

Annual Statement

·
· OF THE FINANCIAL CONDITION
· OF THE HOLYOKE RETIREMENT BOARD
· TO THE PUBLIC EMPLOYEE RETIREMENT ADMINISTRATION COMMISSION
· FOR THE YEAR ENDED 12/31/2019
·

Annual Statement for the Year Ended December 31, 2019
of the Conditions and Affairs of HOLYOKE RETIREMENT SYSTEM

Organized under the Laws of the Commonwealth of Massachusetts to the Public Employee Retirement Administration Commission

Date of Certificate July 1, 1937 Effective Date July 1, 1937

Administrative Office

20 Korean Veterans Plaza, Room 207 Holyoke, MA 01040 (413) 322-5590

We, the undersigned, members of the Board of Retirement of HOLYOKE certify under the penalties of perjury, that we are the official board members of said retirement system, and that on the thirty-first day of December last all of the here-in described assets were the absolute property of said retirement systems, free and clear from any liens or claims thereon, except as stated, and the following statements, with the schedules and explanations therein contained, annexed, or referred to, are a full and correct exhibit of all the assets, liabilities, income and disbursements, changes in fund balances and of the conditions and affairs of the said retirement system on the said thirty-first day of December last, and for the year ended on that date according to the best of our information, knowledge and belief, respectively.

BOARD OF RETIREMENT

*Chairman

Ex-Officio Member

Tanya Wdowiak _____
(Signature)

Elected Member

Term Expires 6/30/2020

Anthony Dulude _____

(Signature)

Elected Member

Term Expires 6/1/2022

John T. McCarthy* _____

(Signature)

Appointed Member

Term Expires 4/9/2020

Bellamy Schmidt _____

(Signature)

Appointed Member

Term Expires 12/31/2020

Michele Aubrey _____

(Signature)

INVESTMENT MANAGERS

Aberdeen Asset Management
Acadian Asset Management
Algert Asset Management
Constitution Capital Partners
Fidelity (Pyramis)
Industry Capital
LMCG Investments
Long Wharf Real Estate Partners
LPL Financial (BlackRock)
Mesirow Financial Private Equity
Monroe Capital
Oberweis Asset Management
PRIM Board
Putnam Investments
Royal Bank of Canada
Seizert Capital Partners
State Street Global Advisors
TA Associates Realty
TerraCap Management
The Boston Company
Wasatch Investments
Wells Fargo (Cooke & Bieler)
Western Asset
Wisdom Tree Asset Management

Address: 1735 Market Street, Philadelphia, PA 19103
Address: 260 Franklin Street, Boston, MA 02110
Address: One Maritime Plaza, San Francisco, CA 94111
Address: 300 Brickstone Square, Andover, MA 01810
Address: 900 Salem Street, MZOT3N1, Smithfield, RI 02917
Address: 1 Sansome St, 15th Floor, San Francisco, CA 94104
Address: 200 Clarendon Street, 28th Floor, Boston, MA 02116
Address: One Federal Street, Boston, MA 02110
Address: 1001 Ave of the Americas, Suite 1000, New York, NY 10018
Address: 350 N. Clark Street, Chicago, IL 60654
Address: 311 S. Wacker Drive, Chicago, IL 60606
Address: 3333 Warrenville Ave, Suite 500, Lisle, IL 60532
Address: 84 State Street, Suite 250, Boston, MA 02109
Address: 1 Post Office Square, Boston, MA 02109
Address: 50 South Sixth St., Minneapolis, MN 55402
Address: 185 Oakland Avenue, Suite 100, Birmingham, MI 48009
Address: One Lincoln Street, 33rd Floor, Boston, MA 02111
Address: 28 State Street, Boston, MA 02109
Address: 2341 Walden Center, Suite 300, Bonita Springs, FL 34134
Address: 1 Boston Place, Boston, MA 02108-4402
Address: 150 Social half Ave, 4th Fl, Salt Lake City, UT 84111
Address: 125 High St. 12th Floor, Boston, MA 02110
Address: 385 East Colorado Blvd. Pasadena, CA 91101
Address: 245 Park Avenue, 35th Floor, New York, NY 10167

INVESTMENT CONSULTANT

Segal Advisors, Inc. (reduced capacity)

Address: 116 Huntington Avenue, Boston, MA 02116

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

ANNUAL STATEMENT BALANCE TESTS

1. ASSET BALANCE

Assets Previous Year	280,165,567.61
Income Current Year	78,274,056.78
Disbursements Current Year	<u>(31,459,122.22)</u>
Assets Current Year	326,980,502.17

2. ASSET DIFFERENCE

Assets Current Year	326,980,502.17
Assets Previous Year	<u>(280,165,567.61)</u>
Difference	46,814,934.56

3. INCOME DIFFERENCE

Income Current Year	78,274,056.78
Disbursements Current Year	<u>(31,459,122.22)</u>
Difference	46,814,934.56

4. FUND CHANGE DIFFERENCE - *Add interfund transfer credits and debits respectively to Income and Disbursement activities.*

Total Fund Change Credits Current Year	87,099,399.26
Total Fund Change Debits Current Year	<u>(40,284,464.70)</u>
Difference	46,814,934.56

NOTE: The difference as a result of tests 2, 3, and 4 should be the same.

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

ANNUAL STATEMENT BALANCE TESTS

1.	ASSET BALANCE		
	Assets Previous Year	280,165,567.61	
	Income Current Year	78,274,056.78	
	Disbursements Current Year	<u>(31,459,122.22)</u>	
	Assets Current Year	326,980,502.17	
2.	ASSET DIFFERENCE		
	Assets Current Year	326,980,502.17	
	Assets Previous Year	<u>(280,165,567.61)</u>	
	Difference	46,814,934.56	
3.	INCOME DIFFERENCE		
	Income Current Year	78,274,056.78	
	Disbursements Current Year	<u>(31,459,122.22)</u>	
	Difference	46,814,934.56	
4.	FUND CHANGE DIFFERENCE - <i>Add interfund transfer credits and debits respectively to Income and Disbursement activities.</i>		
	Total Fund Change Credits Current Year	86,269,541.26	
	Total Fund Change Debits Current Year	<u>(39,454,606.70)</u>	
	Difference	46,814,934.56	

NOTE: The difference as a result of tests 2, 3, and 4 should be the same.

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

ASSETS & LIABILITIES

	<u>2019</u>	<u>2018</u>	<u>2017</u>
1. 1040 Cash	11,957,955.53	7,743,257.51	4,863,011.62
2. 1100 Short Term Investments			
3. 1180 Fixed Income Securities*			
4. 1170 Equities			
5. 1101 Pooled Short Term Funds			
6. 1172 Pooled Domestic Equities	75,909,335.30	90,262,105.55	109,686,870.77
7. 1173 Pooled International Equity Funds	78,937,522.16	69,403,402.73	78,290,214.06
8. 1174 Pooled Global Equity Funds			
9. 1181 Pooled Domestic Fixed Income Funds	41,844,159.30	38,078,649.00	31,187,419.00
10. 1182 Pooled International Fixed Income Funds			
11. 1183 Pooled Global Fixed Income Funds			
12. 1193 Pooled Alternative Investments	44,731,831.88	36,760,271.06	40,192,271.46
13. 1194 Pooled Real Estate Funds	35,878,547.54	28,610,261.53	26,275,911.11
14. 1195 Pooled Domestic Balanced Funds			
15. 1196 Pooled International Balanced Funds			
16. 1197 Hedge Funds	28,916,433.56		
17. 1198 PRIT Cash			
18. 1199 PRIT Fund			
19. 1891 Principal Adjustment Account			
20. 1550 Interest Due and Accrued			
21. 1398 Accounts Receivable (A)	8,880,505.15	9,320,557.73	9,097,946.31
22. 2020 Accounts Payable (A)	<u>(75,788.25)</u>	<u>(12,937.50)</u>	<u>(7,500.00)</u>
TOTAL	326,980,502.17	280,165,567.61	299,586,144.33
FUNDS			
1. 3293 3293-Annuity Savings Fund	57,928,177.58	56,785,994.71	57,074,824.54
2. 3294 3294-Annuity Reserve Fund	21,609,936.51	21,830,270.84	20,317,509.65
3. 3295 3295-Military Fund	84,348.50	83,288.04	85,130.71
4. 3296 3296-Pension Fund	7,366,008.22	7,786,944.64	8,255,683.14
5. 3298 3298-Expense Fund			
6. 3297 3297-Pension Reserve Fund	<u>239,992,031.36</u>	<u>193,679,069.38</u>	<u>213,853,996.29</u>
TOTAL	<u>326,980,502.17</u>	<u>280,165,567.61</u>	<u>299,587,144.33</u>
TOTAL ASSETS AT MARKET VALUE	<u>326,980,502.17</u>	<u>280,165,567.61</u>	<u>299,587,144.33</u>

(A) Specific detail for Accounts Receivable and Accounts Payable are to be disclosed on Schedule A

Annual Statement for the HOLYOKE Retirement System for the year ended December 31, 2019

	Balance December 31 Prior Year	Receipts	Interfund	Disbursements	Balance December 31 Current Year
Annuity Savings Fund	56,785,994.71	6,066,760.41	(3,699,318.10)	1,225,259.44	57,928,177.58
Annuity Reserve Fund	21,830,270.84	641,984.37	3,700,894.48	4,563,213.18	21,609,936.51
Pension Fund	7,786,944.64	17,751,784.99	5,124,448.00	23,297,169.41	7,366,008.22
Military Service Fund	83,288.04	3,499.23	(2,438.77)		84,348.50
Expense Fund	0.00	2,373,480.19		2,373,480.19	0.00
Pension Reserve Fund	193,679,069.38	51,436,547.59	(5,123,585.61)		239,992,031.36
TOTAL ALL FUNDS	280,165,567.61	78,274,056.78	0.00	31,459,122.22	326,980,502.17

List below all transfers

Transfer from 3293 to 3294	3,700,894.48	on account of Current Year Retirees
Transfer from 3293 to 3297	859.43	on account of inactive employees over 10 years
Transfer from 3297 to 3296	5,124,448.00	on account of Appropriation FY 2019
Transfer from 3293 to 3297	2.96	on account of 2018 retirees interest
Transfer from 3295 to 3293	2,438.77	on account of Milt Fund transfer for J. Rivest

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

RECEIPTS

	<u>2019</u>	<u>2018</u>	<u>2017</u>
1. Annuity Savings Fund:			
(a) 4891 Members Deductions	5,739,246.52	5,531,044.01	5,351,338.30
(b) 4892 Transfers from Other Systems	178,599.38	219,546.84	302,045.15
(c) 4893 Member Make Up Payments	8,827.79	2,168.39	30,283.07
(d) 4900 Member Payments from Rollovers	45,739.45	53,122.03	17,945.64
(e) Investment Income credited to Member Accounts	<u>94,347.27</u>	<u>75,900.30</u>	<u>80,732.47</u>
Subtotal	6,066,760.41	5,881,781.57	5,782,344.63
2. Annuity Reserve Fund:			
(a) Investment Income Credited to Annuity Reserve Fund	<u>641,984.37</u>	<u>635,614.18</u>	<u>606,394.66</u>
Subtotal	641,984.37	635,614.18	606,394.66
3. Pension Fund:			
(a) 4898 3(8)(c) Reimbursements from other systems	282,772.81	274,170.75	273,558.71
(b) 4899 Received from Commonwealth for COLA and Survivor Benefits	176,664.38	197,685.95	233,248.18
(c) 4894 Pension Fund Appropriation	17,288,112.00	17,288,112.00	17,288,112.00
(d) 4840 Workers' Compensation Settlements		9,500.00	
(e) 4841 Recovery of Overearnings	<u>4,235.80</u>		
Subtotal	17,751,784.99	17,769,468.70	17,794,918.89
4. Military Service Fund:			
(a) 4890 Contributions Received from municipality	3,415.94		
(b) Investment Income Credited	<u>83.29</u>	<u>85.13</u>	<u>85.05</u>
Subtotal	3,499.23	85.13	85.05
5. Expense Fund:			
(a) 4896 Expense Fund Appropriation			
(b) Investment Income Credited to Expense Fund	<u>2,373,480.19</u>	<u>2,420,075.31</u>	<u>2,273,803.30</u>
Subtotal	2,373,480.19	2,420,075.31	2,273,803.30
6. Pension Reserve Fund:			
(a) 4897 (a) 4897-Federal Grant Reimbursement	16,134.75	15,880.50	14,949.72
(b) 4895 (b) 4895-Pension Reserve Appropriation			
(c) 4822 (c) 4822-Interest Not Refunded	5,402.22	1,973.86	8,348.69
(d) 4825 (d) 4825-Miscellaneous Income	2,111.31	5,239.34	175.31
(e) Excess Investment Income	<u>51,412,899.31</u>	<u>(15,919,739.22)</u>	<u>41,129,080.79</u>
Subtotal	51,436,547.59	(15,896,645.52)	41,152,554.51
TOTAL RECEIPTS	78,274,056.78	10,810,379.37	67,610,101.04

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

DISBURSEMENTS

	2019	2018	2017
1. Annuity Savings Fund:			
(a) 5757 Refunds to Members	934,901.91	674,914.26	444,482.69
(b) 5756 Transfers to Other Systems	290,357.53	253,105.73	724,024.39
Subtotal	1,225,259.44	928,019.99	1,168,507.08
2. Annuity Reserve Fund:			
(a) 5750 Annuities Paid	4,476,518.43	4,237,563.61	3,948,779.80
(b) 5759 Option B Refunds	86,694.75	113,499.98	5,480.25
Subtotal	4,563,213.18	4,351,063.59	3,954,260.05
3. Pension Fund:			
(a) 5751 Pensions Paid			
Regular Pension Payments	18,443,117.89	17,850,627.30	17,296,291.96
Survivor Payments	408,055.66	414,863.34	380,356.45
Ordinary Disability Payments	268,812.97	247,918.42	228,572.33
Accidental Disability Payments	2,492,364.36	2,443,501.27	2,404,484.54
Accidental Death Payments	731,915.47	770,092.97	835,989.40
Section 101 Benefits	170,520.00	131,245.23	134,340.61
(b) 5755 3(8)(c) Reimbursements to Other Systems	782,383.06	674,548.67	737,610.23
(c) 5752 COLAs Paid			
(d) 5752 Chapter 389 Beneficiary Increase Paid			
Subtotal	23,297,169.41	22,532,797.20	22,017,645.52
4. Military Service Fund:			
(a) 4890 Return to Municipality for Members who withdrew their funds	0.00	0.00	0.00
Subtotal	0.00	0.00	0.00
5. Expense Fund:			
(a) 5118 Board Member Stipend	12,000.00	12,000.00	12,000.00
(b) 5119 Salaries	296,254.67	283,748.21	281,258.46
(c) 5120 Employee Benefits	45,036.91	30,452.16	
(d) 5304 Management Fees	1,880,038.25	1,918,508.90	1,822,448.48
(e) 5305 Custodial Fees			
(f) 5307 Investment Consultant Fees	22,125.00	20,000.00	20,000.00
(g) 5308 Legal Expenses	8,615.62	12,412.50	19,446.87
(h) 5309 Medical Expense			7.40
(i) 5310 Fiduciary Insurance	18,177.00	17,370.00	16,992.00
(j) 5311 Service Contracts	6,878.59	6,488.21	7,195.04
(k) 5312 Rent Expense			
(l) 5315 Professional Services	33,000.00	52,887.00	32,020.00
(m) 5316 Actuarial Services	14,000.00	25,500.00	14,000.00
(n) 5317 Accounting Services	5,800.00	9,800.00	
(o) 5320 Education & Training	8,485.00	6,350.00	5,400.00
(p) 5589 Administrative Expenses	7,143.77	9,117.08	35,296.98
(q) 5599 Furniture and Equipment		636.69	
5719 Travel	15,925.38	14,804.56	7,738.07
Subtotal	2,373,480.19	2,420,075.31	2,273,803.30
TOTAL DISBURSEMENTS	31,459,122.22	30,231,956.09	29,414,215.95

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2019

INVESTMENT INCOME

	<u>2019</u>	<u>2018</u>	<u>2017</u>
Investment Income received from:			
(a) Cash (from schedule 1)	20,087.28	22,733.39	23,489.04
(b) Short Term Investments (from schedule 2)			
(c) Fixed Income Securities (from schedules 3A and 3C)			
(d) Equities (from schedules 4A and 4C)			
(e) Pooled Funds (from schedule 5)	4,745,509.37	3,352,470.24	1,661,364.29
(f) Litigation	<u>715.72</u>	<u>138.36</u>	<u>487,635.69</u>
4821 TOTAL INVESTMENT INCOME	<u>4,766,312.37</u>	<u>3,375,341.99</u>	<u>2,172,489.02</u>
Plus:			
4884 Realized Gains (Profits)	15,068,298.34	19,190,569.50	12,476,171.07
4886 Unrealized Gains (Inc. in Market Value)	73,576,023.43	37,461,446.06	44,842,053.29
1550 Interest Due and Accrued on Fixed Income Securities-Current Year			
	<u>88,644,321.77</u>	<u>56,652,015.56</u>	<u>57,318,224.36</u>
Less:			
4823 Paid Accrued Interest on Fixed Income Securities			
4885 Realized Losses	3,730,962.29	2,117,396.91	4,106,850.13
4887 Unrealized Losses (Decrease in Market Value)	32,989,585.26	69,180,453.97	11,293,766.98
1550 Interest Due and Accrued on Fixed Inc. Securities-Prior Year			
Additonal Adjustments:			
4701 Carried Interest Expense	1,316,840.82	227,529.20	
4702 Equalization Expense			
4703 Miscellaneous Investment Expenses	<u>850,451.34</u>	<u>1,290,041.77</u>	
	<u>2,167,292.16</u>	<u>1,517,570.97</u>	<u>0.00</u>
NET INVESTMENT INCOME	<u>54,522,794.43</u>	<u>(12,788,064.30)</u>	<u>44,090,096.27</u>
Income Required:			
Annuity Savings Fund (from Supplementary Schedule)	94,347.27	75,900.30	80,732.47
Annuity Reserve Fund	641,984.37	635,614.18	606,394.66
Expense Fund	2,373,480.19	2,420,075.31	2,273,803.30
Military Service Fund	<u>83.29</u>	<u>85.13</u>	<u>85.05</u>
TOTAL INCOME REQUIRED	<u>3,109,895.12</u>	<u>3,131,674.92</u>	<u>2,961,015.48</u>
Net Investment Income	54,522,794.43	(12,788,064.30)	44,090,096.27
Less: Income Required	<u>3,109,895.12</u>	<u>3,131,674.92</u>	<u>2,961,015.48</u>
EXCESS INCOME TO PENSION RESERVE FUND	<u>51,412,899.31</u>	<u>(15,919,739.22)</u>	<u>41,129,080.79</u>

Annual Statement for the HOLYOKE Retirement System for the year ended December 31, 2019

MEMBERSHIP FOR CURRENT YEAR

ACTIVE MEMBERS	Group 1	Group 2 & 4	TOTAL
Active Membership, Dec. 31 previous year	822	309	1131
Inactive Membership, Dec. 31 previous year	269	7	276
Enrolled during current year	117	23	140
Transfers between groups			0
Reinstatements of disabled members			0
SUBTOTAL	1208	339	1547
Deduct:			
Death	2		2
Withdrawn	77	2	79
Retirements	39	14	53
SUBTOTAL	118	16	134
Active Membership, Dec. 31 current year	812	315	1127
Inactive Membership, Dec. 31 current year	278	8	286

RETIRED MEMBERS, BENEFICIARIES & SURVIVORS

Retired, Beneficiary, and Survivor			
Membership, Dec. 31 previous year	582	364	946
Retirements during the year:			
Superannuation	35	9	44
Ordinary Disability			0
Accidental Disability			0
Termination Retirement Allowance			0
Beneficiary of Deceased Retiree	2	5	7
Survivor benefits from active membership	2		2
			0
SUBTOTAL	39	14	53
Deduct:			
Deaths of retired members	21	8	29
Termination of Survivor Benefits	2	4	6
Suspension of disabled pensions		1	1
SUBTOTAL	23	13	36
Retired Membership, Dec. 31 current year			
Superannuation	487	241	728
Ordinary Disability	9	5	14
Accidental Disability	24	48	72
Termination/Waivers	7		7
Beneficiaries from accidental deaths		18	18
Beneficiaries from Section 100		2	2
Beneficiaries from Section 101	2	12	14
Beneficiaries under Option (c)	43	33	76
Option (d) Survivor Allowance	22	7	29
Section 12B Survivor Allowance	2		2
Total Retired, Beneficiary, and Survivor			
Membership, Dec. 31 current year	596	366	962
TOTAL MEMBERSHIP			
Active, Inactive, Retired, Beneficiary and Survivor, Dec. 31 current year	1686	689	2375

Annual Statement of the HOLYOKE Retirement System for year ended December 31, 2019

Schedule A: Detail of Accounts Receivable and Accounts Payable

Accounts Receivable	Amount	Original Date
4891 Members Deductions	13,402.29	2019
4892 Transfers From Other Systems		
4893 Member Make Up Payments and Redeposits		
4900 Member Payments from Rollovers		
4898 3(8)(c) Reimbursements from other Systems		
4899 Received from Commonwealth for COLA and Survivor Benefits		
4884 Realized Gain on Sale of Investments		
4894 Pension Fund Appropriation (Current fiscal year)	8,729,295.56	2019
4894 Pension Fund Appropriation (Previous fiscal year)	0.04	2018
4890 Contributions Received from municipality on a/c of military service		
4897 Federal Grant Reimbursement		
4895 Pension Reserve Appropriation		
Investments sold but funds not received		
5750 Reimb. Of Annuity for deceased retiree	36.68	2019
5751 Reimb. Of Pension for deceased retiree	332.11	2019
1173 Investments liquidated in 2019, proceeds not yet rec'd	137,438.47	2019
TOTAL RECEIVABLES	8,880,505.15	

Accounts Payable		
5757 Refunds to Members		
5756 Transfers to Other Systems		
5750 Annuities Paid		
5759 Option B Refunds		
5751 Pensions Paid		
5755 3(8)(c) Reimbursements to Other Systems		
5752 COLAs Paid		
5753 Chapter 389 Beneficiary Increase Paid		
4885 Realized Loss on Sale of Investments		
4890 Return to municipality for members who withdrew their funds		
5118 Board Members Stipend		
5119 Salaries		
5304 Management Fees		
5305 Custodial Fees	66,294.50	2019
5307 Investment Consultant Fees		
5308 Legal Expenses	6,062.50	2019
5309 Medical Expenses	3,431.25	2019
5310 Fiduciary Insurance		
5311 Service Contracts		
5312 Rent Expense		
5315 Professional Services		
5320 Education and Training		
5589 Administrative Expenses		
5599 Furniture and Equipment		
5719 Travel		
5829 Depreciation Expense: Building		
Outstanding checks in Retiree Payroll		
TOTAL PAYABLES (Must agree with page 2, line #20)	75,788.25	

Schedule No. 1
 Annual Statement of the Holyoke Retirement System for the Year Ended December 31, 2019

Cash Account Activity During Year

*Cash defined in ledger #1040 as Savings or Checking

Description	(A) Book Value at End of Previous Year	(B) Total Deposits This Year	(C) Income Reinvested/ Redeposited Into Account	(D) Withdrawals During Year	(E) A+B+C-D Total Book Value December 31st This year	(F) Cash Income Paid to System Not Reinvested or Redeposited	(G) Interest Due & Accrued December 31st
Peoples Bank-Checking	7,743,182.51	363,772,890.94	20,087.28	359,578,280.20	11,957,880.53		
Peoples Bank-Payroll	0.00	24,710,525.96		24,710,525.96			
Petty Cash	75.00		20,087.28		11,957,880.53		
					75.00		
					<u>11,957,955.53</u>		

Schedule No. 5
Annual Statement of the HOLYOKE Retirement System for the Year Ended December 31, 2019
Schedule of Pooled Funds

=A+B+C+D+E
+F-G-H-I
(J)

PERAC Ledger Number	Description	(A) Market Value at End of Previous Year	(B) Total Purch. this Year At Cost	(C) Reinvested Investment Income	(D) Realized Gain	(E) Realized Loss	(F) Unrealized Gain	(G) Unrealized Loss	(H) Total Sales Redemptions Amt. Rec.	(I) Cash Div. Distrib to System	(J) Investment Fees/Exp From Sched Z	(I) Market Value at End of Year
1172	Laudius- Lg cap Growth	21,898,130.13					2,589,625.78	643,274.86	24,448,869.24		18,886.67	0.00
1172	Aristotle Lg Cap Value	6,918,128.66					2,694,835.01	3,000,000.00	3,000,000.00		35,142.29	5,934,846.52
1172	Aristotle Small Cap	7,343,489.15					3,074,320.40	1,350,240.95	750,000.00		56,210.70	8,261,367.90
1172	Boston Company Mid Cap	8,752,465.00					3,415,185.00	1,043,585.00	2,300,000.00		61,958.84	8,824,065.00
1172	Fidelity Asset Management	7,812,154.73					3,732,603.61	1,179,796.32	750,000.00		72,949.72	9,614,962.02
1172	Loomis Sayles	0.00	15,000,000.00				4,212,426.24	1,721,862.73	4,000,000.00		50,374.12	13,490,563.51
1172	Seizert Capital Lg Cap Value	8,054,556.00			69,920.00		3,183,615.27	1,142,010.58	3,000,000.00		51,209.69	7,114,871.00
1172	Wells Fargo/Cooke & Bieler	7,484,039.68		596,641.46			3,134,238.25	1,246,766.63	3,000,000.00		60,481.01	6,917,671.75
1172	Wisdom Tree	5,073,109.20					2,254,803.50	982,355.23	3,000,000.00		10,675.87	6,334,881.80
1172	SSgA Large Cap Index	8,769,543.00					2,528,629.00	637,920.00	6,850,000.00		6,731.55	3,810,252.00
1172	SSgA Mid Cap Index	2,498,406.00					1,036,406.00	378,697.00			2,266.09	3,156,115.00
1172	SSgA Small Cap Index	5,648,084.00					1,938,314.00	886,349.00	4,250,000.00		4,418.80	2,450,049.00
1172	SUBTOTAL Pooled Equity	90,262,105.55	15,000,000.00	596,641.46	69,920.00	0.00	33,775,002.06	11,212,898.30	52,348,869.24	0.00	430,705.35	75,909,335.30
1173	Aberdeen	5,689,260.95	9,000,000.00	348,838.87	478,540.61	161,672.01	3,260,329.57	1,894,713.55			84,786.03	16,720,584.44
1173	Acadian	4,855,995.32	2,300,000.00				1,784,915.64	563,074.51			49,795.00	8,377,836.45
1173	Algerit	2,430,947.00		42,569.00		175,957.00	596,989.47	137,928.00	2,743,438.47		13,182.00	0.00
1173	LMCG	4,245,443.20	1,100,000.00				611,132.61	806,947.14	5,124,125.67		25,503.00	0.00
1173	Obenweis Sm Cap International	3,179,552.93	1,000,000.00	64,806.66			1,315,227.00	512,963.46	3,600,000.00		50,319.52	4,996,303.61
1173	RBC/Polaris International	25,126,856.91		1,078,244.05	594,311.70	528,433.40	8,719,070.82	4,735,273.36	5,900,000.00		239,814.34	26,656,776.72
1173	SSgA Emerging Markets	11,627,216.00	3,600,000.00				2,879,689.00	991,590.00	5,000,000.00		22,417.25	11,215,315.00
1173	SSgA International	8,994,009.00					2,489,020.00	871,366.00	5,000,000.00		9,387.70	5,611,663.00
1173	Wasatch Sm Cap International	3,254,121.42	1,000,000.00	130,190.26			1,493,565.20	441,354.75			77,479.19	5,359,042.94
1173	SUBTOTAL Pooled International	69,403,402.73	18,000,000.00	1,664,648.84	1,072,852.31	864,082.41	23,149,939.31	10,955,210.77	22,367,564.14	0.00	572,087.03	78,937,522.16
1181	Putnam Investments Fixed Income	28,100,458.00					1,732,877.00	90,635.00	14,000,000.00		52,376.68	15,742,700.00
1181	Western Asset	0.00					1,326,938.09	43,695.79			25,923.91	15,263,242.30
1181	SSgA TIPS Index	9,978,191.00	14,000,000.00				990,225.00	150,203.00			6,198.57	10,818,217.00
1181	SUBTOTAL Pooled Fixed Inc.	38,078,649.00	14,000,000.00	0.00	0.00	0.00	4,050,044.09	284,533.79	14,000,000.00	0.00	84,499.16	41,844,199.30
1193	ConCap Ironsides II Co-Investment	286,937.55		(191,387.52)							(13,048.18)	0.00
1193	ConCap Ironsides II Partnership	6,580,308.14		69,185.29	1,172,716.92	2,630,241.19	2,652,749.77	1,899,149.20	108,598.21		198,879.95	3,064,188.37
1193	ConCap Ironsides III Co-Investment	12,619,081.83	1,156,588.58		6,447,056.90	48,712.61	4,925,634.38	4,666,050.99	2,662,501.41		1,147,538.21	11,689,083.63
1193	ConCap Ironsides III Partnership	9,491,875.04	1,107,396.29	102,539.80	1,532,478.54		1,840,138.96	881,680.43	7,596,966.25		286,982.18	12,925,766.02
1193	ConCap Opportunity Fund Priv Debt	2,551,737.50	6,136,698.24	1,201,155.99	73,767.54		199,890.86	31,905.23	188,608.00		400,414.04	9,730,930.86
1193	Monroe Capital Private Debt	1,262,604.00	2,280,429.00	448,022.00		35,178.00	20,532.00	356.00	875,000.00		153,684.00	3,633,761.00
1193	Mesrow Private Equity**	3,967,727.00		(578.00)	452,348.00		233,256.00	55,599.00			34,062.00	3,668,092.00
	SUBTOTAL Alternatives	36,760,271.06	10,681,112.11	1,628,937.56	9,678,367.90	2,714,131.80	9,872,201.97	7,534,740.85	11,451,673.87	0.00	2,188,512.20	44,731,831.89

=A+B+C+D+E
+F-G+H+J
(I)

PERAC Ledger Number	Description	(A) Market Value at End of Previous Year	(B) Total Purch. this Year At Cost	(C) Reinvested Investment Income	(D) Realized Gain	(E) Realized Loss	(F) Unrealized Gain	(G) Unrealized Loss	(H) Total Sales Redemptions Amt. Rec.	(I) Cash Div. Distrib to System	(J) Investment Fees/Exp From Sched 7	Market Value at End of Year
1194	Long Wharf Fund IV	3,872,509.51		75,264.46	386,399.08		490,308.61	54,041.32	2,272,637.59		250,061.75	2,247,741.00
1194	Long Wharf Fund V	6,922,683.76		102,358.75	466,236.24		545,228.32	60,695.99	1,791,385.80		295,981.28	5,888,444.00
1194	Industry Capital	215,503.00		2,173.50		2,064.00	3,870.00		209,969.50		1,590.00	8,923.00
1194	PRIT Real Estate	6,588,796.26	12,500,000.00	509,056.10	553,288.64	734.11	541,619.72	299,887.28	212,882.36		65,701.79	20,336,439.54
1194	TerraCap II Real Estate	804,159.00		12,395.00	206,779.00		69,680.18	35,094.82	3,734,144.52		61,915.00	783,121.00
1194	TerraCap III Real Estate	10,196,610.00			2,068,113.00		6,402.00	1,976,309.48			(53,208.00)	6,613,879.00
1194	SUBTOTAL Pooled Real Estate	28,610,261.53	12,500,000.00	701,249.81	3,680,815.96	2,798.11	1,657,108.83	2,426,028.89	8,220,019.77	0.00	622,041.82	35,878,547.54
1197	PRIT Hedge Funds	0.00	28,000,000.00	154,031.70	566,342.17	149,969.97	1,071,727.17	576,212.66			149,484.85	28,916,433.56
	SUBTOTAL Hedge Funds	0.00	28,000,000.00	154,031.70	566,342.17	149,969.97	1,071,727.17	576,212.66	0.00	0.00	149,484.85	28,916,433.56
**As of 9/30/2019												
TOTAL		263,114,689.87	98,181,112.11	4,745,509.37	15,068,298.34	3,730,962.29	73,576,023.43	32,989,585.26	108,388,127.02	0.00	4,047,330.41	306,217,829.74

Schedule No. 6
Annual Statement of the HOLYOKE Retirement System for the Year Ended December 31, 2019

Summary of Investments Owned

Category of Investment	Market Value	Interest Due and Accrued	Paid Accrued Interest on Purch. Curr. Yr	Commissions Paid Curr Yr	Unrealized		Realized		Investment Income Received During Year
					Gains	Losses	Gains	Losses	
1 1040 Cash	11,957,955.53								20,087.28
2 1100 Short Term Securities									
3 1180 Fixed Income Securities									
4 1170 Equities									
5a 1101 Pooled Short Term Funds									
5b 1172 Pooled Domestic Equity	75,909,335.30				33,775,002.06	11,212,858.30	69,920.00		596,641.46
5c 1173 Pooled International Equity	78,937,522.16				23,149,939.31	10,955,210.77	1,072,852.31	864,062.41	1,664,648.84
5d 1174 Pooled Global Equity									
5e 1181 Pooled Domestic Fixed Income	41,844,159.30				4,050,044.09	284,533.79			
5f 1182 Pooled International Fixed Income									
5g 1183 Pooled Global Fixed Income									
5h 1193 Pooled Alternative Investments/Priv. Eq	44,731,831.88				9,872,201.97	7,534,740.85	9,678,367.90	2,714,131.80	1,628,937.56
5i 1194 Pooled Real Estate Funds	35,878,547.54				1,657,108.83	2,426,028.89	3,680,815.96	2,798.11	701,249.81
5j 1195 Pooled Domestic Balanced Funds									
5k 1196 Pooled International Balanced Funds									
5l 1197 Hedge Funds	28,916,433.56				1,071,727.17	576,212.66	566,342.17	149,969.97	154,031.70
5m 1198 PRIT Cash									
5n 1199 PRIT Fund									715.72
Class Action Proceeds									
TOTAL	318,175,785.27	0.00	0.00	0.00	73,576,023.43	32,989,585.26	15,088,298.34	3,730,962.29	4,766,312.37

Schedule No. 7

Annual Statement for the HOLYOKE Retirement System for the year ended December 31, 2019
Summary of Investment Related Fees

Manager/Vendor	Q1 2019	Q2 2019	Q3 2019	Q4 2019	Total Paid or Accrued in 2019	Market Value	Payment Method**	#4701 Carried Interest Exp	#4702 Equalization Expense	#4703 Misc. Invest. Exp.
5304 Management Fees										
1. Aberdeen	14,166.38	15,638.45	26,049.65	28,934.55	84,789.03	16,720,584.44	C			
2. Acadian	9,710.00	10,584.00	14,343.00	14,558.00	49,195.00	8,377,836.45	C			
3. Alger	6,482.00	6,700.00			13,182.00	-	N			
4. Aristotle Large Cap Value	9,082.13	9,844.59	9,258.90	6,976.67	35,142.29	5,934,546.52	N			
5. Aristotle Small Cap	10,142.68	15,880.57	15,024.80	15,162.65	56,210.70	8,261,357.90	N			
6. Boston Company	16,410.87	15,106.93	15,122.86	15,318.18	61,958.84	8,824,065.00	C			
7. Constitution Capital Co-Investment II		(8,265.86)			(8,265.86)	-	N	(31,320.20)		26,537.88
9. Constitution Capital Partnership II	28,125.00	28,125.00	28,125.00	28,125.00	112,500.00	3,084,188.37	N	(6,526.45)		92,906.40
10. Constitution Capital Co-Investment III	25,191.51	25,191.51	26,417.06	26,472.54	103,272.62	11,689,093.63	N	974,542.31		69,723.28
11. Constitution Capital Partnership III					0.00	12,925,766.02	N	143,458.35		123,523.83
12. Constitution Capital Opportunities Fund					0.00	9,730,930.86	N	156,357.09		244,056.95
13. Fidelity Asset Management	18,928.75	18,088.57	18,678.03	17,254.37	72,949.72	9,614,962.02	C			
14. Industry Capital	87.00	828.00	78.00	0.00	993.00	8,923.00	N	597.00		
15. Lauder (Blackrock)	18,886.67				18,886.67	-	N			
16. LMG	8,234.00	9,872.00	7,397.00		25,503.00	-	N			
17. Long Wharf IV	14,453.90	13,069.00	9,865.00	9,252.00	46,639.90	2,247,741.00	N	203,421.85		
18. Long Wharf V	25,890.41	26,178.00	19,607.00	19,369.00	91,044.41	5,888,444.00	N	204,936.87		
19. Loomis Sayles		9,463.00	20,087.48	20,823.64	50,374.12	13,490,563.51	C			
20. Mesirov Private Equity	9,112.00	8,200.00	8,200.00	8,200.00	33,712.00	3,688,092.00	N	350.00		
21. Monroe Capital	18,025.00	21,019.00	26,383.00	29,003.00	94,430.00	3,633,761.00	N			
22. Oberweis	10,860.21	13,249.12	12,827.90	13,382.29	50,319.52	4,996,303.61	N			
23. PRIT Real Estate	8,707.02	7,796.83	23,529.63	25,688.31	65,701.79	20,336,439.54	N			
24. PRIT Hedge Funds	13,850.63	28,471.47	28,315.95	78,846.80	149,484.85	26,916,433.56	N			
25. Putnam Core Fixed	18,692.20	14,304.18	9,576.56	9,803.74	52,376.68	15,742,700.00	N			
26. RBC/Polaris International	57,281.83	60,916.79	61,523.54	60,092.18	239,814.34	26,656,776.72	C			
27. Seizert Capital Partners	14,378.42	15,004.15	10,265.45	11,561.67	51,209.69	7,114,871.00	N			
28. SSGA - Russell 1000	1,858.00	1,781.93	1,507.60	984.02	6,131.55	3,810,252.00	C			13,954.00
29. SSGA - Mid Cap	1,224.44	1,291.29	1,298.32	604.75	4,418.80	2,450,049.00	C	(436,191.00)		279,749.00
30. SSGA - Emerging Markets	536.48	566.39	577.40	585.82	2,266.09	3,156,115.00	C			
31. SSGA - EAFE International	7,299.11	6,710.22	4,258.46	4,149.46	22,417.25	11,215,315.00	C			
32. SSGA - TIPS	2,325.74	2,443.49	2,515.43	2,103.04	9,387.70	5,611,663.00	C			
33. Terra Cap Real Estate II	1,488.98	1,526.17	1,571.08	1,612.34	6,198.57	10,818,217.00	C			
34. Terra Cap Real Estate III					0.00	783,121.00	N			
35. Wasatch Investments	27,436.00	27,704.00	25,892.00	22,202.00	103,234.00	6,613,879.00	N			
36. Wells Fargo/Cooke & Bieler	18,470.14	19,306.99	18,667.82	21,034.24	77,479.19	5,359,042.94	N			
37. Western Asset	15,750.47	16,519.88	15,542.81	12,667.85	60,481.01	6,917,671.75	N			
38. Wisdom Tree	3,693.36	10,920.25	11,310.30	11,310.30	25,923.91	15,283,242.30	C			
39. Wisdom Tree	2,587.37	2,625.17	2,658.74	2,804.59	10,675.87	6,334,881.60	N			
5304 Management Fees Total	435,655.34	449,434.19	476,085.72	518,863.00	1,880,038.25	306,217,829.74		1,316,840.82	0.00	850,451.34
*Includes 2015 Quarter 4										
5307 Consultant Fees										
40. Segal Advisors	5,000.00	5,000.00	6,062.50	6,062.50	22,125.00		C			
5307 Investment Consultant Fees Total	5,000.00	5,000.00	6,062.50	6,062.50	22,125.00					

** N=Net/C=Check/W=Wire

APPENDIX PAGE 1

PLAN DESCRIPTION

The plan is a contributory defined benefit plan covering all Holyoke Retirement System member unit employees deemed eligible by the retirement board, with the exception of school department employees who serve in a teaching capacity. The pensions of such school employees are administered by the Teachers' Retirement Board.

Instituted in 1937, the System is a member of the Massachusetts Contributory Retirement System and is governed by Chapter 32 of the Massachusetts General Laws. Membership in the plan is mandatory immediately upon the commencement of employment for all permanent, full-time employees.

The system provides for retirement allowance benefits up to a maximum of 80% of a member's highest three year average annual rate of regular compensation. Benefit payments are based upon a member's age, length of creditable service, level of compensation, and group classification.

Members become vested after ten years of creditable service. A superannuation retirement allowance may be received upon the completion of twenty years of service or upon reaching the age of 55 with ten years of service. Normal retirement for most employees occurs at age 65 (for certain hazardous duty and public safety positions, normal retirement is at age 55).

A retirement allowance consists of two parts: an annuity and a pension. A member's accumulated total deductions and a portion of the interest they generate constitute the annuity. The differential between the total retirement benefit and the annuity is the pension. The average retirement benefit is approximately 80-85% pension and 15-20% annuity.

Active members contribute either 5, 7, 8, or 9% of their gross regular compensation. Members joining the retirement system after January 1, 1979 must contribute an additional 2% on regular compensation earned at a rate in excess of \$30,000. The percentage rate is keyed to the date upon which an employee's membership commences. These deductions are deposited in the Annuity Savings Fund and earn interest at a rate determined by the Executive Director of PERAC according to statute. When a member's retirement becomes effective, his/her deductions and related interest are transferred to the Annuity Reserve Fund. Cost-of-living adjustments and any other increase in benefits imposed by state law granted between 1981 and 1996 are borne by the state.

The pension portion of any retirement benefit is paid from the Pension Fund of the System. The governmental unit employing the member must annually appropriate and contribute the amount of current year pension payments as determined by PERAC's Actuary. Until recently, retirement systems were paying only the actual retirement benefits that were due each year. Systems had no statutory authorization to put aside any money for the future benefits of employees who are now working. Large unfunded liabilities resulted from operating upon this pay-as-you-go basis. In 1977, legislation authorized local governments to appropriate funds to meet future pension obligations.

In 1983, additional legislation was passed requiring the transfer of investment earnings (in excess of the amount credited to member accounts) into the Pension Reserve Fund. These initiatives have significantly reduced the rate of growth of the retirement systems' unfunded liabilities, and in some systems have actually reduced such liability.

Administrative expenses are funded through excess investment income.

Members who become permanently and totally disabled for further duty may be eligible to receive a disability retirement allowance. The amount of benefits to be received in such cases is dependent upon several factors including: whether or not the disability is work related, the member's age, years of creditable service, level of compensation, veteran's status, and group classification.

Employees who resign from service and who are not eligible to receive a retirement allowance or are under the age of 55 are entitled to request a refund of their accumulated total deductions. In addition, depending upon the number of years of creditable service, such employees are entitled to receive either zero (0%) percent, fifty (50%) percent, or one hundred (100%) percent of the regular interest which has accrued upon those deductions. Survivor benefits are extended to eligible beneficiaries of members whose death occurs prior to or following retirement.

APPENDIX PAGE 2

SIGNIFICANT ACCOUNTING POLICIES

The accounting records of the System are maintained on a calendar year basis in accordance with the standards and procedures established by the Executive Director of Public Employee Retirement Administration Commission. All investments are stated at market value at the end of the year with the exception of fixed income securities which are at an amortized cost basis.

The *Annuity Savings Fund* is the fund in which members' contributions are deposited. Active members contribute either 5, 7, 8, or 9% of their gross regular compensation. Voluntary contributions, redeposits, and transfers to and from other systems, are also accounted for in this fund. Members' contributions to the fund earn interest at a rate determined by PERAC. Interest for some members who withdraw with less than ten years of service is transferred to the Pension Reserve Fund. Upon retirement, a members' contributions and interest are transferred to the Annuity Reserve Fund. Dormant account balances must be transferred to the Pension Reserve Fund after a period of ten years of inactivity.

The *Annuity Reserve Fund* is the fund to which a member's account is transferred upon retirement from the Annuity Savings Fund and Special Military Service Credit Fund. The annuity portion of the retirement allowance is paid from this fund. Interest is credited monthly to the fund at the rate of 3% annually on the previous month's balance.

The *Special Military Service Credit Fund* contains contributions and interest for members while on a military leave for service in the Armed Forces who will receive creditable service for the period of that leave.

The *Expense Fund* contains amounts appropriated by the governmental units for the purposes of administering the retirement system.

The *Pension Fund* contains the amounts appropriated by the governmental units as established by PERAC to pay the pension portion of each retirement allowance. Any profit or loss realized on the sale or maturity of any investment or on the unrealized gain of a market valued investment as of the valuation date is credited to the Pension Fund.

The *Pension Reserve Fund* contains amounts appropriated by the governmental units for the purposes of funding future retirement benefits. Additionally, any investment income in excess of the amount required to credit interest to the Annuity Savings Fund, Annuity Reserve Fund, and Special Military Service Credit Fund is credited to this Reserve account.

The *Investment Income Account* is credited all income derived from interest and dividends of invested funds. At the end of the year the interest credited to the Annuity Savings Fund, Annuity Reserve Fund, and Special Military Service Credit Fund is distributed from this account and the remaining balance is transferred to the Pension Reserve Fund.

APPENDIX PAGE 3

ACTUARIAL VALUATION AND ASSUMPTIONS

The most recent actuarial valuation of the System was prepared by Segal, Inc. as of January 1, 2018

The normal cost for employees on that date was	\$5,552,138	9.63% of payroll
The normal cost for the employer was	\$3,251,927	5.53% of payroll
The actuarial liability for active members was	\$164,653,652**	
The actuarial liability for retired members was	\$253,568,652	
Total actuarial accrued liability	\$418,522,289	
System assets as of that date	\$283,218,760	
Unfunded actuarial accrued liability	\$135,130,488	
The ratio of system's assets to total actuarial liability was	67.71%	

**Includes Inactive members.

The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	7.5 % per annum
Rate of Salary Increase:	3% per annum for next 4 years
	4% per annum for each of the following 4 years
	4% per annum thereafter for General Employees
	4.5% per annum thereafter for Police & Fire Employees

SCHEDULE OF FUNDING PROGRESS

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of covered Payroll ((b-a)/c)
1/1/18	\$283,391,801	\$418,522,289	\$135,130,488	67.71	\$55,459,355	2.43%
1/1/16	\$247,218,760	\$395,317,945	\$148,099,185	62.5%	\$56,166,061	2.64%
1/1/14	\$212,536,626	\$365,625,786	\$153,089,160	58.1%	\$57,502,791	2.66%
1/1/12	\$171,322,821	\$336,471,320	\$165,148,499	50.9%	\$56,134,716	2.94%
1/1/10	\$175,462,452	\$305,560,578	\$130,098,126	57.4%	\$54,171,671	2.40%
1/1/07	\$175,326,173	\$265,688,005	\$90,361,832	66.0%	\$49,762,976	1.82%
1/1/05	\$154,649,632	\$248,324,816	\$93,675,184	62.3%	\$47,514,976	1.97%
1/1/03	\$147,834,259	\$218,195,543	\$70,361,284	67.8%	\$45,373,511	1.55%
1/1/01	\$140,947,847	\$188,431,479	\$47,483,632	74.8%	\$41,123,979	1.15%
1/1/99	\$124,672,189	\$180,215,921	\$55,543,732	69.2%	\$41,606,346	1.33%
1/1/98	\$103,682,801	\$161,786,384	\$58,103,583	64.1%	\$40,572,345	1.43%
1/1/96	\$77,942,408	\$125,981,224	\$48,038,816	61.9%	\$33,425,533	1.44%
1/1/93	\$56,070,637	\$120,256,243	\$64,185,666	46.6%	\$31,545,779	2.03%
1/1/92	\$51,663,549	\$113,248,628	\$61,585,079	45.6%	\$33,061,832	1.86%

CURRENT 22D AMORTIZATION SCHEDULE

See attached schedule.

Funding Schedule

(1) Fiscal Year Ended June 30	(2) Employer Normal Cost	(3) Amortization of 2002 ERI Liability	(4) Amortization of 2003 ERI Liability	(5) Amortization of 2010 ERI Liability	(6) Amortization of FY06-07 Section 90 ACD Liability	(7) Amortization of FY08-09 Section 90 ACD Liability	(8) Amortization of Section 90 Liability	(9) Amortization of Remaining Unfunded Liability	(10) Actuarially Determined Contribution (2) + (3) + (4) + (5) + (6) + (7) + (8) + (9)	(11) Total Unfunded Actuarial Accrued Liability at Beginning of Fiscal Year	(11) Percent Increase Over Prior Year
2019	\$3,251,927	\$34,450	\$321,773	\$153,125	\$109,652	\$40,539	\$29,372	\$13,347,274	\$17,288,112	\$140,106,272	-
2020	3,370,768	35,397	330,622	153,125	112,667	41,654	30,180	13,213,699	17,288,112	135,795,701	0.00%
2021	3,493,919	36,371	339,714	153,125	115,765	42,799	31,010	13,075,409	17,288,112	131,287,304	0.00%
2022	3,621,535	37,371	349,056	153,125	118,949	43,976	31,863	13,504,474	17,860,349	126,570,791	3.31%
2023	3,753,778	38,399	358,655	0	122,220	45,186	32,739	14,100,550	18,451,527	121,031,137	3.31%
2024	3,890,813	39,454	368,518	0	125,581	46,428	33,639	14,557,839	19,062,272	114,591,494	3.31%
2025	4,032,815	40,539	378,652	0	129,035	47,705	34,564	15,029,923	19,693,233	107,168,761	3.31%
2026	4,179,960	41,654	389,065	0	132,583	49,017	35,514	15,517,286	20,345,079	98,673,112	3.31%
2027	4,332,436	42,800	399,765	0	136,229	50,365	36,491	16,020,415	21,018,501	89,007,456	3.31%
2028	4,490,433	43,977	410,758	0	139,975	51,750	37,495	16,539,826	21,714,214	78,066,895	3.31%
2029	4,654,151	45,186	422,054	0	143,825	53,173	38,526	17,076,039	22,432,954	65,738,103	3.31%
2030	4,823,794	46,429	433,660	0	147,780	54,635	39,585	17,629,602	23,175,485	51,898,695	3.31%
2031	4,999,577	47,706	445,586	0	151,844	56,138	40,674	18,201,069	23,942,594	36,416,510	3.31%
2032	5,181,720	49,017	457,840	0	156,019	57,682	41,795	18,735,888	24,679,961	19,148,878	3.08%
2033	5,370,452	0	0	0	0	0	0	0	5,370,452	0	-78.24%

Notes: Actuarially determined contributions are assumed to be paid in equal installments on July 1 and December 31.
 Actuarially determined contribution for fiscal 2019 is set equal to the budgeted amount determined with prior valuation.
 Item (2) reflects 3.25% growth in payroll, plus an additional 0.15% adjustment to total normal cost to reflect the effects of mortality improvement due to generational mortality assumption.
 Amortization payments calculated to increase at 2.75% per year for items (3), (4), (6), (7) and (8).
 Projected normal cost does not reflect the impact of pension reform for future hires.
 Projected unfunded actuarial accrued liability does not reflect deferred investment gains.