004	10,135,228	208,756,800	4.86%

During the early 1980's, the percentage of tax revenue to payroll continued to decline. This was largely due to the influx of new members resulting from mergers of non-participating municipalities into the system.

During the 1988 Legislative Session, two bills were enacted which had a tremendous impact on the future funding of the system. The insurance premium tax, which was dedicated by statute, was revoked. As a result of Act 81, the employee contribution rate was raised from 7% to 8% of payroll. Furthermore, Act 81 required the employer to fund the employer portion, raising the employer rate from 7% to approximately 12.0%. The contribution rates were increased to replace the lost revenue provided by the insurance premium tax in order to meet actuarial funding requirements. During the 1990 Legislative Session, the Actuarial Forecast Committee set the employer contribution rate at 11.38%, or 9.00% plus a \$2,236,000 appropriation. However, Governor Roemer vetoed the enabling legislation which resulted in a reversion to the higher 11.38% rate for the municipalities during the 1990-1991 fiscal year.

During the 1991 Legislative Session Act 397 reestablished the employee rate at 7% and the employer rate at 9%. The System would receive the balance of the funding requirement from the insurance premium tax. The excess insurance premium tax, if any, would revert to the general fund. Also, during the 1991 Legislative Session Act 456 added a 25 year at any age retirement benefit.

Board of Trustees

**MPERS**

November 9, 2004

To offset the cost of the benefit, member contribution rate was increased from 7% to 8%. Members will pay the increased rate for thirty years or until the system becomes 100% funded, whichever occurs first. At that time, the employee contribution rate would decrease to approximately 7.5% which reflects the liquidation of the unfunded accrued liability attributable to Act 456. Since the plan was fully funded as of June 30, 1993, the employee rate declined to 7.5% effective with the Plan Year beginning on July 1, 1994.

**Changes in Unfunded Actuarial Liability**

During the past fiscal year, the actuarial unfunded accrued liability/(surplus) increased from a \$379.5 million to \$423.3 million dollars. This increase was due primarily to the decline in investment markets.

To clarify the increase in the actuarial unfunded accrued liability, the following gain/loss analysis is presented as follows:

<b><u>CHANGE IN UNFUNDED LIABILITY (SURPLUS)</u></b>	
<b>Unfunded Liability 6/30/2003</b>	<b>\$ 379,484,302</b>
<b>INCREASES</b>	
Interest on Unfunded Liability	26,563,901
Experience Study	20,326,369
Retiree COLA	0
Employer Contribution Variance	13,640,571
Experience Loss	<u>20,338,647</u>
Incurred Increases	80,869,488
<b>DECREASES</b>	
Amortization Payment	28,276,607
Investment Gain	<u>8,724,928</u>
Incurred Decreases	37,001,535
<b>Unfunded Liability 6/30/2004</b>	<b>\$ 423,352,255</b>

Board of Trustees

**MPERS**

November 9, 2004

Exhibit 3 "Pension Accounting and Financial Disclosure" contains disclosure of the accrued liabilities under the Entry Age Normal Actuarial Cost Method required by the Governmental Accounting Board Statement No. 25.

The Board of Trustees approved a five year Experience Study during the fiscal year which altered the actuarial assumptions as illustrated in Exhibit 6. The adopted rates are subject to the Legislative Actuary's review and are utilized in this valuation. The new assumptions are illustrated in Exhibit 6 along with the prior year assumptions. A copy of the Study dated July 16, 2004 can be obtained from the Retirement System Office. The change in assumptions increased the actuarial liability \$20,326,369

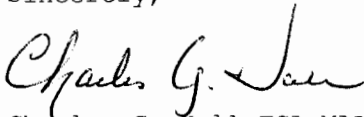
**Consideration for Cost-of-Living Increase**

The Development of the Target Ratio (see Exhibit 7) makes specific provisions for the determination of whether or not a retirement system is systematically approaching the targeted funding ratio. This is an important consideration for both retired members and members of the Board of Trustees. The Board is specifically prohibited from granting a cost-of-living raise to retirees and survivors by Act 256 of the 1986 regular session unless the system has met the Funding Target.

For the plan year ending June 30, 2004 the funding target is .95139, which is greater than the current .72892 funding ratio. Therefore, the Board is not permitted to consider granting a cost-of-living increase by statute.

The format of this report was designed with the intent of highlighting the pertinent results of the valuation's funding requirements. Should you have any questions or comments, please do not hesitate to contact me.

Sincerely,



Charles G. Hall, FCA, MAAA, ASA  
Actuary

## TABLE OF CONTENTS

		<u>Pages</u>
EXHIBIT 1	<b>DEVELOPMENT OF COSTS, LIABILITIES &amp; CONTRIBUTIONS</b> Provides a detail by benefit type of the cost to accrue annual pension benefits, liabilities accrued to date and funding requirements	7 - 8
EXHIBIT 2	<b>FINANCIAL SUMMARY</b> Contains the statement of revenue and expenses as well as assets available to pay pension benefits	9 - 10
EXHIBIT 3	<b>PENSION ACCOUNTING AND FINANCIAL DISCLOSURE</b> NCGA STMT 6 changes in credited projected benefits	11 - 13
EXHIBIT 4	<b>CENSUS DATA</b> Describes the employee data, data processing for valuation purposes and depicts employee profiles by classification, age and service	14 - 21
EXHIBIT 5	<b>PRINCIPLE PROVISIONS OF THE RETIREMENT SYSTEM</b> Restates in summary outline form the basic plan provisions which were incorporated in the projected retirement pension benefit	22 - 27
EXHIBIT 6	<b>ACTUARIAL COST METHODS AND ASSUMPTIONS</b> Discloses rates of mortality, disability, retirement termination and other assumptions which are presumed to reflect the experience of the retirement system in aggregate	28 - 32
EXHIBIT 7	<b>DEVELOPMENT OF TARGET RATIO</b> Discloses the development and history of the Target Ratio for COLA purposes	33
EXHIBIT A	<b>AMORTIZATION SCHEDULE</b>	34 - 35

**EXHIBIT 1**  
**DEVELOPMENT**  
**OF**  
**COSTS, LIABILITIES AND CONTRIBUTIONS**

Normal Costs and Accrued Liabilities are calculated in accordance with the Individual entry Age Normal Actuarial Cost Method, and the Actuarial Assumptions outlined in Exhibit 6 based on the Provisions of the Plan as summarized in Exhibit 5.

	<u>June 30, 2004</u>		<u>--Prior Year--</u> <u>June 30, 2003</u>	
	<u>Dollar</u> <u>Amount</u>	<u>% of</u> <u>Salary</u>	<u>Dollar</u> <u>Amount</u>	<u>% of</u> <u>Salary</u>
I. Normal Costs				
(to fund annual pension accruals)				
Active Members with Complete Data				
a) Retirement Benefits	\$ 30,234,289	14.48%	\$ 30,319,628	15.37%
b) Disability Benefits	1,794,333	.86%	2,759,569	1.40%
c) Survivor Benefits	1,160,409	.56%	1,595,880	.81%
d) Voluntary Termination	5,336,801	2.56%	4,707,912	2.39%
e) Expenses	850,000	.41%	837,000	.42%
TOTAL	<u>39,375,832</u>	<u>18.87%</u>	<u>40,219,989</u>	<u>20.39%</u>
II. Actuarial Accrued Liability				
a) Active Members				
1) Retirement Benefits	589,051,099		574,767,924	
2) Disability Benefits	11,007,291		20,382,998	
3) Survivor Benefits	8,152,802		10,895,146	
4) Voluntary Termination	<u>14,817,568</u>		<u>2,549,473</u>	
	623,028,760		608,595,541	
b) Retired and Inactive Members				
1) Regular Retirees	567,711,433		513,956,174	
2) Disabled Retirees	36,639,806		33,739,633	
3) Survivors	100,357,789		89,455,637	
4) Vested Deferred & Transfers	10,790,409		6,952,853	
5) Contributions Refunded	2,531,312		2,354,490	
6) DROP Deferred Benefits	165,596,826		148,925,465	
7) DROP Account Balance	<u>55,082,990</u>		<u>51,811,226</u>	
	938,710,565		847,195,478	
c) TOTAL	1,561,739,325		1,455,791,019	



Hall Actuarial Associates

**Exhibit 1 (Continued)**  
**Costs, Liabilities & Contributions**

	<u>June 30, 2004</u>	<u>--Prior Year--</u> <u>June 30, 2003</u>
II. Actuarial Accrued Liability		
TOTAL (Preceding page)	\$ 1,561,739,325	\$ 1,455,791,019
III. Valuation Assets	1,138,387,070	1,076,306,717
IV. Unfunded Actuarial Accrued Liabilities - (-Surplus)	423,352,255	379,484,302
a) Change over prior year	43,867,953	184,304,234
b) Funded Percentage	72.89%	73.93%
V. Employer Contributions		
To Fund current Plan Year <sup>1</sup>		
a) Employer Portion of Normal Cost	24,525,199	26,300,752
b) Amortization Payments	29,866,065	27,377,746
c) Employer Shortfall Credit	<u>1,406,126</u>	<u>-41,718</u>
TOTAL Required Contribution	55,807,390	53,636,780
Estimated Premium Tax Offset	<u>11,872,950</u>	<u>10,135,228</u>
Net Employer Contribution	43,934,440 20.75%	43,501,552 21.75%
VI. Projected Employer Contributions		
To Fund Next Plan Year <sup>1</sup>		
a) Employer Portion of Normal Cost	25,613,727	27,309,276
b) Amortization Payments	29,866,065	27,377,746
c) Employer Shortfall Credit	<u>1,406,126</u>	<u>-41,718</u>
TOTAL Projected Contribution	56,885,918	54,645,304
Estimated Premium Tax Offset	<u>11,900,000</u>	<u>10,200,000</u>
Net Employer Contribution	44,985,918 20.25%	44,445,304 21.50%
VII. Current Payroll	208,756,800	197,254,559
Projected Payroll - Mid Year	211,957,326	199,833,101
Projected Payroll - Next Year	221,274,636	207,495,861

<sup>1</sup>Dollar Amounts reflect estimated payments due mid-year on January 1st.  
The Net Employer Rate is rounded to the nearest .25%, but not less than 9.00%

## EXHIBIT 2

**FINANCIAL SUMMARY**  
**STATEMENT OF REVENUES AND EXPENSES**  
**FOR FISCAL YEAR ENDING**

	<u>June 30, 2004</u>	-----Prior Years----- <u>June 30, 2003</u>	<u>June 30, 2002</u>
<b><u>OPERATING REVENUES:</u></b>			
1. Contribution Income			
Member	\$15,646,734	\$14,727,154	\$14,032,129
Employer	32,188,691	17,890,371	16,923,788
2. Other Income			
General Fund/Premium Tax	10,135,228	8,689,205	5,535,258
Merger Interest	164,365	1,597,147	6,739,641
Merger Contributions	0	0	0
Miscellaneous	563,293	741,425	609,654
TOTAL CONTRIBUTIONS	<u>58,698,311</u>	<u>43,645,302</u>	<u>43,840,470</u>
3. Investment Income			
Investments	144,262,882	42,000,195	-67,960,339
Less, investment expenses	<u>-3,361,419</u>	<u>-2,123,643</u>	<u>-2,499,292</u>
TOTAL INVESTMENT INCOME	140,901,463	39,876,552	-70,459,631
4. Total Revenues	199,599,774	83,521,854	-26,619,161
<b><u>OPERATING EXPENSES:</u></b>			
1. General Administration	826,381	837,261	806,266
Other Expenses	119,633	146,504	53,783
2. Benefits Paid			
a) Pension Benefits	76,534,487	71,862,749	67,241,501
b) Return of Contrib.	<u>2,143,792</u>	<u>2,491,874</u>	<u>2,767,657</u>
TOTAL BENEFITS PAID	<u>78,678,279</u>	<u>74,354,623</u>	<u>70,009,158</u>
3. Total Expenses	79,624,293	75,338,388	70,869,207
<b><u>NET INCOME:</u></b>	119,975,481	8,183,466	-97,488,368

**EXHIBIT 2 (Continued)****Financial Summary**

**FINANCIAL SUMMARY  
STATEMENT OF ASSETS  
FOR FISCAL YEAR ENDING**

<b>ASSETS</b>	<b>June 30, 2004</b>	-----Prior Years-----	
		<b>June 30, 2003</b>	<b>June 30, 2002</b>
1. Short Term Assets			
Cash in Banks	\$ 9,586,778	\$ 7,345,920	\$ 8,468,046
Cash Equivalents	74,488,852	47,626,810	24,881,426
2. Bonds			
Domestic and Foreign	226,184,952	320,517,891	271,086,469
United States Agencies	200,482,355	126,944,627	155,027,594
Mutual Funds	0	574,000	622,000
3. Equities, Insurance Agreements			
Domestic Stock	658,831,122	486,775,637	436,119,403
Foreign Stocks	57,867,030	0	110,756,184
4. Other Investments	221,741	0	0
5. Other Assets			
Property/Equipment	3,689,912	3,403,576	2,705,491
Real Estate	40,337,826	10,249,808	9,000,000
Receivables (-) Payables	-47,074,733	101,069,505	1,579,898
Receivables from Mergers	<u>1,767,115</u>	<u>1,899,695</u>	<u>77,977,492</u>
TOTAL ASSETS			
Market Value	1,226,382,950	1,106,407,469	1,098,224,003
Valued at Cost	1,112,173,715	1,058,558,605	1,154,832,959
<b>INVESTMENT YIELD:</b>			
To Actuarial Value	7.80%	-6.81%	-4.06%
-Net of Mergers	7.80%	-7.43%	-4.94%
DROP Account Yield	7.30%	0.00%	0.00%
Market Value	12.87%	3.84%	-5.34%
<b>ACTUARIAL VALUE OF ASSETS:</b>			
TOTAL Assets, less	1,226,382,950	1,106,407,469	1,098,224,003
Change in Unrealized (G/L)			
Plan Year - 2 (wt. 1/4)	-56,013,232	-80,943,988	-34,878,400
Plan Year - 1 (wt. 2/4)	104,457,820	-56,013,232	-80,943,988
Plan Year (wt. 3/4)	<u>66,360,371</u>	<u>104,457,820</u>	<u>-56,013,232</u>
Valuation Assets	1,138,387,070	1,076,306,717	1,189,425,521

## EXHIBIT 3

**PENSION ACCOUNTING  
AND  
FINANCIAL DISCLOSURE**

The Governmental Accounting Standards Board (GASB) was established as an arm of the Financial Accounting Foundation in April, 1984 by amendment to the Foundation's certificate of incorporation and by-laws. GASB's objective is to promulgate standards of financial accounting and reporting relative to the activities and transactions of state and local governmental entities. The following disclosures and statistical tables are in accordance with the GASB's Statement No. 25.

**SCHEDULE OF FUNDING PROGRESS**

(Dollar amounts in thousands)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability(AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a Percentage of Payroll ((b-a)/c)
1995	766,365	772,984	6,619	99.1	100,455	6.6
1996	839,234	812,079	-27,156	103.3	104,741	-25.9
1997	929,844	911,662	-18,182	102.0	123,502	-14.7
1998	1,018,384	950,228	-49,974	107.2	131,640	-38.0
1999	1,148,896	1,038,470	-110,426	110.6	143,670	-76.9
2000	1,277,548	1,167,247	-110,301	109.5	163,773	-71.6
2001	1,275,128	1,261,057	-14,071	101.1	181,738	-7.7
2002	1,189,425	1,384,605	195,180	85.9	187,568	104.1
2003	1,076,306	1,455,791	379,484	73.9	197,254	192.4
2004	1,138,387	1,561,739	423,252	72.9	208,756	202.7

The total actuarial accrued liability determined using the Individual Entry Age Normal cost method increased by \$105,948,306 from June 30, 2003 to June 30, 2004. There was a net experience loss of \$31,940,093.

**EXHIBIT 3 (Continued)****Pension Accounting & Financial Disclosure****SUPPLEMENTARY INFORMATION****SCHEDULE OF EMPLOYER CONTRIBUTIONS**

<u>Fiscal Year</u>	<u>Actuarial Required Contribution</u> <sup>1</sup>	<u>Percent Contributed</u>	<u>Annual Pension Cost (APC)</u> <sup>1</sup>	<u>Actual Contribution</u> <sup>1</sup>	<u>Percentage of APC Contributed</u>	<u>Net Pension Obligation</u> <sup>1</sup>
1995	13,551,208	98.0	13,611,763	13,278,514	97.6	-187,629
1996	15,317,128	98.5	15,343,306	15,089,800	98.3	53,645
1997	12,376,075	99.4	12,381,951	12,299,110	99.3	136,486
1998	15,340,965	101.2	15,344,190	15,517,638	101.1	-36,962
1999	13,568,502	99.3	13,578,983	13,478,928	99.3	63,093
2000	15,362,721	99.9	15,370,370	15,347,513	99.9	85,949
2001	17,123,946	100.4	17,131,525	17,189,303	100.3	28,172
2002	22,389,583	100.4	22,400,294	22,477,751	100.4	-49,285
2003	27,268,852	100.3	27,283,821	27,494,127	100.7	-259,591
2004	57,420,770	76.2	57,445,752	43,780,202	76.2	13,405,959

Analysis of the percentage contributed over a period of years will give a relative indication of the funding progress for the liabilities of the Municipal Police Employees' Retirement System.

The difference between the Actuarial Required Contribution and the APC is the amortization payment for the Net pension Obligation (see Exhibit A).

**DEVELOPMENT OF NET  
PENSION OBLIGATION:**

(1) Actuarial Required Contribution	\$57,420,770
(2) Interest on Net Pension Obligation	-18,171
(3) Amortization of Net Pension Obligation	-43,153
(4) Accrued Pension Cost(1)+(2)-(3)	57,445,752
(5) Employer Contribution	43,780,202
(6) Increase (-decrease) in Net Pension Obligation	13,665,550
(7) Net Pension Obligation Beginning of Year	-259,591
(8) Net Pension Obligation End of Year(6)+(7)	13,405,959

<sup>1</sup>Actuarial Contributions, the Annual Pension Cost (APC), and the actual employer contribution made have been adjusted with interest at the valuation rate to the end of the fiscal year in accordance with GASB's Statement No. 25.

**EXHIBIT 3 (Continued)****Pension Accounting & Financial Disclosure****STATISTICAL DATA****COMPARATIVE SUMMARY OF REVENUES BY SOURCE  
AND EXPENSES BY TYPE****Revenues by Source**

<u>Fiscal Year End</u>	<u>Members Contribution</u>	<u>Employer Contribution</u>	<u>Investment Income</u>	<u>Total</u>
1995	7,791,235	12,806,937	43,346,622	63,944,794
1996	8,168,543	14,587,861	73,792,139	96,545,543
1997	8,721,597	11,889,998	102,508,299	123,119,894
1998	9,824,612	15,160,629	90,074,934	115,060,175
1999	10,930,972	43,841,701 <sup>1</sup>	99,479,917	154,252,590
2000	12,376,419	87,844,851 <sup>1</sup>	44,467,036	144,688,306
2001	13,838,527	18,415,443	-34,986,464	-2,732,494
2002	14,032,129	23,068,690	-63,719,980	-26,619,161
2003	14,727,154	27,321,001	41,473,699	83,521,854
2004	15,646,734	42,887,212	141,065,828	199,599,774

**Expenses by Type**

<u>Fiscal Year End</u>	<u>Benefits</u>	<u>Refunds</u>	<u>Administrative Expenses<sup>2</sup></u>	<u>Total</u>
1995	35,893,815	1,761,257	507,430	38,162,502
1996	40,491,226	1,392,630	533,934	42,417,790
1997	42,832,983	1,529,331	658,622	45,020,936
1998	46,854,583	1,529,407	1,489,663	49,873,653
1999	50,777,251	1,752,904	714,756	53,244,911
2000	54,814,794	2,027,856	701,576	57,544,226
2001	59,414,407	2,689,175	784,496	62,888,078
2002	67,241,501	2,767,657	860,049	70,869,207
2003	71,862,749	2,491,874	983,765	75,338,388
2004	76,534,487	2,143,792	946,014	79,624,293

<sup>1</sup>Includes merger contract prepayments of \$30,248,342 in 1999 and \$72,283,023 in 2000.

<sup>2</sup>Includes other expenses incurred not directly related to the administration of daily operation. (See Exhibit 2).

EXHIBIT 4

CENSUS DATA

The data contained in this valuation is summarized on the following pages with exceptions noted below. The profile depicted in the cellular graphs represents "error-free data", which serves as the basis for determining costs and liabilities. Active members are allocated to cells based upon attained age and years of service. Retirees and Survivors are allocated to cells based upon attained age and years elapsed since retirement or commencement of benefits.

The validity of the results of any actuarial valuation is dependent upon the accuracy of the data base. Prior to processing, suspicious data and data containing errors were purged from the data base and processed separately based on the following error types:

- missing sex code
- missing or invalid date of birth
- missing or invalid date of employment
- missing or invalid salary
- invalid retirement dates

There were no records purged from the data base containing errors or categorized as suspicious data which is a significant reduction when compared to previous years. Suspicious data are not necessarily errors, but data which falls outside the parameters of the editing process for further checking.

Salary data contained in the profiles and valuation report exceed the sums reported by internal audit due to salary annualization. In the valuation process, membership data with fractional service annualizes the salary in the first year of employment.

The following is a summary by participant status of the data submitted for valuation:

	---2004---	---2003---
	<u>Census</u>	<u>Census</u>
Active Members	5,831	5,781
DROP To Active	182	176
Regular Retirees	2,312	2,254
Disability Retirees	233	222
Survivors	1,023	989
Vested & Reciprocals	80	79
Due Refunds	687	679
DROP Participants	<u>265</u>	<u>247</u>
TOTAL	10,613	10,427

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS EMPLOYED

MUNICIPAL POLICE SYSTEM  
ACTIVE MEMBERS

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	Total
[ 0 - 19)	5	0	0	0	0	0	0	0	0	5
	31886	0	0	0	0	0	0	0	0	31886
[20 - 24)	129	216	1	0	0	0	0	0	0	346
	1587527	5728565	37380	0	0	0	0	0	0	7353472
[25 - 29)	154	581	210	3	0	0	0	0	0	948
	1924838	17260541	7140335	97917	0	0	0	0	0	26423631
[30 - 34)	75	434	545	160	4	0	0	0	0	1218
	916147	12775104	18865685	6064102	173311	0	0	0	0	38794349
[35 - 39)	123	236	311	365	130	5	0	0	0	1170
	1212588	6569490	10760792	13959282	5580238	267169	0	0	0	38349559
[40 - 44)	30	133	148	195	252	191	3	0	0	952
	404964	3548233	4946804	7358453	11009004	8852632	118680	0	0	36238770
[45 - 49)	16	83	84	93	121	285	64	1	0	747
	141280	2205034	2711570	3374559	5026569	13480595	3555417	49994	0	30545018
[50 - 54)	2	38	43	61	61	96	41	5	0	347
	40496	905802	1304708	2102970	2395640	4508174	2179502	265495	0	13702787
[55 - 59)	0	7	13	16	23	13	9	2	0	83
	0	180286	389053	437730	975763	597732	481016	144187	0	3205767
[60 - 64)	0	0	1	5	3	3	2	0	1	15
	0	0	19084	168120	92810	110747	85273	0	29814	505848
[65 - 69)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[70 - 74)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>534</b>	<b>1728</b>	<b>1356</b>	<b>898</b>	<b>594</b>	<b>593</b>	<b>119</b>	<b>8</b>	<b>1</b>	<b>5831</b>
<b>Total</b>	<b>6259726</b>	<b>49173055</b>	<b>46175411</b>	<b>33563133</b>	<b>25253335</b>	<b>27817049</b>	<b>6419888</b>	<b>459676</b>	<b>29814</b>	<b>195151087</b>

AVERAGES --- Attained Age 37.21  
Service Years 9.17  
Active Salary 33,468



# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS EMPLOYED

MUNICIPAL POLICE SYSTEM  
ACTIVE AFTER DROP

CELLS DEPICT - MEMBER COUNT  
TOTAL SALARY  
DROP BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	Total
[ 0 - 34)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[35 - 39)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[40 - 44)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[45 - 49)	3	5	0	0	0	0	0	0	0	8
	113615	272083	0	0	0	0	0	0	0	385698
	106212	173772	0	0	0	0	0	0	0	279984
[50 - 54)	28	45	7	8	5	4	0	0	0	97
	635984	2462723	344983	444113	251605	218691	0	0	0	4358099
	877524	1554384	198300	247608	117432	113448	0	0	0	3108696
[55 - 59)	7	12	2	7	3	21	0	0	0	52
	122810	638205	98337	330927	146931	1140002	0	0	0	2477212
	200280	390840	53520	156096	62484	572604	0	0	0	1435824
[60 - 64)	1	1	3	0	2	8	1	0	0	16
	23434	41668	140329	0	90701	380005	43811	0	0	719948
	17940	42048	75984	0	45108	192468	16812	0	0	390360
[65 - 69)	0	1	0	0	0	1	0	2	0	4
	0	48576	0	0	0	46450	0	112407	0	207433
	0	29040	0	0	0	24372	0	13932	0	67344
[70 - 74)	0	0	0	0	1	0	1	3	0	5
	0	0	0	0	24771	0	50816	162637	0	238224
	0	0	0	0	9252	0	32916	87696	0	129864
Total	39	64	12	15	11	34	2	5	0	182
Total	895843	3463255	583649	775040	514008	1785148	94627	275044	0	8386614
Total	1201956	2190084	327804	403704	234276	902892	49728	101628	0	5412072

AVERAGES --- Attained Age 55.45  
Post Drop Years 3.14  
Active Salary 46,080  
Annual Benefit 29,737

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

MUNICIPAL POLICE SYSTEM  
REGULAR RETIREES

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	Total
[ 0 - 39)	0	0	0	0	0	0	0	0	0	0
[40 - 44)	1	0	0	0	0	0	0	0	0	1
[45 - 49)	10	20	7	9	10	5	0	0	0	61
[50 - 54)	23	24	38	58	79	115	10	0	0	347
[55 - 59)	10	23	25	40	38	317	127	11	17	608
[60 - 64)	1	4	4	7	12	118	254	9	75	484
[65 - 69)	0	1	2	2	0	28	69	107	104	313
[70 - 74)	0	0	0	1	2	8	26	50	134	221
[75 - 79)	0	0	0	1	0	3	11	28	123	166
[80 - 84)	0	0	0	1	0	1	1	2	81	86
[85 - 89)	0	0	0	0	0	0	0	1	21	22
[90 - 99)	0	0	0	0	0	0	0	0	3	3
<b>Total</b>	<b>45</b>	<b>72</b>	<b>76</b>	<b>119</b>	<b>141</b>	<b>595</b>	<b>498</b>	<b>208</b>	<b>558</b>	<b>2312</b>
<b>Total</b>	<b>1260768</b>	<b>1973748</b>	<b>1767252</b>	<b>3360072</b>	<b>4136220</b>	<b>14762736</b>	<b>13447416</b>	<b>5628144</b>	<b>9098604</b>	<b>55434960</b>

AVERAGES --- Attained Age 62.99  
Years Retired 13.25  
Annual Benefit 23,977

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

MUNICIPAL POLICE SYSTEM  
DISABILITY RETIREES

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	Total
[ 0 - 39)	1	2	5	2	3	9	1	0	0	23
	12576	31536	58692	25260	10668	77868	9756	0	0	226356
[40 - 44)	5	2	3	1	7	4	6	1	0	29
	67836	21444	39852	17004	69168	22716	42360	0	0	280380
[45 - 49)	0	5	2	3	0	22	6	6	0	44
	0	112092	43860	53760	0	302616	83664	38424	0	634416
[50 - 54)	3	1	3	1	2	10	16	14	2	52
	56172	18588	38376	8676	25716	133656	222648	134616	19368	657816
[55 - 59)	0	3	1	0	0	6	6	5	9	30
	0	33540	8652	0	0	83904	93468	57132	128040	404736
[60 - 64)	0	0	0	0	0	4	3	1	16	24
	0	0	0	0	0	45684	29628	23256	232008	330576
[65 - 69)	0	0	0	0	0	1	1	0	7	9
	0	0	0	0	0	11772	5736	0	102768	120276
[70 - 74)	0	0	0	0	0	0	0	2	15	17
	0	0	0	0	0	0	0	22668	181968	204636
[75 - 79)	0	0	0	0	0	0	0	0	2	2
	0	0	0	0	0	0	0	0	20772	20772
[80 - 84)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[85 - 89)	0	0	0	0	0	0	0	0	3	3
	0	0	0	0	0	0	0	0	32988	32988
[90 - 99)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
<b>Total</b>	<b>9</b>	<b>13</b>	<b>14</b>	<b>7</b>	<b>12</b>	<b>56</b>	<b>39</b>	<b>29</b>	<b>54</b>	<b>233</b>
<b>Total</b>	<b>136584</b>	<b>217200</b>	<b>189432</b>	<b>104700</b>	<b>105552</b>	<b>678216</b>	<b>487260</b>	<b>276096</b>	<b>717912</b>	<b>2912952</b>

AVERAGES --- Attained Age 53.23  
Years Retired 13.02  
Annual Benefit 12,502

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

MUNICIPAL POLICE SYSTEM  
SURVIVOR BENEFITS

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	Total
[ 0 - 39)	1 9420	9 67848	3 15192	5 35124	3 13980	25 137664	38 161940	11 55440	13 58236	108 554844
[40 - 44)	1 11940	1 15108	1 17712	0 0	1 16980	21 108312	4 36948	2 27816	1 8292	32 243108
[45 - 49)	5 60636	1 11064	2 30348	4 53448	1 18624	32 200316	11 124872	4 32676	6 49692	66 581676
[50 - 54)	2 89520	5 69264	1 0	0 0	7 101424	16 113808	11 156576	8 105792	11 97812	61 734196
[55 - 59)	0 0	1 28752	3 21972	4 47364	2 42984	35 475188	7 94224	4 79140	18 157752	74 947376
[60 - 64)	3 32556	0 0	1 0	0 0	0 0	12 256512	20 307728	9 144744	39 371664	84 1113204
[65 - 69)	0 0	1 3864	2 21384	2 36372	0 0	13 138576	12 164796	15 246036	60 568440	105 1179468
[70 - 74)	0 0	0 0	0 0	2 9600	0 0	4 73668	4 43680	20 412620	107 1144224	137 1683792
[75 - 79)	0 0	0 0	0 0	0 0	0 0	2 17640	4 55332	11 211656	112 1098408	129 1383036
[80 - 84)	0 0	0 0	0 0	3 4800	0 0	0 0	1 15036	6 135096	110 1128060	120 1282992
[85 - 89)	0 0	0 0	0 0	0 0	0 0	2 11952	0 0	2 23472	70 666456	74 701880
[90 - 99)	0 0	0 0	0 0	0 0	0 0	0 0	0 0	0 0	33 308328	33 308328
Total	12 204072	18 195900	13 106608	20 186708	14 193992	162 1533636	112 1161132	92 1474488	580 5657364	1023 10713900

AVERAGES --- Attained Age 65.14  
Years Retired 21.16  
Annual Benefit 10,473

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS RETIRED

MUNICIPAL POLICE SYSTEM  
DROP PARTICIPANTS

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-2)	[2-3)	[3-4)	[4-5)	[5-10)	[10-15)	[15-20)	[20- )	Total
[ 0 - 39)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[40 - 44)	1	0	0	0	0	0	0	0	0	1
	27408	0	0	0	0	0	0	0	0	27408
[45 - 49)	29	33	16	0	0	0	0	0	0	78
	1044192	1177680	560688	0	0	0	0	0	0	2782560
[50 - 54)	40	40	37	0	0	0	0	0	0	117
	1348848	1325580	1253196	0	0	0	0	0	0	3927624
[55 - 59)	12	15	18	0	0	0	0	0	0	45
	345120	473616	470880	0	0	0	0	0	0	1289616
[60 - 64)	3	2	14	0	0	0	0	0	0	19
	45204	60252	299040	0	0	0	0	0	0	404496
[65 - 69)	0	0	4	0	0	0	0	0	0	4
	0	0	76800	0	0	0	0	0	0	76800
[70 - 74)	0	0	1	0	0	0	0	0	0	1
	0	0	2508	0	0	0	0	0	0	2508
[75 - 79)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[80 - 84)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[85 - 89)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
[90 - 99)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Total	85	90	90	0	0	0	0	0	0	265
Total	2810772	3037128	2663112	0	0	0	0	0	0	8511012

AVERAGES --- Attained Age 52.83  
Years Retired 1.47  
Annual Benefit 32,117

# Hall Actuarial Associates

MEMBERSHIP PROFILE  
CATEGORIZED BY AGE AND YEARS EMPLOYED

MUNICIPAL POLICE SYSTEM  
TERM-VESTED/RECIPROCAL

CELLS DEPICT - MEMBER COUNT  
TOTAL BENEFITS

VALUATION DATE 6/30/2004

Age/Years	(0-1)	[1-5)	[5-10)	[10-15)	[15-20)	[20-25)	[25-30)	[30-35)	[35- )	Total
[ 0 - 19)	0	0	0	0	0	0	0	0	0	0
[20 - 24)	0	0	0	0	0	0	0	0	0	0
[25 - 29)	0	0	0	0	0	0	0	0	0	0
[30 - 34)	0	0	0	1	0	0	0	0	0	1
	0	0	0	10008	0	0	0	0	0	10008
[35 - 39)	0	0	0	7	0	0	0	0	0	7
	0	0	0	78333	0	0	0	0	0	78333
[40 - 44)	0	0	0	7	6	8	0	0	0	21
	0	0	0	81152	84309	144034	0	0	0	309495
[45 - 49)	0	0	0	4	6	15	0	0	0	25
	0	0	0	40424	91529	316422	0	0	0	448375
[50 - 54)	0	0	0	4	18	0	0	0	0	22
	0	0	0	45780	259835	0	0	0	0	305615
[55 - 59)	0	0	0	0	1	0	0	0	0	1
	0	0	0	0	12168	0	0	0	0	12168
[60 - 64)	0	0	1	1	0	0	0	0	0	2
	0	0	5417	10383	0	0	0	0	0	15800
[65 - 69)	0	0	1	0	0	0	0	0	0	1
	0	0	1656	0	0	0	0	0	0	1656
[70 - 74)	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0
Total	0	0	2	24	31	23	0	0	0	80
Total	0	0	7073	266080	447841	460456	0	0	0	1181450

AVERAGES --- Attained Age 47.58  
Service Years 16.64  
Annual Benefit 14,768

EXHIBIT 5

SUMMARY OF THE MUNICIPAL POLICE EMPLOYEES'  
RETIREMENT SYSTEM PLAN PROVISIONS

**EFFECTIVE DATE:**

July 1, 1973; last amendment date - July 1, 2003.

**EMPLOYEE:**

Any full-time police officer empowered to make arrests, employed by a municipality of the State and engaged in law enforcement, earning at least \$375/month excluding state supplemental pay, or an elected Chief of Police whose salary is at least \$100.00 per month, and any employee of this System. City or Ward Marshals, elected Councilmen and Mayors excluded.

**EMPLOYER:**

Any municipality in the State which employs a full-time police officer, empowered to make arrests, or which has an elected Chief of Police whose salary is at least \$100.00 per month; and Municipal Police Employees' Retirement System.

**MEMBERSHIP:**

1. Persons who were members on 9/7/77 must remain members and persons hired on or after 9/9/77 must become members as a condition of employment, if under age 50; providing they do not have to pay social security. (Act 141 of 1983).
2. Persons who transferred from another police retirement system in 1973 and 1974 under R.S. 42:697 as it read at that time. (Act 46 of 1972).
3. Persons who transferred from another police retirement system in 1975 and 1976 under R.S. 42:697 as it read at that time. (Act 548 of 1975).
4. Persons who became members under R.S. 42:697 and are having credit/or will have credit "recognized" between this system and another system or systems. (Act 416 of 1976 AMENDED by Act 344 of 1978 and Act 103 of 1979).
5. Persons who became members because of a merger agreement entered into between a local police pension fund and this retirement system.
6. Employees, employed by any municipality or parish of this state which has its employees covered under the federal Social Security program, may elect not to be or become a member. Any member who elects not to be a member shall be refunded his employee contributions received by the system, without interest. (Act 32 of 1984).

**EXHIBIT 5 (Continued)**

**Plan Provisions**

**CREDITABLE SERVICE:**

As follows:

1. Prior Service - service credit which was not credited in any other retirement system and for which a prior service certificate was issued.
2. Membership Service - service as a member for which the system received contribution. Qualifying cadet service may be purchased per Act 215 of 1992.

**NOTE:**

- a. No prior service credit to be given for employee who becomes member after July 31, 1976; extended to 1/1/77 for employee who is required to pay Social Security contributions.
- b. Credit for military service up to July 1, 1973 given, not to exceed 4 years, provided employee pays employee and employer contributions that would have been required based on rate of pay when first hired as police officer, plus 6% compound interest.

**EMPLOYEE CONTRIBUTIONS:**

7% of earnable compensation. (Over 30 years of service, no contributions required).8% effective July 1, 1989; 7.5% effective July 1, 1994.

**EMPLOYER CONTRIBUTIONS:**

Municipality Rate set at 9%; balance to be determined by the Actuarial Forecast Committee and to be funded from dedicated Insurance Premium Taxes.

**EARNABLE COMPENSATION:**

Full amount of regular salary earned by an employee for a given month, including State supplemental pay, but excluding overtime pay.

**AVERAGE FINAL COMPENSATION:**

Average annual earned compensation of an employee for any period of highest 36 successive or joined month's earnable compensation.

**NORMAL RETIREMENT:**

The average compensation of a member for purposes of computing benefits cannot increase more than 25% per year. (Effective 1/1/87 Act 367 of 1986)

**ELIGIBILITY:**

20 years of service and age 50 or 12 years of service and age 55 or 25 years of service at any age; member of the System for one year.



**EXHIBIT 5 (Continued)**

**Plan Provisions**

BENEFIT:

3 1/3% of average final compensation times years of creditable service (not to exceed 100% of final salary).

ANNUITY FORM:

An annuity payable for the lifetime of the member.

**EARLY RETIREMENT:**

ELIGIBILITY:

20 years of service regardless of attained age.

BENEFIT:

3 1/3% of Average Final Compensation multiplied by creditable service actuarially reduced for retirement prior to age 50.

**EARLY REDUCED RETIREMENT:**

ELIGIBILITY:

20 years of Service Credit regardless of attained age.

BENEFIT:

Normal retirement benefit, based upon service accrued to date, actuarially reduced from the earliest date member would be eligible if employment had continued to the earliest normal retirement date.

**DISABILITY BENEFITS:**

ELIGIBILITY:

Any member may retire due to total and permanent disability, with at least five (5) years of creditable service, unless injuries were sustained in the performance of official duty.

BENEFIT:

3% of Average Final Compensation multiplied by years of creditable service, but not less than 40% nor more than 60% of Average Final Compensation. 100% of Average Final Compensation if in a coma, is paraplegic or loses the use of a limb

**NOTE:**

Upon reaching age, disability pensioner receives greater of the disability benefit or the accrued benefit earned to date of disability.

**EXHIBIT 5 (Continued)**

**Plan Provisions**

**DEATH BENEFITS:**

**ELIGIBILITY:**

1. Death of active contributing member or disability retiree.
2. Death of member eligible for retirement, except for the one year of membership requirement.
3. Death of member while in the line of duty.

**BENEFIT:**

1. Surviving spouse receives the retirement benefit the member had earned to his date of death, but not less than 40% and not more than 60% of the member's Average Final Compensation. Benefit ceases upon widow's death or remarriage, unless member was killed in the line of duty or the spouse attains age 55.
2. Automatic Option 2 for widow or shall be paid benefits as provided above in (1), whichever is greater.
3. Surviving spouse receives 100% of member's Average Final Compensation

**NOTE:**

Surviving minor children with surviving spouse receive benefits equal to the greater of 10% of average compensation or \$200 per month per child payable to age 18, except for retarded children and those who go directly to college after high school (maximum extension, four years).

Surviving minor children with no surviving spouse receive benefits equal to 30% of average compensation with an aggregate limit of 60% of average compensation. If only one surviving minor child, benefits equal 40% of average compensation.

**VESTING:**

**ELIGIBILITY:**

1. Member who terminates employment after one year as member of the System before attaining age 50 with 20 years of creditable service.
2. Member who terminates employment after one year as member of the System before attaining age 55, with 12 years of creditable service.
3. Member who terminates, receives refund, and returns must complete 3 additional years service in order to repay refund with 5% compound interest.

**EXHIBIT 5 (Continued)**

**Plan Provisions**

**BENEFIT:**

1. Deferred retirement benefit payable at age 50.
2. Deferred retirement benefit payable at age 55.

**NOTE:**

Terminated vested member shall be covered by survivor benefit provision.

**OPTIONAL FORMS OF BENEFIT:**

1. Balance of value of annuity to beneficiary if death before receiving value of annuity at time of retirement.
2. 100% survivor's benefits - reduced retirement benefit continued to beneficiary at member's death.
3. 50% survivor's benefits - 50% of reduced retirement benefit continued to beneficiary at member's death.
4. Initial Benefit Option - maximum benefit actuarially reduced for partial lump sum equal to not more than 36 months of maximum monthly pension.
5. Other benefits of equal actuarial value, upon approval of Board.

**COST OF LIVING INCREASE:**

The Board of Trustees is authorized to provide a cost of living increase for retirees not to exceed 3% of the original benefit for each year of retirement and an additional 2% for retirees age 65 and over, provided the system has reached its Funding Target.

**DEFERRED RETIREMENT OPTION PLAN:**  
**(Act 475 of 1984)**

Instead of terminating employees and accepting a service retirement allowance, any member who has met the following eligibility requirements may elect to participate in the Deferred Retirement Option Plan (DROP) and defer receipt of benefits.

**ELIGIBILITY:**

Twenty (20) years of creditable service (including reciprocal service) and eligible to receive a normal service retirement allowance.

**BENEFIT:**

Duration of participation is specified and does not exceed three (3) years, effective July 1, 1992.

**EXHIBIT 5 (Continued)**  
**Plan Provisions**

**BENEFIT:**

Upon termination of employment at the end of or prior to the end of the specified period of participation, a participant will receive, at his option:

1. Lump sum payment (equal to the account balance)
2. a true annuity based upon his account; or
3. any other method of payment if approved by the board of trustees. Monthly benefits being paid into the fund during participation will begin being paid to the retiree.

If a participant dies during the period of participation in the program, a lump sum payment equal to his account balance shall be paid to the beneficiary, or if none, to his estate; in addition, normal survivor benefits payable to survivors of retirees shall be payable.

If employment is not terminated at the end of the specified period of participation, then:

1. payment into account shall cease;
2. payment from account is suspended until employment is terminated; and
3. participant shall resume active contributions to the system.

Then, upon termination of employment, the benefit payments indicated above shall be paid. The participant shall receive an additional retirement benefit based on additional service rendered since termination of participation in the fund, usually the normal method of computation of benefit subject to the following:

1. If additional service was less than 36 months, average compensation figure used to calculate additional benefit shall be that used to calculate original benefit.
2. If additional service was 36 or more months, the average compensation figure used to calculate the additional benefit shall be based on compensation during the period of additional service.

**NOTE:**

DROP Accounts shall earn interest following termination of DROP at a rate .5% below the actuarial rate of the System's investment portfolio. Effective 1/1/2004 new DROP accounts are credited with Money Market rates or self directed accounts approved by the Board of Trustees.

EXHIBIT 6

ACTUARIAL COST METHODS AND ASSUMPTIONS

COST METHOD:

The individual "Entry Age Normal" cost method was used to calculate the funding requirements of the retirement system. Under this cost method, the actuarial present value of projected benefits of each individual included in the valuation is allocated on a level basis as percentage of payroll for each participant between entry age and assumed retirement age(s). That portion of the actuarial present value attributable to current year benefit accruals is called the Normal Cost. The actuarial present value of future benefits in excess of the actuarial present value of future normal costs is called the actuarial accrued liability.

ASSET VALUATION:

For the Plan Year ending prior to June 30, 1999 equities are valued at a four year weighted average. The computation of the actuarial value of assets is the sum of the bonds at amortized cost, less a weighted average of unrealized losses or (gains) in the market value of equities, plus the market value of equities.

Effective June 30, 1999 the Board of Trustees approved a change in the Asset Valuation Method. The Actuarial Value of Assets is the market value of assets adjusted for a four year weighted average in the unrealized gain or loss in the value of all assets. This value is determined in accordance with Reg.1.412(c)(2)-1-(6) & (7) of the Internal Revenue Service Code and is subject to the Corridor Limits defined therein.

As a result of the change in the Asset Valuation Method, the reporting of realized income has been changed to realized, plus unrealized income for valuations beginning on June 30, 1999 and thereafter.

ACCOUNTING DISCLOSURE:

The Governmental Accounting Standards Board Statement No. 25 requires disclosure of certain Actuarial Liabilities for Public Employee Retirement Systems. The disclosures illustrated in Exhibit 3 were developed using the Entry Age Normal cost method. The statement of assets provided by the independent auditors was a copy of the final draft prior to publication. Should the statement of assets received differ from the final audit report, a revised actuarial statement will be issued, but only to the extent that any difference in reporting affects the employer's Premium Tax Allocation or the yield to the Actuarial Value of Assets.

ACTUARIAL ASSUMPTIONS:

The Retirement System is required to conduct an experience study every five years, but the scope of such a study is not necessarily limited to a five year period. The current five-year observation period (1999-2003) was chosen to coincide with the most recent period of data reporting following the restructuring of the Deferred Retirement Option Program.

**EXHIBIT 6 (Continued)**  
**Cost Methods & Assumptions**

**MORTALITY ASSUMPTIONS:**

Pre-retirement deaths and post-retirement life expectancies were projected in accordance with the experience of the 1983 Sex Distinct Group Annuity Mortality Table for the current valuation; 1971 GAM in valuations prior to June 30, 2004.

**DISABILITY ASSUMPTION:**

Rates of total and permanent disability were projected by age in accordance with the Eleventh Actuarial Valuation of the Railroad Retirement System. For mortality after disability, rates were on the Eleventh Actuarial Valuation of the Railroad Retirement System for occupational disabilities. As an approximation of the Railroad Retirement tables, an age set-up of the 1971 GAM table was used equal to 1/2 the rate at disability and the rate at age 82.

**RETIREMENT/DROP ASSUMPTION:**

Retirement without reduction in benefits can occur at any given age after satisfying the service eligibility requirements. Absent from the plan is a traditional "Normal Retirement Age". Since the age and service requirements are varied, the frequency of retirements will depend on the exposure plus intangibles such as health, economy, Social Security and other work patterns.

DROP is viewed as an alternative form of benefit accrual since mandatory terminate is not required following participation. Therefore, at eligibility, the probability of DROP accrual is determined in conjunction with regular benefit accrual. Retirement rates were projected based on the 1999-2003 Experience Study for the Municipal and State Police Retirement Plan.

**TERMINATION ASSUMPTIONS:**

Voluntary termination or withdrawal rates are the same as those used in prior valuations. During the first five years of employment, the probability of voluntarily terminating is a multiple of the attained age rate as follows:

1st year	1.25x
2nd year	1.00x
3rd year	1.00x
4th year	1.00x
5th year	1.00x

Furthermore, for members terminating with twelve (12) or more years of service it is assumed that 20% will not withdraw their accumulated employee contributions.

**EXHIBIT 6 (Continued)**

**Cost Methods & Assumptions**

**SALARY GROWTH:**

The rates of annual salary growth are base upon the members years of service and are illustrated in the rate tables at the end of this exhibit.

**FAMILY STATISTICS:**

The composition of the Family was based on Age-Specific Fertility Rates from the 1983 Vital Statistics of the United States. 80% of the membership was assumed to be married with the wife assumed to be three (3) years younger than the husband. Sample rates are as follows:

<u>Age at Death</u>	<u>Number of Minor Chn.</u>	<u>Years for Youngest Child to Attain Majority</u>
25	1.3	17
30	1.8	15
35	2.2	13
40	2.1	10
45	1.7	8
50	1.2	4

**REMARRIAGE:**

Annuities payable to the spouse which cease upon death or remarriage were taken from "A Technical Note for the Construction of Widow's Annuities. "The Remarriage and Mortality rates used to develop these annuities were based on the graduated rates from "Mortality and Remarriage Experience for Widow's Beneficiaries under OASDI.

**ASSUMPTION FOR INCOMPLETE DATA:**

Records identified as containing suspicious data or errors in data were assumed to possess the same characteristics of "good data" in the same cohort.

**INVESTMENT EARNINGS:**

An effective annual rate of 7%, net expenses.

**ADMINISTRATIVE EXPENSES:**

These expenses are included in Normal Cost and are assumed to be \$837,000 per year. Investment Expenses are not included in Normal Cost but are treated as a direct offset to investment income. The Employer portion of the Normal Cost includes an allocation for administrative expenses.

ACTUARIAL TABLES AND RATES  
NEW RATES 6/30/2004

<u>Age</u>	<u>- Death Rates -</u>		<u>Disability</u>	<u>Termination</u>	<u>Retirement</u>	<u>DROP</u>	<u>Dur</u>	<u>Salary</u>
	<u>Male</u>	<u>Female</u>	<u>Rates</u>	<u>Rates</u>	<u>Rates</u>	<u>Rates</u>		<u>Scale</u>
18	.00035	.00017	.0001	.1100	.0000	.000	1	1.1500
19	.00036	.00018	.0001	.1100	.0000	.000	2	1.1000
20	.00038	.00019	.0001	.1000	.0000	.000	3	1.0600
21	.00039	.00020	.0001	.1000	.0000	.000	4	1.0600
22	.00041	.00021	.0001	.1000	.0000	.000	5	1.0600
23	.00042	.00023	.0001	.0950	.0000	.000	6	1.0600
24	.00044	.00024	.0001	.0950	.0000	.000	7	1.0600
25	.00046	.00025	.0001	.0950	.0000	.000	8	1.0550
26	.00049	.00027	.0010	.0950	.0000	.000	9	1.0550
27	.00051	.00028	.0010	.0950	.0000	.000	10	1.0550
28	.00054	.00030	.0010	.0950	.0000	.000	11	1.0550
29	.00057	.00032	.0015	.0750	.0000	.000	12	1.0500
30	.00061	.00034	.0015	.0750	.0000	.000	13	1.0500
31	.00065	.00036	.0015	.0650	.0000	.000	14	1.0500
32	.00069	.00039	.0015	.0650	.0000	.000	15	1.0500
33	.00073	.00041	.0015	.0650	.0000	.000	16	1.0500
34	.00078	.00044	.0015	.0650	.0000	.000	17	1.0440
35	.00086	.00048	.0015	.0650	.0000	.000	18	1.0440
36	.00091	.00050	.0015	.0400	.0000	.000	19	1.0440
37	.00097	.00054	.0035	.0400	.0000	.000	20	1.0440
38	.00104	.00057	.0035	.0400	.0000	.000	21	1.0440
39	.00113	.00062	.0035	.0400	.0000	.000	22	1.0440
40	.00124	.00066	.0035	.0400	.0000	.000	23	1.0440
41	.00137	.00072	.0035	.0400	.0000	.000	24	1.0440
42	.00153	.00078	.0035	.0400	.0000	.000	25	1.0400
43	.00172	.00084	.0035	.0400	.0000	.000	26	1.0400
44	.00193	.00092	.0035	.0400	.0000	.150	27	1.0400
45	.00218	.00101	.0035	.0400	.0000	.150	28	1.0400
46	.00247	.00112	.0035	.0400	.0000	.350	29	1.0400
47	.00279	.00124	.0035	.0400	.2500	.350	30	1.0400
48	.00314	.00137	.0035	.0400	.1500	.400	31	1.0400
49	.00351	.00151	.0035	.0400	.1500	.150	32	1.0400
50	.00391	.00165	.0035	.1000	.3000	.400	33	1.0400
51	.00432	.00179	.0035	.0500	.2500	.400	34	1.0400
52	.00475	.00195	.0035	.0500	.2500	.200	35	1.0400
53	.00520	.00212	.0035	.0500	.3000	.150	36	1.0400
54	.00566	.00231	.0060	.0500	.3500	.150	37	1.0400
55	.00613	.00254	.0060	.0500	.5000	.200	38	1.0400
56	.00662	.00280	.0100	.0500	.2500	.300	39	1.0400
57	.00714	.00310	.0010	.0500	.2000	.200	40	1.0400
58	.00772	.00344	.0010	.0500	.2000	.150	41	1.0400
59	.00838	.00382	.0010	.0500	.2000	.150	42	1.0400
60	.00916	.00424	.0010	.0500	.5000	.150	43	1.0400
61	.01006	.00470	.0010	.0500	.5000	.000	44	1.0400
62	.01113	.00521	.0010	.0500	.1500	.000	45	1.0400
63	.01239	.00577	.0000	.0500	.1500	.000	46	1.0400
64	.01387	.00639	.0000	.0500	.5000	.000	47	1.0400
65	.01559	.00706	.0000	.0500	.5000	.000	48	1.0400
66	.01758	.00782	.0000	.0500	.5000	.000	49	1.0400
67	.01980	.00868	.0000	.0000	.5000	.000	50	1.0400
68	.02223	.00970	.0000	.0000	.9900	.000	51	1.0400
69	.02482	.01092	.0000	.0000	.9900	.000	52	1.0400
70	.02753	.01238	.0000	.0000	.9900	.000	53	1.0400
71	.03035	.01413	.0000	.0000	.9900	.000	54	1.0400
72	.03337	.01616	.0000	.0000	.9900	.000	55	1.0400
73	.03668	.01848	.0000	.0000	.9900	.000	56	1.0400
74	.04039	.02109	.0000	.0000	.9900	.000	57	1.0400



ACTUARIAL TABLES AND RATES  
RATES PRIOR to 6/30/2004

<u>Age</u>	<u>- Death Rates -</u>		<u>Remarriage</u>	<u>Termination</u>	<u>Disability</u>	<u>Retirement</u>	<u>Salary</u>	<u>Age</u>
	<u>Male</u>	<u>Female</u>	<u>Rates</u>	<u>Rates</u>	<u>Rates</u>	<u>Rates</u>	<u>Scale</u>	
20	.00050	.00026	.09350	.11000	.00110	.00000	1.08000	20
21	.00052	.00028	.09152	.10400	.00110	.00000	1.07500	21
22	.00054	.00029	.08954	.09800	.00110	.00000	1.07100	22
23	.00057	.00031	.08757	.09200	.00110	.00000	1.06700	23
24	.00059	.00033	.08569	.08600	.00110	.00000	1.06400	24
25	.00062	.00035	.08402	.08000	.00110	.00000	1.06100	25
26	.00065	.00037	.08225	.07600	.00110	.00000	1.05800	26
27	.00068	.00039	.08028	.07200	.00110	.00000	1.05500	27
28	.00072	.00041	.07802	.06800	.00110	.00000	1.05300	28
29	.00076	.00044	.07556	.06400	.00110	.00000	1.05100	29
30	.00081	.00047	.07281	.06000	.00200	.00000	1.05000	30
31	.00086	.00050	.06976	.05600	.00200	.00000	1.04800	31
32	.00092	.00053	.06652	.05200	.00200	.00000	1.04700	32
33	.00098	.00057	.06308	.04800	.00230	.00000	1.04600	33
34	.00105	.00061	.05945	.04400	.00230	.00000	1.04400	34
35	.00112	.00065	.05582	.04000	.00260	.00000	1.04300	35
36	.00120	.00070	.05230	.03600	.00260	.00000	1.04200	36
37	.00130	.00075	.04890	.03200	.00290	.00000	1.04100	37
38	.00140	.00081	.04570	.02800	.00320	.42000	1.04000	38
39	.00151	.00087	.04271	.02400	.00360	.42000	1.03900	39
40	.00163	.00094	.03993	.02000	.00400	.42000	1.03800	40
41	.00179	.00101	.03769	.01800	.00400	.42000	1.03700	41
42	.00200	.00109	.03480	.01600	.00400	.42000	1.03600	42
43	.00226	.00119	.03256	.01400	.00400	.42000	1.03500	43
44	.00257	.00129	.03037	.01200	.00420	.42000	1.03400	44
45	.00292	.00140	.02822	.01000	.00420	.42000	1.03300	45
46	.00332	.00152	.02632	.01000	.00450	.42000	1.03200	46
47	.00375	.00165	.02455	.01000	.00500	.42000	1.03100	47
48	.00423	.00180	.02303	.01000	.00570	.42000	1.03100	48
49	.00474	.00197	.02154	.01000	.00640	.42000	1.03000	49
50	.00528	.00215	.02019	.01000	.00730	.42000	1.03000	50
51	.00587	.00232	.01889	.01000	.00830	.26380	1.03000	51
52	.00648	.00252	.01808	.01000	.00940	.24280	1.03000	52
53	.00713	.00274	.01733	.01000	.01080	.31510	1.03000	53
54	.00781	.00298	.01671	.01000	.01240	.20750	1.03000	54
55	.00852	.00326	.01622	.01000	.01400	.34260	1.03000	55
56	.00926	.00357	.01596	.01000	.01580	.22130	1.03000	56
57	.01004	.00395	.01584	.01000	.01780	.23120	1.03000	57
58	.01089	.00439	.01589	.01000	.01990	.21390	1.03000	58
59	.01192	.00490	.01622	.01000	.02220	.24240	1.03000	59
60	.01312	.00549	.01682	.01000	.02480	.36010	1.03000	60
61	.01444	.00616	.01764	.01000	.02920	.29270	1.03000	61
62	.01586	.00690	.01906	.01000	.03450	.62020	1.03000	62
63	.01741	.00771	.02061	.01000	.03400	.23120	1.03000	63
64	.01919	.00861	.02239	.01000	.03000	.30740	1.03000	64
65	.02126	.00956	.02446	.01000	.00000	.22220	1.03000	65
66	.02364	.01057	.02684	.01000	.00000	.31450	1.03000	66
67	.02632	.01162	.02952	.01000	.00000	.89550	1.03000	67
68	.02919	.01288	.03209	.01000	.00000	.99990	1.03000	68
69	.03244	.01446	.03504	.01000	.00000	.99990	1.03000	69
70	.03611	.01648	.03851	.00000	.00000	.99990	1.03000	70
71	.04001	.01900	.04211	.00000	.00000	.99990	1.03000	71
72	.04383	.02191	.04563	.00000	.00000	.99990	1.03000	72
73	.04749	.02511	.04909	.00000	.00000	.99990	1.03000	73
74	.05122	.02863	.05262	.00000	.00000	.99990	1.03000	74

**NOTES**

EXHIBIT 7  
DEVELOPMENT OF TARGET RATIO

Funded Ratio of the System as of the 1986 fiscal year end .93194

Number of fiscal years elapsed since the 1986 fiscal year end multiplied by one-thirtieth of the difference between one hundred percent and the Initial Funded Ratio .04084

Changes in Funded Ratio after the 1986 fiscal year end:

Date of Change in funded Ratio

<u>6/30/87</u>	<u>-.08841</u>
<u>6/30/88</u>	<u>.12270</u>
<u>6/30/91</u>	<u>-.00911</u>
<u>6/30/93</u>	<u>-.01350</u>
<u>6/30/96</u>	<u>-.01671</u>
<u>6/30/99</u>	<u>-.00572</u>
<u>6/30/04</u>	<u>-.00961</u>

Total Change in Funded Ratio -.02036

Number of fiscal years elapsed since the date of each change multiplied by one-thirtieth of the amount of such change in the unfunded ratio and of opposite arithmetic sign of such change:

Date of Amortization of Change

<u>6/30/87</u>	<u>.05010</u>
<u>6/30/88</u>	<u>-.06544</u>
<u>6/30/91</u>	<u>.00395</u>
<u>6/30/93</u>	<u>.00495</u>
<u>6/30/96</u>	<u>.00446</u>
<u>6/30/99</u>	<u>.00095</u>
<u>6/30/04</u>	<u>.00000</u>

Total Amortization of Changes -.00103

Target Ratio as of the end of the just completed fiscal year 0.95139

Actual Funded Ratio of the system as of the just completed fiscal year 0.72892

This system has not met the target ratio required to grant a cost-of-living increase to current benefit recipients.

## EXHIBIT A

AMORTIZATION OF UNFUNDED  
ACTUARIAL ACCRUED LIABILITY  
JUNE 30, 2004

<u>DATE</u> <u>6/30</u>	<u>DESCRIPTION</u>	<u>AMTZ.</u> <u>METHOD</u>	<u>AMTZ.</u> <u>PERIOD</u>	<u>INITIAL</u> <u>LIABILITY</u>	<u>YEARS</u> <u>REMAING</u>	<u>REMAINING</u> <u>BALANCE</u>	<u>MID-YEAR</u> <u>PAYMENT</u>
1996	Change in Liability	L	15	-27,209,779	7	-16,100,435	-2,888,113
1997	Change in Liability	L	15	7,807,987	8	5,119,045	828,759
1998	Change in Liability	L	15	-50,648,475	9	-36,230,752	-5,375,954
1999	Change in Liability	L	15	-45,292,161	10	-34,927,118	-4,807,422
2000	Change in Liability	L	15	-4,827,975	11	-3,974,940	-512,453
2001	Change in Liability	L	15	90,820,890	12	79,201,652	9,639,954
2002	Change in Liability	L	30	207,093,231	28	202,555,020	16,133,767
2003	Change in Liability	L	30	184,314,964	29	182,363,731	14,359,208
2004	Change in Liability	L	30	31,940,093	30	<u>31,940,093</u>	<u>2,488,319</u>
TOTAL OUTSTANDING BALANCE						409,946,296	29,866,065

Act 1079 of 2003 changed amortization period effective June 30, 2002

**EXHIBIT A (Continued)**  
**Amortization of Unfunded**  
**Actuarial Accrued Liability**

## EMPLOYER'S CONTRIBUTION VARIANCE

<u>DATE</u> <u>6/30</u>	<u>DESCRIPTION</u>	<u>AMTZ.</u> <u>METHOD</u>	<u>AMTZ.</u> <u>PERIOD</u>	<u>INITIAL</u> <u>LIABILITY</u>	<u>YEARS</u> <u>REMAING</u>	<u>REMAINING</u> <u>BALANCE</u>	<u>MID-YEAR</u> <u>PAYMENT</u>
1992	Contribution Variance	L	15	-513,554	3	-147,973	-54,510
1993	Contribution Variance	L	15	191,419	4	71,188	20,318
1994	Contribution Variance	L	15	-228,116	5	-102,693	-24,213
1995	Contribution Variance	L	15	303,610	6	158,891	32,226
1996	Contribution Variance	L	15	227,328	7	134,513	24,129
1997	Contribution Variance	L	15	76,966	8	50,460	8,169
1998	Contribution Variance	L	15	-176,672	9	-126,380	-18,752
1999	Contribution Variance	L	15	89,574	10	69,075	9,508
2000	Contribution Variance	L	15	15,208	11	12,521	1,614
2001	Contribution Variance	L	15	-65,357	12	-56,996	-6,937
2002	Contribution Variance	L	15	-88,166	13	-80,903	-9,358
2003	Contribution Variance	L	15	-225,280	14	-216,315	-23,912
2004	Contribution Variance	L	15	13,640,571	15	<u>13,640,571</u>	<u>1,447,844</u>
TOTAL EMPLOYER CREDIT						13,405,959	1,406,126
TOTAL UNFUNDED ACTUARIAL ACCRUED LIABILITY						423,352,255	