

**CITY OF MILWAUKEE  
POLICEMEN'S ANNUITY AND BENEFIT FUND**

**ACTUARIAL VALUATION  
AS OF JANUARY 1, 2009**

September 30, 2009

Annuity and Pension Board  
Employees' Retirement System of  
the City of Milwaukee  
789 N. Water St., #300  
Milwaukee, WI 53202

Members of the Board:

This report presents the results of the annual actuarial valuation of the assets and liabilities of the Policemen's Annuity and Benefit Fund of Milwaukee (PABF) as of January 1, 2009, prepared in accordance with Chapter 36, Part 15(15) of the Milwaukee City Charter. The valuation takes into account all of the promised benefits to which members were entitled as of January 1, 2009.

The valuation was based on the actuarial assumptions and methods as adopted by the Board of Trustees, and as specified by the Charter.

### **Assets and Membership Data**

The individual data for members of the PABF as of the valuation date were reported to the actuary by the Employees Retirement System (ERS). While we did not verify the data at their source, we did perform tests for internal consistency and reasonability. The amount of assets in the trust fund taken into account in the valuation was based on statements prepared for us by the ERS.

### **Financing Objective and Employer Contribution**

The results of the January 1, 2009 valuation determine the employer contribution for the year ending December 31, 2009.

Based on the provisions of Chapter 35, the annual contribution consists of an amount sufficient to amortize the unfunded actuarial liability (the amount by which the actuarial liability exceeds the assets on the valuation date) over a ten-year period with a series of level dollar payments; plus budgeted administrative expenses for the year.

On this basis, the contribution for the 2009 plan year, to be paid January 31, 2010, would amount to \$329,672 plus budgeted administrative expenses for the year.

### **Financial Results and Membership Data**

Detailed summaries of the financial results of the valuation, including a 20-year projection of assets, liabilities, benefit payments and contribution requirements (excluding future administrative expense requirements), and of the membership data used in preparing the valuation are shown in the valuation report.

As shown in Table 3, the Fund is projected to become insolvent sometime in 2013. This is common in funds where a large percentage of the assets are paid out in benefits annually, and in this case, has been exacerbated by the downturn in asset values. The current funding policy should be reviewed to ensure that it is still in line with the Board's funding objectives.

To the best of our knowledge, this report is complete and accurate and has been prepared in accordance with generally accepted actuarial principles and practice.

Respectfully submitted,



Larry Langer, A.S.A., E.A., M.A.A.A.  
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Senior Consultant, Retirement

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## **Introduction**

The law governing the Policemen's Annuity and Benefit Fund (PABF) requires the Actuary, as the technical advisor to the Annuity and Pension Board, to make an annual valuation of the funds and liabilities of the Fund, and to determine and certify the annual contribution to be derived from the tax levy. {Chapter 35, Part 1(12)}. Buck Consultants, as Actuary, has completed the annual actuarial valuation of the System as of January 1, 2009.

In this report we present the results of the January 1, 2009 valuation and the contribution to be derived from the tax levy for the year ending December 31, 2009. For purposes of disclosure, the report also includes the schedule of employer contributions and schedule of funding progress as required by GASB Statement No. 25. The benefit provisions recognized in this valuation are those in place as of the valuation date.

The valuation was completed based upon membership and financial data provided by the administrative staff of the System. The mortality and investment return assumptions used to prepare the valuation were adopted as of January 1, 2007, and are based on the experience study prepared by the Actuary for the City of Milwaukee Employees' Retirement System (CMERS) for the five-year period ended December 31, 2006. The actuarial asset valuation method was adopted as of January 1, 2005.

## **Changes Since Last Year**

There were no changes in actuarial assumptions and methods or plan provisions since the prior valuation.

## Summary of Principal Results

Summarized below are the principal financial results for the Policeman's Annuity and Benefit Fund of Milwaukee based upon the actuarial valuation as of January 1, 2009. Comparable results from the January 1, 2008 valuation are also shown.

Item	January 1, 2009	January 1, 2008
<b>Number of Participants</b>		
➤ Active Members	0	0
➤ Annuitants	34	39
➤ Widow Annuitants	84	97
➤ Total Number of Participants	118	136
<b>Prior Year Annuity Payroll</b>	\$ 1,276,716	\$ 1,354,412
<b>Asset Values</b> (includes contributions receivable)		
➤ Actuarial Value	\$ 2,147,172	\$ 4,779,417
➤ Market Value	\$ 2,147,172	\$ 4,779,417
<b>Actuarially Determined Employer Contribution</b>	Due 1/31/2010	Due 1/31/2009
➤ Annual Cost*	\$ 329,672	\$ 41,423
➤ As % of Prior Year Annuity Payroll	25.82%	3.06%
*Plus budgeted administrative expenses		
<b>Funded Status</b>		
➤ Accrued Liability	\$ 4,295,606	\$ 5,049,363
➤ Actuarial (and Market) Value of Assets	2,147,172	4,779,417
➤ Unfunded (Overfunded) Accrued Liability	\$ 2,148,434	\$ 269,946
➤ Funded Ratio Based on Actuarial Value of Assets	50.0%	94.7%

### Reasons for Change in the Funded Ratio

The funded ratio decreased from 94.7% as of January 1, 2008 to 50.0% as of January 1, 2009.

This change is due to the net effect of (a) participant mortality; and (b) the return on the actuarial value of assets which was lower than the expected return of 8.5% for the 2008 plan year. Most of the unexpected unfunded accrued liability increase of \$1.897 million was due to investment returns that were less than expected by \$1.828 million.

**Table 1**  
**Summary of Market Value of Plan Assets**  
**As of January 1, 2009**  
**(in dollars)**

Item	Amount
1. Market Value of Assets as of January 1, 2008	\$ 4,779,417
2. Contributions During Year	
a. Member	-
b. Administrative Expenses	46,210
c. Tax Levy (receivable 1/31/2009)	49,588
d. Total	<u>95,798</u>
3. Disbursements During Year	
a. Benefit Payments and Refunds During Year	1,209,314
b. Administrative Expenses	46,210
c. Total	<u>1,255,524</u>
4. Investment Return	
a. Net Appreciation, Interest and Dividends	(1,472,519)
5. Market Value of Assets as of 1/1/2009 (Unaudited) (1) + (2d) - (3c) + (4)	\$ 2,147,172
6. Net Rate of Return	
a. Actual	-35.85%
b. Expected	8.50%
c. Rate of Return Greater Than / (Less Than) Expected (a - b)	-44.35%
d. Dollar Amount of Gain / (Loss) on Assets	\$ (1,828,421)

## **GASB No. 25 Disclosure**

Statement Number 25 of the Governmental Accounting Standards Board established reporting standards for the annual financial reports of defined benefit pension plans. The standards applied to the PABF effective with the January 1, 1997 valuation. The statement requires disclosure of the “schedule of funding progress” and the “schedule of employer contributions” in the System’s financial statements.

The “schedule of funding progress” (Table 2) shows historical trend information about the Fund’s actuarial value of assets, the actuarial accrued liability and the unfunded actuarial accrued liability. The actuarial funded status is measured by comparing the actuarial value of assets (based on market value) with the accrued liability. The accrued liability is the present value of benefits accumulated to date under the PABF’s funding method. On this basis, the PABF’s funded ratio is 50.0% as of January 1, 2009. The funded ratio is based on an actuarial value of assets of \$2,147,172, including a \$41,423 receivable contribution for the 2008 plan year, and an accrued liability of \$4,295,606.

The “schedule of employer contributions” (Table 2) shows historical trend information about the annual required contributions (ARC) of the employer and the percentage of the ARC contributed to the System. The Fund’s ARC is equal to the amortization of the unfunded actuarial accrued liability. The maximum period for amortizing the unfunded actuarial accrued liability permitted by GASB No. 25 is 30 years, and the ten-year level dollar amortization required by Chapter 35 Part 1(12) meets this standard. The employer contributions to the System are equal to 100% of the ARC.

**Table 2**  
**GASB Statement No. 25 Disclosure**

**Schedule of Funding Progress**

Valuation as of January 1	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL)	Unfunded AAL (UAAL) (a-AAL)	Funded Ratio (a/AAL)	Annuity Payroll (b)	UAAL as a Percentage of Annuity Payroll (UAAL / b)
2009	\$2,147,172	\$4,295,606	\$2,148,434	50.0%	\$1,276,716	168.3%
2008	\$4,779,417	\$5,049,363	\$269,946	94.7%	\$1,354,412	19.9%
2007	\$5,585,697	\$5,956,976	\$371,279	93.8%	\$1,514,653	24.5%
2006	\$5,977,606	\$8,241,433	\$2,263,827	72.5%	\$2,006,273	112.8%

**Schedule of Employer Contributions**

Fiscal Year Ended December 31	Annual Required Contribution (ARC)	Percentage Contributed
2008	\$41,423	100%
2007	\$56,972	100%
2006	\$307,582	100%

The information presented in the Schedule of Employer Contributions was determined as part of the actuarial valuation as of one year prior to the dates indicated (i.e., the contribution determined by the valuation completed as of January 1, 2007 was contributed for the fiscal year ending December 31, 2007).

Additional information as of the latest actuarial valuation follows:

Valuation Date:	January 1, 2009
Actuarial Cost Method:	Projected Unit Credit
Amortization Method:	Open; Level dollar
Remaining Amortization Period:	10 years
Asset Valuation Method:	Market Value

Actuarial Assumptions:

• Investment Rate of Return	8.5%
• Projected Salary Increases	N/A
• Inflation Assumption	3.0%

**Table 3**

**CITY OF MILWAUKEE  
POLICEMEN'S ANNUITY AND BENEFIT FUND  
PROJECTION OF ACTUARIAL LIABILITY AND ASSETS  
FROM JANUARY 1, 2009 TO DECEMBER 31, 2028**

**BASED ON ROLLING 10-YEAR LEVEL DOLLAR AMORTIZATION OF UNFUNDED ACTUARIAL LIABILITY  
AND 8.50% PER ANNUM INVESTMENT RETURNS**

Calendar Year	(A) Beg.-of-Year (BOY) Assets	(B) BOY Actuarial Liability	(C) Unfunded Actuarial Liability (B) - (A)	(D) Expected Benefit Payments	(E) Investment Earnings at 8.50%	(F) Contribution Receivable Jan 31 Next Year	(G) End-of-Year Assets (A) - (D) + (E) + (F)
2009	\$ 2,147,172	\$ 4,295,606	\$ 2,148,434	\$ 1,057,045	\$ 138,197	\$ 329,672	\$ 1,557,995
2010	1,557,995	3,559,679	2,001,684	907,661	92,217	307,153	1,049,704
2011	1,049,704	2,916,802	1,867,098	770,604	54,884	286,501	620,486
2012	620,486	2,362,044	1,741,558	646,441	23,722	267,237	265,005
2013	265,005	1,889,464	1,624,459	535,447	(1,732)	249,269	(22,905)
2014	(22,905)	1,492,329	1,515,234	437,650	(22,000)	232,509	(250,046)
2015	(250,046)	1,163,307	1,413,353	352,780	(37,650)	216,875	(423,600)
2016	(423,600)	894,721	1,318,321	280,340	(49,272)	202,293	(550,919)
2017	(550,919)	678,761	1,229,680	219,564	(57,456)	188,691	(639,248)
2018	(639,248)	507,751	1,146,999	169,413	(62,776)	176,004	(695,433)
2019	(695,433)	374,444	1,069,877	128,759	(65,766)	164,170	(725,787)
2020	(725,787)	272,153	997,940	96,371	(66,911)	153,131	(735,938)
2021	(735,938)	194,903	930,841	71,018	(66,637)	142,835	(730,758)
2022	(730,758)	137,495	868,253	51,538	(65,310)	133,231	(714,374)
2023	(714,374)	95,499	809,873	36,836	(63,235)	124,273	(690,172)
2024	(690,172)	65,247	755,419	25,782	(60,652)	115,917	(660,688)
2025	(660,688)	43,938	704,626	17,737	(57,749)	108,123	(628,051)
2026	(628,051)	29,198	657,249	12,080	(54,682)	100,853	(593,959)
2027	(593,959)	19,097	613,056	8,102	(51,565)	94,072	(559,554)
2028	(559,554)	12,281	571,835	5,378	(48,478)	87,747	(525,663)

## **DESCRIPTION OF ACTUARIAL METHODS AND ASSUMPTIONS**

### **Actuarial Cost Method**

The method of financing the System is prescribed in Chapter 35 Part 1(12) of the Milwaukee City Charter.

#### **Method: Projected Unit Credit**

Since the Fund is closed to new participants and all participants are retired, the Actuarial Accrued Liability (AAL) is equal to the Actuarial Present Value of benefits expected to be paid to and on behalf of current Annuitants and Widow Annuitants. The Unfunded Actuarial Accrued Liability (UAAL) is the difference between the AAL and the Actuarial Value of Assets. Based on the provisions of Chapter 35, the annual contribution consists of an amount sufficient to amortize the UAAL over a ten-year period with a series of level dollar payments, plus budgeted administrative expenses for the year. This funding method was adopted effective January 1, 2006.

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

The market value of assets is the value of investments if they were to be sold currently, plus the contribution receivable for the plan year just ended. The actuarial value of assets is equal to the market value of assets. This definition of the actuarial value of assets was adopted in 2005.

**Actuarial Assumptions**  
**Adopted Effective January 1, 2007**

**Interest Rate and Inflation**

Interest: 8.5% per annum

Inflation: 3.0% per annum

**Post-Retirement Mortality**

Male: RP-2000 Mortality Table with five years of projected improvements

Female: UP-1994 Mortality Table, with six years of projected improvements

**Table 4**

**POLICEMEN'S ANNUITY AND BENEFIT FUND**  
**THE NUMBER AND ANNUAL BENEFITS PAYABLE TO**  
**ANNUITANTS AND WIDOWS**  
**AS OF JANUARY 1, 2009**

Age	Annuitants		Widows		Totals	
	Number	Annuities	Number	Annuities	Number	Annuities
76			1	\$ 6,000	1	\$ 6,000
80			2	12,000	2	12,000
82			2	12,000	2	12,000
83			1	15,332	1	15,332
84			2	15,402	2	15,402
85			4	31,187	4	31,187
86	1	\$ 10,381	8	48,898	9	59,279
87	4	103,324	5	35,620	9	138,944
88	6	111,778	5	38,073	11	149,851
89	5	74,843	7	48,229	12	123,073
90	2	35,778	11	75,806	13	111,584
91	4	72,965	5	32,030	9	104,995
92			10	65,000	10	65,000
93	5	61,261	9	55,037	14	116,298
94	2	25,029	3	28,956	5	53,985
95	3	27,177	2	15,155	5	42,332
96	1	16,289	3	18,000	4	34,289
97			2	14,592	2	14,592
98	1	15,412			1	15,412
99			1	6,851	1	6,851
104			1	6,326	1	6,326
<b>Total</b>	34	\$ 554,238	84	\$ 580,493	118	\$ 1,134,731