

HOLYOKE

Commonwealth of Massachusetts
Public Employee Retirement Administration Commission



Annual Statement

2020 



Annual Statement for the Year Ended December 31, 2020
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

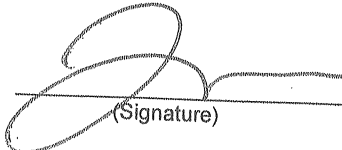
We, the undersigned, members of the Board of Retirement of HOLYOKE certify under the penalties of perjury, that we are the official board members of said retirement system, and that on the thirty-first day of December last all of the here-in described assets were the absolute property of said retirement 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

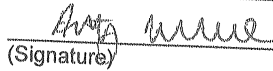
Tanya Wdowiak


(Signature)

Term Expires 6/30/2023

Elected Member

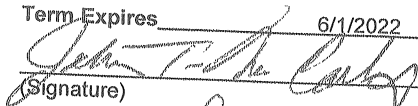
Anthony Dulude


(Signature)

Term Expires 6/1/2022

Elected Member


John T. McCarthy*


(Signature)

Term Expires 12/31/2023

Appointed Member

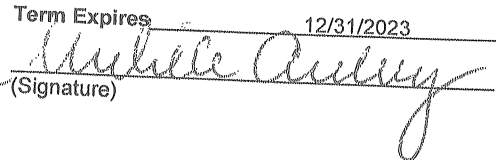
Bellamy Schmidt


(Signature)

Term Expires 12/31/2023

Appointed Member

Michele Aubrey


(Signature)

INVESTMENT MANAGERS

- Aberdeen Asset Management
- Acadian Asset Management
- Constitution Capital Partners
- Fidelity (Pyramis)
- Industry Capital
- Long Wharf Real Estate Partners
- Mesirow Financial Private Equity
- Monroe Capital
- Oberweis Asset Management
- PRIM Board
- Putnam Investments
- Royal Bank of Canada
- Seizert Capital Partners
- State Street Global Advisors
- TerraCap Management
- The Boston Company/Mellon
- 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: 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: One Federal Street, Boston, MA 02110
- 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: 2341 Walden Center, Suite 300, Bonita Springs, FL 34134
- Address: 1 Boston Place, Boston, MA 02108-4402
- Address: 150 Social hall 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, 2020

ANNUAL STATEMENT BALANCE TESTS

1. ASSET BALANCE

Assets Previous Year	326,980,502.17
Income Current Year	74,987,236.77
Disbursements Current Year	<u>(31,989,029.00)</u>
Assets Current Year	369,978,709.94

2. ASSET DIFFERENCE

Assets Current Year	369,978,709.94
Assets Previous Year	<u>(326,980,502.17)</u>
Difference	42,998,207.77

3. INCOME DIFFERENCE

Income Current Year	74,987,236.77
Disbursements Current Year	<u>(31,989,029.00)</u>
Difference	42,998,207.77

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

Total Fund Change Credits Current Year	82,617,291.85
Total Fund Change Debits Current Year	<u>(39,619,084.08)</u>
Difference	42,998,207.77

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>2020</u>	<u>2019</u>	<u>2018</u>
1. 1040 Cash	19,681,674.20	11,957,955.53	7,743,257.51
2. 1100 Short Term Investments			
3. 1180 Fixed Income Securities*			
4. 1170 Equities			
5. 1101 Pooled Short Term Funds			
6. 1172 Pooled Domestic Equities	87,677,785.40	75,909,335.30	90,262,105.55
7. 1173 Pooled International Equity Funds	89,643,975.15	78,937,522.16	69,403,402.73
8. 1174 Pooled Global Equity Funds			
9. 1181 Pooled Domestic Fixed Income Funds	57,706,405.03	41,844,159.30	38,078,649.00
10. 1182 Pooled International Fixed Income Funds			
11. 1183 Pooled Global Fixed Income Funds			
12. 1193 Pooled Alternative Investments	51,362,548.43	44,731,831.88	36,760,271.06
13. 1194 Pooled Real Estate Funds	41,504,360.13	35,878,547.54	28,610,261.53
14. 1195 Pooled Domestic Balanced Funds			
15. 1196 Pooled International Balanced Funds			
16. 1197 Hedge Funds	13,738,690.23	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)	8,804,133.41	8,880,505.15	9,320,557.73
22. 2020 Accounts Payable (A)	<u>(140,862.04)</u>	<u>(75,788.25)</u>	<u>(12,937.50)</u>
TOTAL	369,978,709.94	326,980,502.17	280,165,567.61
FUNDS			
1. 3293 3293-Annuity Savings Fund	60,543,815.55	57,928,177.58	56,785,994.71
2. 3294 3294-Annuity Reserve Fund	20,398,383.29	21,609,936.51	21,830,270.84
3. 3295 3295-Military Fund	96,858.85	84,348.50	83,288.04
4. 3296 3296-Pension Fund	5,979,152.13	7,366,008.22	7,786,944.64
5. 3298 3298-Expense Fund			
6. 3297 3297-Pension Reserve Fund	<u>282,960,500.12</u>	<u>239,992,031.36</u>	<u>193,679,069.38</u>
TOTAL	369,978,709.94	326,980,502.17	280,165,567.61
TOTAL ASSETS AT MARKET VALUE	369,978,709.94	326,980,502.17	280,165,567.61

(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, 2020

	Balance December 31 Prior Year	Receipts	Interfund	Disbursements	Balance December 31 Current Year
Annuity Savings Fund	57,928,177.58	6,441,599.89	(2,870,311.93)	955,649.99	60,543,815.55
Annuity Reserve Fund	21,609,936.51	635,673.09	2,848,242.08	4,695,468.39	20,398,383.29
Pension Fund	7,366,008.22	17,796,385.04	4,781,813.00	23,965,054.13	5,979,152.13
Military Service Fund	84,348.50	12,510.35			96,858.85
Expense Fund	0.00	2,372,856.49		2,372,856.49	0.00
Pension Reserve Fund	239,992,031.36	47,728,211.91	(4,759,743.15)		282,960,500.12
TOTAL ALL FUNDS	326,980,502.17	74,987,236.77	0.00	31,989,029.00	369,978,709.94

List below all transfers

Transfer from 3293 to	3294	2,848,242.08	on account of Current Year Retirees
Transfer from 3293 to	3297	22,068.86	on account of inactive employees over 10 years
Transfer from 3297 to	3296	4,781,813.00	on account of Appropriation FY 2021
Transfer from 3293 to	3297	0.99	on account of deductions taken on retiree in error

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2020

RECEIPTS

	<u>2020</u>	<u>2019</u>	<u>2018</u>
1. Annuity Savings Fund:			
(a) 4891 Members Deductions	6,140,372.61	5,739,246.52	5,531,044.01
(b) 4892 Transfers from Other Systems	102,662.43	178,599.38	219,546.84
(c) 4893 Member Make Up Payments	27,528.72	8,827.79	2,168.39
(d) 4900 Member Payments from Rollovers	84,932.78	45,739.45	53,122.03
(e) Investment Income credited to Member Accounts	<u>86,103.35</u>	<u>94,347.27</u>	<u>75,900.30</u>
Subtotal	6,441,599.89	6,066,760.41	5,881,781.57
2. Annuity Reserve Fund:			
(a) Investment Income Credited to Annuity Reserve Fund	<u>635,673.09</u>	<u>641,984.37</u>	<u>635,614.18</u>
Subtotal	635,673.09	641,984.37	635,614.18
3. Pension Fund:			
(a) 4898 3(8)(c) Reimbursements from other systems	343,658.31	282,772.81	274,170.75
(b) 4899 Received from Commonwealth for COLA and Survivor Benefits	164,614.77	176,664.38	197,685.95
(c) 4894 Pension Fund Appropriation	17,288,111.96	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	17,796,385.04	17,751,784.99	17,769,468.70
4. Military Service Fund:			
(a) 4890 Contributions Received from municipality	12,426.00	3,415.94	
(b) Investment Income Credited	<u>84.35</u>	<u>83.29</u>	<u>85.13</u>
Subtotal	12,510.35	3,499.23	85.13
5. Expense Fund:			
(a) 4896 Expense Fund Appropriation			
(b) Investment Income Credited to Expense Fund	<u>2,372,856.49</u>	<u>2,373,480.19</u>	<u>2,420,075.31</u>
Subtotal	2,372,856.49	2,373,480.19	2,420,075.31
6. Pension Reserve Fund:			
(a) 4897 (a) 4897-Federal Grant Reimbursement	16,314.75	16,134.75	15,880.50
(b) 4895 (b) 4895-Pension Reserve Appropriation			
(c) 4822 (c) 4822-Interest Not Refunded	4,530.07	5,402.22	1,973.86
(d) 4825 (d) 4825-Miscellaneous Income		2,111.31	5,239.34
(e) Excess Investment Income	<u>47,707,367.09</u>	<u>51,412,899.31</u>	<u>(15,919,739.22)</u>
Subtotal	47,728,211.91	51,436,547.59	(15,896,645.52)
TOTAL RECEIPTS	74,987,236.77	78,274,056.78	10,810,379.37

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2020

DISBURSEMENTS

	2020	2019	2018
1. Annuity Savings Fund:			
(a) 5757 Refunds to Members	685,713.25	934,901.91	674,914.26
(b) 5756 Transfers to Other Systems	269,936.74	290,357.53	253,105.73
Subtotal	955,649.99	1,225,259.44	928,019.99
2. Annuity Reserve Fund:			
(a) 5750 Annuities Paid	4,695,468.39	4,476,518.43	4,237,563.61
(b) 5759 Option B Refunds		86,694.75	113,499.98
Subtotal	4,695,468.39	4,563,213.18	4,351,063.59
3. Pension Fund:			
(a) 5751 Pensions Paid			
Regular Pension Payments	19,248,246.77	18,443,117.89	17,850,627.30
Survivor Payments	417,982.99	408,055.66	414,863.34
Ordinary Disability Payments	252,729.30	268,812.97	247,918.42
Accidental Disability Payments	2,467,061.98	2,492,364.36	2,443,501.27
Accidental Death Payments	703,190.31	731,915.47	770,092.97
Section 101 Benefits	165,914.39	170,520.00	131,245.23
(b) 5755 3(8)(c) Reimbursements to Other Systems	709,928.39	782,383.06	674,548.67
(c) 5752 COLAs Paid			
(d) 5752 Chapter 389 Beneficiary Increase Paid			
Subtotal	23,965,054.13	23,297,169.41	22,532,797.20
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	313,205.27	296,254.67	283,748.21
(c) 5120 Employee Benefits	47,554.18	45,036.91	30,452.16
(d) 5304 Management Fees	1,821,011.47	1,880,038.25	1,918,508.90
(e) 5305 Custodial Fees			
(f) 5307 Investment Consultant Fees	49,500.00	22,125.00	20,000.00
(g) 5308 Legal Expenses	11,850.37	8,615.62	12,412.50
(h) 5309 Medical Expense			
(i) 5310 Fiduciary Insurance	18,549.00	18,177.00	17,370.00
(j) 5311 Service Contracts	13,698.84	6,878.59	6,488.21
(k) 5312 Rent Expense			
(l) 5315 Professional Services	34,435.00	33,000.00	52,887.00
(m) 5316 Actuarial Services	31,500.00	14,000.00	25,500.00
(n) 5317 Accounting Services		5,800.00	9,800.00
(o) 5320 Education & Training		8,485.00	6,350.00
(p) 5589 Administrative Expenses	6,931.33	7,143.77	9,117.08
(q) 5599 Furniture and Equipment	12,621.03		636.69
5719 Travel		15,925.38	14,804.56
Subtotal	2,372,856.49	2,373,480.19	2,420,075.31
TOTAL DISBURSEMENTS	31,989,029.00	31,459,122.22	30,231,956.09

Annual Statement of the HOLYOKE Retirement System for the year ended December 31, 2020

INVESTMENT INCOME

	<u>2020</u>	<u>2019</u>	<u>2018</u>
Investment Income received from:			
(a) Cash (from schedule 1)	32,774.06	20,087.28	22,733.39
(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)	5,902,320.52	4,745,509.37	3,352,470.24
(f) Litigation		715.72	138.36
4821 TOTAL INVESTMENT INCOME	<u>5,935,094.58</u>	<u>4,766,312.37</u>	<u>3,375,341.99</u>
Plus:			
4884 Realized Gains (Profits)	15,556,611.76	15,068,298.34	19,190,569.50
4886 Unrealized Gains (Inc. in Market Value)	100,050,066.64	73,576,023.43	37,461,446.06
1550 Interest Due and Accrued on Fixed Income Securities-Current Year	<u>115,606,678.40</u>	<u>88,644,321.77</u>	<u>56,652,015.56</u>
Less:			
4823 Paid Accrued Interest on Fixed Income Securities			
4885 Realized Losses	2,275,148.63	3,730,962.29	2,117,396.91
4887 Unrealized Losses (Decrease in Market Value)	67,469,641.84	32,989,585.26	69,180,453.97
1550 Interest Due and Accrued on Fixed Inc. Securities-Prior Year			
Additional Adjustments:			
4701 Carried Interest Expense	619,379.79	1,316,840.82	227,529.20
4702 Equalization Expense			
4703 Miscellaneous Investment Expenses	<u>375,518.35</u>	<u>850,451.34</u>	<u>1,290,041.77</u>
	<u>994,898.14</u>	<u>2,167,292.16</u>	<u>1,517,570.97</u>
NET INVESTMENT INCOME	<u>50,802,084.37</u>	<u>54,522,794.43</u>	<u>(12,788,064.30)</u>
Income Required:			
Annuity Savings Fund (from Supplementary Schedule)	86,103.35	94,347.27	75,900.30
Annuity Reserve Fund	635,673.09	641,984.37	635,614.18
Expense Fund	2,372,856.49	2,373,480.19	2,420,075.31
Military Service Fund	84.35	83.29	85.13
TOTAL INCOME REQUIRED	<u>3,094,717.28</u>	<u>3,109,895.12</u>	<u>3,131,674.92</u>
Net Investment Income	50,802,084.37	54,522,794.43	(12,788,064.30)
Less: Income Required	<u>3,094,717.28</u>	<u>3,109,895.12</u>	<u>3,131,674.92</u>
EXCESS INCOME TO PENSION RESERVE FUND	<u>47,707,367.09</u>	<u>51,412,899.31</u>	<u>(15,919,739.22)</u>

Annual Statement for the HOLYOKE Retirement System for the year ended December 31, 2020

MEMBERSHIP FOR CURRENT YEAR

ACTIVE MEMBERS	Group 1	Group 2 & 4	TOTAL
Active Membership, Dec. 31 previous year	812	315	1127
Inactive Membership, Dec. 31 previous year	278	8	286
Enrolled during current year	114	6	120
Transfers between groups	-1	1	0
Reinstatements of disabled members			0
SUBTOTAL	1203	330	1533
Deduct:			
Death	2		2
Withdrawn	64	2	66
Retirements	22	8	30
SUBTOTAL	88	10	98
Active Membership, Dec. 31 current year	816	310	1126
Inactive Membership, Dec. 31 current year	299	10	309

RETIRED MEMBERS, BENEFICIARIES & SURVIVORS

Retired, Beneficiary, and Survivor Membership, Dec. 31 previous year	594	366	960
Retirements during the year:			
Superannuation	21	8	29
Ordinary Disability			0
Accidental Disability			0
Termination Retirement Allowance			0
Beneficiary of Deceased Retiree	1	2	3
Survivor benefits from active membership	1		1
SUBTOTAL	23	10	33
Deduct:			
Deaths of retired members	19	5	24
Termination of Survivor Benefits	7	4	11
Suspension of disabled pensions			0
SUBTOTAL	26	9	35
Retired Membership, Dec. 31 current year			
Superannuation	488	243	731
Ordinary Disability	9	5	14
Accidental Disability	23	47	70
Termination/Waivers	7		7
Beneficiaries from accidental deaths		16	16
Beneficiaries from Section 100		2	2
Beneficiaries from Section 101	1	12	13
Beneficiaries under Option (c)	39	34	73
Option (d) Survivor Allowance	24	7	31
Section 12B Survivor Allowance	1		1
Total Retired, Beneficiary, and Survivor Membership, Dec. 31 current year	592	366	958
TOTAL MEMBERSHIP			
Active, Inactive, Retired, Beneficiary and Survivor, Dec. 31 current year	1707	686	2393

Annual Statement of the HOLYOKE Retirement System for year ended December 31, 2020

Schedule A: Detail of Accounts Receivable and Accounts Payable

Accounts Receivable	Amount	Original Date
4891 Members Deductions	33,717.87	2020
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)	8,770,208.04	2020
4894 Pension Fund Appropriation (Previous fiscal year)		
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	53.94	2020
5751 Reimb. Of Pension for deceased retiree	153.56	2020
TOTAL RECEIVABLES	8,804,133.41	

Accounts Payable	Amount	Original Date
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	91,386.67	2020
5307 Investment Consultant Fees		
5308 Legal Expenses	6,125.00	2020
5309 Medical Expenses	11,850.37	2020
5310 Fiduciary Insurance		
5311 Service Contracts		
5312 Rent Expense		
5315 Professional Services		
5316 Actuarial Services		
5320 Education and Training	31,500.00	2020
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)	140,862.04	

Schedule No. 1

Annual Statement of the Holyoke Retirement System for the Year Ended December 31, 2020

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	11,957,880.53	397,314,173.34	32,774.06	389,623,228.73	19,681,599.20		
Peoples Bank-Payroll	0.00	25,574,908.77		25,574,908.77			
Petty Cash	75.00		32,774.06		19,681,599.20		
					<u>75.00</u>		
					<u>19,681,674.20</u>		

Schedule No. 5

Annual Statement of the HOLYOKE Retirement System for the Year Ended December 31, 2020

Schedule of Pooled Funds

PERAC Ledger Number	Description	(A)	(B)	(C)	(D)	(E)	(F)	(G)	(H)	(I)	(J)	(I)
		Market Value at End of Previous Year	Total Purch. this Year At Cost	Reinvested Income	Realized Gain	Realized Loss	Unrealized Gain	Unrealized Loss	Total Sales Redemptions Amt. Rec.	Cash Div. Distrib to System	Investment Fees/Exp From Sched 7	Market Value at End of Year
1172	Aristotle Lg Cap Value	5,934,546.52	1,000,000.00				2,468,486.85	1,558,032.40			28,661.14	7,816,339.83
1172	Aristotle Small Cap	8,261,357.90	650,000.00				3,939,573.06	3,118,617.84			54,795.80	9,677,517.32
1172	Boston Company Mid Cap	8,824,065.00	4,600,000.00				5,940,213.00	2,677,805.00			81,747.69	16,686,473.00
1172	Fidelity Asset Management	9,614,962.02					5,212,159.43	3,365,544.69			67,392.20	11,461,576.76
1172	Loomis Sayles	13,490,563.51					7,181,931.35	2,772,863.86	1,600,000.00		69,863.83	16,259,631.00
1172	Seizert Capital Lg Cap Value	7,114,871.00	1,000,000.00				2,988,095.22	1,943,341.06			44,684.16	9,114,941.00
1172	Wells Fargo/Cooke & Bieler	6,917,671.75	1,000,000.00	418,812.22			2,301,336.62	2,293,201.96			45,598.14	8,299,020.49
1172	Wisdom Tree	6,334,881.60					608,484.20	2,335,967.64	4,604,407.20		3,000.96	0.00
1172	SSgA Large Cap Index	3,810,252.00	30,500,000.00				8,335,362.00	1,998,968.00	38,000,000.00		8,990.04	2,646,646.00
1172	SSgA Mid Cap Index	3,156,115.00					1,413,503.00	1,033,083.00	800,000.00		2,205.77	2,736,635.00
1172	SSgA Small Cap Index	2,450,049.00					1,315,976.00	826,920.00			1,802.81	2,939,105.00
1172	SUBTOTAL Pooled Equity	75,909,335.30	38,750,000.00	418,812.22	0.00	0.00	41,705,130.73	23,924,345.45	45,004,407.20	0.00	408,742.54	87,677,785.40
1173	Aberdeen	16,720,584.44					8,451,241.22	4,183,964.13			143,230.43	21,523,922.69
1173	Acadian	8,377,836.45	300,000.00	225,671.28	1,119,840.36	809,450.48	3,261,319.41	2,365,527.28			57,864.00	9,573,628.58
1173	Oberweis Sm Cap International	4,996,303.61	500,000.00	43,930.87			4,453,189.24	1,216,640.00			64,384.39	8,712,399.33
1173	RBC/Polaris International	26,656,776.72		502,943.10	1,005,797.07	622,356.50	9,619,609.62	10,665,574.02	5,000,000.00		192,281.96	21,497,195.99
1173	SSgA Emerging Markets	11,215,315.00	3,000,000.00				5,931,212.00	2,905,129.00	4,150,000.00		30,860.31	13,091,398.00
1173	SSgA International	5,611,663.00	4,500,000.00				3,690,932.00	1,766,713.00	4,000,000.00		7,985.54	8,043,882.00
1173	Wasatch Sm Cap International	5,359,042.94	500,000.00	704,028.16	33,061.23		2,158,351.07	1,465,648.73			87,286.11	7,201,548.56
1173	SUBTOTAL Pooled International	78,937,522.16	8,800,000.00	1,476,573.41	2,158,698.66	1,431,806.98	37,565,654.56	24,561,196.16	13,150,000.00	0.00	583,912.79	89,643,975.15
1181	Putnam Investments Fixed Income	15,742,700.00	15,000,000.00				1,789,491.00	701,149.00	13,400,000.00		45,528.44	18,431,042.00
1181	Western Asset	15,283,242.30	15,000,000.00				2,600,428.10	1,137,376.37	5,000,000.00		53,512.03	26,746,294.03
1181	SSgA TIPS Index	10,818,217.00	7,000,000.00				1,048,646.00	337,794.00	6,000,000.00		5,136.22	12,529,069.00
1181	SUBTOTAL Pooled Fixed Inc.	41,844,159.30	37,000,000.00	0.00	0.00	0.00	5,438,565.10	2,176,319.37	24,400,000.00	0.00	104,176.69	57,706,405.03
1193	ConCap Ironsides II Partnership	3,064,188.37					45,554.90	41,199.69	2,963,313.17		14,561.07	73,735.72
1193	ConCap Ironsides III Co-Investment	11,689,093.63		2.20		16,935.82	4,544,784.33	6,562,661.21	7,401,068.52		844,606.94	8,334,391.40
1193	ConCap Ironsides III Partnership	12,925,766.02	1,107,395.90	403,470.31	6,505,962.36	582.56	5,514,328.70	1,024,668.64			337,769.76	21,848,797.53
1193	ConCap Opportunity Fund Priv Debt	9,730,930.86	2,430,321.90	522,431.32	3,141,313.99		1,122,142.01	472,261.87	560,118.75		244,256.67	13,262,465.78
1193	Monroe Capital Private Debt	3,633,761.00	720,201.00	1,201,623.06	54,085.24		216,308.00	257,499.00	355,335.00		205,730.00	4,391,610.00
1193	Mesirow Private Equity**	3,688,092.00		607,368.00	40,092.00	7,556.00	609,561.00	488,942.00	925,000.00		30,340.00	3,451,548.00
	SUBTOTAL Alternatives	44,731,831.88	4,257,918.80	2,733,426.89	10,341,098.59	25,074.38	12,052,678.94	8,847,232.41	12,204,835.44	0.00	1,677,264.44	51,362,548.43
1194	Long Wharf Fund IV	2,247,741.00					13,507.00	1,250,412.56	1,261,115.44		(76,050.00)	633,587.00
1194	Long Wharf Fund V	5,888,444.00		(4,138.00)	811,955.00	951.00		1,667,251.20	799,725.80		(238,141.00)	5,098,032.00
1194	Industry Capital	8,923.00		66,616.00	1,372,759.00				8,632.00		55.00	0.00
1194	PRIT Real Estate	20,336,439.54		(36.00)	384,904.12	379,414.66	1,156,153.16	1,805,722.01			101,324.68	20,462,207.13

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

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

PERAC Ledger Number	(A) Description	(B) Market Value at End of Previous Year	(C) Total Purch. this Year At Cost	(D) Reinvested Investment Income	(E) 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	TerraCap II Real Estate	763,121.00	8,202,755.78	20,540.00	67.00	67.00	96,460.00	43,073.00			(4,506.00)	765,094.00
1194	TerraCap V Real Estate	6,613,879.00		23,321.00			214,862.97	46,913.74	482,544.23		107,286.78	8,191,929.00
1194	TerraCap III Real Estate	35,878,547.54	8,202,755.78	977,474.66	2,569,685.12	380,432.66	1,480,983.13	4,813,372.51	2,552,217.47	0.00	(30,906.00)	6,353,511.00
1194	SUBTOTAL Pooled Real Estate	28,916,433.56	8,202,755.78	977,474.66	2,569,685.12	380,432.66	1,480,983.13	4,813,372.51	2,552,217.47	0.00	(140,936.54)	41,504,360.13
1197	PRIT Hedge Funds	28,916,433.56	0.00	296,033.34	487,129.39	437,834.61	1,806,854.18	3,147,175.94	14,000,000.00	0.00	182,749.69	13,738,690.23
	SUBTOTAL Hedge Funds	28,916,433.56	0.00	296,033.34	487,129.39	437,834.61	1,806,854.18	3,147,175.94	14,000,000.00	0.00	182,749.69	13,738,690.23
	TOTAL	306,217,829.74	97,010,674.58	5,902,320.52	15,556,611.76	2,275,143.63	100,050,066.64	67,489,641.84	111,311,460.11	0.00	2,815,909.61	341,633,764.37

**As of 9/30/2020

Schedule No. 6
Annual Statement of the HOLYOKE Retirement System for the Year Ended December 31, 2020

Summary of Investments Owned

<u>Category of Investment</u>	<u>Market Value</u>	<u>Interest Due and Accrued</u>	<u>Paid Accrued Interest on Purch. Curr Yr</u>	<u>Commissions Paid Curr Yr</u>	<u>Unrealized</u>		<u>Realized</u>		<u>Investment Income Received During Year</u>
					<u>Gains</u>	<u>Losses</u>	<u>Gains</u>	<u>Losses</u>	
1 1040 Cash	19,681,674.20								
2 1100 Short Term Securities									
3 1180 Fixed Income Securities									
4 1170 Equities									
5a 1101 Pooled Short Term Funds									
5b 1172 Pooled Domestic Equity	87,677,785.40				41,705,130.73	23,924,345.45			418,812.22
5c 1173 Pooled International Equity	89,643,975.15				37,565,854.56	24,561,196.16	2,158,698.66	1,431,806.98	1,476,573.41
5d 1174 Pooled Global Equity									
5e 1181 Pooled Domestic Fixed Income	57,706,405.03				5,438,565.10	2,176,319.37			
5f 1182 Pooled International Fixed Income									
5g 1183 Pooled Global Fixed Income									
5h 1193 Pooled Alternative Investments/Priv. Eq.	51,362,548.43				12,052,678.94	8,847,232.41	10,341,098.59	25,074.38	2,733,426.89
5i 1194 Pooled Real Estate Funds	41,504,360.13				1,480,983.13	4,813,372.51	2,569,685.12	380,432.66	977,474.66
5j 1195 Pooled Domestic Balanced Funds									
5k 1196 Pooled International Balanced Funds									
5l 1197 Hedge Funds	13,738,690.23				1,806,854.18	3,147,175.94	487,129.39	437,834.61	296,033.34
5m 1198 PRIT Cash									
5n 1199 PRIT Fund									
Class Action Proceeds									
TOTAL	361,315,438.57	0.00	0.00	0.00	100,050,066.64	67,469,641.84	15,556,611.76	2,275,148.63	5,902,320.52

Schedule No. 7

Annual Statement for the HOLYOKE Retirement System for the year ended December 31, 2020
Summary of Investment Related Fees

Manager/Vendor	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Total Paid or Accrued in 2020	Market Value	Payment Method**	#4701 Carried Interest Exp	#4702 Equalization Expense	#4703 Misc. Invest. Exp.
5304 Management Fees										
1. Aberdeen	39,896.05	30,787.15	34,625.45	37,921.83	143,230.48	21,523,922.69	C			
2. Acadian	15,180.00	14,377.00	13,220.00	15,107.00	57,884.00	9,573,628.58	C			
3. Aristotle Large Cap Value	6,237.95	6,561.49	7,194.54	8,667.16	28,661.14	7,816,339.83	N			
4. Aristotle Small Cap	12,662.69	12,459.33	13,448.53	16,225.25	54,795.80	9,677,517.32	N			
5. Boston Company	16,545.12	12,175.35	27,284.39	25,742.83	81,747.69	16,686,473.00	C			
6. Constitution Capital Partnership II					0.00	73,735.72	N	(2,619.36)		17,180.43
7. Constitution Capital Co-Investment III	19,859.13	20,708.65	20,708.65	20,708.65	81,985.08	8,334,391.40	N	714,064.65		48,557.21
8. Constitution Capital Partnerships III					0.00	21,848,797.53	N	287,103.62		50,666.14
9. Constitution Capital Opportunities Fund					0.00	13,262,465.78	N	226,261.88		17,994.79
10. Fidelity Asset Management	18,467.79	16,177.28	15,531.36	17,215.77	67,392.20	11,461,576.76	C			
11. Industry Capital					0.00		N	55.00		
12. Long Wharf IV	6,712.00	6,149.00	6,220.00	4,802.00	23,883.00	633,567.00	N	(107,104.00)		7,171.00
13. Long Wharf V	18,118.00	18,010.00	20,326.00	18,123.00	74,577.00	5,098,032.00	N			
14. Loomis Sayles	16,093.78	16,476.29	17,052.57	20,241.21	69,863.83	16,299,631.00	C			
15. Mesrirow Private Equity	8,200.00	7,380.00	7,380.00	7,380.00	30,340.00	3,451,548.00	N			
16. Monroe Capital	29,839.00	31,475.00	30,875.00	30,181.00	122,370.00	4,391,610.00	N	83,360.00		
17. Oberwies	12,037.93	13,768.32	17,491.08	21,087.06	64,384.39	8,712,399.33	N			
18. PRIT Real Estate	24,516.18	22,462.30	26,007.15	28,339.05	101,324.68	20,462,207.13	N			
19. PRIT Hedge Funds	76,967.74	34,228.47	35,031.30	36,522.18	182,749.69	13,738,690.23	N			
20. Putnam Core Fixed	9,839.19	9,566.97	10,042.07	16,080.21	45,528.44	18,431,042.00	N			
21. RBC/Polaris International	56,342.94	45,060.89	48,369.08	42,509.05	192,281.96	21,497,195.99	C			
22. Seizert Capital Partners	10,128.40	10,400.70	11,328.84	12,826.22	44,684.16	9,114,941.00	N			
23. SSGA - Russell 1000	3,240.83	3,721.66	1,530.38	487.17	8,990.04	2,646,646.00	C			
24. SSGA - Russell 2000	416.25	408.37	449.60	528.59	1,802.81	2,939,105.00	C			
25. SSGA - Mid Cap	538.38	533.97	583.19	550.23	2,205.77	2,736,535.00	C			
26. SSGA - Emerging Markets	6,103.91	8,145.40	8,790.25	7,820.75	30,860.31	13,091,398.00	C			
27. SSGA - EAFE International	1,236.06	2,495.49	2,388.69	1,865.30	7,985.54	8,043,882.00	C			
28. SSGA - TIPS	1,360.38	769.33	1,148.27	1,858.24	5,136.22	12,529,069.00	C			
29. Terra Cap Real Estate II					0.00	765,094.00	N	(4,506.00)		
30. Terra Cap Real Estate III	17,091.00	17,411.00	17,474.00	17,474.00	69,450.00	6,353,511.00	N			164,162.00
31. Terra Cap Real Estate V					37,500.00	8,191,929.00	N	(264,518.00)		69,786.78
32. Wasatch Investments	18,511.44	19,850.18	22,716.80	26,207.69	87,286.11	7,201,548.56	N			
33. Wells Fargo/Cooke & Bieler	10,902.94	10,157.16	11,249.30	13,288.74	45,598.14	8,299,020.49	N			
34. Western Asset	11,436.57	10,986.69	11,411.64	19,677.13	53,512.03	26,746,294.03	C			
35. Wisdom Tree	2,320.10	680.86			3,000.96		N			
5304 Management Fees Total	470,801.73	403,364.30	439,878.13	506,947.31	1,821,011.47	341,633,764.37		619,379.79	0.00	375,518.35
*Includes 2015 Quarter 4										
5307 Consultant Fees										
36. Segal Advisors	6,125.00	6,125.00	6,125.00	31,125.00	49,500.00		C			
5307 Investment Consultant Fees Total	6,125.00	6,125.00	6,125.00	31,125.00	49,500.00					

** 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, 2020

The normal cost for employees on that date was	\$5,943,297	9.75% of payroll
The normal cost for the employer was	\$3,903,964	6.30% of payroll
The actuarial liability for active members was	\$172,664,119**	
The actuarial liability for retired members was	\$285,011,532	
Total actuarial accrued liability	\$458,852,651	
System assets as of that date	\$316,590,727	
Unfunded actuarial accrued liability	\$142,261,924	
The ratio of system's assets to total actuarial liability was	69.0%	

**Includes Inactive members.

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

Investment Return:	7.25 % 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 Accrued Liability (AAL)* (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of covered Payroll ((b-a)/c)
1/1/20	\$316,590,727	\$458,852,651	\$142,261,924	69.0%	\$58,386,278	2.44%
1/1/18	\$283,391,801	\$418,522,289	\$135,130,488	67.7%	\$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.

Section 2: Actuarial Valuation Results

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 FY06-07 Sec 90 ACD Liability	(7) Amortization FY08-09 Sec 90 ACD Liability	(8) Amortization Section 10 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	(12) Percent Increase in Actuarially Determined Contribution
2021	\$3,903,984	\$30,967	\$289,239	\$155,381	\$98,565	\$36,440	\$26,402	\$12,747,154	\$17,288,112	\$147,328,690	--
2022	4,045,703	31,818	297,193	155,381	101,275	37,442	27,128	13,122,918	17,818,858	144,149,186	3.07%
2023	4,192,555	32,693	305,365	--	104,060	38,472	27,874	13,664,877	18,365,896	140,336,304	3.07%
2024	4,344,703	33,592	313,763	--	106,922	39,530	28,641	14,062,578	18,929,729	135,832,550	3.07%
2025	4,502,336	34,516	322,391	--	109,862	40,617	29,429	14,471,721	19,510,872	130,575,927	3.07%
2026	4,665,652	35,465	331,257	--	112,884	41,734	30,238	14,892,626	20,109,856	124,499,605	3.07%
2027	4,834,855	36,441	340,367	--	115,988	42,882	31,070	15,325,626	20,727,229	117,531,565	3.07%
2028	5,010,154	37,443	349,727	--	119,178	44,061	31,924	15,771,067	21,363,554	109,594,213	3.07%
2029	5,191,770	38,472	359,344	--	122,455	45,273	32,802	16,229,300	22,019,416	100,603,956	3.07%
2030	5,379,927	39,530	369,226	--	125,822	46,518	33,704	16,700,685	22,695,412	90,470,767	3.07%
2031	5,574,861	40,617	379,380	--	129,283	47,797	34,631	17,185,592	23,392,161	79,097,708	3.07%
2032	5,776,815	41,734	389,813	--	132,838	49,111	35,584	17,684,405	24,110,300	66,380,415	3.07%
2033	5,986,039	42,882	400,533	--	136,491	50,462	36,562	18,197,517	24,850,486	52,206,548	3.07%
2034	6,202,794	44,061	411,548	--	140,244	51,849	37,568	18,725,332	25,613,396	36,455,204	3.07%
2035	6,427,350	45,273	422,865	--	144,101	53,275	38,594	18,968,739	26,100,197	18,996,281	1.90%
2036	6,659,986	--	--	--	--	--	--	--	6,659,986	--	-74.48%

Notes:

Actuarially determined contribution for fiscal year 2021 is set equal to the amount determined with the prior valuation.
 Actuarially determined contributions are assumed to be paid monthly.
 Item (2) reflects 3.25% growth in payroll and a 0.15% adjustment to total normal cost to reflect the effect of mortality improvements due to the generational mortality assumption.
 Amortization payments calculated to increase at 2.75% per year for items (3), (4), (5), (7), and (8).
 Projected normal cost does not reflect the future impact of pension reform for new hires.
 Projected unfunded actuarial accrued liability does not reflect the recognition of deferred investment gains.