

***City of Marysville  
Police Officers and Firefighters  
Retirement System***

*Actuarial Information for GASB Statements 67/68*

*June 30, 2020*



November 2, 2020

The Board of Trustees  
City of Marysville Police Officers and Firefighters 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,

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, 2020 were as follows:

Total pension liability	\$26,054,774
Plan fiduciary net position	14,464,424
City's net pension liability	11,590,350
Plan fiduciary net position as a percentage of the total pension liability	55.52%
Covered payroll	\$1,989,850
City's net pension liability as a percentage of covered payroll	582.5%

**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	2.5%
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**

	<b>1% Decrease 6.50%</b>	<b>GASB 67 Computed Rate 7.50%</b>	<b>1% Increase 8.50%</b>
City's net pension liability	\$14,412,595	\$11,590,350	\$9,200,279

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

	<b>Year Ended</b> <b><u>6/30/2020</u></b>
Total pension liability	
Service cost	\$364,272
Interest	1,908,728
Changes in benefit terms	-
Differences between expected and actual experience	(682,216)
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	(1,607,155)
Net change in total pension liability	(\$16,371)
Total pension liability-beginning	26,071,145
Total pension liability-ending (a)	\$26,054,774
Plan fiduciary net position	
Contributions-employer	1,262,773
Contributions-member	159,188
Net investment income	938,853
Benefit payments, including refunds of member contributions	(1,607,155)
Administrative Expense	(5,798)
Other	
Net change in plan fiduciary net position	747,861
Plan fiduciary net position-beginning	13,716,563
Plan fiduciary net position-ending (b)	14,464,424
City's net pension liability-ending (a)-(b)	\$11,590,350
Plan fiduciary net position as a percentage of the total pension liability	55.52%
Covered employee payroll	\$1,989,850
City's net pension liability as a percentage of covered employee payroll	582.5%

**Additional Required Disclosures**

	<b><u>6/30/2020</u></b>
Total expected remaining service lives	
Active Participants	160.2
Inactive Participants	0
(a) Total expected remaining service lives	160.2
Number of Participants	
Active	23
Retired	25
Vested	0
(b) Total	48
(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	(682,216)
(d2) Portion allocated to expense (d1)/(c)	(206,732)
(d3) Deferred portion (d1)-(d2)	(475,484)
(e1) Changes in assumptions	-
(e2) Portion allocated to expense (e1)/(c)	-
(e3) Deferred portion (e1)-(e2)	-
(f1) Difference between expected and actual investment experience	82,727
(f2) Portion allocated to expense (f1)/5	16,545
(f3) Deferred portion (f1)-(f2)	66,182
(g) Total Deferred Portion	(409,302)

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

	<b>2020</b>	<b>2019</b>	<b>2018</b>	<b>2017</b>	<b>2016</b>	<b>2015</b>	<b>2014</b>	<b>2013</b>	<b>2012</b>	<b>2011</b>
Actuarially determined contribution	\$855,334	\$805,551	\$760,944	\$635,516	\$575,476	\$583,247	\$544,898	\$571,900	\$524,243	\$585,213
Contributions in relation to the actuarially determined contribution	1,262,772	1,230,551	1,174,069	635,516	575,476	583,247	544,898	571,900	524,243	585,213
Contribution excess (deficiency)	\$407,438	\$425,000	\$413,125	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Covered employee payroll	\$1,989,850	\$1,956,839	\$1,941,086	\$1,775,066	\$1,775,066	\$1,775,066	\$1,766,882	\$1,918,654	\$1,908,243	\$1,876,414
Actual determined contributions as a percentage of covered employee payroll	63.46%	62.88%	60.49%	35.80%	32.42%	32.86%	30.84%	29.81%	27.47%	31.19%

**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 for the 6/30/2020 valuation
Asset valuation method	4 years smoothed market
Inflation	2.50%
Salary increases	4.0%, including inflation
Investment rate of return	7.75% (7.50% beginning with the 2017 valuation), net of pension plan investment expense, including inflation
Mortality Table	RP 2000 Combined Healthy Mortality Table (RP 2000 projected to 2014 beginning with the 2017 valuation)

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

<b>Year Beg. 7/1</b>	<b>Projected Entry Age AAL</b>	<b>Projected Funding Value of Assets</b>	<b>UAAL</b>	<b>24 Year Closed Amortization</b>	<b>Projected Employer Normal Cost</b>	<b>Employer Contribution</b>	<b>Employee Contribution</b>	<b>Total Contributions</b>
2020	\$26,054,775	\$15,083,692	\$10,971,083	\$662,490	\$199,513	\$862,003	\$156,736	\$1,018,739
2021	26,732,785	14,860,122	11,872,663	737,389	170,418	907,807	127,923	1,035,730
2022	27,169,377	15,082,413	12,086,964	773,513	160,654	934,167	121,690	1,055,857
2023	27,564,339	15,282,735	12,281,604	811,459	128,367	939,826	100,761	1,040,587
2024	27,763,776	15,307,389	12,456,387	851,553	130,976	982,529	102,820	1,085,349
2025	27,987,756	15,385,088	12,602,668	893,591	133,884	1,027,475	105,114	1,132,589
2026	28,241,748	15,525,559	12,716,189	937,683	103,619	1,041,302	83,024	1,124,326
2027	28,277,677	15,479,728	12,797,949	984,386	106,064	1,090,450	84,995	1,175,445
2028	28,334,791	15,497,800	12,836,991	1,033,429	91,644	1,125,073	69,318	1,194,391
2029	28,217,343	15,384,369	12,832,974	1,085,420	94,053	1,179,473	71,114	1,250,587
2030	28,119,974	15,346,103	12,773,871	1,140,096	87,944	1,228,040	64,598	1,292,638
2031	27,952,016	15,296,828	12,655,188	1,197,893	90,453	1,288,346	66,413	1,354,759
2032	27,807,398	15,340,894	12,466,504	1,258,818	80,273	1,339,091	60,167	1,399,258
2033	27,612,816	15,412,090	12,200,726	1,323,305	52,077	1,375,382	41,727	1,417,109
2034	27,231,810	15,380,439	11,851,371	1,392,078	53,632	1,445,710	42,962	1,488,672
2035	26,864,905	15,461,975	11,402,930	1,465,066	55,263	1,520,329	44,263	1,564,592
2036	26,516,796	15,673,325	10,843,471	1,542,804	24,708	1,567,512	16,800	1,584,312
2037	25,862,718	15,694,549	10,168,169	1,627,371	7,944	1,635,315	7,208	1,642,523
2038	25,096,414	15,741,496	9,354,918	1,719,098	8,172	1,727,270	7,415	1,734,685
2039	24,324,533	15,941,118	8,383,415	1,819,254	8,425	1,827,679	7,644	1,835,323
2040	23,549,688	16,316,770	7,232,918	1,930,575	8,688	1,939,263	7,882	1,947,145
2041	22,774,151	16,895,838	5,878,313	2,058,333	8,961	2,067,294	8,131	2,075,425
2042	21,999,529	17,712,346	4,287,183	2,215,327	9,246	2,224,573	8,390	2,232,963
2043	21,227,101	18,815,704	2,411,397	2,451,526	0	2,451,526	0	2,451,526
2044	20,353,474	20,203,267	150,207	152,707	0	152,707	0	152,707



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

<b>Year Beg. 7/1</b>	<b>Projected Entry Age AAL</b>	<b>Projected Funding Value of Assets</b>	<b>UAAL</b>	<b>24 Year Closed Amortization</b>	<b>Projected Employer Normal Cost</b>	<b>Employer Contribution</b>	<b>Employee Contribution</b>	<b>Total Contributions</b>
2045	\$19,476,094	\$19,374,179	\$101,915	\$103,611	\$0	\$103,611	\$0	\$103,611
2046	18,597,576	18,499,300	98,276	99,911	0	99,911	0	99,911
2047	17,719,705	17,624,235	95,470	97,059	0	97,059	0	97,059
2048	16,844,763	16,752,180	92,583	94,124	0	94,124	0	94,124
2049	15,973,986	15,884,336	89,650	91,142	0	91,142	0	91,142
2050	15,108,042	15,021,330	86,712	88,155	0	88,155	0	88,155
2051	14,249,406	14,165,735	83,671	85,063	0	85,063	0	85,063
2052	13,399,616	13,319,010	80,606	81,947	0	81,947	0	81,947
2053	12,561,089	12,483,632	77,457	78,746	0	78,746	0	78,746
2054	11,735,525	11,661,251	74,274	75,510	0	75,510	0	75,510
2055	10,924,999	10,853,961	71,038	72,220	0	72,220	0	72,220
2056	10,131,406	10,063,624	67,782	68,910	0	68,910	0	68,910
2057	9,357,113	9,292,639	64,474	65,547	0	65,547	0	65,547
2058	8,605,628	8,544,551	61,077	62,093	0	62,093	0	62,093
2059	7,879,327	7,821,668	57,659	58,619	0	58,619	0	58,619
2060	7,179,987	7,125,752	54,235	55,138	0	55,138	0	55,138
2061	6,511,533	6,460,790	50,743	51,587	0	51,587	0	51,587
2062	5,876,962	5,829,754	47,208	47,994	0	47,994	0	47,994
2063	5,277,646	5,233,909	43,737	44,465	0	44,465	0	44,465
2064	4,714,417	4,674,082	40,335	41,006	0	41,006	0	41,006
2065	4,187,704	4,150,682	37,022	37,638	0	37,638	0	37,638
2066	3,697,537	3,663,710	33,827	34,390	0	34,390	0	34,390
2067	3,243,798	3,213,039	30,759	31,271	0	31,271	0	31,271
2068	2,826,798	2,799,019	27,779	28,241	0	28,241	0	28,241
2069	2,446,216	2,421,278	24,938	25,353	0	25,353	0	25,353

**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	\$2,101,339	\$2,079,104	\$22,235	\$22,605	\$0	\$22,605	\$0	\$ 22,605
2071	1,791,261	1,771,576	19,685	20,013	0	20,013	0	20,013
2072	1,514,855	1,497,562	17,293	17,581	0	17,581	0	17,581
2073	1,270,682	1,255,614	15,068	15,319	0	15,319	0	15,319
2074	1,057,003	1,043,991	13,012	13,229	0	13,229	0	13,229
2075	871,867	860,730	11,137	11,322	0	11,322	0	11,322
2076	712,981	703,531	9,450	9,607	0	9,607	0	9,607
2077	577,950	570,006	7,944	8,076	0	8,076	0	8,076
2078	464,375	457,762	6,613	6,723	0	6,723	0	6,723
2079	369,844	364,390	5,454	5,545	0	5,545	0	5,545
2080	291,958	287,504	4,454	4,528	0	4,528	0	4,528
2081	228,414	224,806	3,608	3,668	0	3,668	0	3,668
2082	177,081	174,196	2,885	2,933	0	2,933	0	2,933
2083	136,028	133,732	2,296	2,334	0	2,334	0	2,334
2084	103,518	101,715	1,803	1,833	0	1,833	0	1,833
2085	78,020	76,619	1,401	1,424	0	1,424	0	1,424
2086	58,234	57,147	1,087	1,105	0	1,105	0	1,105
2087	43,030	42,205	825	839	0	839	0	839
2088	31,480	30,858	622	632	0	632	0	632
2089	22,799	22,334	465	473	0	473	0	473
2090	16,356	16,008	348	354	0	354	0	354
2091	11,625	11,375	250	254	0	254	0	254
2092	8,177	7,995	182	185	0	185	0	185
2093	5,694	5,559	135	137	0	137	0	137
2094	3,910	3,819	91	93	0	93	0	93

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

<b>Year Beg. 7/1</b>	<b>Projected Entry Age AAL</b>	<b>Projected Funding Value of Assets</b>	<b>UAAL</b>	<b>24 Year Closed Amortization</b>	<b>Projected Employer Normal Cost</b>	<b>Employer Contribution</b>	<b>Employee Contribution</b>	<b>Total Contributions</b>
2095	\$2,649	\$2,584	\$65	\$66	\$0	\$66	\$0	\$66
2096	1,763	1,717	46	47	0	47	0	47
2097	1,153	1,121	32	33	0	33	0	33
2098	741	721	20	20	0	20	0	20
2099	462	448	14	14	0	14	0	14
2100	277	268	9	9	0	9	0	9
2101	168	163	5	5	0	5	0	5
2102	102	97	5	5	0	5	0	5
2103	60	59	1	1	0	1	0	1
2104	33	32	1	1	0	1	0	1
2105	17	16	1	1	0	1	0	1
2106	6	6	0	0	0	0	0	0
2107	0	0	0	0	0	0	0	0
2108	0	0	0	0	0	0	0	0
2109	0	0	0	0	0	0	0	0
2110	0	0	0	0	0	0	0	0
2111	0	0	0	0	0	0	0	0
2112	0	0	0	0	0	0	0	0
2113	0	0	0	0	0	0	0	0
2114	0	0	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**

<b>Year Beg. 7/1</b>	<b>Projected Beginning Fiduciary Net Position (a)</b>	<b>Projected Total Contributions* (b)</b>	<b>Projected Benefit Payments** (c)</b>	<b>Projected Administrative Expense*** (d)</b>	<b>Projected Investment Earnings**** (e)</b>	<b>Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)</b>
2020	\$14,464,424	\$1,018,739	\$(1,677,166)	\$(5,798)	\$1,059,923	\$14,860,122
2021	14,860,122	1,035,730	(1,889,087)	(6,612)	1,082,260	15,082,413
2022	15,082,413	1,055,857	(1,946,258)	(6,812)	1,097,535	15,282,735
2023	15,282,735	1,040,587	(2,114,200)	(7,400)	1,105,667	15,307,389
2024	15,307,389	1,085,349	(2,109,633)	(7,384)	1,109,367	15,385,088
2025	15,385,088	1,132,589	(2,102,013)	(7,357)	1,117,252	15,525,559
2026	15,525,559	1,124,326	(2,282,840)	(7,990)	1,120,673	15,479,728
2027	15,479,728	1,175,445	(2,269,101)	(7,942)	1,119,670	15,497,800
2028	15,497,800	1,194,391	(2,415,590)	(8,455)	1,116,223	15,384,369
2029	15,384,369	1,250,587	(2,391,224)	(8,369)	1,110,740	15,346,103
2030	15,346,103	1,292,638	(2,440,946)	(8,543)	1,107,576	15,296,828
2031	15,296,828	1,354,759	(2,409,647)	(8,434)	1,107,388	15,340,894
2032	15,340,894	1,399,258	(2,431,107)	(8,509)	1,111,554	15,412,090
2033	15,412,090	1,417,109	(2,552,808)	(8,935)	1,112,983	15,380,439
2034	15,380,439	1,488,672	(2,513,126)	(8,796)	1,114,786	15,461,975
2035	15,461,975	1,564,592	(2,469,969)	(8,645)	1,125,372	15,673,325
2036	15,673,325	1,584,312	(2,687,461)	(9,406)	1,133,779	15,694,549
2037	15,694,549	1,642,523	(2,722,291)	(9,528)	1,136,243	15,741,496
2038	15,741,496	1,734,685	(2,670,870)	(9,348)	1,145,155	15,941,118
2039	15,941,118	1,835,323	(2,616,461)	(9,158)	1,165,948	16,316,770
2040	16,316,770	1,947,145	(2,559,574)	(8,959)	1,200,456	16,895,838
2041	16,895,838	2,075,425	(2,501,061)	(8,754)	1,250,898	17,712,346
2042	17,712,346	2,232,963	(2,441,351)	(8,545)	1,320,291	18,815,704
2043	18,815,704	2,451,526	(2,465,657)	(8,630)	1,410,324	20,203,267
2044	20,203,267	152,707	(2,403,891)	(8,414)	1,430,510	19,374,179

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

<b>Year Beg. 7/1</b>	<b>Projected Beginning Fiduciary Net Position (a)</b>	<b>Projected Total Contributions* (b)</b>	<b>Projected Benefit Payments** (c)</b>	<b>Projected Administrative Expense*** (d)</b>	<b>Projected Investment Earnings**** (e)</b>	<b>Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)</b>
2045	\$19,374,179	\$103,611	\$(2,339,224)	\$(8,187)	\$1,368,921	\$18,499,300
2046	18,499,300	99,911	(2,272,692)	(7,954)	1,305,670	17,624,235
2047	17,624,235	97,059	(2,203,921)	(7,714)	1,242,521	16,752,180
2048	16,752,180	94,124	(2,134,132)	(7,469)	1,179,633	15,884,336
2049	15,884,336	91,142	(2,063,996)	(7,224)	1,117,072	15,021,330
2050	15,021,330	88,155	(1,991,733)	(6,971)	1,054,954	14,165,735
2051	14,165,735	85,063	(1,918,498)	(6,715)	993,425	13,319,010
2052	13,319,010	81,947	(1,843,499)	(6,452)	932,626	12,483,632
2053	12,483,632	78,746	(1,767,647)	(6,187)	872,707	11,661,251
2054	11,661,251	75,510	(1,690,686)	(5,917)	813,803	10,853,961
2055	10,853,961	72,220	(1,612,969)	(5,645)	756,057	10,063,624
2056	10,063,624	68,910	(1,534,149)	(5,370)	699,624	9,292,639
2057	9,292,639	65,547	(1,453,267)	(5,086)	644,718	8,544,551
2058	8,544,551	62,093	(1,371,725)	(4,801)	591,550	7,821,668
2059	7,821,668	58,619	(1,290,287)	(4,516)	540,268	7,125,752
2060	7,125,752	55,138	(1,206,956)	(4,224)	491,080	6,460,790
2061	6,460,790	51,587	(1,122,930)	(3,930)	444,237	5,829,754
2062	5,829,754	47,994	(1,040,090)	(3,640)	399,891	5,233,909
2063	5,233,909	44,465	(959,055)	(3,357)	358,120	4,674,082
2064	4,674,082	41,006	(880,292)	(3,081)	318,967	4,150,682
2065	4,150,682	37,638	(804,243)	(2,815)	282,448	3,663,710
2066	3,663,710	34,390	(731,059)	(2,559)	248,557	3,213,039
2067	3,213,039	31,271	(660,283)	(2,311)	217,303	2,799,019
2068	2,799,019	28,241	(592,593)	(2,074)	188,685	2,421,278
2069	2,421,278	25,353	(528,342)	(1,849)	162,664	2,079,104

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

<b>Year Beg. 7/1</b>	<b>Projected Beginning Fiduciary Net Position (a)</b>	<b>Projected Total Contributions* (b)</b>	<b>Projected Benefit Payments** (c)</b>	<b>Projected Administrative Expense*** (d)</b>	<b>Projected Investment Earnings**** (e)</b>	<b>Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)</b>
2070	\$2,079,104	\$22,605	\$(467,677)	\$(1,637)	\$139,181	\$1,771,576
2071	1,771,576	20,013	(410,751)	(1,438)	118,162	1,497,562
2072	1,497,562	17,581	(357,789)	(1,252)	99,512	1,255,614
2073	1,255,614	15,319	(308,979)	(1,081)	83,118	1,043,991
2074	1,043,991	13,229	(264,410)	(925)	68,845	860,730
2075	860,730	11,322	(224,276)	(785)	56,540	703,531
2076	703,531	9,607	(188,503)	(660)	46,031	570,006
2077	570,006	8,076	(156,919)	(549)	37,148	457,762
2078	457,762	6,723	(129,358)	(453)	29,716	364,390
2079	364,390	5,545	(105,623)	(370)	23,562	287,504
2080	287,504	4,528	(85,444)	(299)	18,517	224,806
2081	224,806	3,668	(68,460)	(240)	14,422	174,196
2082	174,196	2,933	(54,337)	(190)	11,130	133,732
2083	133,732	2,334	(42,712)	(149)	8,510	101,715
2084	101,715	1,833	(33,259)	(116)	6,446	76,619
2085	76,619	1,424	(25,641)	(90)	4,835	57,147
2086	57,147	1,105	(19,570)	(68)	3,591	42,205
2087	42,205	839	(14,775)	(52)	2,641	30,858
2088	30,858	632	(11,040)	(39)	1,923	22,334
2089	22,334	473	(8,156)	(29)	1,386	16,008
2090	16,008	354	(5,956)	(21)	990	11,375
2091	11,375	254	(4,319)	(15)	700	7,995
2092	7,995	185	(3,100)	(11)	490	5,559
2093	5,559	137	(2,208)	(8)	339	3,819
2094	3,819	93	(1,554)	(5)	231	2,584

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

<b>Year Beg. 7/1</b>	<b>Projected Beginning Fiduciary Net Position (a)</b>	<b>Projected Total Contributions* (b)</b>	<b>Projected Benefit Payments** (c)</b>	<b>Projected Administrative Expense*** (d)</b>	<b>Projected Investment Earnings**** (e)</b>	<b>Projected Fiduciary Ending Net Position (a)+(b)+(c)+(d)+(e)</b>
2095	\$2,584	\$66	\$(1,084)	\$(4)	\$155	\$1,717
2096	1,717	47	(743)	(3)	103	1,121
2097	1,121	33	(498)	(2)	67	721
2098	721	20	(334)	(1)	42	448
2099	448	14	(219)	(1)	26	268
2100	268	9	(130)	0	16	163
2101	163	5	(80)	0	9	97
2102	97	5	(49)	0	6	59
2103	59	1	(31)	0	3	32
2104	32	1	(19)	0	2	16
2105	16	1	(12)	0	1	6
2106	6	0	(6)	0	0	0
2107	0	0	0	0	0	0
2108	0	0	0	0	0	0
2109	0	0	0	0	0	0
2110	0	0	0	0	0	0
2111	0	0	0	0	0	0
2112	0	0	0	0	0	0
2113	0	0	0	0	0	0
2114	0	0	0	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 Combined Healthy Table projected to 2014.

\*\*\*Administrative expense was assumed to be 0.35% 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**

<b>Year (a)</b>	<b>Projected Beginning Fiduciary Net Position* (b)</b>	<b>Projected Benefit Payments (c)</b>	<b>"Funded" Portion of Benefit Payments (d)</b>	<b>"Unfunded" Portion of Benefit Payments (e)</b>	<b>Present Value of "Funded" Benefits Payments** (f)</b>	<b>Present Value of "Unfunded" Benefit Payments*** (g)=(e)/(1+x.xx%)^(a)</b>	<b>Present Value Using the Single Discount Rate**** (h) = (c)/(1 + y.yy%)^(a)</b>
1	\$14,464,424	\$1,677,166	\$1,677,166	\$0	\$1,560,154	\$0	\$1,560,154
2	14,860,122	1,889,087	1,889,087	0	1,634,689	0	1,634,689
3	15,082,413	1,946,258	1,946,258	0	1,566,661	0	1,566,661
4	15,282,735	2,114,200	2,114,200	0	1,583,114	0	1,583,114
5	15,307,389	2,109,633	2,109,633	0	1,469,483	0	1,469,483
6	15,385,088	2,102,013	2,102,013	0	1,362,024	0	1,362,024
7	15,525,559	2,282,840	2,282,840	0	1,375,993	0	1,375,993
8	15,479,728	2,269,101	2,269,101	0	1,272,290	0	1,272,290
9	15,497,800	2,415,590	2,415,590	0	1,259,932	0	1,259,932
10	15,384,369	2,391,224	2,391,224	0	1,160,207	0	1,160,207
11	15,346,103	2,440,946	2,440,946	0	1,101,704	0	1,101,704
12	15,296,828	2,409,647	2,409,647	0	1,011,700	0	1,011,700
13	15,340,894	2,431,107	2,431,107	0	949,498	0	949,498
14	15,412,090	2,552,808	2,552,808	0	927,470	0	927,470
15	15,380,439	2,513,126	2,513,126	0	849,351	0	849,351
16	15,461,975	2,469,969	2,469,969	0	776,526	0	776,526
17	15,673,325	2,687,461	2,687,461	0	785,956	0	785,956
18	15,694,549	2,722,291	2,722,291	0	740,597	0	740,597
19	15,741,496	2,670,870	2,670,870	0	675,915	0	675,915
20	15,941,118	2,616,461	2,616,461	0	615,949	0	615,949
21	16,316,770	2,559,574	2,559,574	0	560,518	0	560,518
22	16,895,838	2,501,061	2,501,061	0	509,493	0	509,493
23	17,712,346	2,441,351	2,441,351	0	462,632	0	462,632
24	18,815,704	2,465,657	2,465,657	0	434,640	0	434,640
25	20,203,267	2,403,891	2,403,891	0	394,188	0	394,188



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

<b>Year</b>	<b>Projected Beginning Fiduciary Net Position*</b>	<b>Projected Benefit Payments</b>	<b>"Funded" Portion of Benefit Payments</b>	<b>"Unfunded" Portion of Benefit Payments</b>	<b>Present Value of "Funded" Benefits Payments**</b>	<b>Present Value of "Unfunded" Benefit Payments***</b>	<b>Present Value Using the Single Discount Rate****</b>
<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>	<b>(e)</b>	<b>(f)</b>	<b>(g)=(e)/(1+x.xx%)^(a)</b>	<b>(h) = (c)/(1 + y.yy%)^(a)</b>
26	\$19,374,179	\$2,339,224	\$2,339,224	\$0	\$356,822	\$0	\$356,822
27	18,499,300	2,272,692	2,272,692	0	322,487	0	322,487
28	17,624,235	2,203,921	2,203,921	0	290,910	0	290,910
29	16,752,180	2,134,132	2,134,132	0	262,045	0	262,045
30	15,884,336	2,063,996	2,063,996	0	235,752	0	235,752
31	15,021,330	1,991,733	1,991,733	0	211,626	0	211,626
32	14,165,735	1,918,498	1,918,498	0	189,623	0	189,623
33	13,319,010	1,843,499	1,843,499	0	169,498	0	169,498
34	12,483,632	1,767,647	1,767,647	0	151,185	0	151,185
35	11,661,251	1,690,686	1,690,686	0	134,514	0	134,514
36	10,853,961	1,612,969	1,612,969	0	119,377	0	119,377
37	10,063,624	1,534,149	1,534,149	0	105,622	0	105,622
38	9,292,639	1,453,267	1,453,267	0	93,073	0	93,073
39	8,544,551	1,371,725	1,371,725	0	81,722	0	81,722
40	7,821,668	1,290,287	1,290,287	0	71,507	0	71,507
41	7,125,752	1,206,956	1,206,956	0	62,222	0	62,222
42	6,460,790	1,122,930	1,122,930	0	53,851	0	53,851
43	5,829,754	1,040,090	1,040,090	0	46,399	0	46,399
44	5,233,909	959,055	959,055	0	39,799	0	39,799
45	4,674,082	880,292	880,292	0	33,982	0	33,982
46	4,150,682	804,243	804,243	0	28,880	0	28,880
47	3,663,710	731,059	731,059	0	24,421	0	24,421
48	3,213,039	660,283	660,283	0	20,517	0	20,517
49	2,799,019	592,593	592,593	0	17,129	0	17,129
50	2,421,278	528,342	528,342	0	14,207	0	14,207

**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	\$2,079,104	\$467,677	\$467,677	\$0	\$11,698	\$0	\$11,698
52	1,771,576	410,751	410,751	0	9,557	0	9,557
53	1,497,562	357,789	357,789	0	7,744	0	7,744
54	1,255,614	308,979	308,979	0	6,221	0	6,221
55	1,043,991	264,410	264,410	0	4,952	0	4,952
56	860,730	224,276	224,276	0	3,908	0	3,908
57	703,531	188,503	188,503	0	3,055	0	3,055
58	570,006	156,919	156,919	0	2,366	0	2,366
59	457,762	129,358	129,358	0	1,814	0	1,814
60	364,390	105,623	105,623	0	1,378	0	1,378
61	287,504	85,444	85,444	0	1,037	0	1,037
62	224,806	68,460	68,460	0	773	0	773
63	174,196	54,337	54,337	0	571	0	571
64	133,732	42,712	42,712	0	417	0	417
65	101,715	33,259	33,259	0	302	0	302
66	76,619	25,641	25,641	0	217	0	217
67	57,147	19,570	19,570	0	154	0	154
68	42,205	14,775	14,775	0	108	0	108
69	30,858	11,040	11,040	0	75	0	75
70	22,334	8,156	8,156	0	52	0	52
71	16,008	5,956	5,956	0	35	0	35
72	11,375	4,319	4,319	0	24	0	24
73	7,995	3,100	3,100	0	16	0	16
74	5,559	2,208	2,208	0	10	0	10
75	3,819	1,554	1,554	0	7	0	7

**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	\$2,584	\$1,084	\$1,084	\$0	\$4	\$0	\$4
77	1,717	743	743	0	3	0	3
78	1,121	498	498	0	2	0	2
79	721	334	334	0	1	0	1
80	448	219	219	0	1	0	1
81	268	130	130	0	0	0	0
82	163	80	80	0	0	0	0
83	97	49	49	0	0	0	0
84	59	31	31	0	0	0	0
85	32	19	19	0	0	0	0
86	16	12	12	0	0	0	0
87	6	6	6	0	0	0	0
88	0	0	0	0	0	0	0
89	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0
91	0	0	0	0	0	0	0
92	0	0	0	0	0	0	0
93	0	0	0	0	0	0	0
94	0	0	0	0	0	0	0
95	0	0	0	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
					\$28,234,356	\$0	\$28,234,356

\* 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).