

CITY OF DEARBORN CHAPTER 21 RETIREMENT SYSTEM
44TH ANNUAL ACTUARIAL VALUATION
JUNE 30, 2010

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February 11, 2011

Board of Trustees
City of Dearborn Chapter 21 Retirement System
Dearborn, Michigan

Re: City of Dearborn Chapter 21 Retirement System Actuarial Valuation as of June 30, 2010

Dear Board Members:

The results of the 44th Annual Actuarial Valuation of the City of Dearborn Chapter 21 Retirement System are presented in this report. The purpose of the valuation was to measure the System's funding progress and to determine the employer contribution for the next fiscal year.

The valuation was based upon information, furnished by the City, concerning Retirement System benefits, financial transactions, and active members, terminated members, retirees and beneficiaries. Data was checked for internal and year-to-year consistency, but was not otherwise audited.

To the best of our knowledge, this report is complete and accurate and the valuation was conducted in accordance with standards of practice prescribed by the Actuarial Standards Board and in compliance with the applicable state statutes. All of the undersigned are Members of the American Academy of Actuaries (MAAA) and meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. It is our opinion that the actuarial assumptions used for the valuation produce results which are reasonable.

Respectfully submitted,



Mark Buis, FSA, MAAA



Curtis Powell, EA, MAAA

MB/CP:sac

EXECUTIVE SUMMARY/BOARD SUMMARY

1. Required Employer Contributions to Support Retirement Benefits and Funded Status

The computed employer contribution for the fiscal year beginning July 1, 2011 is zero. The funded status for the System is shown below:

Division	Funded %
All Divisions	147.6%

2. Funded Status Comparison

The chart below compares the results of this valuation of the Retirement System with the results of the prior year's valuation:

Valuation Date	6/30/2009	6/30/2010
All Divisions	141.6%	147.6%

3. Reasons for Change

There are three general reasons why the funded status changes from one valuation to the next. The first is a change in the benefits or eligibility conditions of the plan. The second is a change in the valuation assumptions used to predict future occurrences. The third is the difference during the year between the plan's actual experience and what the assumptions predicted.

EXECUTIVE SUMMARY/BOARD SUMMARY

There were no benefit changes reported to the actuary for the year ended June 30, 2010. In addition, there were no assumption changes.

4. Plan Experience

During the year ended June 30, 2010, the return on fund assets was slightly higher than expected. However, market value smoothing techniques used in this valuation of the System recognize both past and present investment gains and losses. The resulting actuarial asset yield for the year ended June 30, 2010 was 4.32%. Partially offsetting the loss, the System experienced a liability gain due to cost of living increases that were less than the assumed increase. The amount of the loss is developed on page B-2.

5. Looking Ahead

Due to the asset smoothing method, only a portion of the gains and losses for prior years was recognized this year. If the market value was used (instead of smoothed value), the funded status would have been 131.4% (instead of 147.6%).

EXECUTIVE SUMMARY/BOARD SUMMARY

6. Recommendation

Useful and reliable valuation results are dependent on an underlying set of appropriate actuarial assumptions. From time to time the assumptions should be reevaluated in the light of emerging experience - the plan's own and the experience of similar groups -- and expected future experience. With a plan the size of the City of Dearborn Chapter 21, credible experience is limited and can vary significantly from year to year. Over an extended period, however, some trends can be detected. We believe that it is timely for an analysis to be made of the Retirement System's experience during the last 5 years. **Additionally, the GFOA recommends that a study be performed at least once every 5 years.** Such a study would:

- Analyze mortality rates and cost of living assumptions;
- look at economic and demographic experience separately; and
- suggest appropriate changes in economic and demographic assumptions and show their effect on funded status.

It is recommended that an experience study be conducted prior to the next regular annual actuarial valuation.

SECTION A
INTRODUCTION

FUNDING OBJECTIVE

The funding objective of the Retirement System is to establish and receive contributions which will accumulate assets during each member's working years which, together with regular interest, will be sufficient to pay promised benefits after retirement.

CONTRIBUTION RATES

The Retirement System is supported by member contributions, City contributions and investment income from Retirement System assets.

Contributions which satisfy the funding objective are determined by the annual actuarial valuation and are sufficient to:

- (1) Cover the actuarial present value of benefits allocated to the current year by the actuarial cost method (the normal cost); and
- (2) Finance over a period of future years the actuarial present value of benefits not covered by valuation assets and anticipated future normal costs (the unfunded actuarial accrued liability).

The financing program for Chapter 21 was completed as of June 30, 1998, 8 years ahead of schedule. This was a milestone event in the operation of the Chapter 21 Retirement System. Dedication to sound funding principles over many years was required to achieve this goal. Superior investment return was an important contributing factor.

SECTION B
FUNDING RESULTS

PRESENT VALUE OF FUTURE BENEFITS AND ACCRUED LIABILITY

Determination of Unfunded Accrued Liability

	June 30,	
	2009	2010
A. Accrued Liability		
1. For retirees and beneficiaries	\$ 24,504,260	\$ 22,322,796
B. Present Assets (Funding Value)	34,705,537	32,947,926
C. Unfunded Accrued Liability: (A.1) - (B)	<u>(10,201,277)</u>	<u>(10,625,130)</u>
D. Funding Ratio: (B) / (A.1)	<u>141.6%</u>	<u>147.6%</u>
E. Funding Ratio: Market Value Basis	<u>118.9%</u>	<u>131.4%</u>

Dearborn Chapter 21 Retirement System Annual Actuarial Valuation

DERIVATION OF EXPERIENCE GAIN/(LOSS)

Actual experience will never (except by coincidence) exactly match assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below, along with a year-by-year comparative schedule.

	June 30,	
	2009	2010
(1) UAAL* at start of year	\$ (10,126,431)	\$ (10,201,277)
(2) Interest accrual	(708,850)	(714,089)
(3) Expected UAAL before changes: (1) + (2)	(10,835,281)	(10,915,366)
(4) Change from benefit increases	0	0
(5) Change in actuarial method	0	0
(6) Expected UAAL after changes: (3) + (4) + (5)	(10,835,281)	(10,915,366)
(7) Actual UAAL at end of year	(10,201,277)	(10,625,130)
(8) Gain (loss): (6) - (7)	\$ (634,004)	\$ (290,236)

* *Unfunded actuarial accrued liabilities*

Valuation Date	Experience Gain (Loss)
June 30	As % of Beginning Accrued Liability
2008	4.5 %
2009	(2.4)%
2010	(1.2)%

SECTION C
FUND ASSETS

Dearborn Chapter 21 Retirement System Annual Actuarial Valuation

DEVELOPMENT OF FUNDING VALUE OF ASSETS (5-YEAR SMOOTHING)

Year Ended June 30:	2010	2011	2012	2013	2014
A. Funding Value Beginning of Year	\$34,705,537				
B. Market Value End of Year	29,331,348				
C. Market Value Beginning of Year	29,147,591				
D. Non-Investment Net Cash Flow	(3,187,394)				
E. Investment Return					
E1. Market Total: B - C - D	3,371,151				
E2. Amt. for Immediate Recognition: (7.0%)	2,317,829				
E3. Amt. for Phased-in Recognition: E1 - E2	1,053,322				
F. Phased-in Recognition of Investment Return					
F1. Current Year (.20 x E3)	210,664				
F2. First Prior Year	(1,385,542)	\$ 210,664			
F3. Second Prior Year	(412,790)	(1,385,542)	\$ 210,664		
F4. Third Prior Year	522,968	(412,790)	(1,385,542)	\$ 210,664	
F5. Fourth Prior Year	176,654	522,968	(412,789)	(1,385,541)	\$210,666
F6. Total Recognized Investment Gain (Loss)	(888,046)	(1,064,700)	(1,587,667)	(1,174,877)	210,666
G. Funding Value End of Year: A + D + E2 + F6	32,947,926				
H. Difference between Market & Funding Value	(3,616,578)	(2,551,878)	(964,211)	210,666	0
I. Market Value Rate of Return	12.2 %				
J. Ratio of Funding Value to Market Value	112.3 %				

The funding value of assets recognizes assumed investment return (line E2) fully each year. Differences between actual and assumed investment return (line E3) are phased-in over a closed 5-year period. During periods when investment performance exceeds the assumed rate, funding value of assets will tend to be less than market value. During periods when investment performance is less than the assumed rate, funding value of assets will tend to be greater than market value. The funding value of assets is **unbiased** with respect to market value. At any time it may be either greater or less than market value. If actual and assumed rates of investment return are exactly equal for 4 consecutive years, the funding value will become equal to market value.

SECTION D
CENSUS DATA

RETIRANTS AND BENEFICIARIES

Attained Ages	Retirants		Beneficiaries		Disability		Death-in-Service		All Annuities	
	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances	No.	Monthly Allowances
55-59										
60-64			1	\$ 2,808					1	\$ 2,808
65-69										
70-74			2	3,023			1	\$ 1,634	3	4,657
75-79	12	\$ 37,295	6	19,511	2	\$ 5,437	3	8,561	23	70,804
80-84	24	70,936	11	25,138	1	2,857	3	6,825	39	105,756
85	1	2,473	4	7,944			1	2,346	6	12,763
86	3	8,412							3	8,412
87			2	3,926					2	3,926
88			2	4,385					2	4,385
89	2	5,288	1	1,703	1	2,996			4	9,987
90	2	6,081	1	2,131					3	8,212
91			2	3,138					2	3,138
92			3	5,851					3	5,851
93										
94			1	2,112					1	2,112
95										
96	1	3,473							1	3,473
97			1	1,220					1	1,220
Totals	45	\$133,958	37	\$82,890	4	\$11,290	8	\$19,366	94	\$247,504

SECTION E
METHODS AND ASSUMPTIONS

APPENDIX

**SUMMARY OF ASSUMPTIONS USED
FOR THE JUNE 30, 2010 ACTUARIAL VALUATION
OF DEARBORN CHAPTER 21**

(Assumptions Adopted by Board of Trustees after Consulting with Actuary)

ECONOMIC ASSUMPTIONS

The investment return rate used in making the valuation was 7% per year, compounded annually (net after administrative expenses). The real rate of return is the portion of total investment return which is more than the inflation rate. Considering inflation recognition of 4.5%, the 7% total investment return rate translates to an assumed real rate of return of 2.5%.

The annuity escalator assumption was 4.5%.

NON-ECONOMIC ASSUMPTIONS

The mortality table used to predict retired healthy life mortality was 110% of the GAM 1994 Male Table for men and 100% of the GAM 1994 Female Table for women. These rates were first used for the June 30, 2005 valuation. Related values are shown on page E-3.

For disabled participants, the tables used are the GAM 1994 Male and Female Tables set forward 10 years.

(continued on next page)

**SUMMARY OF ASSUMPTIONS USED
FOR THE JUNE 30, 2010 ACTUARIAL VALUATION
OF DEARBORN CHAPTER 21**

Employer contribution dollars were assumed to be *paid in equal installments throughout* the employer's fiscal year.

Present assets (cash & investments) are valued on a market-related basis effective June 30, 1994. At each year end (June 30), the funding asset value is moved toward market value, by immediate recognition of assumed earnings and a five year phase-in of the difference between actual and assumed earnings.

The data about persons now covered and about present assets were furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the Actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).

(continued on next page)

**SUMMARY OF ASSUMPTIONS USED
FOR THE JUNE 30, 2010 ACTUARIAL VALUATION
OF DEARBORN CHAPTER 21**

Single Life Retirement Values

Sample Attained Ages	Future Life Expectancy (Years)	
	Men	Women
60	21.01	25.59
65	17.08	21.28
70	13.60	17.30
75	10.51	13.60
80	7.85	10.31
Ref:	261 x 1.10	262 x 1.00

*Comparative Retirement Values
Level Monthly Amount & Increasing Monthly Amount*

A 4.5% Increasing Monthly Amount means: a monthly payment of \$1.00 during the 1st year; \$1.05 monthly during the 2nd year; \$1.09 the 3rd year; \$1.14 the 4th year; and so forth.

Sample Attained Ages	Present Value of \$1 Monthly for Life		Present Value of \$1 Monthly for Life Increasing 4.5% Annually		Increasing Amount as Percent of Level Amount	
	Men	Women	Men	Women	Men	Women
60	\$125.02	\$137.85	\$186.99	\$218.08	149.6%	158.2%
65	111.80	126.50	158.42	189.45	141.7%	149.8%
70	97.71	113.58	131.21	160.80	134.3%	141.6%
75	82.56	98.39	105.20	131.62	127.4%	133.8%
80	66.96	81.90	81.22	103.68	121.3%	126.6%
Ref:	261 x 1.10	262 x 1.00	261 x 1.10	262 x 1.00		

SECTION F
PLAN PROVISIONS

SUMMARY OF PROVISIONS (2010) EVALUATED AND/OR CONSIDERED

The City of Dearborn Chapter 21 Police and Fire Retirement System is a closed plan. The last active member retired in the plan year ending June 30, 1995. The plan contains an “unlimited escalator” provision which calls for annuity payments to be changed automatically whenever the active member pay schedule changes for Chapter 23.

SECTION G
GLOSSARY

Dearborn Chapter 21 Retirement System Annual Actuarial Valuation

<i>Actuarial Accrued Liability</i>	The difference between (i) the actuarial present value of future plan benefits, and (ii) the actuarial present value of future normal cost. Sometimes referred to as “accrued liability” or “past service liability.”
<i>Accrued Service</i>	The service credited under the plan which was rendered before the date of the actuarial valuation.
<i>Actuarial Assumptions</i>	Estimates of future plan experience with respect to rates of mortality, disability, turnover, retirement, rate or rates of investment income and salary increases. Decrement assumptions (rates of mortality, disability, turnover and retirement) are generally based on past experience, often modified for projected changes in conditions. Economic assumptions (salary increases and investment income) consist of an underlying rate in an inflation-free environment plus a provision for a long-term average rate of inflation.
<i>Actuarial Cost Method</i>	A mathematical budgeting procedure for allocating the dollar amount of the “actuarial present value of future plan benefits” between the actuarial present value of future normal cost and the actuarial accrued liability. Sometimes referred to as the “actuarial funding method.”
<i>Actuarial Equivalent</i>	A single amount or series of amounts of equal value to another single amount or series of amounts, computed on the basis of the rate(s) of interest and mortality tables used by the plan.
<i>Actuarial Present Value</i>	The amount of funds presently required to provide a payment or series of payments in the future. It is determined by discounting the future payments at a predetermined rate of interest, taking into account the probability of payment.
<i>Amortization</i>	Paying off an interest-bearing liability by means of periodic payments of interest and principal, as opposed to paying it off with a lump sum payment.
<i>Experience Gain (Loss)</i>	A measure of the difference between actual experience and that expected based upon a set of actuarial assumptions during the period between two actuarial valuation dates, in accordance with the actuarial cost method being used.
<i>Normal Cost</i>	The annual cost assigned, under the actuarial funding method, to current and subsequent plan years. Sometimes referred to as “current service cost.” Any payment toward the unfunded actuarial accrued liability is not part of the normal cost.

Dearborn Chapter 21 Retirement System Annual Actuarial Valuation

<i>Reserve Account</i>	An account used to indicate that funds have been set aside for a specific purpose and is not generally available for other uses.
<i>Unfunded Actuarial Accrued Liability</i>	The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability.”
<i>Valuation Assets</i>	The value of current plan assets recognized for valuation purposes. Generally based on market value plus a portion of unrealized appreciation or depreciation.

APPENDIX

ACCOUNTING DISCLOSURE

This information is presented in draft form for review by the System's auditor. Please let us know if there are any items the auditor changes so that we may maintain consistency with the System's financial statements.

**STATEMENT OF PLAN ASSETS
AS OF JUNE 30, 2009 AND 2010**

	2009	2010
Assets		
Cash and short-term investments		
Cash and cash equivalents	\$ 25,267	\$ 33,577
Short-term investments	1,398,961	2,766,235
Subtotals	1,424,228	2,799,812
Receivables		
Accounts receivable and miscellaneous	0	0
Accrued interest and dividends	89,219	72,899
Unsettled trades	0	0
Subtotals	89,219	72,899
Investments, at fair value		
Fixed income	17,565,056	17,725,805
Stocks	4,774,128	4,624,541
Collateral pledged on securities loaned	1,122,847	389,990
Real estate	1,524,603	1,439,245
Co-mingled and mutual funds	4,908,925	5,115,139
Limited partnerships	0	0
Subtotals	29,895,559	29,294,720
Total Assets	31,409,006	32,167,431
Liabilities		
Payables	96,237	34,321
Securities loaned	1,122,847	389,990
Other	1,042,331	2,411,772
Subtotals	2,261,415	2,836,083
Net assets held in trust for pension benefits (A schedule of funding progress for the plan is presented on page Appendix-5.)	\$ 29,147,591	\$ 29,331,348

**STATEMENT OF CHANGES IN PLAN ASSETS
FOR THE FISCAL YEARS ENDED JUNE 30, 2009 AND 2010**

	Reconciliation as of June 30	
	2009	2010
Additions		
Contributions		
Employer	\$ 0	\$ 0
Plan members	0	0
Total contributions	0	0
Investment return		
Net appreciation	(5,579,328)	2,681,581
Interest and dividends	1,210,086	790,808
Gain on sale of securities	0	0
	(4,369,242)	3,472,389
Less investment expense	0	0
Net investment return	(4,369,242)	3,472,389
Total additions	(4,369,242)	3,472,389
Deductions		
Benefits	3,383,890	3,187,394
Refunds of contributions	0	0
Expenses	114,125	101,238
Total deductions	3,498,015	3,288,632
Net increase	(7,867,257)	183,757
Net assets held in trust for pension benefits		
Beginning of year	\$37,014,848	\$29,147,591
End of year	\$29,147,591	\$29,331,348

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FISCAL YEAR ENDED JUNE 30, 2010**

A. Summary of Significant Accounting Policies

Bases of Accounting. The accompanying financial statements are on the accrual basis of accounting.

Methods Used to Value Investments. Based on information supplied by the City of Dearborn, we have assumed the following: Investments are reported at fair value. Short-term investments are reported at cost, which approximates fair value. Securities traded on a national or international exchange are valued at the last reported sales price at current exchange rates. Mortgages are valued on the basis of future principal and interest payments, and are discounted at prevailing interest rates for similar instruments. The fair value of real estate investments is based on independent appraisals. Investments that do not have an established market are reported at estimated fair value.

B. Plan Description and Contribution Information

Membership information as of June 30, 2010, the date of the latest actuarial valuation, is as follows:

Retirees and beneficiaries	94
Terminated vested members	0
Active members	0
Total	94

Plan Description. The City of Dearborn Chapter 21 Police and Fire Retirement System is a closed plan. The last active member retired in the plan year ending June 30, 1995. The plan contains an “unlimited escalator” provision which calls for annuity payments to be changed automatically whenever the active member pay schedule changes for Chapter 23.

**NOTES TO THE FINANCIAL STATEMENTS
FOR THE FISCAL YEAR ENDED JUNE 30, 2010 (CONCLUDED)**

Contributions. Because all active members have retired, the financing of unfunded actuarial accrued liabilities determines employer contributions. For funding purposes, the financing period has been completed. (For accounting purposes, the financing period is 5 years.)

The employer's funding policy provides for a level dollar contribution for unfunded accrued liabilities over the financing period. To determine the employer contribution and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually.

On the basis of the June 30, 2010 actuarial valuation, the employer contribution was determined to be as follows:

Unfunded Accrued Liabilities:	\$(10,625,130)
Payment:	0

**REQUIRED SUPPLEMENTARY INFORMATION
SCHEDULE OF FUNDING PROGRESS**

(Dollar amounts in millions)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) -Entry Age (b)	Unfunded AAL (UAAL) (b)-(a)	Funded Ratio (a)/(b)
6/30/1998	\$43.19	\$41.59	\$(1.60)	103.8%
6/30/1999	45.73	41.20	(4.53)	111.0%
6/30/1999#	45.73	43.20	(2.53)	105.9%
6/30/2000	48.02	41.74	(6.28)	115.0%
6/30/2001	48.68	39.83	(8.85)	122.2%
6/30/2002	47.50	39.09	(8.41)	121.5%
6/30/2003	44.75	37.57	(7.18)	119.1%
6/30/2004	42.11	35.00	(7.11)	120.3%
6/30/2005	39.14	32.72	(6.42)	119.6%
6/30/2005#	39.14	33.42	(5.72)	117.1%
6/30/2006	37.16	31.74	(5.42)	117.1%
6/30/2007	36.83	28.58	(8.25)	128.9%
6/30/2008	36.61	26.48	(10.13)	138.2%
6/30/2009	34.71	24.50	(10.21)	141.6%
6/30/2010	32.95	22.32	(10.63)	147.6%

After change in actuarial assumptions.

SCHEDULE OF EMPLOYER CONTRIBUTIONS

Year Ended June 30	Annual Required Contribution	Actual Contributions	Percent Contributed
1998	\$889,920	\$889,920	100.0%
1999	0	0	100.0%
2000	0	0	100.0%
2001	0	0	100.0%
2002	0	0	100.0%
2003	0	0	100.0%
2004	0	0	100.0%
2005	0	0	100.0%
2006	0	0	100.0%
2007	0	0	100.0%
2008	0	0	100.0%
2009	0	0	100.0%
2010	0	0	100.0%

Dearborn Chapter 21 Retirement System Annual Actuarial Valuation

SUMMARY OF ACTUARIAL METHODS AND ASSUMPTIONS

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest actuarial valuation follows:

Valuation date	June 30, 2010
Actuarial cost method	Fully Funded Retiree Only Plan
Amortization method	Level dollar
Remaining amortization period	0 years
Asset valuation method	5-year smoothed market
Actuarial assumptions:	
Investment rate of return*	7.0%
Cost-of-living adjustments	4.5%