

#### PRIVATE AND CONFIDENTIAL

November 21, 2006

Mr. John Lawson Executive Director Houston Police Officers Pension System 602 Sawyer, Suite 640 Houston, Texas 77007

Dear John:

#### 2005 ACTUARIAL VALUATION REPORT AND DISCUSSION

Enclosed are 10 copies of the Actuarial Valuation Report as of July 1, 2005 for the Houston Police Officers Pension System. Please note the following regarding the liabilities and projections contained within the report:

#### Details Regarding Projected City Funding vs. The Actuarially Determined Rate

As we discussed, the funding to the System under the 2004 Meet & Confer Agreement (adopted October 9, 2004) was not sufficient (as expected) to cover the Actuarially Calculated City Contribution Rate during the 2005 Fiscal Year.

Effect on Fiscal Year Ending June 30, 2005

As shown on page 5 of the July 1, 2005 Actuarial Report, after the Expected Change Due to Normal Operation of the Plan, the next largest increase to the estimated Unfunded Actuarial Accrued Liability (UAAL) was the \$58 million increase due to the City funding less than the actuarial rate:

■ City funding less than actuarially determined rate (\$000)

Actuarially determined city contribution: \$92,780
Actual city contribution: 37,125
Difference: \$55,655
Interest: 2,317
Total impact of one-year funding gap: \$57,972

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Mr. John Lawson November 21, 2006 Page 2.



#### Effect on Future Fiscal Years

Over the next ten years, based on the 2004 Meet & Confer Agreement Contribution Schedule and the economic and demographic assumptions used in the July 1, 2005 valuation, (i) the projected actual City contribution rates are expected to be less than the corresponding estimated Actuarially Calculated City Contribution Rates and (ii) the projected estimated Unfunded Actuarial Accrued Liability is expected to increase each year.

As actual economic and demographic experience varies and future assumptions change to better reflect anticipated experience, the results will change. If experience varies to the detriment of the System (e.g., asset return is less than 8.5%), the unfunded actuarial accrued liability and the actuarially determined City contribution rate will increase, while the City funding requirements could potentially remain unchanged. Conversely, if experience is favorable to the System, it is possible for the actuarially determined contribution rate to decrease, while the City funding requirements could potentially remain unchanged. It should be noted that, other than the City agreement to maintain a funded status floor, the proposed funding schedule could potentially not be sufficient to cover all future benefit payments of the System. Moreover, over the next thirty years, it is possible the System will fall below the funded status floor as actual experience differs from assumed and/or assumptions change.

#### Other Losses and Gains

As we also discussed, the next largest increase to the estimated Unfunded Actuarial Accrued Liability after the effect of the city contribution was the \$34 million due to liability losses. The majority of this liability loss was due to actuarial losses from pay sources (i.e., Member salary increases in excess of the actuarially assumed rate). These liability losses were offset by asset gains of \$23 million.

\* \* \*

The results shown in this analysis are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results, since the Actuarial Standards of Practice describe a "best–estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this analysis could have been developed by selecting different points within the best-estimate ranges for various assumptions.

We have prepared this letter and valuation report solely for use by the Houston Police Officers Pension System. They may not be copied, distributed to or used by any third party without Towers Perrin express consent and they may not be relied upon by any third party in any manner that would result in the creation of any duty or liability by Towers Perrin to any third party.

Mr. John Lawson November 21, 2006 Page 3.

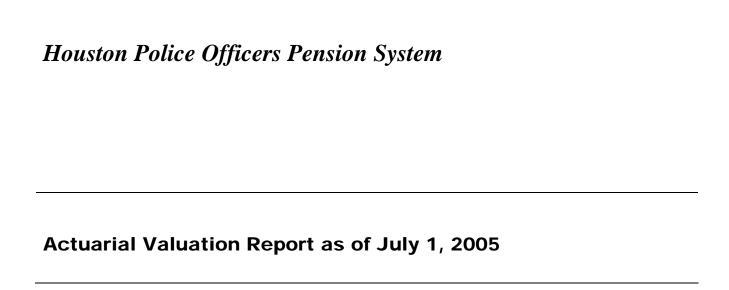


Please call if you have any questions.

Sincerely,

ASB:mr

**Enclosures** 



November, 2006

This report is confidential and intended solely for the information and benefit of the immediate recipient thereof. It may not be distributed to a third party unless expressly allowed under the "Actuarial Certification, Reliances and Distribution" section herein.

## **Summary of Key Results (\$000)**

	July 1, 2005	July 1, 2004
Actuarially Calculated City Contribution Rate		
■ Normal Cost (City Portion)	16.5%	16.7% <sup>(1)</sup>
<ul> <li>Amortization of Unfunded Actuarial Accrued Liability (Surplus)</li> </ul>	<u> 17.5</u>	14.5 <sup>(1)</sup>
<ul> <li>Actuarially Calculated City Contribution Rate (effective the following July 1)</li> </ul>	34.0%	31.2% <sup>(1)</sup>
Summary of Assets		
■ Market Value	\$ 2,651,208	\$ 2,422,768
<ul><li>Actuarial Value</li></ul>	2,508,794	2,466,070
Summary of Liabilities		
<ul> <li>Actuarial Accrued Liability</li> </ul>	\$ 3,392,974	\$ 3,339,224 <sup>(2)</sup>
<ul> <li>Actuarial Value of Assets</li> </ul>	(2,508,794)	(2,466,070)
<ul> <li>Unfunded Actuarial Accrued Liability (Surplus)</li> </ul>	884,180	873,154 <sup>(2)</sup>
Summary of Data		
<ul> <li>Number of Participants Included in the Valuation</li> </ul>		
<ul> <li>Active participants enrolled in DROP</li> </ul>	1,837	1,784
<ul> <li>Other active participants</li> </ul>	3,030	3,441
<ul> <li>Inactive participants</li> </ul>	2,403	2,105
— Total	7,270	7,330
<ul> <li>Annual Total Direct Pay for Active and DROP Participants Included in the Valuation</li> </ul>		
<ul> <li>Active participants enrolled in DROP</li> </ul>	\$ 137,589	\$ 132,243 <sup>(2)</sup>
<ul> <li>Other active participants</li> </ul>	<u>183,468</u>	<u> 197,597<sup>(2)</sup></u>
— Total	321,057	329,840 <sup>(2)</sup>
<ul> <li>Annual Benefits for Inactive Participants</li> </ul>	86,933	70,307
(1) Average for the year. See previous report for details.		

(2) For July 1, 2004 results, before changes in plan provisions effective at October 9, 2004.

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## **Table of Contents**

Section I: Asset Information	е
Summary of Assets	
Change in Assets Since the Prior Valuation	
Development of Actuarial Value of Assets	
Section II: Basic Valuation Results	
Unfunded Actuarial Accrued Liability (Surplus)4	
Change in Unfunded Actuarial Accrued Liability (Surplus) Since the Prior Valuation5	
Historical Unfunded Actuarial Accrued Liability (Surplus)6	
Historical Solvency Test	
Section III: Contribution Rate	
Actuarially Calculated City Contribution Rate	
Change in Actuarially Calculated City Contribution Rate Since the Prior Valuation9	
Historical City Contribution as a Percentage of Payroll	
Section IV: Valuation Forecast	
Projection of Estimated Assets and Liabilities	

## **Table of Contents**

Section V: Participant Information	Page
Summary of Active Participants	12
Historical Active Participant Data	13
Summary of Inactive Participants	14
Inactive Participants Added to and Removed from Rolls	15
Section VI: Miscellaneous Information	
Summary of Actuarial Methods and Assumptions	16
Summary of Plan Provisions	19
Actuarial Certification	28

## Summary of Assets as of July 1, 2005 (\$000)

#### **Market Value**

	Amount	Percent
Investment Category		
■ Cash and Short-Term Investments	\$ 168,473	6.4%
■ Fixed Income Investments	507,309	19.1
■ Equity Securities	1,692,822	63.9
■ Alternative Investments	274,220	10.3
Other Investments	72	0.0
■ Other Assets (Liabilities)		
<ul> <li>Miscellaneous receivables</li> </ul>	28,455	1.1
<ul> <li>Miscellaneous payables</li> </ul>	(19,824)	(8.0)
<ul> <li>Other liabilities</li> </ul>	(319)	0.0
— Net	8,312	0.3
■ Total	2,651,208	100.0

## **Change in Assets Since the Prior Valuation (\$000)**

Market Value as of July 1, 2004	\$	2,422,768
Contributions and Disbursements		
<ul> <li>City contributions</li> </ul>		37,125
— Employee contributions		28,410
— Benefit payments		(153,861)
— Contributions refunds	_	(1,198)
— Net		(89,524)
Net Investment Return		338,139
Administrative and Investment Expenses	_	(20,175)
Market value as of July 1, 2005		2,651,208
Approximate Annual Rate of Return (Net of Expenses)*		13.4%

<sup>\*</sup> Calculated using a dollar–weighted rate of return assuming all contributions and disbursements are made uniformly throughout the year.

## **Development of Actuarial Value of Assets (\$000)**

#### Actuarial Investment Gain (Loss) for the Year

•	Market Value of Assets as of July 1, 2004	\$	2,422,768
•	City Contributions	·	37,125
•	Employee Contributions		28,410
•	Benefit Payments and Contribution Refunds		(155,059)
	Miscellaneous Contributions and Disbursements		0
•	Expected Interest at 8.5%		202,208
•	Expected Market Value of Assets as of June 30, 2005		2,535,452
-	Actual Market Value of Assets as of June 30, 2005	_	2,651,208
	Actuarial Investment Gain (Loss)		115,756

#### **Schedule of Actuarial Investment Gains (Losses)**

Plan Year Ending	Initial Actuarial <u>Gain (Loss)</u>	Five-Year Amortization	Unrecognized Gain (Loss) as of July 1, 2005*
June 30, 2005	\$ 115,756	\$ 23,151	\$ 92,605
June 30, 2004	264,695	52,939	158,817
June 30, 2003	(87,230)	(17,446)	(34,892)
June 30, 2002	(370,576)	(74,115)	(74,116)
			142,414

<sup>\*</sup> Deferred for recognition in future years.

#### **Actuarial Value of Assets**

	Market Value as of July 1, 2005	\$	2,651,208
•	(Gain) Loss to be Recognized in Future Years	_	(142,414)
	Actuarial Value as of July 1, 2005		2,508,794

## **Unfunded Actuarial Accrued Liability (Surplus) (\$000)**

		July 1, 2005	July 1, 2004
	Actuarial Present Value of Future Benefits		
	Active participants enrolled in DROP	\$ 1,676,659	\$ 1,719,644
	<ul> <li>Other active participants</li> </ul>	1,143,789	1,367,868
	Vested terminated participants	2,863	0
	— Retirees and beneficiaries	1,256,380	995,841
	— Total	4,079,691	4,083,353
	Actuarial Present Value of Future Employee Contributions	(251,611)	(250,091)
	Actuarial Present Value of Future Normal Costs (City Portion)	(435,106)	(494,038)
	Actuarial Accrued Liability	3,392,974	3,339,244
	Actuarial Value of Assets	(2,508,794)	(2,466,070)
•	Unfunded Actuarial Accrued Liability (Surplus)	884,180	873,154*
*	July 1, 2004 results, before changes in plan provisions effective Opprovisions had the following effect:	ctober 9, 2004. Chan	ges in plan
	■ Unfunded liability before changes		\$873,154
	■ Change due to provisions other than pay definition		(162,783)
	■ Change due to pay definition		(27,640)
	■ Change in DROP assumptions subsequent to changes in pla	n provisions	16,227
	<ul> <li>Unfunded liability after changes</li> </ul>		\$698,958

## Change in Unfunded Actuarial Accrued Liability (Surplus) Since the Prior Valuation (\$000)

•	Unfunded Actuarial Accrued Liability (Surplus) as of July 1, 2004 <sup>(1)</sup>	\$ 698,958
•	Expected Change Due to Normal Operation	
	<ul><li>Normal Cost (City Portion)</li></ul>	54,366
	City Actuarially Determined Contribution	(92,780)
	— Interest <sup>(2)</sup>	61,493
	Recognition of Prior Asset Losses (Gains)	93,109
	— Net Change	116,188
	Expected Change Due to City Funding Less Than Actuarial Rate	57,972
	Change Due to Actuarial Experience	
	Actuarial (Gain) Loss From Asset Sources	(23,151)
	Actuarial (Gain) Loss From Liability Sources	 34,213
	— Net Change	11,062
	Change in Actuarial Assumptions and Methods	0
	Unfunded Actuarial Accrued Liability (Surplus) as of July 1, 2005	884,180
(1)	After changes in plan provisions effective at October 9, 2004	

<sup>&</sup>lt;sup>(1)</sup> After changes in plan provisions effective at October 9, 2004

<sup>(2)</sup> Excludes interest on the unrecognized investment losses

## Historical Unfunded Actuarial Accrued Liability (Surplus) (\$000)

Valuation Date	Actuarial Accrued Liability (AAL)	Actuarial Value of Assets (AVA)	AVA as a Percentage of AAL	Unfunded AAL (Surplus)	Covered Payroll	UAAL (Surplus) as a Percentage of Covered Payroll
July 1, 1984	\$ 507,883	\$ 230,143	45%	\$ 277,740	\$ 111,489	249%
July 1, 1986	454,067	420,487	93	33,580	125,963	27
July 1, 1987	488,387	505,483	104	(17,096)	126,960	(13)
July 1, 1988	524,894	516,177	98	8,717	121,667	7
July 1, 1989	581,681	585,358	101	(3,677)	122,803	(3)
July 1, 1990	663,278	676,684	102	(13,406)	126,665	(11)
July 1, 1992	853,975	774,785	91	79,190	143,020	55
July 1, 1993	936,674	857,535	92	79,139	159,321	50
July 1, 1994	984,495	947,456	96	37,039	162,143	23
July 1, 1995	1,000,423	1,038,256	104	(37,833)	174,761	(22)
July 1, 1996	1,199,748	1,168,056	97	31,692	182,251	17
July 1, 1997	1,258,217	1,329,570	106	(71,353)	187,134	(38)
July 1, 1998	1,549,341	1,518,081	98	31,260	196,364	16
July 1, 1999	1,773,829	1,746,312	98	27,517	246,569	11
July 1, 2000	1,966,404	2,013,491	102	(47,087)	250,691	(19)
July 1, 2001	2,306,427	2,226,307	97	80,120	264,226	30
July 1, 2002	2,593,730	2,337,157	90	256,573	286,150	90
July 1, 2003	2,874,738	2,394,411	83	480,327	300,405	160
July 1, 2004	3,339,224	2,466,070	74	873,154	329,840	265
July 1, 2005	3,392,974	2,508,794	74	884,180	321,057	275

## **Historical Solvency Test (\$000)**

**Actuarial Accrued Liability for:** 

	Actuarial Accrued Liability for:		_				
Valuation Date	Employee Contributions	Retirees, Beneficiaries, and Vested Deferreds	Active Participants (City-Financed Portion)	Actuarial Value of Assets		of Actuarial y Covered by	
	(1)	(2)	(3)		(1)	(2)	(3)
July 1, 1989	\$ 82,919	\$ 222,585	\$ 276,177	\$ 585,358	100%	100%	100%
July 1, 1990	87,430	261,114	314,734	676,684	100	100	100
July 1, 1991	98,099	338,914	416,962	774,785	100	100	81
July 1, 1992	105,464	372,674	458,536	857,535	100	100	83
July 1, 1993	114,279	401,989	468,227	947,456	100	100	92
July 1, 1994	123,471	416,053	460,899	1,038,256	100	100	100
July 1, 1995	91,687	764,518	343,543	1,168,056	100	100	91
July 1, 1996	95,615	812,498	350,104	1,329,570	100	100	100
July 1, 1998	99,298	1,017,723	432,320	1,518,081	100	100	93
July 1, 1999	107,008	1,157,882	508,939	1,746,312	100	100	95
July 1, 2000	111,099	1,324,079	531,225	2,013,491	100	100	100
July 1, 2001	138,248	707,152	1,461,027*	2,226,307	100	100	95
July 1, 2002	145,255	718,779	1,729,696	2,337,157	100	100	85
July 1, 2003	153,634	838,090	1,883,014	2,394,411	100	100	74
July 1, 2004	153,088	995,841	2,190,295	2,466,070	100	100	60
July 1, 2005	249,804	1,259,243	1,883,927	2,508,794	100	100	53

<sup>\*</sup> Beginning July 1, 2001 the Actuarial Accrued Liability for DROP Participants was included in the Active liability.

## **Actuarially Calculated City Contribution Rate**

		July 1, 2005 through June 30, 2006	July 1, 2004 through June 30, 2005 <sup>(1)</sup>
	City Normal Cost Rate	16.5%	16.7%
	Rate to Amortize Unfunded Actuarial Accrued Liability (Surplus) Over 30 Years	<u> 17.5</u>	<u> 14.5</u>
•	Actuarially Calculated City Contribution Rate	34.0	31.2

Average for the year. The actuarially calculated rate after recognizing plan changes effective October 9, 2004 was 29.8%.

# **Change in Actuarially Calculated City Contribution Rate Since the Prior Valuation**

Actuarially Calculated City Contribution Rate as of July 1, 2004 <sup>(1)</sup> 29.8%					
Change in Actuarially Calculated City Contribution Rate					
— Normal operation	2.4				
<ul> <li>Effect of City contribution less than actuarial rate</li> </ul>	1.2				
<ul> <li>Actuarial (gain) loss from asset sources</li> </ul>	(0.4)				
Actuarial (gain) loss from liability sources	0.8				
Decrease in total earnings	0.2				
Actuarially Calculated City Contribution Rate as of July 1, 2005	34.0				

<sup>&</sup>lt;sup>(1)</sup> After recognizing plan changes effective October 9, 2004.

# Historical City Contributions as a Percentage of Covered Payroll

## Actuarially Calculated City Contribution Rate

**Actual City Contribution Rate** 

- John Batton Rate			Actual Oity Continuation Rate	
Va	aluation Date	Rate	Period	Rate
	July 1, 1990	14.2%	July 1, 1991 through June 30, 1993	14.3%
	July 1, 1992	19.0	July 1, 1993 through June 30, 1994	19.0
	July 1, 1993	18.0	July 1, 1994 through June 30, 1995	18.0
	July 1, 1994	18.0	July 1, 1995 through June 30, 1996	18.0
	July 1, 1995	17.4	July 1, 1996 through June 30, 1997	16.2
	July 1, 1996	16.2	July 1, 1997 through June 30, 1998	16.2
	July 1, 1997	16.8 <sup>(1)</sup>	July 1, 1998 through June 30, 1999	15.2
	July 1, 1998	16.2	July 1, 1999 through June 30, 2000	12.4
	July 1, 1999 <sup>(2)</sup>	16.3	July 1, 2000 through June 30, 2001	12.2
	July 1, 2000	11.3	July 1, 2001 through June 30, 2002	12.4
	July 1, 2001	20.5	July 1, 2002 through June 30, 2003	12.1
	July 1, 2002	24.4	July 1, 2003 through June 30, 2004	12.2
	July 1, 2003	28.5	July 1, 2004 through June 30, 2005	11.3
	July 1, 2004	31.2 <sup>(1)</sup>	July 1, 2005 through June 30, 2006	16.5
	July 1, 2005	34.0	July 1, 2006 through June 30, 2007	N/A

<sup>(1)</sup> Average for the year.

For the period July 1, 1999 through July 1, 2000 the City Contribution rates are shown as a percentage of total direct pay less overtime rather than base pay.

## **Projection of Estimated Assets and Liabilities (\$000)**

			E	stimated City	ated City Contributions			Estimated Employee				Unfunded	
	Year	Annual	Actu	arial	Act	ual		ibution	•		Market Value of	Actuarial Liability	
=	Beginning July 1	Covered Payroll	Amount	Percent	Amount	Percent	Amount	Percent	Benefit Payments	Net Cash Flow	Assets at End of Year	(Surplus) at End of Year	Funded Percentage
	2005	\$321,057	\$100,170	31.2%	\$53,000	16.5%	\$28,895	9.00%	\$192,598	(\$110,703)	\$2,761,249	\$962,675	73%
	2006	332,294	112,980	34.0	58,000	17.5	30,039	9.04	195,829	(107,790)	2,883,678	967,819	74
	2007	343,924	118,654	34.5	63,000	18.3	31,228	9.08	208,109	(113,881)	3,010,169	956,358	76
	2008	355,962	119,603	33.6	68,000	19.1	32,499	9.13	222,526	(122,027)	3,138,926	998,651	76
	2009	368,420	119,368	32.4	73,000	19.8	33,784	9.17	236,370	(129,586)	3,270,754	1,064,984	75
	2010	381,315	122,783	32.2	78,000	20.5	35,119	9.21	253,821	(140,702)	3,402,208	1,132,290	75
	2011	394,661	127,476	32.3	83,000	21.0	36,506	9.25	273,617	(154,111)	3,530,869	1,200,577	75
	2012	408,474	132,346	32.4	93,000	22.8	37,947	9.29	293,464	(162,517)	3,661,710	1,264,683	74
	2013	422,771	137,400	32.5	103,000	24.4	39,445	9.33	308,716	(166,271)	3,799,761	1,324,255	74
	2014	437,568	141,772	32.4	113,000	25.8	41,044	9.38	320,941	(166,897)	3,948,895	1,378,775	74

The projection is based on the economic and demographic assumptions summarized in Section VI, including an 8.5% investment return beginning as of July 1, 2005. The total covered payroll is assumed to increase by 3.5% per year. As actual economic (such as the actual investment return from July 1, 2005 through June 30, 2006) and demographic experience vary, the results will change.

The projection assumes the Assumptions and Methods and the Plan Provisions as summarized in Section VI do not change throughout the projection period. It also assumes that new entrants receive the separate plan provisions detailed in Section VI. New entrants are assumed to linearly enter the plan over a 30 year period beginning July 1, 2005. The expected normal cost as a percentage of payroll for new entrants is 5.2%.

This projection is incomplete without the accompanying report.

## **Summary of Active Participants as of July 1, 2005**

Over 34									Last
	30-34	25-29	20-24	15-19	10-14	5-9	0-4		Birthday
0	0	0	0	0	0	0	0	Number	15-19
0	0	0	0	0	0	0	0	Tot Earnings	
0	0	0	0	0	0	0	0	Avg Earnings	
0	0	0	0	0	0	0	14	Number	20-24
0	0	0	0	0	0	0	621,657	Tot Earnings	
0	0	0	0	0	0	0	44,404	Avg Earnings	
0	0	0	0	0	0	51	224	Number	25-29
0	0	0	0	0	0	2,831,346	10,771,351	Tot Earnings	
0	0	0	0	0	0	55,517	48,086	Avg Earnings	
0	0	0	0	0	110	400	171	Number	30-34
0	0	0	0	0	6,959,135	22,799,549	8,297,368	Tot Earnings	
0	0	0	0	0	63,265	56,999	48,523	Avg Earnings	
0	0	0	5	83	665	285	66	Number	35-39
0	0	0	338,986	5,524,773	42,673,196	16,332,202	3,197,240	Tot Earnings	
0	0	0	67,797	66,564	64,170	57,306	48,443	Avg Earnings	
0	0	5	427	305	259	84	7	Number	40-44
0	0	365,575	31,156,281	21,314,206	16,597,101	4,678,968	330,861	Tot Earnings	
0	0	73,115	72,966	69,883	64,081	55,702	47,266	Avg Earnings	
0	3	200	489	131	62	15	0	Number	45-49
0	248,993	15,431,503	36,438,957	9,153,863	3,953,206	828,592	0	Tot Earnings	
0	82,998	77,158	74,517	69,877	63,761	55,239	0	Avg Earnings	
2	106	193	201	32	. 8	3	0	Number	50-54
149,721	8,350,837	14,704,552	14,829,017	2,222,085	499,912	174,816	0	Tot Earnings	
74,861	78,781	76,189	73,776	69,440	62,489	58,272	0	Avg Earnings	
31	62	61	54	10	1	0	0	Number	55-59
2,303,855	4,588,121	4,610,074	3,960,493	643,298	61,108	0	0	Tot Earnings	
74,318	74,002	75,575	73,342	64,330	61,108	0	0	Avg Earnings	
15	8	10	3	1	0	0	0	Number	60-64
1,137,905	617,545	746,281	199,766	62,236	0	0	0		
75,860					0	0	0	_	
5	0	0	0	0	0	0	0	Number	Over 64
350,587	0	0	0	0	0	0	0		
70,117	0	0	0	0	0	0	0	_	
53	-	-	-	562	ŭ	-		-	Total
3,942,068									
74,379								_	
0 0 0 0 0 0 0 0 0 0 2 1 1 5 5 5 5 5 7 1 7 3 5 8	74,86 2,303,85 74,33 1,137,90 75,86 350,58 70,13 3,942,06	0 0 0 0 0 0 0 0 0 0 0 3 248,993 82,998 106 8,350,837 149,72 78,781 74,86 62 3 4,588,121 2,303,89 74,002 74,33 8 617,545 1,137,90 77,193 75,86 0 350,58 0 70,12 179 13,805,496 3,942,06 77,126 74,33	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	621,657 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Tot Earnings

Average Age = 42.0 Average Service = 16.1

### **Historical Active Participant Data**

Valuation Date	Number of Participants	Average Age	Annual Covered Payroll (\$000)	Average Annual Covered Payroll	Percentage Increase in Average Covered Payroll
January 1, 1980	3,029	N/A	\$ 58,169	\$ 19,204	10.4%
January 1, 1982	3,243	N/A	89,529	27,607	43.8
July 1, 1984	3,997	N/A	111,489	27,893	1.0
July 1, 1986	4,526	33.5	125,963 <sup>(1)</sup>	27,831	(0.2)
July 1, 1987	4,494	34.4	126,960	28,251	1.5
July 1, 1988	4,239	35.0	121,667	28,702	1.6
July 1, 1989	4,105	35.7	122,803	29,915	4.2
July 1, 1990	4,073	36.2	126,665 <sup>(2)</sup>	31,099	4.0
July 1, 1992	4,120	36.8	143,020	34,714	11.6
July 1, 1993	4,498	36.7	159,321	35,420	2.0
July 1, 1994	4,705	36.8	162,143	34,462	(2.7)
July 1, 1995	4,921	36.9	174,761	35,513	3.0
July 1, 1996 <sup>(3)</sup>	4,395	35.1	150,903	34,335	(3.3)
July 1, 1997	4,282	35.5	149,631	34,944	1.8
July 1, 1998	4,247	35.9	153,479	36,138	3.4
July 1, 1999	4,253	36.3	187,967 <sup>(4)</sup>	44,196 <sup>(4)</sup>	22.3 <sup>(4)</sup>
July 1, 2000	4,137	36.7	179,415	43,368	(1.9)
July 1, 2001 <sup>(5)</sup>	5,325	40.2	264,226 <sup>(6)</sup>	49,620 <sup>(6)</sup>	14.4 <sup>(6)</sup>
July 1, 2002	5,352	40.7	286,150	53,466	7.8
July 1, 2003	5,387	41.3	300,405	55,765	4.3
July 1, 2004	5,225	41.7	329,840	63,127	13.2
July 1, 2005	4,867	42.0	321,057 <sup>(7)</sup>	65,966 <sup>(7)</sup>	4.5 <sup>(7)</sup>

<sup>(1)</sup> Reflects the July 5, 1986 pay decrease.

<sup>(2)</sup> Reflects the November 1, 1990 pay increase.

<sup>(3)</sup> For the July 1, 1996 to July 1, 2000 valuations includes those participants currently accruing benefits (i.e. excludes current DROP participants).

<sup>(4)</sup> Definition of covered payroll changed from base pay to total direct pay less overtime.

<sup>(5)</sup> Beginning July 1, 2001 includes active participants eligible for DROP.

<sup>(6)</sup> Beginning July 1, 2001 the definition of total direct pay changed from the average of the last 26 pay periods to the highest bi-weekly pay period.

<sup>(7)</sup> Beginning October 9, 2004 pensionable pay is the total of the last 26 pay periods, excluding CMEPP and SOSP.

## Summary of Inactive Participants as of July 1, 2005

		Number	al Benefits \$000)	ge Annual enefit
	Retirees	1,809	\$ 68,030	\$ 37,606
	Beneficiaries	484	15,420	31,859
•	Disabled Participants	97	3,182	32,804
•	Deferred Vesteds	13	 301	 23,154
•	Total	2,403	\$ 86,933	\$ 36,177

In addition to annual benefits, there is \$117,449,424 in the PROP accounts.

## **Inactive Participants Added to and Removed from Rolls**

_	Adde	d to Rolls	Remove	d from Rolls	Rolls at the	End of the Year	Percentage	
Period Ended	Number	Annual Benefits (\$000)	Number	Annual Benefits (\$000)	Number	Annual Benefits (\$000)	Increase in Annual Benefits	Average Annual Benefit
December 31, 1981	81	1,191	17	184	666	6,499	20.6	9,759
December 31, 1982	104	1,106	24	240	746	7,842	20.7	10,513
December 31, 1983	82	967	35	362	793	8,931	13.9	11,262
June 30, 1984	53	779	18	150	855	4,760	6.6	11,095
June 30, 1985	83	1,141	42	259	896	10,166	6.8	11,346
June 30, 1986	44	530	37	431	903	10,939	7.6	12,114
June 30, 1987	42	585	36	421	909	11,321	3.5	12,455
June 30, 1988	138	2,668	25	243	1,022	14,069	24.3	13,766
June 30, 1989	89	1,349	46	502	1,065	16,127	14.6	15,142
June 30, 1990	105	1,811	29	457	1,141	18,029	11.8	15,801
June 30, 1992	222	4,662	75	1,127	1,288	22,999	27.6	17,857
June 30, 1993	105	2,012	16	205	1,377	25,474	10.8	18,500
June 30, 1994	106	2,172	64	953	1,419	27,286	7.1	19,229
June 30, 1995	107	2,425	48	847	1,478	29,464	8.0	19,935
June 30, 1996*	893	19,109	36	602	2,335	48,624	65.0	20,824
June 30, 1997	182	3,481	29	618	2,488	52,772	8.5	21,211
June 30, 1998	159	3,483	28	589	2,619	63,957	21.2	24,420
June 30, 1999	150	3,770	46	1,001	2,723	70,432	10.1	25,866
June 30, 2000	233	6,421	36	857	2,920	76,401	8.5	26,165
June 30, 2001**	131	3,755	1,250	33,892	1,801	54,006	(29.3)	29,987
June 30, 2002	104	2,809	46	1,113	1,859	55,013	1.9	29,593
June 30, 2003	106	2,967	47	1,109	1,918	61,531	11.8	32,081
June 30, 2004	220	9,172	33	1,014	2,105	70,307	14.3	33,400
June 30, 2005	353	15,962	55	1,776	2,403	86,933	23.6	36,177

<sup>\*</sup> From June 30, 1996 through June 30, 2001 includes DROP participants.

<sup>\*\*</sup> Beginning July 1, 2001 excludes active participants eligible for DROP.

## **Summary of Actuarial Methods and Assumptions**

#### **Actuarial Methods**

Actuarial Value of Assets

Gains and losses in the market value of assets, based on the difference between the actual and the assumed rate of return, are recognized over five years.

**Actuarial Cost Method** 

Entry Age Normal Method with liabilities allocated from date of entry to assumed retirement age. The Unfunded Actuarial Accrued Liability (Surplus), including effects of actuarial gains and losses, is amortized as a level percentage of pay over 30 years. The contribution is increased for interest for one-half of a year to reflect timing of payments.

#### **Economic Assumptions**

**Investment Return** 

Payroll Growth Rate/Inflation

Individual Merit Increase Rate

8.5% per year, net of expenses

3.50% per year

Service	Increase
1	7.00%
2	0.25
3	0.25
4	5.00
5	9.50
6	8.50
7	0.75
8	0.50
9	7.75
10	1.00
11	9.00
12	0.75
13	1.25
14	1.50
15	0.50
16	5.50
17	0.75
18 and over	0.00

Individual Pay Increase Rate DROP Crediting Rate

Merit plus 3%

Five year average returns using actual return through June 30, 2005 and estimated 8.5% returns thereafter, with a maximum 5–year average of 7.0%.

## **Summary of Actuarial Methods and Assumptions (continued)**

#### **Demographic Assumptions**

**Entry Age** 

**DROP Participation Rates** 

Date sworn.

100% of eligible active participants are assumed to elect the DROP. Participants are assumed to elect the maximum duration for the back DROP, up to 20 years, except in cases where the DROP benefit as of October 9, 2004 determined using the highest biweekly pay period during the last 26 pay periods is greater than the back-DROP benefit using the new definition of Final Average Compensation. If the employee is currently participating in the DROP and his current actual DROP benefit is greater than his estimated back-DROP benefit, then his current DROP benefit is used for valuation purposes.

#### Retirement Rates

 Participants as of October 9, 2004

	October 9, 2004				Service			
	<u>Age</u>	<u>20-21</u>	<u>22-23</u>	<u>24-25</u>	<u>26-27</u>	<u>28-29</u>	<u>30-39</u>	40 and over
•	40-54 55-59 60-64 65 and over New Participants	5% 5 10 100	5% 10 10 100	5% 10 25 100	10% 30 50 100	20% 30 50 100	20% 40 50 100	100% 100 100 100
	after October 9, 2004				Service			
	<u>Age</u>	<u>20-21</u>	22-23	<u>24-25</u>	<u>24-27</u>	<u>28-29</u>	<u>30-37.5</u>	37.5 and <u>over</u>
	55-59 60-64 65 and over	5% 10 100	10% 10 100	10% 25 100	30% 50 100	30% 50 100	40% 50 100	100% 100 100

#### Mortality Rates

- Active participants and non-disabled retirees
- Disabled retirees

1994 Group Annuity Mortality Table (see table below for sample rates).

1987 Commissioners Group Disabled Mortality Table (see table below for sample rates).

## **Summary of Actuarial Methods and Assumptions (continued)**

**Disability Rates** Graduated rates (see table below for sample rates).

Percentage of Deaths and Disabilities in the 100%. Line of Duty

Termination Rates and Terminated Vested Pension Benefit Election

Graduated rates (see table below for sample rates). 50% of members eligible to receive a terminated vested pension are assumed to elect the pension at age 60 instead of a refund of contributions.

Marital Status at Benefit Eligibility

Percentage married 90%. (No beneficiaries other than the spouse

assumed).

Age difference Husbands assumed to be three years older than

wives.

Pay excluding CMEPP and SOSP in the last 26 Valuation Earnings

pay periods preceding the valuation date

annualized and increased for one year of assumed pay increases. Grandfathered CMEPP and SOSP amounts were added back in on a prorated basis for determining transition earnings through 2007.

#### **Sample Rates**

Sample Rates per 100 Participants

	Cample Nates per 1001 anticipants					
	Non-disab	led Mortality	Disabled Mortality (Ultimate)	Termination	Di	sability
Age	Male	Female	AII	All	Male	Female
20	0.05	0.03	2.82	4.44	0.08	0.10
25	0.07	0.03	2.82	3.99	0.08	0.10
30	0.08	0.04	2.82	3.02	0.08	0.12
35	0.09	0.05	2.82	1.92	0.10	0.16
40	0.11	0.07	2.82	0.92	0.14	0.22
45	0.16	0.10	2.82	0.21	0.21	0.30
50	0.26	0.14	2.82	0.00	0.37	0.54
55	0.44	0.23	2.82	0.00	0.79	1.08
60	0.80	0.44	3.14	0.00	2.15	2.86
65	1.45	0.86	3.98	0.00	0.00	0.00

#### Changes in Methods and Assumptions Since the Prior Valuation

There were no changes in methods and assumptions since the prior valuation, other than those listed in the July 1, 2004 report as necessary to reflect the plan provision changes as of October 9, 2004.

## **Summary of Plan Provisions**

#### **Covered Members**

All police officers sworn before September 1, 1975 are covered under Plan 1, except those who elected by December 31, 1981 to participate in Plan 3.

All police officers sworn on or after September 1, 1975, but before September 1, 1981 are covered under Plan 2, except those who elected by December 31, 1981 to participate in Plan 3 and those from Police Cadet Classes 70 and 71 who elected to transfer to Plan 1.

All other police officers are covered by Plan 3, except those from Police Cadet Classes 70 and 71 who elected to pay additional contributions and transfer to Plan 1.

#### **Final Compensation**

Prior to November 28, 1998

Monthly base salary paid to the participant in his/her last month of service. For any participant from a position held for less than 3 years, final compensation is the average monthly base salary for the 3 years prior to retirement.

After November 28, 1998 but prior to July 1, 2001

Monthly total direct pay less overtime paid to the participant in his/her last month of service. For any participant from a position held for less than 3 years, final compensation is the average monthly base pay for the 3 years prior to retirement plus the other current components of total direct pay.

After July 1, 2001 but prior to October 9, 2004

Highest biweekly pay period (excluding overtime) during the last 26 pay periods annualized. Amounts not paid on a biweekly basis are deducted from period paid. Annual amounts are divided by 26 and added to the highest pay period, including motorcycle allowances.

After October 9, 2004

Average of the last three years of compensation (excluding exempt time, overtime and strategic officer staffing pay). This average will be phased in beginning with the pay period ending after October 9, 2004 until the new definition is fully phased in after 78 pay periods.

#### **Service Retirement**

#### Eligibility

Sworn prior to October 9, 2004 20 years of service.

Sworn on or after October 9, 2004 Age 55 with 10 years of service

#### Benefit:

Prior to November 1, 1955

\$75 per month plus \$2 per month for each year of service in excess of 25 years.

► After November 1, 1955 but prior to January 13, 1968

30% of final compensation plus 1% of final compensation for each year of service in excess of 20 years.

After January 13, 1968 but prior to July 1, 1986

Plans 1 and 2: 30% of final compensation plus 2% of final compensation for each year of service in excess of 20 years.

Plan 3: 2% of final compensation for each year of service up to 40 years, reduced 0.42% for each month benefit commencement precedes age 55.

After July 1, 1986 but prior to July 1, 1988

2% of final compensation for each year of service up to 40 years.

 After July 1, 1988 but prior to September 1, 1997 45% of final compensation plus 2% of final compensation for each year of service in excess of 20 years; maximum 80% of final compensation. Benefit based on prior formula is payable until July 1, 1991 and recomputed benefit is payable thereafter.

► After September 1, 1997 but prior to July 1, 2001

50% of final compensation plus 2% of final compensation for each year of service in excess of 20 years; maximum 80% of final compensation.

 After July 1, 2001 but prior to October 9, 2004 55% of final compensation plus 2% of final compensation for service in excess of 20 years.

The Pension System recomputed the benefit of each person who retired before July 1, 2001. The retiree's benefit was increased by the result of multiplying the difference between 55% and the percentage used at the time of retirement in computing the retiree's benefit for the first 20 years of service by the base salary of the retiree at the time of retirement. Retroactive cost-of-living increases were not applied to the increased benefit. This recomputed benefit is effective for all payments on or after July 1, 2001.

After October 9, 2004

Participants sworn prior to October 9, 2004 will receive the highest of the following alternatives using Final Average Compensation effective after October 9, 2004, from October 9, 2004 through October 7, 2007:

- 2.25% of Final Average Compensation for each of the first 20 years of service plus 2% of Final Average Compensation for each year of service in excess of 20 years, with a maximum of 80% of Final Average Compensation.
- Benefit participant would have received had participant retired or entered the DROP immediately before October 9, 2004
- 3) Benefit calculated using a sliding average of the pay received for the pay periods elapsed since October 9, 2004.

New participants after October 9, 2004:

2.25% of Final Average Compensation for each of the first 20 years of service plus 2% of Final Average Compensation for each year of service in excess of 20 years, with a maximum of 80% of Final Average Compensation.

**Additional Benefits** 

An extra monthly benefit of \$150.00 is payable for life. Effective November 28, 1998, a \$5,000 lump sum is payable upon retirement for members sworn prior to October 9, 2004.

## Terminated Vested Pension Benefit

Eligibility More than 10 but less than 20 years of service. Termination on or

after November 28, 1998.

Benefit 2.75% of final compensation times years of service. This benefit

commences at age 60 or at termination of service if later.

## Deferred Retirement Option Plan (DROP)

Eligibility 20 years of service and sworn in prior to October 9, 2004.

Benefit:

 After September 1, 1995 but prior to September 1, 1997 Eligible participants may elect to participate in the DROP until they leave active service. The member's retirement pension will be calculated based on service and earnings at the time the DROP is elected.

A notional account will be maintained for each DROP participant. This account will be credited with the following amounts while the member is participant of the DROP:

- The member's monthly retirement pension, including applicable cost-of-living adjustments,
- The member's contribution to the Pension System, and
- Investment earnings/losses at the rate of the Pension System's earnings/losses averaged over a five-year period. Effective July 1, 2001, this rate is subject to a minimum of 0%.

A benefit equal to the DROP account balance is paid at the time the member leaves active service. The payment is made as a single lump sum.

If a DROP participant suffers an on-duty disability resulting in the inability to perform his/her usual and customary duties as a police officer or dies in the line of duty, he (or his survivors) are allowed to revoke the DROP election and to receive the more generous on-duty disability or death benefits.

► After September 1, 1997 but prior to December 1, 1998

The Pension System recomputed the benefit of each person who entered the DROP before September 1, 1997. The benefit was increased in the same manner as the retiree's benefit.

 After December 1, 1998 but prior to July 1, 2001 The Pension System recomputed the benefit of each person who entered the DROP before December 1, 1998. The benefit was recalculated based on Total Direct Pay less overtime upon entry to the DROP. This recomputed benefit is effective for all payments on or after December 1, 1998.

 After July 1, 2001 but prior to October 9, 2004 The Pension System recomputed the benefit of each person who entered the DROP before July 1, 2001. The member's benefit was increased by the result of multiplying the difference between 55% and the percentage used at the time of DROP entry in computing the member's benefit for the first 20 years of service by the base salary of the member at the time of DROP entry. Retroactive cost-of-living increases were applied to the increased benefit. The account balance for each participant was recomputed as if this new benefit had been effective since DROP entry.

After October 9, 2004

A minimum of 3.00% interest will be credited to existing DROP accounts with a maximum of 7.00%. If the actuary certifies that past service costs are fully funded, the credit may be as high as 10.00%.

Benefit Recalculation

Effective July 1, 2001, monthly benefit at retirement will be recalculated to be the greater of (i) current monthly benefit, or (ii) monthly benefit based on service at DROP entry and Final Compensation at retirement date.

Back DROP Option Effective on July 1, 2001, a back DROP option is available for all

eligible participants. The DROP account is recalculated under the option based on what the account balance would have been had the participant elected the DROP earlier than he/she actually did. The initial DROP entry date cannot be backdated prior to September 1, 1995 or prior to 20 years of credited service, and

must be on the first of the month selected.

Postretirement Option Plan (PROP)

Eligibility Retired from DROP and sworn in prior to October 9, 2004.

Benefit:

After November 28, 1998 A retired member is allowed to leave all or a portion of their DROP but prior to July 1, 2001 account in the System. These accounts are credited every

account in the System. These accounts are credited every calendar year with the 30-year Treasury bond rate as of June of

the preceding year.

► After July 1, 2001 The interest rate earned on PROP accounts will be the same as

the interest rate credited to DROP accounts, including a minimum

credited rate of 0%.

Partial Lump Sum
Optional Payment (PLOP)

Eligibility Participant on or after October 9, 2004.

Benefit:

► After October 9, 2004 Up to 20% of the actuarial value of the accrued pension at

retirement.

**Disability Retirement** 

Eligibility Effective July 1, 2001, participant partially or totally disabled is

eligible for Disability Retirement as defined below:

— Total: Disability is defined as "unable to perform his/her usual and customary duties as a police officer".

— Partial: Disability is an impairment which renders the

participant unable to work as a police officer and which is

expected to last 12 months.

Benefit:

Duty-connected
 Total: The service retirement benefit accrued to date of disability

(or 20 years, if greater).

Partial: 35% of final compensation is payable for life or as long

as he remains incapacitated.

► Not duty-connected Total or partial: The disability benefit is 2.75% of final

compensation times years of service up to 20, minimum 27.5%

of final compensation.

Additional Benefits For participants before October 9, 2004, an education allowance

equal to 100% of final compensation less disability benefit is payable for up to four years for off-duty or duty-related disability.

Proportionate members injured while on-duty as a municipal worker will receive immediate off-duty benefit upon Board

approval.

#### **Survivor Benefits**

Eligibility Surviving spouses and dependent children and parents of

participants, including surviving spouses of retired or disabled participants who were not married at the time of retirement or disability, provided the spouse was married to the participant for

at least 5 years at the time of death:

Benefit Spouse's benefit upon death before retirement:

► Prior to September 1, 1997 If duty-connected: monthly lifetime benefit equal to 100% of final

compensation at date of death.

If not duty-connected: monthly lifetime benefit equal to 100% of the service retirement benefit the participant had accrued at the

time of death.

Spouse's benefit upon death after retirement: monthly lifetime benefit equal to actual benefit payable at time of death.

Dependent children's benefit if no surviving spouse: the benefit that would have been payable to the spouse is divided equally

among the dependent children.

If there is a surviving spouse, the dependent children of Plan 1 and Plan 2 participants receive \$25 per month. Dependent children include unmarried children who are under age 18, and for Plan 3, full-time students under age 22, or permanently disabled children.

Dependent parent's income if no surviving spouse or children, but there is a dependent parent: the benefit that would have been payable to the spouse will be paid to the dependent parent.

prior to July 1, 2001

After September 1, 1997 but The Pension System recomputed the benefit of each survivor whose original benefit was computed prior to September 1, 1997. The benefit was increased in the same manner as the retiree's benefit.

After July 1, 2001

The Pension System recomputed the benefit of each survivor whose original benefit was computed prior to July 1, 2001. The benefit was increased in the same manner as the retiree's benefit.

Additional Benefits

Effective December 1, 1998, a \$5,000 lump sum is paid upon the death of an active member who was sworn in prior to October 9. 2004.

Effective July 1, 2001, an extra monthly benefit of \$150.00 is payable for life. Children receiving equivalent of the spouse's benefit do not receive this additional benefit.

#### **Benefit Adjustments**

Cost-of-Living

Prior to October 9, 2004

Monthly benefits for participants receiving payments are increased each April 1 by 2/3 of the increase in the Consumer Price Index for All Urban Consumers (CPI-U) for the preceding calendar year. Effective September 1, 1997 this increase is subject to a minimum of 3.0% per year compounded and a maximum increase of 8.0% per year compounded.

After October 9, 2004

Monthly benefits for participants receiving payments are increased each April 1 by 80% of the increase in the Consumer Price Index for All Urban Consumers (CPI-U) for the preceding year, with a minimum of 2.4% and a maximum of 8%.

13<sup>th</sup> Benefit Check

Effective November 28, 1998, a 13<sup>th</sup> benefit check is paid to current retirees and DROP members when:

- The assets on the fund equal or exceed the liabilities after the 13<sup>th</sup> benefit check is paid.
- The return on investments for the preceding fiscal year exceeds 9.25%.
- The payment of the benefit will not cause the City of Houston's contribution to the System to increase.
- Effective October 9, 2004, the funded ratio of the plan must be at least 120% for the 13<sup>th</sup> check to be paid out.

Service Adjustments

Effective November 28, 1998, participants with previous service with the City in non-classified positions may use that service to satisfy the service requirement of 20 years for retirement purposes only.

Effective July 1, 2001, participants who have service credit in more than one City of Houston Pension Plan may use their combined service to qualify for DROP participation.

Effective July 1, 2001, participants involuntarily transferred to the System from the Houston Municipal Employees System will receive service under this plan for years worked while serving as a City Marshall, Airport Police or Park Police.

#### **Contributions**

**Employee Contributions** 

► Prior to December 1, 1998 Each participant contributes 8.75% of base salary.

 After December 1, 1998 but before October 9, 2004 Each participant contributes 8.75% of average total direct pay less overtime.

After October 9, 2004

 Members sworn in prior to October 9, 2004 Each participant contributes 9.00% of pay. The additional 0.25% will be credited to the Plan's general fund.

- Others

Each participant contributes 10.25% of pay, which will be credited to the Plan's general fund.

Refunds

Refunds of contributions are made if

- (i) The participant dies before 10 years of service and the death is not duty-connected,
- (ii) The participant dies with no eligible survivor,
- (iii) A Plan 1 or 2 participant leaves service before eligibility for retirement after completing 5 years of service, or
- (iv) A Plan 3 participant leaves service with less than 20 years of service.

Contributions are refunded without interest.

**Employer Contribution** 

The city will follow the following contribution schedule:

Fiscal Year Ending (June 30)	City Contribution Amount
2001	\$ 30,645,000
2002	32,645,000
2003	34,645,000
2004	36,645,000
2005	36,645,000
2006	16% of total compensation, with a minimum of \$53,000,000
2007-2012	\$5,000,000 above the prior year's payment

Beginning in Fiscal Year 2013 and continuing until the plan's funded ratio is 100%, payments will increase each year by \$5,000,000 or, if the scheduled payment is less than the actuarial rate, \$10,000,000. In addition, once the plan's funded ratio is 100%, the city will pay the actuarially required rate, but not less than 16% of covered pay.

Additionally, beginning in Fiscal Year 2013 and once the funded ratio reaches 75%, if the funded ratio drops below 75%, the City will pay additional amounts in the following fiscal year to return the plan to 75% funded. Once the fund ratio reaches 80%, the City will contribute additional amounts to return the plan to 80% funded.

#### **Changes in Plan Provisions from Since the Prior Valuation**

There were no changes to the plan provisions from the prior valuation to the date of the current valuation, other than those listed in the July 1, 2004 report to be effective October 9, 2004.

#### **Actuarial Certification, Reliances and Distribution**

This report describes the results of an actuarial valuation of the Houston Police Officers Pension System. The Houston Police Officers Pension System retained Towers Perrin to perform this actuarial valuation for the purposes of determining the funding status for the plan year July 1, 2005 through June 30, 2006.

The consulting actuaries are members of the Society of Actuaries and other professional actuarial organizations and meet their "General Qualification Standard for Prescribed Statements of Actuarial Opinions" relating to pension plans.

In preparing the actuarial results, we have relied upon information provided by the Board of Trustees regarding plan provisions, plan participants, plan assets, and other matters. While the scope of our engagement did not call for us to perform an audit or independent verification of this information, we have reviewed this information for reasonableness but have not audited it. The accuracy of the results presented in this report is dependent upon the accuracy and completeness of the underlying information. Historical information for years prior to 1986 was prepared by the prior actuaries and was not subjected to our actuarial review.

The actuarial methods and assumptions used in this valuation were selected by the Board of Trustees. The Board has sole authority to determine the actuarial assumptions. In our opinion, the actuarial assumptions used are appropriate for purposes of the valuation and, in the aggregate, are reasonably related to the experience of the Fund and to reasonable expectations as of the valuation date.

The funding determination portion of this actuarial valuation has been conducted in accordance with principles of practice prescribed by the Actuarial Standards Board and the requirements of the Texas Government Code. Section 802.101 of the Texas Government Code requires the use of actuarial "assumptions and methods that are reasonable in the aggregate, considering the experience of the program and reasonable expectations, and that, in combination, offer the actuary's best estimate of anticipated experience under the program."

The results shown in this report are reasonable actuarial results. However, a different set of results could also be considered reasonable actuarial results, since the Actuarial Standards of Practice describe a "best-estimate range" for each assumption, rather than a single best-estimate value. Thus, reasonable results differing from those presented in this report could have been developed by selecting different points within the best-estimate ranges for various assumptions.

It should be noted that other than the City agreement to maintain a funded status floor as specified under the 2004 Meet and Confer (see City Contribution Schedule on page 27), the City funding schedule could potentially not be sufficient to cover all future benefit payments of the Houston Police Officers Pension System. Moreover, it is possible that the Houston Police Officers Pension System will fall below the funded status floor as actual experience differs from assumed and/or assumptions change. Towers Perrin has not been provided detailed provisions on how the funded status floor will be maintained if the funded status declines below specified levels.

The information contained in this report was prepared for the internal use of the Houston Police Officers Pension System and its auditors in connection with our actuarial valuation of the pension plan. It is neither intended nor necessarily suitable for other purposes. The Houston Police Officers Pension System may also distribute this actuarial valuation report to the appropriate authorities who have the legal right to require the Houston Police Officers Pension System to provide them with this report, in which case, the Houston Police Officers Pension System will use best efforts to notify Towers Perrin in advance of this distribution. Further distribution to, or use by, other parties of all or part of this report is expressly prohibited without Towers Perrin's prior written consent.

**Towers Perrin** 

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November, 2006

Steven R. Rusher F.S.A., E.A., M.A.A.

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November 2006
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