

**City of Pasadena
Retiree Health Program
Actuarial Valuation**

As of June 30, 2010

Prepared by:

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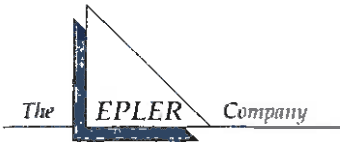
November 2010



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Section I. Executive Summary

Background

The City of Pasadena (the "City") selected The Epler Company to perform an updated actuarial valuation of its retiree health program. The purpose of the actuarial valuation is to measure the City's liability for retiree health benefits and to determine the City's accounting requirements for other post-employment benefits (OPEB) under Governmental Accounting Standards Board Statements No. 43 & 45 (GASB 43 and GASB 45). GASB 45 requires accrual accounting for the expensing of OPEB. The expense is generally accrued over the working career of employees. GASB 43 requires additional financial disclosure requirements for funded OPEB Plans. The City adopted GASB 45 accounting commencing in its fiscal year ending June 30, 2008.

The City currently provides retiree health benefits to 1,913 active and 499 retired employees through the CalPERS Health Program. The City pays a subsidy for eligible retirees who are members of the California Public Employees' Retirement System or the Pasadena Fire and Police Retirement System. Benefit provisions are established and amended through negotiations between the City and the employee unions. There are currently two levels of subsidies provided to eligible retirees electing to continue medical insurance. The subsidy amounts are the minimum required employer contribution under Public Employees' Medical and Hospital Care Act (PEMHCA) (currently \$105.00 per month) or a portion of the minimum required employer contribution (currently \$23.50 per month). The \$23.50 amount is scheduled to increase in the future to the minimum required employer contribution under PEMCHA. The minimum required employer contribution under PEMCHA is scheduled to increase each year based on the medical portion of CPI. The subsidy amount provided depends on the bargaining unit or the unrepresented group the employee was a member during employment with the City.

Section IV of the report details the plan provisions that were included in the valuation. Section V of the report provides data statistics of the covered population included in the valuation.

Results of the Retiree Health Valuation

We have determined that the amount of the actuarial liability for the City's retiree health benefits, as of June 30, 2010 is \$40,620,029 (\$19,158,664 for the \$23.50 subsidy and \$21,461,365 for the \$105 subsidy). This amount represents the present value of all benefits or contributions projected to be paid by the City for current and future retirees. If the City were to place this amount in a fund earning interest at the rate of 4% per year, and all other actuarial assumptions were exactly met, the fund would have exactly enough to pay all expected benefits or contributions. This amount includes benefits or contributions for the current retirees as well as the current active employees expected to retire in the future. The valuation does not consider employees not yet hired as of the valuation date. If the amount of the actuarial liability is apportioned into past service, future service and current service components, the past service component (actuarial accrued liability) is \$30,819,156 (\$14,180,248 for the \$23.50 subsidy and \$16,638,908 for the \$105 subsidy), the future service component is \$8,574,842 (\$4,294,515 for the \$23.50 subsidy and \$4,280,327 for the \$105 subsidy) and the current service component (normal cost) is \$1,226,031 (\$683,901 for the \$23.50 subsidy and \$542,130 for the \$105 subsidy).

The City's current funding policy is to fund its subsidy for retiree health benefits on a pay-as-you-go basis and currently has no GASB eligible plan assets. The unfunded actuarial accrued liability/(asset) at June 30, 2010 is \$30,819,156.

Annual Required Contribution

The City's annual required contribution (ARC) for the fiscal year ending June 30, 2010 is \$3,004,444. The ARC is comprised of the present value of benefits accruing in the current fiscal year (normal cost with interest) plus a 28-year amortization (on a level-dollar basis) of the unfunded actuarial accrued liability at June 30, 2010. Thus, it represents a means to expense the plan's liabilities in an orderly manner. The increase in the net OPEB obligation at the end of the fiscal year will reflect any actual contributions made by the City during the period for retiree health benefits including any pre-funding amounts.

Changes from Prior Valuation

The results of the valuation reflect updated census and premium information. In addition, the valuation reflects a change in the future increases to the \$23.50 subsidy and changes to the actuarial assumptions used in the valuation. The \$23.50 subsidy is assumed to increase to 25% of the minimum required contribution in 2011 and an additional 5% per year to 100% in 2026. The

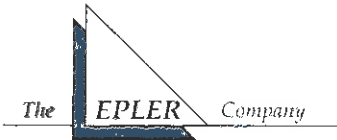
demographic assumptions have been updated to reflect the mortality, turnover, disability and retirement rates from the 2009 CalPERS experience study. In addition, the assumption for future medical price inflation was lowered from 5% to 4%. Finally, the spousal participation assumptions (percentage of retirees electing spousal coverage) were decreased to reflect the City's actual experience. A reconciliation of the approximate changes in the liabilities and the annual required contribution (ARC) from the prior valuation is provided below:

	Actuarial Liability	Actuarial Accrued Liability	ARC
June 30, 2008 Valuation@4%	\$34.2M	\$23.7M	\$2,506,832
Increase due to passage of time	\$ 2.0M	\$ 3.6M	
Net demographic and economic experience gain	<u>(\$ 2.0M)</u>	<u>(\$ 2.7M)</u>	
June 30, 2010 Valuation@4% - Prior to Subsidy & Assumption Changes	\$34.2M	\$24.6M	\$2,624,216
Change in future increases to \$23.50 subsidy	\$19.2M	\$14.1M	\$1,355,174
Change in healthcare trend assumption	(\$11.0M)	(\$ 7.4M)	(\$ 839,325)
Change in demographic assumptions	<u>(\$ 1.8M)</u>	<u>(\$ 0.5M)</u>	<u>(\$ 135,621)</u>
June 30, 2010 Valuation@4% - Post Subsidy & Assumption Changes	\$40.6M	\$30.8M	\$3,004,444

Funding

The City has not informed us of any funds eligible as plan assets under GASB 45. Under GASB 45, assets cannot be considered as employer contributions or plan assets unless they are segregated for exclusive use for retiree health benefit payments and secured from creditors of the City.

The City may evaluate pre-funding through a GASB eligible trust such as through the California Employers' Retiree Benefit Trust (CERBT). The CERBT's underlying investment policy has an expected long-term rate of return equal to 7.75%. The financial and accounting results using a 7.75% discount rate are provided in the financial results section of the report. An illustration of the valuation results using a 7.75% (assuming the City fully funds its ARC) versus a 4.0% discount rate on the liabilities and annual required contribution is provided in the following table:



	Discount Rate	
	<u>4.0%</u>	<u>7.75%</u>
Funding Policy:	Pay-as-you-go	Full-funding
Actuarial Liability:	\$40,620,029	\$18,653,944
Actuarial Accrued Liability (AAL):	\$30,819,156	\$15,989,853
Unfunded Actuarial Accrued Liability (UAAL):	\$30,819,156	\$15,989,853
Annual Required Contribution:	\$3,004,444	\$1,746,013
Expected City Contribution:	\$406,654	\$1,746,013

There are multiple ways to approach the funding of a retiree health plan. The annual required contribution (accrual expense) is one method, of many, that could be used to pre-fund benefits. The results assuming the City partially pre-fund, using a 6.0% discount rate, are provided in Section IIG of the report.

Actuarial Basis

The actuarial valuation is based on the assumptions and methods outlined in Section VI of the report. To the extent that a single or a combination of assumptions is not met the future liability may fluctuate significantly from its current measurement. As an example, the medical price inflation trend is assumed to be a level percentage in future years. Increases higher than assumed would bring larger liabilities and expensing requirements. A 1% increase in the trend rate for each future year would increase the annual required contribution by 28%.

Another key assumption used in the valuation is the discount rate which is based on the expected return on plan assets. The valuation is based on a discount rate of 4.0%. A 1% decrease in the discount (interest) rate would increase the annual required contribution by 21%. A 1% increase in the discount (interest) rate would decrease the annual required contribution by 15%.

GASB 45 requires that implicit rate subsidies be considered in the valuation of medical costs. An implicit rate subsidy occurs when the rates for retirees are the same as for active employees. Since pre-Medicare retirees are typically much older than active employees, their actual medical costs are almost always higher than for active employees. It is our understanding that the City participates in a community-rated health plan (CalPERS Health Plan) and is exempt from valuing this rate subsidy. Typically, inclusion of the rate subsidy will result in significantly larger liabilities and expensing requirements.



Section II. Financial Results

A. Valuation Results as of June 30, 2010

The table below presents the employer liabilities associated with the City's retiree health benefits determined in accordance with GASB 45. The actuarial liability is the present value of all benefits or contributions projected to be paid by the City under the program. The actuarial accrued liability reflects the amount attributable to the past service of current employees and retirees. The normal cost reflects the accrual attributable for the current period.

	<u>\$23.50 Benefit Employees</u>	<u>\$105 Benefit Employees</u>	<u>City Total</u>
1. Actuarial Liability (AL)			
Actives	\$15,430,065	\$14,895,616	\$30,325,681
Retirees	<u>3,728,599</u>	<u>6,565,749</u>	<u>10,294,348</u>
Total AL	\$19,158,664	\$21,461,365	\$40,620,029
2. Actuarial Accrued Liability (AAL)			
Actives	\$10,451,649	\$10,073,159	\$20,524,808
Retirees	<u>3,728,599</u>	<u>6,565,749</u>	<u>10,294,348</u>
Total AAL	\$14,180,248	\$16,638,908	\$30,819,156
3. Normal Cost	\$ 683,901	\$ 542,130	\$ 1,226,031
No. of Active Employees	1,081	832	1,913
Average Age	45.9	43.3	44.7
Average Past Service	11.9	13.7	12.7
No. of Retired Employees*	247	252	499
Average Age	71.5	67.8	69.6
Average Retirement Age	60.2	55.7	57.9

Note: The retiree counts exclude 499 retirees who have waived medical coverage and currently receive no subsidy.

B. Development of Unfunded Actuarial Accrued Liability

The table below presents the development of the unfunded actuarial accrued liability (UAAL). The UAAL is the excess of the actuarial accrued liability (AAL) over the actuarial value of eligible plan assets¹. Eligible assets under GASB 45 must be segregated and secured for the exclusive purpose of paying for the retiree health benefits.

	\$23.50 Benefit <u>Employees</u>	\$105 Benefit <u>Employees</u>	<u>City Total</u>
1. Actuarial Accrued Liability (AAL)	\$14,180,248	\$16,638,908	\$30,819,156
2. Actuarial Value of Assets ¹	(0)	(0)	(0)
3. Unfunded AAL (UAAL)	\$14,180,248	\$16,638,908	\$30,819,156

C. Amortization of Unfunded Actuarial Accrued Liability (UAAL)

The amortization of the UAAL component of the annual required contribution (ARC) is being amortized over 28 years on a level-dollar basis.

	\$23.50 Benefit <u>Employees</u>	\$105 Benefit <u>Employees</u>	<u>City Total</u>
1. Unfunded AAL (UAAL)	\$14,180,248	\$16,638,908	\$30,819,156
2. Amortization Factor	17.32959	17.32959	17.32959
3. Amortization of UAAL	\$818,268	\$960,145	\$1,778,413

D. Annual Required Contribution (ARC)

The table below presents the development of the annual required contribution ARC for the fiscal year ending June 30, 2010 and estimated for the fiscal year ending June 30, 2011.

	\$23.50 Benefit <u>Employees</u>	\$105 Benefit <u>Employees</u>	<u>City Total</u>
<i>2009/2010 Annual Required Contribution</i>			
1. Normal Cost at End of Year	\$ 683,901	\$ 542,130	\$1,226,031
2. Amortization of UAAL at End of Year	<u>818,268</u>	<u>960,145</u>	<u>1,778,413</u>
3. Annual Required Contribution (ARC)	\$1,502,169	\$1,502,275	\$3,004,444
<i>2010/2011 Estimated ARC</i>			
1. Normal Cost at End of Year	\$ 711,257	\$ 563,815	\$1,275,072
2. Amortization of UAAL at End of Year	<u>818,268</u>	<u>960,145</u>	<u>1,778,413</u>
3. Annual Required Contribution (ARC)	\$1,529,525	\$1,523,960	\$3,053,485

¹ The City has not reported any GASB eligible plan assets as of June 30, 2010.

E. Required Supplementary Information (Funding Progress @6/30/2010)

The table below presents a sample disclosure of the funding progress as of the beginning of the fiscal year.

1. Actuarial Accrued Liability (AAL)	\$30,819,156
2. Actuarial Valuation of Assets (AVA)	<u>(0)</u>
3. Unfunded Actuarial Accrued Liability	\$30,819,156
4. Funded Ratio	0%
5. Current Payroll	NA
6. Unfunded Actuarial Accrued Liability as Percentage of Payroll	NA

F. Sensitivity Analysis:

1. The impact of a 1% decrease in the discount (interest) rate on the City's total actuarial liability, actuarial accrued liability and the annual required contribution is provided below:

	<u>Dollar</u> <u>(\$)</u> <u>Increase</u>	<u>Percentage</u> <u>(%)</u> <u>Increase</u>
- Actuarial Liability	\$11,613,286	29%
- Actuarial Accrued Liability	\$ 6,969,638	23%
- Annual Required Contribution (Expense)	\$ 616,166	21%

2. The impact of a 1% increase in the discount (interest) rate on the City's total actuarial liability, actuarial accrued liability and the annual required contribution is provided below:

	<u>Dollar</u> <u>(\$)</u> <u>Decrease</u>	<u>Percentage</u> <u>(%)</u> <u>Decrease</u>
- Actuarial Liability	(\$ 8,395,939)	(21%)
- Actuarial Accrued Liability	(\$ 5,363,086)	(17%)
- Annual Required Contribution (Expense)	(\$ 463,262)	(15%)

3. The impact of a 1% increase in the healthcare trend rates on the City's total actuarial liability, actuarial accrued liability and the annual required contribution is provided below:

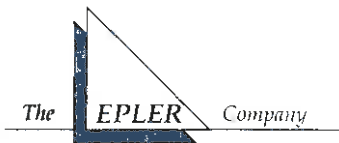
	<u>Dollar</u> <u>(\$)</u> <u>Increase</u>	<u>Percentage</u> <u>(%)</u> <u>Increase</u>
- Actuarial Liability	\$10,995,204	27%
- Actuarial Accrued Liability	\$ 7,365,879	24%
- Annual Required Contribution (Expense)	\$ 839,325	28%



G. Liabilities - Alternative Discount Rates

The City also requested the measurement of the liabilities and the annual required contribution (ARC) using a 7.75% discount rate to reflect an alternative funding strategy through the California Employers' Retiree Benefit Trust (CERBT), a GASB eligible trust. The financial results including the development of the annual required contribution (ARC) for the 2009/2010 fiscal year and estimated for the 2010/2011 fiscal year assuming the City fully fund its ARC through CERBT are provided below:

<u>7.75% Discount Rate</u>	<u>\$23.50 Benefit Employees</u>	<u>\$105 Benefit Employees</u>	<u>City Total</u>
1. Actuarial Liability (AL)			
Actives	\$6,255,132	\$ 5,830,281	\$12,085,413
Retirees	<u>2,284,866</u>	<u>4,283,665</u>	<u>6,568,531</u>
Total AL	\$8,539,998	\$10,113,946	\$18,653,944
2. Actuarial Accrued Liability (AAL)			
Actives	\$4,796,342	\$ 4,624,980	\$ 9,421,322
Retirees	<u>2,284,866</u>	<u>4,283,665</u>	<u>6,568,531</u>
Total AAL	\$7,081,208	\$ 8,908,645	\$15,989,853
3. Actuarial Value of Assets	<u>0</u>	<u>0</u>	<u>0</u>
4. Unfunded AAL (UAAL)	\$7,081,208	\$ 8,908,645	\$15,989,853
5. Amortization Factor (28 yr -Level Dollar)	12.18361	12.18361	12.18361
6. Amortization of UAAL	\$ 581,208	\$ 731,199	\$ 1,312,407
 <i>2009/2010 Annual Required Contribution</i>			
1. Normal Cost at End of Year	\$ 253,553	\$ 180,053	\$ 433,606
2. Amortization of UAAL at End of Year	<u>581,208</u>	<u>731,199</u>	<u>1,312,407</u>
3. Annual Required Contribution (ARC)	\$ 834,761	\$ 911,252	\$ 1,746,013
 <i>2010/2011 Estimated ARC</i>			
1. Normal Cost at End of Year	\$ 273,203	\$ 194,007	\$ 467,210
2. Amortization of UAAL at End of Year	<u>581,208</u>	<u>731,199</u>	<u>1,312,407</u>
3. Annual Required Contribution (ARC)	\$ 854,411	\$ 925,206	\$ 1,779,617



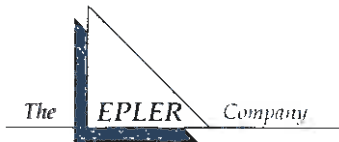
The financial results including the development of the annual required contribution (ARC) for the 2009/2010 fiscal year and estimated for the 2010/2011 fiscal year assuming the City partially fund its ARC through CERBT are provided below:

<u>6% Discount Rate</u>	<u>\$23.50 Benefit Employees</u>	<u>\$105 Benefit Employees</u>	<u>City Total</u>
<i>2009/2010 Annual Required Contribution</i>			
1. Actuarial Liability (AL)			
Actives	\$ 9,296,405	\$ 8,757,477	\$18,053,882
Retirees	<u>2,835,072</u>	<u>5,148,206</u>	<u>7,983,278</u>
Total AL	\$12,131,477	\$13,905,683	\$26,037,160
2. Actuarial Accrued Liability (AAL)			
Actives	\$ 6,780,198	\$ 6,519,755	\$13,299,953
Retirees	<u>2,835,072</u>	<u>5,148,206</u>	<u>7,983,278</u>
Total AAL	\$ 9,615,270	\$11,667,961	\$21,283,231
3. Actuarial Value of Assets	<u>0</u>	<u>0</u>	<u>0</u>
4. Unfunded AAL (UAAL)	\$ 9,615,270	\$11,667,961	\$21,283,231
5. Amortization Factor (28 yr -Level Dollar)	14.21053	14.21053	14.21053
6. Amortization of UAAL	\$ 676,630	\$ 821,078	\$ 1,497,708
<i>2010/2011 Estimated ARC</i>			
1. Normal Cost at End of Year	\$ 418,370	\$ 312,613	\$ 730,983
2. Amortization of UAAL at End of Year	<u>676,630</u>	<u>821,078</u>	<u>1,497,708</u>
3. Annual Required Contribution (ARC)	\$ 1,095,000	\$ 1,133,691	\$ 2,228,691

Section III. Projected Cash Flows

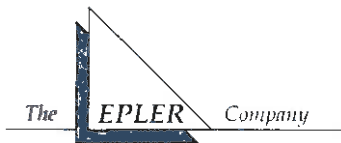
The valuation process includes the projection of the expected retiree benefits/contributions to be paid by the City under the Plan. This expected cash flow takes into account the likelihood of each employee reaching age for eligibility to retire and receive health benefits. The projection is performed by applying the turnover assumption to each active employee for the period between the valuation date and retirement date. Once the employees reach their retirement date, a certain percent are assumed to enter the retiree group each year. Employees already over the latest assumed retirement age as of the valuation date are assumed to retire immediately. The per capita cost as of the valuation date is projected to increase at the applicable healthcare trend rates both before and after the employee's assumed retirement. The projected per capita costs are multiplied by the number of expected future retirees in a given future year to arrive at the cash flow for that year. Also, a certain number of retirees will leave the group each year due to expected deaths and this group will cease to be included in the cash flow from that point forward. Because this is a closed-group valuation, the number of retirees dying each year will eventually exceed the number of new retirees, and the size of the cash flow will begin to decrease and eventually go to zero.

The expected employer cash flows for selected future years are provided in the following table:



Projected Employer Cash Flows: \$23.50 Benefit Employees – Representative Years

<u>Fiscal Year</u>	<u>Future Retirees</u>	<u>Retired Employees</u>	<u>City Total</u>
2010/11	\$ 3,817	\$ 73,932	\$ 77,749
2011/12	\$ 13,645	\$ 86,596	\$ 100,241
2012/13	\$ 27,727	\$ 103,463	\$ 131,190
2013/14	\$ 46,621	\$ 120,455	\$ 167,076
2014/15	\$ 70,653	\$ 137,494	\$ 208,147
2015/16	\$ 99,975	\$ 154,491	\$ 254,466
2016/17	\$ 135,228	\$ 171,355	\$ 306,583
2017/18	\$ 176,401	\$ 187,992	\$ 364,393
2018/19	\$ 223,605	\$ 204,308	\$ 427,913
2019/20	\$ 277,055	\$ 220,205	\$ 497,260
2020/21	\$ 337,085	\$ 235,587	\$ 572,672
2021/22	\$ 403,721	\$ 250,353	\$ 654,074
2022/23	\$ 476,810	\$ 264,399	\$ 741,209
2023/24	\$ 556,197	\$ 277,595	\$ 833,792
2024/25	\$ 641,693	\$ 289,787	\$ 931,480
2025/26	\$ 733,518	\$ 300,791	\$ 1,034,309
2026/27	\$ 810,628	\$ 302,690	\$ 1,113,318
2027/28	\$ 869,051	\$ 296,082	\$ 1,165,133
2028/29	\$ 927,222	\$ 288,366	\$ 1,215,588
2029/30	\$ 984,996	\$ 279,731	\$ 1,264,727
2030/31	\$ 1,041,955	\$ 269,998	\$ 1,311,953
2031/32	\$ 1,097,184	\$ 259,158	\$ 1,356,342
2032/33	\$ 1,150,087	\$ 247,247	\$ 1,397,334
2033/34	\$ 1,200,519	\$ 234,334	\$ 1,434,853
2034/35	\$ 1,248,014	\$ 220,524	\$ 1,468,538
2035/36	\$ 1,292,296	\$ 205,967	\$ 1,498,263
2036/37	\$ 1,332,665	\$ 190,818	\$ 1,523,483
2037/38	\$ 1,368,384	\$ 175,269	\$ 1,543,653
2038/39	\$ 1,399,194	\$ 159,523	\$ 1,558,717
2039/40	\$ 1,424,771	\$ 143,548	\$ 1,568,319
2040/41	\$ 1,444,459	\$ 128,196	\$ 1,572,655
2045/46	\$ 1,449,606	\$ 60,895	\$ 1,510,501
2050/51	\$ 1,305,112	\$ 21,737	\$ 1,326,849
2055/56	\$ 1,055,787	\$ 5,024	\$ 1,060,811
2060/61	\$ 767,001	\$ 382	\$ 767,383
2065/66	\$ 493,213	\$ 0	\$ 493,213
2070/71	\$ 270,637	\$ 0	\$ 270,637
2075/76	\$ 119,678	\$ 0	\$ 119,678
All Years	\$52,291,144	\$ 7,145,319	\$ 59,436,463



Projected Employer Cash Flows: \$105 Benefit Employees – Representative Years

<u>Fiscal Year</u>	<u>Future Retirees</u>	<u>Retired Employees</u>	<u>City Total</u>
2010/11	\$ 9,107	\$ 319,798	\$ 328,905
2011/12	\$ 29,354	\$ 325,809	\$ 355,163
2012/13	\$ 52,642	\$ 333,059	\$ 385,701
2013/14	\$ 78,873	\$ 339,809	\$ 418,682
2014/15	\$ 108,689	\$ 346,035	\$ 454,724
2015/16	\$ 141,045	\$ 351,719	\$ 492,764
2016/17	\$ 176,404	\$ 356,839	\$ 533,243
2017/18	\$ 214,084	\$ 361,369	\$ 575,453
2018/19	\$ 252,859	\$ 365,278	\$ 618,137
2019/20	\$ 293,849	\$ 368,534	\$ 662,383
2020/21	\$ 336,239	\$ 371,112	\$ 707,351
2021/22	\$ 379,676	\$ 372,994	\$ 752,670
2022/23	\$ 423,685	\$ 374,144	\$ 797,829
2023/24	\$ 468,495	\$ 374,512	\$ 843,007
2024/25	\$ 514,674	\$ 374,035	\$ 888,709
2025/26	\$ 561,591	\$ 372,646	\$ 934,237
2026/27	\$ 609,382	\$ 370,284	\$ 979,666
2027/28	\$ 657,341	\$ 366,893	\$ 1,024,234
2028/29	\$ 706,382	\$ 362,412	\$ 1,068,794
2029/30	\$ 756,884	\$ 356,799	\$ 1,113,683
2030/31	\$ 809,115	\$ 349,998	\$ 1,159,113
2031/32	\$ 863,764	\$ 341,978	\$ 1,205,742
2032/33	\$ 919,190	\$ 332,734	\$ 1,251,924
2033/34	\$ 975,427	\$ 322,287	\$ 1,297,714
2034/35	\$ 1,031,605	\$ 310,685	\$ 1,342,290
2035/36	\$ 1,087,214	\$ 297,991	\$ 1,385,205
2036/37	\$ 1,141,478	\$ 284,284	\$ 1,425,762
2037/38	\$ 1,192,513	\$ 269,690	\$ 1,462,203
2038/39	\$ 1,240,371	\$ 253,848	\$ 1,494,219
2039/40	\$ 1,284,234	\$ 238,041	\$ 1,522,275
2040/41	\$ 1,323,562	\$ 221,960	\$ 1,545,522
2045/46	\$ 1,441,963	\$ 141,981	\$ 1,583,944
2050/51	\$ 1,416,634	\$ 77,116	\$ 1,493,750
2055/56	\$ 1,262,607	\$ 37,385	\$ 1,299,992
2060/61	\$ 1,027,902	\$ 19,051	\$ 1,046,953
2065/66	\$ 762,456	\$ 10,760	\$ 773,216
2070/71	\$ 495,816	\$ 6,083	\$ 501,899
2075/76	\$ 260,876	\$ 2,387	\$ 263,263
All Years	\$55,350,715	\$12,273,981	\$67,624,696



Projected Employer Cash Flows: Total City Employees – Representative Years

<u>Fiscal Year</u>	<u>Future Retirees</u>	<u>Retired Employees</u>	<u>City Total</u>
2010/11	\$ 12,924	\$ 393,730	\$ 406,654
2011/12	\$ 42,999	\$ 412,405	\$ 455,404
2012/13	\$ 80,369	\$ 436,522	\$ 516,891
2013/14	\$ 125,494	\$ 460,264	\$ 585,758
2014/15	\$ 179,342	\$ 483,529	\$ 662,871
2015/16	\$ 241,020	\$ 506,210	\$ 747,230
2016/17	\$ 311,632	\$ 528,194	\$ 839,826
2017/18	\$ 390,485	\$ 549,361	\$ 939,846
2018/19	\$ 476,464	\$ 569,586	\$ 1,046,050
2019/20	\$ 570,904	\$ 588,739	\$ 1,159,643
2020/21	\$ 673,324	\$ 606,699	\$ 1,280,023
2021/22	\$ 783,397	\$ 623,347	\$ 1,406,744
2022/23	\$ 900,495	\$ 638,543	\$ 1,539,038
2023/24	\$ 1,024,692	\$ 652,107	\$ 1,676,799
2024/25	\$ 1,156,367	\$ 663,822	\$ 1,820,189
2025/26	\$ 1,295,109	\$ 673,437	\$ 1,968,546
2026/27	\$ 1,420,010	\$ 672,974	\$ 2,092,984
2027/28	\$ 1,526,392	\$ 662,975	\$ 2,189,367
2028/29	\$ 1,633,604	\$ 650,778	\$ 2,284,382
2029/30	\$ 1,741,880	\$ 636,530	\$ 2,378,410
2030/31	\$ 1,851,070	\$ 619,996	\$ 2,471,066
2031/32	\$ 1,960,948	\$ 601,136	\$ 2,562,084
2032/33	\$ 2,069,277	\$ 579,981	\$ 2,649,258
2033/34	\$ 2,175,946	\$ 556,621	\$ 2,732,567
2034/35	\$ 2,279,619	\$ 531,209	\$ 2,810,828
2035/36	\$ 2,379,510	\$ 503,958	\$ 2,883,468
2036/37	\$ 2,474,143	\$ 475,102	\$ 2,949,245
2037/38	\$ 2,560,897	\$ 444,959	\$ 3,005,856
2038/39	\$ 2,639,565	\$ 413,371	\$ 3,052,936
2039/40	\$ 2,709,005	\$ 381,589	\$ 3,090,594
2040/41	\$ 2,768,021	\$ 350,156	\$ 3,118,177
2045/46	\$ 2,891,569	\$ 202,876	\$ 3,094,445
2050/51	\$ 2,721,746	\$ 98,853	\$ 2,820,599
2055/56	\$ 2,318,394	\$ 42,409	\$ 2,360,803
2060/61	\$ 1,794,903	\$ 19,433	\$ 1,814,336
2065/66	\$ 1,255,669	\$ 10,760	\$ 1,266,429
2070/71	\$ 766,453	\$ 6,083	\$ 772,536
2075/76	\$ 380,554	\$ 2,387	\$ 382,941
All Years	\$107,641,859	\$19,419,300	\$127,061,159

Section IV. Benefit Plan Provisions

This study analyzes the post-employment health benefit plans provided by the City.

The City provides a subsidy to retirees of the City who are members of the California Public Employees' Retirement System or the Pasadena Fire and Police Retirement System. Benefit provisions are established and amended through negotiations between the City and the employee unions. There are currently two levels of subsidies provided to eligible retirees electing to continue medical insurance under the Public Employees' Medical and Hospital Care Act (PEMHCA). The subsidy amounts are the minimum required employer contribution under PEMHCA (currently \$105.00 per month) or a portion of the minimum required employer contribution (currently \$23.50 per month). The subsidy amount provided depends on the bargaining unit or the unrepresented group the employee was a member during employment with the City. The \$23.50 per month is scheduled to increase in the future to the minimum required contribution under PEMCHA (5% per year based on years of participation to 100%). The minimum required employer contributions is statutorily set under PEMHCA and is scheduled to increase in the future based on the medical portion of CPI. A history of the increases in past years is as follows:

Calendar Year	Minimum Required Employer Contribution
2006	\$64.60
2007	\$80.80
2008	\$97.00
2009	\$101.00
2010	\$105.00
2011	\$108.00
2012+	Adjusted Annually to reflect Medical Portion of CPI

Eligibility for the subsidy requires retirement from the City and commencement of the employee's pension within 120 days. Employees may retire under service retirement (on or after age 50 with at least 5 years of total CalPERS service) or under Disability Retirement (after at least 5 years of total CalPERS service). The surviving spouse of an eligible retiree is eligible for the employer subsidy upon the death of the retiree.

Section V. Valuation Data

The valuation was based on the census furnished to us by the City. The following tables display the age distribution for retirees and the age/service distribution for active employees as of the Measurement Date.

Age Distribution of Eligible Retired Participants & Beneficiaries

	\$23.50 Benefit	\$105 Benefit	Other*	Total
<50	0	9	36	45
50-54	4	9	31	44
55-59	21	41	54	116
60-64	48	44	63	155
65-69	58	52	75	185
70-74	31	32	63	126
75-79	24	26	62	112
80-84	26	20	41	87
85+	<u>35</u>	<u>19</u>	<u>74</u>	<u>128</u>
Total:	247	252	499	998
Average Age:	71.5	67.8	69.5	69.6
Average Retirement Age:	60.2	55.7	55.7	56.8

* These retirees have not elected medical coverage and currently receive no subsidy.

Age/Service Distribution of All Active Eligible Employees

Age	Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	
20-24	36	1								37
25-29	107	26	3							136
30-34	120	78	19	1						218
35-39	89	88	48	21	1					247
40-44	64	72	40	71	50	1				298
45-49	59	54	24	59	95	41	1			333
50-54	32	43	22	46	77	70	27			317
55-59	30	30	28	22	44	30	22	8		214
60-64	8	11	12	16	22	7	4	3		83
65-69	0	2	4	5	6	2	2	1	1	23
70+	<u>0</u>	<u>1</u>	<u>2</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>7</u>
Total:	545	406	202	243	295	151	56	14	1	1,913
Average Age:			44.7							
Average Service:			12.7							

Age/Service Distribution of Active Employees – Eligible for \$23.50 Monthly Benefit

Age	Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	
20-24	19									19
25-29	49	12	2							63
30-34	59	38	7	1						105
35-39	63	49	26	5	1					144
40-44	44	43	26	31	22	1				167
45-49	41	37	16	24	39	13	1			171
50-54	25	30	20	31	39	23	11			179
55-59	24	23	17	16	35	14	8	5		142
60-64	8	9	12	11	19	5	4	3		71
65-69	0	1	4	3	3	1	2	1	1	16
70+	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>4</u>
Total:	332	242	132	122	158	57	26	11	1	1,081
Average Age:			45.9							
Average Service:			11.9							

Age/Service Distribution of Active Employees – Eligible for CalPERS Minimum Employer Contribution (Currently \$105 Per Month)

Age	Service									Total
	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	
20-24	17	1								18
25-29	58	14	1							73
30-34	61	40	12							113
35-39	26	39	22	16						103
40-44	20	29	14	40	28					131
45-49	18	17	8	35	56	28				162
50-54	7	13	2	15	38	47	16			138
55-59	6	7	11	6	9	16	14	3		72
60-64	0	2	0	5	3	2	0	0		12
65-69	0	1	0	2	3	1	0	0		7
70+	<u>0</u>	<u>1</u>	<u>0</u>	<u>2</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>3</u>
Total:	213	164	70	121	137	94	30	3	0	832
Average Age:			43.3							
Average Service:			13.7							

Section VI. Actuarial Assumptions and Methods

The liabilities set forth in this report are based on the actuarial assumptions described in this section.

Fiscal Year: July 1st to June 30th

Measurement Date: June 30, 2010

Discount Rate: Results using discount rates associated with alternative funding arrangements are presented in the valuation report as follows:

4.0% per annum. This discount rate assumes the City continues to fund for its retiree health benefits on a pay-as-you-go basis.

7.75% per annum. This discount rate assumes the City pre-funds at least the annual required contribution within the California Employers' Retiree Benefit Trust (CERBT), a GASB eligible trust.

6.0% per annum. This discount rate assumes the City partially pre-funds its annual required contribution within the CERBT.

Pre-retirement Turnover: According to the termination rates under the CalPERS pension plan updated to reflect the 2009 experience study. Sample rates for Miscellaneous employees are as follows:

Service	Entry Age			
	20	30	40	50
0	17.42%	16.06%	14.68%	13.32%
5	8.68%	7.11%	5.54%	0.97%
10	6.68%	5.07%	0.71%	0.38%
15	5.03%	3.47%	0.23%	0.04%
20	3.70%	0.21%	0.05%	0.01%
25	2.29%	0.05%	0.01%	0.01%
30	0.05%	0.01%	0.01%	0.01%

Sample rates for Police employees are as follows:

Service	Entry Age			
	20	30	40	50
0	10.1%	10.1%	10.1%	10.1%
5	2.5%	2.5%	2.5%	0.9%
10	1.8%	1.8%	0.5%	0.5%
15	1.1%	1.1%	0.3%	0.3%
20	0.8%	0.2%	0.2%	0.2%
25	0.7%	0.1%	0.1%	0.1%
30	0.1%	0.1%	0.1%	0.1%

Sample rates for Firefighter employees are as follows:

Service	Entry Age			
	20	30	40	50
0	9.5%	9.5%	9.5%	9.5%
5	2.6%	2.6%	2.6%	1.0%
10	0.9%	0.9%	0.3%	0.3%
15	0.8%	0.8%	0.2%	0.2%
20	0.7%	0.2%	0.2%	0.2%
25	0.6%	0.1%	0.1%	0.1%
30	0.1%	0.1%	0.1%	0.1%

Pre-retirement Mortality: According to the pre-retirement mortality rates under the CalPERS pension plan updated to reflect the 2009 experience study. Sample deaths per 1,000 employees applicable to Miscellaneous employees are as follows:

Age	Males	Females
25	0.5	0.3
30	0.5	0.4
35	0.7	0.5
40	0.9	0.7
45	1.2	0.9
50	1.8	1.3
55	2.6	1.8
60	4.0	2.7

Sample deaths per 1,000 employees applicable to Police employees are as follows:

Age	Males	Females
25	0.6	0.3
30	0.6	0.5
35	0.8	0.6
40	1.0	0.8
45	1.3	1.1
50	1.9	1.4
55	2.8	1.9
60	4.1	2.8

Sample deaths per 1,000 employees applicable to Firefighter employees are as follows:

Age	Males	Females
25	0.6	0.3
30	0.6	0.5
35	0.8	0.6
40	1.0	0.8
45	1.3	1.1
50	1.9	1.4
55	2.8	1.9
60	4.1	2.8

Post-retirement Mortality: According to the post-retirement mortality rates under the CalPERS pension plan updated to reflect the 2009 experience study. Sample deaths per 1,000 employees applicable to non-disabled retirees are as follows:

Age	Males	Females
55	4.7	2.4
60	7.2	4.3
65	10.7	7.8
70	16.8	12.4
75	30.8	20.7
80	52.7	37.5
85	97.8	70.1
90	167.5	124.0

Sample deaths per 1,000 employees applicable to non-industrial disabled retirees are as follows:

Age	Males	Females
55	19.4	15.8
60	22.9	16.3
65	31.7	19.7
70	38.7	30.2
75	60.0	39.2
80	83.9	55.6
85	140.4	95.8
90	215.5	149.5

Sample deaths per 1,000 employees applicable to industrial disabled retirees are as follows:

Age	Males	Females
55	5.6	5.5
60	7.8	8.0
65	13.9	11.8
70	22.4	17.2
75	35.9	26.7
80	69.3	45.3
85	118.0	80.2
90	165.75	137.8

Disability Rates:

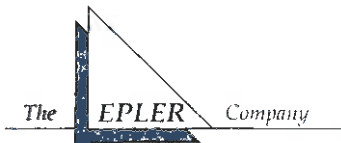
According to the disability rates under the CalPERS pension plan updated to reflect the 2009 experience study. Sample industrial disabilities per 1,000 employees:

Age	Miscellaneous	Police	Firefighter
25	0.0	3.2	1.2
30	0.0	6.4	2.5
35	0.0	9.7	3.7
40	0.0	12.9	4.9
45	0.0	16.1	6.1
50	0.0	19.2	7.4
55	0.0	66.8	72.1

Sample non-industrial disabilities per 1,000 employees:

Male			
Age	Miscellaneous	Police	Firefighter
25	0.1	0.1	0.1
30	0.2	0.2	0.1
35	0.6	0.3	0.1
40	1.5	0.4	0.1
45	2.5	0.5	0.2
50	3.3	0.8	0.5
55	3.7	1.3	1.0

Female			
Age	Miscellaneous	Police	Firefighter
25	0.1	0.1	0.1
30	0.2	0.2	0.1
35	0.9	0.3	0.1
40	1.6	0.4	0.1
45	2.4	0.5	0.2
50	3.1	0.8	0.5
55	3.1	1.3	1.0



Retirement Rates*:

According to the retirement rates under the CalPERS pension plan updated to reflect the 2009 experience study. Sample retirement rates for Miscellaneous employees are as follows:

Age	15	20	25	30	35
50	4.0%	4.8%	5.5%	6.2%	6.9%
51-52	3.2%	3.8%	4.3%	4.9%	5.4%
53	4.0%	4.8%	5.5%	6.2%	6.9%
54	6.6%	7.8%	8.9%	10.1%	11.2%
55	13.6%	16.0%	18.4%	20.8%	23.2%
56	8.5%	10.0%	11.5%	13.0%	14.5%
57	9.4%	11.0%	12.7%	14.3%	16.0%
58	11.1%	13.0%	15.0%	16.9%	18.9%
59	12.8%	15.0%	17.3%	19.5%	21.8%
60	13.6%	16.0%	18.4%	20.8%	23.2%
61	12.8%	15.0%	17.3%	19.5%	21.8%
62	18.7%	22.0%	25.3%	28.6%	31.9%
63-64	16.2%	19.0%	21.9%	24.7%	27.6%
65	22.1%	26.0%	29.9%	33.8%	37.7%
66-69	16.2%	19.0%	21.9%	24.7%	27.6%
70-74	19.4%	22.8%	26.2%	29.6%	33.1%
75	100.0%	100.0%	100.0%	100.0%	100.0%

Sample retirement rates for Police employees are as follows:

Age	15	20	25	30	35
50	1.9%	1.9%	4.0%	6.0%	6.0%
51	2.4%	2.4%	4.9%	7.4%	7.4%
52	2.4%	2.4%	5.1%	7.7%	7.7%
53	5.9%	5.9%	12.1%	18.3%	18.3%
54	6.9%	6.9%	14.2%	21.5%	21.5%
55	11.6%	11.6%	24.0%	36.3%	36.3%
56	7.6%	7.6%	15.6%	23.6%	23.6%
57	5.8%	5.8%	12.0%	18.1%	18.1%
58	7.6%	7.6%	15.7%	23.7%	23.7%
59	9.4%	9.4%	19.3%	29.2%	29.2%
60	14.1%	14.1%	29.0%	43.8%	43.8%
61	9.4%	9.4%	19.3%	29.2%	29.2%
62	11.8%	11.8%	24.1%	36.5%	36.5%
63-64	9.4%	9.4%	19.3%	29.2%	29.2%
65	100.0%	100.0%	100.0%	100.0%	100.0%

Sample retirement rates for Firefighter employees are as follows:

Age	15	20	25	30	35
50	1.2%	1.8%	2.8%	3.3%	3.3%
51	0.8%	1.2%	1.9%	2.2%	2.2%
52	1.8%	2.7%	4.2%	5.0%	5.0%
53	4.3%	6.2%	9.8%	11.4%	11.4%
54	5.7%	8.3%	13.1%	15.2%	15.2%
55	9.2%	13.4%	21.1%	24.6%	24.6%
56	8.1%	11.8%	18.7%	21.8%	21.8%
57	10.0%	14.6%	23.0%	26.8%	26.8%
58	8.1%	11.9%	18.7%	21.9%	21.9%
59	7.8%	11.3%	17.8%	20.8%	20.8%
60	11.7%	17.0%	26.7%	31.2%	31.2%
61	7.8%	11.3%	17.8%	20.8%	20.8%
62	9.8%	14.1%	22.3%	26.0%	26.0%
63-64	7.8%	11.3%	17.8%	20.8%	20.8%
65	100.0%	100.0%	100.0%	100.0%	100.0%

* The percentage refers to the probability that an active employee who has reached the stated age will retire within the following year.

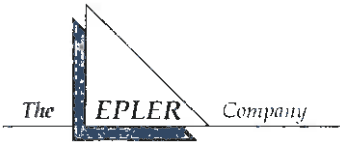
Participation Rates:

60% of future retirees are assumed to elect medical coverage at retirement through the CalPERS Health Plan and to continue coverage through the CalPERS Health Plan beyond Medicare eligibility age. Actual coverage is used for current retirees. Retirees waiving coverage are assumed to continue to waive coverage in the future.

Spouse Coverage:

50% of future Miscellaneous retirees and 65% of Safety employees are assumed to elect coverage for their spouse. Actual spousal coverage is used for current retirees. Male spouses are assumed to be 3 years older than female spouses. Actual spouse age is used for current retirees.

[Prior valuation assumed that 85% of Miscellaneous and 90% of Safety employees elect coverage for their spouse]



Claim Cost Development: The valuation claim costs are based on the premiums paid for insurance coverage. The City participates in the CalPERS Health Plan, a community rated plan. The valuation assumes the City is exempt from the valuation of any medical plan rate subsidy.

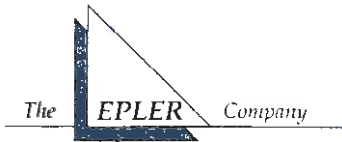
Future Subsidy Amounts: The CalPERS minimum required contribution is assumed to increase 4% per year. The \$23.50 monthly subsidy is assumed to increase to 25% of the minimum required contribution in 2011 and then an additional 5% per year until 2026 when it will equal 100% of the minimum required contribution.

[Prior valuation assumed an increase of 5% per year]

Actuarial Cost Method: The actuarial cost method used to determine the allocation of the retiree health actuarial liability to the past (accrued), current and future periods is the Entry Age Normal (EAN) cost method. The EAN cost method is a projected benefit cost method which means the “cost” is based on the projected benefit expected to be paid at retirement.

The EAN normal cost equals the level annual amount of contribution from the employee’s date of hire (entry date) to their retirement date that is sufficient to fund the projected benefit. For plans unrelated to pay, the normal cost is calculated to remain level in dollars; for pay-related plans the normal cost is calculated to remain level as a percentage of pay. The EAN actuarial accrued liability equals the present value of all future benefits for retired and current employees and their beneficiaries less the portion expected to be funded by future normal costs.

All employees eligible as of the measurement date in accordance with the provisions of the Plan listed in the data provided by the City were included in the valuation.



Actuarial Value of Assets: As of the valuation date there are no GASB eligible plan assets.

Amortization of UAAL: The unfunded actuarial accrued liability is being amortized over an initial 30 years using the level-dollar method on a closed basis. The remaining period at June 30, 2010 is assumed to be 28 years.

Section VII. Actuarial Certification

The results set forth in this report are based on the actuarial valuation of the retiree health benefit plans of the City of Pasadena (the "City") as of June 30, 2010.

The valuation was performed in accordance with generally accepted actuarial principles and practices and in accordance with GASB Statements No. 43 & 45. We relied on census data for active employees and retirees provided to us by the City. We also made use of plan information, premium information, and enrollment information provided to us by the City.

The assumptions used in performing the valuation, as summarized in this report, and the results based thereupon, represent our best estimate of anticipated experience and actuarial cost of the retiree health benefits program.

I am a member of the American Academy of Actuaries and believe I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Certified by:



Marilyn K. Jones, ASA, EA, MAAA, FCCA Date: 11/12/2010
Vice President and Actuary