

Section II – Detailed Valuation Results

Actuarial Valuation assets are equal to reported market value of assets, except that 20% of gains and losses (realized or unrealized) are recognized each year. Such spreading reduces the fluctuation in the City's computed contribution rate which might otherwise be caused by market value fluctuations. The details of the spreading technique are shown below. The present method was adopted for the June 30, 1999 actuarial valuation.

**DERIVATION OF ACTUARIAL VALUE OF ASSETS
MARKET VALUE WITH 20% RECOGNITION OF THE DIFFERENCE BETWEEN
THE MARKET RATE OF RETURN AND THE PROJECTED RATE OF RETURN**

	Fiscal Year End Year End June 30				(estimate)	(estimate)	(estimate)	(estimate)
	2013	2014	2015	2016	2017	2018	2019	2020
Beginning of Year:								
(1) Market Value	\$89,787,363	\$106,686,168	\$127,225,163	\$133,189,040	\$136,783,663	\$144,592,846	\$151,214,784	\$157,148,805
(2) Valuation Assets	87,659,588	99,822,247	116,565,922	132,161,946	143,250,207	151,077,653	156,674,365	159,663,963
End of Year:								
(3) Market Value	106,686,168	127,225,163	133,189,040	136,783,663	144,592,846	151,214,784	157,148,805	162,568,950
(4) Net Additions to Assets, Excluding Invest. Inc. and Expenses	5,790,084	4,537,637	4,220,780	3,017,627	(1,705,964)	(3,381,219)	(4,493,734)	(5,391,567)
(5) Total Investment Income								
=(3)-(1)-(4)	11,108,721	16,001,358	1,743,097	576,996	9,515,148	10,003,157	10,427,754	10,811,712
(6) Projected rate of return	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%	7.00%
(7) Projected Investment Income								
=(6)x[(2)+.5x(4)]	6,338,824	7,146,375	8,307,342	9,356,953	9,967,806	10,457,093	10,809,925	10,987,773
(8) Investment Income In Excess of Projected Income =(5)-(7)	4,769,897	8,854,983	(6,564,245)	(8,779,957)	(452,658)	(453,936)	(382,171)	(176,061)
(9) Excess Investment Income Recognized This Year (5 year recognition)								
(9a) From this Year	953,979	1,770,997	(1,312,849)	(1,755,991)	(90,532)	(90,787)	(76,434)	(35,212)
(9b) From 1 year ago	(942,455)	953,979	1,770,997	(1,312,849)	(1,755,991)	(90,532)	(90,787)	(76,434)
(9c) From 2 years ago	678,912	(942,455)	953,979	1,770,997	(1,312,849)	(1,755,991)	(90,532)	(90,787)
(9d) From 3 years ago	(3,254,918)	678,912	(942,455)	953,979	1,770,997	(1,312,849)	(1,755,991)	(90,532)
(9e) From 4 years ago	(1,844,022)	(3,254,918)	678,912	(942,455)	953,979	1,770,997	(1,312,849)	(1,755,991)
(10) Change in Valuation Assets =(4)+(7)+9[a..e]	7,720,404	10,890,527	13,676,706	11,088,261	7,827,446	5,596,712	2,989,598	3,547,250
End of Year:								
(3) Market Value	106,686,168	127,225,163	133,189,040	136,783,663	144,592,846	151,214,784	157,148,805	162,568,950
(11) Valuation Assets=(2)+(10)	95,379,992	110,712,774	130,242,628	143,250,207	151,077,653	156,674,365	159,663,963	163,211,213
(12) Recognized Rate of Return	2.1%	6.2%	8.0%	6.0%	6.7%	6.0%	4.8%	5.7%
(13) Rate of Return for the Year on Market Value of Assets	12.0%	14.7%	1.3%	0.4%	7.0%	7.0%	7.0%	7.0%
(14) Ratio of Funding value to Market Value	89.4%	87.0%	97.8%	104.7%	104.5%	103.6%	101.6%	100.4%

Section III – Accounting Information

The following discussion develops the Annual OPEB Cost (AOC), Net OPEB Obligation (NOO), funding status, and required supplementary information for fiscal year ending June 30, 2016. All amounts are shown using a discount rate of 7.00%.

Annual OPEB Cost (AOC)

	Fiscal Year Ending June 30, 2016
ARC	\$11,179,000
Adjustment to ARC	(\$260,000)
Interest on NOO	339,000
Total AOC	\$11,258,000

Net OPEB Obligation (NOO)

The Net OPEB Obligation (NOO) as of June 30, 2016 is \$932,000. The NOO will remain constant if 100% of the AOC is always contributed annually. However, if less than 100% is contributed, the NOO is the AOC minus the amount actually contributed. The NOO at June 30, 2016 is developed as follows:

	Fiscal Year Ending June 30, 2016
Actual NOO/(Asset) at June 30, 2015	\$4,845,000
Annual OPEB Cost	\$11,258,000
Contributions to AOC	\$15,171,000
NOO/(Asset) at June 30, 2016	\$932,000

Note that benefit payments (net of retiree contributions) count towards the AOC contribution (if they are not paid by drawing down the fund). Since the fiscal 2016 employer contributions are \$15,171,000, 134.8% of the AOC was contributed.

Section III – Accounting Information

Funded Status

City of Ann Arbor must show the funding status at the end of each year after adoption. As of June 30, 2016, the funded status is as follows:

Funded Status	<u>As Of June 30, 2016</u>
Actuarial Accrued Liability (AAL)	\$281,502,000
Actuarial Value of Assets	\$143,250,000
Unfunded AAL (UAL)	\$138,252,000
Funded Ratio (Assets/AAL)	50.9%
Covered Payroll	\$50,057,000
UAL as a % of Covered Payroll	276.2%

Section III – Accounting Information

Required Supplementary Information (3-year history shown after adoption date)

Funding progress for the previous 3 years since adoption date must be provided.

June 30, 2016
Entry Age Normal Cost Method

Valuation Date	Actuarial	Actuarial	Unfunded	Funded Ratio	Covered Payroll	UAAL as a Percentage of Covered Payroll
	Value of Assets	Accrued Liability (AAL)	AAL (UAAL)			
	(a)	(b)	(b - a)	(a / b)	(c)	(b - a) / (c)
6/30/2014	\$116,566,000	\$264,164,000	\$147,598,000	44.1%	\$47,957,000	307.8%
6/30/2015	\$132,162,000	\$275,912,000	\$143,750,000	47.9%	\$48,759,000	294.8%
6/30/2016	\$143,250,000	\$281,502,000	\$138,252,000	50.9%	\$50,057,000	276.2%

Section IV – Projection Results

Projection Assumptions and Methods

Key Assumptions

- 7.0% investment return on the Market Value of Assets in all future years
- The Actuarial Value of Assets reflects the deferred gains and losses generated by the smoothing method adopted by the plan
- Actuarial assumptions and methods as described in Section VIII. All future demographic experience is assumed to be exactly realized.
- Contributions made according to two different scenarios:
 - 30 year open amortization as level % of pay (GASB 45 minimum), with the contribution equal to the calculated Annual OPEB Cost
 - Prior year contribution increased 2% per year, until 100% funded, then normal cost only
- Benefits payments in excess of contributions draw down the assets of the trust.
- Projections assume a 0% increase in the total active member population. All new future members are expected to enter the plan upon date of hire.

Section IV – Projection Results

Table of Projected Actuarial Results*
Financial Projection(\$'s in 000's)
Investment return 7.00%

Year	Valuation Amounts on June 30					Flow amount during next 12 months					Expected Return	Recognized Asset Gain/(loss)	Ending Actuarial Asset
	Actuarial Asset	General	Police	Fire	Total	Funding Ratio	Surplus (Deficit)	GASB 45 ARC*	Employer Contribs	Benefit Payments			
2016	143,250	168,629	67,912	44,961	281,502	50.9%	(138,252)	11,168	11,182	12,888	9,968	(434)	151,078
2017	151,078	174,583	70,606	46,495	291,684	51.8%	(140,606)	10,641	10,655	14,037	10,457	(1,479)	156,674
2018	156,674	180,027	73,187	47,930	301,144	52.0%	(144,470)	10,639	10,653	15,146	10,810	(3,327)	159,664
2019	159,664	184,998	75,642	49,261	309,901	51.5%	(150,237)	10,752	10,766	16,158	10,988	(2,049)	163,211
2020	163,211	189,571	77,962	50,493	318,026	51.3%	(154,815)	10,814	10,828	17,147	11,204	(302)	167,794
2021	167,794	193,754	80,092	51,663	325,509	51.6%	(157,715)	10,764	10,778	18,310	11,482	(217)	171,528
2022	171,528	197,375	81,968	52,742	332,085	51.7%	(160,557)	10,712	10,726	19,417	11,703	(129)	174,411
2023	174,411	200,543	83,508	53,702	337,753	51.6%	(163,342)	10,666	10,680	20,483	11,866	(53)	176,419
2024	176,419	203,264	84,727	54,510	342,501	51.5%	(166,082)	10,635	10,648	21,458	11,971	(19)	177,562
2025	177,562	205,477	85,667	55,238	346,382	51.3%	(168,820)	10,614	10,627	22,360	12,019	(10)	177,838
2026	177,838	207,232	86,350	55,821	349,403	50.9%	(171,565)	10,585	10,599	23,434	11,999	(5)	176,998
2027	176,998	208,344	86,745	56,254	351,343	50.4%	(174,345)	10,551	10,565	24,373	11,907	(2)	175,094
2028	175,094	208,911	86,865	56,460	352,236	49.7%	(177,142)	10,530	10,544	25,370	11,738	(1)	172,004
2029	172,004	208,759	86,677	56,514	351,950	48.9%	(179,946)	10,541	10,555	26,212	11,492	0	167,839
2030	167,839	207,958	86,288	56,360	350,606	47.9%	(182,767)	10,570	10,584	26,969	11,175	0	162,629
2031	162,629	206,606	85,701	55,928	348,235	46.7%	(185,606)	10,615	10,629	27,434	10,796	0	156,619
2032	156,619	204,708	84,956	55,414	345,078	45.4%	(188,459)	10,679	10,693	27,927	10,360	0	149,745
2033	149,745	202,179	84,100	54,749	341,028	43.9%	(191,283)	10,754	10,768	28,302	9,868	0	142,079
2034	142,079	199,064	83,198	53,927	336,189	42.3%	(194,110)	10,846	10,860	28,670	9,322	0	133,591
2035	133,591	195,491	82,059	52,957	330,507	40.4%	(196,916)	10,957	10,971	28,750	8,729	0	124,542
2036	124,542	191,495	80,980	51,816	324,291	38.4%	(199,749)	11,081	11,095	28,706	8,102	0	115,032
2037	115,032	187,213	79,744	50,684	317,641	36.2%	(202,609)	11,214	11,228	28,698	7,441	0	105,003
2038	105,003	182,493	78,370	49,582	310,445	33.8%	(205,442)	11,354	11,368	28,680	6,744	0	94,435
2039	94,435	177,353	76,911	48,467	302,731	31.2%	(208,296)	11,497	11,511	28,611	6,012	0	83,346
2040	83,346	171,761	75,339	47,363	294,463	28.3%	(211,117)	11,643	11,657	28,332	5,251	0	71,922
2041	71,922	166,032	73,614	46,287	285,933	25.2%	(214,011)	11,797	11,812	27,968	4,469	0	60,235
2042	60,235	160,127	71,890	45,171	277,188	21.7%	(216,953)	11,746	11,762	27,481	3,666	0	48,183
2043	48,183	154,063	70,210	44,067	268,340	18.0%	(220,157)	11,719	11,735	27,120	2,834	0	35,632
2044	35,632	147,942	68,413	42,913	259,268	13.7%	(223,636)	11,905	11,921	26,768	1,975	0	22,760
2045	22,760	141,783	66,481	41,679	249,943	9.1%	(227,183)	11,905	11,922	26,285	1,091	0	9,488

* Annual Required Contribution (ARC) under GASB 45 = amortization of unfunded liability + normal cost

Annual OPEB Cost (AOC) = ARC + interest on any Net OPEB Obligation/Asset + Prescribed Adjustment to Net OPEB Obligation/Asset

Section IV – Projection Results

Table of Projected Actuarial Results - Assumes 2% Increase in Contribution Until 100% Funded
Financial Projection(\$'s in 000's)
Investment return 7.00%

Year	Valuation Amounts on June 30					Flow amount during next 12 months			Expected Return	Recognized Asset Gain/(loss)	Ending Actuarial Asset		
	Actuarial Asset	Accrued Liability			Funding Ratio	Surplus (Deficit)	GASB 45 ARC*	Employer Contribs				Benefit Payments	
	General	Police	Fire	Total									
2016	143,250	168,629	67,912	44,961	281,502	50.9%	(138,252)	11,168	15,474	12,888	10,118	(434)	155,520
2017	155,520	174,583	70,606	46,495	291,684	53.3%	(136,164)	10,411	15,784	14,037	10,948	(1,479)	166,736
2018	166,736	180,027	73,187	47,930	301,144	55.4%	(134,408)	10,117	16,100	15,146	11,705	(3,327)	176,068
2019	176,068	184,998	75,642	49,261	309,901	56.8%	(133,833)	9,902	16,422	16,158	12,334	(2,049)	186,617
2020	186,617	189,571	77,962	50,493	318,026	58.7%	(131,409)	9,602	16,750	17,147	13,049	(302)	198,967
2021	198,967	193,754	80,092	51,663	325,509	61.1%	(126,542)	9,149	17,085	18,310	13,885	(217)	211,410
2022	211,410	197,375	81,968	52,742	332,085	63.7%	(120,675)	8,646	17,427	19,417	14,729	(129)	224,020
2023	224,020	200,543	83,508	53,702	337,753	66.3%	(113,733)	8,095	17,775	20,483	15,587	(53)	236,845
2024	236,845	203,264	84,727	54,510	342,501	69.2%	(105,656)	7,504	18,131	21,458	16,463	(19)	249,962
2025	249,962	205,477	85,667	55,238	346,382	72.2%	(96,420)	6,862	18,493	22,360	17,362	(10)	263,447
2026	263,447	207,232	86,350	55,821	349,403	75.4%	(85,956)	6,149	18,863	23,434	18,281	(5)	277,153
2027	277,153	208,344	86,745	56,254	351,343	78.9%	(74,190)	5,361	19,241	24,373	19,221	(2)	291,239
2028	291,239	208,911	86,865	56,460	352,236	82.7%	(60,997)	4,512	19,625	25,370	20,186	(1)	305,679
2029	305,679	208,759	86,677	56,514	351,950	86.9%	(46,271)	3,614	20,018	26,212	21,181	0	320,665
2030	320,665	207,958	86,288	56,360	350,606	91.5%	(29,941)	2,651	20,418	26,969	22,217	0	336,331
2031	336,331	206,606	85,701	55,928	348,235	96.6%	(11,904)	1,614	13,138	27,434	23,043	0	345,078
2032	345,078	204,708	84,956	55,414	345,078	100.0%	0	914	914	27,927	23,210	0	341,275
2033	341,275	202,179	84,100	54,749	341,028	100.1%	247	596	596	28,302	22,919	0	336,487
2034	336,487	199,064	83,198	53,927	336,189	100.1%	298	490	490	28,670	22,568	0	330,875
2035	330,875	195,491	82,059	52,957	330,507	100.1%	368	387	387	28,750	22,169	0	324,680
2036	324,680	191,495	80,980	51,816	324,291	100.1%	389	342	342	28,706	21,735	0	318,051
2037	318,051	187,213	79,744	50,684	317,641	100.1%	410	307	307	28,698	21,270	0	310,929
2038	310,929	182,493	78,370	49,582	310,445	100.2%	484	225	225	28,680	20,769	0	303,243
2039	303,243	177,353	76,911	48,467	302,731	100.2%	512	192	192	28,611	20,232	0	295,056
2040	295,056	171,761	75,339	47,363	294,463	100.2%	593	111	111	28,332	19,666	0	286,501
2041	286,501	166,032	73,614	46,287	285,933	100.2%	568	140	140	27,968	19,081	0	277,754
2042	277,754	160,127	71,890	45,171	277,188	100.2%	566	149	149	27,481	18,486	0	268,909
2043	268,909	154,063	70,210	44,067	268,340	100.2%	569	157	157	27,120	17,880	0	259,826
2044	259,826	147,942	68,413	42,913	259,268	100.2%	558	178	178	26,768	17,257	0	250,493
2045	250,493	141,783	66,481	41,679	249,943	100.2%	550	202	202	26,285	16,622	0	241,032

* Annual Required Contribution (ARC) under GASB 45 = amortization of unfunded liability + normal cost

Annual OPEB Cost (AOC) = ARC + interest on any Net OPEB Obligation/Asset + Prescribed Adjustment to Net OPEB Obligation/Asset

Section V – Sensitivity Analysis

The results are volatile due to the discount rate assumption and health care trend rate assumption. Below, we show the PVB, AAL, and Normal Cost, if the discount/trend rates were increased or decreased by 1.0%, holding other valuation assumptions constant.

Discount Rate Sensitivity Analysis - Projected Fiscal Year Ending June 30, 2018			
	8.00% Discount Rate	7.00% Discount Rate	6.00% Discount Rate
Present Value of Benefits (PVB)	\$266,800,000	\$312,466,000	\$350,609,000
Actuarial Accrued Liability (AAL)	\$249,711,000	\$291,684,000	\$320,406,000
Normal Cost	\$2,828,000	\$3,355,000	\$4,594,000

Trend Rate Sensitivity Analysis - Projected Fiscal Year Ending June 30, 2018			
	All Years -1%	Valuation Trend	All Years +1%
Present Value of Benefits (PVB)	\$267,882,000	\$312,466,000	\$349,352,000
Actuarial Accrued Liability (AAL)	\$249,186,000	\$291,684,000	\$321,148,000
Normal Cost	\$3,021,000	\$3,355,000	\$4,350,000

Section VI – Demographic Information

The following pages summarize the demographic information for the retiree health and life plans.

Summary of Retired Participants		
Group	Retirees & Surv. Spouses Covered	Spouses Covered
General		
Medical/Life Coverage	540	323
Life Only Coverage	126	n/a
Subtotal	<u>666</u>	<u>323</u>
Police		
Medical/Life Coverage	174	133
Life Only Coverage	28	n/a
Subtotal	<u>202</u>	<u>133</u>
Fire		
Medical/Life Coverage	140	93
Life Only Coverage	14	n/a
Subtotal	<u>154</u>	<u>93</u>
Total		
Medical/Life Coverage	854	549
Life Only Coverage	168	n/a
Grand total	<u>1022</u>	<u>549</u>

Section VI – Demographic Information

Age and Service Distribution of Active Members As of June 30, 2016

Total

Attained Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
20-24	Number	6	0	0	0	0	0	0	0	6
	Total Salary	276,166	0	0	0	0	0	0	0	276,166
	Average Salary	46,028	0	0	0	0	0	0	0	46,028
25-29	Number	47	2	0	0	0	0	0	0	49
	Total Salary	2,418,114	107,718	0	0	0	0	0	0	2,525,832
	Average Salary	51,449	53,859	0	0	0	0	0	0	51,548
30-34	Number	42	5	3	0	0	0	0	0	50
	Total Salary	2,532,891	292,262	191,984	0	0	0	0	0	3,017,137
	Average Salary	60,307	58,452	63,995	0	0	0	0	0	60,343
35-39	Number	38	14	16	11	0	0	0	0	79
	Total Salary	2,302,213	958,616	1,039,003	928,219	0	0	0	0	5,228,051
	Average Salary	60,585	68,473	64,938	84,384	0	0	0	0	66,178
40-44	Number	33	25	24	45	12	0	0	0	139
	Total Salary	2,020,985	1,729,772	1,874,519	3,637,252	1,054,516	0	0	0	10,317,044
	Average Salary	61,242	69,191	78,105	80,828	87,876	0	0	0	74,223
45-49	Number	21	17	21	33	44	13	0	0	149
	Total Salary	1,292,854	1,395,328	1,608,841	2,857,241	3,962,424	1,171,618	0	0	12,288,306
	Average Salary	61,564	82,078	76,611	86,583	90,055	90,124	0	0	82,472
50-54	Number	18	7	12	23	30	17	0	0	107
	Total Salary	952,806	500,252	923,492	1,831,090	2,651,721	1,488,725	0	0	8,348,086
	Average Salary	52,934	71,465	76,958	79,613	88,391	87,572	0	0	78,019
55-59	Number	15	7	18	16	15	6	0	0	77
	Total Salary	1,138,862	490,060	1,392,322	1,123,289	1,326,701	503,622	0	0	5,974,856
	Average Salary	75,924	70,009	77,351	70,206	88,447	83,937	0	0	77,596
60-64	Number	3	5	5	4	5	2	1	0	25
	Total Salary	222,160	286,448	290,516	304,271	362,162	205,830	61,979	0	1,733,366
	Average Salary	74,053	57,290	58,103	76,068	72,432	102,915	61,979	0	69,335
65-69	Number	1	1	0	0	1	0	0	1	4
	Total Salary	75,000	106,553	0	0	68,041	0	0	99,038	348,632
	Average Salary	75,000	106,553	0	0	68,041	0	0	99,038	87,158
TOTAL	Number	224	83	99	132	107	38	1	1	685
	Total Salary	13,232,051	5,867,008	7,320,676	10,681,360	9,425,564	3,369,795	61,979	99,038	50,057,471
	Average Salary	59,072	70,687	73,946	80,919	88,089	88,679	61,979	99,038	73,077

Section VI – Demographic Information

Age and Service Distribution of Active Members As of June 30, 2016

General

Attained Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
20-24	Number	4	0	0	0	0	0	0	0	4
	Total Salary	182,885	0	0	0	0	0	0	0	182,885
	Average Salary	45,721	0	0	0	0	0	0	0	45,721
25-29	Number	33	2	0	0	0	0	0	0	35
	Total Salary	1,563,216	107,718	0	0	0	0	0	0	1,670,934
	Average Salary	47,370	53,859	0	0	0	0	0	0	47,741
30-34	Number	27	5	2	0	0	0	0	0	34
	Total Salary	1,587,182	292,262	108,080	0	0	0	0	0	1,987,524
	Average Salary	58,785	58,452	54,040	0	0	0	0	0	58,457
35-39	Number	30	13	13	2	0	0	0	0	58
	Total Salary	1,772,396	872,474	770,716	124,405	0	0	0	0	3,539,991
	Average Salary	59,080	67,113	59,286	62,203	0	0	0	0	61,034
40-44	Number	32	22	14	15	2	0	0	0	85
	Total Salary	1,963,210	1,494,764	1,045,806	928,984	151,624	0	0	0	5,584,388
	Average Salary	61,350	67,944	74,700	61,932	75,812	0	0	0	65,699
45-49	Number	20	15	18	15	20	7	0	0	95
	Total Salary	1,235,014	1,229,865	1,345,578	1,120,582	1,540,797	499,069	0	0	6,970,905
	Average Salary	61,751	81,991	74,754	74,705	77,040	71,296	0	0	73,378
50-54	Number	18	7	12	17	15	11	0	0	80
	Total Salary	952,806	500,252	923,492	1,283,154	1,209,046	844,739	0	0	5,713,489
	Average Salary	52,934	71,465	76,958	75,480	80,603	76,794	0	0	71,419
55-59	Number	15	7	17	15	8	6	0	0	68
	Total Salary	1,138,862	490,060	1,310,204	1,036,940	624,795	503,622	0	0	5,104,483
	Average Salary	75,924	70,009	77,071	69,129	78,099	83,937	0	0	75,066
60-64	Number	3	5	5	4	5	2	1	0	25
	Total Salary	222,160	286,448	290,516	304,271	362,162	205,830	61,979	0	1,733,366
	Average Salary	74,053	57,290	58,103	76,068	72,432	102,915	61,979	0	69,335
65-69	Number	1	1	0	0	1	0	0	1	4
	Total Salary	75,000	106,553	0	0	68,041	0	0	99,038	348,632
	Average Salary	75,000	106,553	0	0	68,041	0	0	99,038	87,158
TOTAL	Number	183	77	81	68	51	26	1	1	488
	Total Salary	10,692,731	5,380,395	5,794,391	4,798,336	3,956,465	2,053,260	61,979	99,038	32,836,595
	Average Salary	58,430	69,875	71,536	70,564	77,578	78,972	61,979	99,038	67,288

Section VI – Demographic Information

Age and Service Distribution of Active Members As of June 30, 2016

Police

Attained Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
20-24	Number	2	0	0	0	0	0	0	0	2
	Total Salary	93,280	0	0	0	0	0	0	0	93,280
	Average Salary	46,640	0	0	0	0	0	0	0	46,640
25-29	Number	13	0	0	0	0	0	0	0	13
	Total Salary	804,030	0	0	0	0	0	0	0	804,030
	Average Salary	61,848	0	0	0	0	0	0	0	61,848
30-34	Number	11	0	1	0	0	0	0	0	12
	Total Salary	726,188	0	83,904	0	0	0	0	0	810,092
	Average Salary	66,017	0	83,904	0	0	0	0	0	67,508
35-39	Number	7	0	2	6	0	0	0	0	15
	Total Salary	469,939	0	186,886	546,169	0	0	0	0	1,202,994
	Average Salary	67,134	0	93,443	91,028	0	0	0	0	80,200
40-44	Number	0	0	2	18	5	0	0	0	25
	Total Salary	0	0	172,763	1,664,041	423,137	0	0	0	2,259,941
	Average Salary	0	0	86,382	92,447	84,627	0	0	0	90,398
45-49	Number	0	0	3	15	15	3	0	0	36
	Total Salary	0	0	263,264	1,471,930	1,537,022	362,009	0	0	3,634,225
	Average Salary	0	0	87,755	98,129	102,468	120,670	0	0	100,951
50-54	Number	0	0	0	4	8	3	0	0	15
	Total Salary	0	0	0	368,637	804,549	339,307	0	0	1,512,493
	Average Salary	0	0	0	92,159	100,569	113,102	0	0	100,833
55-59	Number	0	0	0	0	2	0	0	0	2
	Total Salary	0	0	0	0	170,462	0	0	0	170,462
	Average Salary	0	0	0	0	85,231	0	0	0	85,231
60-64	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
65-69	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
TOTAL	Number	33	0	8	43	30	6	0	0	120
	Total Salary	2,093,437	0	706,816	4,050,777	2,935,169	701,316	0	0	10,487,515
	Average Salary	63,437	0	88,352	94,204	97,839	116,886	0	0	87,396

Section VI – Demographic Information

Age and Service Distribution of Active Members As of June 30, 2016

Fire

Attained Age		0-4	5-9	10-14	15-19	20-24	25-29	30-34	Over 34	Total
15-19	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
20-24	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
25-29	Number	1	0	0	0	0	0	0	0	1
	Total Salary	50,868	0	0	0	0	0	0	0	50,868
	Average Salary	50,868	0	0	0	0	0	0	0	50,868
30-34	Number	4	0	0	0	0	0	0	0	4
	Total Salary	219,522	0	0	0	0	0	0	0	219,522
	Average Salary	54,881	0	0	0	0	0	0	0	54,881
35-39	Number	1	1	1	3	0	0	0	0	6
	Total Salary	59,878	86,142	81,401	257,644	0	0	0	0	485,065
	Average Salary	59,878	86,142	81,401	85,881	0	0	0	0	80,844
40-44	Number	1	3	8	12	5	0	0	0	29
	Total Salary	57,775	235,008	655,950	1,044,227	479,754	0	0	0	2,472,714
	Average Salary	57,775	78,336	81,994	87,019	95,951	0	0	0	85,266
45-49	Number	1	2	0	3	9	3	0	0	18
	Total Salary	57,840	165,463	0	264,728	884,605	310,539	0	0	1,683,175
	Average Salary	57,840	82,732	0	88,243	98,289	103,513	0	0	93,510
50-54	Number	0	0	0	2	7	3	0	0	12
	Total Salary	0	0	0	179,299	638,126	304,680	0	0	1,122,105
	Average Salary	0	0	0	89,650	91,161	101,560	0	0	93,509
55-59	Number	0	0	1	1	5	0	0	0	7
	Total Salary	0	0	82,118	86,349	531,445	0	0	0	699,912
	Average Salary	0	0	82,118	86,349	106,289	0	0	0	99,987
60-64	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
65-69	Number	0	0	0	0	0	0	0	0	0
	Total Salary	0	0	0	0	0	0	0	0	0
	Average Salary	0	0	0	0	0	0	0	0	0
TOTAL	Number	8	6	10	21	26	6	0	0	77
	Total Salary	445,883	486,613	819,469	1,832,248	2,533,930	615,219	0	0	6,733,362
	Average Salary	55,735	81,102	81,947	87,250	97,459	102,537	0	0	87,446

Section VII – Summary of Plan Provisions

General Information

- 1) All retired members, except persons retiring from deferred status, are eligible for health insurance coverage commencing when pension benefits begin. Certain retiree suffixes pay a monthly contribution, if they elect the “high option plan”.
- 2) All spouses and dependents of retired members are eligible for City-paid coverage, as long as the retiree is alive.
- 3) Survivors of deceased members and deceased retired members are eligible for continued City-paid coverage, as long as a pension is payable to the survivor (the survivor's dependents are covered as well, while the survivor continues to receive a pension).
- 4) Retirees are required to apply for Medicare coverage.
- 5) All retired members are eligible for life insurance coverage commencing when pension benefits begin. The City pays the full cost of the life insurance coverage.

Section VII – Summary of Plan Provisions

Eligibility Provisions - (June 30, 2016)

Regular Retirement

Eligibility - General: Age 50 with 25 years of service, or age 60 with 5 years of service.

Police/Fire: 25 years of service, or age 55 with 5 years of service.

Hires after the following dates are eligible after 10 years of service, rather than 5 years:

Group	Effective date
Non-union	July 1, 2011
Teamsters/Deputy Chiefs	July 2, 2012
Teamsters Supervisors	July 2, 2012
Teamsters Police Professionals	July 2, 2012
AFSCME	August 29, 2011
AAPOA	January 1, 2012
Firefighters	July 1, 2012

Early Retirement

Eligibility - General: Age 50 with 20 years of service.

Police/Fire: Age 50 with 20 years of service.

Duty Disability Retirement:

Eligibility - No age or service requirement.

Non-Duty Disability Retirement:

Eligibility - 5 or more years of service.

Hires after the dates listed above are eligible after 10 years of service, rather than 5 years.

Duty Death before Retirement:

Eligibility - No age or service requirement.

Non-Duty Death before Retirement:

Eligibility - 5 years of service.

Hires after the dates listed above are eligible after 10 years of service, rather than 5 years.

Section VII – Summary of Plan Provisions

Frozen Medical Plan (closed to new hires)

- Different retiree division codes have different Blue Cross Blue Shield plan designs, with varying copays, deductibles and coinsurances, depending on retirement date and union status.
- Monthly contributions for retirees electing the high option designs are as follows:

Division	Group Description	EE	EE+1	EE+2	EE+3	EE+4 or more
0050	Non-Union High option after 7/1/11	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0055	Police Professional High option after 7/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0063	AAPOA High Option after 1/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0065	AFSCME High Option after 1/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0075	PSS High option after 8/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0076	FIRE High Option after 7/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0077	Teamsters High Option after 7/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95
0079	Police Command High Option after 5/1/12	\$49.74	\$81.98	\$122.97	\$163.96	\$204.95

- Medicare coordination is under the exclusion method.
- Prescription drug benefits are included with medical and are various prescription drug card copay designs.

New Medical Plan

The City contributes \$2,500/year into a **notional** account, during each year of active service. A retirement eligible participant can then draw on these funds after retirement, in order to pay for insurance premiums or claims, as needed.

This new benefit is effective at the following dates, which vary by group:

Group	Effective date
Non-union	July 1, 2011
Teamsters/Deputy Chiefs	July 2, 2012
Teamsters Supervisors	July 2, 2012
Teamsters Police Professionals	July 2, 2012
AFSCME	August 29, 2011
AAPOA	January 1, 2012
Firefighters	July 1, 2012

Section VII – Summary of Plan Provisions

Life Insurance Plan

- Retired:
 - General - \$5,000 flat death benefit
 - Police/Fire - \$10,000 flat death benefit
- Disabled/Widowed
 - Non-union – 1x salary
 - Police/Fire - \$40,000 flat death benefit
 - Other unions - \$15,000 flat death benefit
- No contributions are required for the above life insurance benefits.

Section VIII – Methods and Assumptions

City Of Ann Arbor

SUMMARY OF ASSUMPTIONS

Actuarial Valuation Date	06/30/2016, ARC projected for FY 2018
Reporting Date	06/30/2016
Discount Rate	7.00%
Salary Inflation	3.50%

Salary was provided in the data. Note that Medical benefits do not depend on salary, however, this data is needed to produce results under the Entry Age Normal (level % of pay) cost methods and to amortize the UAAL as a level % of pay.

Salary Adjustment Factors for Projections of Current Salaries*				
Sample Ages	Percent Increase in Salary During Next Year			
	Base	Merit & Longevity		
		General	Police	Fire
20	3.50%	4.00%	6.00%	5.80%
25	3.50%	3.60%	5.10%	5.00%
30	3.50%	2.80%	3.20%	3.40%
35	3.50%	2.10%	1.90%	1.90%
40	3.50%	1.80%	1.20%	1.20%
45	3.50%	1.50%	0.90%	0.90%
50	3.50%	1.00%	0.70%	0.70%
55	3.50%	0.70%	0.50%	0.50%
60	3.50%	0.50%	0.30%	0.40%

* Life insurance benefits are assumed to increase with the assumed wage inflation of 3.5%.

Health Care Trend

Year	Medical/Rx	
	Pre-Medicare	Post-Medicare
1	8.25%	6.25%
2	8.00%	6.00%
3	7.75%	5.75%
4	7.50%	5.50%
5	7.25%	5.40%
6	7.00%	5.30%
7	6.75%	5.20%
8	6.50%	5.10%
9	6.25%	5.00%
10	6.00%	4.90%
11	5.75%	4.80%
12	5.50%	4.70%
13	5.25%	4.60%
14	5.00%	4.50%
15	4.75%	4.50%
16	4.50%	4.50%

Retiree Contribution Trend

Same as above

Section VIII – Methods and Assumptions

Annual Per Adult Life Claim Costs

Attained Age	7/1/2016 to 6/30/2017 Cost			
	Older Retirees	High option *	Low option **	All future retirees
Ag 60, male	\$10,466	\$9,660	\$8,827	\$9,244
Age 60, female	\$10,462	\$9,657	\$8,824	\$9,241
Age 65 male	\$7,701	\$7,230	\$6,264	\$7,037
Age 65, female	\$7,298	\$6,852	\$5,937	\$6,669

* Retirees in Division code 50, 53, 54, 55, 63, 65, 68, 74, 75, 76, 77, 79, 82

** Retirees in Division code 51, 56, 57, 58, 64, 66, 78, 80, 81

Age Related Morbidity Factors

Based on a study titled "Health Care Costs—From Birth to Death" sponsored by the Society of Actuaries

Age	Aging Factor	
	Male	Female
35	22.53%	46.31%
40	28.43%	46.39%
45	35.24%	49.11%
50	46.02%	57.23%
55	60.38%	66.67%
60	77.79%	77.76%
65	100.00%	94.76%
70	108.94%	101.78%
75	117.00%	110.24%
80	122.83%	116.52%
85	123.72%	120.87%
90	121.43%	122.08%
95	119.75%	117.18%
98+	118.16%	107.42%

Administrative Expenses

Included above

Future Retiree Contribution Amounts Assumed

Attained Age	Retiree	Spouse
Under 65 (50% High / 50% Low Plan)	\$24.87	\$16.12
Over 65 (80% High / 20% Low Plan)	\$39.79	\$25.79

Section VIII – Methods and Assumptions

Plan Election Rates	90% of future retirees elect coverage Actual elections used for current retirees
% Spouse coverage At Retirement	75 % of the retirees electing coverage will also elect to cover an eligible spouse Actual data used for current retirees
Spousal Age Difference	For actives, spousal age is assumed equal to the participant. Actual data used for current retirees
Medicare Part D Coordination	GASB 45 does not allow the Retiree Drug Subsidy to be reflected in calculating liabilities

Retirement Probabilities

Retirement Age	Age Based						Service Based		
	General Normal	Early	Police Normal	Early	Fire Normal	Early	Years of Service	Police	Fire
50	45%	23%		35%		25%	25	70%	50%
51	40%	15%		35%		25%	26	70%	35%
52	40%	15%		35%		25%	27	70%	35%
53	40%	15%		35%		25%	28	50%	35%
54	40%	18%		35%		25%	29	50%	25%
55	40%	30%	75%		24%		30	75%	25%
56	40%	42%	75%		24%		31	75%	25%
57	40%	42%	75%		24%		32	75%	25%
58	25%	42%	75%		24%		33	75%	25%
59	25%	42%	75%		34%		34	75%	25%
60	25%		100%		100%		35	100%	100%
61	35%								
62	35%								
63	35%								
64	35%								
65	60%								
66	40%								
67	40%								
68	40%								
69	40%								
70	100%								

Mortality

RP 2000 Combined Table projected to 2007 set forward 2 years for males and set back 3 years for females

Disabled Mortality:

The standard post-retirement mortality rates set forward 10 years.

The above Mortality table is applied using full generational projection using mortality improvement scale AA.

Section VIII – Methods and Assumptions

Turnover

Sample select and ultimate probabilities shown below:

Sample Rates of Separation from Active Employment Before Retirement, Death, or Disability					
Ages	Years of Service	% of Active Members Separating Within Next Year			
		General		Police	Fire
		Male	Female		
ALL	0	6.00%	16.00%	6.00%	4.50%
	1	4.80%	13.00%	6.00%	4.00%
	2	4.00%	11.00%	4.00%	3.60%
	3	3.20%	8.00%	3.00%	3.60%
	4	2.40%	6.00%	2.50%	3.60%
20	5 and Over	3.20%	6.50%	2.40%	1.40%
25		3.20%	6.50%	2.40%	1.40%
30		3.20%	6.50%	2.40%	1.10%
35		2.50%	5.00%	1.75%	0.90%
40		2.50%	5.00%	0.74%	1.00%
45		2.50%	5.00%	0.48%	0.90%
50		2.50%	5.00%	0.48%	0.50%
55		2.50%	5.00%	0.48%	0.50%
60		2.50%	5.00%	0.48%	0.50%
65		2.50%	5.00%	0.48%	0.50%

Disability

Probabilities of Becoming Disabled			
Sample Ages	Percent Becoming Disabled Within Next Year		
	General	Police	Fire
20	0.06%	0.08%	0.02%
25	0.06%	0.08%	0.02%
30	0.06%	0.08%	0.02%
35	0.06%	0.08%	0.02%
40	0.10%	0.14%	0.03%
45	0.24%	0.32%	0.08%
50	0.42%	0.56%	0.14%
55	0.65%	0.86%	0.22%
60	0.86%	1.14%	0.29%

Section IX – GASB OPEB Summary

The Government Accounting Standards Board (GASB) has issued statement No. 45 – *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*. This can be used as a guide for City of Ann Arbor when accounting for its retiree medical plan. In this section we summarize pertinent issues from the above statements and it includes comments about the standard.

Why Pay-As-You-Go Accounting is Unacceptable

The GASB believes that other post-retirement benefits, such as retiree medical benefits, like pensions, are a form of deferred compensation. Accordingly, GASB is saying these benefits should be recognized (in an organization's financial statement) when earned by employees, rather than when paid out. Under GASB No. 45, pay-as-you-go accounting is replaced with accrual accounting for these benefits. This approach is similar to (although more restrictive than) GASB's approach under Statement No. 27. In many respects GASB 45 follows the statement No. 27 approach.

Allocating Costs (Attribution)

The attribution period is the period over which the total postretirement benefit is earned. The GASB statement does not restrict entities to a single attribution method, but instead allows sponsors (and actuaries) to choose from several acceptable methods (similar to GASB 27). GASB No. 45 allows six different funding methods shown in the statement. GASB No. 45 also allows attribution to decrement age.

Defining the Plan

The substantive plan may differ from the written plan in that it reflects the employer's cost sharing policy based on past practice or communication of intended changes, or a past practice of cost increases in monetary benefits. Under GASB No. 45, the substantive plan is the basis for the valuation, requiring entities to recognize the underlying promise, not just the written plan.

An implied subsidy may exist, when retirees participate in the active healthcare plan, but are charged a rate based on composite active and retiree experience. Under GASB No. 45 the plan sponsor must recognize this implied subsidy.

Actuarial Assumptions

GASB No. 45 generally says actuarial assumptions should be explicit. This means each individual assumption should represent the actuary's best estimate.

GASB No. 45 requires the discount rate be based on the source of funds used to pay the benefits. This means the underlying expected long-term rate of return on plan assets for funded plans. However, since the source of funds for unfunded plans is usually the agency's general fund, and agencies are usually restricted by State law as to what investments they can have in their general fund, unfunded plans will need to use a relatively low discount rate.

GASB 74/75 Standards

Governmental Accounting Standards Board (GASB) Statement No. 74 (GASB 74) replaces GASB 43 for plan years beginning after June 15, 2016. GASB 75 replaces GASB 45 for plan years beginning after June 15, 2017. The calculations included in this report are not appropriate for reporting under GASB 74 or 75. A separate actuarial review will be needed to calculate financial information under the new GASB standards.