Houston Municipal Employees Pension System

ACTUARIAL VALUATION
July 1, 2003

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June 15, 2004

Board of Trustees
Houston Municipal Employees Pension System
1111 Bagby
Suite 2450
Houston, TX 77002-2555

Dear Members of the Board:

Subject: Actuarial Valuation as of July 1, 2003

This report describes the current actuarial condition of the Houston Municipal Employees Pension System (HMEPS), determines the calculated employer contribution rate, and analyzes changes in this contribution rate. Valuations are prepared annually, as of July 1, the first day of the HMEPS plan year.

Under HMEPS statutes, the Board of Trustees certifies the employer contribution rate. This rate is determined actuarially, based on the Board's funding policy and the System's statutes. The contribution rate determined by a given actuarial valuation and certified by the Board becomes effective twelve months after the valuation date. I.e., the rates determined by this July 1, 2003 actuarial valuation would normally be used by the Board when certifying the employer contribution rate for the year beginning July 1, 2004 and ending June 30, 2005.

Financing objectives and funding policy

The amortization period is set by statute. The contribution rate and liabilities are computed using the Entry Age actuarial cost method. The employer contribution rate is the sum of two pieces: the employer normal cost rate and the amortization rate. The normal cost rate is determined as a percent of pay. The employer normal cost is the difference between this and the weighted member contribution rate. The amortization rate is determined as a level percent of pay. It is the amount required to amortize the unfunded actuarial accrued liability over a closed period (40 years as of January 1, 1983). The amortization rate is not adjusted for the one-year deferral in contribution rates.

Progress toward realization of financing objectives

The funded ratio (the ratio of the actuarial value of assets to the actuarial accrued liability) is a standard measure of a plan's funded status. In the absence of benefit improvements, it should increase over time, until it reaches 100%. The funded ratio as of July 1, 2003 is 46.1%. It should be noted that the funded ratio has decreased over the last three years, from 91% as of July 1, 2000. The major causes of this decrease were the benefit enhancements granted in 2001 and the substantial asset losses that have occurred over the last several years.

The calculated employer contribution rate has also increased over the last three years. The employer contribution rate calculated as of July 1, 2003 is 52.89%, up from 9.5% as of July 1, 2000.

Benefit provisions

The benefit provisions reflected in this valuation are those which were in effect on July 1, 2003. There were no material changes adopted since the previous actuarial valuation. The benefit provisions are summarized in Appendix B.

Assumptions and methods

Actuarial assumptions and methods are set by the Board of Trustees, based upon recommendations made by the plan's actuary. The assumptions used in this valuation have been modified since the previous valuation. The assumptions used in the valuation were based in part on our review of an Experience Analysis performed by Towers Perrin.

Changes in the assumptions include:

- increasing retirement decrement rates
- lowering expected salary increases and payroll growth
- assuming 80% of current Group B members transfer to Group A on the valuation date
- assume all Group A members (including future transfers from Group B) with Group B service will convert that service to Group A service and that the applicable transfer price will be paid
- interest credited to DROP accounts will be 9%, up from 8.5% to reflect the minimum crediting rate equal to the valuation expected return on assets
- lowering expected inflation from 4.0% per year to 3.0% per year
- increasing the real rate of return assumption from 4.5% to 5.5%

All assumptions and methods are described in Appendix A.

Data

Member data for retired, active and inactive members was supplied as of July 1, 2003 by the HMEPS staff. We did not audit this data, but we did apply a number of tests to the data, and we concluded that it was reasonable and consistent with the prior year's data. Asset information as of July 1, 2003 was taken from the Comprehensive Annual Financial Report for the Year Ended June 30, 2003.

Certification

We certify that the information presented herein is accurate and fairly portrays the actuarial position of HMEPS as of July 1, 2003.

All of our work conforms with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, our calculations also comply with the requirements of state law and, where applicable, the Internal Revenue Code, ERISA, and the Statements of the Governmental Accounting Standards Board. The undersigned are independent actuaries and consultants. Mr. Carter and Mr. Newton are Enrolled Actuaries. Mr. Carter is also Member of the American Academy of Actuaries, and all three are experienced in performing valuations for large public retirement systems.

Sincerely,

Gabriel, Roeder, Smith & Company

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Executive Summary

Item	July 1, 2003		July 1, 2002	
Membership				
• Number of:				
- Active members		12,120		12,527
- Retirees and beneficiaries		6,215		5,928
- Inactive members		2,950		1,136
- Total		21,285		19,591
• Annualized Payroll supplied by HMEPS	$	390,314	$	399,794
Calculated Contribution rates				
• Member (weighted)*		3.68%		
• Employer		52.89%		31.80%
Assets				
• Market value	$	1,266,190	$	1,271,691
• Actuarial value		1,510,264		1,519,717
• Return on market value		2.3%		(8.0%)
• Return on actuarial value		1.7%		3.6%
• Employer contribution	$	40,622	$	40,758
• Ratio of actuarial value to market value		119.3%		119.5%
Actuarial Information				
• Employer normal cost %		16.48%		12.30%
• Unamortized actuarial accrued liability (UAAL)	$	1,767,987	$	995,472
• Amortization rate		36.41%		19.50%
• Funding period		19.5 years		20.5 years
• GASB funded ratio		46.1%		60.4%
Projected employer contribution based on calculated rate				
• Fiscal year ending June 30,		2005		2004
• Projected payroll (millions)	$	403.5	$	375.0
• Projected employer contribution (millions)	$	213.4	$	119.3

Note: Dollar amounts in $000, unless otherwise noted
* Employee contribution rate for contributing members is 4%

Contribution Requirements

- The Executive Summary shows the new, calculated contribution rate
- Rates shown on the Executive Summary are calculated rates for the twelve-month period beginning July 1, 2004, based on current board policy
- Table 6 reconciles the calculated contribution rate from the prior valuation to the current valuation
- There were no material changes to benefit provisions
- Amortization payment is based on:
  - 40-year closed funding period beginning January 1, 1983
  - Contributions increase as level percentage of pay
  - Total payroll increases 3.00% per year
  - No future growth in the number of active members is taken into account
- The Plan experienced a loss on the actuarial value of assets which decreased the funded ratio and caused an increase in the contribution rate
  - Impact on contribution rates shown on Table 6, Item 5b and 5c
  - Because the actuarial asset method smoothes gains and losses over five years, only 20% of the FY2003 investment loss is reflected in these results.
  - The remainder of the actuarial investment losses for FY2001 and FY2002 will be recognized in future years and will tend to increase future contribution rates. This is reflected in Table 7.
- Liability experience losses combined with the changes in assumptions and the loss on the actuarial value of assets produced major increases in the contribution rate
  - Impact on contribution rates shown on Table 6
  - To recognize future losses due to members transferring from Group B to Group A, 20% of current Group B members are assumed to transfer to Group A each year over the next four years, resulting in 80% of current Group B members assumed to transfer
  - Because all transferred Group B service can be converted to Group A service at considerably less than the actuarial cost, all convertible service is assumed to be converted

Calculation of Contribution Rates

The HMEPS retirement system is funded by employer contributions which are determined as a percent of pay, and in some cases by member contributions. As shown in Table 2, the employer contribution rate has two components:

- The normal cost percentage (NC%)
- The amortization percentage (UAAL%)

The NC% is the theoretical amount which would be required to pay the members' benefits, based on the current plan provisions, if this amount had been contributed from each member's entry date and if the fund's experience exactly followed the actuarial assumptions. This is the amount it should cost to provide the benefits for an average new member. The NC% is shown in Table 4.

Some of the members are required to make employee contributions, and for those members, only the excess of the NC% over the member contribution rate is included in the employer contribution rate.

The actuarial accrued liability (AAL) is the difference between (i) the actuarial present value of all future benefits for all current members of the fund, including active, inactive and retired members, and (ii) the actuarial present value of future normal costs. Thus the AAL represents the liability associated with past years. The unfunded actuarial accrued liability (UAAL) is the difference between the AAL and the actuarial value of assets (AVA). It is the shortfall/excess between the liability associated with prior years (the AAL) and the assets actually accumulated (the AVA). This shortfall/excess can arise from several sources, including actuarial gains and losses which are caused by differences between actual experience and the plan's assumptions, changes to the plan's actuarial assumptions, and amendments to the benefit provisions.

The UAAL% is the amount required to fund this difference. It is the amount, expressed as a level percentage of payroll, necessary to amortize the UAAL. The Board has specified that this amortization should be over a period of 40 years beginning January 1, 1983. Item 11a of Table 2 shows the UAAL%.

The calculated rate is used in determining the contribution rate necessary to meet the Board's funding Policy for the twelve-month period beginning July 1, 2004.

Financial Data and Experience

As of July 1, 2003, HMEPS has a total market value of about $1.27 billion. Financial information was gathered from the 2003 HMEPS Comprehensive Annual Financial Report.

This report includes a number of exhibits related to plan assets. Table 8 shows how the total market value is distributed among the various classes of investments. Currently, 50.3% of invested assets are held in equities and alternative investments, compared with 49.1% last year and compared with a 50% investment policy target. 30.3% of invested assets are held in LP's and real estate mortgages, compared with 26.5% last year and compared with a 30% investment policy target.

Table 9 shows a reconciliation of the market values between the beginning and end of FY2003.

During FY2003, the total investment return on market values was 2.34%, as shown on Table 12. This resembles the return most retirement systems experienced during the same time period.

In determining the contribution rates and funded status of the funds, an actuarial value of assets (AVA) is used, rather than the market value of assets. The method used to compute the AVA takes the difference between actual earnings and expected earnings (based on the assumed 8.5% investment return rate) each year, and recognizes the difference over five years, at 20% per year. This "smoothing method" is intended to help reduce the volatility of the contribution rates from year to year.

The development of the AVA is shown on Table 10 and Table 11. The AVA is $1.51 billion. The AVA is 119.3% of the MVA.

In addition to the market return, Table 12 also shows the return on the actuarial value for HMEPS. For FY2003, this return was 1.69%. Because this is less than the assumed 8.5% investment return, the plan funded status decreased and the calculated contribution rates increased. Table 14 shows a summary of market and actuarial return rates in recent years.

Member Data

Member data as of July 1, 2003 was supplied by HMPES staff on a CD. While we did not audit this data, we did perform various tests to ensure that it was internally consistent, consistent with the prior year's data, and was reasonable overall.

Table 20 shows the number of members by category (active, inactive, retired, etc.). Tables 21(a-c) show active member statistics by Group. Tables 18 and 19 show summaries of certain historical data, including membership statistics.

The number of active members decreased from 12,527 to 12,120, a 3.2% decrease, and over the last five years active membership has decreased on average 2.5% per year.

The total payroll shown on the statistical tables is the amount that was supplied by HMEPS, annualized if necessary. For the cost calculations, the pays were adjusted in accordance with the actuarial assumptions to reflect one year's salary increase.

Total active member payroll decreased 2.3% last year, compared with a 3.2% decrease the prior year.

Benefit Provisions

Appendix B includes a summary of the benefit provisions for HMEPS.

There were no changes made since the previous valuation that had a measurable effect on the valuation.

This valuation reflects all benefits promised to HMEPS members. There are no ancillary benefits that might be deemed a HMEPS liability if continued beyond the availability of funding by the current funding source.

Actuarial Methods and Assumptions

Appendix A includes a summary of the actuarial assumptions and methods used in this valuation. Costs are determined using the Entry Age actuarial cost method. The assumed investment return rate is 8.50%. The Board adopted new actuarial assumptions for this valuation in connection with the 2002 experience investigation performed by Towers Perrin and independently reviewed by GRS.

These new assumptions include the following changes:

- The inflation assumption was decreased from 4.0% to 3.0%
- The payroll growth rate assumption was decreased from 4.5% to 3.0%
- The salary increase assumption was changed from a flat 4.5% to a set of graded rates based on years of service
- Retirement rates were increased for most ages
- The DROP interest credit rate assumption was increased from 8.5% to 9.0%
- The assumption on when members would enter DROP was changed from first eligibility to the most valuable entry date
- The assumptions on the number of Group B members who would transfer to Group A was increased from 0% to 80%
- The assumption on the number of members with prior Group B service who would convert that service to Group A was increased from 0% to 100%

Please see Appendix A for a complete description of these assumptions.

GASB 25 and Funding Progress

Governmental Accounting Standards Board Statement No. 25 (GASB 25) contains certain accounting requirements for HMEPS. In particular, it requires the inclusion of two special schedules in the HMEPS annual report:

1. Schedule of Funding Progress
2. Schedule of Employer Contributions

Information needed to prepare the Schedule of Funding Progress is included in Table 16. This shows that the funded ratio (ratio of actuarial assets to accrued liabilities) has decreased dramatically.

GASB 25 also requires that plans calculate an Annual Required Contribution (ARC), and, if actual contributions received are less than the ARC, this must be disclosed. For this disclosure, HMEPS treats the Board-established employer contribution rate as the ARC, as long as this produces a funding period of less than 30 years.

Under GASB 25, the ARC must be calculated in accordance with certain parameters. In particular, it must include a payment to amortize the UAAL. This amortization payment eventually will have to be computed using a funding period no greater than 30 years, but a 40-year maximum amortization period may be used during a ten-year transition period. Further, the amortization payment included in the ARC may be computed as a level dollar amount, or it may be computed as an amount which increases with payroll (level-percentage-of-pay). However, if payments are computed on a level-percent-of-payroll approach, the payroll growth assumption may not anticipate future membership growth.

Since the recommended employer contribution rate is computed as a level percentage of payroll using an amortization period less than 30 years at the valuation, the recommended rate meets the definition of an acceptable ARC.

Summary of Cost Items

		Valuation as of July 1, 2003			Valuation as of July 1, 2002	
		Cost Item	Cost as % of Pay		Cost Item	Cost as % of Pay
		(1)	(2)		(3)	(4)
1. Participants						
a. Actives		12,120			12,527	
b. Retirees		4,319			5928*	
c. Disabled Members		494			*	
d. Beneficiaries		1,402			*	
e. Inactive, deferred vested		2,386			1,136	
f. Inactive, nonvested		564			N/A	
g. Total		21,285			19,591	
2. Covered payroll	$	390,314		$	399,794	
3. Averages for active members						
a. Average age		45.2			44.7	
b. Average years of service		11.2			11.0	
c. Average pay ($)	$	32,204		$	31,915	
4. Present value of future pay	$	2,637,853			N/A	
5. Total normal cost rate		20.16%				
6. Present value of future benefits	$	3,913,512	1002.7%	$	2,963,277	741.2%
7. Present value of future normal costs		520,854	133.4%		448,088	112.1%
8. Service purchase receivable		(114,406)			N/A	
9. Actuarial accrued liability (6 - 7 + 8)		3,278,251	839.9%		2,515,189	629.1%
10. Present actuarial assets		1,510,264	386.9%		1,519,717	380.1%
11. Unfunded actuarial accrued liability (UAAL)		1,767,987	453.0%		995,472	249.0%
12. Employee contribution rate (weighted)**		3.68%			N/A	
13. Funding period		19.5 years			20.5 years	
14. Employer contribution rate						
a. Net Normal cost (5-12)		16.48%			12.30%	
b. Amortization charge		36.41%			19.50%	
c. Total		52.89%			31.80%	
15. Average estimated return						
a. Based on market value		2.34%			(7.99%)	
b. Based on actuarial value		1.69%			3.65%	
16. GASB 25 funded ratio		46.1%			60.4%	

Note: Dollar amounts in $000

* 5,928 represents all retirees, beneficiaries, and disabled members

** Employee contribution rate for contributing members is 4%

Calculation of Annual Required Contribution Rate

		July 1, 2003 (1)	July 1, 2002 (2)
1.	Covered payroll	$ 390,314	$ 399,794
2.	Covered payroll adjusted for one-year's pay increase	$ 403,548	$ 365,000
3.	Present value of future pay	$ 2,637,853	N/A
4.	Normal cost rate		
	a. Total normal cost rate	20.16%	N/A
	b. Less: member contribution rate (weighted)	(3.68%)	N/A
	c. Employer normal cost rate	16.48%	12.30%
5.	Actuarial accrued liability for active members		
	a. Present value of future benefits for active members	$ 2,797,711	$ 2,069,709
	b. Less: present value of future normal costs	(635,261)	(448,088)
	c. Service Purchase Receivable [1]	(114,406)	N/A
	d. Actuarial accrued liability	$ 2,162,450	$ 1,621,621
6.	Total actuarial accrued liability for:		
	a. Retirees and beneficiaries	$ 1,036,757	$ 860,589
	b. Inactive members	79,044	32,979
	c. Active members (Item 5d)	2,162,450	1,621,621
	d. Total	$ 3,278,251	$ 2,515,189
7.	Actuarial value of assets	$ 1,510,264	$ 1,519,717
8.	Unfunded actuarial accrued liability (UAAL) (Item 6d - Item 7)	$ 1,767,987	$ 995,472
9.	Funding period	19.5 years	20.5 years
10.	Assumed payroll growth rate	3.00%	4.50%
11.	Employer Contribution requirement		
	a. UAAL amortization payment as % of pay	36.41%	19.50%
	b. Employer normal cost	16.48%	12.30%
	c. Contribution requirement (a + b)	52.89%	31.80%

[1] Sum of (i) actual current recievable for actives who have entered an agreement and assumed price for converting B service to A service for (ii) 80% of current group B actives and (iii) all Group A members with convertible B service

Actuarial Present Value of Future Benefits

		July 1, 2003 (1)	July 1, 2002 (2)
1.	Active members		
	a. Retirement benefits	$ 2,558,942	N/A
	b. Deferred termination benefits	126,488	N/A
	c. Refunds	18,602	N/A
	d. Death benefits	73,624	N/A
	e. Disability benefits	20,055	N/A
	f. Total	$ 2,797,711	$ 2,069,709
2.	Members in Pay Status		
	a. Service retirements	$ 902,202	N/A
	b. Disability retirements	40,402	N/A
	c. Beneficiaries	94,153	N/A
	d. Total	$ 1,036,757	$ 860,589
4.	Inactive members		
	a. Vested terminations [1]	$ 78,131	$ 32,979
	b. Nonvested terminations	913	N/A
	c. Total	$ 79,044	$ 32,979
5.	Total actuarial present value of future benefits	$ 3,913,512	$ 2,963,277

Note: Amounts in $000

[1] 1,109 pre-1995 deferred vested members added who were not in July 1, 2002 data

Analysis of Normal Cost

		July 1, 2003 (1)	July 1, 2002 (2)
1.	Gross normal cost rate		
a.	Retirement benefits	16.00%	N/A
b.	Deferred termination benefits	2.18%	N/A
c.	Refunds	0.78%	N/A
d.	Death benefits	0.51%	N/A
e.	Disability benefits	0.69%	N/A
f.	Total	20.16%	
2.	Less: member contribution rate		
a.	Present Value of Employee Contributions	$ 97,131	N/A
b.	Present value of future pay	2,637,853	N/A
c.	Effective member contribution rate (2a/2b)	(3.68%)	N/A
3.	Employer normal cost rate (Item 1.f. - Item 2.c.)	16.48%	12.30%

Note: Amounts in $000

Calculation of Total Actuarial Gain or Loss

1. Unfunded actuarial accrued liability (UAAL) as of July 1, 2002	$	995,472
2. Additions due to Assumption/Methodology Changes		
a. 80% of Group B transfer at Valuation Date	$	160,920
b. All current and future Group A members with Group B service are assumed to convert all service		215,904
c. All other assumption and methodology changes		73,636
3. Revised UAAL as of July 1, 2002 (1+2)	$	1,445,932
4. Total normal cost for year		78,014
5. Contributions during year ending June 30, 2003		(64,384)
6. Interest on UAAL for one year		122,904
7. Interest on Item 4 and Item 5 for one-half year		567
8. Expected UAAL as of July 1, 2003 (3+4+5+6+7)	$	1,583,034
9. Actual UAAL as of July 1, 2003	$	1,767,987
10. Actuarial gain/(loss) for the period (8 – 9)	$	(184,953)
SOURCE OF GAINS/(LOSSES)		
11. Asset gain/(loss) (See Table 11)	$	(102,297)
12. Total liability gain/(loss) for the period (10-11)	$	(82,656)
Projected UAAL to July 1, 2004 assuming 14.7% Employer Contribution Rate*		
13. Expected UAAL with no Losses/(Gains)	$	1,925,757
14. Recognition of Deferred Asset Losses/(Gains)	$	87,685
15. Projected UAAL at July 1, 2004	$	2,013,442

* Assumes fund earns 8.5% for FY2004

Change in Calculated Contribution Rate Since the Prior Valuation

1.	Calculated Contribution Rate as of July 1, 2002		31.80%
2.	Revisions to 2002 Rate before Transfer Assumptions		
a.	Change in Normal Cost	4.08%	
b.	Change in UAAL Amortization	1.82%	
c.	Total Change due to Assumptions and Methods		5.90%
3.	Transfer Assumption Changes		
a.	80% of Group B members transfer	2.62%	
b.	All convertable service converted	4.90%	
c.	Total Change due to Transfer Assumptions		7.52%
4.	Revised July 1, 2002 Calculated Rate		45.22%
5.	Change in Contribution Rate During Year		
a.	Change in Normal Cost	0.12%	
b.	Recognition of prior asset losses (gains)	1.65%	
c.	Actuarial (gain) loss from current year asset performance	0.37%	
d.	Actuarial (gain) loss from liability sources	1.65%	
e.	Impact of City contributing less than actual cost of plan	2.71%	
f.	Effect of Payroll not growing at Payroll Growth Rate	1.17%	
g.	Total Change		7.67%
6.	Calculated Rate as of July 1, 2003		52.89%
7.	Projected Rate for July 1, 2004 Valuation*		
a.	Recognition of prior asset losses (gains)	1.79%	
b.	Impact of City contributing less than actual cost of plan	2.95%	
			4.74%
8.	Projected Calculated Rate as of July 1, 2004		57.63%

* Assumes fund earns 8.5% for FY2004

Near Term Outlook

Valuation as of July 1,	Projected Covered Compensation for Next Year	Unfunded Actuarial Accrued Liability (UAAL, in 000s)	Funded Ratio	Calculated Contribution Rate	Funding Period (Years)	Funded Ratio Using MVA	Employer Contributions	Employee Contributions	Benefit Payments and Refunds
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
2003	$ 403,548	$ 1,767,987	46.1%	52.9%	19.5	38.6%	$ 59,322	$ 14,859	$ 170,742
2004	415,654	2,013,442	41.9%	57.6%	18.5	36.8%	219,872	15,406	141,595
2005	428,124	2,142,664	42.1%	60.4%	17.5	40.0%	246,720	15,964	160,640
2006	440,967	2,209,759	43.9%	62.2%	16.5	43.5%	266,500	16,541	184,738
2007	454,196	2,212,697	47.0%	62.8%	15.5	47.0%	282,360	17,140	205,558
2008	467,822	2,184,558	50.4%	62.9%	14.5	50.4%	293,722	17,756	229,729
2009	481,857	2,144,200	53.8%	63.0%	13.5	53.8%	303,272	18,389	252,418
2010	496,313	2,092,530	57.1%	63.1%	12.5	57.1%	312,837	19,038	277,385
2011	511,202	2,028,648	60.3%	63.1%	11.5	60.3%	322,561	19,703	305,809
2012	526,538	1,951,445	63.4%	63.1%	10.5	63.4%	332,408	20,385	327,451
2013	542,334	1,859,765	66.5%	63.1%	9.5	66.5%	342,381	21,081	354,193

* These projections are based on the benefit provisions in effect for the July 1, 2003 actuarial valuation with no expected changes to future accruals. Also, the calculated rates shown above are assumed to be paid beginning the year after the valuation. Any changes to future accruals or failure to contribute the calculated rate will change the results of this projection.

MVA represents the Market Value of Assets

Statement of Plan Net Assets

	July 1, 2003 (1)		July 1, 2002 (2)	
A. ASSETS				
1. Current Assets				
a. Cash and short term investments				
1) Cash on hand	$	7,153	$	2,413
2) Short term investments		35,532		46,093
b. Accounts Receivable				
1) Sale of investments		6,290		24,749
2) Other		21,458		19,425
c. Total Current Assets	$	70,433	$	92,680
2. Long Term Investments				
a. US. Government securities	$	96,536	$	121,860
b. Corporate bonds		89,241		110,302
c. Capital stocks		439,387		442,135
d. Commingled Funds		225,694		212,133
e. LP's, real estate mortgages		400,190		353,212
f. Total long term investments	$	1,251,048	$	1,239,642
3. Other Assets				
a Collateral on securities lending	$	84,300	$	84,928
b. Furniture, fixtures and equipment, net		737		546
c. Total other assets	$	85,037	$	85,474
4. Total Assets	$	1,406,518	$	1,417,796
B. LIABILITIES				
1. Current Liabilities				
a. Amounts due on asset purchases	$	53,716	$	58,959
b. Accrued liabilities		2,312		2,218
c. Collateral on securities lending		84,300		84,928
2. Total Liabilities		140,328		146,105
3. Net Assets Held in Trust	$	1,266,190	$	1,271,691
C. ASSET ALLOCATION FOR CASH & LONG TERM INVESTMENTS				
1. Cash		5.3%		7.0%
2. Fixed Income		14.1%		17.4%
3. Real Estate Mortgages		30.3%		26.5%
4. Equities		33.2%		33.2%
5. Commingled Funds		17.1%		15.9%
6. Total		100.0%		100.0%

Reconciliation of Plan Net Assets

			Year Beginning July 1, 2003 (1)		Year Beginning July 1, 2002 (2)
1.	Market value of assets at beginning of year	$	1,271,691	$	1,407,516
2.	Revenue for the year				
	a. Contributions				
	i. Member contributions	$	23,762	$	13,476
	ii. Employer contributions		40,622		40,758
	iii. Total	$	64,384	$	54,234
	b. Net investment income				
	i. Interest	$	6,868	$	17,197
	ii. Dividends		7,335		9,552
	iii. Earnings from LP's and real estate trusts		7,690		11,062
	iv. Net appreciation (depreciation) on investments		16,981		(140,619)
	v. Net proceeds from lending securities		376		780
	vi. Less investment expenses		(5,320)		(5,995)
	vii. Other		114		286
	c. Total revenue	$	98,428	$	(53,503)
3.	Expenditures for the year				
	a. Refunds	$	475	$	270
	b. Benefit payments		98,789		78,318
	c. Administrative and miscellaneous expenses		4,665		3,734
	d. Total expenditures	$	103,929	$	82,322
4.	Increase in net assets (Item 2d - Item 3d)	$	(5,501)	$	(135,825)
5.	Market value of assets at end of year (Item 1 + Item 4)	$	1,266,190	$	1,271,691

Note: Amounts in $000

Calculation of Excess Investment Income

Item	Year Ending June 30, 2003	2002	2001	2000
(1)	(2)	(3)	(4)	(5)
1. Market value of assets at beginning of year	$ 1,271,691	$ 1,407,516	$ 1,483,809	$ 1,219,649
2. Net external cash flow during the year	(34,880)	(24,354)	(8,774)	(4,833)
3. Market value of assets at end of year	1,266,190	1,271,691	1,407,516	1,483,809
4. Actual investment income during the year based on market value: (3) - (2) - (1)	$ 29,379	$ (111,471)	$ (67,519)	$ 268,993
5. Assumed earnings rate	8.50%	8.50%	8.50%	8.50%
6. Expected earnings for the year				
a. Market value of assets at beginning of year: (5) x (1)	108,094	119,639	126,124	103,670
b. Net external cash flow: (5) x .5 x (2)	(1,452)	(1,014)	(365)	(201)
c. Total: (a) + (b)	106,642	118,625	125,759	103,469
7. Excess investment income for the year: (4) - (6)	$ (77,263)	$ (230,096)	$ (193,278)	$ 165,524

Note: Dollar amounts in $000

Development of Actuarial Value of Assets

	July 1, 2003 (1)	July 1, 2002 (2)
1. Excess (Shortfall) of invested income for current and previous three years		
a. Current year	$ (77,263)	$ (230,096)
b. Current year - 1	(230,096)	(193,278)
c. Current year - 2	(193,278)	165,524
d. Current year - 3	165,524	(70,960)
e. Total for four years	$ (335,112)	$ (328,810)
2. Deferral of excess (shortfall) of invested income		
a. Current year (80%)	(61,810)	(184,077)
b. Current year - 1 (60%)	(138,058)	(115,967)
c. Current year - 2 (40%)	(77,311)	66,210
d. Current year - 3 (20%)	33,105	(14,192)
e. Total deferred for year	$ (244,074)	$ (248,026)
3. Market value of assets at end of year	$ 1,266,190	$ 1,271,691
4. Actuarial value of assets at end of year: (3) - (2e)	$ 1,510,264	$ 1,519,717

Note: Amounts in $000.

Estimation of Investment Return

Item (1)	Market Value (2)	Actuarial Value (3)
1. Assets as of July 1, 2002 (A)	$ 1,271,691	$ 1,519,717
2. Contributions during FY03	64,384	64,384
3. Benefit payments made during FY03	98,789	98,789
4. Refunds of contributions during FY03	475	475
5. Expenses during FY03	4,665	4,665
6. Investment return during FY03	34,044	30,092
7. Assets as of July 1, 2003 (B): (1 + 2 - 3 - 4 - 5 + 6)	1,266,190	1,510,264
8. Approximate rate of return on average invested assets		
a. Net investment income (6 - 5 = I)	29,379	25,427
b. Estimated return based on (2I/(A + B - I))	2.34%	1.69%

Note: Dollar amounts in $000

Investment Experience Gain or Loss

Item	Valuation as of July 1, 2003	Valuation as of July 1, 2002
(1)	(2)	(3)
1. Actuarial assets, prior valuation	$ 1,519,717	$ 1,490,179
2. Total contributions since prior valuation	$ 64,384	$ 54,234
3. Benefits and refunds since prior valuation	$ (99,264)	$ (78,588)
4. Assumed net investment income at 8.5%		
a. Beginning assets	$ 129,176	$ 126,665
b. Contributions	2,681	2,128
c. Benefits and refunds paid	(4,133)	(3,083)
d. Total	$ 127,724	$ 125,710
5. Expected actuarial assets (Sum of Items 1 through 4)	$ 1,612,561	$ 1,591,535
6. Actual actuarial assets, this valuation	$ 1,510,264	$ 1,519,717
7. Asset gain (loss) since prior valuation (Item 6 - Item 5)	$ (102,297)	$ (71,818)

Note: Amounts in $000

History of Investment Returns

For Fiscal Year Ending (1)	Market Value (2)	Actuarial Value (3)
June 30, 2000	22.10%	13.00%
June 30, 2001	-4.56%	8.97%
June 30, 2002	-7.99%	3.64%
June 30, 2003	2.34%	1.69%

Historical Sovency Test

Valuation Date	Aggregated Accrued Liabilities for Active Members Contributions	Retirees Beneficiaries and Vested Terminations*	Members (City Financed Portion)	Actuarial Value of Assets	by Reported Assets (5)/(2)	[(5)-(2)]/(3)	[(5)-(2)-(3)]/ (4)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
July 1, 1991	32,606	289,174	366,542	558,144	100.0%	100.0%	64%
July 1, 1992	32,850	317,849	414,600	608,524	100.0%	100.0%	62%
July 1, 1993	32,866	369,561	437,894	606,637	100.0%	100.0%	47%
July 1, 1994	32,410	384,100	470,189	713,696	100.0%	100.0%	63%
July 1, 1995	31,130	420,830	511,752	770,189	100.0%	100.0%	62%
July 1, 1996	45,819	438,486	558,154	857,332	100.0%	100.0%	67%
July 1, 1998	34,781	502,335	703,025	1,095,617	100.0%	100.0%	79%
July 1, 1999	33,985	599,270	706,678	1,222,240	100.0%	100.0%	83%
July 1, 2000	38,292	646,611	824,470	1,376,020	100.0%	100.0%	84%
July 1, 2001	36,449	804,901	1,114,456	1,490,179	100.0%	100.0%	58%
July 1, 2002	35,888	893,568	1,585,733	1,519,717	100.0%	100.0%	37%
July 1, 2003	44,388	1,115,801	2,118,063	1,510,264	100.0%	100.0%	17%

* Column (3) included AAL for DROP participants until 2003, now in Column (4)

Schedule of Funding Progress

Date	Actuarial Value of Assets (AVA)	Actuarial Accrued Liability (AAL)	Unfunded Actuarial Accrued Liability (UAAL) (3) - (2)	Funded Ratio (2)/(3)	Annual Payroll	UAAL as % of Payroll (4)/(6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
July 1, 1992	$ 608,524	765,299	$ 156,775	79.5%	$ 314,686	49.8%
July 1, 1993	660,637	840,321	179,684	78.6%	340,249	52.8%
July 1, 1994	713,696	886,699	173,003	80.5%	366,561	47.2%
July 1, 1995	770,189	963,712	193,523	79.9%	378,511	51.1%
July 1, 1996	857,332	1,042,459	185,127	82.2%	367,610	50.4%
July 1, 1998	1,095,617	1,240,141	144,524	88.3%	397,698	36.3%
July 1, 1999	1,222,240	1,339,933	117,693	91.2%	407,733	28.9%
July 1, 2000	1,376,020	1,509,373	133,353	91.2%	432,604	30.8%
July 1, 2001	1,490,179	1,955,806	465,627	76.2%	418,234	111.3%
July 1, 2002	1,519,717	2,515,189	995,472	60.4%	399,794	249.0%
July 1, 2003	1,510,264	3,278,251	1,767,987	46.1%	390,314	453.0%

Note: Dollar amount in 000

Historical City Contribution

Valuation Date (1)	Calculated Contribution Rate* (2)	Time Period for Contribution Rate (3)	Actual Contribution Rate (4)
July 1, 1987	5.83%	January 1, 1988 through December 31, 1988	5.15%
July 1, 1988	6.27	January 1, 1989 through December 31, 1989	5.15
July 1, 1989	6.88	January 1, 1990 through December 31, 1990	6.27
July 1, 1990	6.23	January 1, 1991 through December 31, 1991	6.27
July 1, 1991	8.77	January 1, 1992 through June 30, 1993	6.27
July 1, 1992	9.11	July 1, 1993 through June 30, 1994	9.11
July 1, 1993	9.30	July 1, 1994 through June 30, 1995	9.30
July 1, 1994	8.80	July 1, 1995 through June 30, 1996	8.80
July 1, 1995	9.20	July 1, 1996 through June 30, 1997	9.20
July 1, 1996	9.10	July 1, 1997 through June 30, 1998	9.10
		July 1, 1998 through June 30, 1999	9.10
July 1, 1998	9.30	July 1, 1999 through June 30, 2000	9.30
July 1, 1999	9.80	July 1, 2000 through June 30, 2001	10.00
July 1, 2000	9.50	July 1, 2001 through June 30, 2002	10.00
July 1, 2001	17.70	July 1, 2002 through June 30, 2003	10.00
July 1, 2002	31.80	July 1, 2003 through June 30, 2004	14.70
July 1, 2003	52.89	July 1, 2004 through June 30, 2005	N/A

* Rate determined by the actuarial valuation is for the fiscal year beginning on the July 1st next following the valuation date.

Historical Active Participant Data

Valuation Date	Active Count	Average Age	Average Svc	Covered Payroll	Average Salary	Percent Changes
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1988	11,344	N/A	N/A	$227,900	$20,090	1.9%
1989	11,356	N/A	N/A	$235,400	$20,729	3.2%
1990	12,037	40.0	N/A	$258,556	$21,480	3.6%
1991	12,488	40.3	N/A	$284,914	$22,815	6.2%
1992	12,913	40.5	N/A	$314,686	$24,370	6.8%
1993	13,112	40.9	N/A	$340,249	$25,949	6.5%
1994	14,027	40.9	N/A	$366,561	$26,133	0.7%
1995	14,364	41.3	N/A	$378,511	$26,351	0.8%
1996	14,067	41.8	N/A	$367,610	$26,133	-0.8%
1998*	13,764	42.8	9.8	$394,919	$28,692	9.8%
1999*	13,286	42.9	9.8	$396,617	$29,852	4.0%
2000*	13,126	43.7	10.3	$421,591	$32,119	7.6%
2001*	12,928	43.9	10.3	$413,021	$31,948	-0.5%
2002	12,527	44.7	11.0	$399,794	$31,915	-0.1%
2003	12,120	45.2	11.2	$390,314	$32,204	0.9%

* Excludes DROP participants

Retirees, Beneficiaries, and Disabled Participants Added to and Removed from Rolls

	Added to Rolls		Removed from Rolls		Rolls-End of Year			
Valuation July 1,	Number	Annual Allowances	Number	Annual Allowances	Number	Annual Allowances	% Increase in Annual Allowances	Average Annual Allowances
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1994	306	$ 2,474	227	$ 1,593	4,268	$ 33,971	4.8%	$ 7,959
1995	393	3,044	220	1,307	4,441	36,482	7.4%	8,215
1996	416	3,119	239	1,438	4,618	38,815	6.4%	8,405
1998	693	5,840	441	3,212	4,870	43,394	11.8%	8,910
1999	432	2,131	303	1,515	4,999	46,732	7.7%	9,348
2000	360	3,412	255	1,380	5,104	49,970	6.9%	9,790
2001	652	8,937	299	1,030	5,457	57,877	15.8%	10,606
2002	777	15,061	306	2,476	5,928	72,256	24.8%	12,189
2003	598	11,497	311	1,873	6,215	84,519	17.0%	13,599

Membership Data

	July 1, 2003	July 1, 2002
	(1)	(2)
1. Active members		
a. Number	12,120	12,527
b. Number vested	8,818	8,952
c. Total payroll supplied by HMEPS	$ 390,314,471	$ 399,794
d. Average salary	32,204	31,915
e. Average age	45.2	44.7
f. Average service	11.2	11.0
2. Inactive members (Count)		
a. Vested	2,386	1,136
b. NonVested	564	N/A
3. Service retirees		
a. Number	4,319	N/A
b. Total annual benefits	$ 71,246,439	N/A
c. Average annual benefit	16,496	N/A
d. Average age	67.7	N/A
4. Disabled retirees		
a. Number	494	N/A
b. Total annual benefits	$ 3,714,827	N/A
c. Average annual benefit	7,520	N/A
d. Average age	60.1	N/A
5. Beneficiaries and spouses		
a. Number	1,402	N/A
b. Total annual benefits	$ 9,558,072	N/A
c. Average annual benefit	6,817	N/A
d. Average age	68.7	N/A

Distribution of Active Members by Age and by Years of Service Contributory Plan

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25	102	69	58	19	4	1							253
	$17,635	$20,589	$19,657	$21,098	$25,012	$25,694							$19,313
25-29	135	91	104	62	16	27							435
	$21,184	$24,560	$26,144	$24,386	$24,602	$24,922							$23,890
30-34	120	99	112	80	39	131	42	1					624
	$22,462	$27,174	$25,541	$27,346	$29,239	$29,701	$27,956	$34,215					$26,720
35-39	84	85	113	69	32	168	136	46	2				735
	$23,439	$30,845	$26,535	$29,097	$29,276	$32,776	$34,858	$32,549	$28,000				$30,386
40-44	104	95	102	84	45	227	223	146	216	4			1,246
	$25,690	$28,312	$25,440	$30,357	$28,742	$34,466	$35,302	$36,002	$33,511	$27,407			$32,183
45-49	75	52	110	73	37	194	235	147	352	116	3		1,394
	$27,839	$26,568	$26,579	$31,014	$32,733	$34,534	$39,965	$37,338	$36,227	$38,031	$52,519		$34,985
50-54	63	45	62	52	30	212	202	149	268	150	48		1,281
	$25,318	$30,013	$27,974	$32,693	$38,888	$37,470	$40,892	$41,322	$35,584	$41,310	$41,856		$37,197
55-59	46	26	50	45	34	173	155	145	168	80	44	15	981
	$27,925	$32,737	$27,764	$33,701	$44,301	$37,539	$40,503	$42,935	$40,380	$46,491	$43,144	$42,135	$39,325
60-64	19	19	23	22	16	97	66	62	69	24	23	10	450
	$33,647	$32,172	$33,206	$30,732	$40,409	$35,261	$40,747	$43,140	$40,483	$46,020	$40,346	$45,395	$38,669
65 & Over	4	6	5	5	6	39	47	15	18	15	9	8	177
	$21,790	$24,261	$39,856	$29,919	$37,976	$36,872	$41,757	$48,936	$38,867	$46,403	$41,629	$44,073	$39,927
Total	752	587	739	511	259	1,269	1,106	711	1,093	389	127	33	7,576
	$23,522	$27,253	$26,147	$29,285	$33,292	$34,606	$38,308	$39,476	$36,468	$41,742	$42,265	$43,592	$33,507

Average:	Age:	45.53	Number of participants:	Fully vested:	4,728	Males:	4,218
	Service:	10.96		Not Vested:	2,848	Females:	3,358

Distribution of Active Members by Age and by Years of Service NonContributory Plan

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25				8	11	5							24
				$25,115	$21,540	$21,272							$22,676
25-29				20	49	106	1						176
				$24,435	$21,931	$23,959	$23,839						$23,448
30-34				22	77	289	103						491
				$28,107	$25,328	$26,722	$27,017						$26,627
35-39			1	11	62	314	302	59					749
			$35,789	$24,656	$24,471	$28,297	$28,924	$28,222					$28,184
40-44				10	53	256	274	131	105	1			830
				$33,499	$26,094	$28,085	$30,705	$29,885	$29,128	$25,211			$29,300
45-49			1	13	46	268	259	132	122	28			869
			$35,789	$23,745	$30,493	$30,287	$31,377	$35,945	$32,173	$36,192			$31,845
50-54				6	34	212	194	104	75	34	7		666
				$23,478	$31,260	$30,893	$31,819	$34,730	$30,404	$35,636	$32,846		$31,921
55-59				5	17	124	142	76	59	17	5	1	446
				$25,552	$33,016	$33,494	$31,123	$35,090	$35,869	$42,538	$26,779	$22,266	$33,462
60-64				4	3	61	75	34	29	6	1		213
				$28,022	$20,710	$29,268	$33,373	$32,220	$34,269	$32,212	$25,667		$31,787
65 & Over					1	19	31	9	14	4	2		80
					$30,913	$31,506	$31,896	$34,239	$33,737	$38,821	$53,630		$33,267
Total			2	99	353	1,654	1,381	545	404	90	15	1	4,544
			$35,789	$26,299	$26,294	$28,807	$30,532	$33,041	$31,797	$36,910	$33,116	$22,266	$30,032

Average:	Age:	44.69	Number of participants:	Fully vested:	4,090	Males:	2,283
	Service:	11.68		Not Vested:	454	Females:	2,261

Distribution of Active Members by Age and by Years of Service All Employees

Attained Age	0 No. & Avg. Comp.	1 No. & Avg. Comp.	2 No. & Avg. Comp.	3 No. & Avg. Comp.	4 No. & Avg. Comp.	5-9 No. & Avg. Comp.	10-14 No. & Avg. Comp.	15-19 No. & Avg. Comp.	20-24 No. & Avg. Comp.	25-29 No. & Avg. Comp.	30-34 No. & Avg. Comp.	35 & Over No. & Avg. Comp.	Total No. & Avg. Comp.
Under 25	102	77	58	23	15	6							277
	$17,635	$21,060	$19,657	$21,119	$22,466	$22,009							$19,604
25-29	135	111	104	79	65	133	1						611
	$21,184	$24,538	$26,144	$23,966	$22,589	$24,155	$23,839						$23,763
30-34	120	121	112	100	116	420	145	1					1,115
	$22,462	$27,343	$25,541	$27,344	$26,643	$27,651	$27,289	$34,215					$26,679
35-39	84	96	114	77	94	482	438	105	2				1,484
	$23,439	$30,136	$26,616	$28,202	$26,107	$29,858	$30,766	$30,118	$28,000				$29,275
40-44	104	105	102	92	98	483	497	277	321	5			2,076
	$25,690	$28,806	$25,440	$30,800	$27,310	$31,084	$32,767	$33,109	$32,077	$26,968			$31,031
45-49	75	65	111	81	83	462	494	279	474	144	3		2,263
	$27,839	$26,004	$26,662	$30,323	$31,492	$32,070	$35,462	$36,679	$35,184	$37,673	$52,519		$33,780
50-54	63	51	62	57	64	424	396	253	343	184	55		1,947
	$25,318	$29,244	$27,974	$31,669	$34,836	$34,181	$36,447	$38,612	$34,452	$40,262	$40,709		$35,393
55-59	46	31	50	50	51	297	297	221	227	97	49	16	1,427
	$27,925	$31,578	$27,764	$32,886	$40,539	$35,850	$36,018	$40,237	$39,208	$45,798	$41,474	$40,893	$37,493
60-64	19	23	23	23	19	158	141	96	98	30	24	10	663
	$33,647	$31,450	$33,206	$31,113	$37,298	$32,947	$36,825	$39,273	$38,644	$43,258	$39,735	$45,395	$36,458
65 & Over	4	6	5	5	7	58	78	24	32	19	11	8	257
	$21,790	$24,261	$39,856	$29,919	$36,967	$35,114	$37,838	$43,425	$36,623	$44,807	$43,811	$44,073	$37,854
Total	752	686	741	587	612	2,923	2,487	1,256	1,497	479	142	34	12,120
	$23,522	$27,115	$26,173	$28,772	$29,256	$31,325	$33,990	$36,684	$35,208	$40,834	$41,298	$42,965	$32,204

Average:	Age:	45.22	Number of participants:	Fully vested:	8,818	Males:	6,501
	Service:	11.23		Not Vested:	3,302	Females:	5,619

Summary of Actuarial Assumptions and Methods

The following methods and assumptions were adopted for the July 1, 2003, actuarial valuation.

1. Valuation Date

   The valuation date is July 1st of each plan year. This is the date as of which the actuarial present value of future benefits and the actuarial value of assets are determined.

2. Actuarial Cost Method

   The actuarial valuation uses the Entry Age Normal actuarial cost method. Under this method, the employer contribution rate is the sum of (i) the employer normal cost rate, and (ii) a rate that will amortize the unfunded actuarial liability.

   a. The valuation is prepared on the projected benefit basis, under which the present value, at the investment return rate assumed to be earned in the future (currently 8.5 percent), of each participant's expected benefit payable at retirement or death is determined, based on his/her age, service, sex and compensation. The calculations take into account the probability of a participant's death or termination of employment prior to becoming eligible for a benefit, as well as the possibility of his/her terminating with a service, disability, or survivor's benefit. Future salary increases are also anticipated. The present value of the expected benefits payable on account of the active participants is added to the present value of the expected future payments to retired participants and beneficiaries to obtain the present value of all expected benefits payable from the Plan on account of the present group of participants and beneficiaries.

   b. The employer contributions required to support the benefits of the Plan are determined using a level funding approach, and consist of a normal contribution and an accrued liability contribution.

   c. The normal contribution is determined using the "entry age normal" method. Under this method, a calculation is made to determine the average uniform and constant percentage rate of employer contribution which, if applied to the compensation of each new participant during the entire period of his/her anticipated covered service, would be required in addition to the contributions of the participant to meet the cost of all benefits payable on his behalf based on the Group A benefits provisions.

d. The unfunded accrued liability contributions are determined by subtracting the actuarial value of assets from the actuarial accrued liability and amortizing the result over 40 years from January 1, 1983.

The contribution rate determined by this valuation will not be effective until one year later. However, the determination of the rate does not reflect this deferral. It is assumed that there will be no change in the employer normal cost rate due to the deferral, and it is assumed that payments are made uniformly throughout the year.

3. Actuarial Value of Assets

The actuarial value of assets is based on the market value of assets with a five-year phase-in of actual investment return in excess of (less than) expected investment income. Expected investment income is determined using the assumed investment return rate and the market value of assets (adjusted for receipts and disbursements during the year). The returns are computed net of administrative and investment expenses.

4. Economic Assumptions

a. Investment return: 8.50% per year, compounded annually, composed of an assumed 3.00% inflation rate and a 5.50% net real rate of return. This rate represents the assumed return, net of all investment and administrative expenses.

b. Salary increase rate: A service-related component, plus a 3.00% inflation component, plus a general increase, as follows:

Years of Service	Service-related Component	Total Annual Rate of Increase Including 3.00% Inflation Component and 0.0% General Increase Rate
(1)	(2)	(3)
0	2.25%	5.25%
1	2.00	5.00
2	1.25	4.25
3	1.00	4.00
4	0.75	3.75
5	0.50	3.50
6	0.50	3.50
7	0.50	3.50
8	0.50	3.50
9	0.50	3.50
10 or more	0.00	3.00

c. Payroll growth rate: In the amortization of the unfunded actuarial accrued liability, payroll is assumed to increase 3.00% per year. This increase rate is solely due to the effect of inflation on salaries, with no allowance for future membership growth.

5. Demographic Assumptions

a. Retirement Rates

	Expected Retirements per 100 Lives	
Age	Males	Females
(1)	(2)	(3)
<55	10	10
55-59	10	10
60	20	20
61	20	20
62	25	25
63	20	20
64	20	20
65	40	40
66-69	10	10
70	100	100

b. DROP Participation

100% of eligible members are assumed to elect DROP. Also, any member who becomes disabled after eligibility for retirement is assumed to select the normal retirement benefit and elect DROP. Beneficiaries of members who die while active are also assumed to elect the DROP benefit if eligible.

c. DROP Entry Date

Active members (not already in DROP) are assumed to take advantage of the Backdrop provision and DROP back to the date calculated to be the most valuable for the member. This attempts to include anti-selection in the valuation. For members who have already entered DROP, the actual DROP entry date supplied in the data is used.

d. DROP Interest Credit

9.0% per year

e. Mortality rates (for active and retired members)

- Healthy males – Based on the 1994 Group Annuity Mortality Tables for males.
- Healthy females - Based on the 1994 Group Annuity Mortality Tables for females.
- Disabled males and females – 1965 Railroad Retirement Board Disable Life Table

Sample rates are shown below:

	Expected Deaths per 100 Lives			
Age	Healthy Males	Healthy Females	Disabled Males	Disabled Females
(1)	(2)	(3)	(6)	(7)
25	0.07	0.03	4.41	4.41
30	0.08	0.04	4.41	4.41
35	0.09	0.05	4.41	4.41
40	0.12	0.07	4.41	4.41
45	0.17	0.10	4.44	4.44
50	0.29	0.14	4.53	4.53
55	0.49	0.23	4.78	4.78
60	0.90	0.44	5.33	5.33
65	1.62	0.86	6.11	6.11
70	2.60	1.37	7.47	7.47
75	4.09	2.27	9.55	9.55
80	6.86	3.94	12.98	12.98

f. Termination Rates and Disability Rates

Termination rates (for causes other than death, disability or retirement):

Termination rates are a function of the member's age and service. Termination rates are not applied after a member becomes eligible for a retirement benefit. Rates at selected ages are shown on the following page:

Expected Decrements per 100 Lives			
Age	Disability	Termination	
	All	First 3 Years	After 3 Years
(1)	(2)	(3)	(4)
25	0.05	30.5	15.8
30	0.05	26.3	11.6
35	0.06	23.1	8.4
40	0.09	20.9	6.2
45	0.18	18.9	4.2
50	0.40	17.3	2.6
55	0.85	14.7	0.0
60	1.74	14.7	0.0

Service Connected Deaths and Disabilities assumed to be 10% of decrement

6. Other Assumptions

a. Percent married: 60% of employees are assumed to be married. (No beneficiaries other than the spouse assumed)

b. Age difference: Male members are assumed to be three years older than their spouses, and female members are assumed to be three years younger than their spouses.

c. Percent electing annuity on death (when eligible): All of the spouses of vested, married participants are assumed to elect an annuity.

d. Percent electing deferred termination benefit: Vested terminating members are assumed to elect a refund or a deferred benefit, whichever is more valuable at the time of termination.

e. There will be no recoveries once disabled.

f. No surviving spouse will remarry and there will be no children's benefit.

g. Assumed age for commencement of deferred benefits: Members electing to receive a deferred benefit are assumed to commence receipt at the first age at which unreduced benefits are available.

h. Administrative expenses: The assumed investment return rate represents the anticipated net return after payment of all investment and administrative expenses.

7. Participant Data

Participant data was supplied on electronic files. There were separate files for (i) active, (ii) inactive members, and (ii) members and beneficiaries receiving benefits.

The data for an active members included birthdate, sex, date of credited service, salary paid during last fiscal year, hours worked by the employee, and employee contribution account balance. For retired members and beneficiaries, the data included date of birth, sex, amount of monthly benefit, and date of retirement.

All healthy and disabled retirees are assumed to have 100% joint and survivor, prorated by the 60% marriage assumption. All non-children beneficiaries are assumed to have life only benefits and all children beneficiaries' annuities are assumed to stop at age 25.

Salary supplied for the current year was based on the earnings for the year preceding the valuation date. This salary was adjusted by the salary increase rate for one year. For members who worked less than 1900 hours but were not new entrants, the salary was annualized to 1900 hours.

Assumptions were made to correct for missing, bad, or inconsistent data. These had no material impact on the results presented.

8. Group Transfers

20% of current Group B members are assumed to transfer to Group A each year for the next four years, ultimately resulting in 80% of current Group B members transferring to Group A.

All Group B members who are assumed to transfer to Group A and all current Group A members with convertible Group B service are assumed to convert their Group B service to Group A service at the conversion price.

Summary of Plan Provisions

1. Covered Members

Any person who is a participant of Group A, under the original act.

Persons who become employees of the City of Houston after September 1, 1981, and elected officials of the City of Houston who assumed office after September 1, 1981, participate in Group B, but may make an irrevocable election to participate in Group A instead.

Persons who become employees of the City and persons who are elected as City officials after September 1, 1999 become members of Group A. Certain persons who are or become Director of a City Department, Chief Financial Executive, or Executive Director of the Pension System on or after September 1, 1999 may participate in Group C.

2. Monthly Final Average Salary (FAS)

The sum of the seventy-eight highest biweekly salaries paid to a member during his period of credited service, divided by thirty-six. Salary includes base pay, longevity pay, and any shift differential pay.

3. Credited Service

All services and work performed by an employee, including prior service. For members of Group A and Group C, all services and work performed after September 1, 1943 must have been accompanied by corresponding contributions to the Pension System by the employee or legally authorized repayments must have been made.

Credited service for participants in Group C means the number of years of eligible service after the executive official's effective date of participation in Group C. A Group C member receives two times the number of actual years of Credited Service in Group C solely for the purpose of fulfilling the eligibility requirements in Group C.

4. Normal Retirement

a. Eligibility

Prior to August 1, 2000:

The earliest of:
age 50 and 25 years of Credited Service
age 55 and 20 years of Credited Service .
age 60 and 10 years of Credited Service .
age 62 and 5 years of Credited Service
age 65 (Group C only)

On or after August 1, 2000:
The earliest of:
age 62 and 5 years of Credited Service
5 years of Credited Service and age plus years of Credited Service equal 70 or more
age 65 (Group C only)

b. Benefit

Prior to August 1, 2000:

Group A: 2.25% of FAS for each of the first 20 years of Credited Service, plus 2.75% of FAS for each year of Credited Service over 20, to a maximum of 80% of FAS. Minimum monthly benefit is greater of $8 times years of Credited Service or $100.

Group B: 1.50% of FAS for each of first 10 years of Credited Service, plus 1.75% of FAS for each year of Credited Service over 10 through 20, plus 2.00% of FAS for each year of Credited Service over 20, to a maximum of 80% of FAS.

On or after August 1, 2000 and prior to May 11,2001:

Group A: 2.50% of FAS for each of the first 20 years of Credited Service plus 3.25% of FAS for each year Credited Service greater than 20 years. Maximum benefit is 80% of FAS. Minimum monthly benefit is greater of $8 times years of Credited Service or $100.

Group B: 1.75% of FAS for each of the first 10 years of Credited Service plus 2.00% of FAS for each year of Credited Service from 10 through 20, and 2.50% of FAS for each year of Credited Service over 20. Maximum benefit is 80% of FAS for all future retirees.

Group C: Double the rate for Group A

On or after May 11, 2001:

Group A: 3.25% of FAS for each of the first 10 years of Credited Service plus 3.50% for Credited Service greater than 10 years but less than 20 years plus 4.25% for FAS for each year of Credited Service greater than 20 years (excludes current DROP participants). Maximum benefit is 90% of FAS for all future retirees. Minimum monthly benefit is greater of $8 times years of Credited Service or $100.

Group B: 1.75% of FAS for each of the first 10 years of Credited Service plus 2.00% of FAS for each year of Credited Service from 10 through 20, and 2.75% of FAS for each year of Credited Service over 20. Maximum benefit is 90% of FAS for all future retirees.

Group C: Double the rate for Group A

5. Vested Pension

a. Eligibility — 5 years of Credited Service. Immediate vesting for Group C.

b. Benefit — Group A and Group C: Either the accrued normal retirement benefit with payments beginning at the normal retirement eligibility date or a refund of contributions, if any, without interest.

Group B: Accrued normal retirement benefit payable at the normal retirement eligibility date.

If the actuarial present value of a pension is less than $10,000, a terminated participant who is not eligible to begin receiving a pension may request an early lump sum distribution of the pension. Such early lump sum distribution is irrevocable. Credited Service associated therewith can be reinstated after reemployment and pursuant to the rules of the plan.

6. Withdrawal Benefit

If a nonvested member withdraws from service with less than 5 years, a refund of the member's contributions is made without interest, upon request.

7. Service-Connected Disability Retirement

a. Eligibility Any age

b. Benefit Group A: Accrued normal retirement benefit, but not less than 20% of final monthly salary at time of disability plus 1 % of final monthly salary per year of Credited Service, to a maximum of 40% of final monthly salary.

Group B: Accrued normal retirement benefit, but not less than 20% of final monthly salary at time of disability.

Group C: Double Group A benefit

8. Nonservice-Connected Disability Retirement

a. Eligibility 5 years of Credited Service.

b. Benefit Accrued normal retirement benefit payable immediately.

9. Preretirement Survivor Benefits

A. Service-connected

a. Eligibility Any age or Credited Service

b. Benefit Prior to September 1,1999

If there is a surviving spouse, 80% of FAS payable to the spouse plus 10% of FAS to each qualifying dependent to a maximum of 20% for all dependents. If there is no surviving spouse, dependent benefits are doubled.

On or after September 1, 1999:

If there is a surviving spouse, 100% of FAS payable to the spouse. 10% of FAS is payable to each qualifying dependent to a maximum of 20% for all dependents. Surviving spouses benefit will be reduced by the amount of dependent benefits. If no surviving spouse, dependent benefits are 50% of the amount a surviving spouse would have received for each dependent to a maximum of 100% for all dependents in the aggregate.

B. Non service-connected

a. Eligibility 5 years of Credited Service

b. Benefit

Prior to September 1, 1999

If there is a surviving spouse, 50% of accrued normal retirement benefit payable to the spouse plus 10% of accrued normal retirement benefit to each qualifying dependent to a maximum of 20% for all dependents. If there is no surviving spouse, dependent benefits are doubled.

On or after September 1, 1999 and prior to August 1,2001:

If there is a surviving spouse, 85% of accrued normal retirement benefit payable to the spouse plus 10% of accrued normal retirement benefit to each qualifying dependent to a maximum of 20% for all dependents in the aggregate. The surviving spouses benefit will be reduced by the excess, if any, over 100% of the accrued normal retirement benefit. If there is no surviving spouse, dependent benefits are 50% of the benefit a surviving spouse would have received for each dependent subject to 100% of a surviving spouse's benefit for all dependents in the aggregate.

On or after August 1, 2001:

If there is a surviving spouse, 100% of accrued normal retirement benefit payable to the spouse and 10% of accrued normal retirement benefit to each qualifying dependent to a maximum of 20% for all dependents in the aggregate. The surviving spouse's benefit will be reduced by dependent benefits, if any. If there is no surviving spouse, each dependent will receive 50% of the benefit of a surviving spouse would have received subject to a maximum of 100% of a surviving spouse's benefit for all dependents in the aggregate.

10. Postretirement Survivor Benefits

Prior to September 1, 1999:
If there is a surviving spouse, 75% of the retirement benefit the deceased retiree was receiving at the time of death payable to the spouse plus 10% of that retirement benefit payable to each

qualifying dependent to a maximum of 20% for all dependents. If there is no surviving spouse, dependent benefits are double.

On or after September 1. 1999 and prior to August 1,2001:

If there is a surviving spouse, 85% of the retirement benefit the deceased retiree was receiving at the time of death payable to the spouse plus 10% of that retirement benefit payable to each qualifying dependent to a maximum of 20% for all dependents. If there is no surviving spouse, dependent benefits are 50% of the benefit a surviving spouse would have received for each dependent subject to 100% of a surviving spouse's benefit for all dependents in the aggregate.

On or after August 1,2001:

If there is a surviving spouse, 100% of the retirement benefit if the deceased retiree was receiving at the time of death payable to the spouse and 10% of that retirement benefit payable to each qualifying dependent to a maximum of 20% for all dependents. The surviving spouse's benefit will be reduced by dependent benefits, if any. If there is no surviving spouse, each dependent will receive 50% of the benefit a surviving spouse would have received subject to 100% of a surviving spouse's benefit for all dependents in the aggregate.

11. Benefit Adjustments

Prior to May 11.2001:

Each year, effective February 1, monthly benefits will be increased 3.5%, not compounded, for all retirees and survivors whose benefit was effective on or before January 1 of the current year.

On or after May 11.2001:

Each year, effective February 1, monthly benefits will be increased 4.0%, not compounded, for all retirees and survivors whose benefit was effective on or before January 1 of the current year.

12. Contribution Rates.

a. Members — 4% of salary only for the Group A and Group C members. None for the Group B members

b. City — Beginning in 1993, the rate required to fund the Retirement Fund on an actuarial reserve basis. However, effective September 1, 1999, the minimum contribution rate is equal to the greater of 10% and twice the contribution rate of a Group A member is required to make by statute

13. Deferred Retirement Option

a. Eligibility — Participants who are eligible to retire but who have not retired and who remain in service with the City may participate in the DROP

b. Monthly DROP Credit — Accrued normal retirement benefit as of the effective date of DROP participation. The Monthly DROP Credit is credited to a notional account (DROP Account) on the last business day each month.

c. Other DROP Credits — A participant's biweekly employee contributions, if any, are credited to the DROP Account on the day they are paid to the Pension System by the City. In addition, interest is credited to the DROP Account at the beginning of each day based on the DROP Account balance at the end of the previous day. The annual interest rate effective beginning January 1 each year is the arithmetical average of the System's annual investment return percentage for the then most recent 5 fiscal years. Minimum interest rate is the investment yield assumption for actuarial purposes adopted by the Pension Board as of interest calculation date. The interest rate for interest accrued after a DROP participant's City employment is terminated, if applicable, is reduced 3/4%.

d. Monthly DROP Credit — Prior to May 11, 2001

Adjustments. The Monthly DROP Credit for participants who entered the DROP effective on or before January 1 of the then current year will be increased effective February 1 each year 3.5%, not compounded.

On or after May 11,2001:

The Monthly DROP Credit for participants who entered the DROP effective on or before January 1 of the then current year will be increased effective February 1 each year 4.0%, not compounded.

e. DROP Account Balance — The sum of a participant's Monthly DROP (DROP Benefit)Credits, employee contributions paid after DROP participation began, Monthly DROP Credit Adjustments, and applicable interest.

14. DROP Benefit Pay-out — A terminated DROP participant may elect to:
    a. Receive the entire DROP Account Balance in lump sum.
    b. Receive the DROP Account Balance in periodic payments as approved by the Pension Board.
    c. Receive a portion of the DROP Account lance in lump sum and the remainder in periodic payments as approved by the Pension Board.
    d. Defer election of a payout option until a future date.

15. Post DROP Retirement — The Final Pension is the accrued Benefit (Final Pension) percentage as of the effective date of DROP participation times the FAS as of termination from active service. The initial monthly retirement pension is equal to the Final Pension plus the Monthly DROP Credit Adjustments the participant received while in DROP.

Changes in Plan Provisions Since Prior Year

Plan provisions have not changed since the prior year.