

City of Taylor
Police and Fire Retirement System

Actuarial Information for GASB Statements 67/68

June 30, 2016



October 24, 2016

The Retirement Board
The City of Taylor Police and Fire Retirement System
Taylor, Michigan 48180-4116

Dear Board Members:

This document contains actuarial information required for Plan reporting purposes pursuant to Governmental Accounting Standards Board Statements No. 67/68 effective for the Fiscal Year ended June 30, 2016.

Respectfully submitted,

A handwritten signature in black ink that reads 'Denise M. Jones'.

Denise M. Jones
Senior Consultant

A handwritten signature in black ink that reads 'Sandra W. Rodwan'.

Sandra W. Rodwan
Member, American Academy of Actuaries

Net Pension Liability

The components of the net pension liability at June 30, 2016 were as follows:

Total pension liability	\$238,870,839
Plan fiduciary net position	114,382,210
City's net pension liability	124,488,629
Plan fiduciary net position as a percentage of the total pension liability	47.88%
Covered payroll	\$9,360,386
City's net pension liability as a percentage of covered payroll	1,330.0%

Actuarial assumptions. The total pension liability was determined based on the annual actuarial valuation as of June 30, 2015, rolled forward to June 30, 2016. The following actuarial assumptions were applied to compute the total pension liability:

Actuarial cost method	Entry Age
Inflation	4.0%
Salary Increases	0.0%-6.5% (includes inflation)
Cost of living assumption adjustments	None

Mortality rates were based on the RP 2014 Healthy Annuitant Mortality Table.

Discount rate. The discount rate used to measure the total pension liability was 4.84%. The projection of cash flows used to determine the discount rate assumed that member contributions will be made at the current contribution rate and that City Contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the 4.84% discount rate is the single rate of return that, when applied to all projected benefit payments, results in an actuarial present value of projected benefit payments equal to the total of the actuarial present values determined in conformity with GASB 67, paragraph 44.

Sensitivity of the net pension liability to changes in the discount rate. The following presents the City’s net pension liability, calculated using the discount rate of 5.84%, as well as what the City’s net pension liability would be if it were calculated using a discount rate that is 1% lower (4.84%) or 1% higher (6.84%) than the current rate:

	1% Decrease Rate 4.84%	Computed GASB 67/68 Rate 5.84%	1% Increase Rate 6.84%
City’s net pension liability	\$156,945,119	\$124,488,629	\$98,087,892

Schedule of Changes in the City's Net Pension Liability and Related Ratios

	Year Ended 6/30/2016
Total pension liability (TPL)	
Service cost	\$2,270,877
Interest	11,979,040
Changes in benefit terms	-
Differences between expected and actual experience	474,915
Changes in assumptions used for TPL	
Discount rate assumption	27,114,985
Mortality assumption	-
Total due to TPL assumption changes	27,114,985
Benefit payments, including refunds of member contributions	(11,811,553)
Net change in total pension liability	30,028,264
Total pension liability-beginning	208,842,575
Total pension liability-ending (a)	238,870,839
Plan fiduciary net position	
Contributions-employer	5,588,834
Contributions-member	728,821
Net investment income	652,396
Benefit payments, including refunds of member contributions	(11,811,553)
Administrative Expense	(108,612)
Other	104
Net change in plan fiduciary net position	(4,950,010)
Plan fiduciary net position-beginning	119,332,220
Plan fiduciary net position-ending (b)	114,382,210
City's net pension liability-ending (a)-(b)	124,488,629
Plan fiduciary net position as a percentage of the total pension liability	47.88%
Covered employee payroll	\$9,360,386
City's net pension liability as a percentage of covered employee payroll	1,330.0%

Additional Required Disclosures

	<u>6/30/2016</u>
Total expected remaining service lives	
Active Participants	905.8
Inactive Participants	0
(a) Total expected remaining service lives	905.8
 Number of Participants	
Active	115
Retired	211
Vested	10
(b) Total	336
 (c) Average of expected remaining service lives of all active and inactive participants (a)/(b)	 2.7
 (d1) Difference between expected and actual demographic experience	 \$474,915
(d2) Portion allocated to expense (d1)/(c)	175,894
(d3) Deferred portion (d1)-(d2)	299,020
 (e1) Changes in assumptions	 27,114,985
(e2) Portion allocated to expense (e1)/(c)	10,042,587
(e3) Deferred portion (e1)-(e2)	17,072,398
 (f1) Difference between expected and actual investment experience	 6,187,975
(f2) Portion allocated to expense (f1)/5	1,237,595
(f3) Deferred portion (f1)-(f2)	4,950,380
 (g) Total Deferred Portion	 \$22,321,798

SCHEDULE OF CITY CONTRIBUTIONS
LAST 10 FISCAL YEARS
Year Ended June 30

	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007
Actuarially determined contribution	\$5,588,834	\$5,409,465	\$5,145,379	\$6,070,834	\$6,059,600	\$5,917,992	\$ 5,613,904	\$5,483,018	\$4,977,904	\$4,023,065
Contributions in relation to the actuarially determined contribution	5,588,834	5,409,465	5,145,379	6,070,834	6,059,600	5,917,992	5,613,904	5,483,018	4,977,904	4,023,065
Contribution excess (deficiency)	-	-	-	-	-	-	-	-	-	-
Covered employee payroll	\$9,360,386	\$9,739,971	\$9,328,103	\$7,846,245	\$12,007,248	\$12,813,161	\$13,889,065	\$13,999,934	\$14,262,553	\$13,476,011
Actuarially determined contributions as a percentage of covered employee payroll	59.71%	55.54%	55.16%	77.37%	50.47%	46.19%	40.42%	39.16%	34.90%	29.85%

Notes to Schedule

Valuation date: Actuarially determined contribution rates are calculated as of the June 30, two years prior to the end of the fiscal year in which contributions are reported.
 Covered employee payroll is as of June 30 of the prior fiscal year.

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, open
Remaining amortization period	25
Asset valuation method	5 years smoothed market
Inflation	0%-3.5%
Salary increases	0% - 6.5%, including inflation
Investment rate of return	7.6%, net of pension plan investment expense, including inflation
Mortality Table	RP 2000 Combined Healthy Mortality

Table 1
Projection of Total Contributions*
Assuming 25 Year Open Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	25 Year Open Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2016	\$171,736,564	\$114,904,990	\$56,831,574	\$3,553,135	\$1,505,195	\$5,058,330	\$768,585	\$5,826,915
2017	174,966,697	116,267,882	58,698,815	3,669,875	1,379,872	5,049,747	723,195	5,772,942
2018	177,726,933	117,662,288	60,064,645	3,755,268	1,322,409	5,077,677	699,408	5,777,085
2019	180,248,738	118,763,099	61,485,639	3,844,109	1,182,367	5,026,476	639,415	5,665,891
2020	181,913,806	118,928,145	62,985,661	3,937,891	939,294	4,877,185	520,677	5,397,862
2021	182,287,965	117,717,086	64,570,879	4,036,999	776,719	4,813,718	440,376	5,254,094
2022	181,905,040	115,677,559	66,227,481	4,140,571	675,499	4,816,070	391,339	5,207,409
2023	180,933,417	112,977,493	67,955,924	4,248,634	533,538	4,782,172	322,421	5,104,593
2024	179,103,048	109,337,464	69,765,584	4,361,775	374,240	4,736,015	240,716	4,976,731
2025	176,438,290	104,784,545	71,653,745	4,479,823	259,871	4,739,694	182,342	4,922,036
2026	173,147,451	99,532,622	73,614,829	4,602,431	213,104	4,815,535	159,107	4,974,642
2027	169,583,825	93,946,729	75,637,096	4,728,864	180,988	4,909,852	143,842	5,053,694
2028	165,820,308	88,102,249	77,718,059	4,858,967	155,814	5,014,781	131,954	5,146,735
2029	161,888,029	82,031,668	79,856,361	4,992,654	147,816	5,140,470	129,032	5,269,502
2030	157,898,305	75,851,086	82,047,219	5,129,628	150,527	5,280,155	131,846	5,412,001
2031	153,866,489	69,578,774	84,287,715	5,269,705	154,503	5,424,208	135,334	5,559,542
2032	149,864,552	63,289,199	86,575,353	5,412,729	158,612	5,571,341	138,957	5,710,298
2033	145,907,024	56,998,647	88,908,377	5,558,590	162,857	5,721,447	142,694	5,864,141
2034	142,007,622	50,722,759	91,284,863	5,707,169	167,350	5,874,519	146,621	6,021,140

Table 1
(Continued)
Projection of Total Contributions*
Assuming 25 Year Open Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	25 Year Open Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2035	\$138,167,360	\$44,464,268	\$93,703,092	\$5,858,358	\$164,697	\$6,023,055	\$147,267	\$6,170,322
2036	134,379,394	38,218,640	96,160,754	6,012,012	165,494	6,177,506	149,114	6,326,620
2037	130,606,244	31,947,503	98,658,741	6,168,187	150,963	6,319,150	137,478	6,456,628
2038	126,705,909	25,504,596	101,201,313	6,327,150	122,032	6,449,182	110,154	6,559,336
2039	122,605,282	18,817,386	103,787,896	6,488,864	95,313	6,584,177	86,326	6,670,503
2040	118,254,922	11,836,477	106,418,445	6,653,328	54,927	6,708,255	49,615	6,757,870
2041	113,643,380	4,554,113	109,089,267	6,820,309	33,013	6,853,322	29,684	6,883,006
2042	108,900,055	-	108,900,055	6,808,479	20,543	6,829,022	18,684	6,847,706
2043	104,091,263	-	104,091,263	6,507,831	11,047	6,518,878	9,956	6,528,834
2044	99,254,488	-	99,254,488	6,205,434	7,458	6,212,892	6,711	6,219,603
2045	94,419,347	-	94,419,347	5,903,139	1,249	5,904,388	1,145	5,905,533
2046	89,594,238	-	89,594,238	5,601,471	61	5,601,532	57	5,601,589
2047	84,817,820	-	84,817,820	5,302,847	-	5,302,847	-	5,302,847
2048	80,106,682	-	80,106,682	5,008,305	-	5,008,305	-	5,008,305
2049	75,469,328	-	75,469,328	4,718,375	-	4,718,375	-	4,718,375
2050	70,914,234	-	70,914,234	4,433,589	-	4,433,589	-	4,433,589
2051	66,450,511	-	66,450,511	4,154,515	-	4,154,515	-	4,154,515
2052	62,087,831	-	62,087,831	3,881,758	-	3,881,758	-	3,881,758
2053	57,836,282	-	57,836,282	3,615,950	-	3,615,950	-	3,615,950
2054	53,706,404	-	53,706,404	3,357,748	-	3,357,748	-	3,357,748

Table 1
(Continued)
Projection of Total Contributions*
Assuming 25 Year Open Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	25 Year Open Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2055	\$49,708,704	\$ -	\$49,708,704	\$3,107,810	\$ -	\$3,107,810	\$ -	\$3,107,810
2056	45,853,408	-	45,853,408	2,866,775	-	2,866,775	-	2,866,775
2057	42,150,273	-	42,150,273	2,635,253	-	2,635,253	-	2,635,253
2058	38,608,319	-	38,608,319	2,413,809	-	2,413,809	-	2,413,809
2059	35,235,518	-	35,235,518	2,202,940	-	2,202,940	-	2,202,940
2060	32,038,503	-	32,038,503	2,003,061	-	2,003,061	-	2,003,061
2061	29,022,411	-	29,022,411	1,814,494	-	1,814,494	-	1,814,494
2062	26,190,716	-	26,190,716	1,637,455	-	1,637,455	-	1,637,455
2063	23,545,142	-	23,545,142	1,472,053	-	1,472,053	-	1,472,053
2064	21,085,677	-	21,085,677	1,318,286	-	1,318,286	-	1,318,286
2065	18,810,607	-	18,810,607	1,176,047	-	1,176,047	-	1,176,047
2066	16,716,617	-	16,716,617	1,045,130	-	1,045,130	-	1,045,130
2067	14,798,829	-	14,798,829	925,229	-	925,229	-	925,229
2068	13,050,949	-	13,050,949	815,951	-	815,951	-	815,951
2069	11,465,509	-	11,465,509	716,829	-	716,829	-	716,829
2070	10,034,064	-	10,034,064	627,334	-	627,334	-	627,334
2071	8,747,321	-	8,747,321	546,886	-	546,886	-	546,886
2072	7,595,395	-	7,595,395	474,867	-	474,867	-	474,867
2073	6,568,034	-	6,568,034	410,636	-	410,636	-	410,636
2074	5,654,991	-	5,654,991	353,553	-	353,553	-	353,553

Table 1
(Continued)
Projection of Total Contributions*
Assuming 25 Year Open Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	25 Year Open Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2075	\$4,846,238	\$ -	\$4,846,238	\$302,989	\$ -	\$302,989	\$ -	\$302,989
2076	4,132,225	-	4,132,225	258,349	-	258,349	-	258,349
2077	3,504,023	-	3,504,023	219,073	-	219,073	-	219,073
2078	2,953,430	-	2,953,430	184,650	-	184,650	-	184,650
2079	2,472,998	-	2,472,998	154,613	-	154,613	-	154,613
2080	2,056,001	-	2,056,001	128,542	-	128,542	-	128,542
2081	1,696,318	-	1,696,318	106,055	-	106,055	-	106,055
2082	1,388,327	-	1,388,327	86,799	-	86,799	-	86,799
2083	1,126,777	-	1,126,777	70,447	-	70,447	-	70,447
2084	906,646	-	906,646	56,684	-	56,684	-	56,684
2085	723,160	-	723,160	45,212	-	45,212	-	45,212
2086	571,803	-	571,803	35,749	-	35,749	-	35,749
2087	448,219	-	448,219	28,023	-	28,023	-	28,023
2088	348,386	-	348,386	21,781	-	21,781	-	21,781
2089	268,551	-	268,551	16,790	-	16,790	-	16,790
2090	205,326	-	205,326	12,837	-	12,837	-	12,837
2091	155,722	-	155,722	9,736	-	9,736	-	9,736
2092	117,134	-	117,134	7,323	-	7,323	-	7,323
2093	87,358	-	87,358	5,462	-	5,462	-	5,462
2094	64,593	-	64,593	4,038	-	4,038	-	4,038

Table 1
(Continued)
Projection of Total Contributions*
Assuming 25 Year Open Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	25 Year Open Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2095	\$47,319	\$ -	\$47,319	\$2,958	\$ -	\$2,958	\$ -	\$2,958
2096	34,320	-	34,320	2,146	-	2,146	-	2,146
2097	24,628	-	24,628	1,540	-	1,540	-	1,540
2098	17,479	-	17,479	1,093	-	1,093	-	1,093
2099	12,271	-	12,271	767	-	767	-	767
2100	8,524	-	8,524	533	-	533	-	533
2101	5,858	-	5,858	366	-	366	-	366
2102	3,970	-	3,970	248	-	248	-	248
2103	2,655	-	2,655	166	-	166	-	166
2104	1,745	-	1,745	109	-	109	-	109
2105	1,128	-	1,128	71	-	71	-	71
2106	712	-	712	45	-	45	-	45
2107	438	-	438	27	-	27	-	27
2108	262	-	262	16	-	16	-	16
2109	153	-	153	10	-	10	-	10
2110	83	-	83	5	-	5	-	5
2111	49	-	49	3	-	3	-	3
2112	29	-	29	2	-	2	-	2
2113	16	-	16	1	-	1	-	1
2114	8	-	8	1	-	1	-	1
2115	-	-	-	-	-	-	-	-

*The Projection of Contributions uses the plan's actuarial valuation interest and mortality assumptions.

Table 2: Projection of the Pension Plan's Fiduciary Net Position

Year Beg. 7/1	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments** (c)	Projected Administrative Expense*** (d)	Projected Investment Earnings**** (e)	Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)
2016	\$114,382,210	\$5,826,915	\$(12,276,469)	\$(108,612)	\$8,443,838	\$116,267,882
2017	116,267,882	5,772,942	(12,829,554)	(112,900)	8,563,918	117,662,288
2018	117,662,288	5,777,085	(13,215,245)	(116,294)	8,655,265	118,763,099
2019	118,763,099	5,665,891	(14,078,560)	(123,891)	8,701,606	118,928,145
2020	118,928,145	5,397,862	(15,139,011)	(133,223)	8,663,313	117,717,086
2021	117,717,086	5,254,094	(15,699,776)	(138,158)	8,544,313	115,677,559
2022	115,677,559	5,207,409	(16,136,278)	(141,999)	8,370,802	112,977,493
2023	112,977,493	5,104,593	(16,736,043)	(147,277)	8,138,698	109,337,464
2024	109,337,464	4,976,731	(17,216,904)	(151,509)	7,838,763	104,784,545
2025	104,784,545	4,922,036	(17,499,780)	(153,998)	7,479,819	99,532,622
2026	99,532,622	4,974,642	(17,489,685)	(153,909)	7,083,059	93,946,729
2027	93,946,729	5,053,694	(17,409,576)	(153,204)	6,664,606	88,102,249
2028	88,102,249	5,146,735	(17,293,542)	(152,183)	6,228,409	82,031,668
2029	82,031,668	5,269,502	(17,079,691)	(150,301)	5,779,908	75,851,086
2030	75,851,086	5,412,001	(16,859,967)	(148,368)	5,324,022	69,578,774
2031	69,578,774	5,559,542	(16,567,468)	(145,794)	4,864,145	63,289,199
2032	63,289,199	5,710,298	(16,261,351)	(143,100)	4,403,601	56,998,647
2033	56,998,647	5,864,141	(15,943,286)	(140,301)	3,943,558	50,722,759
2034	50,722,759	6,021,140	(15,626,804)	(137,516)	3,484,689	44,464,268

Table 2: Projection of the Pension Plan's Fiduciary Net Position
(Continued)

Year Beg. 7/1	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments** (c)	Projected Administrative Expense*** (d)	Projected Investment Earnings**** (e)	Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)
2035	\$44,464,268	\$6,170,322	\$(15,308,165)	\$(134,712)	\$3,026,927	\$38,218,640
2036	38,218,640	6,326,620	(15,034,159)	(132,301)	2,568,703	31,947,503
2037	31,947,503	6,456,628	(14,871,918)	(130,873)	2,103,256	25,504,596
2038	25,504,596	6,559,336	(14,739,416)	(129,707)	1,622,577	18,817,386
2039	18,817,386	6,670,503	(14,644,741)	(128,874)	1,122,203	11,836,477
2040	11,836,477	6,757,870	(14,512,564)	(127,711)	600,041	4,554,113
2041	4,554,113	6,883,006	(14,266,036)	(125,541)	60,787	-
2042	-	6,847,706	(13,961,055)	(122,857)	-	-
2043	-	6,528,834	(13,618,268)	(119,841)	-	-
2044	-	6,219,603	(13,255,476)	(116,648)	-	-
2045	-	5,905,533	(12,879,117)	(113,336)	-	-
2046	-	5,601,589	(12,475,244)	(109,782)	-	-
2047	-	5,302,847	(12,061,268)	(106,139)	-	-
2048	-	5,008,305	(11,644,820)	(102,474)	-	-
2049	-	4,718,375	(11,226,412)	(98,792)	-	-
2050	-	4,433,589	(10,805,895)	(95,092)	-	-
2051	-	4,154,515	(10,383,029)	(91,371)	-	-
2052	-	3,881,758	(9,957,656)	(87,627)	-	-
2053	-	3,615,950	(9,529,366)	(83,858)	-	-
2054	-	3,357,748	(9,098,165)	(80,064)	-	-

Table 2: Projection of the Pension Plan's Fiduciary Net Position
(Continued)

Year Beg. 7/1	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments** (c)	Projected Administrative Expense*** (d)	Projected Investment Earnings**** (e)	Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)
2055	\$ -	\$3,107,810	\$(8,664,180)	\$(76,245)	\$ -	\$ -
2056	-	2,866,775	(8,227,826)	(72,405)	-	-
2057	-	2,635,253	(7,789,820)	(68,550)	-	-
2058	-	2,413,809	(7,351,170)	(64,690)	-	-
2059	-	2,202,940	(6,913,169)	(60,836)	-	-
2060	-	2,003,061	(6,477,422)	(57,001)	-	-
2061	-	1,814,494	(6,045,769)	(53,203)	-	-
2062	-	1,637,455	(5,620,240)	(49,458)	-	-
2063	-	1,472,053	(5,202,961)	(45,786)	-	-
2064	-	1,318,286	(4,796,069)	(42,205)	-	-
2065	-	1,176,047	(4,401,571)	(38,734)	-	-
2066	-	1,045,130	(4,021,433)	(35,389)	-	-
2067	-	925,229	(3,657,460)	(32,186)	-	-
2068	-	815,951	(3,311,236)	(29,139)	-	-
2069	-	716,829	(2,984,117)	(26,260)	-	-
2070	-	627,334	(2,677,175)	(23,559)	-	-
2071	-	546,886	(2,391,187)	(21,042)	-	-
2072	-	474,867	(2,126,666)	(18,715)	-	-
2073	-	410,636	(1,883,675)	(16,576)	-	-
2074	-	353,553	(1,661,964)	(14,625)	-	-

Table 2: Projection of the Pension Plan's Fiduciary Net Position
(Continued)

Year Beg. 7/1	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments** (c)	Projected Administrative Expense*** (d)	Projected Investment Earnings**** (e)	Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)
2075	\$ -	\$302,989	\$(1,460,879)	\$(12,856)	\$ -	\$ -
2076	-	258,349	(1,279,436)	(11,259)	-	-
2077	-	219,073	(1,116,420)	(9,824)	-	-
2078	-	184,650	(970,440)	(8,540)	-	-
2079	-	154,613	(840,012)	(7,392)	-	-
2080	-	128,542	(723,691)	(6,368)	-	-
2081	-	106,055	(620,090)	(5,457)	-	-
2082	-	86,799	(528,014)	(4,647)	-	-
2083	-	70,447	(446,383)	(3,928)	-	-
2084	-	56,684	(374,298)	(3,294)	-	-
2085	-	45,212	(310,967)	(2,737)	-	-
2086	-	35,749	(255,725)	(2,250)	-	-
2087	-	28,023	(207,948)	(1,830)	-	-
2088	-	21,781	(167,050)	(1,470)	-	-
2089	-	16,790	(132,453)	(1,166)	-	-
2090	-	12,837	(103,584)	(912)	-	-
2091	-	9,736	(79,847)	(703)	-	-
2092	-	7,323	(60,634)	(534)	-	-
2093	-	5,462	(45,336)	(399)	-	-
2094	-	4,038	(33,362)	(294)	-	-

**Table 2: Projection of the Pension Plan's Fiduciary Net Position
(Continued)**

Year Beg. 7/1	Projected Beginning Fiduciary Net Position (a)	Projected Total Contributions* (b)	Projected Benefit Payments** (c)	Projected Administrative Expense*** (d)	Projected Investment Earnings**** (e)	Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)
2095	\$ -	\$2,958	\$(24,161)	\$(213)	\$ -	\$ -
2096	-	2,146	(17,218)	(152)	-	-
2097	-	1,540	(12,063)	(106)	-	-
2098	-	1,093	(8,312)	(73)	-	-
2099	-	767	(5,630)	(50)	-	-
2100	-	533	(3,747)	(33)	-	-
2101	-	366	(2,451)	(22)	-	-
2102	-	248	(1,574)	(14)	-	-
2103	-	166	(991)	(9)	-	-
2104	-	109	(610)	(5)	-	-
2105	-	71	(370)	(3)	-	-
2106	-	45	(217)	(2)	-	-
2107	-	27	(124)	(1)	-	-
2108	-	16	(69)	(1)	-	-
2109	-	10	(40)	-	-	-
2110	-	5	(18)	-	-	-
2111	-	3	(10)	-	-	-
2112	-	2	(5)	-	-	-
2113	-	1	(2)	-	-	-
2114	-	1	(1)	-	-	-
2115	-	-	-	-	-	-

*From Table 1.

**Assumed Mortality for Benefit Payout Projection was based on the RP 2014 Mortality Table.

***Administrative expense was assumed to be 0.88% of pension payroll.

****Long term expected rate of return on pension plan investments was 7.60%.

Table 3: Actuarial Present Values of Projected Benefit Payments

Year (a)	Projected Beginning Fiduciary Net Position* (b)	Projected Benefit Payments* (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefits Payments** (f)	Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)	Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)
1	\$114,382,210	\$12,276,469	\$12,276,469	\$ -	\$11,409,358	\$ -	\$11,709,840
2	116,267,882	12,829,554	12,829,554	-	11,081,206	-	11,672,572
3	117,662,288	13,215,245	13,215,245	-	10,608,120	-	11,468,529
4	118,763,099	14,078,560	14,078,560	-	10,502,898	-	11,653,818
5	118,928,145	15,139,011	15,139,011	-	10,496,298	-	11,953,223
6	117,717,086	15,699,776	15,699,776	-	10,116,256	-	11,823,838
7	115,677,559	16,136,278	16,136,278	-	9,663,122	-	11,591,667
8	112,977,493	16,736,043	16,736,043	-	9,314,394	-	11,467,607
9	109,337,464	17,216,904	17,216,904	-	8,905,219	-	11,252,592
10	104,784,545	17,499,780	17,499,780	-	8,412,206	-	10,909,569
11	99,532,622	17,489,685	17,489,685	-	7,813,525	-	10,400,028
12	93,946,729	17,409,576	17,409,576	-	7,228,379	-	9,874,571
13	88,102,249	17,293,542	17,293,542	-	6,673,051	-	9,356,027
14	82,031,668	17,079,691	17,079,691	-	6,125,030	-	8,813,837
15	75,851,086	16,859,967	16,859,967	-	5,619,176	-	8,298,876
16	69,578,774	16,567,468	16,567,468	-	5,131,683	-	7,778,506
17	63,289,199	16,261,351	16,261,351	-	4,681,101	-	7,282,394
18	56,998,647	15,943,286	15,943,286	-	4,265,372	-	6,810,404
19	50,722,759	15,626,804	15,626,804	-	3,885,411	-	6,367,115
20	44,464,268	15,308,165	15,308,165	-	3,537,347	-	5,949,400
21	38,218,640	15,034,159	15,034,159	-	3,228,654	-	5,573,226
22	31,947,503	14,871,918	14,871,918	-	2,968,226	-	5,258,623
23	25,504,596	14,739,416	14,739,416	-	2,733,997	-	4,971,218
24	18,817,386	14,644,741	14,644,741	-	2,524,569	-	4,711,311

Table 3: Actuarial Present Values of Projected Benefit Payments
(Continued)

Year (a)	Projected Beginning Fiduciary Net Position* (b)	Projected Benefit Payments* (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefits Payments** (f)	Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)	Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)
25	\$11,836,477	\$14,512,564	\$11,836,477	\$2,676,087	\$1,896,338	\$1,381,509	\$4,453,297
26	4,554,113	14,266,036	4,554,113	9,711,923	678,086	4,882,844	4,175,595
27	-	13,961,055	-	13,961,055	-	6,835,968	3,897,721
28	-	13,618,268	-	13,618,268	-	6,494,082	3,626,535
29	-	13,255,476	-	13,255,476	-	6,156,096	3,366,998
30	-	12,879,117	-	12,879,117	-	5,825,193	3,120,406
31	-	12,475,244	-	12,475,244	-	5,495,249	2,883,046
32	-	12,061,268	-	12,061,268	-	5,174,227	2,658,723
33	-	11,644,820	-	11,644,820	-	4,865,185	2,448,445
34	-	11,226,412	-	11,226,412	-	4,567,954	2,251,521
35	-	10,805,895	-	10,805,895	-	4,282,089	2,067,156
36	-	10,383,029	-	10,383,029	-	4,007,127	1,894,585
37	-	9,957,656	-	9,957,656	-	3,742,659	1,733,104
38	-	9,529,366	-	9,529,366	-	3,488,200	1,582,009
39	-	9,098,165	-	9,098,165	-	3,243,436	1,440,709
40	-	8,664,180	-	8,664,180	-	3,008,106	1,308,662
41	-	8,227,826	-	8,227,826	-	2,782,049	1,185,394
42	-	7,789,820	-	7,789,820	-	2,565,200	1,070,490
43	-	7,351,170	-	7,351,170	-	2,357,569	963,583
44	-	6,913,169	-	6,913,169	-	2,159,232	864,345

Table 3: Actuarial Present Values of Projected Benefit Payments
(Continued)

Year (a)	Projected Beginning Fiduciary Net Position* (b)	Projected Benefit Payments* (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefits Payments** (f)	Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)	Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)
45	\$ -	\$6,477,422	\$ -	\$6,477,422	\$ -	\$1,970,328	\$772,485
46	-	6,045,769	-	6,045,769	-	1,791,026	687,728
47	-	5,620,240	-	5,620,240	-	1,621,509	609,814
48	-	5,202,961	-	5,202,961	-	1,461,939	538,481
49	-	4,796,069	-	4,796,069	-	1,312,436	473,460
50	-	4,401,571	-	4,401,571	-	1,173,045	414,460
51	-	4,021,433	-	4,021,433	-	1,043,763	361,188
52	-	3,657,460	-	3,657,460	-	924,517	313,336
53	-	3,311,236	-	3,311,236	-	815,154	270,581
54	-	2,984,117	-	2,984,117	-	715,450	232,595
55	-	2,677,175	-	2,677,175	-	625,107	199,040
56	-	2,391,187	-	2,391,187	-	543,758	169,572
57	-	2,126,666	-	2,126,666	-	470,983	143,852
58	-	1,883,675	-	1,883,675	-	406,281	121,535
59	-	1,661,964	-	1,661,964	-	349,105	102,281
60	-	1,460,879	-	1,460,879	-	298,856	85,756
61	-	1,279,436	-	1,279,436	-	254,907	71,638
62	-	1,116,420	-	1,116,420	-	216,623	59,626
63	-	970,440	-	970,440	-	183,383	49,437
64	-	840,012	-	840,012	-	154,593	40,817

Table 3: Actuarial Present Values of Projected Benefit Payments
(Continued)

Year (a)	Projected Beginning Fiduciary Net Position* (b)	Projected Benefit Payments* (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefits Payments** (f)	Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)	Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)
65	\$ -	\$723,691	\$ -	\$723,691	\$ -	\$129,710	\$33,542
66	-	620,090	-	620,090	-	108,240	27,414
67	-	528,014	-	528,014	-	89,762	22,266
68	-	446,383	-	446,383	-	73,904	17,955
69	-	374,298	-	374,298	-	60,352	14,360
70	-	310,967	-	310,967	-	48,832	11,380
71	-	255,725	-	255,725	-	39,109	8,926
72	-	207,948	-	207,948	-	30,972	6,924
73	-	167,050	-	167,050	-	24,231	5,305
74	-	132,453	-	132,453	-	18,711	4,012
75	-	103,584	-	103,584	-	14,251	2,993
76	-	79,847	-	79,847	-	10,699	2,201
77	-	60,634	-	60,634	-	7,912	1,594
78	-	45,336	-	45,336	-	5,762	1,137
79	-	33,362	-	33,362	-	4,129	798
80	-	24,161	-	24,161	-	2,912	551
81	-	17,218	-	17,218	-	2,021	375
82	-	12,063	-	12,063	-	1,379	250
83	-	8,312	-	8,312	-	926	165
84	-	5,630	-	5,630	-	611	106

Table 3: Actuarial Present Values of Projected Benefit Payments
(Continued)

Year (a)	Projected Beginning Fiduciary Net Position* (b)	Projected Benefit Payments* (c)	"Funded" Portion of Benefit Payments (d)	"Unfunded" Portion of Benefit Payments (e)	Present Value of "Funded" Benefits Payments** (f)	Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)	Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)
85	\$ -	\$3,747	\$ -	\$3,747	\$ -	\$396	\$67
86	-	2,451	-	2,451	-	252	42
87	-	1,574	-	1,574	-	158	26
88	-	991	-	991	-	97	15
89	-	610	-	610	-	58	9
90	-	370	-	370	-	34	5
91	-	217	-	217	-	20	3
92	-	124	-	124	-	11	2
93	-	69	-	69	-	6	1
94	-	40	-	40	-	3	-
95	-	18	-	18	-	1	-
96	-	10	-	10	-	1	-
97	-	5	-	5	-	-	-
98	-	2	-	2	-	-	-
99	-	1	-	1	-	-	-
100	-	-	-	-	-	-	-
					\$169,499,022	\$100,322,199	\$269,821,221

* From Table 2.

**7.60% was the assumed rate of return used to project the plan's fiduciary net position and is the discount rate used for column (f).

***2.68% S&P Municipal Bond 20 Year High Grade Index as of June 30, 2016 (YTW).

****4.84% was the single discount rate that produces a total actuarial present value that equals the sum of the actuarial present values of "funded" and "unfunded" benefit payments in columns (f) and (g).