GRS **Gabriel Roeder Smith & Company**
Consultants & Actuaries

CITY OF OWOSSO
EMPLOYEES RETIREMENT SYSTEM
SEVENTIETH ANNUAL ACTUARIAL VALUATION
DECEMBER 31, 2014

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April 15, 2015

The Board of Trustees
City of Owosso Employees Retirement System
Owosso, Michigan

Dear Board Members:

The results of the December 31, 2014 Annual Actuarial Valuation of the City of Owosso Employees Retirement System are presented in this report.

This report was prepared at the request of the Board and is intended for use by the Retirement System and those designated or approved by the Board. This report may be provided to parties other than the System only in its entirety and only with the permission of the Board.

The purposes of the valuation are to measure the System's funding progress and to determine the employer contribution rate for the fiscal year beginning July 1, 2015. Information for GASB purposes will no longer be included in the valuation report. Instead, a separate report will be issued that contains information needed for reporting under GASB 67 and 68.

This report should not be relied on for any purpose other than the purposes described. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

The valuation was based upon information furnished by the City, concerning Retirement System benefits, financial transactions, plan provisions and active members, terminated members, retirees and beneficiaries. We checked for internal and year-to-year consistency, but did not otherwise audit the data. We are not responsible for the accuracy or completeness of the information provided by the City.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period or additional cost or contribution requirements based on the plan's funded status); and changes in plan provisions or applicable law. Due to the limited scope of the actuary's assignment, the actuary did not perform an analysis of the potential range of such future measurements.
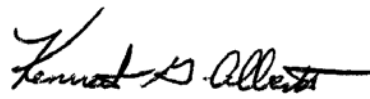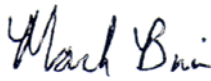
Mark Buis is a Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement systems and are independent of the plan sponsor. To the best of our knowledge, the information contained in this report is accurate and fairly presents the actuarial position of the City of Owosso Employees Retirement System as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

Respectfully submitted,

Kenneth G. Alberts   Mark Buis, FSA, MAAA

KGA/MB:bd

SECTION A
VALUATION RESULTS

Computed Contributions Expressed as Percents of Annual Pay
For the Fiscal Year Beginning July 1, 2015
Using Entry Age Funding Method

Contributions for	General	Police^	Fire Dept.	Total
Number of Active Members	30	12	16	58
Actuarial Accrued Liabilities	$21,712,397	$5,572,970	$9,428,904	$36,714,271
Assets	18,242,766	5,359,814	8,956,002	32,558,582
Unfunded Actuarial Accrued Liabilities	3,469,631	213,156	472,902	4,155,689
Total Normal Cost - %	13.27%	16.55%	17.23%	
Members' Contributions - %	6.00	13.92	7.00	
City's Normal Cost - %	7.27	2.63	10.23	
Unfunded Actuarial Accrued Liabilities - %	26.30	1.37	4.29	
UAL Payment	$ 358,912	$ 20,168	$ 39,320	$ 418,400
City's Normal Cost - $	99,229	17,752	93,762	210,743
TOTAL CITY CONTRIBUTIONS				
Effective 7/1/2015 - %	**33.57%**	**5.62%**	**14.52%**	
Effective 7/1/2015 - $	**$ 458,141**	**$ 37,920**	**$ 133,082**	**$ 629,143**
Amortization Period (in years)	14	14	14	
For every $1,000 of Contingency Reserve Released, the Employer Contribution Decreases:	$ 0	$ 135	$ 92	$ 227

^ *Effective for the 12/31/2013 valuation, the Police Command and Police Patrol were combined. There are no current active Police Command members. The rate shown is based on the 4% maximum employer contribution for Police Patrol plus the contribution for Police Command.*

City of Owosso Employees Retirement System

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Valuation Assets and
Actuarial Accrued Liability

In financing the actuarial accrued liabilities, the valuation assets of $32,558,582 were distributed as shown below.

Reserves for	Member Actuarial Accrued Liabilities	Retired Life Actuarial Liabilities	Contingency Reserve	Totals
	Present Valuation Assets Applied to			
Employees' Contributions	$ 3,331,149			$ 3,331,149
Employer Contributions	4,005,284	$ 497,446		4,502,730
Retired Benefit Payments		24,130,119	$854,393	24,984,512
Undistributed Investment Income	(259,809)			(259,809)
Totals	$ 7,076,624	$24,627,565	$854,393	$32,558,582

Historical Comparison of Contingency Reserve
by Division

	Contingency Reserve			
Valuation Year	**General**	**Police**	**Fire**	**Total**
2001*	$ 222,913	$ 222,868	$ 495,185	$ 940,966
2002*	257,480	207,161	661,454	1,126,095
2003*	332,125	174,762	660,099	1,166,986
2004*	149,603	234,935	329,028	713,566
2005	379,612	242,833	630,448	1,252,893
2006	374,388	209,771	629,568	1,213,727
2007	403,449	344,481	616,305	1,364,235
2008	366,855	351,453	707,770	1,426,078
2009	297,674	468,166	697,978	1,463,818
2010	505,101	480,114	689,335	1,674,550
2011	566,173	524,232	650,227	1,740,632
2011#	424,630	393,174	487,670	1,305,474
2012#@	366,148	481,920	425,067	1,273,135
2013^	379,078	669,336	381,914	1,430,328
2013^!	118,258	575,524	178,077	871,859
2014	-	583,098	271,295	854,393

*   *Prior to 2005, General Union and General Non-Union were summarized as General for purposes of the actuarial valuation. Prior to 2005, Police Command and Police Patrol were summarized as Police for purposes of the actuarial valuation. For the purpose of this exhibit, the combined General and Police groups pre-2005 have been summarized with General Union and Police Patrol respectively.*

After the release of ¼ of the contingency reserve as approved by the board as of 12/31/2011.

@   *After transfer of $74,000 from WWTP to Sewage.*

^   *Beginning in 2013, the WWTP, Sewage, General Union, General Non Union, and Water groups are combined into one General Group. The Police Command and Police Patrol were also combined into one Police group for purposes of the actuarial valuation.*

!   *After actuarial assumptions and/or methods revised.*

Development of Unfunded Accrued Liability Using Entry Age Funding Method

	General	Police	Fire	Total
A. Accrued Liability				
1. For retirees and beneficiaries				
a. Retiree Liability	$ 14,345,475	$ 3,591,556	$ 6,690,534	$ 24,627,565
b. Contingency Reserve	0	583,098	271,295	854,393
2. For vested terminated members	875,606	0	0	875,606
3. For pending MERS transfer	0	0	0	0
4. For present active members				
a. Value of expected benefit payments	7,785,906	2,510,316	3,877,522	14,173,744
b. Value of future normal costs	1,294,590	1,112,000	1,410,447	3,817,037
c. Active member liability: (a) - (b)	6,491,316	1,398,316	2,467,075	10,356,707
5. Total	21,712,397	5,572,970	9,428,904	36,714,271
B. Present Assets (valuation basis)	18,242,766	5,359,814	8,956,002	32,558,582
C. Unfunded Accrued Liability (Excess Assets) as of 12/31/2014: (A.5) - (B)	3,469,631	213,156	472,902	4,155,689
D. Employer Normal Cost (for period 1/1/15 to 6/30/15)	49,693	8,745	46,188	104,626
E. Expected Employer Contribution Payable 6/30/2015	442,880	35,195	122,694	600,769
F. Interest Adjustment to 6/30/2015	126,675	7,885	17,980	152,540
G. Projected Unfunded Accrued Liability (Excess Assets) as of 6/30/2015: (C) + (D) - (E) + (F)	3,203,119	194,591	414,376	3,812,086

City of Owosso Employees Retirement System

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Employer Contribution History

Valuation Date December 31	City's Computed Contributions for	
	General Members	Policemen^ and Firemen
1996 - 2002	0.00	0.00
2003#	0.00	0.17
2004#(a)	0.00	0.00
2005#(a)(b)	2.67	1.30
2006(a)(b)	4.28	1.54
2007(b)	2.53	3.88
2008(b)	10.19	4.77
2009#(b)	10.90	5.48
2010(b)	18.43	9.21
2011(a)(b)	25.99	15.83
2012#	28.60	11.09
2013(a)	29.27	9.63
2014	33.57	10.74

 #   *After benefit provisions changed.*
(a) *After actuarial assumptions and/or methods revised.*
(b) *Closed groups financed using the Aggregate method.*
^   *The City's Contribution for Police Patrol has a maximum of 4%. However, the contribution percentage on this page includes the additional contribution for the Police Command group, since the Policemen group includes both divisions.*

Comments

Comment A: The System was closed to General Union and Police Command Officers new entrants effective January 1, 2005 and General Non-Union new entrants effective January 1, 2006. The plan is open for Police Patrol and Fire groups.

Comment B: The City's contribution rate for the Police Patrol group is limited to 4% of covered payroll. This results in a calculated member rate of 13.92% of payroll for Police Patrol members for the fiscal year beginning July 1, 2015.

Comment C: Experience during the year was less favorable than assumed. The primary sources of unfavorable experience were:

- Losses related to investment activity (the recognized rate of investment return was 6.99% compared with the assumed rate of investment return of 7.25%);
- Losses related to pay increases (average pay increases for members active at the beginning and end was 3.8% compared with a 3.0% assumed increase);
- Losses related to retirements (4 members actually retired compared with 1.5 expected).

Comment D: The Retirement System currently has a contingency reserve of approximately $854 thousand. This reserve is the excess of the Reserve for Retired Benefit Payments over the accrued liabilities for retirees and beneficiaries.

Since all of the General divisions are combined into one group, the determination of the contingency reserve was done in total, resulting in the elimination of the reserve. If the contingency reserve had been determined by individual General divisions, there would be a contingency reserve of approximately $116 thousand for the General Union group.

See page A-3 for additional details regarding the contingency reserve amounts by group.

Comments (Concluded)

Comment E: With the consolidation of the Police Patrol (an open group with a maximum employer contribution) and Police Command (a closed group with no current maximum employer contribution), the employer contributions were determined separately and added together. As such, the retirement system may need to maintain assets separately for these two groups going forward, unless there is a unification in the maximum employer contribution (and a re-opening of the Command group).

If the Police Patrol and Command employer contribution was determined together, rather than separately, the Police Patrol contingency reserve would apply to both the Patrol and Command, reducing the reserve by about $41 thousand. Combining the two groups would also increase the Patrol employee contribution rate to 14.65% and decrease the employer contribution rate to 4.00%.

Comment F: The computed Employer contribution effective July 1, 2015 is $629,143.   In the preliminary report/experience study, we discussed the possibility of increasing the lag between the valuation date and the contribution effective date for ½ years to 1 ½ years. The valuation in which the lag is first increased would then determine the employer contributions for two fiscal years. The Board did not take action on this item.

Comment G: There have been no changes in the plan provisions from the prior 2013 valuation.

SECTION B
VALUATION DATA

Brief Summary of Benefit Provisions
(December 31, 2014)

Regular Retirement (no reduction factor for age)

Eligibility - General* Non-Union: Age 60 with 10 or more years of service.
General* Union: Age 55 with 25 or more years of service or age 60 with 10 or more years of service.
Police: Age 50 with 25 or more years of service or age 55 with 10 or more years of service.
Fire: Any age with 25 or more years of service or age 55 with 10 or more years of service if hired prior to 6/30/93. Age 50 with 25 or more years of service or age 55 with 10 or more years of service if hired after 6/30/93.

Annual Amount - General* Non-Union: Final Average Compensation (FAC) times 2.5% for all years of service to a maximum 80% of FAC, effective 7/1/2010.
Fire: FAC times the sum of a) 2.80% for the first 25 years of service plus b) 1.0% for years of service in excess of 25 years to a maximum of 80% FAC.
Police: FAC times 2.80% for all years of service to a maximum 80% of FAC.
General* Union – FAC times 2.50% for all years of service to a maximum of 80% FAC.

Type of Final Average Compensation - Highest 3 consecutive years out of last 10. Some lump sums included.

* Includes WWTP, Water, and Sewage.

Deferred Retirement (vested benefit)

Eligibility - 10 or more years of service. Benefit begins at age 60.

Annual Amount - Computed as a regular retirement but based upon service and final average compensation at time of termination.

Duty Disability Retirement

Eligibility - No age or service requirements. Must be in receipt of worker's compensation.

Annual Amount - Computed as a regular retirement. Minimum benefit to age 65 is 20% of final average compensation. Upon termination of worker's compensation, additional service credit is granted and benefit is recomputed.

Non-Duty Disability Retirement

Eligibility - 10 or more years of service.

Annual Amount - Computed as a regular retirement. Minimum benefit to age 65 is 20% of final average compensation.

Duty Death Before Retirement

Eligibility - No age or service requirements. Must be in receipt of worker's compensation.

Annual Amount - Refund of accumulated contributions or, upon termination of worker's compensation, a benefit to the spouse, unmarried children under 18 and dependent parents equal to the worker's compensation payment.

Non-Duty Death Before Retirement

Eligibility - 10 or more years of service.

Annual Amount - Computed as a regular retirement but actuarially reduced in accordance with a 100% joint and survivor election.

Post-Retirement Increases

Annual increase - 1.4% of the base pension for the first 10 years of retirement.

Member Contributions

General, Police Non-Union   6.0% of annual compensation.

Fire   6.0% of annual compensation, 6.5% effective 7/1/2009; 7.0% effective 7/1/2010.

Police Union   City Contribution up to 4.0%; members responsible for any additional contribution requirements.

Membership

General City Union (including WWTP, Water, and Sewage) employees hired on or after January 1, 2005, and General City Non-Union (including WWTP, Water, and Sewage) employees and Police Command Officers hired on or after January 1, 2006 are not covered by this Retirement System.

Retirants and Beneficiaries Comparative Statement

Valuation Date Dec. 31	Added to Rolls No.	Annual Pensions*	Removed from Rolls No.	Annual Pensions	Rolls End of Year No.	Annual Pensions	% Incr. in Annual Pensions	Average Pension	Present Value of Pensions	Active Per Retiree	Pensions as a % of Pay
1990	6	$ 52,582	5	$ 11,392	82	$ 533,071	8.4%	$ 6,501	$5,528,903	1.3	18.15%
1991	4	76,248	3	12,643	83	596,676	11.9	7,189	6,194,711	1.2	19.70
1992	6	59,014	3	25,569	86	630,121	5.6	7,327	6,455,404	1.2	20.41
1993		12,468	2	4,508	84	638,081	1.3	7,596	6,383,541	1.2	19.78
1994	5	29,230	3	4,664	86	662,647	3.8	7,705	6,486,947	1.2	19.72
1995	2	46,143	3	7,064	85	701,726	5.9	8,256	6,918,988	0.8	28.87
1996	2	11,415	7	12,934	80	700,207	(0.2)	8,753	6,743,764	0.8	31.74
1997	2	47,931	2	25,613	80	722,975	3.3	9,037	6,856,333	0.8	29.57
1998	4	22,510	6	60,410	78	685,075	(5.2)	8,783	6,431,181	0.9	27.60
1999	3	96,306	2	2,583	79	778,798	7.7	9,858	7,416,876	0.8	29.81
2000	2	54,935	3	18,350	78	815,383	4.7	10,454	7,807,925	1.3	21.52
2001	8	171,244	4	42,562	82	944,065	15.8	11,513	9,172,050	1.2	24.78
2002	7	119,045	4	32,234	85	1,030,876	9.2	12,128	10,126,061	1.2	26.84
2003	1	17,294	10	31,998	76	1,016,172	(1.4)	13,371	9,841,684	1.3	25.45
2004	4	115,408	6	33,752	74	1,097,828	8.0	14,836	10,609,898	1.3	27.47
2005	3	62,062	3	22,700	74	1,137,190	3.6	15,367	10,861,853	1.3	27.32
2006	5	207,589	2	2,865	77	1,341,914	18.0	17,427	13,043,591	1.2	34.12
2007	3	125,438	7	37,612	73	1,429,740	6.5	19,585	13,864,399	1.2	35.28
2008	1	63,419	4	33,043	70	1,460,116	2.1	20,859	14,063,424	1.3	36.12
2009	4	95,927	2	29,187	72	1,526,856	4.6	21,206	14,688,020	1.2	38.63
2010	4	252,797	1	22,320	75	1,757,333	15.1	23,431	16,795,936	1.0	47.85
2011	4	133,694	3	26,612	76	1,864,415	6.1	24,532	17,718,104	1.0	49.76
2012	6	247,091	4	57,258	78	2,054,248	10.2	26,337	19,536,094	0.9	61.63
2013	10	312,029	5	57,844	83	2,308,433	12.4	27,812	23,305,303 @	0.8	74.25
2014	5	163,556	4	41,881	84	2,430,108	5.3	28,930	24,627,565	0.7	82.69

*   *Includes post retirement increases.*
@   *After changes in actuarial assumptions/methods.*

Retirants and Beneficiaries as of December 31, 2014
Tabulated by Type of Pensions Being Paid

Type of Pensions Being Paid	No.	Annual Pension
Age and Service Pensions		
Regular pension - benefit terminating at death	33	$1,138,809
Option A pension - 10-year certain and life thereafter	1	35,028
Option B pension - joint and last survivor benefit	18	456,346
Option C pension - modified joint and last survivor	12	467,705
Pension to survivor beneficiary of deceased retirant	13	168,475
Total age and service pensions	77	$2,266,363
Casualty Pensions		
Duty disability Regular Pension		
Non-Duty disability Regular Pension	4	$ 121,307
Pension to survivor beneficiary of deceased retirant Non-Duty disability	2	23,306
Pension to survivor beneficiary of deceased member Non-Duty death	1	19,132
Total casualty pensions	7	$ 163,745
Total Pensions Being Paid	84	$2,430,108

Retirants and Beneficiaries as of December 31, 2014
Tabulated by Attained Ages

Attained Age	Age and Service No.	Age and Service Annual Allowances	Casualty No.	Casualty Annual Allowances	Totals No.	Totals Annual Allowances
<50	1	$ 46,884			1	$ 46,884
50 - 54	2	77,464	1	$ 13,116	3	90,580
55 - 59	11	363,201	1	20,655	12	383,856
60 - 64	11	435,829	2	79,132	13	514,961
65 - 69	12	508,769	2	40,652	14	549,421
70 - 74	5	182,030			5	182,030
75	4	162,109	1	10,190	5	172,299
76	2	41,696			2	41,696
77	2	76,023			2	76,023
78	4	97,068			4	97,068
79	4	96,400			4	96,400
80	1	1,721			1	1,721
81	2	23,624			2	23,624
82	1	1,669			1	1,669
83						
84	3	43,431			3	43,431
85						
86						
87	1	16,646			1	16,646
88	3	24,697			3	24,697
89	3	46,984			3	46,984
90+	5	20,118			5	20,118
Totals	**77**	**$2,266,363**	**7**	**$163,745**	**84**	**$2,430,108**

Average Age at Retirement: 58.1 years.
Average Age Now: 71.4 years.

Inactive Members as of December 31, 2014
Tabulated by Attained Ages

Attained Ages	No.	Annual Deferred Pension
49	1	$ 8,542
52	1	15,428
54	1	13,257
55	1	17,192
58	1	35,671
59	1	7,224
Totals	**6**	**$97,314**

Average Age Now: 55.0 years

Comparative Statement

Valuation Date Dec. 31	Active Members Gen, Sew & WWTP	P-F	Water	Total	Vested Term. Member	Valuation Payroll	Average Age	Service	Pay	% Change
1995	27	39	3	69	3	$ 2,430,598	43.2	13.6	$ 35,226	11.1%
1996	27	32	3	62	4	2,205,901	44.2	14.3	35,579	1.0
1997	30	32	3	65	4	2,444,848	43.9	13.6	37,613	5.7
1998	30	34	3	67	4	2,486,108	44.9	13.9	37,106	(1.3)
1999	30	34	3	67	4	2,612,348	43.6	13.1	38,990	5.1
2000	51	32	15	98	6	3,788,920	44.3	13.7	38,662	(0.8)
2001	48	34	15	97	6	3,809,203	43.2	12.8	39,270	1.6
2002	52	33	15	100	4	3,840,501	43.6	12.7	38,405	(2.2)
2003	50	34	14	98	3	3,993,163	44.8	13.6	40,747	6.1
2004	49	33	15	97	3	3,996,822	44.7	13.3	41,204	1.1
2005	49	34	15	98	3	4,162,066	45.1	13.6	42,470	3.1
2006	45	29	15	89	3	3,933,310	44.9	13.7	44,194	4.1
2007	43	33	14	90	4	4,052,300	47.0	14.9	45,026	1.9
2008	43	32	13	88	4	4,042,417	46.5	14.8	45,937	2.0
2009	40	32	11	83	3	3,952,336	46.4	15.4	47,619	3.7
2010	37	29	10	76	3	3,672,267	47.4	15.9	48,319	1.5
2011	36	31	10	77	3	3,746,852	47.2	15.5	48,660	0.7
2012	33	29	7	69	6	3,333,049	47.0	15.5	48,305	(0.7)
2013	29	30	5	64	6	3,108,992	45.6	14.1	48,578	0.6
2014	**26**	**28**	**4**	**58**	**6**	**2,938,821**	**46.0**	**14.3**	**50,669**	**4.3**

Valuation payroll in 2009 was adjusted to account for 27 pay periods during the year.
Valuation payroll in 2012 was adjusted to remove the one-time payout of unused sick leave for Firefighters.

Active Members Added to and Removed from Rolls

Year Ended	Number Added During Year A	Normal Retirement A	E	Disabled A	E	Died-in Service A	E	Other Withdrawal A	E	Active Members End of Year
2005	4	2	2.4		0.2		0.2	1	3.5	98
2006	2	3	1.2	2	0.2		0.2	6	3.4	89
2007	6	2	0.9		0.2		0.2	3	2.6	90
2008		1	2.7		0.2		0.2	1	2.7	88
2009		4	3.2		0.2		0.2	1	2.4	83
2010		4	1.2		0.2		0.2	3	2.1	76
2011	7	3	1.3		0.2	1	0.2	2	1.7	77
2012	3	5	1.9		0.2		0.2	6	2.2	69
2013	5	7	1.6	1	0.2		0.2	2	2.0	64
2014	2	4	1.5		0.2		0.1	4	1.8	58
2005-2014	29	35	17.9	3	2.0	1	1.9	29	24.4	

A represents actual number.
E represents expected number.

General Members as of December 31, 2014
By 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
30-34									
35-39			2					2	$ 59,027
40-44			1					1	65,127
45-49			2	2		1		5	227,523
50-54		2	2	5		1		10	454,911
55-59			1	2	2	1	3	9	486,824
60-64					1			1	45,108
65-69			1		1			2	77,968
Totals	**0**	**2**	**9**	**9**	**4**	**3**	**3**	**30**	**$1,416,488**

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

Group Averages:

Age: 53.1 years
Service: 19.0 years
Annual Pay: $47,216

Police Members as of December 31, 2014
By 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	3							3	$ 157,663
30-34	2	3						5	264,487
35-39			3					3	169,349
40-44									
45-49									
50-54									
55-59						1		1	54,137
60-64									
Totals	**5**	**3**	**3**	**0**	**0**	**1**	**0**	**12**	$ 645,636

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

Group Averages:

Age: 34.0 years
Service: 8.3 years
Annual Pay: $53,803

Fire Department Members as of December 31, 2014
By Age and Years of Service

Attained Age	Years of Service on Valuation Date							No.	Totals Valuation Payroll
	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus		
20-24	1							1	$ 39,497
30-34	2							2	111,196
35-39	1	2						3	152,247
40-44	2			1				3	160,301
45-49			3	1				4	215,276
50-54			1	1	1			3	198,180
55-59									
60-64									
Totals	**6**	**2**	**4**	**3**	**1**	**0**	**0**	**16**	**$ 876,697**

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

_____

Group Averages:

Age: 41.8 years
Service: 10.0 years
Annual Pay: $54,794

Development of Funding Value of Retirement System Assets

Year Ended December 31:	2013	2014	2015	2016	2017
A. Funding Value Beginning of Year	$30,611,263	$31,913,449			
B. Market Value End of Year	33,392,670	33,683,719			
C. Market Value Beginning of Year	29,770,236	33,392,670			
D. Non-Investment Net Cash Flow	(1,200,863)	(1,531,769)			
Investment Income %	7.50%	7.25%			
E. Investment Income					
E1. Market Total: B-C-D	4,823,297	1,822,818			
E2. Amount for Immediate Recognition	2,250,812	2,258,198			
E3. Amount for Phased-In Recognition: E1-E2	2,572,485	(435,380)			
F. Phased-In Recognition of Investment Income					
F1. Current Year: 0.25 x E3	643,121	(108,845)			
F2. First Prior Year	165,429	643,121	$ (108,845)		
F3. Second Prior Year	(781,000)	165,429	643,121	$ (108,845)	
F4. Third Prior Year	224,687	(781,001)	165,429	643,122	$ (108,845)
F5. Total Recognized Investment Gain	252,237	(81,296)	699,705	534,277	(108,845)
G. Funding Value End of Year: A+D+E2+F5	$31,913,449	$32,558,582			
H. Difference between Market & Funding Value	$ 1,479,221	$ 1,125,137			
I. Funding Value Recognized Rate of Return	8.34%	6.99%			
J. Market Value Recognized Rate of Return	16.54%	5.59%			

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. 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 are exactly equal for 3 consecutive years, the Funding Value will become equal to Market Value.

City of Owosso Employees Retirement System

Summary of
Asset Information as of December 31, 2014
Furnished for Valuation

BALANCE SHEET

Valuation Assets (Funding Value)		Reserves	
Cash & Equivalents	$ 114,940	Employees' Contributions	$ 3,331,149
U.S. Notes & Bills	0	Employer Contributions	5,627,867
Short-term Investment Funds	1,711,713	Retired Benefit Payments	24,984,512
Common Stocks	22,583,402	Unallocated Reserves	(259,809)
Preferred Stocks	93,844		
Equities - Other	0		
Bonds	9,192,317		
Accounts Payable	(12,497)		
Net System Assets (market value)	$33,683,719	Total Reserves	$33,683,719
Funding Value Adjustment	(1,125,137)	Funding Value Adjustment	(1,125,137)
Total Valuation Assets	$32,558,582	Total Valuation Assets	$32,558,582

REVENUES AND EXPENDITURES

	2014	2013
Valuation Assets - January 1	$31,913,449	$30,611,263
Revenues		
Employees' contributions	221,638	223,755
Employer contributions	701,388	829,038
Net Investment income	2,176,902	2,503,049
Expenditures		
Benefit payments	2,444,889	2,232,573
Refund of member contributions	9,906	21,083
Valuation Assets - December 31	$32,558,582	$31,913,449

SECTION C

OPERATION OF THE SYSTEM

Financial Objective

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 program 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 this 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 present 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:

$$B = C + I - E$$

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 and not required for immediate payment of benefits
... minus ...

Expenses incurred in operating the program.

There are retirement systems designed to defer the bulk of contributions far into the future. The present contribution rate for such systems is artificially low. The fact that the contribution rate is destined to increase relentlessly to a much higher level is often ignored. *This method of financing is prohibited in Michigan by the state constitution*.

A by-product of the level percent-of-payroll contributions objective is the accumulation of invested assets. Investment income on accumulated assets 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 actuary calculated the contribution rate *by means of an actuarial valuation* - the technique of assigning monetary values to the risks assumed in operating a retirement system.

SECTION D
VALUATION METHODS AND ASSUMPTIONS

Actuarial Cost Method

Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age normal 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; death or disability;

- Each annual normal cost is a constant percentage of the member's year by year projected covered pay.

UAAL (as well as Assets in excess of Actuarial Accrued Liabilities) were amortized by over a 14-year closed period (starting July 1, 2015). The amortization method was level percent-of-payroll for the open groups and level dollar for the closed groups

Asset Valuation Method

An essential step in the valuation process is comparing valuation assets with computed liabilities. Valuation assets are those assets that are recognized for funding purposes.

Asset valuation methods are distinguished by the timing of the recognition of investment income. Total investment income is the sum of ordinary income and capital value changes. Under a pure market value approach, ordinary investment income and all capital value changes would be recognized immediately. Because of market volatility, use of pure market values in retirement funding can result in volatile contribution rates and unstable financial ratios, contrary to management objectives.

Under the current asset valuation method (see page B-11), assumed investment return is recognized fully each year. Differences between actual and assumed investment return are phased-in over a closed 4-year period. During periods when investment performance exceeds the assumed rate, the funding value will tend to be less than the market value. Conversely, during periods when investment performance is less than the assumed rate, funding value will tend to be greater than market value.

Actuarial Assumptions Used for the Valuations

The contribution requirements 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 Fund;

- Patterns of pay increases to members;

- Rates of mortality among members, retirants and beneficiaries;

- Rates of withdrawal of active members (without entitlement to a retirement benefit);

- Rates of disability among members; and

- The age patterns of actual retirements.

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 choice 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).

The assumed rate of investment return was 7.25% (net of expenses) a year, compounded annually. This assumption is used to make money payable at one point in time equal in value to an amount of money payable at another point in time. The assumed real rate of return (the net return in excess of the wage inflation rate) was 4.25%. Economic experience during the last 5 years has been as follows:

	Year Ending December 31					**5-Year**
	2014	**2013**	**2012**	**2011**	**2010**	**Average**
1) Nominal rate of return*	7.0%	8.3%	8.0%	(1.6%)	1.8%	4.6%
2) Increase in CPI	0.8	1.5	1.7	3.0	1.5	1.7%
3) Average salary increase	4.3	0.6	(0.7)	0.7	1.5	1.3%
4) Real return						
- investment purposes						2.9%
- funding purposes						3.3%
- assumption						4.25%

*   *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 of expenses, A is the beginning of year asset value and B is the end of year asset value.*

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.

Salary Increase Assumptions			**Salary Increase Assumptions**			
For an Individual Member			**For an Individual Member**			
Years of	**Base**	**Merit & Seniority**	**Years of**	**Base**	**Merit & Seniority**	
Service	**(Economic)**	**General**	**Service**	**(Economic)**	**Police**	**Fire**
1	3.0%	0.0%	1	3.0%	10.0%	5.0%
2	3.0%	0.0%	2	3.0%	5.0%	4.5%
3	3.0%	0.0%	3	3.0%	1.5%	4.0%
4	3.0%	0.0%	4	3.0%	1.0%	3.5%
5	3.0%	0.0%	5	3.0%	0.8%	3.0%
6	3.0%	0.0%	6	3.0%	0.5%	2.5%
7 & Up	3.0%	0.0%	7 & Up	3.0%	0.0%	0.0%

If the number of active members remains constant, then the total active member payroll will increase 3.0% annually, the base portion of the individual salary increase assumptions.

The rate of price inflation was assumed to be 2.5%. Although this assumption is not directly used in the valuation, it was used to determine the reasonable range for the investment return assumption.

The real wage growth was assumed to be 0.5%, resulting in a total wage inflation assumption of 3.0%, as shown in the salary increase tables.

The rate of payroll growth was assumed to be 3.0% for the open groups. This assumption was used to finance UAAL for the open groups (level dollar financing was used for the closed groups).

These economic assumptions were first used for the December 31, 2013 valuation.

The mortality table used was the RP-2000 Combined Healthy Mortality Tables projected to 2020 using Projection Scale AA. A margin for future mortality improvements is contained in the projection.

Sample Attained Ages	Present Value of $1 Monthly for Life		Future Life Expectancy (years)	
	Men	Women	Men	Women
45	$154.72	$156.27	37.54	39.46
50	148.84	150.73	32.77	34.63
55	140.89	143.37	28.04	29.88
60	130.74	134.14	23.47	25.31
65	118.50	123.10	19.17	21.02
70	104.41	110.47	15.22	17.06
75	88.00	96.22	11.58	13.47
80	70.35	80.35	8.42	10.23

This assumption is used to measure the probabilities of members dying before retirement and the probabilities of each benefit payment being made after retirement. For valuation purposes, pre-retirement deaths are assumed to be non-duty. For disability purposes, the mortality is set forward ten years.

This assumption was first used for the December 31, 2013 valuation.

The rates of retirement used to measure the probability of eligible members retiring during the next year were as follows:

Percent of Eligible Active Members Retiring within Next Year

Retirement Ages	General, Sewage, Water, and WWTP		Police	Fire
	Non-Union	Union		
45 - 54			20%	20%
55	20%	20%	20%	10%
56	15%	15%	20%	10%
57	10%	10%	20%	10%
58	10%	10%	20%	10%
59	10%	10%	20%	20%
60	10%	10%	100%	100%
61	10%	10%		
62	15%	15%		
63	25%	25%		
64	30%	30%		
65	100%	100%		

This assumption was first used for the December 31, 2013 valuation.

Rates of separation from active membership were as shown below (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 One Year		
		General	Fire	Police
ALL	0	20.00%	12.00%	20.00%
	1	15.00%	9.00%	15.00%
	2	10.00%	7.00%	10.00%
	3	8.00%	5.00%	8.00%
	4	7.00%	4.50%	7.00%
25	5 & Over	4.50%	4.50%	6.75%
30		3.90%	4.35%	5.85%
35		2.30%	3.50%	3.45%
40		0.90%	2.10%	1.35%
45		0.50%	1.00%	0.75%
50		0.50%	0.62%	0.75%
55		0.50%	0.50%	0.75%
60		0.50%	0.50%	0.75%

This assumption was first used for the December 31, 2013 valuation.

Rates of disability were as follows:

Sample Ages	% of Active Members Becoming Disabled within Next Year	
	General, Water, WWTP & Sewage	Police and Fire
20	0.02%	0.05%
25	0.02%	0.08%
30	0.02%	0.12%
35	0.03%	0.21%
40	0.07%	0.31%
45	0.13%	0.46%
50	0.27%	0.73%
55	0.44%	1.23%
60	0.67%	1.77%
65	1.00%	1.58%

For valuation purposes, pre-retirement disabilities are assumed to be non-duty.

This assumption was first used for the December 31, 2013 valuation.

Summary of Assumptions

Marriage Assumption: 100% of males and females are assumed to be married for purposes of death-in-service benefits. Male spouses are assumed to be three years older than female spouses.

Decrement Timing: Normal Retirement is assumed to occur at the beginning of the year and all other decrements are assumed to occur at the end of the year.

Eligibility Testing: Eligibility for benefits is determined based upon the age nearest birthday and service nearest whole year on the date the decrement is assumed to occur.

Benefit Service: Exact fractional service is used to determine the amount of benefit payable.

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 and turnover do not operate during retirement eligibility.

Normal Form of Benefit: The assumed normal form of benefit is the straight life form.

Liability Adjustments: Active member liabilities and normal costs were increased by 10% for Police, 4% for Fire hired before 6/30/1993, 7% for Fire hired after 6/30/1993, and 8% for all others to model end of career payments that are included in final average compensation (such as sick leave payouts).

Incidence of Contributions: Contributions are assumed to be received continuously throughout the year.

Police Patrol Refund Cost: Normal cost and accrued liabilities for Police Patrol refunds were based on an estimated long-term member contribution rate of 13%.

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, turn-over 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.

Funding Value of Assets. The value of assets derived by spreading the difference between actual investment return and expected investment return in equal dollar installments over four years. This treatment removes the timing of investment activities from the valuation process.

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 Liability. The difference between the actuarial accrued liability and valuation assets. Sometimes referred to as "unfunded accrued liability."

Gabriel Roeder Smith & Company
Consultants & Actuaries

One Towne Square
Suite 800
Southfield, MI 48076-3723

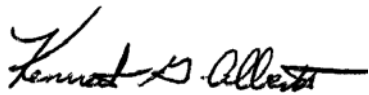248.799.9000 phone
248.799.9020 fax
www.gabrielroeder.com

April 15, 2015

Mr. Ronald J. Tobey
City Treasurer
City of Owosso Employees Retirement System
City Hall
301 W. Main Street
Owosso, Michigan 48867-2958

Dear Mr. Tobey:

Enclosed are thirteen copies of the Seventieth Annual Actuarial Valuation report for the City of Owosso Employees Retirement System.

Sincerely yours,

Kenneth G. Alberts

KGA:bd

cc: Mr. Doug Deeter (Rehmann Robson) E-Mail