

REDFORD TOWNSHIP
POLICE AND FIRE RETIREMENT SYSTEM
FIFTY-SEVENTH ACTUARIAL VALUATION REPORT
AS OF MARCH 31, 2013

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April 21, 2014

The Pension Board
Redford Township Police and Fire
Retirement System
Redford Township, Michigan

Dear Board Members:

The results of the March 31, 2013 annual actuarial valuation of the Redford Township Police and Fire Retirement System are presented in this report. The purpose of the valuation was to measure the System's funding progress, provide actuarial information in connection with applicable Governmental Accounting Standards Board Statements and to determine the employer contribution for the 2014-2015 fiscal year. This report should not be relied upon for any other purpose. This report may be distributed to parties other than the System only in its entirety and only with the permission of the Board.

The valuation was based upon information, furnished by the Township, concerning Retirement System benefits, financial transactions, and individual members, terminated members, retirees and beneficiaries. Data was checked for internal and year to year consistency, but was not otherwise audited, by us. As a result, we are unable to assume responsibility for the accuracy or completeness of the data provided.

Future actuarial measurements may differ significantly from those presented in this report due to such factors as experience differing from that anticipated by actuarial assumptions, changes in plan provisions, actuarial assumptions/methods or applicable law. Due to the limited scope of this assignment, we did not perform an analysis of the potential range of future measurements.

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.

Curtis Powell and David T. Kausch are independent of the plan sponsor and are Members of the American Academy of Actuaries (MAAA) who meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. It is our opinion that the actuarial assumptions used for the valuation are reasonable.

Respectfully submitted,



Curtis Powell, EA, MAAA



David T. Kausch, EA, FSA, FCA, MAAA

CP/DTK:dj

SECTION A
VALUATION RESULTS

**TOWNSHIP'S COMPUTED CONTRIBUTIONS FOR THE
FISCAL YEAR BEGINNING APRIL 1**

Contributions for Fiscal Year Beginning April 1,	Contributions Expressed as Percents of Annual Pay	
	2014	2013
Normal Cost		
Age and service pensions	26.80 %	26.44 %
Pre-retirement death pensions	0.66 %	0.68 %
Disability pensions	0.83 %	0.92 %
Prospective refunds	0.24 %	0.25 %
Employee Normal Cost*	0.28 %	0.00 %
Township's Normal Cost	28.25 %	28.29 %
Unfunded Actuarial Accrued Liabilities (UAAL)**	41.90 %	38.12 %
Total Contribution For Pre-funded Benefits	70.15 %	66.41 %
Township's Total Contribution@	70.15 %	66.41 %
Township's Dollar Contribution	\$4,560,754	\$4,257,948

* *Weighted average.*

** *Unfunded actuarial accrued liabilities were financed as a level percent of payroll over a period of 20 years in fiscal year 2014 and 21 years in 2013.*

@ *Includes the Township's contribution of 5% of salary deposited to the individual member accounts in the Reserve for Employees' Contributions.*

The contributions shown on this page reflect the Township's goal to contribute based on the total active member payroll (including that of current DROP participants). The UAAL contribution payment shown above includes an adjustment needed to achieve this goal. Specifically, since the normal cost percentage above is being applied to payroll including DROP payroll which is no longer accumulating benefits, the UAAL percentage is adjusted down so that the total percent times total payroll equals the correct dollar contribution for the year.

In financing the actuarial accrued liabilities, the valuation assets of \$65,759,951 were distributed as shown below:

Reserves for	Present Valuation Assets Applied to			
	Member Actuarial Accrued Liabilities	Retired Life Actuarial Liabilities	Undistributed Investment Income	Totals
Employees' Contributions	\$ 4,968,039			\$ 4,968,039
Employer Contributions	(9,068,533)	\$ 2,626,024		(6,442,509)
Retired Benefit Payments		64,589,559		64,589,559
DROP Account Liability	2,644,862			2,644,862
Totals	\$(1,455,632)	\$67,215,583		\$65,759,951

Assets were applied against actuarial accrued liabilities in determining unfunded actuarial accrued liabilities as follows:

	Retired Lives	Active/Inactive Members	Totals
Computed Actuarial Accrued Liabilities	\$67,215,583	\$42,490,007	\$109,705,590
Applied Assets	65,759,951	0	65,759,951
Unfunded Actuarial Accrued Liabilities	\$1,455,632	\$42,490,007	\$43,945,639

**DERIVATION OF EXPERIENCE GAIN (LOSS)
YEAR ENDED MARCH 31, 2013**

Actual experience will never (except by coincidence) match exactly with assumed experience. It is hoped that gains and losses will 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.

(1)	UAAL* at start of year	\$41,651,868
(2)	Normal cost from last valuation	1,485,311
(3)	Employee contributions	0
(4)	Actual employer contributions (pension only)	4,082,568
(5)	Interest accrual: $[(1) + 1/2 ((2) - (3) - (4))] \times .075$	3,026,493
(6)	Expected UAAL before changes: (1) + (2) - (3) - (4) + (5)	42,081,104
(7)	Change in Plan provisions	1,070,562
(8)	Expected UAAL after changes: (6) + (7)	43,151,666
(9)	Actual UAAL at end of year	43,945,639
(10)	Gain (loss): (8) - (9)	(793,973)
(11)	Gain (loss) as percent of actuarial accrued liabilities at start of year (\$104,493,338)	(0.8%)

* *Unfunded actuarial accrued liabilities.*

Valuation Date March 31	Experience Gain (Loss) As % of Beginning Accrued Liability
2004	(6.8)%
2005	(3.0)%
2006	(1.6)%
2007	2.1 %
2008	(1.3)%
2009	(14.6)%
2010	(5.1)%
2011	(1.5)%
2012	(1.0)%
2013	(0.8)%

**SUMMARY STATEMENT OF SYSTEM RESOURCES AND OBLIGATIONS
AS OF MARCH 31, 2013**

Present Resources and Expected Future Resources

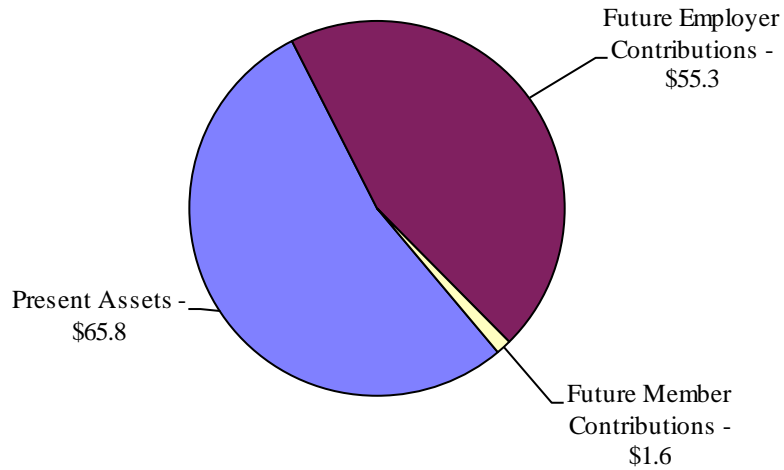
A. Present Valuation Assets	
1. Net assets from system financial statements	\$ 63,232,616
2. Market value adjustment	2,527,335
3. Valuation assets	65,759,951
B. Actuarial Present Value of Expected Future Employer Contributions	
1. For normal costs	11,402,015
2. For unfunded actuarial accrued liability	43,945,639
3. Total	55,347,654
C. Actuarial Present Value of Expected Future Member Contributions (paid by Employer and Employee)	1,580,588
D. Total Present and Expected Future Resources	\$122,688,193

Actuarial Present Value of Expected Future Benefit Payments

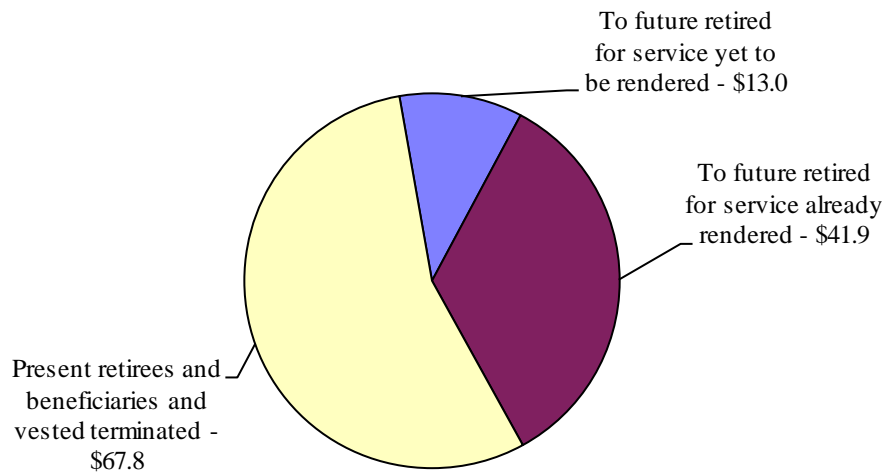
A. To Retirees and Beneficiaries	\$ 67,215,583
B. To Vested Terminated Members	616,526
C. To Present Active Members	
1. Allocated to service rendered prior to valuation date - actuarial accrued liability	41,873,481
2. Allocated to service likely to be rendered after valuation date	12,982,603
3. Total	54,856,084
D. Total Actuarial Present Value of Expected Future Benefit Payments	\$122,688,193

FINANCING \$122.7 MILLION OF BENEFIT PROMISES AS OF MARCH 31, 2013

Sources of Funds



Uses of Funds



COMPARATIVE STATEMENT

Valuation Date March 31	Actuarial Accrued Liabilities	Actuarial Value of Assets	% Funded	Unfunded Actuarial Accrued Liabilities			Township's Contribution ⁽¹⁾	
				Dollars	Amort. Period	% of Payroll ⁽¹⁾	Pension	Health ⁽⁵⁾
1999	\$55,391,543	\$61,085,462	110.3%	\$(5,693,919) ⁽⁴⁾	13	(95)%	16.88 %	12.27 %
2000	59,438,682	64,031,949	107.7%	(4,593,267) ⁽⁴⁾	12	(78)%	17.60 %	18.20 %
2001	63,958,142	65,322,504	102.1%	(1,364,362) ⁽⁴⁾	11	(21)%	25.33 % ⁽³⁾	16.72 %
2002	65,964,980	64,475,763	97.7%	1,489,217	10	22 %	30.72 % ⁽³⁾	14.21 %
2003	69,563,622	62,955,370	90.5%	6,608,252	30	106 %	33.05 % ⁽³⁾	18.05 %
2004	73,746,763	62,094,043	84.2%	11,652,720	29	178 %	36.92 %	19.88 %
2005	77,249,373	62,665,620	81.1%	14,583,753	28	217 %	39.18 %	22.32 %
2006	80,878,263	64,358,035	79.6%	16,520,228	27	242 %	39.98 %	23.59 %
2007	83,810,895	68,631,856	81.9%	15,179,039	26	227 %	39.23 %	25.97 %
2008	87,432,949	71,243,732	81.5%	16,189,217	25	240 %	40.10 %	N/A
2009	91,850,858	61,147,561	66.6%	30,703,297	24	443 %	51.60 %	N/A
2010	99,566,588	61,367,673	61.6%	38,198,915	23	583 %	61.64 % ⁽²⁾	N/A
2011	102,772,135	62,124,900	60.4%	40,647,235	22	697 %	63.90 % ⁽²⁾	N/A
2012	104,493,338	62,841,470	60.1%	41,651,868	21	709 %	66.41 % ⁽²⁾	N/A
2013	109,705,590	65,759,951	59.9%	43,945,639	20	738 %	70.15 % ⁽²⁾	N/A

⁽¹⁾ For 2005, based on payroll excluding one-time retroactive payments.

⁽²⁾ Retirement System amended.

⁽³⁾ Revised actuarial assumptions or methods.

⁽⁴⁾ Full funding credit.

⁽⁵⁾ Beginning with the March 31, 2008 valuation, the calculated employer contribution will not include a component for health insurance benefits.

COMMENTS

Actuarial Experience: Net Retirement System actuarial experience was less favorable than assumed for the year ended March 31, 2013 (see page A-3). The primary reasons for the experience loss were lower than projected retiree mortality, previously unreported purchased service and annuity withdrawal at rates significantly less than the valuation rate.

Last year, the System was 60.1% funded. This year, the funded ratio decreased to 59.9 %. The decrease is due to new liability related to the Patrol DROP.

Benefit Change: Plan provisions for the Police Patrol group were amended to include a Deferred Retirement Option Plan (DROP) for current Patrol members. We understand that only these individuals are eligible for the DROP and that this provision is not available to new Patrol Officers. These provisions are described on page B-3 of this report. This valuation reflects these provisions.

Amortization Period: Unfunded pension liabilities of \$43.9 million are being amortized over a 20-year period, which is carried over from the initial 30-year period adopted by the Board during the December 17, 2002 regular meeting of the Redford Township Police and Fire Pension Board.

Reserve Transfers: The actuarial present value of retired benefit payments is greater than the balance in the reserve for those payments by \$2,626,024. We recommend that this amount be transferred from the Reserve for Employer Contributions to the Retired Benefit Payments Reserve, to the extent possible. This is a bookkeeping recommendation that does not affect valuation results.

Mortality Assumption: The Actuarial Standards of Practice with regard to the mortality assumption has recently been revised. ASOP No. 35 Disclosure Section 4.1.1 now states **“The disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement. If the actuary assumes zero mortality improvement after the measurement date, the actuary should state that no provision was made for future mortality improvement.”**

COMMENTS (CONTINUED)

As such, there is currently no margin for future mortality improvement in the mortality table used in this valuation of the System. We recommend that the mortality assumption be updated in the March 31, 2014 valuation to determine the appropriate margin.

Patrol DROP: Six Patrol members entered the DROP after the valuation date. We reflected these members' DROP elections and benefits in this valuation so that proper funding of the benefits could begin.

We performed DROP calculations for six Patrol members entering the DROP during the transition period. In reviewing those calculations, we saw that the members had substantially more purchased service than was provided in the valuation demographic data, and that was requested to be included in the preliminary DROP analysis we provided last year. This additional purchased service caused an actuarial loss for these members this year. The reported purchased service provided in the data should be reviewed for accuracy for all active members when it is being compiled for the next valuation. Also, a determination of additional service that is expected to be purchased by members entering the DROP, or retiring should be made so that an appropriate adjustment can be made to the actuarial assumption in place, if appropriate. Service purchase dollars received by the Trust for these members purchasing service after the valuation date are not reflected in the valuation assets.

Valuation Payroll: There were a number of active members with reported pay this valuation that was less than reported last valuation. Based on additional information from the Township, we determined valuation pay (pay used for projecting benefits into the future), this year as the greater of the current and prior years' pays. This is expected to reduce volatility due to temporary hours reductions.

COMMENTS (CONCLUDED)

Experience Analysis: We recommend the Board have an assumption analysis completed.

GASB Accounting Standards: In June 2012, the GASB approved two new accounting standards for public sector retirement systems and governments, Statements Nos. 67 and 68. The new standards become effective for GASB 67 for fiscal years beginning after June 15, 2013 and for GASB 68 for fiscal years beginning after June 15, 2014. These new standards are a significant departure from the current standards and will require additional reporting.

SECTION B

BENEFIT PROVISIONS AND VALUATION DATA

**BRIEF SUMMARY OF ACT 345 BENEFIT PROVISIONS
(MARCH 31, 2013)**

Service Retirement

	IAFF Members Hired Before June 1, 2010	IAFF Members Hired June 1, 2010 and After
Eligibility	Members are eligible to retire with 25 or more years of service, or at age 60 with 10 or more years of service	Members are eligible to retire with 25 or more years of service, or at age 60 with 10 or more years of service
Final Average Compensation (FAC)	3-year average	3-year average
Benefit Formula	2.8% of FAC times first 25 years of service plus 1% of FAC times service in excess of 25	2.25% of FAC times first 25 years of service plus 1% of FAC times service in excess of 25
Benefit Maximum	75% of FAC	61.25% of FAC

Police Patrol

	Hired Before September 1, 2011	Hired September 1, 2011 and After
Eligibility	Members are eligible to retire with 25 or more years of service, or at age 60 with 10 or more years of service	Members are eligible to retire at age 50 with 25 or more years of service, or at age 60 with 10 or more years of service
Final Average Compensation (FAC)	3-year average	3-year average
Benefit Formula	2.8% of FAC times first 25 years of service plus 1% of FAC times service in excess of 25	2.25% of FAC times first 25 years of service plus 1% of FAC times service in excess of 25 Maximum of 240 hours of unused leave.
Benefit Maximum	75% of FAC	75% of FAC

Police Command

Eligibility	Members are eligible to retire with 25 or more years of service, or at age 60 with 10 or more years of service
Final Average Compensation (FAC)	3-year average
Benefit Formula	2.8% of FAC times first 25 years of service plus 1% of FAC times service in excess of 25
Benefit Maximum	75% of FAC

**BRIEF SUMMARY OF ACT 345 BENEFIT PROVISIONS
(MARCH 31, 2013)**

DEFERRED RETIREMENT OPTION PLAN (DROP)

	IAFF Members Hired Before June 1, 2010	IAFF Members Hired June 1, 2010 and After
Drop Availability	Yes	Yes
Transition Period	April 1, 2009 through May 31, 2011	N/A
DROP Interest Crediting Rate	5%	5%
<u>During Transition Period</u>		
Eligibility	Members are eligible to enter the DROP during the transition period with 20 or more years of service but less than 25 years of service	
Final Average Compensation (FAC)	2-year average	
Benefit Formula	3.0% of FAC times years of service up to 25	
Benefit Maximum	75% of FAC	
Maximum Time in DROP	Members may stay in the DROP until they have 25 years of service	
DROP Account Vesting	100% at termination	
<u>After Transition Period</u>		
Eligibility	Members are eligible to enter the DROP with 20 years of service (one-time election)	Members are eligible to enter the DROP with 25 years of service (one-time election)
Final Average Compensation (FAC)	2-year average	3-year average
Benefit Formula	3.0% of FAC times years of service up to 20	2.25% of FAC times years of service up to 25
Benefit Maximum	60% of FAC	56.25% of FAC
Maximum Time in DROP	60 months	60 months
DROP Account Vesting	100% at termination	100% at termination

BRIEF SUMMARY OF ACT 345 BENEFIT PROVISIONS (MARCH 31, 2013)

DEFERRED RETIREMENT OPTION PLAN (DROP)

	<u>Police Command</u>	<u>Police Patrol</u>
Drop Availability	Yes*	Yes
Transition Period	December 2, 2011 (one-time election)	July 12, 2013 through July 22, 2013
DROP Interest Crediting Rate	5%	5%
<u>During Transition Period</u>		
Eligibility	Members are eligible to enter the DROP during the transition period with 20 or more years of service but less than 25 years of service	Members are eligible to enter the DROP during the transition period with 22 to 25 years of service
Final Average Compensation (FAC)	3-year average	2-year average
Benefit Formula	3.0% of FAC times years of service up to 25	3.0% of FAC times years of service
Benefit Maximum	75% of FAC	75% of FAC
Maximum Time in DROP	84 months from December 2, 2011	84 months
DROP Account Vesting	A participant's DROP payout is vested as follows: termination prior to 12 months will receive 20% of the accumulated DROP balance, termination between 12 months and 18 months will receive 70% of the accumulated DROP balance, and termination after 18 months will receive 100% of the accumulated DROP balance	A participant's DROP payout is vested as follows: termination prior to 12 months will receive 20% of the accumulated DROP balance, termination between 12 months and 24 months will receive 75% of the accumulated DROP balance, and termination after 24 months will receive 100% of the accumulated DROP balance
<u>After Transition Period</u>		
Eligibility	The DROP is closed to new members, including members transferring in from other divisions	Members hired July 12, 2013 and before, are eligible to enter the DROP with 22 years of service (one-time election). The DROP is closed to new members hired after July 12, 2013.
Final Average Compensation (FAC)		3-year average
Benefit Formula		3.0% of FAC times years of service
Benefit Maximum		66% of FAC
Maximum Time in DROP		84 months
DROP Account Vesting		DROP account vesting same as during the transition period

* Available to 10 specific individuals.

**BRIEF SUMMARY OF ACT 345 BENEFIT PROVISIONS
(MARCH 31, 2013)**

Eligibility

Amount

DEFERRED RETIREMENT

Members are eligible for a vested benefit with 10 or more years of service.

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

DEATH AFTER RETIREMENT SURVIVOR'S PENSIONS

Payable to 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.

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

NON-DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION

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

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

DUTY DEATH-IN-SERVICE SURVIVOR'S PENSION

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

Same amount that was paid by worker's compensation.

NON-DUTY DISABILITY

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

To Age 55: 1.5% of FAC times years of service.
At Age 55: Same as Service Retirement Pension.

**BRIEF SUMMARY OF ACT 345 BENEFIT PROVISIONS
(MARCH 31, 2013)**

Eligibility

Amount

DUTY DISABILITY

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

To Age 55: 50% of FAC. IAFF members: If disabled retiree had 10 or more years of active service and dies before age 55, surviving spouse pension equals 60% of disability pension at time of death.
At Age 55: Same as Service Retirement Pension with service credit from date of disability to age 55.

MEMBER CONTRIBUTIONS

Non-IAFF members, and IAFF members hired prior to 6/1/2010

None (5% of pay is paid by Township to individual member accounts).

IAFF members hired after 5/31/2010

5% of pay.

Member contributions cease upon entry into the DROP

COVERED COMPENSATION

For Retirement System purposes, compensation includes base pay plus longevity pay, unused sick leave, pay in lieu of holiday or vacation time, and incentive pay. For Police Patrol hired after September 1, 2011, maximum of 240 hours of paid leave to be rolled into FAC.

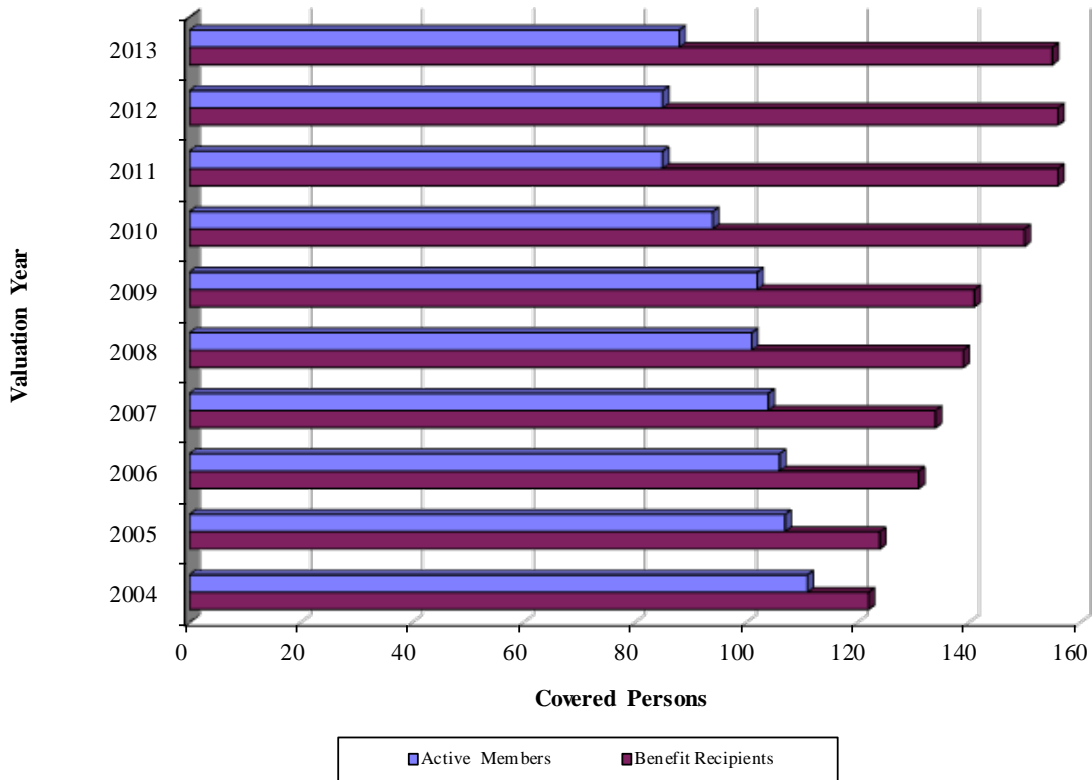
RETIREES AND BENEFICIARIES COMPARATIVE STATEMENT

Year Ended	Added to Rolls		Removed from Rolls		Rolls End of Year		Pensions As a % of Member Payroll	Average Pension	Present Value of Pensions
	No.	Annual Pensions	No.	Annual Pensions	No.	Annual Pensions			
3-31-99	4	\$ 68,829 @	3	\$ 58,990	102	\$2,844,167	47.6%	\$ 27,884	\$32,407,177
3-31-00	9	410,736			111	3,254,903	55.5%	29,323	37,307,532
3-31-01	2	68,122 @	4	43,715	109	3,279,310	51.2%	30,085	37,166,574
3-31-02	2	48,336			111	3,327,646	50.0%	29,979	36,225,413
3-31-03	10	506,710 @			121	3,834,356	61.4%	31,689	42,072,331
3-31-04	1	76,366 @			122	3,910,722	59.8%	32,055	42,373,898
3-31-05	4	165,350 @	2	47,813	124	4,028,259	60.0%	32,486	43,219,439
3-31-06	7	277,608			131	4,305,867	63.2%	32,869	45,856,926
3-31-07	9	417,856	6	131,518	134	4,592,205	68.7%	34,270	49,011,805
3-31-08	8	338,751 @	3	86,202	139	4,844,754	71.8%	34,854	51,495,188
3-31-09	7	346,687	5	113,176	141	5,078,265	73.3%#	36,016	53,629,584
3-31-10	11	668,258	2	31,499	150	5,715,024	87.3%	38,100	60,818,182
3-31-11	8	443,875	2	42,489	156	6,116,410	104.8%	39,208	65,014,652
3-31-12	5	222,846	5	86,281	156	6,252,975	106.5%	40,083	66,041,774
3-31-13	3	217,257	4	86,272	155	6,383,960	107.2%	41,187	67,215,583

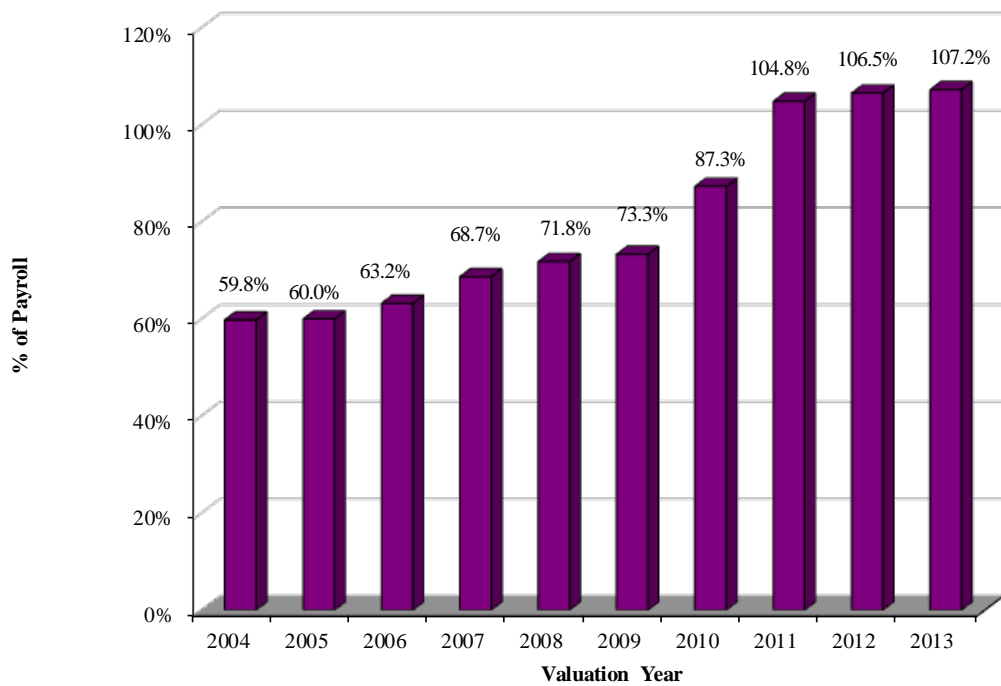
@ Includes correction.

Based on member payroll excluding one-time retroactive payments.

Active Members & Benefit Recipients



Benefits as a Percent of Payroll



RETIREES AND BENEFICIARIES AS OF MARCH 31, 2013
TABULATED BY TYPE OF PENSIONS BEING PAID

Type of Pensions Being Paid	Number	Annual Pensions
Age and Service Pensions		
Regular Pension - Benefit terminating at death of retiree	26	\$ 978,410
Regular Pension - Automatic benefit to spouse (60%)	102	4,853,520
Option 1 Pension - Joint and survivor benefit (100%)	3	108,676
Option 2 Pension - Joint and survivor benefit (50%)	0	0
Allowance to survivor beneficiary of deceased retiree	17	268,823
Total age and service pensions	148	6,209,429
Casualty Pensions		
Duty disability	5	95,343
Non-duty disability	1	57,355
Duty death pensions	0	0
Non-duty death pension	1	21,833
Total casualty pensions	7	174,531
Total Pensions Being Paid	155	\$6,383,960

RETIRES AND BENEFICIARIES AS OF MARCH 31, 2013
TABULATED BY ATTAINED AGES

Attained Ages	No.	Annual Pensions
Under 45	5	\$ 292,443
46	3	208,048
47	4	205,156
48	2	124,065
49	2	132,044
50	2	128,992
51	3	156,432
52	3	226,476
53	3	196,315
54	2	75,293
55	2	132,448
56	4	169,971
57	5	270,513
58	3	126,651
59	4	191,809
60	5	332,786
61	9	479,562
62	2	52,784
63	3	71,290
64	5	170,751
65	6	319,924
66	5	197,991
67	4	201,151
68	5	195,558
69	2	120,802
70	8	260,895
71	1	50,065
72	6	142,379
73	8	211,932
74	5	182,443
75	9	235,479
76	3	58,740
77	1	22,216
78	2	59,136
79	2	63,610
80	2	41,151
81	1	8,105
82	4	68,214
83	1	21,095
84	3	59,756
85	2	47,406
86 and Over	4	72,083
Totals	155	\$6,383,960

Average Age at Retirement: 50.4 years
Average Age Now: 65.8 years

COMPARATIVE STATEMENT

Active Members in Valuation*

Valuation Date	No.	Valuation Payroll	Group Averages			
			Pay	% Incr.	Age	Service
3-31-99	121	\$5,970,842	\$49,346	8.0 %	37.3 yrs.	10.9 yrs.
3-31-00	113	5,869,977	51,947	5.3 %	37.7	11.0
3-31-01	120	6,402,283	53,352	2.7 %	37.9	11.1
3-31-02	121	6,649,435	54,954	3.0 %	38.5	11.8
3-31-03	112	6,244,247	55,752	1.5 %	38.8	12.0
3-31-04	111	6,544,026	58,955	5.7 %	39.6	13.0
3-31-05	107	6,713,211 #	62,740 #	6.4 % #	40.5	13.9
3-31-06	106	6,816,788	64,309	2.5 %	40.6	14.0
3-31-07	104	6,680,888	64,239	(0.1)%	40.7	13.9
3-31-08	101	6,743,929	66,772	3.9 %	41.4	14.4
3-31-09	102	6,924,988	67,892	1.7 %	40.9	14.5
3-31-10	94	6,547,439	69,654	2.6 %	40.8	14.4
3-31-11	85	5,833,719	68,632	(1.5)%	41.7	15.1
3-31-12	85	5,871,250	69,074	0.6 %	42.0	15.4
3-31-13	88	5,953,537	67,654	(2.1)%	42.2	15.3

Payroll including retroactive payments was \$7,199,590.

* Includes DROP members.

Active Members Added to and Removed From Rolls

Valuation Date	Number Added During Year		Terminations During Year									
			Normal Retirement		Disability Retirement		Died-in-Service		Withdrawals			
	A	E	A	E	A	E	A	E	Vested	Other	Totals	
	A	E	A	E	A	E	A	E	A	A	A	E
3-31-09	7	6	5	1.9	0	0.3	0	0.2	0	1	1	1.0
3-31-10	3	11	9	1.8	0	0.3	0	0.2	1	1	2	1.3
3-31-11	0	9	6	1.0	0	0.2	1	0.1	0	2	2	1.1
3-31-12	3	3	3	2.0	0	0.1	0	0.1	0	0	0	0.8
3-31-13	7	4	3	2.0	0	0.2	0	0.1	0	1	1	0.8
5-Year Totals	20	33	26	8.7	0	1.1	1	0.7	1	5	6	5.0

A = Actual
E = Expected

ACTIVE MEMBERS AS OF MARCH 31, 2013*
BY ATTAINED AGE AND YEARS OF SERVICE

Attained Age	Years of Service on Valuation Date							Totals	
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Valuation Payroll
20-24									
25-29	5							5	\$ 278,349
30-34	9	2						11	569,539
35-39	2	4	4	3				13	841,628
40-44		1	2	12	4			19	1,323,427
45-49			2	10	15			27	1,939,774
50-54				2	7	1		10	772,263
55-59					3			3	228,557
Totals	16	7	8	27	29	1		88	\$5,953,537

* Includes DROP members.

While not used in the financial computations, the following group averages are computed and shown because of their general interest. Payroll includes retroactive payments.

Age: 42.2 years
Service: 15.3 years
Annual Pay: \$67,654

Includes 15 Fire, 9 Police Command, and 6 Police Patrol DROP members.

There were two terminated vested members as of March 31, 2013.

DEVELOPMENT OF FUNDING VALUE OF ASSETS

Year Ended March 31:	2011	2012	2013	2014	2015	2016
A. Funding Value Beginning of Year	\$61,367,673	\$62,124,900	\$62,841,470			
B. Market Value End of Year	63,988,757	62,241,504	63,232,616			
C. Market Value Beginning of Year	61,440,740	63,988,757	62,241,504			
D. Non-Investment Net Cash Flow	(2,857,769)	(1,877,245)	(2,912,206)			
E. Investment Income						
E1. Market Total: B - C - D	5,405,786	129,992	3,903,318			
E2. Amount for Immediate Recognition (7.5%)	4,495,409	4,588,971	4,603,903			
E3. Amount for Phased-In Recognition: E1-E2	910,377	(4,458,979)	(700,585)			
F. Phased-In Recognition of Investment Income						
F1. Current Year: 0.25 x E3	227,594	(1,114,744)	(175,146)			
F2. First Prior Year	2,289,080	227,594	(1,114,744)	\$ (175,146)		
F3. Second Prior Year	(3,397,087)	2,289,080	227,594	(1,114,744)	\$ (175,146)	
F4. Third Prior Year	0	(3,397,086)	2,289,080	227,595	(1,114,747)	\$(175,147)
F5. Total Recognized Investment Gain (Loss)	(880,413)	(1,995,156)	1,226,784	(1,062,295)	(1,289,893)	(175,147)
G. Preliminary Funding Value End of Year: A + D + E2 + F5	62,124,900	62,841,470	65,759,951			
G1. 120% of Market Value End of Year	76,786,508	74,689,805	75,879,139			
G2. 80% of Market Value End of Year	51,191,006	49,793,203	50,586,093			
G3. Funding Value End of Year: G, but not greater than G1, nor less than G2	62,124,900	62,841,470	65,759,951			
H. Difference between Market & Funding Value: B - G3	1,863,857	(599,966)	(2,527,335)			
I. Recognized Rate of Return	6.0 %	4.2 %	9.5 %			
J. Market Rate of Return	9.0 %	0.2 %	6.4 %			
K. Ratio of Funding Value to Market Value	97.1 %	101.0 %	104.0 %			

The Funding Value of Assets recognizes assumed investment income (line E2) fully each year. Differences between actual and assumed investment income (line E3) are phased-in over a closed 4-year period. The final Funding Value must lie in a 20% corridor around the Market Value (G3). 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 retirement income are exactly equal for 3 consecutive years, the Funding Value will become equal to Market Value.

SUMMARY OF ASSET INFORMATION, MARCH 31, 2013

Reserve Balances

Current Assets*		Reserve for	
Cash & Short-Term	\$ 5,715,953	Employees' Contributions	\$ 4,968,039
Net Accruals & Receivables	316,815	Employer Contributions	(8,969,844)
Common Stocks & Mutual Funds	34,490,411	Retired Benefit Payments	64,589,559
Fixed Income	21,636,403	DROP Liability	2,644,862
Real Estate Investments	1,073,034	Funding Value Adjustment	2,527,335
Foreign Stock	0		
Other	0		
Funding Value Adjustment	2,527,335		
Total Valuation Assets	\$65,759,951	Total Reserves	\$65,759,951

* Market Value of assets is \$63,232,616.

Receipts and Disbursements

	2012-13	2011-12
Balance - April 1	\$62,841,470	\$62,124,900
Receipts		
Employees' contributions	0	16,211
Employer contributions	4,082,568	4,407,240
Recognized investment income	6,206,365	3,005,972
Total	10,288,933	7,429,423
Disbursements		
Benefit payments	6,333,060	6,225,677
Refund of member contributions	661,714	75,019
Expenses and fees	375,678	412,157
Health insurance benefits	0	0
Total	7,370,452	6,712,853
Balance March 31	\$65,759,951	\$62,841,470
Nominal rate of return recognized	9.5 %	4.2 %

SECTION C
VALUATION PROCEDURES

BASIC FINANCIAL OBJECTIVE AND OPERATION OF THE RETIREMENT SYSTEM

Benefit Promises Made Which Must Be Paid For. A retirement system is an orderly means of handing out, keeping track of, and financing contingent pension promises to a group of employees. As each member of the retirement system acquires a unit of service credit they are, in effect, handed an “IOU” which reads: “The Employees Retirement System promises to pay you one unit of retirement benefits, payments in cash commencing when you retire.”

The principal related financial question is: ***When shall the money required to cover the “IOU” be contributed?*** This year, when the benefit of the member’s service is received? Or, some future year when the “IOU” becomes a cash demand?

The Constitution of the State of Michigan is directed to the question:

“Financial benefits arising on account of service rendered in each fiscal year shall be funded during that year and such funding shall not be used for financing unfunded accrued liabilities.”

This Retirement System meets the constitutional requirement by having the following ***Financial Objective: To establish and receive contributions, expressed as percents of active member payroll, which will remain approximately level from year to year*** and will not have to be increased for future generations of taxpayers.

Translated into actuarial terminology, a level percent-of-payroll contribution objective means that the contribution rate must be at least:

Normal Cost (the current value of benefits likely to be paid on account of members’ service being rendered in the current year)

... plus ...

Interest on the Unfunded Actuarial Accrued Liability (the difference between the actuarial accrued liability and current system assets).

If contributions to the Retirement System are less than the preceding amount, the difference, plus investment earnings not realized thereon, will have to be contributed at some later time, or, benefits will have to be reduced, to satisfy the fundamental fiscal equation under which all retirement systems must operate; that is:

$$\mathbf{B = C + I - E}$$

Benefit payments to any group of members and their beneficiaries cannot exceed the sum of:

Contributions received on behalf of the group

... plus ...

Investment earnings on contributions received

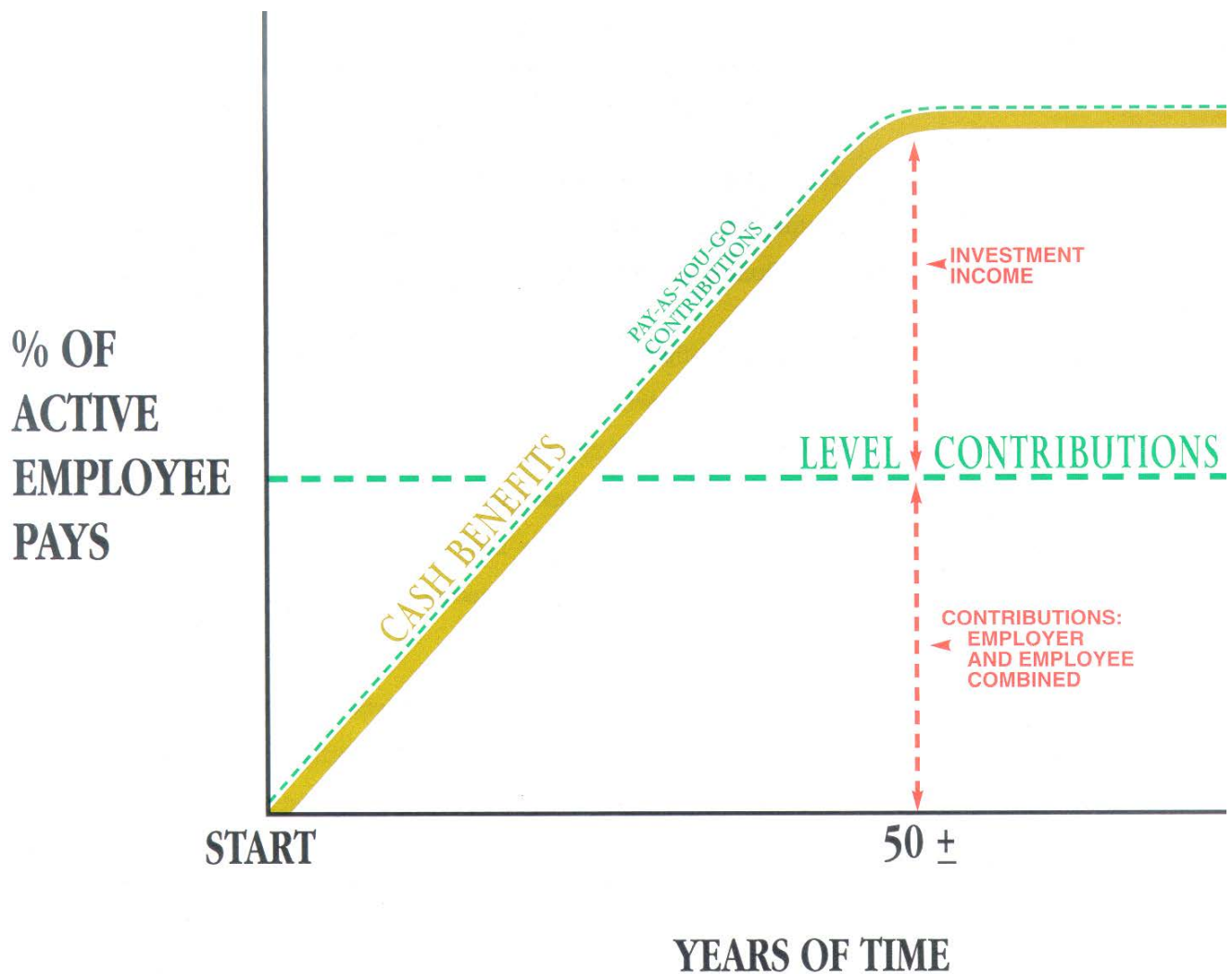
... minus ...

Expenses incurred in the operation of the system.

There are retirement systems designed to defer the bulk of contributions far into the future. They are lured by artificially low present contributions, but the inevitable consequence is a relentlessly increasing contribution rate to a level greatly in excess of the level percent-of-payroll rate. ***This method of financing is prohibited in Michigan by the State constitution.***

A by-product of the level percent-of-payroll contribution objective is the accumulation of invested assets for varying periods of time. Investment income becomes a major contributor to the Retirement System, and the amount is directly related to the amount of contributions and investment performance.

Computed Contribution Rate Needed to Finance Benefits. From a given schedule of benefits and from the data furnished, the contribution rate is calculated ***by means of an actuarial valuation*** - the technique of assigning monetary values to the risks assumed in operating a retirement system.



CASH BENEFITS LINE. This relentlessly increasing line is the fundamental reality of retirement plan financing. It happens each time a new benefit is added for future retirements (and happens regardless of the design for contributing for benefits).

LEVEL CONTRIBUTION LINE. Determining the level contribution line requires detailed assumptions concerning a variety of experiences in future decades, including:

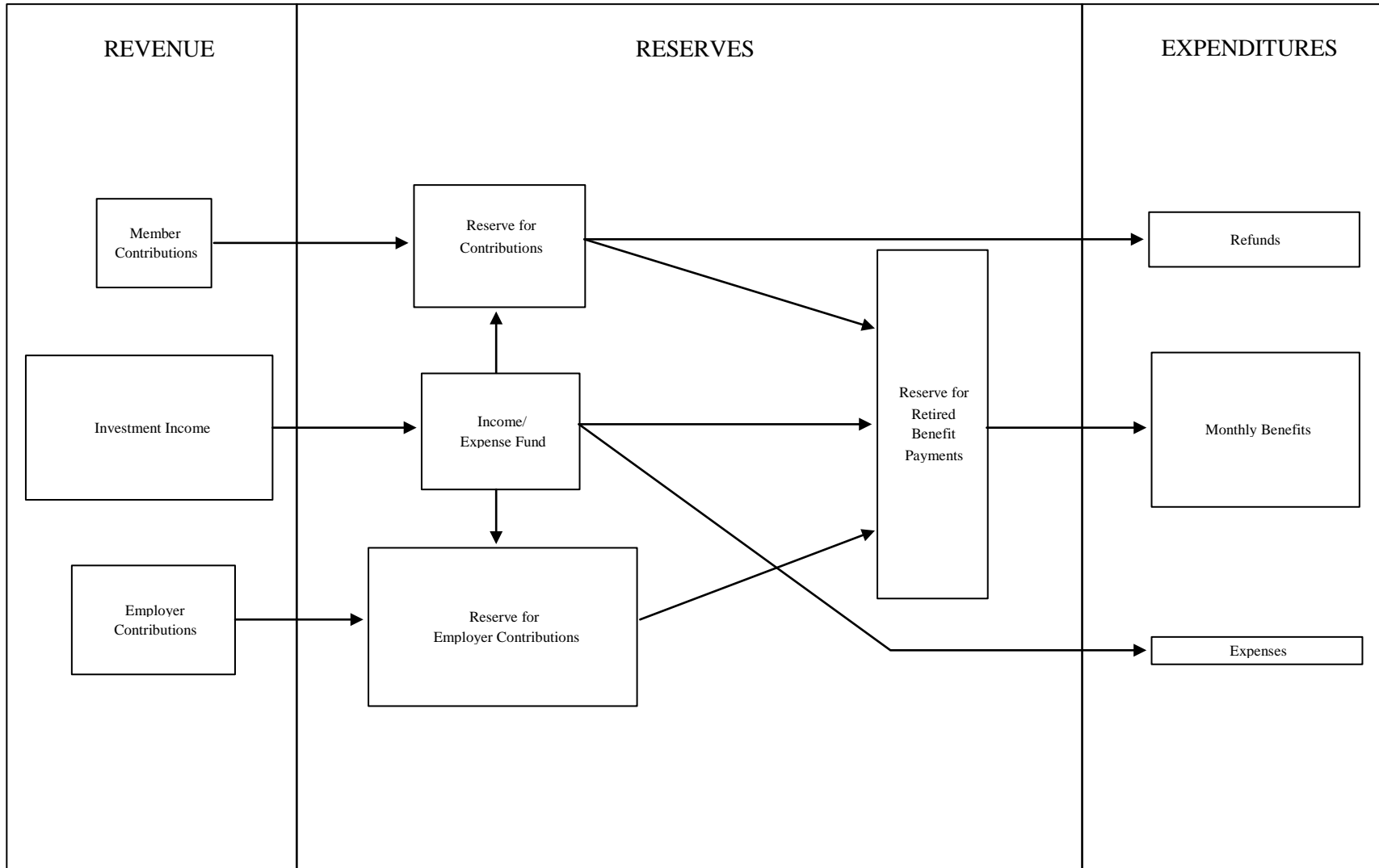
Economic Risk Areas

- Rates of investment return
- Rates of pay increase
- Changes in active member group size

Non-Economic Risk Areas

- Ages at actual retirement
- Rates of mortality
- Rates of withdrawal of active members (turnover)
- Rates of disability

FLOW OF MONEY THROUGH THE RETIREMENT SYSTEM



ACTUARIAL COST METHOD

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using the *individual entry-age actuarial cost method* having the following characteristics:

- the annual normal costs for each individual active member, payable from the date of employment to the 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.

The liabilities for the closed group of Police Command actives who elected to participate in the DROP are funded to date of DROP entry rather than to the date of retirement. This means these members are valued as with immediate retirement benefits. Members of the open Fire and Police Patrol DROPs are being valued as if they continue in active status until the end of the DROP period.

Financing of Unfunded Actuarial Accrued Liabilities. Unfunded actuarial accrued liabilities were amortized by level (principal and interest combined) percent-of-payroll contributions over 20 future years.

Asset Valuation Method. Last year's valuation assets are increased by contributions and reduced by refunds, benefit payments and expenses. An amount equal to the assumed investment return for the year is then added. Differences between actual return on a market value basis and an assumed return are phased-in over a four-year period. The final asset value must lie within a 20% corridor around the Market Value.

**FINAL AVERAGE COMPENSATION USED FOR BENEFIT CALCULATION AT RETIREMENT
WITH AND WITHOUT UNUSED SICK AND VACATION ALLOWANCE**

Comparative Schedule

Valuation Year Ending	<u>1-Year Ratio</u>			<u>3-Year Ratio</u>					
	Average FAC			Total FAC			Cumulative Sum		
	With L.S.	Without L.S.	Ratio	With L.S.	Without L.S.	Ratio	With L.S.⁽¹⁾	Without L.S.	Ratio
3/31/2008	\$ 106,883	\$80,929	1.321	\$ 427,533	\$ 323,715	1.321	\$ 1,300,814	\$ 983,972	1.322
3/31/2009	104,802	79,669	1.315	524,008	398,346	1.315	1,440,022	1,089,079	1.322
3/31/2010	108,412	81,139	1.336	975,707	730,252	1.336	1,927,248	1,452,313	1.327
3/31/2011	89,516	69,074	1.296	179,032	138,148	1.296	1,678,747	1,266,746	1.325
3/31/2012	100,131	75,048	1.334	200,262	150,096	1.334	1,355,001	1,018,496	1.330
3/31/2013	106,574	86,589	1.231	106,574	86,589	1.231	485,868	374,833	1.296

Active Age and Service Retirement liabilities for Tier I employees are increased by a factor of 30% to compensate for the inclusion of unused sick and vacation allowance in the calculation of FAC. This factor was changed from 25% to 30% pursuant to the experience study of 1996-2001. Experience will continue to be monitored on an annual basis.

Please note that the analysis on this page only considers those individuals who retired with a 3-year averaging period for purposes of their FAC. Starting with the March 31, 2011 valuation, we have excluded those individuals who retired with a 2-year averaging period for purposes of their FAC.

⁽¹⁾ L.S. refers to lump sum payouts of certain leave time included in Final Average Compensation.

ACTUARIAL ASSUMPTIONS IN THE VALUATION PROCESS

The contribution and benefit values of the System are calculated by applying actuarial assumptions to the benefit provisions and people information furnished, using the actuarial cost method described on the previous page.

The principal areas of financial risk which require assumptions about future experiences are:

- long-term rates of investment return to be generated by the assets of the System
- patterns of pay increases to members
- rates of mortality among members, retirees and beneficiaries
- rates of withdrawal of active members
- rates of disability among members
- the age patterns of actual retirement

In a valuation, the monetary effect of each assumption is calculated for as long as a present covered person survives - - - a period of time which can be as long as a century.

Actual experience of the System will not coincide exactly with assumed experience, regardless of the wisdom of the assumptions. Each valuation provides a complete recalculation of assumed future experience and takes into account all past differences between assumed and actual experience. The result is a continual series of adjustments (usually small) to the computed contribution rate.

From time to time it becomes appropriate to modify one or more of the assumptions, to reflect experience trends (but not random year-to-year fluctuations). Modifications were implemented for the March 31, 2002 valuation as a result of the most recent experience study, which covered the period of April 1, 1996 through March 31, 2001. The retirement assumption for IAFF members was modified for the March 31, 2010 valuation to account for the DROP benefit. The retirement assumption for certain Police Command members was modified for the March 31, 2011 valuation to account for the DROP benefit. The retirement assumption for current Police Patrol members was modified for the March 31, 2013 valuation to account for the DROP benefit.

VALUATION ASSUMPTIONS

The rate of investment return was 7.5%, net of expenses, annually. The assumed real return for funding purposes is the rate of return in excess of average salary increases. Considering other assumptions used in the valuation, the 7.5% is comprised of the wage growth assumption of 4.5% and a real return of approximately 3.0%. Although no explicit price inflation assumption is used in this valuation, an assumption of 3.5% per year would be consistent with these economic assumptions. Experience over the last 5 years has been as follows:

	Year Ended March 31					5-Year Average
	2013	2012	2011	2010	2009	
1) Nominal rate of return#	9.5 %	4.2 %	6.0 %	5.6 %	(8.6)%	3.1 %
2) Increase in CPI	1.5 %	2.7 %	2.7 %	2.3 %	(0.4)%	1.7 %
3) Average salary increase (ASI)	(2.1)%	0.6 %	(1.5)%	2.6 %	1.7 %	0.3 %
4) Real Return						
- Total - CPI						1.4 %
- Total - ASI						2.9 %
- Assumption						3.0 %

The nominal rate of return was computed using the approximate formula: $i = I$ divided by $1/2 (A+B-I)$, where I is realized investment income net after expenses, A is the beginning of year asset value and B is the end of year asset value.

The mortality table used to measure post-retirement mortality was the 1983 Group Annuity Mortality Table. This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. A 10 year age set-forward is used for disabled participants prior to age 55. No provision is currently made for future improvements in mortality after the measurement date.

Sample Attained Ages	Single Life Retirement Values			
	Present Value of \$1 Monthly for Life		Future Life Expectancy (years)	
	Men	Women	Men	Women
50	\$139.75	\$148.49	30.19	35.86
55	131.78	142.39	25.79	31.15
60	121.78	134.43	21.55	26.56
65	109.54	124.32	17.54	22.13
70	95.97	111.74	13.96	17.93
75	81.66	97.28	10.84	14.10
80	67.39	82.31	8.23	10.84
Ref:	30 x 0.90	31 x 0.90		

Rates of separation from active membership are represented by the following table (rates do not apply to members eligible to retire and do not include separation on account of death or disability). This assumption measures the probabilities of members remaining in employment.

Sample Ages	Years of Service	% of Active Members Separating within Next Year
All	0	7.00%
	1	5.50%
	2	4.00%
	3	4.00%
	4	3.50%
25	5 & Over	3.50%
30		2.90%
35		1.50%
40		0.60%
45		0.50%
50		0.50%
55		0.50%
60		0.50%
Ref.		154
		54

The rates of salary increase used for individual members are in accordance with the following table. This assumption is used to project a member’s current salary to the salaries upon which benefit amounts will be based. If the number of active members remains constant, then the total active member payroll will increase 4.5% annually, the base portion of the individual salary increase assumptions. This increasing payroll was recognized in amortizing unfunded actuarial accrued liabilities.

Sample Ages	Salary Increase Assumptions for an Individual Member		
	Merit & Seniority	Base (Economy)	Increase Next Year
20	4.40%	4.50%	8.90%
25	3.18%	4.50%	7.68%
30	2.59%	4.50%	7.09%
35	2.09%	4.50%	6.59%
40	1.44%	4.50%	5.94%
45	0.68%	4.50%	5.18%
50	0.12%	4.50%	4.62%
55	0.00%	4.50%	4.50%
60	0.00%	4.50%	4.50%
Ref:	11		

Sample rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	Male	Female
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%
60	1.53%	1.10%
65	1.65%	0.98%
70	1.65%	0.98%
Ref.	33	34

Disabilities are assumed to be 50% duty related, and 50% non-duty related.

Probabilities of retirement for members eligible to retire during the next year were as follows:

Active Members Retiring Next Year*	
Non-DROP Command Members and All Others Who Do Not Elect DROP	
Service	% Retiring
24	25%
25	40%
26	25%
27	20%
28	15%
29	15%
30	60%
31	15%
32	30%
33	15%
34	15%
35+	100%
	268

* *Members are eligible to retire at any age (age 50 for Patrol hired after 9/1/2011) with 25 years of service or at age 60 with 10 years of service.*

For purposes of the DROP benefit for IAFF members, it is assumed that all members who are not eligible to enter the DROP during the transition period will enter the DROP at 20 years of service, stay in the DROP 5 years, and leave employment at 25 years of service. For those IAFF members who entered the DROP during the transition, it is assumed they will remain until 25 years of service and retire.

For purposes of the DROP benefit for Police Command members, it is assumed that DROP members remaining in the DROP at the valuation date will remain for one year and retire.

For purposes of the DROP benefit for current Police Patrol members, it is assumed that all members who are not eligible to enter the DROP during the transition period will enter the DROP at 22 years of service, stay in the DROP 5 years, and leave employment at 27 years of service. For those Police Patrol members who entered the DROP during the transition, it is assumed they will remain in the DROP 5 years and retire.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

MARCH 31, 2013

Marriage Assumption:	100% of males and 100% of females are assumed to be married for purposes of death-in-service benefits. 90% are assumed to be married at retirement and elect the Joint & Survivor form of payment. Male spouses are assumed to be three years older than female spouses.
Pay Increase Timing:	Beginning of (Fiscal) year. This is equivalent to assuming that reported pays represent amounts paid to members during the year ended on the valuation date.
Decrement Timing:	Decrements of all types are assumed to occur mid-year.
Eligibility Testing:	Eligibility for benefits is determined using the age nearest birthday and the service nearest whole year on the date the decrement is assumed to occur.
Decrement Relativity:	Decrement rates are used directly from the experience study, without adjustment for multiple decrement table effects.
Decrement Operation:	Disability and mortality decrements do not operate during the first 5 years of service. Disability also does not operate during retirement or DROP eligibility.
Adjustments:	Age and Service Retirement Present Values were adjusted by 30% (see C-6) to account for additional amounts included in FAC due to unused sick and vacation time for those active members not participating in a DROP as of the valuation date. The load is 4% for police patrol hired after September 1, 2011. For those members participating in a DROP as of the valuation date, no additional load was required as we were using real DROP benefit amounts supplied by the client.
Option Factors:	Factors for optional forms of payment (option factors) are based upon 7.5% interest and 90% of the 1983 GA Mortality Table with a 100% Unisex Blend. Updated factors were implemented as of January 1, 2003.
Incidence of Contributions:	Contributions are assumed to be received continuously throughout the year based upon the computed percent of payroll shown in this report, and the actual payroll payable at the time contributions are made.

MISCELLANEOUS AND TECHNICAL ASSUMPTIONS

MARCH 31, 2013

Retirement Service Purchase:

Although members are not eligible to retire from the plan until they have reached 25 years of service or age 60, the valuation assumes that non-DROP participants begin to retire at 24 years of service. Based upon the last experience study, it was determined that the majority of participants purchase an additional year of service and retire one year before their unadjusted date of hire would allow.

Normal Form of Benefit:

The normal form of benefit is a straight life annuity. For service, deferred, and disability retirements, it was assumed that 90% of members will elect the unreduced 60% Joint & Survivor annuity.

Annuity Withdrawal:

Annuity withdrawal offset is assumed to occur at the valuation rate of return. All members in a DROP are assumed to have elected annuity withdrawal.

GLOSSARY

Actuarial Accrued Liability - 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”.

Accrued Service - The service credited under the plan which was rendered before the date of the actuarial valuation.

Actuarial Assumptions - 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.

Actuarial Cost Method - 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”.

Actuarial Equivalent - 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.

Actuarial Present Value - 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.

Amortization - 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.

Experience Gain (Loss) - 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.

GLOSSARY

Normal Cost - 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.

Reserve Account - An account used to indicate that funds have been set aside for a specific purpose and are not generally available for other uses.

Unfunded Actuarial Accrued Liabilities - The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as “unfunded accrued liability”.

Valuation Assets - The value of current plan assets recognized for valuation purposes.

SECTION D
GASB STATEMENT NO. 25

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

**STATEMENT OF MARKET VALUE OF NET PLAN ASSETS
AS OF MARCH 31, 2012 AND 2013**

	2013	2012
Assets		
Cash and short-term investments	\$ 5,925,791	\$ 6,749,388
Receivables		
Accrued interest and dividends	316,815	289,737
Investments		
U.S. Government Bonds	6,639,952	7,890,826
Corporate Bonds	14,996,451	12,430,190
Foreign Stocks	0	0
Common Stocks & Mutual Funds	34,490,411	34,015,147
Real Estate	1,073,034	1,117,938
	57,199,848	55,454,101
Total Assets	\$63,442,454	\$62,493,226
Liabilities		
Payables	209,838	251,722
Net assets held in trust for pension benefits (A schedule of funding progress for the plan is presented on page D-4)	\$63,232,616	\$62,241,504

**STATEMENT OF CHANGES IN MARKET VALUE OF PLAN ASSETS
FOR THE FISCAL YEARS ENDED MARCH 31, 2012 AND 2013**

	Reconciliation as of March 31,	
	2013	2012
Additions		
Contributions		
Employer	\$ 4,082,568	\$ 4,407,240
Plan members	0	16,211
Total contributions	4,082,568	4,423,451
Investment Income (Loss)	4,278,996	542,149
Total additions	8,361,564	4,965,600
Deductions		
Benefits	6,333,060	6,225,677
Transfer to OPEB Trust / Health insurance premiums	0	0
Refunds of contributions	661,714	75,019
Investment expenses	322,615	355,190
Administrative expenses	53,063	56,967
Total deductions	7,370,452	6,712,853
Net Increase	991,112	(1,747,253)
Net assets held in trust for pension benefits		
Beginning of year	62,241,504	63,988,757
End of year	\$63,232,616	\$62,241,504

Plan Description: The Redford Township Police and Fire Retirement System is a single-employer defined benefit pension plan that covers police and fire employees of Redford Township.

The plan provides retirement, disability, and death benefits to plan members and their beneficiaries.

Contributions: 5% of pay is paid by the Township to individual member accounts.

The employer's funding policy provides for periodic employer contributions based upon a *fundamental financial objective of having rates of contribution which remain relatively level from generation to generation of Redford Township citizens.* To determine the employer contribution rates and to assess the extent to which the fundamental financial objective is being achieved, the System has actuarial valuations prepared annually. In preparing those valuations, the entry age actuarial cost method is used to determine normal cost and actuarial accrued liabilities.

Unfunded actuarial accrued liabilities (full funding credit) are amortized by level percent-of-payroll contributions over a period of 20 future years.

On the basis of the March 31, 2013 actuarial valuation, the employer rates were determined to be as follows:

Contributions for	Percents of Active Member Payroll
Normal Cost	28.25 %
Accrued Liabilities	41.90 %
Total Employer Rate	70.15 %

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)	Covered Payroll (c)	UAAL as a Percent of Covered Payroll [(b) - (a)] / (c)
3/31/04	\$62.1	\$73.7	\$ 11.6	84.3 %	\$6.5	178.5 %
3/31/05*	62.7	77.2	14.6	81.1 %	6.7	217.2 %
3/31/06	64.4	80.9	16.5	79.6 %	6.8	242.3 %
3/31/07	68.6	83.8	15.2	81.9 %	6.7	227.2 %
3/31/08	71.2	87.4	16.2	81.5 %	6.7	240.1 %
3/31/09	61.1	91.9	30.7	66.5 %	6.9	443.3 %
3/31/10	61.4	99.6	38.2	61.6 %	6.5	583.5 %
3/31/11	62.1	102.8	40.6	60.4 %	5.8	700.0 %
3/31/12	62.8	104.5	41.7	60.1 %	5.9	706.8 %
3/31/13	65.8	109.7	43.9	59.9 %	6.0	738.1 %

* Based on payroll excluding one-time retroactive payments.

Figures may differ due to rounding.

**SCHEDULE OF EMPLOYER CONTRIBUTIONS
PENSION AND HEALTH COMBINED**

Fiscal Year Ended March 31	Annual Recommended Contributions	Actual Contributions	Percent Contributed
2006	\$3,799,719	\$3,799,719	100.0 %
2007	4,220,496	4,220,496	100.0 %
2008	4,732,216	4,732,216	100.0 %
2009	2,862,102	2,862,102	100.0 %
2010	2,953,180	2,953,180	100.0 %
2011	3,902,126	3,902,126	100.0 %
2012	4,407,240	4,407,240	100.0 %
2013	4,070,562	4,082,568	100.3 %
2014	4,257,948	N/A	N/A
2015	4,560,754	N/A	N/A

Beginning with fiscal year ended March 31, 2009, health contributions are not included in this schedule.

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	March 31, 2013
Actuarial cost method	Entry Age Normal
Amortization method	Level percent of payroll
Remaining amortization period	20 years, closed
Asset valuation method	4-year smoothed market
Actuarial assumptions:	
Investment net rate of return	7.5%
Projected salary increases	4.5%-8.9%
Cost-of-living adjustments	N.A.