

April 16, 2015

The Retirement Board
City of Taylor Police and Fire Retirement System
Taylor, Michigan

Dear Board Members:

The purpose of the annual actuarial valuation of the City of Taylor Police and Fire Retirement System as of June 30, 2014 is to:

- Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members of the Retirement System,
- Compare accrued assets with accrued liabilities to assess the funded condition of the Retirement System, and
- Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2015.

This valuation has been conducted in accordance with generally accepted actuarial principles and practices. Data concerning active members, retirees, beneficiaries and assets was provided by your staff. This data has been reviewed for reasonableness, but no attempt has been made to audit such information. The valuation was based on the provisions of the Retirement System as amended through June 30, 2014. The actuarial assumptions used in this valuation represent reasonable expectations of future experience under the System. This valuation has been prepared under the supervision of a Member of the American Academy of Actuaries who meets the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,



Denise M. Jones



Sandra W. Rodwan, M.A.A.A

City of Taylor
Police and Fire Retirement System

Actuarial Valuation as of June 30, 2014

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Section One:
Valuation Summary



Purpose of Valuation

The purpose of the annual actuarial valuation of the City of Taylor Police and Fire Retirement System as of June 30, 2014 is to:

- ❖ Compute the liabilities associated with benefits likely to be paid on behalf of current retired and active members of the Retirement System,
- ❖ Compare accrued assets with accrued liabilities to assess the funded condition of the Retirement System, and
- ❖ Compute the City's recommended contribution rate for the Fiscal Year beginning July 1, 2015.

Liabilities and Funded Condition of Retirement System

Accrued liabilities of the Retirement System as of June 30, 2014 were computed to be \$167,330,715. The funding value of accrued assets was \$105,226,637. The ratio of the funding value of accrued assets to accrued liabilities was 62.9%.

Funding Value of Assets

A smoothed market value of assets was used for the June 30, 2014 valuation. This method, which spreads the difference between actual and expected investment return over five years, is unchanged from last year's valuation.

Computed City's Contribution Rate

The City's normal cost contribution rate was computed to be 15.58% of active member payroll (23.58% total normal cost less 8.00% member contributions). The unfunded accrued liabilities were amortized over 25 years as a level percent of future payroll. The amortization of the unfunded accrued liabilities was 39.86% of member payroll. The City's total contribution for the FY beginning July 1, 2015 was therefore computed to be 55.44% of member payroll.

Retirement System Experience

Experience for the year ended June 30, 2014 was more favorable than expected. The primary source of the favorable experience was the recognized rate of investment return on the smoothed funding value of assets which was more than assumed (12.1% vs. 7.6%).

Assumption and Method Changes

There were no assumption and/or method changes included in this valuation.

Benefit Provision Changes

There were no benefit changes included in this valuation.

Participant Data

	<u>06/30/2014</u>	<u>06/30/2013</u>
Active Members	119	114
Active Member Payroll	\$9,739,971	\$9,328,103
Retirees and Beneficiaries	234*	231**
Annual Pensions	\$11,461,609	\$11,290,211
Inactive Vested Members	5	4
Estimated Annual Pensions	\$145,286	\$105,251

*Including 24 alternate payees receiving benefits totaling \$455,054 pursuant to Eligible Domestic Relations Orders.

**Including 23 alternate payees receiving benefits totaling \$441,854 pursuant to Eligible Domestic Relations Orders.

Financial Data

	<u>06/30/2014</u>	<u>06/30/2013</u>
Funding Value of Assets	\$105,226,637	\$99,259,779
Market Value of Assets	117,715,084	104,412,884



Section Two:

***Actuarial Calculations –
Funding***



Computed Contribution Rates for the Year Beginning July 1, 2015

The contribution rates shown below are expressed as level percents of active member payroll.

The normal cost can be viewed as the long-term on-going cost of the Retirement System. Unfunded actuarial accrued liability as of June 30, 2014 was amortized as a level percent of payroll over 25 years. The 25 year period was first used for the 2012 valuation. The City’s total contribution rate has been computed to be 55.44% of payroll for the fiscal year beginning July 1, 2015.

	<u>Percents of Payroll</u>
Normal Cost	
Regular Retirement	20.77%
Pre-retirement Death	0.47
Disability	1.04
Withdrawal	<u>1.30</u>
Total Normal Cost	23.58%
Member Portion	8.00
City’s Computed Normal Cost	15.58%
Unfunded Actuarial Accrued Liability	39.86
City’s Total Contribution Rate	55.44%
City’s Dollar Contribution**	\$5,588,834

*Based on projected payroll.

Unfunded Actuarial Accrued Liability

	<u>June 30, 2014</u>	<u>June 30, 2013</u>
Actuarial Accrued Liabilities	\$167,330,715	\$161,043,175*
Assets Allocated to Funding	<u>105,226,637</u>	<u>99,259,779</u>
Unfunded Actuarial Accrued Liabilities	\$62,104,078	\$61,783,396*

Computed City Contributions

Valuation Date June 30	Fiscal Year Beginning July 1	Recommended Dollar Contributions**	Percent of Valuation Payroll
1995	1996	\$886,000	11.45%
2000#@	2001	792,263	5.94
2001@	2002	1,258,709	12.20
2002@	2003	2,000,194	16.11
2003#@	2004	2,497,495	20.32
2004#	2005	2,943,025	24.94
2005	2006	4,023,065	29.95
2006+	2007	4,820,841	34.07
2006@	2007	4,977,904	35.18
2007	2008	5,483,018	36.61
2008@	2009	5,613,904	38.19
2009@	2010	5,917,992	40.58
2010	2011	6,059,600	45.04
2011@	2012	6,070,834	48.85
2012#@	2013	5,145,379	63.36
2013	2014	5,409,465	56.03
2014	2015	5,588,834	55.44

*Does not include additional liability for Case No. 01-72176 settlement.

**Actual amounts for Fiscal Years beginning before July 1, 2005.

After changes in benefit provisions.

@ After changes in actuarial assumptions or methods.

Note: Results shown throughout this report for years prior to 2004 were prepared by the previous actuarial firm.

History of Assets and Accrued Liabilities

Valuation Date June 30	Valuation Assets	Actuarial Accrued Liabilities	Funded Ratio	Unfunded Actuarial Accrued Liabilities
1990	\$46,063,061	\$43,922,543	104.9%	\$(2,140,518)
1991	49,737,330	47,178,973	105.4	(2,558,357)
1992	53,556,305	50,247,014	106.6	(3,309,291)
1993	58,155,660	56,081,864	103.7	(2,073,796)
1994	62,741,421	59,670,974	105.1	(3,070,447)
1995	66,738,487	64,413,553	103.6	(2,324,934)
1996@	72,893,834	69,575,148	104.8	(3,318,686)
1997#@	80,642,072	77,075,797	104.6	(3,566,275)
1998#	90,246,507	80,253,845	112.5	(9,992,662)
1999#	100,539,640	95,699,572	105.1	(4,840,068)
2000#@	106,949,853	100,490,847	106.4	(6,459,006)
2001@	109,890,095	106,771,235	102.9	(3,118,860)
2002@	108,014,638	110,532,059	97.7	2,517,421
2003#@	103,993,810	113,029,146	92.0	9,035,336
2004#	100,385,111	117,089,217	85.7	16,704,106
2005	98,951,961	123,358,784	80.2	24,406,823
2006@	100,038,258	132,777,933	75.3	32,739,675
2007	105,253,136	138,917,506	75.8	33,664,370
2008@	107,616,702	143,634,491	74.9	36,017,789
2009@	106,010,390	146,368,393	72.4	40,358,003
2010	104,077,490	150,774,376	69.0	46,696,886
2011@	103,934,745	155,333,797	66.9	51,399,052
2012#@	99,683,637	160,414,696	62.1	60,731,059
2013	99,259,779	161,043,175*	61.6	61,783,396*
2014	105,226,637	167,330,715	62.9	62,104,078

After changes in benefit provisions.

@ After changes in actuarial assumptions or methods.

*Does not include additional liability for Case No. 01-72176 settlement.

Note: Results shown throughout this report for years prior to 2004 were prepared by the previous actuarial firm.

Comment and Recommendations

Comment: Experience for the year ended June 30, 2014 was more favorable than assumed based on the long-term assumptions. The primary source of the favorable experience was the recognized rate of investment return on the funding value of assets which was less than assumed (12.1% vs. 7.6% assumed).



Section Three:

***Retirement System
Benefit Provisions***



Benefit Provision Summary

Service Retirement

Eligibility:

Corporal/Patrol hired prior to 10/1/2011 and Fire hired prior to August 1, 2012: Any age with 20 or more years of service or age 60 regardless of service. Fire post July 31, 2012 hires are covered by a Defined Contribution Plan.

Corporal/Patrol hired after 9/30/2011: Age 50 with 25 or more years of service or age 60.

Police Command: Any age with 25 or more years of service or age 60 regardless of service. Command officers are eligible to participate in the DROP after 20 years of service.

Annual Benefit:

Corporal/Patrol hired prior to 10/1/2011:

Straight life pension equals 2.8% of average final compensation (AFC) times first 25 years of service, maximum of 70% of AFC.

Police Command and Fire hired prior July 1, 2007:

Straight life pension equals 2.8% of average final compensation (AFC) times first 25 years of service plus 1.0% of AFC times years of service in excess of 25 years to a maximum of 75% of AFC.

Fire hired on or after July 1, 2007 (and before August 1, 2012) and Corporal/Patrol hired after 9/30/2011:

Straight life pension equals 2.25% of AFC times years of service. Fire AFC will use base wages only and overtime is capped at \$3,000. Corporal/Patrol AFC shall be base wage plus a maximum of 240 hours of paid leave.

Average Final Compensation:

Highest 3 years out of last 10.

Deferred Retirement

Eligibility:

10 or more years of service.

Annual Benefit:

Computed as service retirement but based upon service, AFC and benefit provisions in effect at termination. Benefit begins at date retirement would have occurred had member remained in employment.

Duty Disability Retirement

Eligibility:

Payable upon the total and permanent disability of a member in the line of duty.

Annual Benefit:

To age 55: 50% of AFC.

At age 55: Same as Service Retirement Pension with service credit from date of disability to age 55.

Non-Duty Disability

Eligibility:

Payable upon the total and permanent disability of a member with 5 or more years of service

Annual Benefit:

To Age 55: 1.5% of AFC times years of service.

At Age 55: Same as Service Retirement Pension.

Duty Death in Service Survivor's Pension

Eligibility:

Payable upon the expiration of a worker's compensation to the survivors of a member who died in the line of duty.

Annual Benefit:

Same amount that was paid by worker's compensation.

Non-Duty Death in Service Survivor's Pension

Eligibility:

Payable to a surviving spouse, if any, upon the death of a member with 10 or more years of service.

Annual Benefit:

Fire: Spouse's pension equals 60% of the straight life pension.

All others: Accrued straight life pension actuarially reduced in accordance with an Option I election.

Death After Retirement Survivor's Pension

Eligibility:

Payable to an eligible surviving spouse, if any, upon the death of a retired member who was receiving a straight life pension which was effective July 1, 1975 or later.

Annual Benefit:

Spouse's pension equals 60% of the straight life pension the deceased retiree was receiving.

Member Contributions

8% of pay.

Section Four:

***Actuarial Assumptions
And Methods***



Actuarial Assumptions

Economic Assumptions

- (i) **Interest Rate** 7.6% (net of expenses)

- (ii) **Salary Increases**
 - Across-the-Board 0% until 2017 then 3.5% thereafter
 - Merit and Longevity Age-related rates

Sample Annual Rates of Salary Increase

Age	Inflation	Merit and Longevity	Total
20	3.5%	3.0%	6.5%
25	3.5%	3.0	6.5
30	3.5%	2.6	6.1
35	3.5%	1.1	4.6
40	3.5%	0.2	3.7
45	3.5%	0.2	3.7
50	3.5%	0.2	3.7
55	3.5%	0.1	3.6
60	3.5%	-	3.5

Demographic Assumptions

(i) Mortality

RP2000 Combined Healthy Mortality Table

Sample Ages	Future Life Expectancy (Years)	
	Men	Women
50	30.8	33.6
55	26.2	29.0
60	21.8	24.4
65	17.6	20.1
70	13.9	16.3
75	10.6	12.8
80	7.8	9.7

Note: The valuation process uses mortality rates at each future age for an individual in order to determine the present value of future benefits. Life expectancy is shown to illustrate the mortality table but is not used in the valuation process.

(ii) Disability

Sample Ages	Percent Becoming Disabled Within Next Year	
	Men	Women
20	0.07%	0.03%
25	0.09	0.05
30	0.10	0.07
35	0.14	0.13
40	0.21	0.19
45	0.32	0.28
50	0.52	0.45
55	0.92	0.76

(iii) Termination of Employment

Service related rates for first 5 years of employment. Age related rates after first 5 years of employment

Sample Ages	Years of Service	Percent Terminating	
		Police	Fire
All	0	10.00%	8.00%
	1	8.00	6.00
	2	6.00	4.50
	3	4.00	3.00
	4	3.00	2.00
25	5 & Over	2.97	2.00
30		2.57	1.65
35		1.52	0.86
40		0.59	0.34
45		0.33	0.29
50		0.33	0.29
55		0.33	0.29
60		0.33	0.29

(iv) Retirement Rates

**Active Members Retiring within Year
Following Attainment of Indicated Retirement Age**

Years of Service	Percent of Active Members Retiring Within Next Year			Retirement Age	Percent of Active Members Retiring Within Next Year	
	All Other Police	Corp/Patrol Hired after 9/30/11	Fire		Police	Fire
20	70%		30%	60	100%	100%
21	20		20			
22	20		20			
23	20		20			
24	20		20			
25	100	50%	50			
26		40	50			
27		40	50			
28		40	50			
29		40	50			
30		90	100			
31		40				
32		100				

Corporal/Patrol hired prior to 10/1/11 and Fire members are eligible for retirement with 20 years of service or after attaining age 60. Police Command are eligible for DROP with 20 years of service. Police Command are eligible for normal retirement with 25 years of service or after attaining age 60. Corporal Patrol hired after 9/30/11 are eligible for retirement at age 50 with 25 years of service or after attaining age 60.

Lump sum factors: 17% of active member normal retirement liabilities for Police and 10% of active member normal retirement liabilities for Fire. These loads may need to be revised in the future based on emerging experience.

Actuarial Method Used for the Valuation

Normal Cost. Normal cost and the allocation of actuarial present values between service rendered before and after the valuation date were determined using an individual entry-age actuarial cost method having the following characteristics:

- ❖ The annual normal costs for each individual active member, payable from date of hire to date of retirement, are sufficient to accumulate the value of the member's benefit at the time of retirement;
- ❖ Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

Financing of Unfunded Actuarial Accrued Liability. Unfunded actuarial accrued liability was amortized as a level percent of payroll over a 25 year period and added to the computed employer normal cost.

Active member payroll was assumed to increase 3.5% a year for the purpose of determining the level percent of payroll amortization payment.



Section Five:
Valuation Data



Asset Summary

As of June 30, 2014 the market value of assets was reported to be \$117,715,084. The funding value of assets (smoothed market value) was computed to be \$105,226,637.

Funding Value of Assets

A. Funding Value Beginning of Year	\$99,259,779
B. Market Value End of Year	117,715,084
C. Market Value Beginning of Year	104,412,884
D. Non-Investment Net Cash Flow	(5,687,318)
E. Investment Income	
E1. Market Total B-C-D	18,989,518
E2. Amount for Immediate Recognition (7.6%)	7,327,625
E3. Amount for Phased-In Recognition E1-E2	11,661,893
F. Phased-In Recognition of Investment Income	
F1. Current Year $0.20 \times E3$	2,332,379
F2. First Prior Year	1,379,833
F3. Second Prior Year	(1,480,663)
F4. Third Prior Year	1,980,757
F5. Fourth Prior Year	114,245
F6. Total Phased-In Amount	4,326,551
G. Funding Value End of Year $A+D+E2+F6$	105,226,637
H. Difference Between Market and Funding Value	\$12,488,447
I. Recognized Rate of Return	12.1%
J. Ratio of Funding Value to Market Value	89.4%

Participant Summary

Retirees and Beneficiaries Included in the Valuation

There were 234 retirees and beneficiaries included in the valuation, with annual pensions totaling \$11,461,609. Included in this total are 24 alternate payees receiving benefits totaling \$455,054.

There were 2 new age and service retirements with pensions totaling \$109,882, 1 new beneficiary with a pension totaling \$23,631, 1 new DROP and 1 new alternate payee were added and 2 retirees were removed in 2014.

Pensions Being Paid Historical Schedule

Valuation Date June 30	No.	Annual Pensions	Average Pension	Discounted Value of Pensions	
				Total	Average
1995	83	\$2,844,663	\$34,273	\$31,974,175	\$385,231
2000	149	6,085,866	40,845	68,126,791	457,227
2001	156	6,442,233	41,296	71,745,841	459,909
2002	163	6,707,742	41,152	74,134,281	454,812
2003	181	7,645,268	42,239	85,119,435	470,273
2004	181	7,700,045	42,542	85,195,935	470,696
2005	184	7,881,237	42,833	86,107,080	467,973
2006	190	8,283,847	43,599	90,795,403	477,871
2007	191	8,404,642	44,003	91,369,752	478,376
2008	195	8,605,974	44,133	92,592,662	474,834
2009	194	8,589,355	44,275	91,404,656	471,158
2010	201	9,210,058	45,821	97,973,402	487,430
2011	201	9,424,943	46,890	99,603,600	495,540
2012	225	10,901,222	48,450	117,054,252	520,241
2013	231	11,290,211	48,875	119,785,940	518,554
2014	234	11,461,609	48,981	120,228,142	513,795

Retirees and Beneficiaries - June 30, 2014
Age Distribution (Including Alternate Payees)

Attained Ages	Retirees		Disability		Totals	
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions
30-34	1	\$38,792		\$ -	1	\$38,792
40-44	11	663,138			11	663,138
45-49	17	1,348,372			17	1,348,372
50-54	27	1,444,706	1	42,981	28	1,487,687
55-59	32	1,789,712			32	1,789,712
60-64	30	1,603,249	1	38,042	31	1,641,291
65	16	799,977			16	799,977
66	11	482,765			11	482,765
67	4	203,470			4	203,470
68	8	427,429			8	427,429
69	5	178,226			5	178,226
70	14	497,729	1	20,207	15	517,936
71	5	213,277			5	213,277
72	11	461,471			11	461,471
73	2	69,730			2	69,730
74	1	47,492			1	47,492
75	6	201,302			6	201,302
76	3	126,755			3	126,755
77	5	125,174			5	125,174
78	1	19,307			1	19,307
79	1	44,354			1	44,354
80	7	194,233			7	194,233
81	6	177,357			6	177,357
82	3	85,429			3	85,429
85	1	35,597			1	35,597
87	2	70,747			2	70,747
89	1	10,589			1	10,589
Totals	231	\$11,360,379	3	\$101,230	234	\$11,461,609

Active Members as of June 30, 2014
Age and Service Distribution

Attained Age	Service					No.	Totals Payroll
	0-4	5-9	10-14	15-19	20-24		
Under 20	1					1	\$35,526
20-24	5					5	199,281
25-29	11					11	496,736
30-34	2	1	7	1		11	799,020
35-39		1	29	6		36	3,256,691
40-44			13	16	2	31	2,733,570
45-49			3	13	3	19	1,783,359
50-54			1	2		3	245,642
55-59					1	1	88,911
60-64					1	1	101,235
Totals	19	2	53	38	7	119	\$9,739,971

Group Averages:

Age: 39.2 years
Service: 13.4 years
Annual Pay: \$81,848

Active Members – Three-Year Summary

	2014	2013	2012
Active Members	119	114	92
Valuation Payroll	\$9,739,971	\$9,328,103	\$7,846,245
Average Compensation	\$81,848	\$81,929	\$85,285
Average Age (yrs.)	39.2	39.5	39.0
Average Service (yrs.)	13.4	12.6	12.7

Inactive Members - June 30, 2014

<u>Age</u>	<u>No.</u>	<u>Estimated Annual Pensions</u>
33	1	\$24,527
35	1	26,452
37	2	68,783
45	1	25,525
Totals	5	\$145,287