

***City of Marysville
General Employees Retirement System***

Actuarial Information for GASB Statements 67/68

June 30, 2020

November 2, 2020

The Board of Trustees
City of Marysville General City Employees Retirement System
Marysville, Michigan

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, 2020.

Respectfully submitted,



Denise M. Jones
Senior Consultant



Sandra W. Rodwan
Member, American Academy of Actuaries

Net Pension Liability

The components of the net pension liability as of June 30, 2020 were as follows:

Total pension liability	\$27,691,003
Plan fiduciary net position	17,225,551
City's net pension liability	\$10,465,452
Plan fiduciary net position as a percentage of the total pension liability	62.21%
Covered payroll	\$2,404,958
City's net pension liability as a percentage of covered payroll	435.2%

Actuarial assumptions. The total pension liability was determined based on the annual actuarial valuation as of June 30, 2020. The following actuarial assumptions were applied to compute the total pension liability:

Actuarial cost method	Entry Age
Inflation	2.50%
Salary Increases	4.0% (includes inflation)
Cost of living assumption adjustments	Varies depending on retirement date

Mortality rates were based on the RP 2000 Combined Healthy Annuitant Mortality Table Projected to 2014.

Discount rate. The discount rate used to measure the total pension liability was 7.50%. 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 7.50% 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 discount rate

	1% Decrease 6.50%	GASB 67 Computed Rate 7.50%	1% Increase 8.50%
City's net pension liability	\$13,431,996	\$10,465,452	\$7,943,256

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

	Year Ended <u>6/30/2020</u>
Total pension liability	
Service cost	\$270,830
Interest	1,975,612
Changes in benefit terms	-
Differences between expected and actual experience	131,286
Changes in assumptions used for Total Pension Liability (TPL)	
Discount rate assumption	-
Mortality assumption	-
Total due to TPL assumption changes	-
Benefit payments, including refunds of member contributions	(1,785,606)
Net change in total pension liability	\$592,122
Total pension liability-beginning	27,098,881
Total pension liability-ending (a)	\$27,691,003
Plan fiduciary net position	
Contributions-employer	1,041,867
Contributions-member	192,471
Net investment income	1,043,632
Benefit payments, including refunds of member contributions	(1,785,606)
Administrative Expense	(24,323)
Other	-
Net change in plan fiduciary net position	468,041
Plan fiduciary net position-beginning	16,757,510
Plan fiduciary net position-ending (b)	17,225,551
City's net pension liability-ending (a)-(b)	\$10,465,452
Plan fiduciary net position as a percentage of the total pension liability	62.21%
Covered employee payroll	\$2,404,958
City's net pension liability as a percentage of covered employee payroll	435.2%

Additional Required Disclosures

Total expected remaining service lives	<u>6/30/2020</u>
Active Participants	326.2
Inactive Participants	0
(a) Total expected remaining service lives	326.2
Number of Participants	
Active	38
Retired	54
Vested	8
(b) Total	100
(c) Average of expected remaining service lives of all active and inactive participants (a)/(b)	3.3
Difference between expected and actual demographic	
(d1) experience	131,286
(d2) Portion allocated to expense (d1)/(c)	39,784
(d3) Deferred portion (d1)-(d2)	91,502
(e1) Changes in assumptions	-
(e2) Portion allocated to expense (e1)/(c)	-
(e3) Deferred portion (e1)-(e2)	-
(f1) Difference between expected and actual investment experience	191,597
(f2) Portion allocated to expense (f1)/5	38,319
(f3) Deferred portion (f1)-(f2)	153,277
(g) Total Deferred Portion	244,780

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

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011
Actuarially determined contribution	\$684,137	\$615,978	\$614,325	\$480,103	\$436,383	\$460,017	\$402,234	\$373,304	\$418,385	\$415,358
Contributions in relation to the actuarially determined contribution	1,041,867	1,017,228	1,027,450	480,103	436,383	460,017	402,234	373,304	418,385	415,358
Contribution excess (deficiency)	\$357,730	\$401,250	\$413,125	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered employee payroll	\$2,404,958	\$2,189,939	\$2,286,480	\$2,201,882	\$2,079,266	\$2,100,013	\$1,962,528	\$1,828,337	\$1,864,481	\$1,906,790
Actuarially determined contributions as a percentage of covered employer payroll	28.45%	28.13%	26.87%	21.80%	20.99%	21.91%	20.50%	20.42%	22.44%	21.78%

Notes to Schedule

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

Methods and assumptions used to determine contribution rates:

Actuarial cost method	Entry age
Amortization method	Level percentage of payroll, closed
Remaining amortization period	24 years as of the June 30, 2020 actuarial valuation
Asset valuation method	4 years smoothed market
Inflation	2.50%
Salary increases	4.0%, including inflation
Investment rate of return	7.5%, net of pension plan investment expense, including inflation, beginning with the 2017 valuation and 7.75% prior
Mortality Table	RP 2000 projected to 2014 beginning with the 2017 valuation, RP 2000 Combined Healthy Mortality Table prior

Table 1
Projection of Total Contributions*
Assuming 24 Year Closed Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	24 Year Closed Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2020	\$27,691,003	\$17,630,868	\$10,060,135	\$607,483	\$121,460	\$728,943	\$178,226	\$907,169
2021	28,180,715	17,462,837	10,717,878	665,667	105,777	771,444	169,252	940,696
2022	28,592,345	17,649,498	10,942,847	700,294	98,145	798,439	161,668	960,107
2023	28,953,215	17,801,715	11,151,500	736,792	84,630	821,422	149,126	970,548
2024	29,220,070	17,878,384	11,341,686	775,349	85,490	860,839	150,733	1,011,572
2025	29,502,119	17,995,519	11,506,600	815,875	79,753	895,628	145,728	1,041,356
2026	29,739,262	18,095,054	11,644,208	858,636	78,222	936,858	137,535	1,074,393
2027	29,927,349	18,177,074	11,750,275	903,802	66,342	970,144	113,464	1,083,608
2028	29,913,726	18,088,650	11,825,076	951,966	67,373	1,019,339	115,134	1,134,473
2029	29,886,235	18,029,820	11,856,415	1,002,822	50,346	1,053,168	94,687	1,147,855
2030	29,672,678	17,829,434	11,843,244	1,057,036	47,416	1,104,452	88,023	1,192,475
2031	29,401,518	17,627,453	11,774,065	1,114,490	44,115	1,158,605	80,391	1,238,996
2032	29,033,733	17,390,778	11,642,955	1,175,660	51,968	1,227,628	69,887	1,297,515
2033	28,655,897	17,218,487	11,437,410	1,240,515	52,949	1,293,464	71,107	1,364,571
2034	28,267,870	17,119,432	11,148,438	1,309,510	43,468	1,352,978	56,139	1,409,117
2035	27,708,937	16,937,771	10,771,166	1,383,896	32,010	1,415,906	43,185	1,459,091
2036	26,996,918	16,705,095	10,291,823	1,464,316	32,662	1,496,978	43,989	1,540,967
2037	26,281,326	16,590,629	9,690,697	1,550,954	30,555	1,581,509	40,958	1,622,467
2038	25,526,418	16,573,018	8,953,400	1,645,313	31,193	1,676,506	41,817	1,718,323
2039	24,772,461	16,712,339	8,060,122	1,749,097	20,466	1,769,563	31,359	1,800,922
2040	23,932,708	16,941,004	6,991,704	1,866,191	20,908	1,887,099	32,036	1,919,135
2041	23,108,571	17,390,789	5,717,782	2,002,122	16,963	2,019,085	27,731	2,046,816
2042	22,247,171	18,041,889	4,205,282	2,173,006	17,320	2,190,326	28,330	2,218,656
2043	21,401,900	19,003,861	2,398,039	2,437,945	5,436	2,443,381	13,833	2,457,214
2044	20,447,890	20,267,637	180,253	183,253	5,558	188,811	14,141	202,952

Table 1 (Continued)
Projection of Total Contributions*
Assuming 24 Year Closed Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	24 Year Closed Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2045	\$19,521,705	\$19,391,336	\$130,369	\$132,539	\$5,679	\$138,218	\$14,452	\$152,670
2046	18,627,620	18,503,374	124,246	126,314	3,682	129,996	8,922	138,918
2047	17,702,373	17,580,770	121,603	123,627	3,762	127,389	9,118	136,507
2048	16,810,808	16,694,471	116,337	118,273	3,843	122,116	9,312	131,428
2049	15,952,729	15,841,563	111,166	113,016	1,856	114,872	5,108	119,980
2050	15,090,171	14,982,720	107,451	109,239	1,894	111,133	5,213	116,346
2051	14,251,442	14,148,548	102,894	104,606	0	104,606	0	104,606
2052	13,393,678	13,293,763	99,915	101,578	0	101,578	0	101,578
2053	12,568,770	12,473,848	94,922	96,502	0	96,502	0	96,502
2054	11,762,398	11,671,663	90,735	92,245	0	92,245	0	92,245
2055	10,978,226	10,891,769	86,457	87,896	0	87,896	0	87,896
2056	10,225,649	10,143,868	81,781	83,142	0	83,142	0	83,142
2057	9,505,993	9,428,845	77,148	78,432	0	78,432	0	78,432
2058	8,819,077	8,746,435	72,642	73,851	0	73,851	0	73,851
2059	8,152,148	8,083,227	68,921	70,068	0	70,068	0	70,068
2060	7,516,584	7,451,866	64,718	65,795	0	65,795	0	65,795
2061	6,913,133	6,852,556	60,577	61,585	0	61,585	0	61,585
2062	6,341,341	6,284,750	56,591	57,533	0	57,533	0	57,533
2063	5,801,195	5,748,469	52,726	53,603	0	53,603	0	53,603
2064	5,291,979	5,242,963	49,016	49,832	0	49,832	0	49,832
2065	4,814,409	4,769,011	45,398	46,153	0	46,153	0	46,153
2066	4,367,347	4,325,390	41,957	42,655	0	42,655	0	42,655
2067	3,949,383	3,910,677	38,706	39,350	0	39,350	0	39,350
2068	3,559,879	3,524,273	35,606	36,199	0	36,199	0	36,199
2069	3,197,340	3,164,653	32,687	33,231	0	33,231	0	33,231

Table 1 (Continued)
Projection of Total Contributions*
Assuming 24 Year Closed Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	24 Year Closed Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2070	\$2,860,271	\$2,830,310	\$29,961	\$30,460	\$0	\$30,460	\$0	\$30,460
2071	2,547,756	2,520,388	27,368	27,823	0	27,823	0	27,823
2072	2,258,409	2,233,457	24,952	25,367	0	25,367	0	25,367
2073	1,991,701	1,969,061	22,640	23,017	0	23,017	0	23,017
2074	1,746,581	1,726,089	20,492	20,833	0	20,833	0	20,833
2075	1,522,010	1,503,541	18,469	18,776	0	18,776	0	18,776
2076	1,317,147	1,300,569	16,578	16,854	0	16,854	0	16,854
2077	1,131,334	1,116,550	14,784	15,030	0	15,030	0	15,030
2078	963,847	950,735	13,112	13,330	0	13,330	0	13,330
2079	813,948	802,398	11,550	11,742	0	11,742	0	11,742
2080	680,922	670,830	10,092	10,260	0	10,260	0	10,260
2081	563,908	555,170	8,738	8,883	0	8,883	0	8,883
2082	462,006	454,507	7,499	7,624	0	7,624	0	7,624
2083	374,176	367,806	6,370	6,476	0	6,476	0	6,476
2084	299,340	293,981	5,359	5,448	0	5,448	0	5,448
2085	236,431	231,989	4,442	4,516	0	4,516	0	4,516
2086	184,258	180,622	3,636	3,697	0	3,697	0	3,697
2087	141,619	138,676	2,943	2,992	0	2,992	0	2,992
2088	107,338	104,995	2,343	2,382	0	2,382	0	2,382
2089	80,193	78,356	1,837	1,868	0	1,868	0	1,868
2090	59,070	57,656	1,414	1,438	0	1,438	0	1,438
2091	42,907	41,832	1,075	1,093	0	1,093	0	1,093
2092	30,744	29,940	804	817	0	817	0	817
2093	21,753	21,161	592	602	0	602	0	602
2094	15,210	14,782	428	435	0	435	0	435

Table 1 (Continued)
Projection of Total Contributions*
Assuming 24 Year Closed Amortization of UAAL

Year Beg. 7/1	Projected Entry Age AAL	Projected Funding Value of Assets	UAAL	24 Year Closed Amortization	Projected Employer Normal Cost	Employer Contribution	Employee Contribution	Total Contributions
2095	\$10,523	\$10,219	\$304	\$309	\$0	\$309	\$0	\$309
2096	7,219	7,002	217	221	0	221	0	221
2097	4,913	4,769	144	146	0	146	0	146
2098	3,325	3,224	101	103	0	103	0	103
2099	2,247	2,174	73	74	0	74	0	74
2100	1,513	1,466	47	48	0	48	0	48
2101	1,017	984	33	34	0	34	0	34
2102	681	659	22	22	0	22	0	22
2103	454	440	14	14	0	14	0	14
2104	301	290	11	11	0	11	0	11
2105	195	188	7	7	0	7	0	7
2106	127	122	5	5	0	5	0	5
2107	80	77	3	3	0	3	0	3
2108	51	50	1	1	0	1	0	1
2109	30	30	0	0	0	0	0	0
2110	18	17	1	1	0	1	0	1
2111	11	10	1	1	0	1	0	1
2112	6	7	-1	-1	0	0	0	0
2113	3	3	0	0	0	0	0	0
2114	1	1	0	0	0	0	0	0
2115	0	0	0	0	0	0	0	0
2116	0	0	0	0	0	0	0	0
2117	0	0	0	0	0	0	0	0
2118	0	0	0	0	0	0	0	0
2119	0	0	0	0	0	0	0	0

*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)
2020	\$17,225,551	\$907,169	\$(1,899,357)	\$(24,323)	\$1,253,797	\$17,462,837
2021	17,462,837	940,696	(1,997,587)	(25,569)	1,269,121	17,649,498
2022	17,649,498	960,107	(2,062,854)	(26,405)	1,281,369	17,801,715
2023	17,801,715	970,548	(2,155,925)	(27,596)	1,289,642	17,878,384
2024	17,878,384	1,011,572	(2,163,393)	(27,691)	1,296,647	17,995,519
2025	17,995,519	1,041,356	(2,217,911)	(28,389)	1,304,479	18,095,054
2026	18,095,054	1,074,393	(2,274,303)	(29,111)	1,311,041	18,177,074
2027	18,177,074	1,083,608	(2,451,462)	(31,379)	1,310,809	18,088,650
2028	18,088,650	1,134,473	(2,467,210)	(31,580)	1,305,487	18,029,820
2029	18,029,820	1,147,855	(2,610,939)	(33,420)	1,296,118	17,829,434
2030	17,829,434	1,192,475	(2,642,210)	(33,820)	1,281,574	17,627,453
2031	17,627,453	1,238,996	(2,706,744)	(34,646)	1,265,719	17,390,778
2032	17,390,778	1,297,515	(2,686,358)	(34,385)	1,250,937	17,218,487
2033	17,218,487	1,364,571	(2,670,573)	(34,183)	1,241,130	17,119,432
2034	17,119,432	1,409,117	(2,786,099)	(35,662)	1,230,983	16,937,771
2035	16,937,771	1,459,091	(2,871,025)	(36,749)	1,216,007	16,705,095
2036	16,705,095	1,540,967	(2,822,762)	(36,131)	1,203,460	16,590,629
2037	16,590,629	1,622,467	(2,802,887)	(35,877)	1,198,686	16,573,018
2038	16,573,018	1,718,323	(2,746,926)	(35,161)	1,203,085	16,712,339
2039	16,712,339	1,800,922	(2,753,399)	(35,244)	1,216,386	16,941,004
2040	16,941,004	1,919,135	(2,676,005)	(34,253)	1,240,908	17,390,789
2041	17,390,789	2,046,816	(2,642,590)	(33,825)	1,280,699	18,041,889
2042	18,041,889	2,218,656	(2,562,882)	(32,805)	1,339,003	19,003,861
2043	19,003,861	2,457,214	(2,579,868)	(33,022)	1,419,452	20,267,637
2044	20,267,637	202,952	(2,480,954)	(31,756)	1,433,457	19,391,336

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)
2045	\$19,391,336	\$152,670	\$(2,379,858)	\$(30,462)	\$1,369,688	\$18,503,374
2046	18,503,374	138,918	(2,335,869)	(29,899)	1,304,246	17,580,770
2047	17,580,770	136,507	(2,233,086)	(28,584)	1,238,864	16,694,471
2048	16,694,471	131,428	(2,133,034)	(27,303)	1,176,001	15,841,563
2049	15,841,563	119,980	(2,066,503)	(26,451)	1,114,131	14,982,720
2050	14,982,720	116,346	(1,978,135)	(25,320)	1,052,937	14,148,548
2051	14,148,548	104,606	(1,926,621)	(24,661)	991,891	13,293,763
2052	13,293,763	101,578	(1,829,435)	(23,417)	931,359	12,473,848
2053	12,473,848	96,502	(1,749,028)	(22,388)	872,729	11,671,663
2054	11,671,663	92,245	(1,666,356)	(21,329)	815,546	10,891,769
2055	10,891,769	87,896	(1,575,949)	(20,172)	760,324	10,143,868
2056	10,143,868	83,142	(1,486,584)	(19,028)	707,447	9,428,845
2057	9,428,845	78,432	(1,399,862)	(17,918)	656,938	8,746,435
2058	8,746,435	73,851	(1,328,357)	(17,003)	608,301	8,083,227
2059	8,083,227	70,068	(1,246,977)	(15,961)	561,509	7,451,866
2060	7,451,866	65,795	(1,167,192)	(14,940)	517,027	6,852,556
2061	6,852,556	61,585	(1,090,277)	(13,956)	474,842	6,284,750
2062	6,284,750	57,533	(1,015,748)	(13,002)	434,936	5,748,469
2063	5,748,469	53,603	(944,303)	(12,087)	397,281	5,242,963
2064	5,242,963	49,832	(874,470)	(11,193)	361,879	4,769,011
2065	4,769,011	46,153	(808,143)	(10,344)	328,713	4,325,390
2066	4,325,390	42,655	(745,514)	(9,543)	297,689	3,910,677
2067	3,910,677	39,350	(685,710)	(8,777)	268,733	3,524,273
2068	3,524,273	36,199	(629,529)	(8,058)	241,768	3,164,653
2069	3,164,653	33,231	(576,875)	(7,384)	216,685	2,830,310

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)
2070	\$2,830,310	\$30,460	\$(527,035)	\$(6,746)	\$193,399	\$2,520,388
2071	2,520,388	27,823	(480,430)	(6,150)	171,826	2,233,457
2072	2,233,457	25,367	(436,079)	(5,582)	151,898	1,969,061
2073	1,969,061	23,017	(394,499)	(5,050)	133,560	1,726,089
2074	1,726,089	20,833	(355,564)	(4,551)	116,734	1,503,541
2075	1,503,541	18,776	(319,018)	(4,083)	101,353	1,300,569
2076	1,300,569	16,854	(284,596)	(3,643)	87,366	1,116,550
2077	1,116,550	15,030	(252,336)	(3,230)	74,721	950,735
2078	950,735	13,330	(222,189)	(2,844)	63,366	802,398
2079	802,398	11,742	(194,075)	(2,484)	53,249	670,830
2080	670,830	10,260	(168,082)	(2,151)	44,313	555,170
2081	555,170	8,883	(144,194)	(1,846)	36,494	454,507
2082	454,507	7,624	(122,479)	(1,568)	29,722	367,806
2083	367,806	6,476	(102,904)	(1,317)	23,920	293,981
2084	293,981	5,448	(85,358)	(1,093)	19,011	231,989
2085	231,989	4,516	(69,902)	(895)	14,914	180,622
2086	180,622	3,697	(56,461)	(723)	11,541	138,676
2087	138,676	2,992	(44,905)	(575)	8,807	104,995
2088	104,995	2,382	(35,197)	(451)	6,627	78,356
2089	78,356	1,868	(27,137)	(347)	4,916	57,656
2090	57,656	1,438	(20,594)	(264)	3,596	41,832
2091	41,832	1,093	(15,382)	(197)	2,594	29,940
2092	29,940	817	(11,298)	(145)	1,847	21,161
2093	21,161	602	(8,175)	(105)	1,299	14,782
2094	14,782	435	(5,827)	(75)	904	10,219

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	\$10,219	\$309	\$(4,096)	\$(52)	\$622	\$7,002
2096	7,002	221	(2,843)	(36)	425	4,769
2097	4,769	146	(1,955)	(25)	289	3,224
2098	3,224	103	(1,331)	(17)	195	2,174
2099	2,174	74	(902)	(12)	132	1,466
2100	1,466	48	(611)	(8)	89	984
2101	984	34	(413)	(5)	59	659
2102	659	22	(277)	(4)	40	440
2103	440	14	(188)	(2)	26	290
2104	290	11	(128)	(2)	17	188
2105	188	7	(83)	(1)	11	122
2106	122	5	(56)	(1)	7	77
2107	77	3	(35)	0	5	50
2108	50	1	(24)	0	3	30
2109	30	0	(15)	0	2	17
2110	17	1	(9)	0	1	10
2111	10	1	(5)	0	1	7
2112	7	0	(4)	0	0	3
2113	3	0	(2)	0	0	1
2114	1	0	(1)	0	0	0
2115	0	0	0	0	0	0
2116	0	0	0	0	0	0
2117	0	0	0	0	0	0
2118	0	0	0	0	0	0
2119	0	0	0	0	0	0

*From Table 1.

**Assumed Mortality for Benefit Payout Projection was based on the RP 2000 Mortality Table projected to 2014.

***Administrative expense was assumed to be 1.28% of pension payroll.

****Long term expected rate of return on pension plan investments was 7.50%

Table 3: Actuarial Present Values of Projected Benefit Payments

Year	Projected Beginning Fiduciary Net Position*	Projected Benefit Payments	"Funded" Portion of Benefit Payments	"Unfunded" Portion of Benefit Payments	Present Value of "Funded" Benefits Payments**	Present Value of "Unfunded" Benefit Payments***	Present Value Using the Single Discount Rate****
(a)	(b)	(c)	(d)	(e)	(f)	(g)=(e)/(1+x.xx%)^(a)	(h) = (c)/(1 + y.yy%)^(a)
1	\$17,225,551	\$1,899,357	\$1,899,357	\$0	\$1,766,844	\$0	\$1,766,844
2	17,462,837	1,997,587	1,997,587	0	1,728,577	0	1,728,577
3	17,649,498	2,062,854	2,062,854	0	1,660,516	0	1,660,516
4	17,801,715	2,155,925	2,155,925	0	1,614,358	0	1,614,358
5	17,878,384	2,163,393	2,163,393	0	1,506,930	0	1,506,930
6	17,995,519	2,217,911	2,217,911	0	1,437,121	0	1,437,121
7	18,095,054	2,274,303	2,274,303	0	1,370,847	0	1,370,847
8	18,177,074	2,451,462	2,451,462	0	1,374,540	0	1,374,540
9	18,088,650	2,467,210	2,467,210	0	1,286,856	0	1,286,856
10	18,029,820	2,610,939	2,610,939	0	1,266,812	0	1,266,812
11	17,829,434	2,642,210	2,642,210	0	1,192,543	0	1,192,543
12	17,627,453	2,706,744	2,706,744	0	1,136,438	0	1,136,438
13	17,390,778	2,686,358	2,686,358	0	1,049,189	0	1,049,189
14	17,218,487	2,670,573	2,670,573	0	970,255	0	970,255
15	17,119,432	2,786,099	2,786,099	0	941,607	0	941,607
16	16,937,771	2,871,025	2,871,025	0	902,613	0	902,613
17	16,705,095	2,822,762	2,822,762	0	825,525	0	825,525
18	16,590,629	2,802,887	2,802,887	0	762,524	0	762,524
19	16,573,018	2,746,926	2,746,926	0	695,162	0	695,162
20	16,712,339	2,753,399	2,753,399	0	648,186	0	648,186
21	16,941,004	2,676,005	2,676,005	0	586,016	0	586,016
22	17,390,789	2,642,590	2,642,590	0	538,324	0	538,324
23	18,041,889	2,562,882	2,562,882	0	485,662	0	485,662
24	19,003,861	2,579,868	2,579,868	0	454,773	0	454,773
25	20,267,637	2,480,954	2,480,954	0	406,825	0	406,825

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)
26	\$19,391,336	\$2,379,858	\$2,379,858	\$0	\$363,020	\$0	\$363,020
27	18,503,374	2,335,869	2,335,869	0	331,451	0	331,451
28	17,580,770	2,233,086	2,233,086	0	294,760	0	294,760
29	16,694,471	2,133,034	2,133,034	0	261,910	0	261,910
30	15,841,563	2,066,503	2,066,503	0	236,038	0	236,038
31	14,982,720	1,978,135	1,978,135	0	210,181	0	210,181
32	14,148,548	1,926,621	1,926,621	0	190,426	0	190,426
33	13,293,763	1,829,435	1,829,435	0	168,205	0	168,205
34	12,473,848	1,749,028	1,749,028	0	149,592	0	149,592
35	11,671,663	1,666,356	1,666,356	0	132,578	0	132,578
36	10,891,769	1,575,949	1,575,949	0	116,637	0	116,637
37	10,143,868	1,486,584	1,486,584	0	102,347	0	102,347
38	9,428,845	1,399,862	1,399,862	0	89,653	0	89,653
39	8,746,435	1,328,357	1,328,357	0	79,138	0	79,138
40	8,083,227	1,246,977	1,246,977	0	69,107	0	69,107
41	7,451,866	1,167,192	1,167,192	0	60,172	0	60,172
42	6,852,556	1,090,277	1,090,277	0	52,286	0	52,286
43	6,284,750	1,015,748	1,015,748	0	45,313	0	45,313
44	5,748,469	944,303	944,303	0	39,187	0	39,187
45	5,242,963	874,470	874,470	0	33,757	0	33,757
46	4,769,011	808,143	808,143	0	29,020	0	29,020
47	4,325,390	745,514	745,514	0	24,903	0	24,903
48	3,910,677	685,710	685,710	0	21,308	0	21,308
49	3,524,273	629,529	629,529	0	18,197	0	18,197
50	3,164,653	576,875	576,875	0	15,512	0	15,512

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)
51	\$2,830,310	\$527,035	\$527,035	\$0	\$13,183	\$0	\$13,183
52	2,520,388	480,430	480,430	0	11,179	0	11,179
53	2,233,457	436,079	436,079	0	9,439	0	9,439
54	1,969,061	394,499	394,499	0	7,943	0	7,943
55	1,726,089	355,564	355,564	0	6,660	0	6,660
56	1,503,541	319,018	319,018	0	5,558	0	5,558
57	1,300,569	284,596	284,596	0	4,613	0	4,613
58	1,116,550	252,336	252,336	0	3,804	0	3,804
59	950,735	222,189	222,189	0	3,116	0	3,116
60	802,398	194,075	194,075	0	2,532	0	2,532
61	670,830	168,082	168,082	0	2,040	0	2,040
62	555,170	144,194	144,194	0	1,628	0	1,628
63	454,507	122,479	122,479	0	1,286	0	1,286
64	367,806	102,904	102,904	0	1,005	0	1,005
65	293,981	85,358	85,358	0	776	0	776
66	231,989	69,902	69,902	0	591	0	591
67	180,622	56,461	56,461	0	444	0	444
68	138,676	44,905	44,905	0	328	0	328
69	104,995	35,197	35,197	0	240	0	240
70	78,356	27,137	27,137	0	172	0	172
71	57,656	20,594	20,594	0	121	0	121
72	41,832	15,382	15,382	0	84	0	84
73	29,940	11,298	11,298	0	58	0	58
74	21,161	8,175	8,175	0	39	0	39
75	14,782	5,827	5,827	0	26	0	26

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)
76	\$10,219	\$4,096	\$4,096	\$0	\$17	\$0	\$17
77	7,002	2,843	2,843	0	11	0	11
78	4,769	1,955	1,955	0	7	0	7
79	3,224	1,331	1,331	0	4	0	4
80	2,174	902	902	0	3	0	3
81	1,466	611	611	0	2	0	2
82	984	413	413	0	1	0	1
83	659	277	277	0	1	0	1
84	440	188	188	0	0	0	0
85	290	128	128	0	0	0	0
86	188	83	83	0	0	0	0
87	122	56	56	0	0	0	0
88	77	35	35	0	0	0	0
89	50	24	24	0	0	0	0
90	30	15	15	0	0	0	0
91	17	9	9	0	0	0	0
92	10	5	5	0	0	0	0
93	7	4	4	0	0	0	0
94	3	2	2	0	0	0	0
95	1	1	1	0	0	0	0
96	0	0	0	0	0	0	0
97	0	0	0	0	0	0	0
98	0	0	0	0	0	0	0
99	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0
					<u>\$29,820,652</u>	<u>\$0</u>	<u>\$29,820,652</u>

* From Table 2.

**7.50% was the assumed rate of return used to project the plan's fiduciary net position and is the discount rate used for column (f).

***2.45% Municipal bond rate in the "Fidelity Index 20 Year GO AA Index" as of June 30, 2020.

****7.50% 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).