

**EL PASO FIREMEN'S PENSION FUND**

**ACTUARIAL VALUATION**

**AS OF JANUARY 1, 2010**

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**Summary of Principal Results**

	January 1, 2010	January 1, 2008
<b>Membership</b>		
Active	812	784
Terminated with deferred benefits	3	1
Retired paid from fund	593	562
<b>Compensation*</b>		
Total	\$ 48,172,561	\$ 41,165,230
Average	\$ 59,326	\$ 52,507
<b>Assets</b>		
Market value	\$ 381,332,132	\$ 337,288,363
Actuarial value	\$ 403,748,151	\$ 317,924,960
<b>Valuation Results</b>		
Unfunded actuarial accrued liability	\$ 89,572,311	\$ 114,013,651
Funding period	49 years	Never
30-year funding cost (City)	22.55 %	29.95 %
Margin	(4.05)%	(11.45)%
<b>GASB No. 25</b>		
Actuarial accrued liability (AAL)	\$ 493,320,462	\$ 431,938,611
Assets (actuarial)	\$ 403,748,151	\$ 317,924,960
GASB ratio	81.8 %	73.6 %
Unfunded AAL	\$ 89,572,311	\$ 114,013,651

\* In 2008, compensation is rate of pay at valuation date. In 2010, compensation is expected first year compensation.

## Comments on the Valuation

### *Overview*

The current contribution rates are not sufficient to meet the 30-year funding period required under GASB No. 25, based on the current membership data, the current financial data, the current benefit provisions and the actuarial assumptions and methods used to determine liabilities and costs.

Section 14A of Article 6243b (Vernon's Annotated Texas Statute) requires that the actuary determine any additional contribution rate necessary to amortize the unfunded actuarial accrued liability, as defined in GASB No. 25, over a 40-year period. Based on this January 1, 2010 valuation, we have determined that the current contribution rates as a percentage of wages would have to be increased to satisfy the 40-year funding period of Section 14A by 0.58% and 0.47% for the City and Members, respectively.

Section 3 shows in more detail the changes to the unfunded actuarial accrued liability (UAAL), the funding cost, and the funding period based on the current contribution rates.

### *Funding Status*

There are two significant measures of the funding status of the Fund. The first is the 30-year funding cost. This is the City contribution rate required to pay the normal cost and to amortize the UAAL over a 30-year period. As you can see, this rate is currently 22.55% compared with the City's actual contribution rate of 18.50% and the 30-year funding cost in 2008 of 29.95%. Section 3 shows a reconciliation of the changes between the 2008 and 2010 figures.

The other measure is the funding period. This is the length of time in years that will be required to amortize the current UAAL based on the current contribution rate. This period was infinite in 2008 but is 49 years based on the 2010 valuation.

The UAAL is the excess of the liability assigned to prior years (the actuarial accrued liability) over the value of assets. Section 3 shows a reconciliation of this amount between 2008 and 2010.

### *GASB Statement No. 25*

Section 4 provides information required for reporting under GASB No. 25. The GASB funded ratio increased from 73.6% as of January 1, 2008 to 81.8% as of January 1, 2010. The additional contributions from the City (approximately \$73,000,000) were the primary cause for this increase.

### ***Benefit Provisions***

Schedule B summarizes all the benefit provisions of the fund. There are no significant benefits which were not taken into account in this valuation.

The provisions were changed on June 30, 2007 so that members of the Fund on or prior to June 30, 2007 are eligible for the Base Plan and members of the Fund on or after July 1, 2007 are eligible for the Second-Tier Plan.

There were no changes in the provisions since the last actuarial valuation.

### ***Actuarial Assumptions and Methods***

Schedule C describes all of the assumptions used for this valuation. An experience study was performed as of January 1, 2010. As recommended in that study, the Board adopted assumption changes to better reflect anticipated experience of the Fund.

### ***GASB Statement No. 27***

Under GASB Statement No. 27, employers must determine a pension expense based on a 30-year amortization of the UAAL. The amortization can assume payroll growth due to inflation, but no membership growth. Prior to 2006, the pension expense under GASB No. 27 was determined based on a 40-year amortization of the UAAL. If the actual contribution rate is less than the rate required by GASB No. 27, the excess must be expensed. This will result in the employer showing an accrued but unpaid liability for pension benefits on its financial statements.

The annual required contribution under GASB No. 25 is 22.55% of wages. The City must contribute 22.55% of wages plus an adjustment for any pension asset or obligation to avoid any changes in its net pension asset or obligation.

### ***Financial Data***

The financial data used in this report was supplied by the Fund's staff.

Section 5 reconciles the Fund's assets between 2008 and 2010 and shows the development of the actuarial value of assets (AVA). Rather than using the market value for cost calculations, we use an adjusted market value, which phases in gains and losses (compared to the assumed investment return rate) over five years. This method is designed to reduce the volatility of the results.

Historical returns and experience are also summarized in Section 5.

*Membership statistics*

Data on active members and on retired members was supplied by the Fund's staff. The active membership increased from 784 to 812 between 2008 and 2010, a 3.6% increase over the two year period, while payroll grew from \$41.2 million to \$48.2 million over the same period, a 17% increase. Schedule A shows a summary of the membership data.

**Actuarial Cost, Margin and Funding Period**

	January 1, 2010	January 1, 2008
1. Covered Payroll*	\$ 48,172,561	\$ 41,165,230
2. Actuarial present value of future pay	\$ 477,333,230	\$ 430,163,000
3. Current contribution rates		
a. City	18.50 %	18.50 %
b. Member	15.28 %	15.28 %
c. Total	33.78 %	33.78 %
4. Normal cost rate		
a. Total (before adjustment for overtime)	28.49 %	30.12 %
b. Total (after adjustment for overtime)	27.39 %	29.90 %
c. Member contribution rate	15.28 %	15.28 %
d. Employer normal cost rate (4b - 4c)	12.11 %	14.62 %
5. Actuarial present value of future benefits	\$ 629,312,699	\$ 561,503,707
6. Actuarial present value of future normal costs (4a x 2)	\$ 135,992,237	\$ 129,565,096
7. Actuarial accrued liability (5 - 6)	\$ 493,320,462	\$ 431,938,611
8. Actuarial value of assets	\$ 403,748,151	\$ 317,924,960
9. Unfunded actuarial accrued liability (UAAL) (7 - 8)	\$ 89,572,311	\$ 114,013,651
10. 30-year funding cost for City**		
a. Employer normal cost rate (4d)	12.11 %	14.62 %
b. Amortization rate	10.44 %	15.33 %
c. Total	22.55 %	29.95 %
11. Margin over/(under) 30-year cost (3a - 10c)**	(4.05)%	(11.45)%
12. Funding period to amortize UAAL**	49 years	never

\* In 2008, covered payroll is rate of pay at valuation date. In 2010, covered payroll is expected first year compensation.

\*\* 30-year funding cost is necessary for accounting purposes only. The actual funding period is calculated based on level contributions and reflects the provisions of the second-tier plan for Members hired after June 30, 2007.

### Analysis of Change in UAAL

1. UAAL as of January 1, 2008	\$ 114,013,651
2. Changes due to:	
a. Expected increase (negative amortization)	\$ 15,283,464
b. Actual contributions greater than expected	(72,731,170)
c. Liability experience	(7,059,841)
d. Assumption changes	10,959,319
e. Asset experience	<u>29,106,888</u>
Total Changes	\$ (24,441,340)
3. UAAL as of January 1, 2010	\$ 89,572,311

### Analysis of Change in Funding Cost

1. 30-year funding cost as of January 1, 2008	29.95 %
2. Changes due to:	
a. Actual contributions greater than expected	(8.51)%
b. Liability experience	(1.98)%
c. Assumption changes	(0.32)%
d. Asset experience	<u>3.41 %</u>
Total	(7.40)%
3. 30-year funding cost as of January 1, 2010	22.55 %

### Analysis of Change in Funding Period

1. Funding period as of January 1, 2008	never
2. Changes due to:	
a. Passage of time	
b. Actual contributions greater than expected	
c. Liability experience	
d. Assumption changes	
e. Asset experience	
Total	
3. Funding period as of January 1, 2010	49 years

**GASB #25 Disclosure Amounts as of January 1, 2010**

<u>Period Ending</u>	<u>Actuarial Value of Assets</u>	<u>Actuarial Liability (AAL)- Entry Age</u>	<u>Unfunded AAL (UAAL)</u>	<u>Funded Ratio</u>	<u>Covered Payroll</u>	<u>UAAL as a Percentage of Covered Payroll</u>
December 31, 2004						
December 31, 2005	\$ 215.0	\$ 374.5	\$ 159.5	57.4%	\$ 38.3	416.4%
December 31, 2006						
December 31, 2007	317.9	431.9	114.0	73.6%	41.2	276.7%
December 31, 2008						
December 31, 2009	403.7	493.3	89.6	81.8%	48.2	185.9%

**GASB #25 Schedule of Employer Contributions  
 for Period Ending December 31, 2009**

<u>Period Ending</u>	<u>Annual Required Contribution</u>	<u>Percentage Contributed</u>
December 31, 2004	\$ 13,019,605	57%
December 31, 2005	13,807,421	56%
December 31, 2006	15,343,321	52%
December 31, 2007	15,794,257	404%
December 31, 2008	13,255,005	65%
December 31, 2009	14,998,356	517%

**Reconciliation of Fund Assets**

	Period Ending	
	December 31, 2009	December 31, 2008
1. Value of fund at beginning of period	\$ 247,929,978	\$ 337,288,363
2. Contributions		
a. City	77,501,349	8,607,484
b. Member	7,672,808	7,529,739
c. Total	\$ 85,174,157	\$ 16,137,223
3. Benefit payments	(21,308,978)	(20,047,854)
4. Earnings	71,194,161	(84,915,578)
5. Administrative expenses	(1,657,186)	(532,176)
6. Value of assets at end of period	\$ 381,332,132	\$ 247,929,978

**Determination of Excess Earnings to Be Deferred**

	Period Ending	
	December 31, 2009	December 31, 2008
1. Market value at beginning of period	\$ 247,929,978	\$ 337,288,363
2. Net new investments		
a. City contributions	\$ 77,501,349	\$ 8,607,484
b. Member contributions	7,672,808	7,529,739
c. Benefit payments	(21,308,978)	(20,047,854)
d. Total	\$ 63,865,179	\$ (3,910,631)
3. Weighted new investments (2d x 50%)	\$ 31,932,590	\$ (1,955,316)
4. Assets available (1 + 3)	\$ 279,862,568	\$ 335,333,047
5. Assumed investment return rate	8.00%	8.00%
6. Expected net return (4 x 5)	\$ 22,389,005	\$ 26,826,644
7. Actual net return		
a. Total investment return	\$ 71,194,161	\$ (84,915,578)
b. Administrative expenses	(1,657,186)	(532,176)
c. Net return	\$ 69,536,975	\$ (85,447,754)
8. Gains/(losses) subject to deferral (7c - 6)	\$ 47,147,970	\$(112,274,398)

### Calculation of Actuarial Value of Assets

1. Market value of assets as of December 31, 2009 \$ 381,332,132

2. Deferral amounts

	<u>Year</u>	<u>Total Gain/(Loss)</u>	<u>Percent Deferred</u>	<u>Deferral Amount</u>
a.	2009	\$ 47,147,970	80%	\$ 37,718,376
b.	2008	(112,274,398)	60%	(67,364,639)
c.	2007	9,846,563	40%	3,938,625
d.	2006	16,458,094	20%	3,291,619
e.	Total			\$ (22,416,019)

3. Actuarial value of assets (1 - 2e) \$ 403,748,151

Summary of Asset Experience and Yield on Market Value of Assets

			Beginning of Year Market Value	Employer Plus Employee Contributions to Fund	Benefit Disbursements from Fund (Including Refund of Contributions)	Net Earnings on Fund (6)-(2)+(4)-(3)	End of Year Market Value	Annualized Yield Based on Market Value
	Plan Year		(2)	(3)	(4)	(5)	(6)	(7)
	(1)							
3/1/1966	thru	2/28/1967	\$ 1,547,208	\$ 370,095	\$ 182,298	\$ 32,663	\$1,767,668	1.99%
3/1/1967	thru	2/29/1968	1,767,668	380,444	192,195	86,728	2,042,645	4.66
3/1/1968	thru	2/28/1969	2,042,645	593,198	208,366	121,904	2,549,381	5.45
3/1/1969	thru	8/31/1969	2,549,381	280,772	106,614	(6,609)	2,716,930	(0.50)
9/1/1969	thru	8/31/1970	2,716,930	768,543	227,417	(30,712)	3,227,344	(1.03)
9/1/1970	thru	8/31/1971	3,227,344	799,479	234,759	296,867	4,088,931	8.46
9/1/1971	thru	8/31/1972	4,088,931	893,998	251,884	211,612	4,942,657	4.80
9/1/1972	thru	8/31/1973	4,942,657	1,055,881	272,197	(295,827)	5,430,514	(5.55)
9/1/1973	thru	8/31/1974	5,430,514	1,113,313	318,569	(1,123,014)	5,102,244	(19.27)
9/1/1974	thru	8/31/1975	5,102,244	1,207,931	390,572	1,137,268	7,056,871	20.64
9/1/1975	thru	8/31/1976	7,056,871	1,337,359	493,835	1,044,645	8,945,040	13.97
9/1/1976	thru	8/31/1977	8,945,040	1,577,958	609,556	263,996	10,177,438	2.80
9/1/1977	thru	8/31/1978	10,177,438	1,776,875	763,734	95,253	11,285,832	0.89
9/1/1978	thru	8/31/1979	11,285,832	1,972,493	862,797	1,093,021	13,488,549	9.23
9/1/1979	thru	8/31/1980	13,488,549	1,004,483	1,003,091	2,363,277	15,853,218	17.52
9/1/1980	thru	8/31/1981	15,853,218	2,420,405	1,233,471	925,838	17,965,990	5.63
9/1/1981	thru	8/31/1982	17,965,990	2,839,208	1,567,891	1,810,233	21,047,540	9.73
9/1/1982	thru	8/31/1983	21,047,540	3,086,224	1,892,082	3,085,445	25,327,127	14.26
9/1/1983	thru	8/31/1984	25,327,127	3,373,113	2,000,420	3,000,669	29,700,489	11.54
9/1/1984	thru	12/31/1984	29,700,489	915,457	720,809	1,780,169	31,675,306	19.01
1/1/1985	thru	12/31/1985	31,675,306	24,605,901	22,995,801	7,284,906	40,570,312	22.43
1/1/1986	thru	12/31/1986	40,570,312	6,238,743	5,833,057	8,054,718	49,030,716	19.75
1/1/1987	thru	12/31/1987	49,030,716	4,399,173	2,623,305	1,272,708	52,079,292	2.55
1/1/1988	thru	12/31/1988	52,079,292	4,332,419	3,358,360	3,938,446	56,991,797	7.49
1/1/1989	thru	12/31/1989	56,991,797	4,613,241	3,980,955	10,755,980	68,380,063	18.77
1/1/1990	thru	12/31/1990	68,380,063	4,964,139	4,364,185	3,223,512	72,203,529	4.69
1/1/1991	thru	12/31/1991	72,203,529	5,370,948	4,731,758	13,537,940	86,380,659	18.67
1/1/1992	thru	8/31/1992	86,380,659	3,984,655	3,408,292	2,245,838	89,202,860	3.91
9/1/1992	thru	8/31/1993	89,202,860	6,114,853	5,731,676	11,379,020	100,965,057	12.73
9/1/1993	thru	8/31/1994	100,965,057	6,370,197	6,467,470	3,826,728	104,694,512	3.79
9/1/1994	thru	8/31/1995	104,694,512	6,378,848	6,977,688	11,150,010	115,245,682	10.68
9/1/1995	thru	8/31/1996	115,245,682	6,871,024	7,459,968	8,855,917	123,512,655	7.70
9/1/1996	thru	8/31/1997	123,512,655	7,236,916	8,380,348	25,587,041	147,956,264	20.81
9/1/1997	thru	8/31/1998	147,956,264	7,438,353	9,394,749	(3,494,009)	142,505,859	(2.38)
9/1/1998	thru	6/30/1999	142,505,859	6,480,485	8,376,426	29,017,367	169,627,285	25.08
7/1/1999	thru	6/30/2000	169,627,285	8,087,144	10,577,992	7,740,233	174,876,670	4.60
7/1/2000	thru	6/30/2001	174,876,670	8,814,568	11,098,252	529,864	173,122,850	0.30
7/1/2001	thru	6/30/2002	173,122,850	9,581,909	12,265,846	(6,232,926)	164,205,987	(3.63)
7/1/2002	thru	6/30/2003	164,205,987	10,681,239	13,312,583	5,409,823	166,984,466	3.32
7/1/2003	thru	12/31/2003	166,984,466	5,965,660	6,867,584	18,137,881	184,220,423	22.97
1/1/2004	thru	12/31/2004	184,220,423	13,397,445	14,368,403	22,696,133	205,945,598	12.35
1/1/2005	thru	12/31/2005	205,945,598	14,060,139	15,278,655	16,456,483	221,183,565	8.01

**Summary of Asset Experience and Yield on Market Value of Assets (continued)**

		<u>Plan Year</u>	<u>Beginning of Year Market Value</u>	<u>Employer Plus Employee Contributions to Fund</u>	<u>Benefit Disbursements from Fund (Including Refund of Contributions)</u>	<u>Net Earnings on Fund (6)-(2)+(4)-(3)</u>	<u>End of Year Market Value</u>	<u>Annualized Yield Based on Market Value</u>
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
1/1/2006	thru	12/31/2006	221,183,565	14,652,563	16,791,226	34,067,233	253,112,135	15.48%
1/1/2007	thru	12/31/2007	253,112,135	70,379,603	18,378,936	32,175,561	337,288,363	11.53
1/1/2008	thru	12/31/2008	337,288,363	16,137,223	20,047,854	(85,447,754)	247,929,978	(25.48)
1/1/2009	thru	12/31/2009	247,929,978	85,174,157	21,308,978	69,536,975	381,332,132	24.85

**Membership Data**

	<u>January 1, 2010</u>	<u>January 1, 2008</u>
1. Active members		
a. Number of males	801	773
b. Number of females	<u>11</u>	<u>11</u>
c. Total	812	784
d. Total payroll*	\$ 48,172,561	\$ 41,165,230
e. Average annual pay*	59,326	52,507
f. Average age	38.1	37.6
g. Average service (years)	11.2	10.9
h. Total accumulated member contributions	57,380,276	48,565,868
i. Average member contributions	70,665	61,946
2. Inactive members		
a. Number currently being paid from fund	596	562
b. Number entitled to deferred benefits	<u>3</u>	<u>1</u>
c. Total number of inactive members	596	563
d. Total current annual benefit	\$ 21,165,906	\$ 19,042,002
e. Average current annual benefit	35,513	33,822
f. Average age	63.5	64.0

\* In 2008, total payroll is rate of pay at valuation date. In 2010, total payroll is expected first year compensation.

El Paso Firemen's Pension Fund  
 Actuarial Valuation - January 1, 2010

Schedule A  
 (continued)

AGE	YEARS OF SERVICE											Total			
	Under 1	1 to 4	5 to 9	10 to 14	15 to 19	20 to 24	25 to 29	30 to 34	35 to 39	40 & Up					
Under 25	0	55	1	0	0	0	0	0	0	0	0	0	0	0	56
	0	39,087	45,290	0	0	0	0	0	0	0	0	0	0	0	
25 to 29	0	62	32	1	0	0	0	0	0	0	0	0	0	0	95
	0	39,829	48,729	55,285	0	0	0	0	0	0	0	0	0	0	
30 to 34	0	39	73	21	0	0	0	0	0	0	0	0	0	0	133
	0	40,957	53,067	61,709	0	0	0	0	0	0	0	0	0	0	
35 to 39	0	14	64	63	33	0	0	0	0	0	0	0	0	0	174
	0	44,764	55,104	61,914	68,197	0	0	0	0	0	0	0	0	0	
40 to 44	0	13	40	42	82	13	0	0	0	0	0	0	0	0	190
	0	42,827	57,753	63,435	67,348	78,615	0	0	0	0	0	0	0	0	
45 to 49	0	6	15	4	31	37	15	0	0	0	0	0	0	0	108
	0	66,603	59,885	57,171	66,575	69,769	81,232	0	0	0	0	0	0	0	
50 to 54	0	0	6	0	0	13	16	2	0	0	0	0	0	0	37
	0	0	63,922	0	0	70,118	70,845	67,516	0	0	0	0	0	0	
55 to 59	0	1	3	0	0	1	7	2	2	0	0	0	0	0	16
	0	38,033	62,638	0	0	66,170	66,429	83,466	90,363	0	0	0	0	0	
60 to 64	0	0	1	0	0	0	0	2	0	0	0	0	0	0	3
	0	0	57,673	0	0	0	0	69,835	0	0	0	0	0	0	
65 to 69	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	
70 & Up	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	
Total	0	190	235	131	146	64	38	6	2	0	0	0	0	0	812

THE NUMBER AND ANNUAL RETIREMENT  
 ALLOWANCES OF RETIRED MEMBERS,  
 DISABLED MEMBERS AND BENEFICIARIES  
 BY AGE AS OF JANUARY 1, 2010

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
15	1	\$ 9,015	\$ 9,015
17	3	7,854	2,618
18	2	9,225	4,613
19	2	11,524	5,762
20	7	53,432	7,633
34	1	17,492	17,492
39	1	25,695	25,695
40	2	57,262	28,631
41	1	27,044	27,044
42	1	27,675	27,675
43	1	20,380	20,380
44	2	60,023	30,012
45	3	92,346	30,782
46	3	120,116	40,039
47	7	319,106	45,587
48	11	389,013	35,365
49	8	306,474	38,309
50	15	720,695	48,046
51	15	612,203	40,814
52	12	490,908	40,909
53	13	534,421	41,109
54	19	781,205	41,116
55	25	1,017,064	40,683
56	22	937,612	42,619
57	24	938,749	39,115
58	22	853,750	38,807
59	17	718,491	42,264
60	14	633,601	45,257
61	20	881,858	44,093
62	19	773,875	40,730
63	15	624,172	41,611
64	11	459,045	41,731
65	9	317,815	35,313

THE NUMBER AND ANNUAL RETIREMENT  
 ALLOWANCES OF RETIRED MEMBERS,  
 DISABLED MEMBERS AND BENEFICIARIES  
 BY AGE AS OF JANUARY 1, 2010

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
66	14	\$ 523,428	\$ 37,388
67	14	593,501	42,393
68	20	682,348	34,117
69	20	717,358	35,868
70	18	653,994	36,333
71	22	878,751	39,943
72	16	546,012	34,126
73	19	668,418	35,180
74	19	654,143	34,429
75	12	308,160	25,680
76	10	256,109	25,611
77	11	303,756	27,614
78	8	216,038	27,005
79	9	219,206	24,356
80	10	292,191	29,219
81	11	289,199	26,291
82	3	117,881	39,294
83	5	81,008	16,202
84	2	18,097	9,049
85	10	165,508	16,551
86	3	45,540	15,180
87	3	14,859	4,953
88	1	7,626	7,626
89	2	9,600	4,800
90	1	10,866	10,866
93	1	5,100	5,100
94	1	4,800	4,800
TOTAL	593	\$ 21,132,637	\$ 35,637

THE NUMBER AND FUTURE ANNUAL  
ALLOWANCES OF TERMINATED MEMBERS,  
ENTITLED TO A FUTURE BENEFIT  
BY AGE AS OF JANUARY 1, 2010

AGE	NUMBER	BENEFIT	AVERAGE BENEFIT
47	1	\$ 17,533	\$ 17,533
43	2	15,736	7,868
TOTAL	3	\$ 33,269	\$ 11,090

**Summary of Benefit Provisions  
As of January 1, 2010**

**The Base Plan**

1. Wages: Base pay, plus longevity pay, incentive pay and overtime.
2. Final Wages: The average of the monthly wages, excluding overtime pay, on which a Member made contributions to the Pension Fund during the 36-month period preceding retirement, but not less than the 12-month monthly wages preceding June 30, 2007.
3. Member: Any person who has been or becomes enrolled as a fire fighter in the Fire Department of the City of El Paso on or prior to June 30, 2007.
4. Credited Service: The time for which a Member contributes to the Pension Fund.
5. Pension Fund: The El Paso Firemen's Pension Fund.
6. Qualified Spouse: The widow (widower) of a deceased Member.
7. Qualified Child or Children: The surviving, dependent children under 19 years of age (23 if a full-time student).
8. Contribution Rates: The active Member contributes 15.28% of their pre-tax wages per year. The City contributes 18.50% of the Member's wages per year (18.00% base contribution plus 0.50% contribution for Members hired after age 29).
9. Service Retirement Benefits:
  - a. Normal Retirement Benefit

Eligibility	Age 45 with 20 years of Credited Service.
Benefit	2.75% of Final Wages times years of Credited Service, not to exceed 77% of Final Wages.
  - b. Early Retirement Benefit

Eligibility	20 years of Credited Service.
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Benefit 2.75% of Final Wages times years of Credited Service, not to exceed 28 years, multiplied by the appropriate actuarial reduction factor. The actuarial reduction factors are as follows:

<u>Age</u>	<u>Factor</u>
44	.95
43	.90
42	.84
41	.78
40	.71
39	.63
38	.55

Other factors may be obtained by interpolation.

c. Deferred Retirement Benefit

Eligibility At least 10 years of Credited Service.

Benefit 2.75% of Final Wages for each year of Credited Service not to exceed 28 years. This benefit is payable commencing at age 50, or immediately upon termination of service if at least age 50 at termination.

d. Withdrawal (Refund) of Contributions

Eligibility 5 years of Credited Service.

Benefit Total employee contributions without interest. No other benefits are payable under the Plan once the contributions are withdrawn.

10. Survivor Benefits

a. Qualified Surviving Spouse Benefit

Eligibility Death of a Member who was active, retired, or eligible for a deferred retirement benefit.

Benefit 100% of Member's earned benefit at date of death, but not less than 50% of Final Wages. If there are qualified surviving children or Member was eligible for a deferred retirement benefit, the surviving spouse's benefit is reduced to 66-2/3%.

b. Qualified Surviving Children Benefit

Eligibility Death of a Member who was active, retired, or eligible for a deferred retirement benefit.

Benefit Two-thirds of the Member's earned benefit at date of death if there is no surviving spouse. If a surviving spouse is receiving a benefit, the above fraction is reduced to one-third.

11. Disability Retirement Benefit

Eligibility Total and permanent disability from an injury in the line of duty or any injury not due to the Member's own fault.

Benefit 2.75% of Final Wages times Credited Service, not to exceed 28 years, with a minimum benefit of 50% of Final Wages.

12. Minimum Benefits: Minimum pension benefit for any retiree or qualified spouse is \$400 per month.

13. Cost of Living Adjustment: Cost of living adjustments are applicable to those retiring after March 23, 1980. If the Member retires at age 60 or later, the retirement income will be increased by 3% per year beginning on the date of retirement and then on each January 1 thereafter. If the retirement age is 55 through 59, the 3% annual increase will begin when the Member reaches age 60. A 3% increase will also be given on each subsequent January 1. If the retirement age is prior to 55, the 3% annual increase will begin five years after the retirement date. The first increase begins on the anniversary date of the Member's retirement; thereafter increases will occur on each January 1. Cost-of-living increases are not granted for deferred retirements. For beneficiaries of an active member who dies in service, the initial increase will occur five years after the Member's death. Increases will occur on each January 1 thereafter.

14. Normal Form of Retirement Benefit:

- a. Single Member                      Life Annuity.
- b. Married Member                      100% joint-and-survivor annuity.

15. Back Deferred Retirement Option Program (Back DROP):

Members who are 50 years old and have over 20 and one half years of service can elect the Back DROP. The Back DROP benefit is a lump sum and a reduced monthly benefit. The reduced monthly benefit equals the benefit calculated at the beginning of the Back DROP period. The lump sum equals the number of months in the Back DROP period multiplied by the monthly benefit. The Back DROP period must be at least six months and not more than 36 months. After deducting the period of the Back DROP the member must still have 20 years of credited service for the calculation of their benefit.

**Summary of Benefit Provisions  
As of January 1, 2010**

**The Second-Tier Plan**

1. Wages: Base pay, plus longevity pay, incentive pay and overtime.
2. Final Wages: The average of the monthly wages, excluding overtime pay, on which a Member made contributions to the Pension Fund during the 36-month period preceding retirement.
3. Member: Any person who has been or becomes enrolled as a fire fighter in the Fire Department of the City of El Paso on or after July 1, 2007.
4. Credited Service: The time for which a Member contributes to the Pension Fund.
5. Pension Fund: The El Paso Firemen's Pension Fund.
6. Qualified Spouse: The widow (widower) of a deceased Member.
7. Qualified Child or Children: The surviving, dependent children under 19 years of age (23 if a full-time student).
8. Contribution Rates: The active Member contributes 15.28% of their pre-tax wages per year. The City contributes 18.50% of the Member's wages per year (18.00% base contribution plus 0.50% contribution for Members hired after age 29).
9. Service Retirement Benefits:
  - a. Normal Retirement Benefit

Eligibility	Age 50 with 25 years of Credited Service.
Benefit	2.50% of Final Wages times years of Credited Service.
  - b. Deferred Retirement Benefit

Eligibility	At least 10 years of Credited Service.
Benefit	2.50% of Final Wages for each year of Credited Service. This benefit is payable commencing at age 50, or immediately upon termination of service if at least age 50 at termination.

c. Withdrawal (Refund) of Contributions

Eligibility	5 years of Credited Service.
Benefit	Total employee contributions without interest. No other benefits are payable under the Plan once the contributions are withdrawn.

10. Survivor Benefits

a. Qualified Surviving Spouse Benefit

Eligibility	Death of a Member who was active, retired, or eligible for a deferred retirement benefit.
Benefit	75% of Member's earned benefit at date of death, but not less than 50% of Final Wages. If there are qualified surviving children or Member was eligible for a deferred retirement benefit, the surviving spouse's benefit is reduced to 50%.

b. Qualified Surviving Children Benefit

Eligibility	Death of a Member who was active, retired, or eligible for a deferred retirement benefit.
Benefit	50% of the Member's earned benefit at date of death if there is no surviving spouse. If a surviving spouse is receiving a benefit, the surviving children's benefit is reduced to 25%.

11. Disability Retirement Benefit

Eligibility	Total and permanent disability from an injury in the line of duty or any injury not due to the Member's own fault.
Benefit	2.50% of Final Wages times Credited Service with a minimum benefit of 50% of Final Wages.

12. Minimum Benefits: Minimum pension benefit for any retiree or qualified spouse is \$400 per month.

13. Cost of Living Adjustment: None.

14. Normal Form of Retirement Benefit

- |                   |                                |
|-------------------|--------------------------------|
| a. Single Member  | Life Annuity                   |
| b. Married Member | 75% joint and survivor annuity |

15. Back Deferred Retirement Option Program (Back DROP):

Members who are 50 and one half years old and have over 25 and one half years of service can elect the Back DROP. The Back DROP benefit is a lump sum and a reduced monthly benefit. The reduced monthly benefit equals the benefit calculated at the beginning of the Back DROP period. The lump sum equals the number of months in the Back DROP period multiplied by the monthly benefit. The Back DROP period must be at least six months and not more than 36 months. After deducting the period of the Back DROP the member must still have 25 years of credited service for the calculation of their benefit.

**Summary of Actuarial Methods and Assumptions  
 (Effective as of January 1, 2010)**

INVESTMENT RETURN: 7.75% per annum, compounded annually, net all expenses including administrative expenses. This rate reflects an underlying inflation rate of 3.50% and a real rate of return of 4.25%. Prior assumptions for 2008 were 8.00% per annum with inflation rate of 4.00% and real rate of return of 4.00%.

DEMOGRAPHIC ASSUMPTIONS: Representative values of the assumed annual rates of withdrawal, death, and disability are as follows:

Annual Rate per 1,000 Members

<u>Age</u>	<u>Withdrawal</u>	<u>Mortality - Disableds</u>		<u>Mortality - Other</u>		<u>Disability</u>
		<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>	
20	20.0	48.30	26.30	0.46	0.28	1.30
25	20.0	48.30	26.30	0.59	0.29	1.50
30	10.0	36.20	23.70	0.75	0.35	2.00
35	10.0	27.80	21.40	0.85	0.48	2.70
40	10.0	28.20	20.90	0.94	0.71	3.80
45	5.0	32.20	22.40	1.35	0.97	5.80
50	0.0	38.30	25.70	2.10	1.43	9.80
60	0.0	60.30	33.10	6.30	4.44	0.00
70	N/A	73.90	41.10	19.86	13.73	N/A
80	N/A	112.80	74.60	50.21	39.40	N/A

The withdrawal and male mortality rates have been revised since the previous valuation.

SALARY INCREASES: Representative values of the assumed annual rates of future salary increase attributable to longevity and promotion are as follows:

<u>Years of Service</u>	<u>Annual Rate of Salary Increase</u>
1	10.75%
11	5.60
21	4.50
31	4.50
41	4.50

The salary increases have changed since the prior valuation.

Total payroll is assumed to increase 3.50% per year. This is a change from the previous assumption of 4.00%. New hires are assumed to replace terminations.

Overtime is assumed to be 4.00% of base, incentive, and longevity pay. The City and Members contribute on total pay including overtime. This assumption has changed from the previous assumption of 0.75% to be more consistent with past experience.

RETIREMENT RATES: The percentage of population assumed to retire at various ages is as follows:

**The Base Plan**

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
42	5.0%	48	15.0%	54	20.0%
43	10.0	49	15.0	55	30.0
44	10.0	50	25.0	56	40.0
45	20.0	51	15.0	57	40.0
46	10.0	52	15.0	58	40.0
47	10.0	53	20.0	59	40.0
				60	100.0

The above rates for the Base Plan were changed since the previous valuation.

**The Second-Tier Plan**

<u>Age</u>	<u>Rate</u>	<u>Age</u>	<u>Rate</u>
50	60.0%	56	40.0%
51	20.0	57	40.0
52	20.0	58	40.0
53	20.0	59	40.0
54	20.0	60	100.0
55	30.0		

SPOUSES: 100% of active members are assumed to be married with the male three years older than the female. No children's benefits were valued because of the assumption that 100% of members are married.

POST RETIREMENT COST OF LIVING: 3% of pension annually for Members in the Base Plan, as defined in the Summary of Plan Provisions.

FUTURE EXPENSES: All expenses, investment and administration, are paid from the Fund. The 7.75% assumed rate of return is net of these expenses.

**VALUATION METHOD:** The method used to determine Normal Cost and Accrued Actuarial Liability is the Entry Age Normal Cost Method. Under the Entry Age Normal Cost Method, an annual Normal Cost is determined for each covered active Member which is the contribution required to provide all the projected pension benefits assuming this contribution is payable over a period ending on the date of retirement (separation from active service) and expressed as a level percentage of compensation. The Actuarial Accrued Liability is determined as the excess of the total present value of all pension benefits over the total present value of future Normal Costs. The Unfunded Actuarial Accrued Liability as of the valuation date is determined as the excess of the Actuarial Accrued Liability over the assets of the Fund.

The Normal Cost and Accrued Actuarial Liability are derived by making certain assumptions as to the rates of interest, mortality, turnover, etc., which are assumed to reflect experience for many years into the future. Since actual experience will differ from the assumptions, the costs determined must be regarded as estimates of the true costs of the Plan. The effects of any actuarial gains or losses are immediately reflected in the Unfunded Actuarial Accrued Liability and the Normal Cost.

**ACTUARIAL VALUE OF ASSETS:** The actuarial value of assets is calculated based on the following formula:

$$MV - (8/10) \times G/(L)_1 - (6/10) \times G/(L)_2 \\ - (4/10) \times G/(L)_3 - (2/10) \times G/(L)_4$$

where:

MV = the market value of assets as of the valuation date

$G/(L)_i$  = the asset gain or (loss) (i.e., actual return on assets less expected return on assets) for the i-th year preceding the valuation date.