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City of  
Chattanooga  
General  
Pension Plan

Actuarial Valuation  
as of  
January 1, 2008

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April 14, 2008

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## Summary of Results

### Introduction

This Report presents the results of an actuarial valuation of the City of Chattanooga General Pension Plan as of January 1, 2008. The purposes of this actuarial analysis are:

- To perform the annual actuarial valuation in accordance with the provisions of Subsection (2) of Section 3.39 of the Chattanooga City Charter,
- To compute the annual contribution rate required to fund the Plan in accordance with actuarial principles for the 2008-2009 year, and
- To present those items required for disclosure under Statement No. 25 of the Governmental Accounting Standards Board (GASB).

### Organization of the Report

This Report is organized in five sections:

- This Summary presents the conclusions of the Report and discusses the reasons for changes since the last valuation.
- Section 1 below contains an outline of the Plan provisions on which our calculations are based, statistical data concerning Plan participants, and a summary of the actuarial assumptions employed to compute liabilities and costs.
- Section 2 presents information concerning Plan assets, including balance sheets, income statements and the calculation of the Actuarial Value of Assets from January 1, 2007 to December 31, 2007.
- Section 3 contains the actuarial calculation of liabilities and Plan cost.
- Section 4 contains pension plan information required under Statement No. 25 of the Governmental Accounting Standards Board.

### Plan Cost

Since the last actuarial valuation was performed as of January 1, 2007, the Plan cost has decreased slightly as a percentage of active members' payroll, but increased as a dollar amount due to an increase in payroll. The table below shows a brief summary.

	Cost in Dollars	% of Payroll
January 1, 2007 (Plan Year 2007-2008 Contribution)	\$3,466,650	6.36%
January 1, 2008 (Plan Year 2008-2009 Contribution)	\$3,567,792	6.31%

The reasons for the decrease in Plan cost included demographic and investment gains. These and other factors will be discussed in detail below.

**Change in Plan Cost from January 1, 2007 to January 1, 2008**

The table below shows the breakdown of the change in Plan cost from January 1, 2007 to January 1, 2008.

	Cost as % of Projected Payroll
January 1, 2007 (Section 3.1)	6.36%
Change in Cost due to:	
Demographic (gains)/losses	-0.24%
Salary (gains)/losses	-0.14%
New entrants	0.58%
Changes in disability payments	0.06%
Investment (gains)/losses	-0.31%
January 1, 2008 (Section 3.2)	6.31%

The computations above are based on the Plan provisions and on the current actuarial assumptions as of January 1, 2008, shown in section 1.3. The above costs are also based on the actuarial value of Plan assets, which is developed from a five-year asset value smoothing method.

Among the causes of the cost changes were the following:

- Actual demographic experience was slightly better than the expected behavior in aggregate, resulting in a decrease in Plan cost of 0.24% of pay. Demographic gains and losses occur because of status changes within the Plan: retirements, deaths, disabilities, and terminations.
- Salary increases were very close to those assumed in aggregate, causing a slight cost reduction of 0.14%.
- The addition of new Plan members resulted in a cost increase of 0.58%.

The Plan’s active population has remained relatively level over the past few years. However, new members are still entering the Plan to replace those who leave. The current City cost is below the City Normal Cost (currently 7.41% of payroll), because the Plan’s funding ratio is greater than 100% on an accrued liability basis. When new members enter the Plan, they immediately add to the Normal Cost of the Plan, but have only a minor impact on the Unfunded or Surplus. Therefore, new entrants tend to drive the overall cost closer to the long-term Normal Cost, which in this case results in an increase in the City contribution.

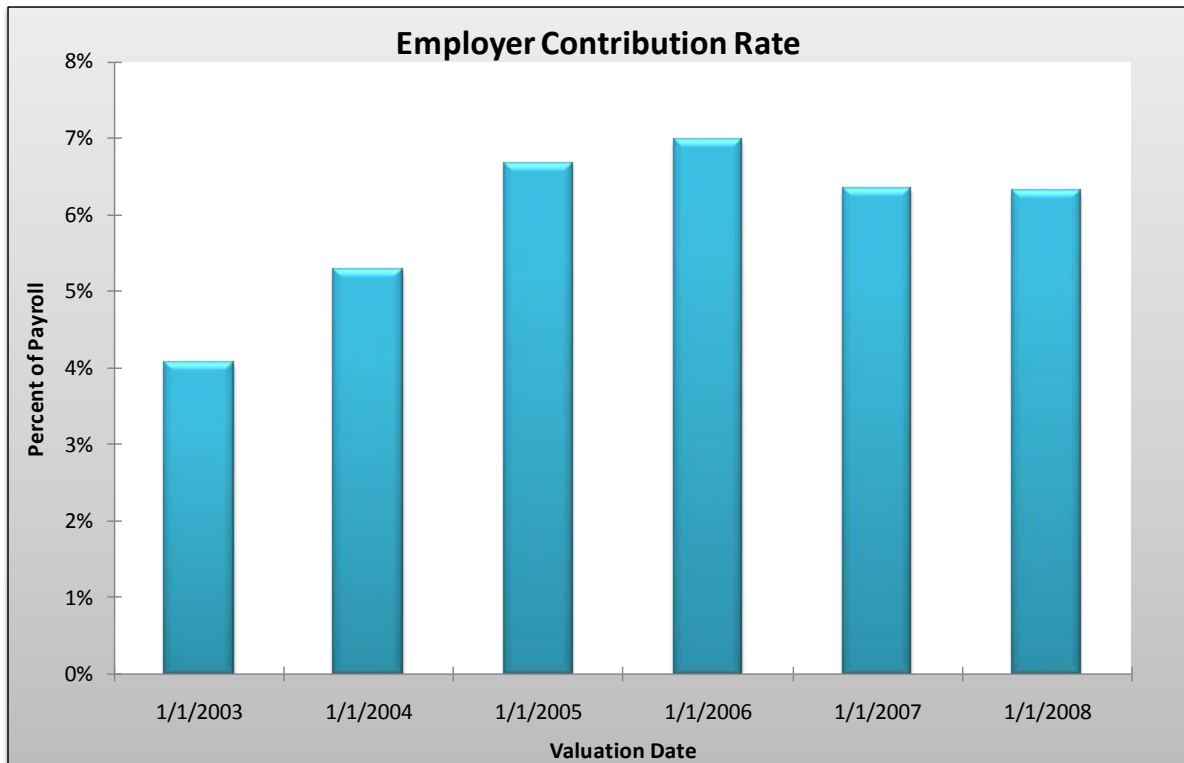


- A small increase in Plan contribution rate occurred due to a change in the disability insurance carrier, which has resulted in an extension in the payment period of disability benefit payment from age 62 to age 65.
- An actuarial gain from Plan investments served to decrease the contribution rate: Plan assets returned 8.7% on an actuarial basis (and approximately 12.1% on a market basis), resulting in an actuarial gain of about \$2.1 million. The return on the actuarial value of the assets is lower than the return on the market basis because some of the gains from the current year are being deferred due to the smoothing method.

**Calculation of City Contributions**

The annual cost of \$3,567,792 is calculated based on the projected payroll of \$56,581,858 for calendar year 2008. The dollar cost calculation is presented for budgeting purposes only; the actual City contributions are based on the percentage of pay (6.31%) and are made on a monthly basis. Interest is applied to the required contribution to bring it to the middle of the year (July 1).

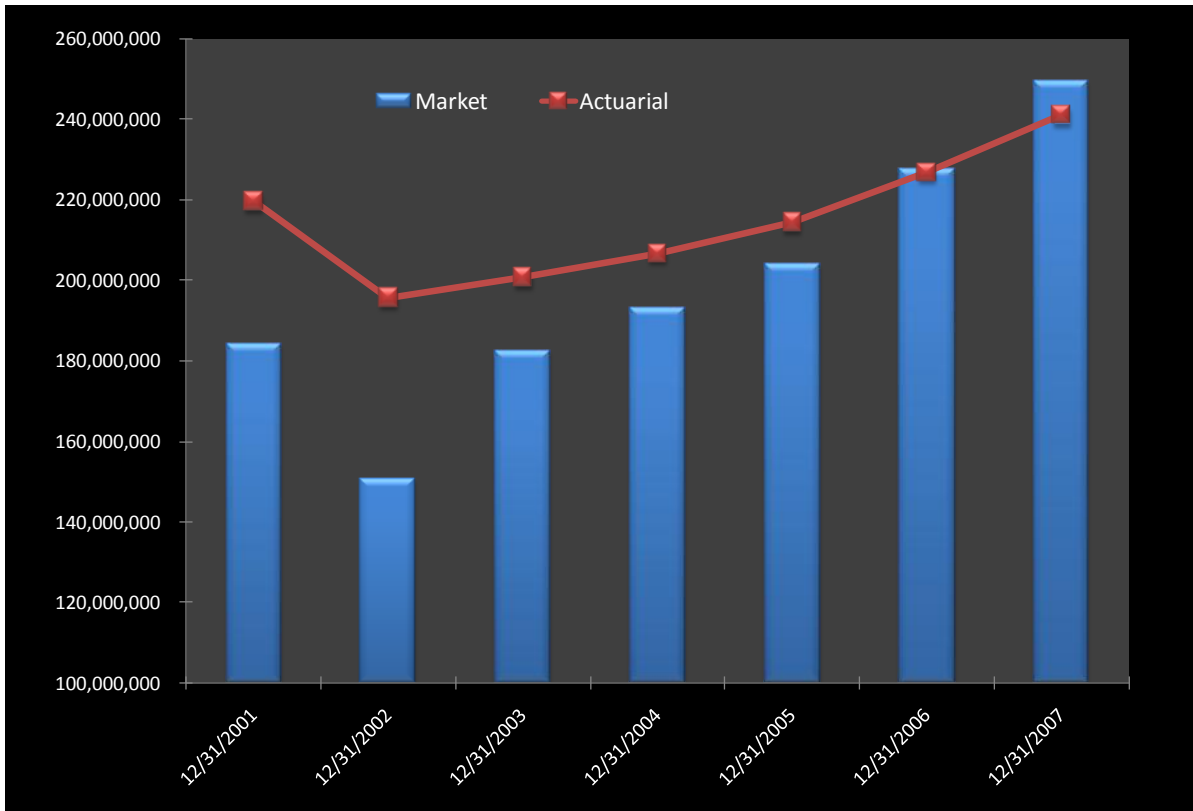
The chart below shows the history of the City’s actuarially determined contribution rates over the past several years. The rate has remained relatively level since 1/1/2005.



### Actuarial Smoothing of Plan Assets

The figures above have been computed by valuing the Plan’s assets at actuarial value, as do most other defined benefit pension plans. The actuarial value of Plan assets is computed in a manner designed to smooth fluctuations in the market value of Plan assets. The additional stability in the value of Plan assets translates to more predictable pension plan costs that are easier to budget.

The cost of the Plan has been computed using a five-year asset value smoothing method. The smoothing method spreads the recognition of investment gains and losses over five years.



The chart above compares market value and actuarial value of assets since 12/31/2001. The investment return on Plan assets was assumed to be 7.75% in 2007. We note that the smoothing method has the desired effect: the actuarial value line in the chart has smaller year-to-year changes than the market value, on average.

The actuarial value of assets is now below the market value. The amount of gains to be recognized in future years is approximately \$8.5 million as of January 1, 2008. This serves as somewhat of a buffer for investment losses over the next few years. For example, if the Fund’s investment return for 2008 is 3.7% lower than expected, this would not result in a significant cost increase for the next valuation. More substantial losses would, however, cause the City’s contribution rate to increase.

When an asset smoothing method is in place, the actuarial value of assets will be above and below market value about an equal amount of the time, so that the Plan costs using the smoothed value will be below or above those using market value about 50% of the time. Over time, the differences will average out. If the valuation were to be completed using the market value of assets, the calculated cost would be 5.05% of payroll, or about \$2.9 million for the current year.

### Conclusion

This report has been prepared using generally accepted actuarial methods and assumptions. If there are any questions about this report, please feel free to contact us. We enjoy being of service to you and we look forward to doing so in the future.

Respectfully submitted,



Graham A. Schmidt, ASA



Gregory M. Stump, FSA

## **Section 1**

### **Summary of Plan Provisions, Member Statistics, and Actuarial Assumptions**



## 1.1: Brief Outline of Plan Provisions

### Definitions

#### *Average Compensation*

A Participant's Average Compensation is the arithmetic average using the Participant's highest paid three full calendar years of service or, if less than three years of Credited Service have been completed, the average is calculated using the number of years and months actually completed by the Participant.

#### *Credited Service*

The length of time a person participated in the Plan or any former plan prior to the date as of which Credited Service is being determined, expressed in years and completed calendar months.

Appointed charter officials, elected City Council members, and appointed judgeship officials earn Credited Service for the Plan in the amount of 1.5 years for each single year they are employed by the City.

#### *Plan Year*

July 1 – June 30

### Participation

Employees of the City of Chattanooga, including elected officials, join the Plan on the date they become a permanent employee with the following exceptions:

- Seasonal and temporary employees;
- Firefighters and police officers;
- Persons rendering a service under contract.

Each employee hired after February 1, 1979, shall be a participant of this Plan as a condition of employment. Each such employee's participation shall commence with the first payroll period.

### Normal Retirement Benefit

#### *Eligibility*

Participants are eligible for normal retirement on the first day of the month after reaching age 62 or upon satisfying the Rule of 80.

#### *Benefit Amount*

The total annual benefit under normal retirement is calculated using one of the following formulas:

1. 2% of Average Compensation multiplied by the number of full years of Credited Service (up to 20 years and 40% maximum), plus 1% of Average Compensation multiplied by each additional full year of Credited Service beyond 20 years; or
2. 60% of Average Compensation, less 50% of the primary Social Security amount payable at age 62 (PIA), plus 1% of Average Compensation for each full year in excess of 25, multiplied by a fraction, the numerator of which is equal to Credited Service not in excess of 25, and the denominator of which is equal to 25.

Formula 2 only applies to employees hired prior to January 1, 1985. Participants with 10 or more years of Credited Service on December 31, 1994 will receive the larger benefit from Formula 1 or Formula 2. All other participants will have their benefits calculated using Formula 1.

### ***Form of Benefit***

The normal form of payment is a straight life annuity option that pays the monthly benefit to the participant until his death. The beneficiary receives no payments after the participant's death under this payment method.

### **Early Retirement Benefit**

#### ***Eligibility***

Participants are eligible for early retirement on the first day of the month after reaching age 55 with 5 years of Credited Service.

#### ***Benefit Amount***

A monthly deferred early retirement benefit is payable on the Participant's normal retirement date, provided he is then living, and computed in the manner set forth above for the normal retirement benefit.

Subject to the written approval of the Board, an immediate monthly life annuity shall be payable, the amount of which shall be the amount of the normal retirement benefit, reduced by 5/24 of 1% for each full month his early retirement date precedes his 62<sup>nd</sup> birthday.

### ***Form of Benefit***

The normal form of payment is a straight life annuity option.

### **Disability Retirement Benefit**

#### ***Eligibility***

A participant is eligible for a disability retirement benefit if the participant becomes disabled in the line of duty or not in the line of duty. If a participant becomes disabled not in the line of duty after five years of service, or if he becomes disabled in the line of duty regardless of the number of years of service, he may retire and receive a disability pension.

### ***Benefit Amount***

The disability retirement benefit, payable to age 65, consist of 60% of earnings minus the primary Social Security disability benefit. Upon attainment of age 65, the employee becomes entitled to his regular pension as defined under normal retirement above, with full credit for the years of service during which he was disabled if totally disabled as a result of any injury in the line of duty.

### ***Form of Benefit***

The benefit form is the same as that for a normal service retirement benefit.

### **Pre-Retirement Death Benefit (Refund of Contributions)**

#### ***Eligibility***

Participants are eligible for a death benefit if the participant dies before he has completed 5 years of service and before he has attained age 62.

#### ***Benefit Amount***

The beneficiary shall receive a refund of all the deceased participant's contributions to the Plan, without interest, payable within 15 days after the date of death.

### **Pre-Retirement Death Benefit (Monthly Benefit)**

#### ***Eligibility***

Participants are eligible for a death benefit if the participant dies after he has completed 5 years of service or after he has attained age 62.

#### ***Benefit Amount***

Upon the death of a participant, any option he may have elected, in lieu of his otherwise retirement benefit, shall be payable as though he had been entitled to have such option benefit commence on his date of death; and in the event such a participant has not elected any option prior to his death, a benefit shall be payable to the deceased participant's surviving spouse, if any, as though he had elected a ten-year certain and life form of annuity.

If the death occurs in the line of duty, the participant's benefit shall be calculated using 25 years of Credited Service, if the participant had less than 25 years of Credited Service at the time of his death.

### **Termination Benefit**

#### ***Eligibility***

A participant is eligible for a refund of contributions if he terminated employment before becoming eligible for any other benefit.

### **Benefit Amount**

The member will receive a refund of his contributions. If the employee has completed at least 5 years of Credited Service, he will receive interest on his contributions, at the rate of 6.0% per annum, from the date of termination to the date the refund is made.

### **Optional Benefit Forms**

Prior to retirement, a member may elect to convert his retirement allowance into a benefit of equivalent actuarial value in accordance with one of the optional forms described below.

1. Option A – 120 Payments and Life Certain

Option A provides a decreased pension benefit payable for life to the retired participant, with the first 120 payments (10 years) guaranteed. Any guaranteed payments due after the death of the retired participant are paid to the designated beneficiary, if any, who survives the retired participant.

2. Option B – Joint and Survivor

Option B provides a reduced retirement benefit form payable to the retired participant for life. If the participant dies, a surviving beneficiary will continue to receive the identical benefit. All benefits end when both the participant and the beneficiary are deceased.

3. Option C – Modified Joint and Survivor

Option C provides a reduced retirement benefit form payable to the retired participant for life. If the participant dies, a surviving beneficiary will continue to receive 50% of the retiree's benefit. All benefits end when both the participant and the beneficiary are deceased.

4. Option D – Modification of Option B (Pop-up)

Option D provides a reduced retirement benefit form payable to the retired participant for life. If the participant predeceases his beneficiary, the identical benefit will continue for the life of the surviving beneficiary. If the beneficiary dies before the participant, the participant's benefit payment will be increased to the full monthly benefit payment as if the participant had elected the normal form (a straight annuity) of payment. This increased benefit will be paid to the participant until his death.

5. Option E – Modification of Option C (Pop-up)

Option E provides a reduced retirement benefit form payable to the retired participant for life. If the participant predeceases his beneficiary, 50% of the benefit will continue for the life of the surviving beneficiary. If the beneficiary dies before the participant, the participant's benefit payment will be increased to the full monthly benefit payment as if the

participant had elected the normal form (a straight annuity) of payment. This increased benefit will be paid to the participant until his death.

6. Deferred Retirement Option Provision (DROP)

The Deferred Retirement Option Provision (DROP) offers a participant the option of receiving a portion of his total benefit as a lump-sum cash payment at the time he retires. When a participant elects the DROP, his monthly benefit payments are reduced.

The DROP payment can be paid in annual installments up to three years, depending on the participant's total Credited Service. The participant must have 26 years of Credited Service to be eligible for a one-year DROP payment, 27 years of service to be eligible for a two-year DROP payment, and at least 28 years of service to be eligible for a three-year DROP payment.

### **Post Retirement Adjustments**

An annual cost-of-living adjustment will be made to amounts paid to or on account of a retired participant each January 1. The adjustment shall be equal to 3%.

### **Funding**

The City and the employees share in the cost of the Plan.

Each participant shall pay 2% of his compensation to the Plan through payroll deductions. An employee contribution is required for each payroll period a participant receives compensation.

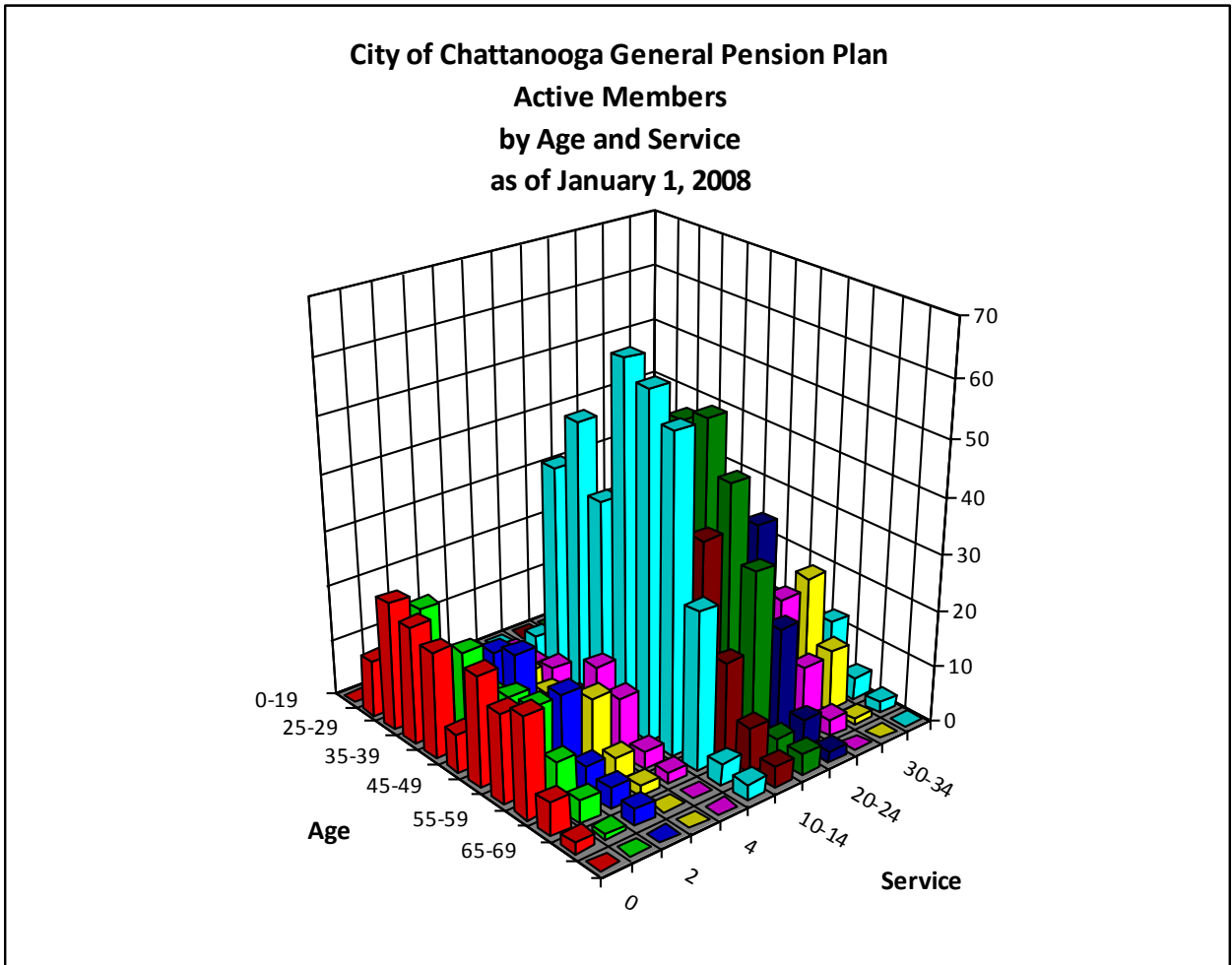
The City contribution rate is determined on the basis of an actuarial valuation of the Plan made as of December 31 of the preceding Plan year.

### **Changes in Benefit Provisions Since Prior Valuation**

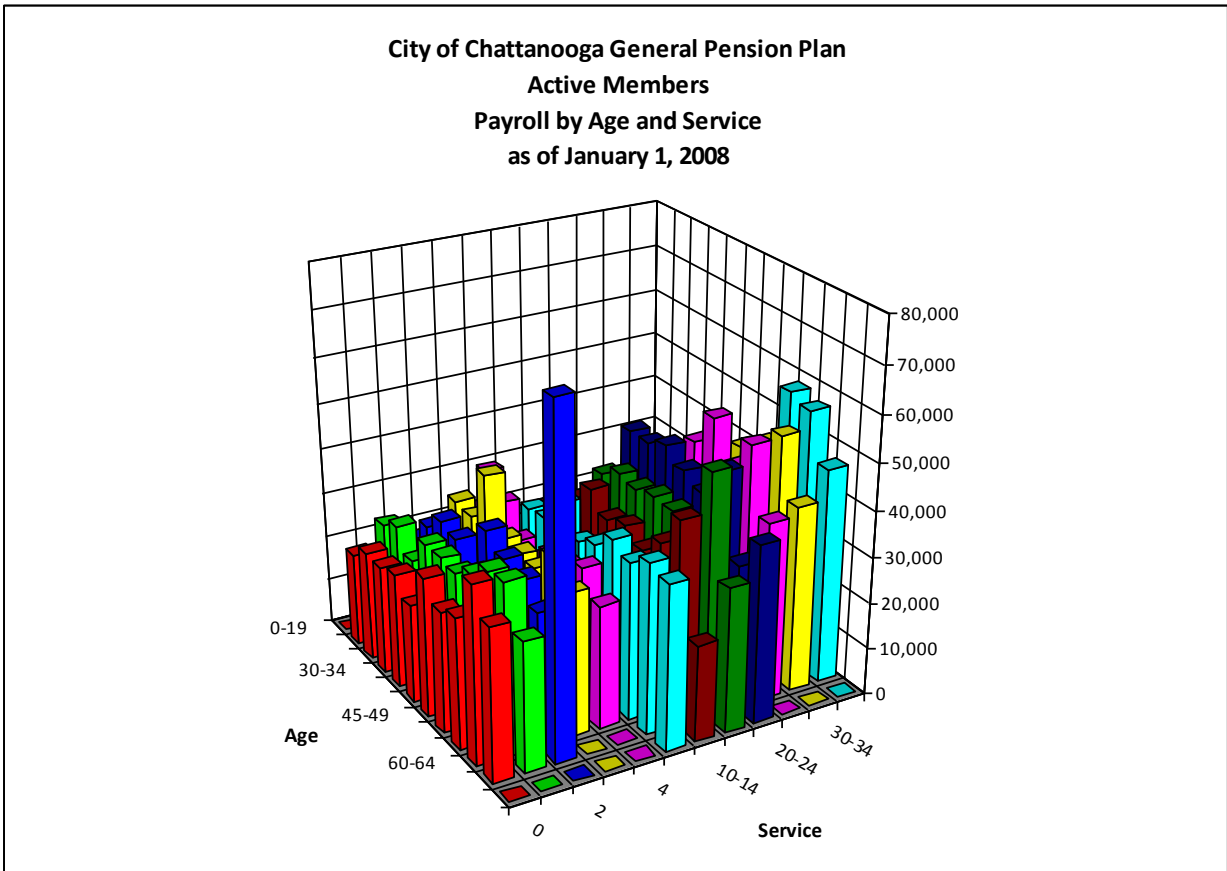
As a result of the change in Long Term Disability (LTD) carrier, the LTD payment, previously payable to age 62, is now payable until age 65.

## 1.2: Participant Data

	January 1, 2007	January 1, 2008
<b>Active Participants</b>		
Number	1,520	1,534
Number Vested	1,102	1,094
Non-Vested	418	440
Average Age	47.35	48.06
Average Service	11.49	11.62
Average Pay	\$34,233	\$ 35,187
<b>Inactive Participants</b>		
Number of Service Retired Participants	587	600
Average Age	71.12	71.07
Average Annual Benefit	\$13,097	\$13,656
Number of Beneficiaries	120	125
Average Age	63.93	64.92
Average Annual Benefit	\$8,687	\$9,103
Number of Disabled Participants	56	54
Average Age	59.06	60.06
Average Annual Benefit	\$8,682	\$8,520
Number of Terminated Vested Participants	77	83
Average Age	47.78	48.46
Average Annual Benefit	\$7,847	\$7,458



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
0-19	0	0	0	0	0	0	0	0	0	0	0	0	0
20-24	10	10	5	0	2	0	0	0	0	0	0	0	27
25-29	23	20	8	3	6	7	1	0	0	0	0	0	68
30-34	21	6	10	4	6	40	9	0	0	0	0	0	96
35-39	19	17	15	9	8	50	30	15	1	0	0	0	164
40-44	7	12	17	8	5	38	43	47	14	1	0	0	192
45-49	20	14	6	6	13	64	39	51	34	17	0	0	264
50-54	16	15	15	12	10	61	28	53	29	30	7	0	276
55-59	18	8	5	4	3	56	36	44	35	20	22	12	263
60-64	6	4	4	2	2	28	17	31	19	10	11	4	138
65-69	2	1	3	0	0	4	8	4	5	3	1	2	33
70+	0	0	0	0	0	3	4	4	2	0	0	0	13
<b>Total</b>	<b>142</b>	<b>107</b>	<b>88</b>	<b>48</b>	<b>55</b>	<b>351</b>	<b>215</b>	<b>249</b>	<b>139</b>	<b>81</b>	<b>41</b>	<b>18</b>	<b>1,534</b>



Service / Age	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30-34	35+	Total
<b>0-19</b>	0	0	0	0	0	0	0	0	0	0	0	0	0
<b>20-24</b>	20,400	25,678	20,819	0	24,336	0	0	0	0	0	0	0	22,724
<b>25-29</b>	23,999	28,126	26,516	30,640	35,811	24,494	24,615	0	0	0	0	0	26,904
<b>30-34</b>	23,682	23,546	30,742	30,010	31,553	28,509	32,627	0	0	0	0	0	28,014
<b>35-39</b>	25,192	30,031	29,436	41,790	25,861	29,159	32,064	35,968	44,027	0	0	0	30,592
<b>40-44</b>	21,405	30,055	24,922	30,830	24,428	35,547	36,754	38,708	43,959	39,939	0	0	34,942
<b>45-49</b>	30,479	29,726	37,188	30,368	28,866	29,720	33,000	38,047	46,033	45,249	0	0	35,114
<b>50-54</b>	26,385	32,609	34,034	30,277	28,860	31,898	34,453	39,129	43,209	52,939	45,242	0	37,014
<b>55-59</b>	28,427	36,324	32,686	35,888	31,595	36,078	32,222	38,963	41,130	44,937	48,360	57,998	38,772
<b>60-64</b>	38,444	37,191	28,938	31,211	26,600	34,017	36,537	37,891	48,280	52,334	52,697	56,475	40,618
<b>65-69</b>	32,959	28,099	74,414	0	0	37,053	44,275	52,504	31,357	38,646	40,471	46,819	43,531
<b>70+</b>	0	0	0	0	0	35,779	20,953	31,379	38,680	0	0	0	30,310
<b>Total</b>	26,210	29,949	30,965	33,046	28,977	31,900	34,100	38,544	43,659	48,585	48,799	56,417	35,187



### Inactive Data Summary

Age	Number of Participants		
	Service Retired and Beneficiaries	Disabled	Terminated Vested
0-29	1	0	0
30-34	3	0	3
35-39	7	0	14
40-44	4	2	12
45-49	7	5	13
50-54	17	7	23
55-59	72	13	15
60-64	121	11	3
65-69	144	10	0
70-74	111	6	0
75-79	108	0	0
80-84	69	0	0
85-89	36	0	0
90-94	19	0	0
95+	6	0	0
<b>Total Participants</b>	<b>725</b>	<b>54</b>	<b>83</b>

Age	Average Monthly Benefit		
	Service Retired and Beneficiaries	Disabled	Terminated Vested
0-29	\$ 150	\$ 0	\$ 0
30-34	433	0	492
35-39	326	0	353
40-44	524	852	541
45-49	797	980	732
50-54	1,310	920	811
55-59	1,195	628	659
60-64	1,193	647	215
65-69	1,100	424	0
70-74	1,124	1,023	0
75-79	1,140	0	0
80-84	935	0	0
85-89	825	0	0
90-94	609	0	0
95+	252	0	0
<b>Total Participants</b>	<b>\$ 1,073</b>	<b>\$ 717</b>	<b>\$ 622</b>

### Benefit Form Elections

<b>Retired Participants</b>	
Straight Life Annuity	300
10 Year Certain & Life	76
100% Joint & Survivor	91
50% Joint & Survivor	53
100% Joint & Survivor with PopUp	49
50% Joint & Survivor with PopUp	31
<b>Total Retired Participants</b>	<b>600</b>
<b>Disabled Participants</b>	
Straight Life Annuity	32
10 Year Certain & Life	4
100% Joint & Survivor	14
50% Joint & Survivor	1
100% Joint & Survivor with PopUp	2
50% Joint & Survivor with PopUp	1
<b>Total Disabled Participants</b>	<b>54</b>

### Changes in Plan Membership

	Active	Vested Terminated	Disabled	Retired	Beneficiaries	Total Participants
Members on January 1, 2007	1,520	77	56	587	120	2,360
New January 2, 2007 through January 1, 2008	175	(1)				174
Terminated with Vested Benefits	(13)	13				0
Became Disabled	(2)		2			0
Retired	(30)	(5)		35		0
Died or Terminated without a Vested Benefit	(117)	(1)	(2)	(17)	(2) <sup>1</sup>	(139)
Died with Beneficiary Payable			(2)	(5)	7	0
QDRO Commenced						0
Miscellaneous Adjustments	1					1
Members on January 1, 2008	1,534	83	54	600	125	2,396

<sup>1</sup> Includes 1 beneficiary with temporary payment form whose benefits expired.

### 1.3: Actuarial Methods and Assumptions

#### Actuarial Method

The annual actuarial contribution to pay for the retirement benefits provided to retired employees of the City of Chattanooga is computed under the Entry Age Normal Actuarial Cost Method. Under this Cost Method:

- A Total Normal Cost for the plan is calculated as a dollar amount. The City Normal Cost is the Total Normal Cost minus the expected employee contributions to the Plan.
- The liability for all future pension benefits payable by the City to current and future retired employees is computed. This is called the Fully Projected Liability.
- A portion of this liability is assigned to service earned to the date of the valuation. This portion is called the Actuarial Accrued Liability. The difference between the Fully Projected Liability and the Actuarial Accrued Liability is to be funded by future Total Normal Costs.
- The actuarial value of the assets on hand to pay these benefits is subtracted from the Actuarial Accrued Liability, producing the Unfunded Actuarial Accrued Liability.
- The Unfunded Actuarial Accrued Liability is amortized in level dollar payments over a rolling 30-year period.

The City’s contribution to the Plan is determined by adding the City Normal Cost as determined above to the amortization of the Unfunded Actuarial Accrued Liability. Interest on the required contribution is calculated as of the middle of the year.

#### Actuarial Assumptions

Valuation Date	All assets and liabilities are computed as of January 1, 2008.
Rate of Return	The annual rate of return (net of investment and administrative expenses) on the actuarial value of Plan assets is assumed to be 7.75%.
Contribution Earnings Rate	Employee contribution balances accumulate at an annual interest rate of 6.00%, from the time of termination to the time of payment, if the participant had at least 5 years of Credited Service at the time of termination.
Plan Expenses	Expenses are netted in the assumed rate of return.
Cost of Living	The cost of living as measured by the Consumer Price Index (CPI) is assumed to increase at the rate of 3.00% per year.



Increases in Pay

Assumed pay increases for active Participants consist of increases due to cost of living adjustments and those due to longevity and promotion. The rates listed below include the general pay increase due to the cost of living of 3.00%

Rates of assumed annual rates of future pay increases among participants depend on service, and are given by the following table.

<u>Service</u>	<u>Annual Rate</u>
0 – 5 years	5.50%
6 – 9 years	5.00%
10 and over	4.50%

Retired Employee Mortality

Rates of mortality for retired employees and their beneficiaries are based on the age and sex of the individual, and given by the 1951 Group Annuity Mortality Table Projected to 1980 (set back 5 years for females).

Representative rates are as follows:

<u>Age</u>	<u>Male</u>	<u>Female</u>
45	0.249%	0.139%
50	0.450%	0.249%
55	0.725%	0.450%
60	1.080%	0.725%
65	1.696%	1.080%
70	2.729%	1.696%
75	4.664%	2.729%
80	8.210%	4.664%
85	13.330%	8.210%
90	20.059%	13.330%
95	26.802%	20.059%
100	36.546%	26.802%

Disabled Employee Mortality

Rates of mortality for all disabled employees are based on the age of the individual. Representative rates are as follows:

<u>Age</u>	<u>Annual Rate</u>
40	4.412%
50	4.864%
60	7.252%
70	10.363%
80	15.428%
90	24.150%
100	40.524%

Active Employee Mortality

Rates of mortality are based on the age and sex of the employee, and are given by the 1951 Group Annuity Mortality Table Projected to 1980 (set back 5 years for females). Representative rates have been given above.

Service Retirement

Rates of early and normal service retirement among employees eligible to retire are assumed to depend on age and sex and are given by the following table.

<u>Age</u>	<u>Male</u>	<u>Female</u>
Less than 55	0.00%	0.00%
55 - 61	4.00%	7.00%
62	50.00%	50.00%
63 - 64	25.00%	25.00%
65 and above	100.00%	100.00%

For ages 55 – 61, rates are multiplied by a factor of 5 if eligible for unreduced benefits under the “Rule of 80”.

Disability

Rates of disability are based on the age of the employee, and are given by the 1965 Railroad Retirement Board Table. Representative rates are as follows:

<u>Age</u>	<u>Annual Rate</u>
30	0.060%
35	0.080%
40	0.120%
45	0.230%
50	0.520%
55	1.070%
60	3.350%

Termination Rates of termination for all employees from causes other than death, disability, and service retirement are based on the employee's age and service.

Representative rates of withdrawal are shown in the following table:

<u>Age</u>	<u>0-1 Years</u>	<u>2-4 Years</u>	<u>5+ Years</u>
Less than 30	16.0%	8.0%	8.0%
30 – 45	8.0%	4.0%	4.0%
46 and over	8.0%	4.0%	2.0%

Family Composition 85% of all Participants are assumed to be married. Male spouses are assumed to be four years older than their wives.

There have been no changes in assumptions since the prior valuation.

**Actuarial Value of Plan Assets**

The actuarial value is equal to the expected actuarial value, plus 20% of the difference between market value and expected actuarial value. The actuarial value is limited to market value +/- 20%.

**Participant Data**

Data on active and inactive Participants and their beneficiaries as of the valuation date was supplied by the Plan Administrator on electronic media. As is usual in studies of this type, Participant data was neither verified nor audited. However, various checks for reasonableness and consistency with the prior year's data were made.



**Section 2**

**Asset Information**



## 2.1: Income Statement

### January 1, 2007 through December 31, 2007

	<u>Actual Market</u> <u>Value</u>	<u>Expected Actuarial</u> <u>Value</u>
<b>Market / Actuarial Value at January 1, 2007</b>	\$ 227,891,948	\$ 227,026,979
<b>Contributions</b>		
Employee Contributions	3,669,272	3,669,272
Employer Contributions	1,090,940	1,090,940
Other Receipts	-	-
Total Contributions	\$ 4,760,212	\$ 4,760,212
<b>Investment Income</b>		
Investment Income / Asset Appreciation	16,552,928	N/A
Other Investment Income	11,245,215	N/A
Investment Expenses	(621,455)	N/A
Total Investment Income	\$ 27,176,688	\$ 17,387,375
<b>Disbursements</b>		
Benefit Payments and Refunds	(9,960,497)	(9,960,497)
Expenses	(147,232)	(147,232)
Other Expenses	-	-
Total Disbursements	\$(10,107,729)	\$(10,107,729)
<b>Market / Expected Value at December 31, 2007</b>	\$ 249,721,119	\$ 239,066,837
<b>Approximate Market / Assumed Return</b>	12.07%	7.75%



## 2.2: Computation of Actuarial Value of Assets

(1) Actuarial Value 1/1/2007	227,026,979
(2) Cash Flow	
Contributions	4,760,212
Benefit Payments & Expenses	<u>(10,107,729)</u>
Net Cash Flow	(5,347,517)
(3) Assumed Income	17,387,375
(4) Expected Actuarial Value 12/31/2007	239,066,837
(5) Actual Market Value 12/31/2007	249,721,119
(6) Total Adjustment ((5) – (4)) x 20%	2,130,856
(7) Actuarial Value 12/31/2007 ((4) + (6), limited to 20% corridor around (5))	241,197,693
Approximate Rate of Return based on Actuarial Value	8.70%
Ratio of Actuarial Value to Market Value	96.6%

## **Section 3**

### **Actuarial Computations**

### 3.1: Computation of Annual Contribution as of January 1, 2007

(1)	Employer Normal Cost	3,983,372
(2)	Active Present Value of Benefits	155,711,160
(3)	Inactive Present Value of Benefits	
	Retirees	82,437,554
	Beneficiaries	8,851,274
	Disabled	3,297,223
	Vested Deferred	<u>3,034,467</u>
	Total	97,620,518
(4)	Total Present Value of Benefits ((2)+(3))	253,331,678
(5)	Active Accrued Liability	121,410,133
(6)	Total Accrued Liability ((3)+(5))	219,030,651
(7)	Actuarial Value of Assets (Section 2.2)	227,026,979
(8)	Net Unfunded Liability (Surplus) ((6)-(7))	(7,996,328)
(9)	Amortization of Net Unfunded Liability (Surplus) Over 30 Years as a Level Dollar Amount	(643,719)
(10)	Annual Contribution ((1)+(9))	3,339,653
(11)	Annual Contribution with Interest	3,466,650
(12)	Projected Payroll	54,545,300
(13)	Total Cost as a Percentage of Projected Payroll ((11)÷(12))	6.36%

### 3.2: Computation of Annual Contribution as of January 1, 2008

(1)	Employer Normal Cost	4,190,257
(2)	Active Present Value of Benefits	162,613,230
(3)	Inactive Present Value of Benefits	
	Retirees	87,559,572
	Beneficiaries	9,844,565
	Disabled	3,294,230
	Vested Deferred	<u>3,145,002</u>
	Total	103,843,368
(4)	Total Present Value of Benefits ((2)+(3))	266,456,598
(5)	Active Accrued Liability	127,998,426
(6)	Total Accrued Liability ((3)+(5))	231,841,794
(7)	Actuarial Value of Assets (Section 2.2)	241,197,693
(8)	Net Unfunded Liability (Surplus) ((6)-(7))	(9,355,899)
(9)	Amortization of Net Unfunded Liability (Surplus) Over 30 Years as a Level Dollar Amount	(753,167)
(10)	Annual Contribution ((1)+(9))	3,437,090
(11)	Annual Contribution with Interest	3,567,792
(12)	Projected Payroll	56,581,858
(13)	Total Cost as a Percentage of Projected Payroll ((11)÷(12))	6.31%

## **Section 4**

### **Disclosure Information**

## 4.1: Schedules of Funding Status and Employer Contributions Required Under GASB Statements No. 25 and 27

The Governmental Accounting Standards Board (GASB) Statements No. 25 and 27 relate to the disclosure of pension liabilities on a public employer’s financial statements. For accounting periods beginning after June 15, 1996, information required under these statements must be prepared for a public employer who seeks compliance with generally accepted accounting principles (GAAP) on behalf of its public employee retirement system.

GASB Statement No. 25 requires preparation of schedules of funding status and employer contributions, as well as the disclosure of plan provisions, actuarial assumptions, and other information.

The required schedules are shown below. In each case, we have relied upon information from our files and contained in the reports of prior actuaries employed by the City in completing the schedules. While we have no reason to believe the information in our files or in prior actuaries’ reports is inaccurate, we strongly recommend that City personnel verify the schedules below before they are included in Plan or City financial statements.

Schedule of Funding Status						
Actuarial Valuation Date	Actuarial Value of Assets	Actuarial Accrued Liability	Unfunded Actuarial Accrued Liability	Funded Ratio	Covered Payroll	Unfunded Liability as a Percent of Payroll
1/1/1997	\$114,621,917	\$99,328,522	(\$15,293,395)	115.4%	\$39,136,370	-39.08%
1/1/1998	\$129,592,442	\$109,916,957	(\$19,675,485)	117.9%	\$38,223,969	-51.47%
1/1/1999	\$144,836,426	\$116,471,155	(\$28,365,271)	124.4%	\$43,969,283	-64.51%
1/1/2000	\$209,084,823	\$144,143,794	(\$64,941,029)	145.1%	\$46,338,563	-140.14%
1/1/2001	\$216,594,554	\$154,893,409	(\$61,701,145)	139.8%	\$47,490,020	-129.92%
1/1/2002	\$219,767,852	\$171,457,511	(\$48,310,341)	128.2%	\$51,681,537	-93.48%
1/1/2003	\$195,813,753	\$167,271,964	(\$28,541,789)	117.1%	\$53,221,374	-53.63%
1/1/2004	\$200,844,363	\$180,133,668	(\$20,710,695)	111.5%	\$53,322,027	-38.84%
1/1/2005	\$206,837,961	\$198,874,444	(\$7,963,517)	104.0%	\$53,531,483	-14.88%
1/1/2006	\$214,548,519	\$209,643,031	(\$4,905,488)	102.3%	\$54,636,392	-8.98%
1/1/2007	\$227,026,979	\$219,030,651	(\$7,996,328)	103.7%	\$54,545,300	-14.66%
1/1/2008	\$241,197,693	\$231,841,794	(\$9,355,899)	104.0%	\$56,581,858	-16.54%

Schedule of City Contributions				
Fiscal Year Ending	Annual Required Contribution	Actual Contribution	Percentage Contributed	Net Pension Obligation/(Asset)
2005	\$2,096,333	\$2,146,352	102.39%	(\$4,343,073)
2006	\$3,518,054	\$3,518,054	100.00%	(\$4,255,701)
2007	\$3,786,128	\$3,786,128	100.00%	(\$4,216,376)
2008	\$3,502,000	\$3,502,000	100.00%	(\$4,177,414)

**Determination of Annual Pension Cost / Net Pension Obligation/(Asset) as of December 31, 2007**

Annual Required Contribution (w/ interest to middle of year)	\$3,502,000
Interest on Net Pension Obligation/(Asset)	(326,769)
Adjustment to Annual Required Contribution	<u>365,731</u>
Annual pension cost	\$3,540,962
Contributions made	(3,502,000)
Increase (Decrease) in Net Pension Obligation	38,962
Net Pension Obligation/(Asset) beginning of year	<u>(4,216,376)</u>
Net Pension Obligation/(Asset) end of year	\$(4,177,414)

The table below summarizes certain information about this actuarial report.

Valuation date	January 1, 2008
Actuarial cost method	Entry Age Normal
Amortization method	Level Dollar
Remaining amortization period	30 Years (Fixed)
Asset valuation method	Expected actuarial value, plus 20% of the difference between market and expected actuarial value, with 20% corridor around market value.

Actuarial assumptions:

Investment rate of return*	7.75%
Projected salary increases*	4.50% - 5.50%
*Includes inflation at	3.00%
Cost of living adjustments	3.00%