

SECTION 4

ACTUARIAL SECTION

ACTUARIAL SECTION

Caring For Your Future...



ACTUARIAL CERTIFICATION LETTER



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VIA E-MAIL AND USPS

November 17, 2009

Board of Retirement
City of Fresno Fire and Police Retirement System
2828 Fresno Street, Suite 201
Fresno, CA 93721-1327

**Re: City of Fresno Fire and Police Retirement System
June 30, 2008 Actuarial Valuation**

Dear Members of the Board:

The Segal Company prepared the June 30, 2008 annual actuarial valuation of the City of Fresno Fire and Police Retirement System. We certify that the valuation was performed in accordance with generally accepted actuarial principles and practices. In particular, it is our understanding that the assumptions and methods used for funding purposes meet the parameters of the Governmental Accounting Standards Board Statement No. 25.

As part of the June 30, 2008 actuarial valuation, The Segal Company (Segal) conducted an examination of all participant data provided by the Plan's administrative staff for reasonableness. Summaries of the employee data used in performing the actuarial valuations over the past several years are provided in our valuation report. We did not audit the System's financial statements. For actuarial valuation purposes, Plan assets are valued at Actuarial Value. Under this method, the assets used to determine employer contribution rates take into account market value by recognizing the differences between the total return at market value and the expected investment return over a five-year period.

One of the general goals of an actuarial valuation is to establish rates which, over time, will remain level as a percentage of payroll unless Plan benefit provisions are changed. Actuarial funding is based on the Entry Age Normal Cost Method. Under this method, the employer contribution rate provides for current cost (normal cost) plus a level percentage of payroll to amortize any prefunded actuarial accrued liability (PAAL). Actuarial gains and losses are incorporated into the PAAL and are amortized over the same period.

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Board of Retirement
 City of Fresno Fire and Police Retirement System
 November 17, 2009
 Page 2

The PAAL is amortized as a level percentage of payroll over a 15-year period. The progress being made towards meeting the funding objective through June 30, 2008 is illustrated in the Schedule of Funding Progress.

A listing of supporting schedules Segal prepared for inclusion in the actuarial, statistical, and financial sections of the System's CAFR is provided below:

1. Summary of Actuarial Assumptions and Methods;
2. Solvency test;
3. Actuarial Analysis of Financial Experience; and
4. Schedule of Funding Progress.⁽¹⁾

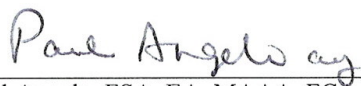
⁽¹⁾ *The schedule of funding progress is the only schedule that Segal has prepared for the Financial Section of the CAFR. The other schedules, such as the schedule of gross and net employer and employee contributions, in the Financial Section of the CAFR have been prepared by the Retirement System.*

The valuation assumptions included in the Actuarial Section were adopted by the Retirement Board based on the June 30, 2006 Experience Analysis and the June 30, 2007 Economic Assumptions Report. It is our opinion that the assumptions used in the June 30, 2008 valuation produce results, which, in the aggregate, reflect the future experience of the Plan. Actuarial valuations are performed on an annual basis. An experience analysis is performed every three years. The next experience analysis is due to be performed as of June 30, 2009.

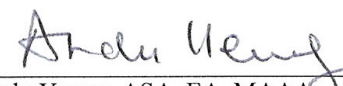
In the June 30, 2008 valuation, the ratio of the valuation assets to actuarial accrued liabilities decreased from 129.5% to 128.5%. The employer's rate has increased from 7.32% of payroll to 11.74% of payroll, while the employee's rate has decreased from 8.57% of payroll to 8.56% of payroll.

The undersigned are members of the American Academy of Actuaries and meet the qualification requirements to render the actuarial opinion contained herein.

Sincerely,



 Paul Angelo, FSA, EA, MAAA, FCA
 Senior Vice President & Actuary



 Andy Yeung, ASA, EA, MAAA
 Vice President & Associate Actuary

MYM/hy
 Enclosure

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SUMMARY OF ASSUMPTIONS AND FUNDING METHOD

These actuarial assumptions and methods based on June 30, 2008, data were adopted by the Fire and Police Retirement Board on January 14, 2009.

Assumptions

Valuation Interest Rate	8.25%
Inflation:	3.75%

Post Retirement Mortality

(a) Service

1994 Group Annuity Mortality Table set back one-year weighted 90% male and 10% female.

Beneficiary - 1994 Group Annuity Mortality Table set back one-year weighted 10% male and 90% female.

(b) Disability

Member: 1981 Safety Disability Mortality Table, set back five-years
Beneficiary: 1994 Group Annuity Mortality Table set back one year weighted 10% male and 90% female.

Pre-Retirement Mortality

Based upon the 6/30/2006 Experience Analysis

Withdrawal Rates

Based upon the 6/30/2006 Experience Analysis

Disability Rates

Based upon the 6/30/2006 Experience Analysis

Service Retirement Rates

Based upon the 6/30/2006 Experience Analysis

Percentage Married at Retirement

85% of all active members are assumed to be married at retirement. Their spouses will be eligible for the 2/3 automatic survivor benefits.

Assets

Five-year smoothed recognition of realized and unrealized capital gains and losses greater or lesser than the actuarial assumed rate of return.

Funding Method

The System's liability is being funded on the Entry Age Normal Cost method with the Unfunded Actuarial Accrued Liability amortized as a level percentage of payroll. There is no UAAL as of June 30, 2006.

COLA Assumptions

The annual cost-of-living adjustment is 3.00% for Tier 2 members and 4.00% for Tier 1 members and retirees who have retired with the final average formula, or with the career average formula.

DROP

The following probabilities are applied:

	Tier 1	Tier 2
1st year eligible	100%	50%
Following year	0%	25%
Next following year	0%	10%
Thereafter	0%	0%

Ultimate Salary Scales

5.25% for the first five years of service. Graded increases thereafter ranging from 5.70% at age 25 to 4.15% at ages 50 and over. Of the total salary increases, 3.75% is for inflation.

PROBABILITIES OF SEPARATION PRIOR TO RETIREMENT

Rate (%)		
Mortality		
Age	Tier 1 & Tier 2	
	Male	Female
25	0.06	0.03
30	0.08	0.03
35	0.08	0.04
40	0.10	0.07
45	0.15	0.09
50	0.23	0.13
55	0.40	0.21
60	0.71	0.39
65	1.29	0.76

All pre-retirement deaths are assumed to be duty.

Rate (%)				
Disability				
Age	Tier 1		Tier 2	
	Duty	Non-Duty	Duty	Non-Duty
20	0.09	0.00	0.30	0.00
25	0.28	0.01	0.42	0.01
30	0.31	0.01	0.60	0.01
35	0.70	0.03	0.84	0.03
40	0.95	0.12	1.22	0.12
45	1.25	0.25	1.76	0.25
50	2.50	0.20	1.71	0.20
55	7.00	0.00	2.53	0.00
60	0.00	0.00	0.00	0.00

Rate (%)		
Vested Termination (Deferred Vested Benefit)		
Age	Tier 1	Tier 2
20	0.70	0.70
25	0.70	0.70
30	0.70	0.70
35	0.70	0.70
40	0.70	0.60
45	0.60	0.35
50	0.00	0.00
55	0.00	0.00
60	0.00	0.00

SCHEDULE OF ACTIVE MEMBER VALUATION DATA

Valuation Date	Active/DROP	Number	Annual Payroll	Annual Average Pay	% Increase in Average Pay
June 30, 2008	Active Members	1017	\$84,977,945	\$83,557	6.41%
	DROP Participants	165	13,934,644	84,452	1.6%
	Totals	1182	\$98,912,589	\$83,682	
June 30, 2007	Active Members	956	\$75,054,546	\$78,509	5.2%
	DROP Participants	174	14,461,649	83,113	6.2%
	Totals	1130	\$89,516,195	\$79,218	
June 30, 2006	Active Members	928	\$69,268,193	\$74,642	9.2%
	DROP Participants	169	13,224,715	78,253	8.8%
	Totals	1097	\$82,492,908	\$75,199	
June 30, 2005	Active Members	894	\$61,123,230	\$68,371	3.0%
	DROP Participants	171	12,299,275	71,926	0.0%
	Totals	1065	\$73,422,505	\$68,941	
June 30, 2004	Active Members	842	\$55,895,431	\$66,384	4.3%
	DROP Participants	175	12,588,060	71,932	0.8%
	Totals	1017	\$68,483,491	\$67,339	
June 30, 2003	Active Members	814	\$53,592,702	\$65,839	-1.1%
	DROP Participants	166	11,654,388	70,207	-10.0%
	Totals	980	\$65,247,090	\$66,579	
June 30, 2002	Active Members	781	\$51,992,000	\$66,571	3.1%
	DROP Participants	166	12,945,000	77,982	10.3%
	Totals	947	\$64,937,000	\$68,571	
June 30, 2001	Active Members	768	\$49,611,000	\$64,598	3.9%
	DROP Participants	164	11,374,000	69,354	-1.9%
	Totals	932	\$60,985,000	\$65,435	
June 30, 2000	Active Members	778	\$48,381,000	\$62,186	4.7%
	DROP Participants	136	9,615,000	70,699	8.5%
	Totals	914	\$57,996,000	\$63,453	
June 30, 1999	Active Members	796	\$47,289,000	\$59,408	7.1%
	DROP Participants	126	8,208,000	65,143	-1.2%
	Totals	922	\$55,497,000	\$60,192	
June 30, 1998	Active Members	730	\$40,486,000	\$55,460	-3.40%
	DROP Participants	108	7,122,000	65,944	Base Year
	Totals	838	\$47,608,000	\$56,811	-1.50%
June 30, 1997	Active Members	797	\$45,759,000	\$57,414	3.00%
June 30, 1996	Active Members	729	\$41,739,000	\$57,255	2.30%
June 30, 1995	Active Members	717	\$40,356,000	\$56,285	4.30%
June 30, 1993	Active Members	651	\$35,110,000	\$53,932	1.10%
June 30, 1991	Active Members	648	\$31,451,211	\$48,536	1.50%

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED OR REMOVED FROM ROLLS

Year Ended	Added to Rolls		Removed from Rolls		Rolls at End of Year			
	Number	Annual Allowance*	Number	Annual Allowance*	Number	Annual Allowance	% Increase in Retiree Allowance	Average Annual Allowance
June 30, 2009	37	\$1,133,750	(26)	\$(663,449)	865	\$47,024,672	8.09	\$54,364
June 30, 2008	48	\$1,677,698	(27)	\$(804,955)	854	\$42,949,880	5.57	\$50,293
June 30, 2007	34	\$1,196,861	(8)	\$(178,933)	833	\$39,682,515	4.53	\$47,638
June 30, 2006	54	\$1,196,861	(31)	\$(673,117)	807	\$36,778,219	(1.96)	\$45,574
June 30, 2005	40	\$1,167,252	(17)	\$(329,007)	784	\$36,443,224	0.20	\$46,484
June 30, 2004	50	\$549,865	(23)	\$(592,613)	761	\$35,304,472	0.93	\$46,392
June 30, 2003	61	\$1,936,470	(13)	\$(312,042)	734	\$33,736,675	1.24	\$45,963
June 30, 2002	43	\$1,080,350	(20)	\$(563,907)	686	\$31,144,834	5.36	\$45,401
June 30, 2001	23	\$23,125	(24)	\$(401,938)	663	\$28,568,480	11.48	\$43,090
June 30, 2000	32		(15)		664	\$25,664,076	10.11	\$38,651
June 30, 1999	15		(17)		647	\$22,710,101	20.83	\$35,101

* Annual allowance data not available prior to 2001.

SOLVENCY TEST (IN THOUSANDS)

Valuation Date	Aggregate Accrued Liabilities for				Portion of Accrued Liabilities Covered by Reported Asset		
	Active Member Contributions	Retirees and Beneficiaries (Includes Deferred Vested)	Active Members (Employer Financed Portion)	Actuarial Value of Assets	Active Member Contributions	Retirees and Beneficiaries (Includes Deferred Vested)	Active Members
6/30/2008	\$70,998	\$631,540	\$127,498	\$1,066,778	100%	100%	100%
6/30/2007	62,769	602,989	107,478	1,000,961	100%	100%	100%
6/30/2006	58,078	561,039	103,605	906,223	100%	100%	100%
6/30/2005	53,011	508,568	108,522	846,718	100%	100%	100%
6/30/2004	47,981	492,227	101,986	793,059	100%	100%	100%
6/30/2003	46,881	461,688	109,310	749,505	100%	100%	100%
6/30/2002	44,161	443,037	103,657	814,680	100%	100%	100%
6/30/2000	39,133	381,062	102,603	852,444	100%	100%	100%
6/30/1999	37,816	366,529	96,928	779,518	100%	100%	100%
6/30/1998	32,261	358,814	96,729	695,258	100%	100%	100%
6/30/1997	45,412	254,805	113,745	601,693	100%	100%	100%
6/30/1996	42,424	247,231	109,888	512,889	100%	100%	100%
6/30/1994	43,083	242,180	118,525	450,429	100%	100%	100%
6/30/1992	34,526	224,361	131,709	242,039	100%	92%	0%

ACTUARIAL ANALYSIS OF FINANCIAL EXPERIENCE

(Amounts in Thousands)	Plan Years									
	2008	2007	2006	2005	2004	2003	2002	2001	2000	1999
Prior Valuation Actuarial Accrued Liability	\$773	\$723	\$670	\$642	\$618	\$591	\$562	\$523	\$501	\$488
Salary Increase Greater/ (Less) than Expected	8	4	(6)	(8)	5	(12)	(3)	(3)	(3)	-
Asset Return (Greater)/ Less than Expected	-	-	-	(14)	(38)	29	26	30	40	31
Other Experience	(7)	4	(4)	47	43	-	-	(1)	(1)	-
Economic Assumption Changes	8	(2)	-	-	5	-	-	18	(5)	(9)
Non-economic Assumption Changes	-	-	-	3	9	10	6	(5)	(9)	(9)
Normal Cost	25	22	21							
Interest	63	59	54							
Payments	(40)	(37)	(35)							
Change in Valuation Programs and Methods	-	-	23							
Ending Actuarial Accrued Liability	\$830	\$773	\$723	\$670	\$642	\$618	\$591	\$562	\$523	\$501

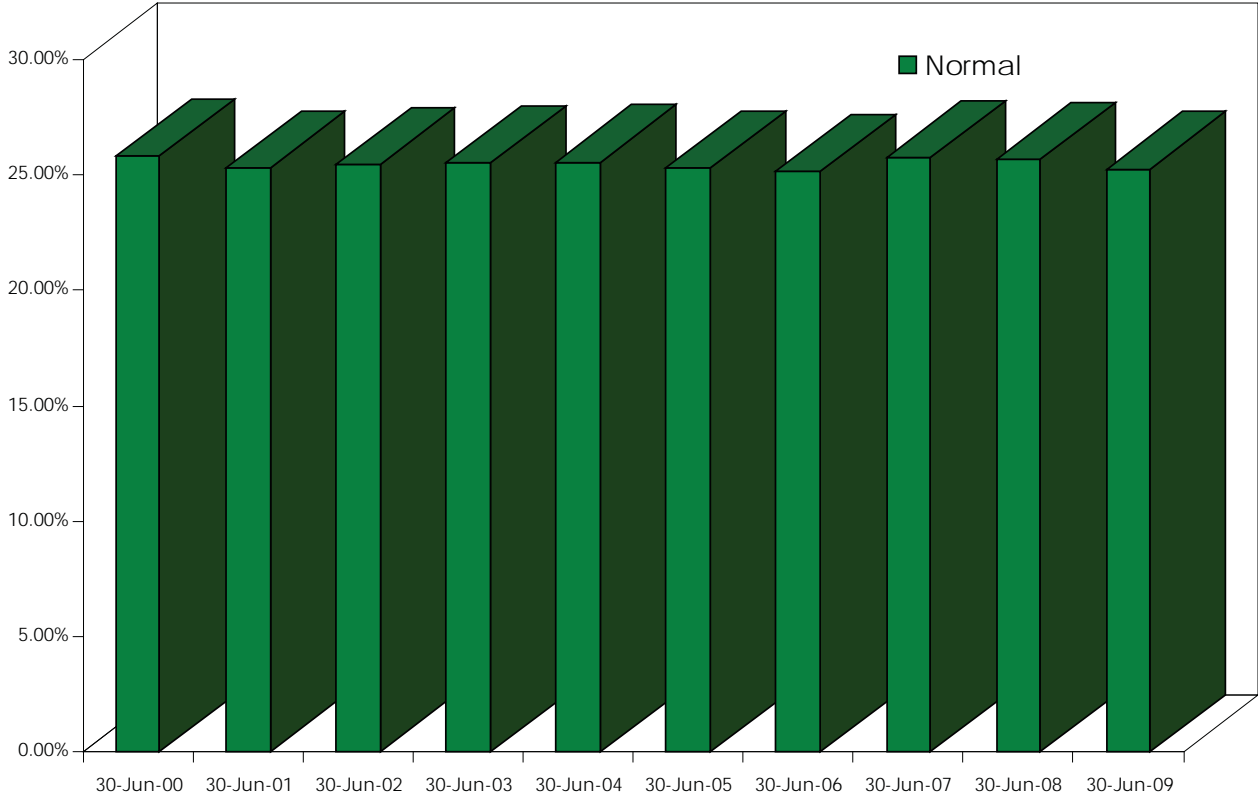
MAJOR PROVISIONS OF THE RETIREMENT PLAN

	Fire & Police First Tier	Fire & Police Second Tier														
Coverage	All Fire and Police employees hired on or after October 27, 1927, and before August 27, 1990	All Fire and Police employees hired on or after August 27, 1990.														
Final Average Salary (FAS)	<p>A. Three-year final average salary; or</p> <p>B. Salary attached to rank average-service weighted compensation for each rank held.</p>	A. Highest three consecutive year average.														
Service Retirement	<p>Requirement: Age 50 and 10 years of Service, or age 60.</p> <p>Benefit: (1) and (2)</p> <ol style="list-style-type: none"> 1. 2¾% of FAS times years of service before age 50, not to exceed 20 years. 2. 2% of FAS times years of service after age 50, not to exceed 10 years <p>Maximum Benefit: 75% of FAS</p>	<p>Requirement: Age 50 and 5 years of service.</p> <p>Benefit:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Retirement Age</th> <th style="text-align: center;">Benefit Formula</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">50</td> <td style="text-align: center;">2.00% x FAS x service</td> </tr> <tr> <td style="text-align: center;">51</td> <td style="text-align: center;">2.14% x FAS x service</td> </tr> <tr> <td style="text-align: center;">52</td> <td style="text-align: center;">2.28% x FAS x service</td> </tr> <tr> <td style="text-align: center;">53</td> <td style="text-align: center;">2.42% x FAS x service</td> </tr> <tr> <td style="text-align: center;">54</td> <td style="text-align: center;">2.56% x FAS x service</td> </tr> <tr> <td style="text-align: center;">55 and over</td> <td style="text-align: center;">2.70% x FAS x service</td> </tr> </tbody> </table> <p>Maximum Benefit: 75% of FAS</p>	Retirement Age	Benefit Formula	50	2.00% x FAS x service	51	2.14% x FAS x service	52	2.28% x FAS x service	53	2.42% x FAS x service	54	2.56% x FAS x service	55 and over	2.70% x FAS x service
Retirement Age	Benefit Formula															
50	2.00% x FAS x service															
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52	2.28% x FAS x service															
53	2.42% x FAS x service															
54	2.56% x FAS x service															
55 and over	2.70% x FAS x service															
Deferred Retirement Option (DROP)	An employee who is age 50 with 10 years of service may join the DROP program which is in essence an alternative form of retirement distribution. Retirement amount is calculated and monthly deposits are made to the employee's DROP account while employee continues to work for a maximum of 10 years.	An employee who is age 50 with 5 years of service may join the DROP program which is in essence an alternative form of retirement distribution. Retirement amount is calculated and monthly deposits are made to the employee's DROP account while employee continues to work for a maximum of 10 years.														
Disability Retirement	<p>a. Requirements:</p> <ol style="list-style-type: none"> 1. Service-Connected: None 2. Non-Service Connected: 10 years of service. <p>b. Benefit:</p> <ol style="list-style-type: none"> 1. Service-Connected: 55% of FAS or service retirement, if higher. 2. Non-Service Connected: 1.65% x FAS x years of service, if exceeds 36.67% of FAS; or 36.67% of FAS; or service retirement, if higher. <p>Benefit reduced to the extent that income earned while on disability and the amount of the disability retirement benefits exceeds the current salary attached to the last rank held.</p>	<p>a. Requirements:</p> <ol style="list-style-type: none"> 1. Service-Connected: None 2. Non-Service Connected: 10 years of service. <p>b. Benefit:</p> <ol style="list-style-type: none"> 1. Service-Connected: 50% of FAS or service retirement, if higher. 2. Non-Service Connected: 1½% x FAS x years of service, if exceeds 1/3 of FAS; or 1/3 of FAS; or service retirement, if higher. <p>Benefit reduced to the extent that income earned while on disability and the amount of the disability retirement benefits exceeds the current salary attached to the last rank held.</p>														

MAJOR PROVISIONS OF THE RETIREMENT PLAN CONTINUED

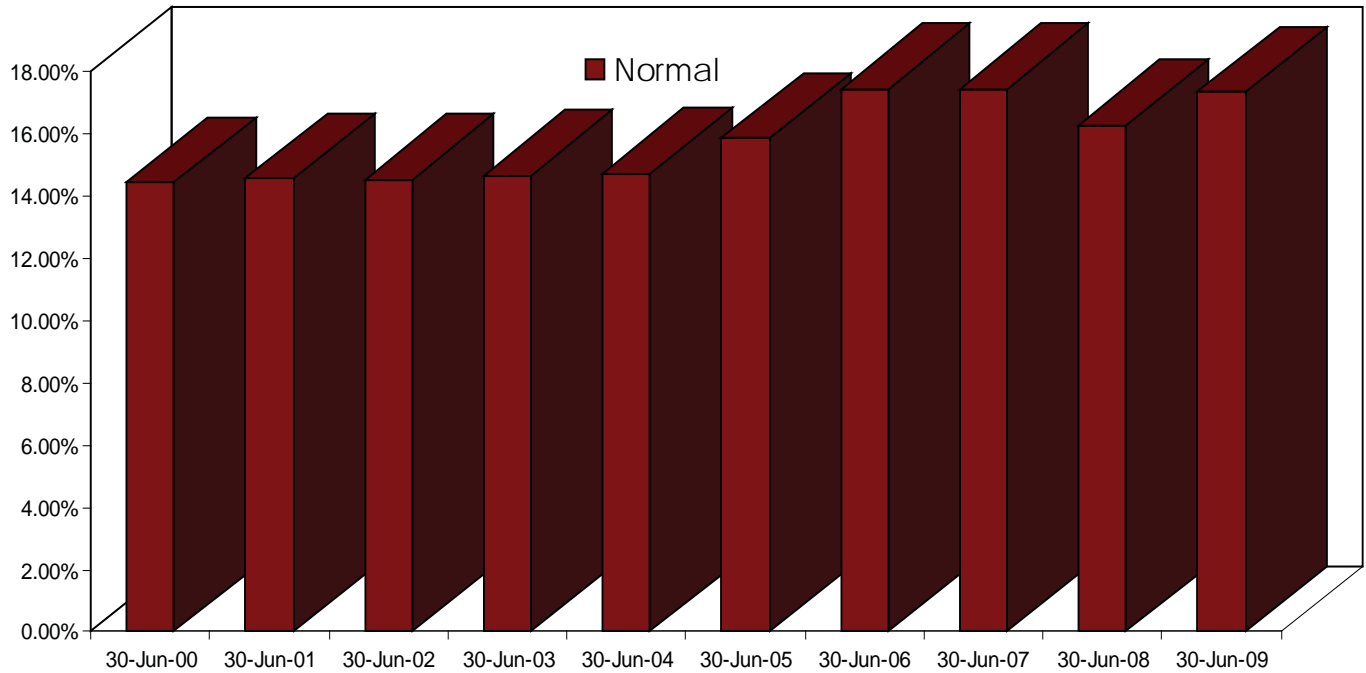
	Fire & Police First Tier	Fire and Police Second Tier
Death Before Retirement	<p>a. Before eligible to retire for disability (less than 5 years).</p> <ol style="list-style-type: none"> 1. One month's salary for each year of service, not-to-exceed 6 months. 2. Return of contributions with interest. <ol style="list-style-type: none"> a. While eligible to retire (after 10 years): 2/3 of Service or Non-Service-connected Disability Retirement Benefit. b. Service-Connected Death: 55% of FAS 	<p>a. Before eligible to retire (less than 5 years).</p> <ol style="list-style-type: none"> 1. One month's salary for each year of service, not-to-exceed 6 months. 2. Return of contributions with interest. <ol style="list-style-type: none"> a. While eligible to retire (after 5 years): 2/3 of Service or Non-Service-connected Disability Retirement Benefit b. Service-Connected Death: 50% of FAS
Death After Retirement	Two-thirds of the member's allowance continued to eligible spouse for life.	Two-thirds of the member's allowance continued to eligible spouse for life.
Withdrawal Benefits	<ol style="list-style-type: none"> a. If less than 10 years of service, return of contributions. b. If greater than 10 years of service, right to have vested deferred retirement benefit at normal retirement date. 	<ol style="list-style-type: none"> a. If less than 5 years of service, return of contributions. b. If greater than 5 years of service, right to have vested deferred retirement benefit.
Post Retirement Supplemental Benefit (PRSB)	On May 27, 1998, the City Council adopted the Post Retirement Supplemental Benefit ("PRSB") Program which is intended to provide assistance to retirees to pay for various post retirement expenses. Annually, after an actuarial study has been performed, the Retirement Board will review the availability of surplus earnings in the System and determine whether a benefit can be paid to eligible PRSB recipients. If a surplus is declared by the Board, PRSB benefit payments will be calculated for eligible recipients and payments for the following calendar year will begin in January.	On May 27, 1998, the City Council adopted the Post Retirement Supplemental Benefit ("PRSB") Program which is intended to provide assistance to retirees to pay for various post retirement expenses. Annually, after an actuarial study has been performed, the Retirement Board will review the availability of surplus earnings in the System and determine whether a benefit can be paid to eligible PRSB recipients. If a surplus is declared by the Board, PRSB benefit payments will be calculated for eligible recipients and payments for the following calendar year will begin in January.
Cost of Living Benefits	<ol style="list-style-type: none"> a. Based on the weighted mean average compensation attached to all ranks in the department, limited to a 5% maximum change per year, if based on three-year FAS. b. Based on salary increase for each rank held, if benefit was calculated on salary attached to average rank. 	<ol style="list-style-type: none"> a. Based on the Consumer Price Index for all Urban Wage Earners and all Clerical Workers (U.S. City Average), limited to a 3% change per year.
Member Contribution Rates	Varies based on entry age.	9% of Compensation.

HISTORY OF EMPLOYER CONTRIBUTION RATES (TIER I)



Fiscal Year	30-Jun-00	30-Jun-01	30-Jun-02	30-Jun-03	30-Jun-04	30-Jun-05	30-Jun-06	30-Jun-07	30-Jun-08	30-Jun-09
Normal	25.79%	25.29%	25.44%	25.52%	25.55%	25.26%	25.12%	25.71%	25.66%	25.25%
Prefunded Liability/ Prepaid Contributions	25.79%	25.29%	25.44%	25.52%	25.55%	25.26%	25.12%	20.33%	17.65%	17.93%
Net Employer Contribution	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.38%	8.01%	7.32%

HISTORY OF EMPLOYER CONTRIBUTION RATES (TIER II)



Fiscal Year	30-Jun-00	30-Jun-01	30-Jun-02	30-Jun-03	30-Jun-04	30-Jun-05	30-Jun-06	30-Jun-07	30-Jun-08	30-Jun-09
Normal	14.44%	14.57%	14.52%	14.67%	14.73%	15.86%	17.43%	17.43%	16.28%	17.34%
Prefunded Liability/Prepaid Contributions	14.44%	14.57%	14.52%	14.67%	14.73%	15.86%	17.43%	12.05%	8.27%	10.02%
Net Employer Contribution	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.38%	8.01%	7.32%