CITY OF HOLLY HILL, FLORIDA

FIREFIGHTERS PENSION FUND BOARD OF TRUSTEES

AGENDA ● FEBRUARY 6, 2020

Large Conference Room	Firefighters Pension Board Meeting	10:00 AM

CITY HALL
1065 RIDGEWOOD AVENUE
HOLLY HILL, FL 32117

City Clerk's office: (386) 248-9441 - Fax: (386) 248-9448

Large Conference Room
City Hall
1065 Ridgewood Avenue
Holly Hill, FL 32117

1. **CALL TO ORDER**

2. **APPROVAL OF MINUTES**

    1. Minutes - November 14, 2019
       (Requested by Valerie Manning, City Clerk)

3. **PUBLIC PARTICIPATION**

4. **OLD BUSINESS**

5. **NEW BUSINESS**

    A. Frank Wan - Financial Advisor

      1. Quarterly Report Period Ending December 31, 2019
         (Requested by Valerie Manning, City Clerk)

    B. Paul Daragjati - Attorney
    C. Patrick Donlan - Actuary
    D. Tom Sejnowski - Vote on assumed rate of return impact study

6. **ADJOURNMENT**

Website Address – www.hollyhillfl.org (City Clerk)

NOTICE – If any person decides to appeal any decision of the Firefighters Pension Board, he/she will need a record of the proceedings and, for that purpose, he/she may need to ensure that a verbatim record of the proceedings is made, which record includes the testimony and evidence upon which the appeal is to be based. The City does not prepare or provide such a record.

For special accommodations, please notify the City Clerk's Office at least 72 hours in advance. (386) 248-9441

Help for the hearing impaired is available through the Assistive Listening System. Receivers can be obtained from the City Clerk's Office.

In accordance with the Americans with Disabilities Act (ADA), persons needing a special accommodation to participate in the Firefighters Pension Board proceedings should contact the City Clerk's Office no later than three (3) days prior to the proceedings.

STAFF REPORT
CITY OF HOLLY HILL, FLORIDA

Firefighters Pension Board
Agenda Item

MEETING DATE:	**February 6, 2020**
FROM:	**Valerie Manning**
SUBJECT:	**Minutes - November 14, 2019**
NUMBER:	**(ID # 2830)**
APPLICANT:	
PLANNER:	

DISCUSSION:

Minutes from the November 14, 2019 Holly Hill Firefighter's Pension Meeting.

MOTION:

Approve minutes as submitted by staff.

- November 14, 2019 Pension Board meeting (PDF)

Holly Hill Firefighter's Pension Meeting

November 14, 2019

Meeting called to order at 10:03

In attendance: Tom Sejnowski (Chairman), Dave Bridger (Secretary), Sharon Miller (Trustee), Kristie Law (Trustee), Laurie Taylor (Trustee), Frank Wan (Financial adviser), Kristen Hughes (Burgess Chambers Associate), Cathleen Colwell (Finance), Stella Gurnee (Finance), Joe Forte (City Manager) and Paul Daragjati (Attorney).

Laurie stated she is still not receiving emails so a copy of the minutes from last meeting was supplied for her to look over.

Motion to approve August 2019 meeting minutes made by Tom Sejnowski, Second by Sharon Miller.

Unanimous vote to approve.

Public Participation: None

Old Business: None

Frank Wan (Financial adviser). Frank starts us off on page 14 of summary that shows we have taken less risk and have made more in the fund.

He goes on to say that at some point, we need to be more cautious.

Our plan for the five years ranks in the top 17% vs peer universe.

The plan under performed because we got rid of REITS.

Joe asked how this compares with the assumed rate of return as the city had to invest more money which was not budgeted.

FRS is at 7.4% and Paul stated we are also at 7.4%

An experience study was completed in 2016

Joe would like to know how we can prepare for this and Frank stated we can't bet on it. Our plan is better because we are not betting on Hedge funds.

Our actuary should be included in this conversation and Joe's goal is to "smooth"/ Level the city's budgeting. Frank recommended looking into an over credit account.

Paul Daragjati spoke of an Arizona case and compared a few things to Florida pension laws and went on to say the courts have already presented a lot of guidance as to what can and cannot be done with pension plans. Suggestion was made to look over the ordinance again and he also stated our compensation language was pretty clear.

Tom Sejnowski – Received a letter from former Attorney's office stating they have created an archive of previous files and how would we like to receive it if at all.

Joe made the recommendation to receive the file electronically so that it can be forever stored.

Motion made by Tom to receive electronically, Second by Laurie

Unanimous vote to approve.

2020 meeting dates are February 6, May 14, August 13, and November 19. All dates are Thursdays and the time remains at 10am.

Motion to approve dates made by Sharon, Second by Tom.

Unanimous vote to approve.

Tom makes a motion to adjourn, Second by Sharon

Unanimous vote to approve.

Meeting adjourned at 10:44.

Bridger

HOLLY HILL
FLORIDA

Firefighters Pension Board

,

SCHEDULED

Meeting: 02/06/20 10:00 AM
Department: City Clerk
Category: New Business
Prepared By: Valerie Manning
Initiator: Valerie Manning
Sponsors:

FIREFIGHTERS RETIREMENT PENSION TRUST FUND BOARD (ID # 2831) DOC ID: 2831

Quarterly Report Period Ending December 31, 2019

Holly Hill Firefighter's Retirement System - Investment Performance Period Ending December 31, 2019.

Burgess Chambers & Associates, Inc.

Institutional Investment Advisors

www.burgesschambers.com

December 31, 2019

Holly Hill Firefighters' Retirement System

Investment Performance
Period Ending
December 31, 2019

The following investment information was prepared by BCA, relying upon data from statements provided by the plan custodian and/or investment manager(s).
BCA reviews transactions provided by the custodian and uses reasonable care to ensure the accuracy of the data contained herein.
However, BCA cannot guarantee the accuracy of the custodian's statement.

Holly Hill Firefighters' Retirement System
BCA Market Perspective ©
Why Economic and Capital Market Forecasting Is Flawed and Not A Science
January 2020

Burgess B. Chambers, President

In March 2007, during a presentation to Congress, then Federal Reserve chairman Ben Bernanke stated: "At this juncture the impact on the broader economy and financial markets of the problems in the subprime market seem likely to be contained." He went on to say: "Overall the economy appears likely to expand at a moderate pace during the upcoming quarters." Several months after Bernanke's remarks to Congress, the U.S. experienced a seismic banking crisis and collapses of the equity and credit markets not witnessed since the Great Depression. With the many economists on his staff and sophisticated economic models at his fingertips, he was unaware of the massive economic crises only months away.

Forty years ago, Nobel Laureate Friedrich Hayek said: "Not only were economists unsure about their predictions, but their tendency to present their findings with certainty of the language of science were misleading and had deplorable effects." In September 2017 (per Adam Shaw), Prakash Loungani of the International Monetary Fund, reviewed the accuracy of economic forecasters and found that only two (2) of the past 150 recessions were predicted in advance. It would appear in the words of Mark Pearson, of the Organization for Economic Co-operation and Development in Paris, "We are getting worse at making forecasts because the world is getting more complicated."

Wall Street strategists now practice "the art of the plausible." With the understanding that markets in any given year are inherently unpredictable, they construct a reasonable forecast using consensus assumptions. Yet what is plausible is not always probable, as the ultimate outcome (Michael Santoli, CNBC). The consensus strategist forecast for the S&P 500 typically falls in the 5% to 10% range. Currently, CNBC's strategist survey shows an average predicted 2020 S&P 500 gain of 5% with the maximum forecast of 9%. This range seems reasonable since the long-term average annualized gain for U.S. stocks is around 8%. Yet counterintuitively, the short term rarely conforms to the long-term average. Since 1928, the S&P has only showed a gain of between 5% and 10% six out of the 91 calendar years – suggesting the consensus forecast for a high-single-digit rise in 2020 has a 93% chance of being wrong.

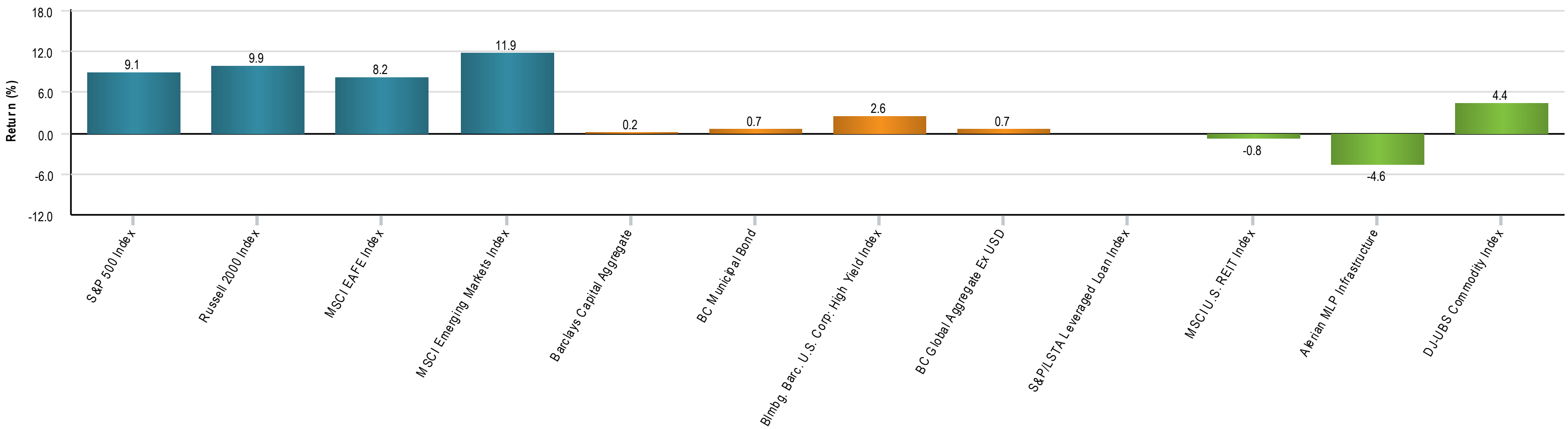
Going into 2019, equities were at bear market levels and strategists, as a group were looking for a rebound of 11%. This would simply have the index recovering back to its prior record high. Actual experience for 2019 was a huge run higher in stocks with the S&P 500 up over 31%. Moody's reported in 2018: "It is smart to assume the price-to-earnings multiples will moderate by late 2018 because the end of this already-long expansion will be 12-months closer." To the contrary, the S&P 500 experienced a multiple expansion from 14.4x to 18.2x on its forward P/E in 2019.

It is BCA's view that Wall Street firms make predictions because their clients want to be informed, but in fact, stock and bond predictions invite investors to react by changing asset allocations and generating fees to their advisers. The problem with forecasting anything is that a small change in a few variables can make predictions impossibly complex. Reliable and meaningful predictions of capital markets is inherently impossible. It is not a science and remains an art.

Quarterly Market Summary

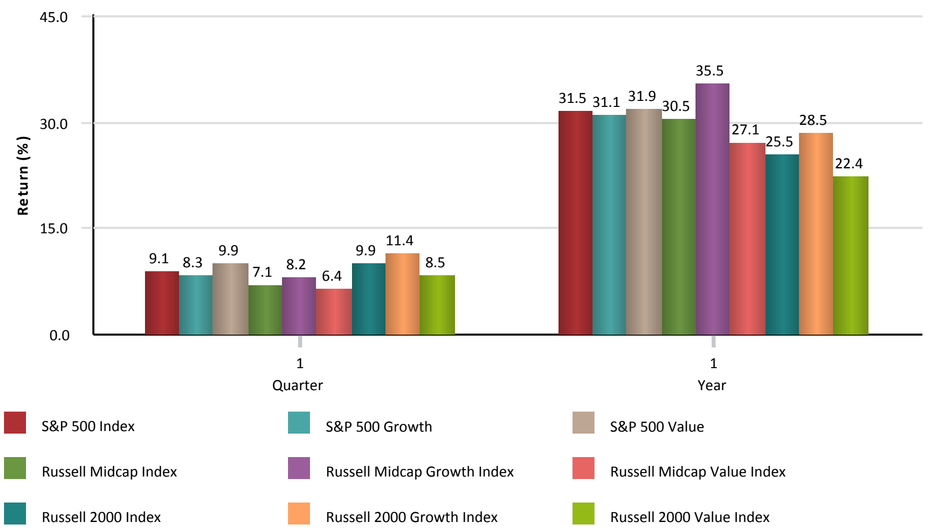
December 31, 2019

1 Quarter Performance



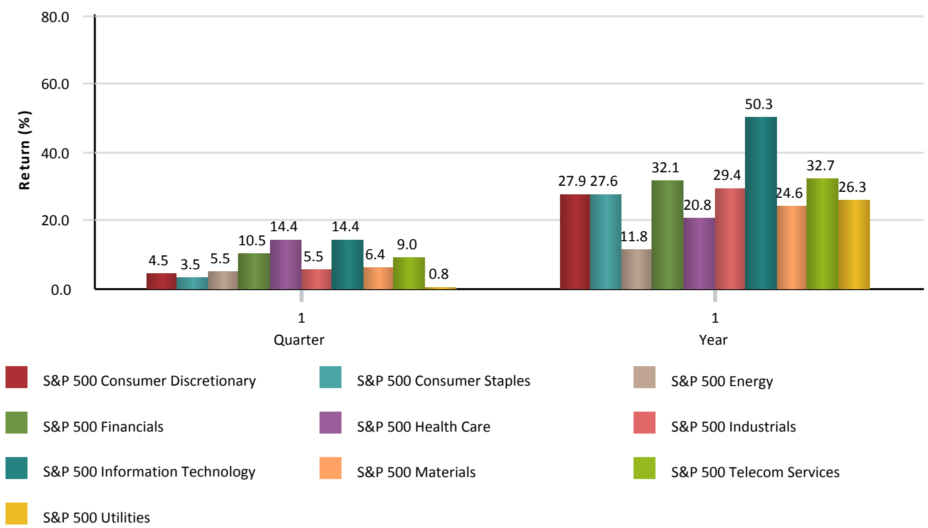
Source: Investment Metrics, LLC

US Market Indices Performance



Source: Investment Metrics, LLC

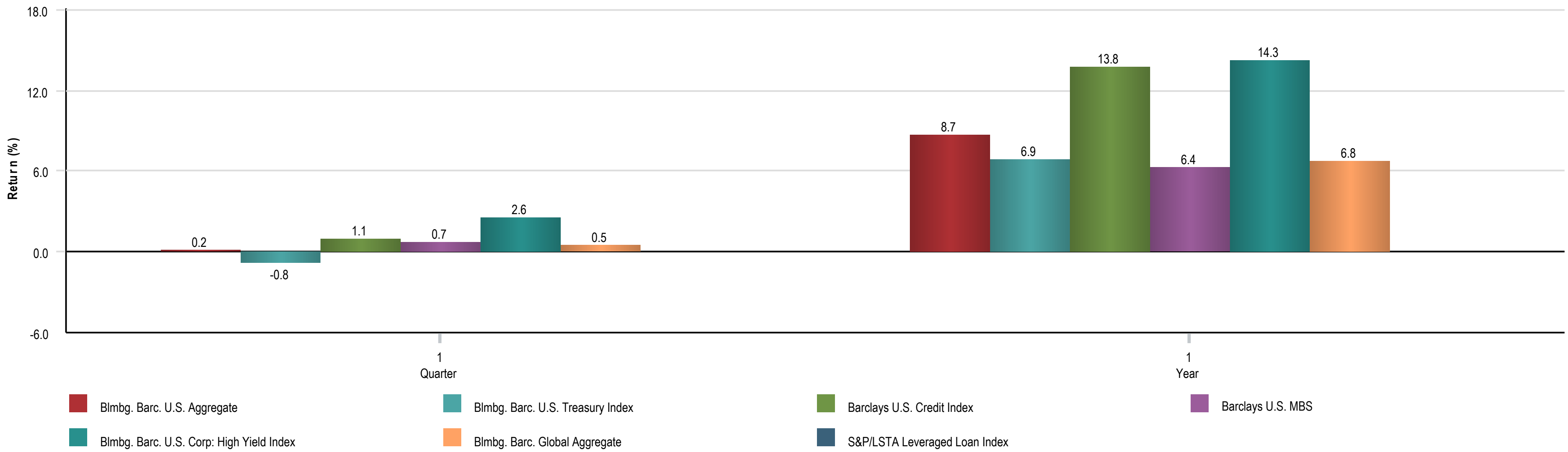
US Market Sector Performance



Source: Investment Metrics, LLC

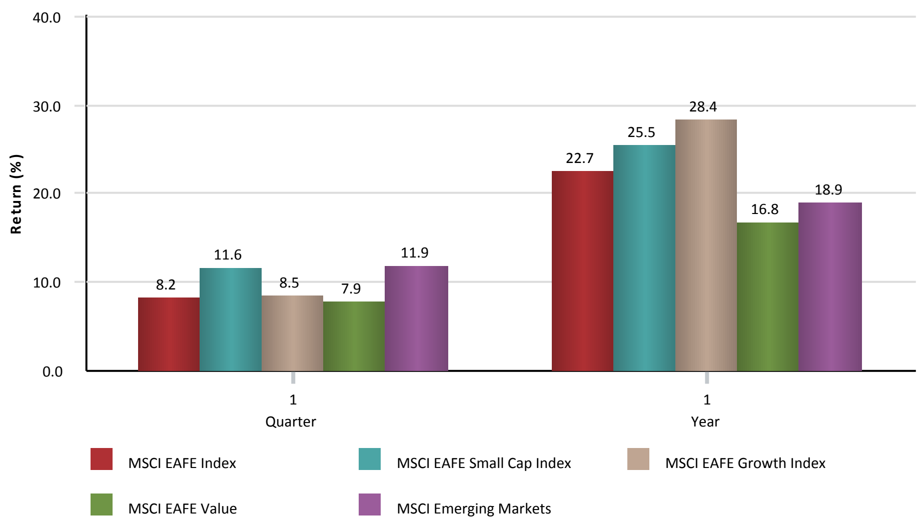
Quarterly Market Summary

Fixed Income Market Sector Performance



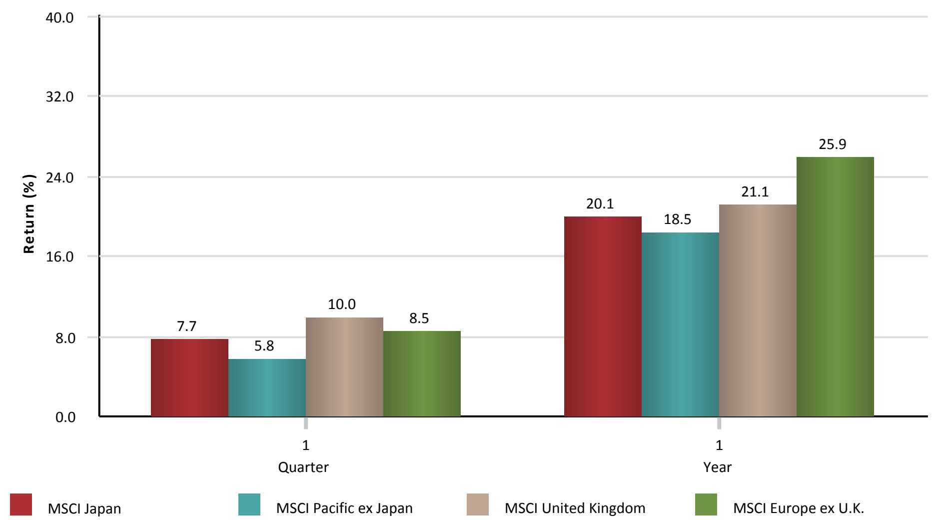
Source: Investment Metrics, LLC

Intl Equity Indices Performance



Source: Investment Metrics, LLC

Intl Equity Region Performance

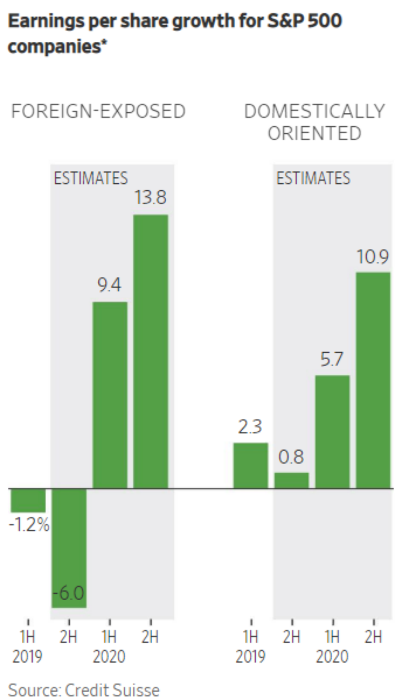


Source: Investment Metrics, LLC

Holly Hill Firefighters' Retirement System
Investment Summary
December 31, 2019

Despite an inverted yield curve late last summer and fears over global trade and a looming recession, U.S. stocks recorded their second-best calendar year return since the financial crisis. As we enter 2020, we are faced with several shifts in market risk: abating trade conflict, rising political risk in the U.S. and the Middle East, expanded P/E ratios, and continued manufacturing slowdown.

In order for the bull market to continue, investors are expecting higher growth rates over the next 12 months. See chart below:



- For the quarter, the System earned $255K or +5.2% net, ahead of the strategic model (+5.1%). The top three performing asset classes were: international (+9.5%), large-cap (+9.1%), and convertibles (+7.8%).

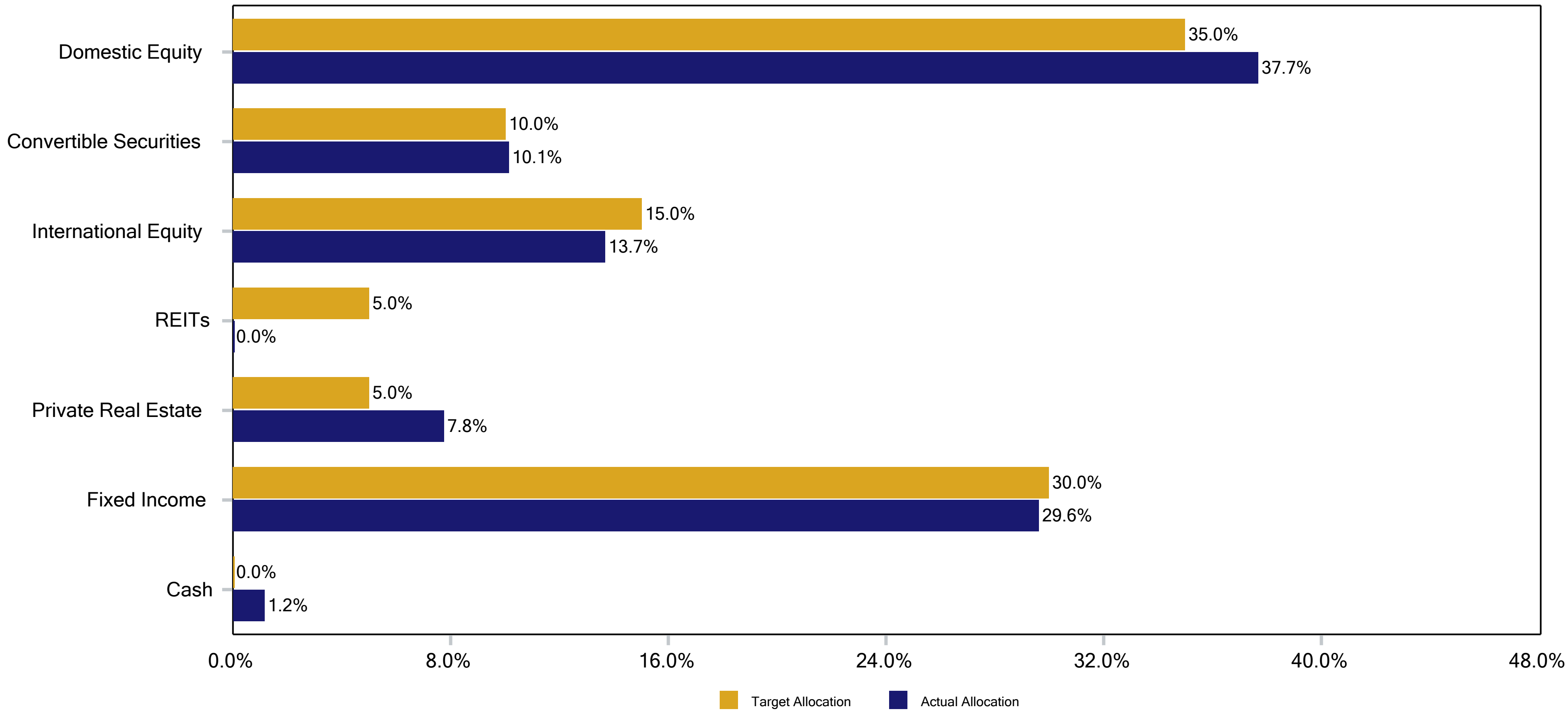
- For the one-year period, the System earned $833K or +19.4% net, similar to the strategic model (+20.2%). The top three performing asset classes were: large-cap (+31.5%), mid-cap (+30.5%) and international (+26.4%).

- For the three and five-year periods, the System earned +10.0% (+9.7% net) and +7.6% (+7.4% net), respectively.

Holly Hill Firefighters' Retirement System
Investment Performance - Net
December 31, 2019

	Quarter	One Year	Three Years	Five Years
Beginning Market Value	4,832,969	4,308,272	3,965,247	3,837,069
Contributions	14,763	-38,456	-123,253	-298,102
Gain/Loss	254,887	832,803	1,260,625	1,563,652
Ending Market Value	5,102,619	5,102,619	5,102,619	5,102,619
Total Fund (%)	5.2	19.4	9.7	7.4
Stategic Model (%)	5.1	20.2	9.4	7.2

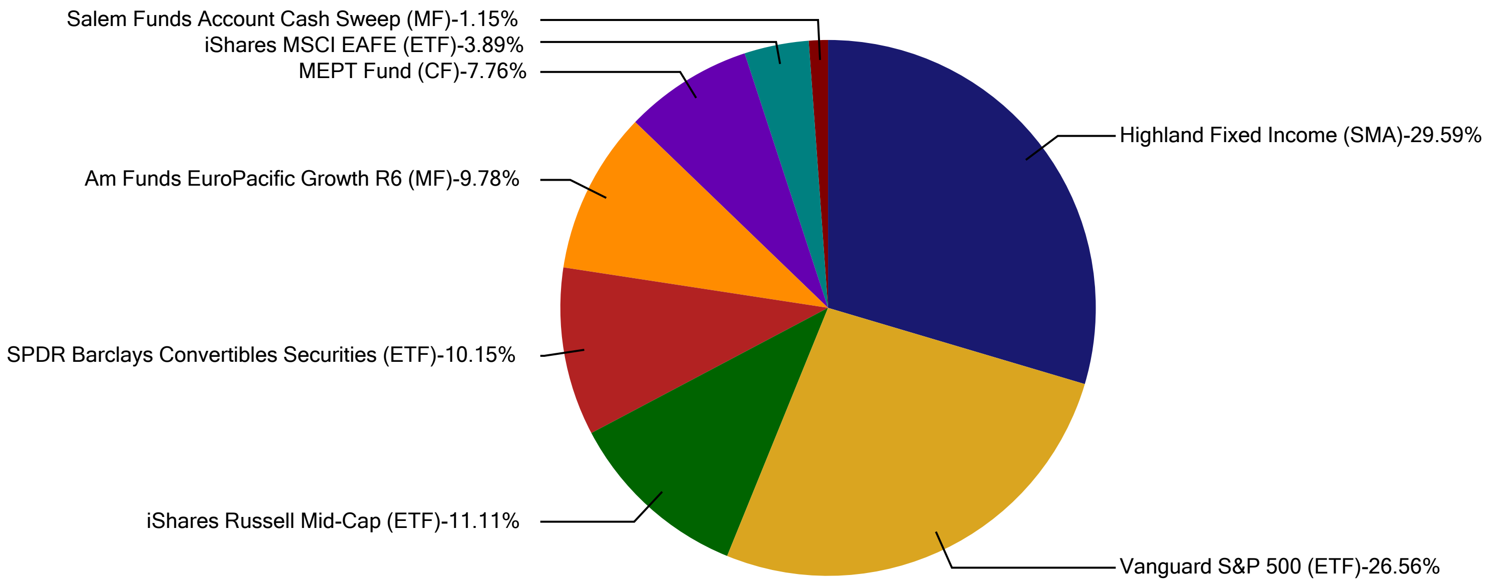
Holly Hill Firefighters' Retirement System
Actual vs. Target Asset Allocation
December 31, 2019



	Market Value Actual $	Percent Actual	Percent Target	Percent Difference
Total Fund	5,102,619	100.0	100.0	0.0
Domestic Equity	1,922,401	37.7	35.0	2.7
Convertible Securities	517,871	10.1	10.0	0.1
International Equity	697,837	13.7	15.0	-1.3
REITs	0	0.0	5.0	-5.0
Private Real Estate	395,740	7.8	5.0	2.8
Fixed Income	1,509,904	29.6	30.0	-0.4
Cash	58,865	1.2	0.0	1.2

Holly Hill Firefighters' Retirement System
Asset Allocation

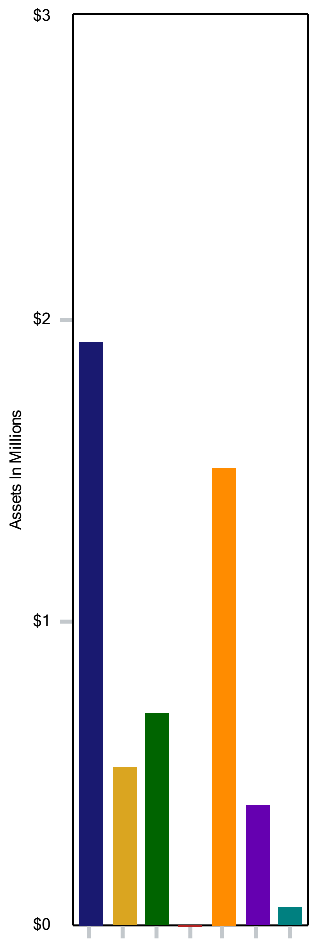
December 31, 2019 : 5,102,619



	Market Value $	Allocation (%)
Highland Fixed Income (SMA)	1,509,904	29.59
Vanguard S&P 500 (ETF)	1,355,356	26.56
iShares Russell Mid-Cap (ETF)	567,046	11.11
SPDR Barclays Convertibles Securities (ETF)	517,871	10.15
Am Funds EuroPacific Growth R6 (MF)	499,239	9.78
MEPT Fund (CF)	395,740	7.76
iShares MSCI EAFE (ETF)	198,598	3.89
Salem Funds Account Cash Sweep (MF)	58,865	1.15

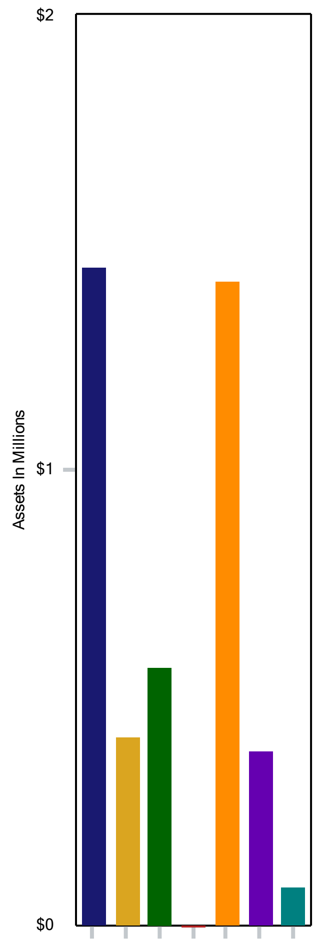
Holly Hill Firefighters' Retirement System
Historical Asset Allocation
December 31, 2019

December 31, 2019



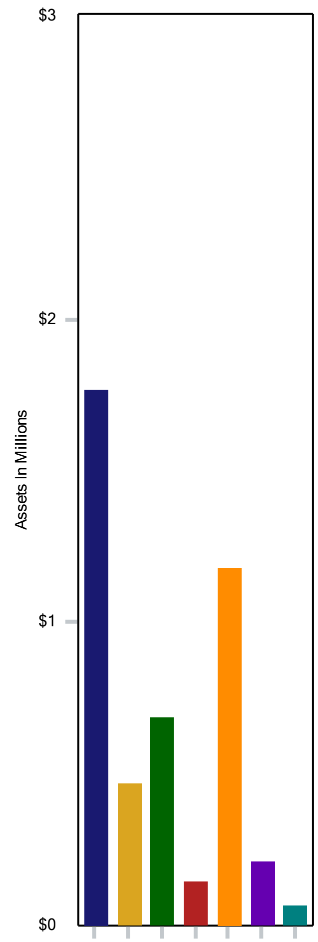
Domestic Equity	37.67
Convertible Securities	10.15
International Equity	13.68
REITs	0.00
Fixed Income	29.59
Private Real Estate	7.76
Cash	1.15

December 31, 2018



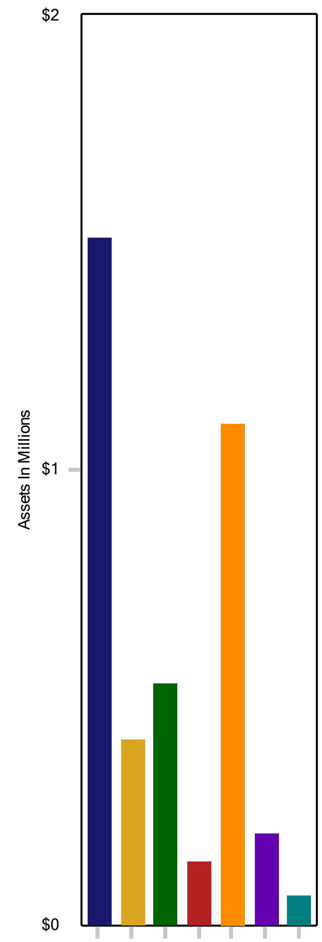
Domestic Equity	33.61
Convertible Securities	9.57
International Equity	13.18
REITs	0.00
Fixed Income	32.89
Private Real Estate	8.86
Cash	1.89

December 31, 2017



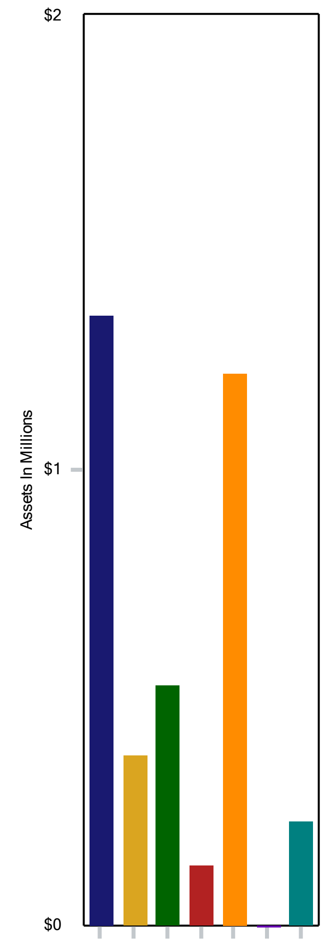
Domestic Equity	39.04
Convertible Securities	10.33
International Equity	15.15
REITs	3.23
Fixed Income	26.02
Private Real Estate	4.72
Cash	1.51

December 31, 2016



Domestic Equity	38.14
Convertible Securities	10.32
International Equity	13.39
REITs	3.55
Fixed Income	27.83
Private Real Estate	5.11
Cash	1.66

December 31, 2015



Domestic Equity	35.22
Convertible Securities	9.75
International Equity	13.81
REITs	3.48
Fixed Income	31.79
Private Real Estate	0.00
Cash	5.95

Holly Hill Firefighters' Retirement System
Asset Allocation & Performance - Gross
December 31, 2019

	Market Value	QTD ROR - Rank	1 Year ROR - Rank	3 Year ROR - Rank	5 Year ROR - Rank
Total Fund	5,102,619	5.3 (54)	19.7 (62)	10.0 (32)	7.6 (23)
Stategic Model		5.1	20.2	9.4	7.2
Equity	3,138,109	8.6	28.6	13.0	9.8
Domestic Equity	1,922,401	8.5	31.2	14.4	11.1
Vanguard S&P 500 (ETF)	1,355,356	9.1	31.5	15.4	11.8
S&P 500 Index		9.1	31.5	15.3	11.7
iShares Russell Mid-Cap (ETF)	567,046	7.1	30.5	12.1	9.4
S&P MidCap 400 Index		7.1	26.2	9.3	9.0
Convertible Securities	517,871	7.8	22.9	12.0	9.2
SPDR Barclays Convertibles Securities (ETF)	517,871	7.8	22.9	12.0	9.2
ML All Convertibles, All Qualities		7.4	23.0	11.9	8.4
International Equity	697,837	9.5	26.4	12.1	7.8
iShares MSCI EAFE (ETF)	198,598	7.8	22.3	9.9	6.1
Am Funds EuroPacific Growth R6 (MF)	499,239	10.2	28.0	13.0	N/A
MSCI EAFE Index		8.2	22.7	10.1	6.2
Private Real Estate	395,740	0.9	4.6	6.4	N/A
MEPT Fund (CF)	395,740	0.9	4.6	6.4	N/A
NCREIF Fund Index-ODCE (VW)		1.5	5.3	7.1	9.0
Fixed Income	1,509,904	0.3	8.6	4.3	3.5
Highland Fixed Income (SMA)	1,509,904	0.3 (41)	8.6 (82)	4.3 (59)	3.6 (36)
Fixed Income Benchmark		0.2	8.7	4.0	3.0
Cash	58,865	0.5	5.0	2.4	1.6
Salem Funds Account Cash Sweep (MF)	58,865	0.5	2.8	1.7	1.1
ICE BofAML 3 Month U.S. T-Bill		0.5	2.3	1.7	1.1

Holly Hill Firefighters' Retirement System
Asset Allocation & Performance - Net
December 31, 2019

	Market Value	QTD ROR - Rank	1 Year ROR - Rank	3 Year ROR - Rank	5 Year ROR - Rank
Total Fund	5,102,619	5.2	19.4	9.7	7.4
Stategic Model		5.1	20.2	9.4	7.2
Equity	3,138,109	8.5	28.4	12.7	9.5
Domestic Equity	1,922,401	8.5	31.1	14.3	11.0
Vanguard S&P 500 (ETF)	1,355,356	9.0 (39)	31.4 (30)	15.2 (26)	11.7 (14)
S&P 500 Index		9.1	31.5	15.3	11.7
iShares Russell Mid-Cap (ETF)	567,046	7.0 (43)	30.2 (31)	11.9 (18)	9.2 (26)
S&P MidCap 400 Index		7.1	26.2	9.3	9.0
Convertible Securities	517,871	7.7	22.4	11.5	8.8
SPDR Barclays Convertibles Securities (ETF)	517,871	7.7 (15)	22.4 (64)	11.5 (49)	8.8 (20)
ML All Convertibles, All Qualities		7.4	23.0	11.9	8.4
International Equity	697,837	9.4	25.8	11.6	7.4
iShares MSCI EAFE (ETF)	198,598	7.7 (82)	22.0 (51)	9.6 (55)	5.7 (45)
Am Funds EuroPacific Growth R6 (MF)	499,239	10.1 (42)	27.4 (21)	12.5 (23)	N/A
MSCI EAFE Index		8.2	22.7	10.1	6.2
Private Real Estate	395,740	0.6	3.7	5.5	N/A
MEPT Fund (CF)	395,740	0.6	3.7	5.5	N/A
NCREIF Fund Index-ODCE (VW)		1.5	5.3	7.1	9.0
Fixed Income	1,509,904	0.3	8.6	4.2	3.4
Highland Fixed Income (SMA)	1,509,904	0.3	8.6	4.2	3.5
Fixed Income Benchmark		0.2	8.7	4.0	3.0
Cash	58,865	0.5	5.0	2.4	1.6
Salem Funds Account Cash Sweep (MF)	58,865	0.5	2.8	1.7	1.1
ICE BofAML 3 Month U.S. T-Bill		0.5	2.3	1.7	1.1

Holly Hill Firefighters' Retirement System
Asset Allocation & Performance - Net
December 31, 2019

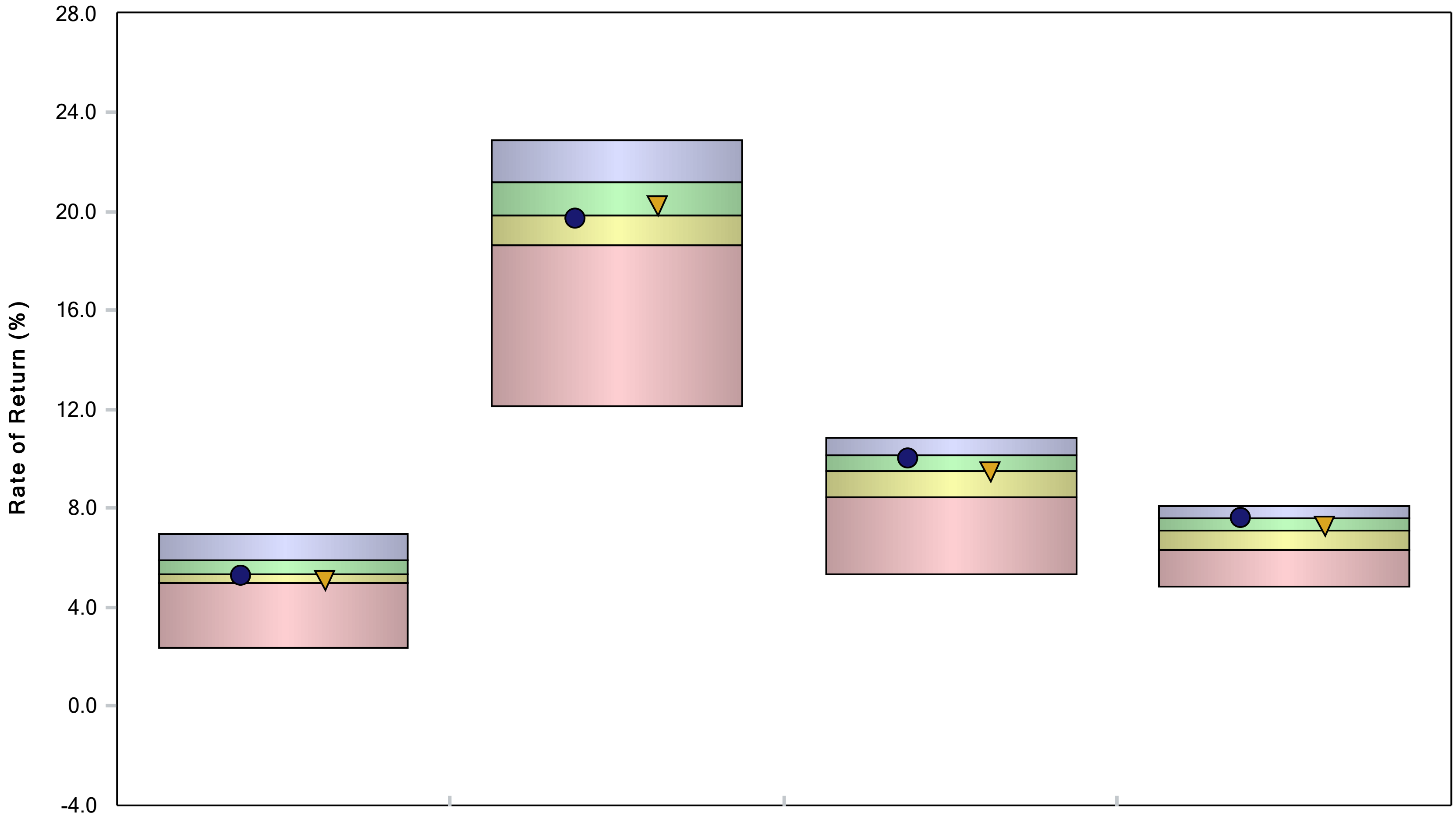
1 Strategic Model (IPS Hybrid Benchmark): eff 3/17 12.5% S&P500G, 12.5 S&P500V, 10% S&P400, 5% Wilshire REIT, 15% MSCI EAFE, 10% ML All US Convertibles, 5% NCREIF ODCE, 30 % BC Agg; eff 9/16 12.5% S&P500G, 12.5 S&P500V, 10% S&P400, 5% Wilshire REIT, 15% MSCI EAFE, 10% ML All US Convertibles, 35 % BC Agg; eff 3/11 25% S&P500, 10% S&P400, 5% Wilshire REIT, 15% MSCI EAFE, 10% ML All US Convertibles, 30 % BC Agg, 5% BC 1-10 yr TIP; eff 10/09 25% S&P500, 15% S&P400, 15% MSCI EAFE, 40% BC Agg, 5% BC 1-10Yr TIPS; eff 4/05- 30% S&P500, 15% S&P400, 8% MSCI EAFE, 40% Barclay's Int Agg, 7% Barclay's 1-10 TIPS; eff 4/01 50% S&P500, 50% LB Agg; eff 7/96 30% S&P500, 70% LB Government/Credit.

2 FI Benchmark: eff 10/09 100% BC Agg. eff 6/05 100% BC Int Agg. eff 6/01 100% BC Agg.

3 LC Benchmark: eff 10/09, S&P 500 index. Prior: 50% S&P500 stock 50% S&P500/Barra Growth index.

4 LCG Benchmark: eff 10/2009 100% S&P 500 Growth; prior 50% S&P 500/50% 500G

Holly Hill Firefighters' Retirement System
Peer Universe Quartile Ranking
December 31, 2019

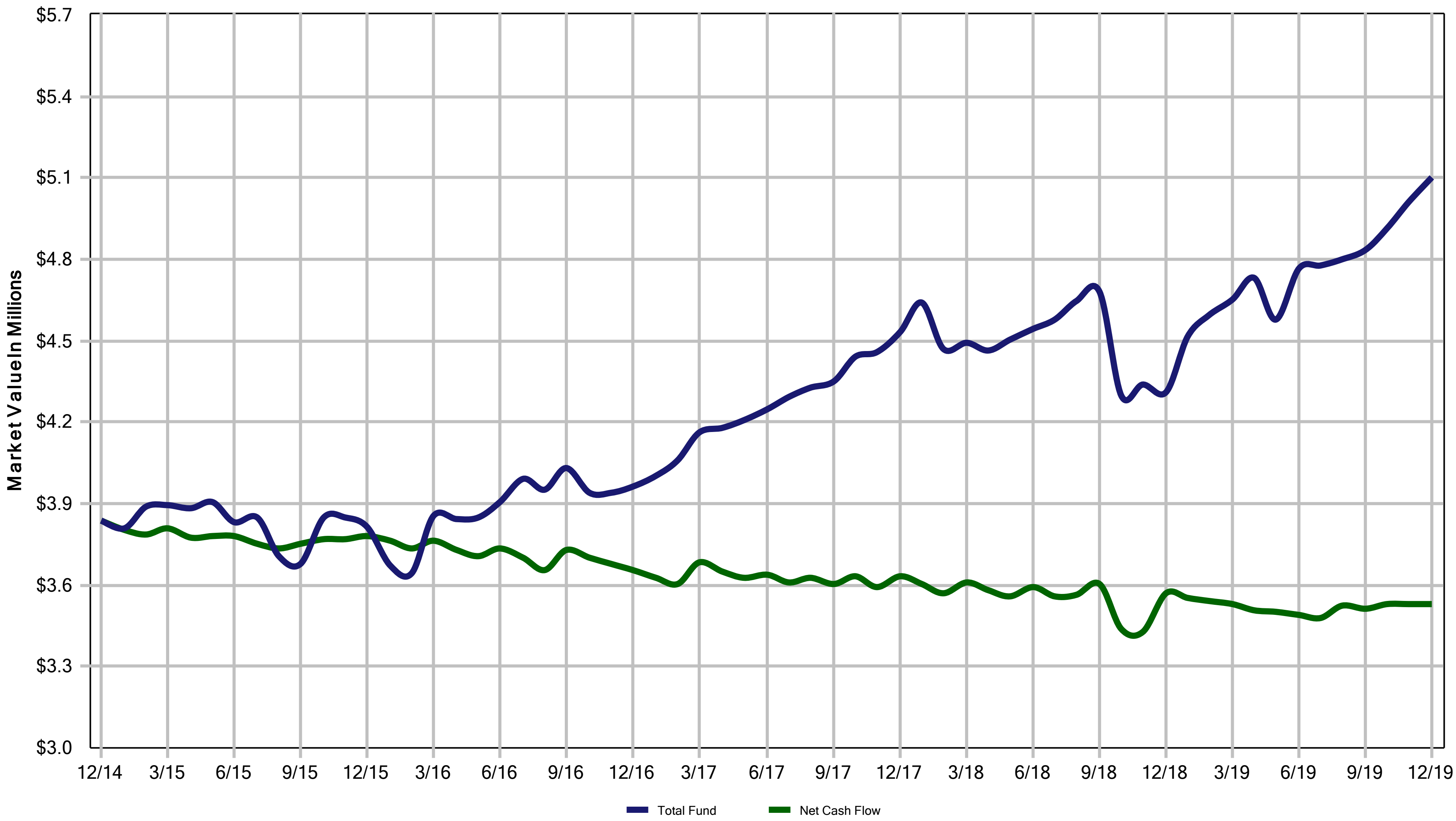


	Quarter	One Year	Three Years	Five Years
● Total Fund	5.3 (54)	19.7 (62)	10.0 (32)	7.6 (23)
▽ Stategic Model	5.1 (71)	20.2 (42)	9.4 (55)	7.2 (43)
5th Percentile	6.9	22.9	10.9	8.1
1st Quartile	5.9	21.2	10.1	7.6
Median	5.3	19.9	9.5	7.1
3rd Quartile	5.0	18.7	8.5	6.3
95th Percentile	2.3	12.1	5.3	4.9

Parentheses contain percentile rankings.

Calculation based on quarterly data.

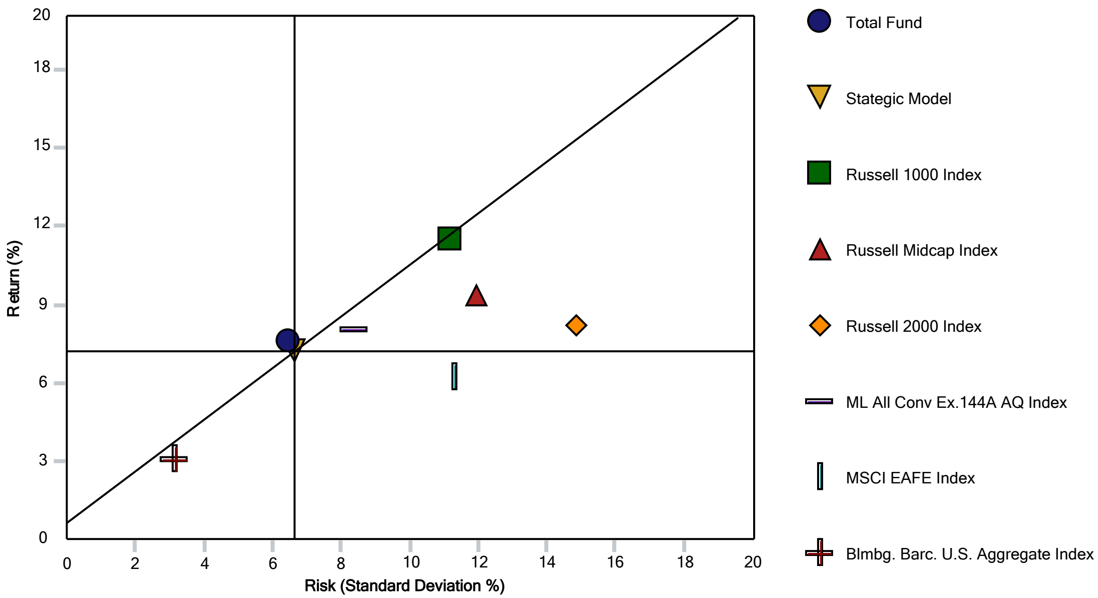
Holly Hill Firefighters' Retirement System
Growth of Investments
January 1, 2015 Through December 31, 2019



Beginning MV	Ending MV	Annualized ROR
$3,837,069	$5,102,619	7.6

Holly Hill Firefighters' Retirement System
Capital Market Line
Period Ending December 31, 2019

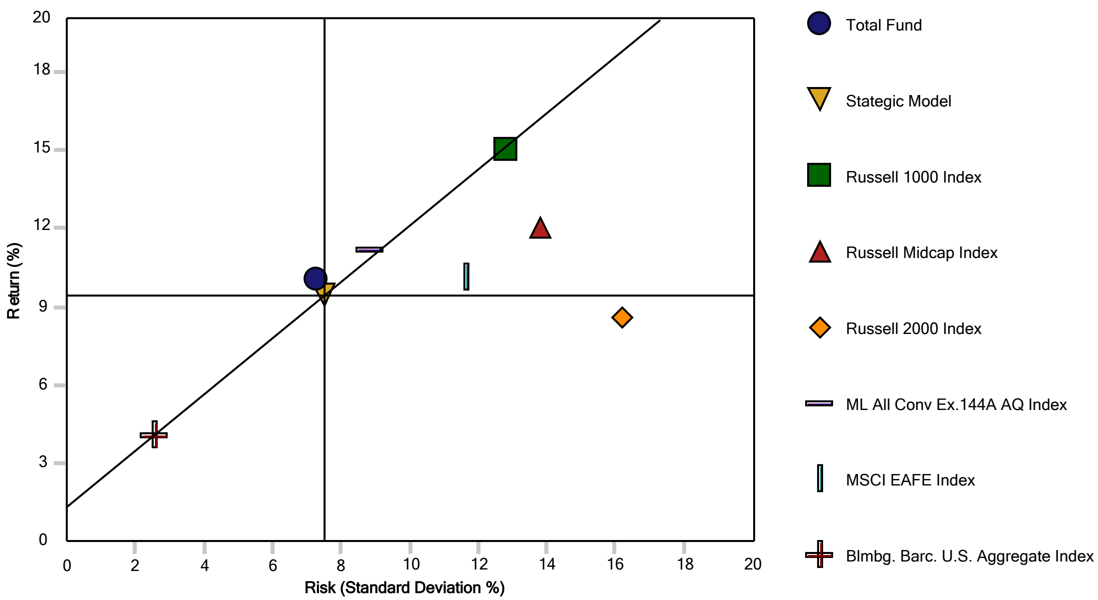
5 Years Risk/Reward



5 Years Statistics

	Return	Standard Deviation	Beta	Alpha
Total Fund	7.60	6.45	0.96	0.61
Stategic Model	7.22	6.66	1.00	0.00
Russell 1000 Index	11.48	11.19	1.62	-0.13
Russell Midcap Index	9.33	11.96	1.76	-3.01
Russell 2000 Index	8.23	14.86	1.98	-5.11
ML All Conv Ex.144A AQ Index	8.07	8.38	1.15	-0.15
MSCI EAFE Index	6.18	11.31	1.54	-4.41
Blmbg. Barc. U.S. Aggregate Index	3.05	3.18	0.10	2.39

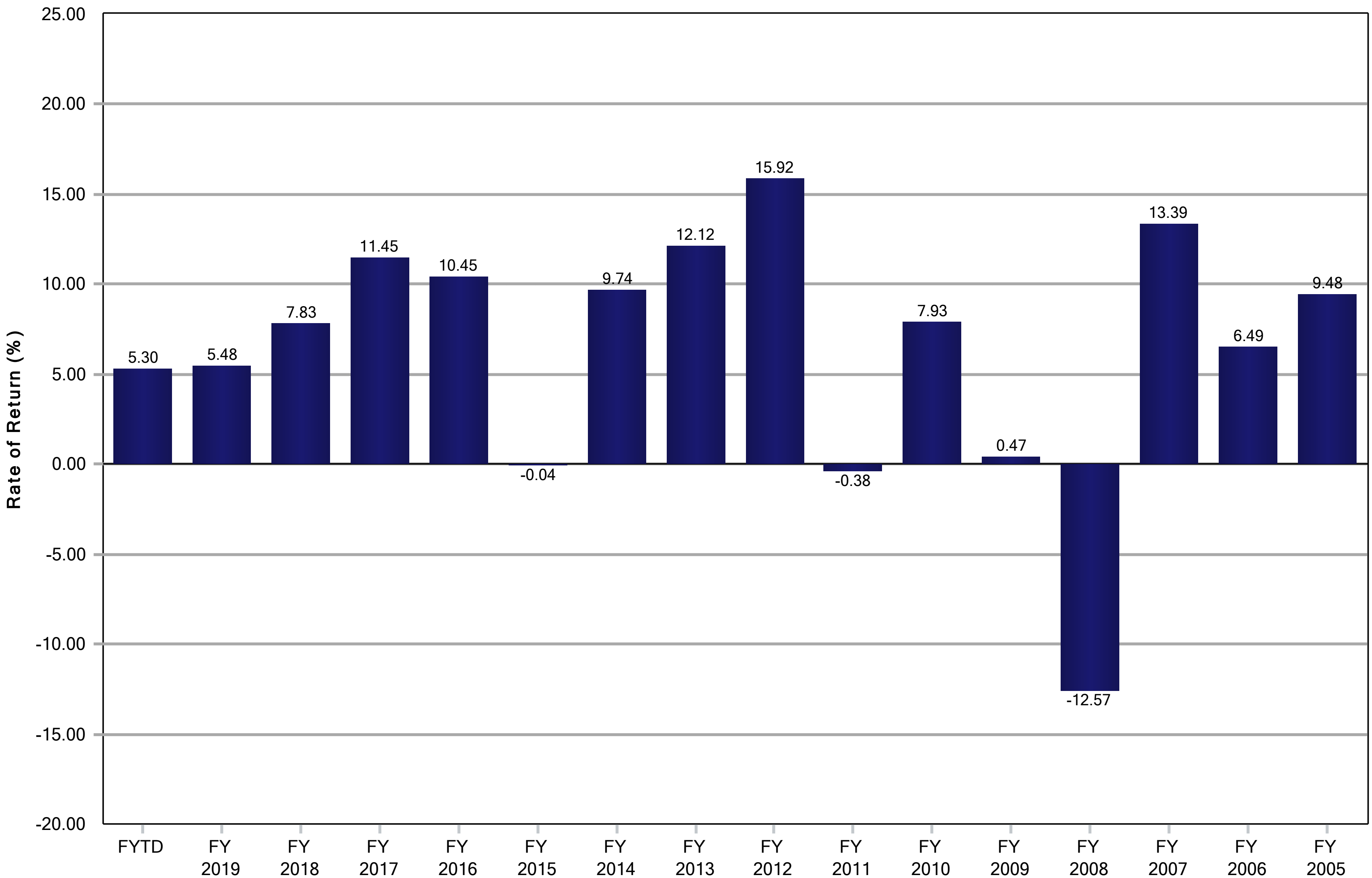
3 Years Risk/Reward



3 Years Statistics

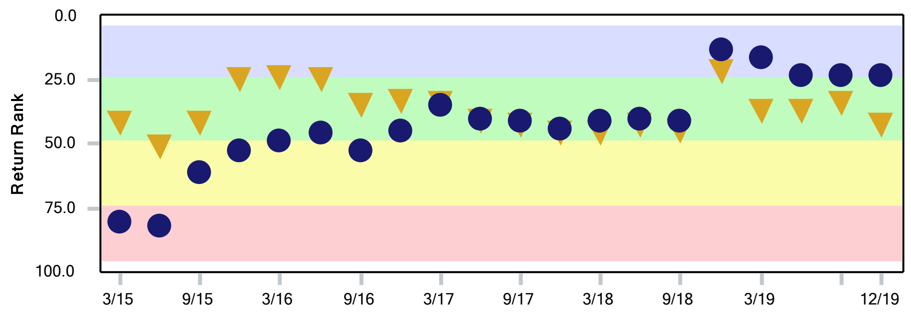
	Return	Standard Deviation	Beta	Alpha
Total Fund	10.01	7.31	0.97	0.81
Stategic Model	9.44	7.53	1.00	0.00
Russell 1000 Index	15.05	12.84	1.68	-0.68
Russell Midcap Index	12.06	13.84	1.82	-4.48
Russell 2000 Index	8.59	16.20	2.02	-8.92
ML All Conv Ex.144A AQ Index	11.17	8.88	1.11	0.67
MSCI EAFE Index	10.11	11.68	1.46	-3.24
Blmbg. Barc. U.S. Aggregate Index	4.03	2.57	0.07	3.34

Holly Hill Firefighters' Retirement System
Fiscal Year Rates of Return
December 31, 2019



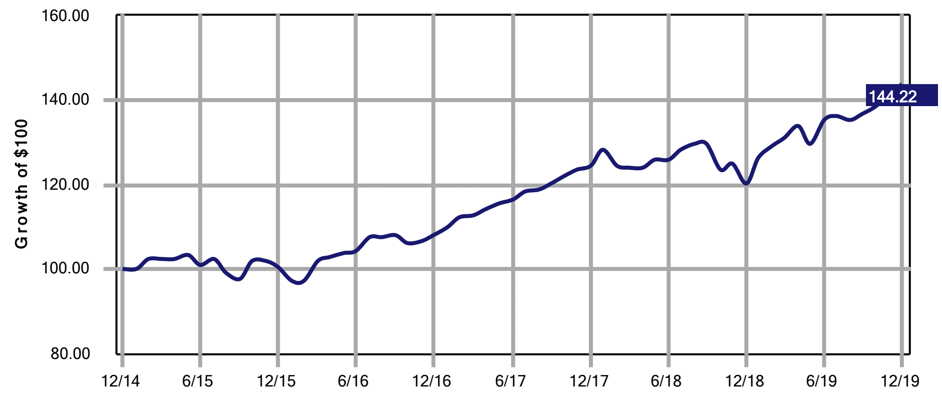
Holly Hill Firefighters' Retirement System
Total Fund
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

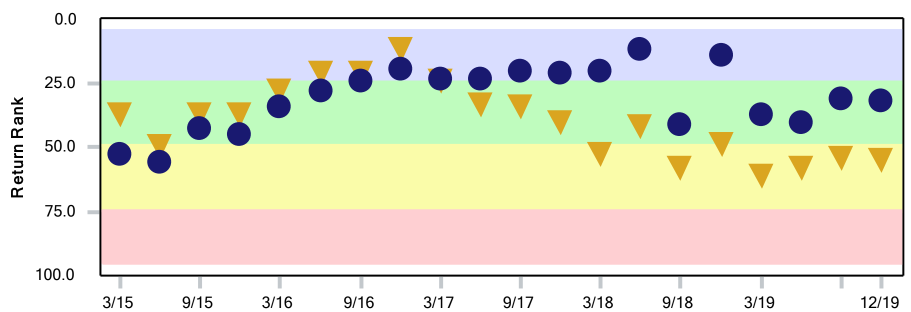


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
Total Fund	20	5 (25%)	10 (50%)	3 (15%)	2 (10%)
Stategic Model	20	4 (20%)	15 (75%)	1 (5%)	0 (0%)

Growth of a Dollar

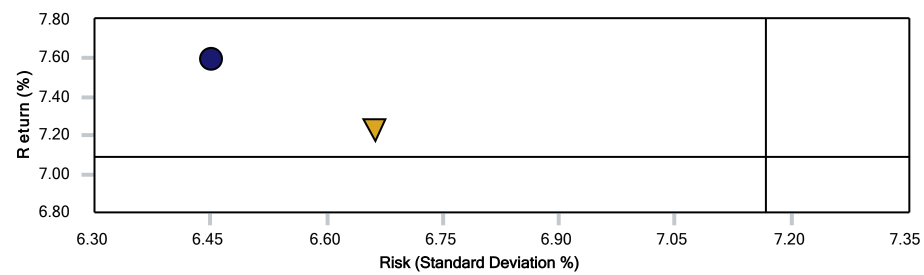


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
Total Fund	20	9 (45%)	9 (45%)	2 (10%)	0 (0%)
Stategic Model	20	4 (20%)	10 (50%)	6 (30%)	0 (0%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
Total Fund	7.60	6.45
Stategic Model	7.22	6.66
Median	7.09	7.17

Historical Statistics - 5 Years

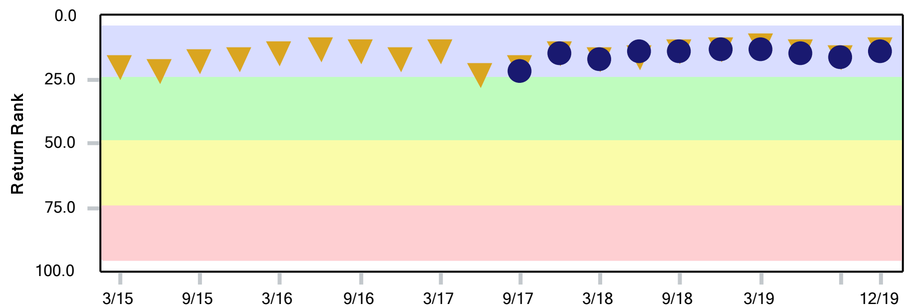
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Total Fund	7.60	6.45	0.61	0.96	1.02	87.99	100.12
Stategic Model	*7.22*	*6.66*	*0.00*	*1.00*	*0.94*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Total Fund	10.01	7.31	0.81	0.97	1.12	88.12	101.36
Stategic Model	*9.44*	*7.53*	*0.00*	*1.00*	*1.03*	*100.00*	*100.00*

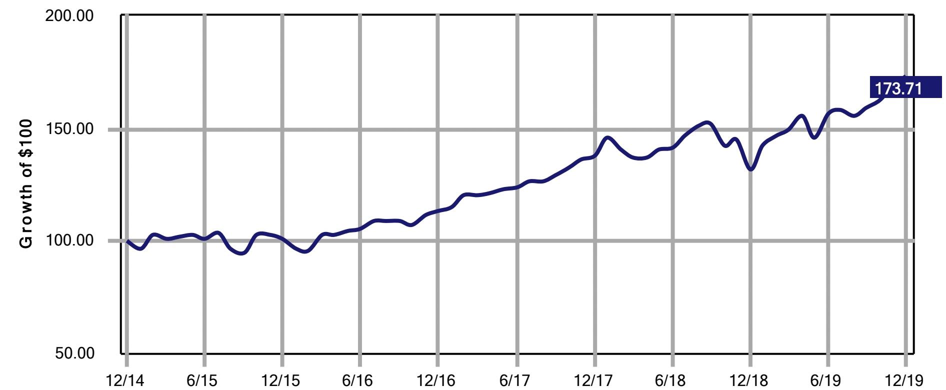
Holly Hill Firefighters' Retirement System
Vanguard S&P 500 (ETF)
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

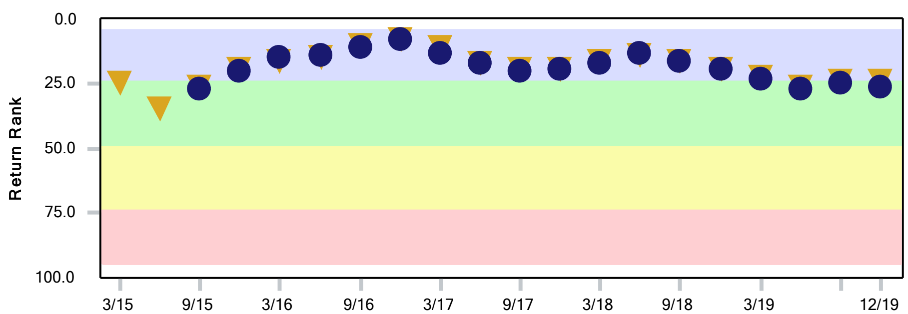


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Vanguard S&P 500 (ETF)	10	10 (100%)	0 (0%)	0 (0%)	0 (0%)
▼ S&P 500 Index	20	20 (100%)	0 (0%)	0 (0%)	0 (0%)

Growth of a Dollar

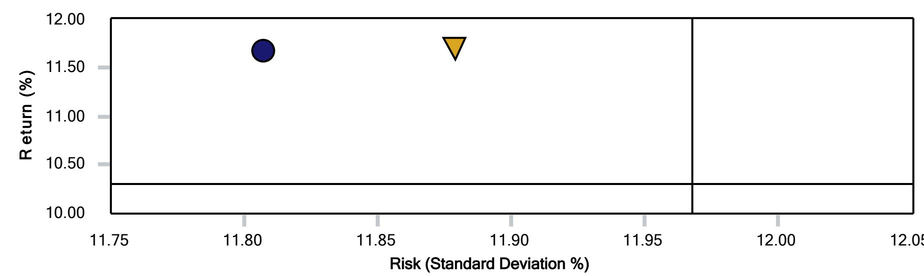


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Vanguard S&P 500 (ETF)	18	15 (83%)	3 (17%)	0 (0%)	0 (0%)
▼ S&P 500 Index	20	17 (85%)	3 (15%)	0 (0%)	0 (0%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
● Vanguard S&P 500 (ETF)	11.68	11.81
▼ S&P 500 Index	11.70	11.88
__ Median	10.30	11.97

Historical Statistics - 5 Years

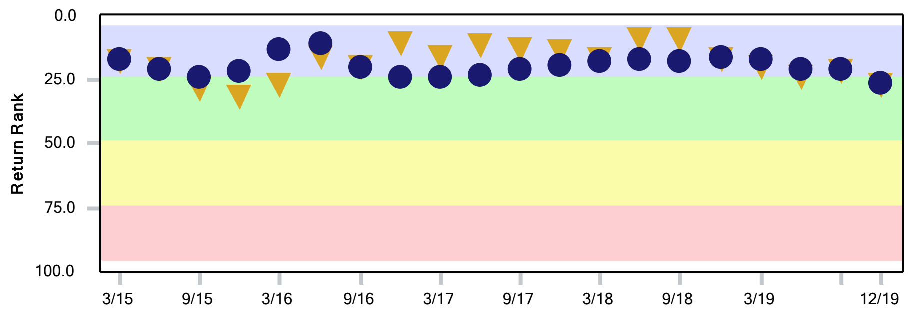
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Vanguard S&P 500 (ETF)	11.68	11.81	0.05	0.99	0.91	99.83	99.81
S&P 500 Index	*11.70*	*11.88*	*0.00*	*1.00*	*0.91*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Vanguard S&P 500 (ETF)	15.18	11.81	0.07	0.99	1.12	99.39	99.39
S&P 500 Index	*15.27*	*11.93*	*0.00*	*1.00*	*1.12*	*100.00*	*100.00*

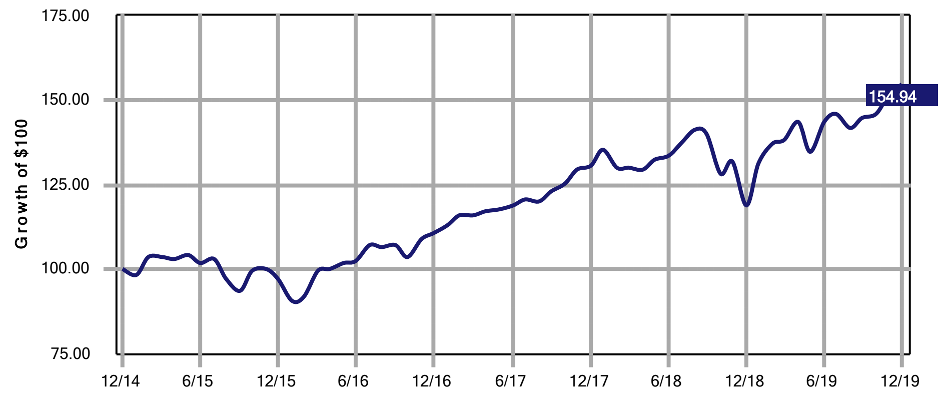
Holly Hill Firefighters' Retirement System
iShares Russell Mid-Cap (ETF)
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

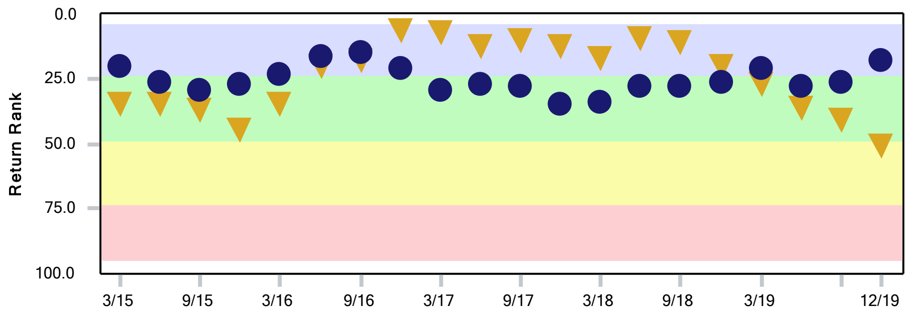


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● iShares Russell Mid-Cap (ETF)	20	19 (95%)	1 (5%)	0 (0%)	0 (0%)
▼ S&P MidCap 400 Index	20	16 (80%)	4 (20%)	0 (0%)	0 (0%)

Growth of a Dollar

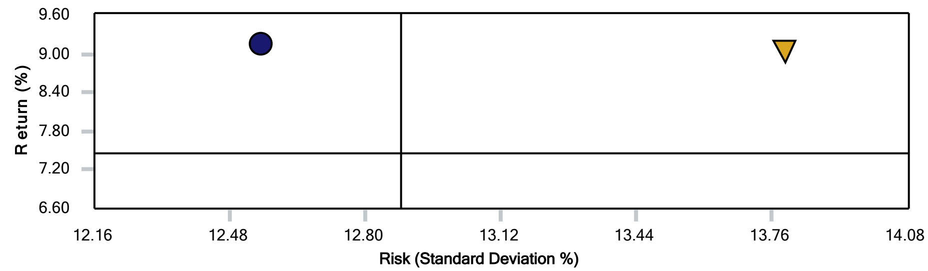


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● iShares Russell Mid-Cap (ETF)	20	7 (35%)	13 (65%)	0 (0%)	0 (0%)
▼ S&P MidCap 400 Index	20	11 (55%)	8 (40%)	1 (5%)	0 (0%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
● iShares Russell Mid-Cap (ETF)	9.15	12.56
▼ S&P MidCap 400 Index	9.03	13.79
— Median	7.45	12.88

Historical Statistics - 5 Years

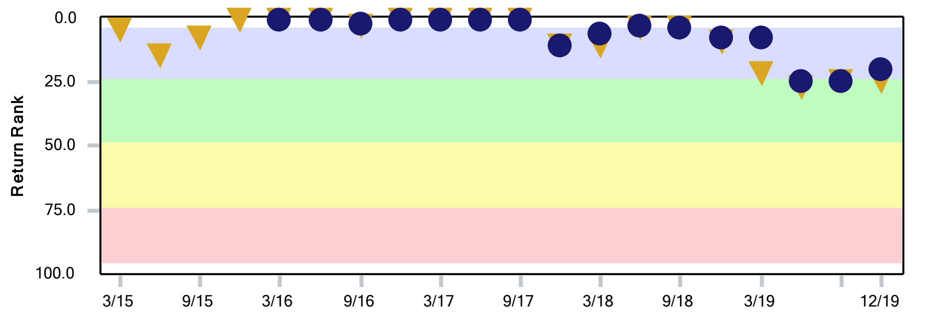
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
iShares Russell Mid-Cap (ETF)	9.15	12.56	1.00	0.89	0.68	83.91	90.36
S&P MidCap 400 Index	*9.03*	*13.79*	*0.00*	*1.00*	*0.62*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
iShares Russell Mid-Cap (ETF)	11.85	12.79	3.47	0.87	0.81	74.60	94.08
S&P MidCap 400 Index	*9.26*	*14.46*	*0.00*	*1.00*	*0.57*	*100.00*	*100.00*

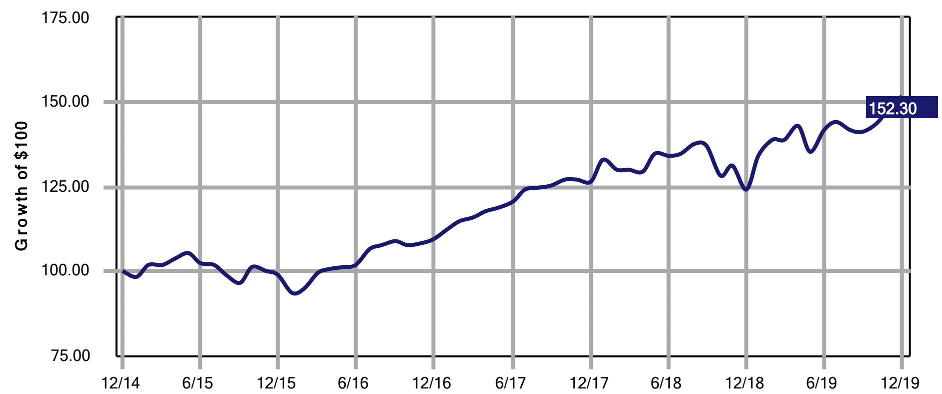
Holly Hill Firefighters' Retirement System
SPDR Barclays Convertibles Securities (ETF)
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

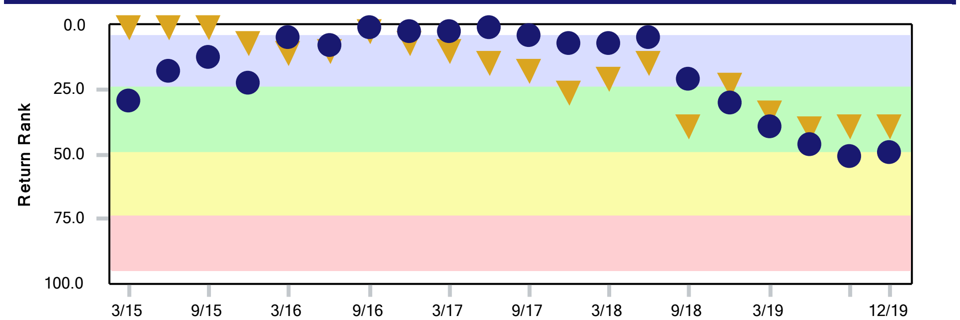


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● SPDR Barclays Convertibles Securities (ETF)	16	16 (100	0 (0%)	0 (0%)	0 (0%)
▼ ICE BofAML All Convertibles, All Qualities	20	19 (95%	1 (5%)	0 (0%)	0 (0%)

Growth of a Dollar

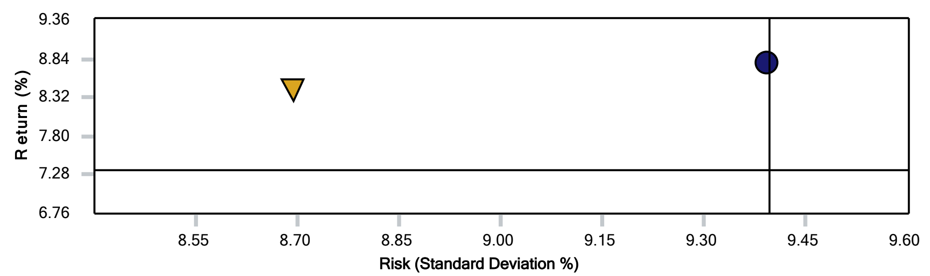


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● SPDR Barclays Convertibles Securities (ETF)	20	14 (70%	5 (25%	1 (5%)	0 (0%)
▼ ICE BofAML All Convertibles, All Qualities	20	14 (70%	6 (30%	0 (0%)	0 (0%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
● SPDR Barclays Convertibles Securities (ETF)	8.78	9.40
▼ ICE BofAML All Convertibles, All Qualities	8.41	8.70
— Median	7.34	9.40

Historical Statistics - 5 Years

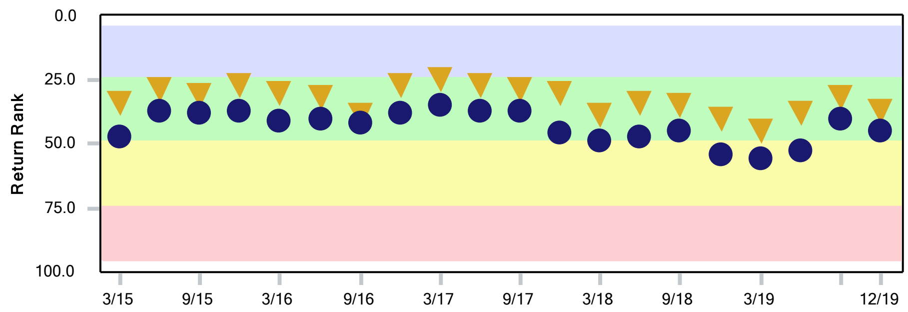
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
SPDR Barclays Convertibles Securities (ETF)	8.78	9.40	0.04	1.04	0.83	105.51	105.09
ICE BofAML All Convertibles, All Qualities	*8.41*	*8.70*	*0.00*	*1.00*	*0.86*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
SPDR Barclays Convertibles Securities (ETF)	11.54	9.85	-2.09	1.16	0.99	130.96	109.19
ICE BofAML All Convertibles, All Qualities	*11.91*	*8.25*	*0.00*	*1.00*	*1.21*	*100.00*	*100.00*

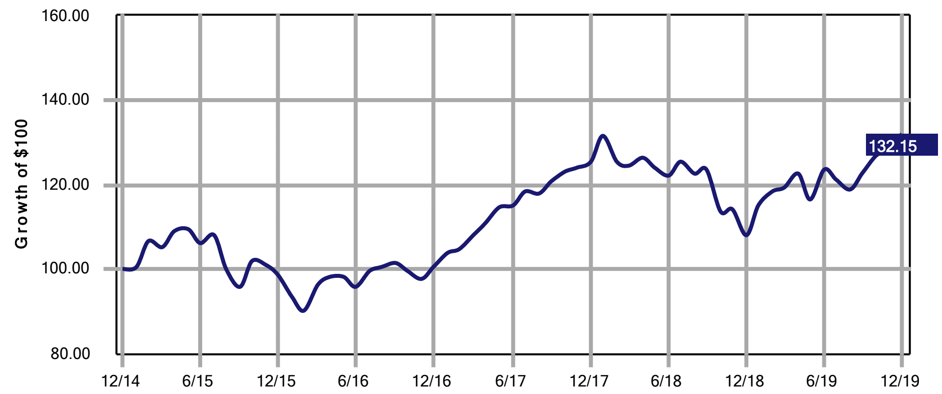
Holly Hill Firefighters' Retirement System
iShares MSCI EAFE (ETF)
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

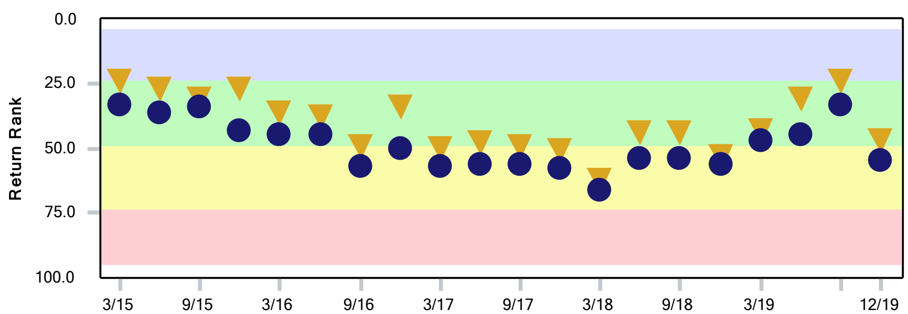


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● iShares MSCI EAFE (ETF)	20	0 (0%)	17 (85%)	3 (15%)	0 (0%)
▼ MSCI EAFE Index	20	1 (5%)	19 (95%)	0 (0%)	0 (0%)

Growth of a Dollar

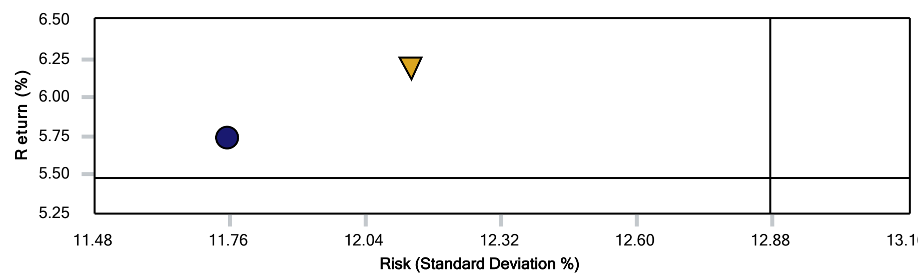


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● iShares MSCI EAFE (ETF)	20	0 (0%)	10 (50%)	10 (50%)	0 (0%)
▼ MSCI EAFE Index	20	2 (10%)	15 (75%)	3 (15%)	0 (0%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
● iShares MSCI EAFE (ETF)	5.73	11.76
▼ MSCI EAFE Index	6.18	12.14
— Median	5.48	12.87

Historical Statistics - 5 Years

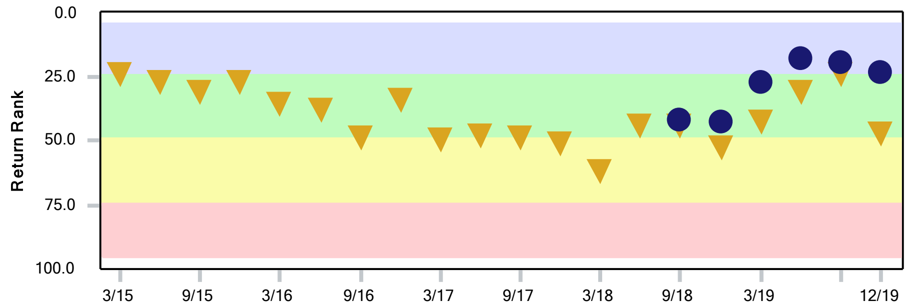
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
iShares MSCI EAFE (ETF)	5.73	11.76	-0.18	0.96	0.44	96.50	95.37
MSCI EAFE Index	*6.18*	*12.14*	*0.00*	*1.00*	*0.47*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
iShares MSCI EAFE (ETF)	9.56	10.96	-0.57	1.01	0.74	100.05	97.76
MSCI EAFE Index	*10.11*	*10.80*	*0.00*	*1.00*	*0.79*	*100.00*	*100.00*

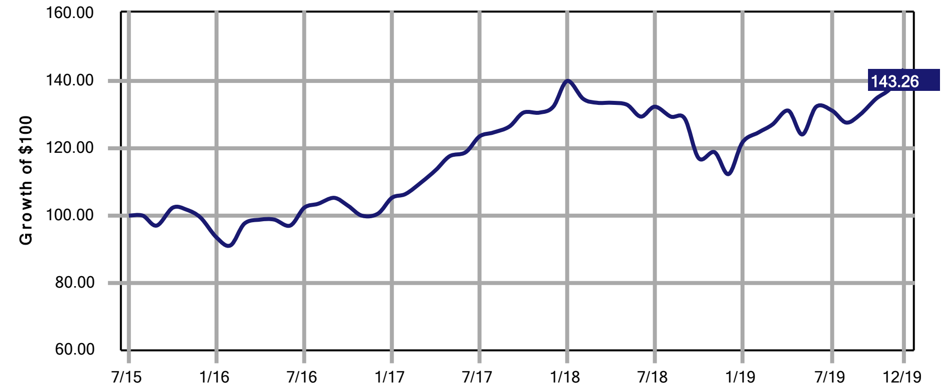
Holly Hill Firefighters' Retirement System
Am Funds EuroPacific Growth R6 (MF)
December 31, 2019

3 Years Rolling Percentile Ranking - 5 Years

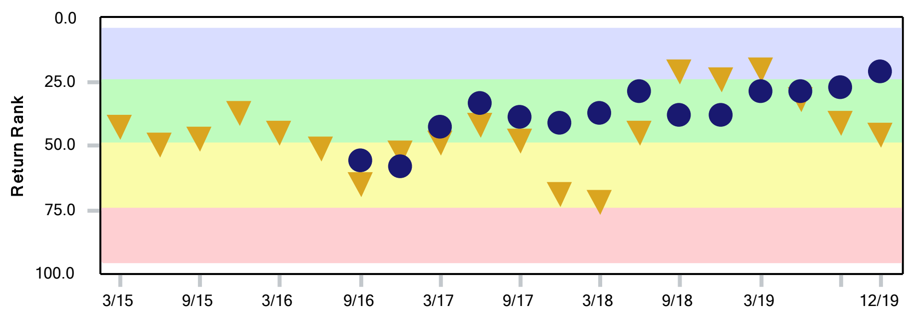


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Am Funds EuroPacific Growth R6 (MF)	6	3 (50%)	3 (50%)	0 (0%)	0 (0%)
▼ MSCI EAFE Index	20	2 (10%)	15 (75%)	3 (15%)	0 (0%)

Growth of a Dollar

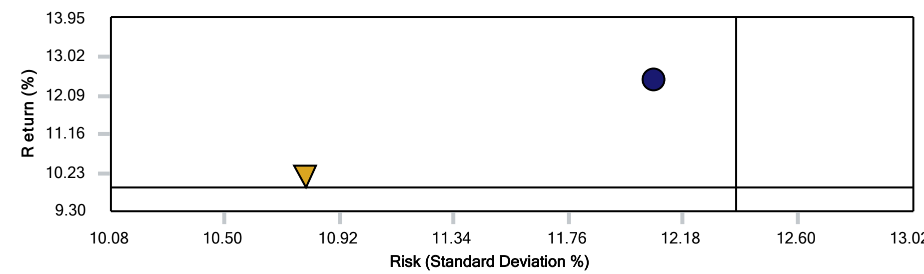


1 Year Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Am Funds EuroPacific Growth R6 (MF)	14	1 (7%)	11 (79%)	2 (14%)	0 (0%)
▼ MSCI EAFE Index	20	3 (15%)	12 (60%)	5 (25%)	0 (0%)

Peer Group Risk/Reward - 3 Years



	Return	Standard Deviation
● Am Funds EuroPacific Growth R6 (MF)	12.48	12.08
▼ MSCI EAFE Index	10.11	10.80
— Median	9.86	12.38

Historical Statistics - 3 Years

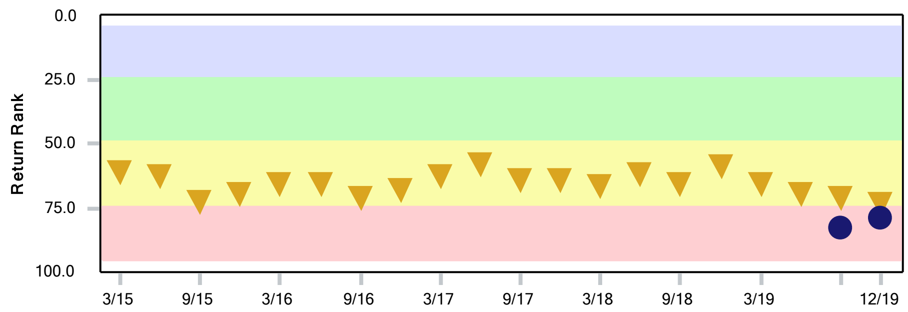
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Am Funds EuroPacific Growth R6 (MF)	12.48	12.08	1.55	1.07	0.90	90.99	106.14
MSCI EAFE Index	*10.11*	*10.80*	*0.00*	*1.00*	*0.79*	*100.00*	*100.00*

Historical Statistics - 1 Year

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Am Funds EuroPacific Growth R6 (MF)	27.39	12.34	1.88	1.10	1.86	103.73	114.58
MSCI EAFE Index	*22.66*	*10.98*	*0.00*	*1.00*	*1.72*	*100.00*	*100.00*

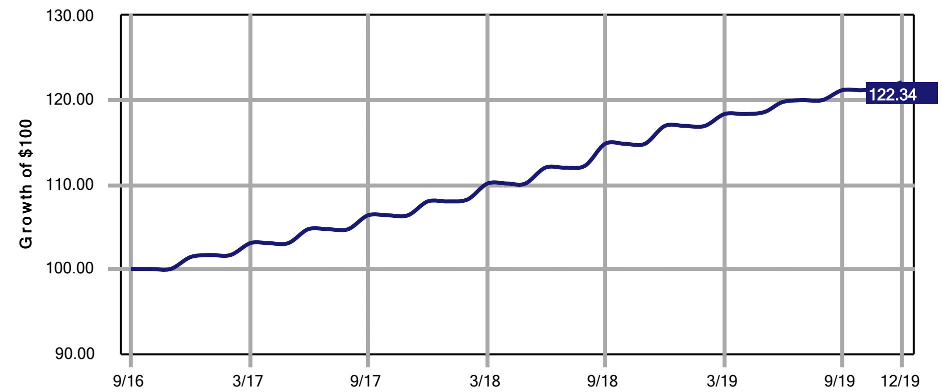
Holly Hill Firefighters' Retirement System
MEPT Fund (CF)
December 31, 2019

3 Years Rolling Percentile Ranking - 5 Years

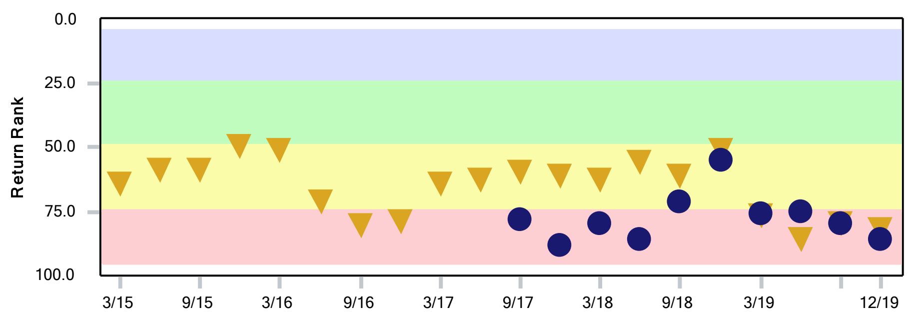


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● MEPT Fund (CF)	2	0 (0%)	0 (0%)	0 (0%)	2 (100%
▼ NCREIF Fund Index-ODCE (VW)	20	0 (0%)	0 (0%)	20 (100%	0 (0%)

Growth of a Dollar

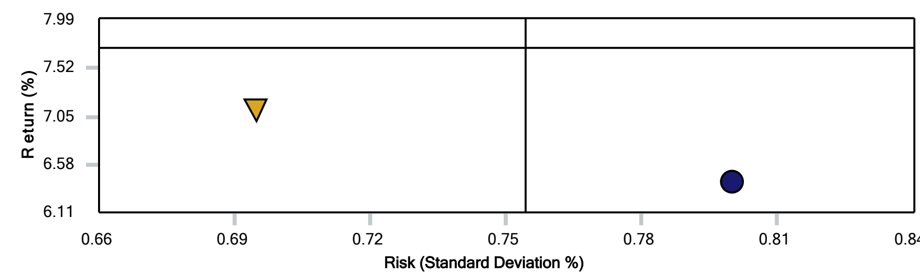


1 Year Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● MEPT Fund (CF)	10	0 (0%)	0 (0%)	3 (30%)	7 (70%)
▼ NCREIF Fund Index-ODCE (VW)	20	0 (0%)	1 (5%)	13 (65%)	6 (30%)

Peer Group Risk/Reward - 3 Years



	Return	Standard Deviation
● MEPT Fund (CF)	6.39	0.80
▼ NCREIF Fund Index-ODCE (VW)	7.10	0.69
— Median	7.71	0.75

Historical Statistics - 3 Years

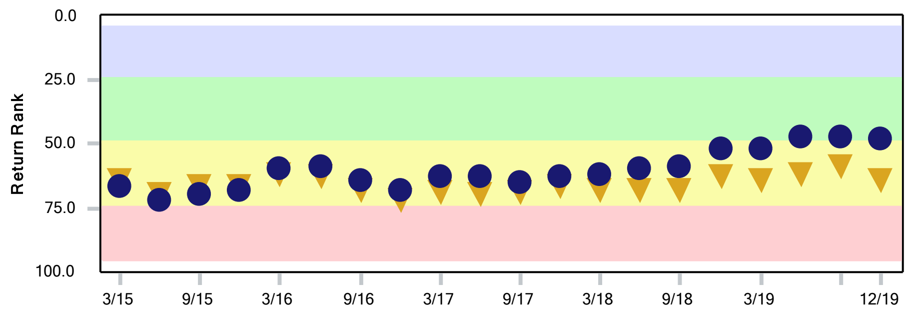
	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
MEPT Fund (CF)	6.39	0.80	0.40	0.85	5.06	N/A	90.35
NCREIF Fund Index-ODCE (VW)	*7.10*	*0.69*	*0.00*	*1.00*	*5.80*	*N/A*	*100.00*

Historical Statistics - 1 Year

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
MEPT Fund (CF)	4.59	0.33	7.29	-0.49	10.87	N/A	86.02
NCREIF Fund Index-ODCE (VW)	*5.35*	*0.39*	*0.00*	*1.00*	*5.90*	*N/A*	*100.00*

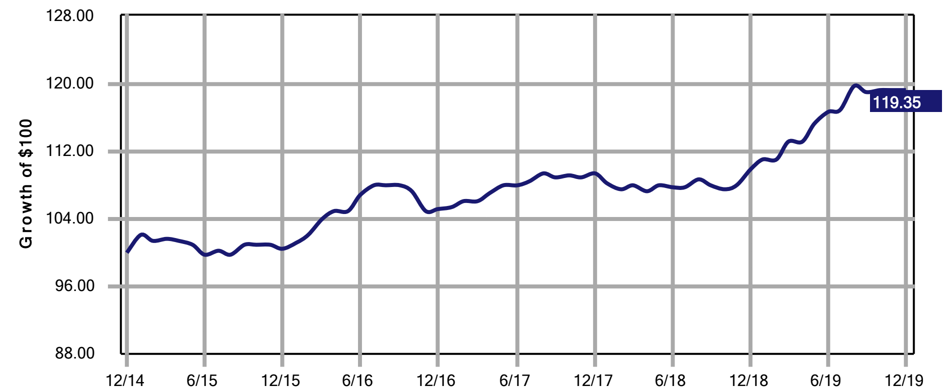
Holly Hill Firefighters' Retirement System
Highland Fixed Income (SMA)
December 31, 2019

5 Years Rolling Percentile Ranking - 5 Years

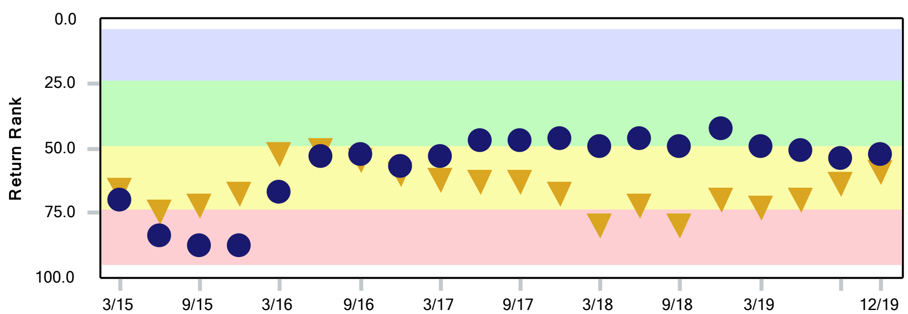


	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Highland Fixed Income (SMA)	20	0 (0%)	3 (15%)	17 (85%)	0 (0%)
▼ Fixed Income Benchmark	20	0 (0%)	0 (0%)	20 (100%)	0 (0%)

Growth of a Dollar

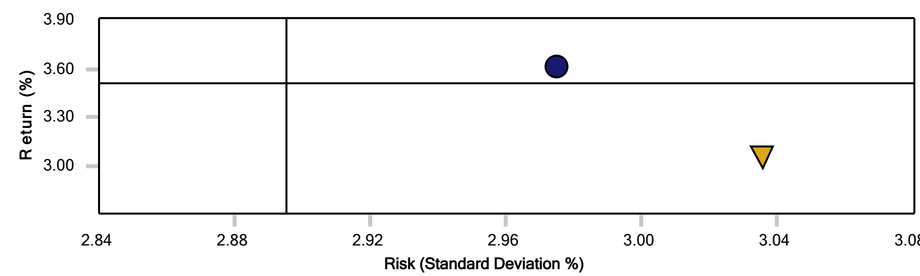


3 Years Rolling Percentile Ranking - 5 Years



	Periods	5 - 25	25 - 50	50 - 75	75 - 95
● Highland Fixed Income (SMA)	20	0 (0%)	8 (40%)	9 (45%)	3 (15%)
▼ Fixed Income Benchmark	20	0 (0%)	0 (0%)	18 (90%)	2 (10%)

Peer Group Risk/Reward - 5 Years



	Return	Standard Deviation
● Highland Fixed Income (SMA)	3.60	2.98
▼ Fixed Income Benchmark	3.05	3.04
__ Median	3.51	2.90

Historical Statistics - 5 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Highland Fixed Income (SMA)	3.60	2.98	0.69	0.95	0.87	89.21	104.77
Fixed Income Benchmark	*3.05*	*3.04*	*0.00*	*1.00*	*0.67*	*100.00*	*100.00*

Historical Statistics - 3 Years

	Return	Standard Deviation	Alpha	Beta	Sharpe Ratio	Down Market Capture	Up Market Capture
Highland Fixed Income (SMA)	4.33	2.66	0.60	0.92	1.01	83.21	99.21
Fixed Income Benchmark	*4.03*	*2.87*	*0.00*	*1.00*	*0.83*	*100.00*	*100.00*

Holly Hill Firefighters' Retirement System
Glossary
December 31, 2019

-ACCRUED INTEREST- Bond interest earned since the last interest payment, but not yet received.

-ALPHA- A linear regressive constant that measures expected return independent of Beta.

-ASSET ALLOCATION- The division of portfolio asset classes in order to achieve an expected investment objective.

-BALANCED UNIVERSES - Public Funds, Endowments & Foundations, Corporate peer groups, and PSN peer groups.

-BETA- A measure of portfolio sensitivity (volatility) in relation to the market, based upon past experience.

-BOND DURATION- A measure of portfolio sensitivity to interest rate risk.

-COMMINGLED FUND- An investment fund which is similar to a mutual fund in that investors are permitted to purchase and redeem units that represent ownership in a pool of securities.

-CONVERTIBLE BONDS - Hybrid securities' that offer equity returns during rising equity markets and improved down-market protection.

-CORE- An equal weighting in both growth and value stocks.

-CORRELATION COEFFICIENT- A measure of how two assets move together. The measure is bounded by +1 and -1; +1 means that the two assets move together positively, while a measure of -1 means that the assets are perfectly negatively correlated.

-GROWTH MANAGER- Generally invests in companies that have either experienced above-average growth rates and/or are expected to experience above-average growth rates in the future. Growth portfolios tend to have high price/earnings ratios and generally pay little to no dividends.

-INDEXES- Indexes are used as "independent representations of markets" (e.g., S&P 500).

-INFORMATION RATIO- Annualized excess return above the benchmark relative to the annualized tracking error.

-LARGE CAP- Generally, the term refers to a company that has a market capitalization that exceeds $10 billion.

-MANAGER UNIVERSE- A collection of quarterly investment returns from various investment management firms that may be subdivided by style (e.g. growth, value, core).

-MID CAP- Generally, the term refers to a company that has a market capitalization between $2 and $10 billion.

-NCREIF - A quarterly time series composite total rate of return measure of investment performance of a large pool of individual commercial real estate properties acquired in the private market for investment purposes only.

-NCREIF ODCE - Open End Diversified Core Equity index which consists of historical and current returns from 26 open-end commingled funds pursuing core strategy. This index is capitalization weighted, time weighted and gross of fees.

-NET- Investment return accounts only for manager fees.

-PROTECTING FLORIDA INVESTMENT ACT (PFIA) - SBA publishes a list of prohibited investments (scrutinized companies).

-RATE OF RETURN- The percentage change in the value of an investment in a portfolio over a specified time period, excluding contributions.

-RISK MEASURES- Measures of the investment risk level, including beta, credit, duration, standard deviation, and others that are based on current and historical data.

-R-SQUARED- Measures how closely portfolio returns and those of the market are correlated, or how much variation in the portfolio returns may be explained by the market. An R2 of 40 means that 40% of the variation in a fund's price changes could be attributed to changes in the market index over the time period.

Holly Hill Firefighters' Retirement System
Glossary
December 31, 2019

-SHARPE RATIO- The ratio of the rate of return earned above the risk-free rate to the standard deviation of the portfolio. It measures the number of units of return per unit of risk.

-SMALL CAP- Generally refers to a company with a market capitalization $300 million to $2 billion.

-STANDARD DEVIATION- Measure of the variability (dispersion) of historical returns around the mean. It measures how much exposure to volatility was experienced by the implementation of an investment strategy.

-SYSTEMATIC RISK- Measured by beta, it is the risk that cannot be diversified away (market risk).

-TIME WEIGHTED (TW) RETURN - A measure of the investments versus the investor. When there are no flows the TW & DOLLAR weighted (DW) returns are the same and vice versa.

-TRACKING ERROR- A measure of how closely a manager's performance tracks an index; it is the annualized standard deviation of the differences between the quarterly returns for the manager and the benchmark.

-TREYNOR RATIO- A measure of reward per unit of risk. (excess return divided by beta).

-UP AND DOWN-MARKET CAPTURE RATIO- Ratio that illustrates how a manager performed relative to the market during rising and declining market periods.

-VALUE MANAGER- Generally invests in companies that have low price-to-earnings and price-to-book ratios and/or above-average dividend yields.

Holly Hill Firefighters' Retirement System
Disclosure
December 31, 2019

Advisory services are offered through or by Burgess Chambers and Associates, Inc., a registered SEC investment advisor.

Performance Reporting:

1. Changes in portfolio valuations due to capital gains or losses, dividends, interest, income and management fees are included in the calculation of returns. All calculations are made in accordance with generally accepted industry standards.

2. Transaction costs, such as commissions, are included in the purchase cost or deducted from the proceeds or sale of a security. Differences in transaction costs may affect comparisons.

3. Individual client returns may vary due to a variety of factors, including differences in investment objectives, asset allocating and timing of investment decisions.

4. Performance reports are generated from information supplied by the client, custodian, and/or investment managers. BCA relies upon the accuracy of this data when preparing reports.

5. The market indexes do not include transaction costs, and an investment in a product similar to the index would have lower performance dependent upon costs, fees, dividend reinvestments, and timing. Benchmarks and indexes are for comparison purposes only, and there is no assurance or guarantee that such performance will be achieved.

6. Performance information prepared by third party sources may differ from that shown by BCA. These differences may be due to different methods of analysis, different time periods being evaluated, different pricing sources for securities, treatment of accrued income, treatment of cash, and different accounting procedures.

7. Certain valuations, such as alternative assets, ETF, and mutual funds, are prepared based on information from third party sources, the accuracy of such information cannot be guaranteed by BCA. Such data may include estimates and maybe subject to revision.

8. BCA relies on third party vendors to supply tax cost and market values, In the event that cost values are not available, market values may be used as a substitute.

9. BCA has not reviewed the risks of individual security holdings.

10. BCA investment reports are not indicative of future results.

11. Performance rankings are time sensitive and subject to change.

12. Mutual Fund (MF), Collective Investment Trusts (CIT) and Exchange Traded Funds (ETF) are ranked in net of fee universes.

13. Separately Managed Account (SMA) and Commingled Fund (CF) returns are ranked in gross of fees universes.

14. Composite returns are ranked in universes that encompass both gross and net of fee returns.

15. Total Fund returns are ranked in a gross of fee universe.

16. For a free copy of Part II (mailed w/i 5 bus. days from request receipt) of Burgess Chambers & Associates, Inc.'s most recent Form ADV which details pertinent business procedures, please contact: 315 East Robinson Street Suite #690, Orlando, Florida 32801, 407-644-0111, info@burgesschambers.com.

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CITY OF HOLLY HILL
FIREFIGHTERS' PENSION PLAN

ACTUARIAL VALUATION
AS OF OCTOBER 1, 2019

CONTRIBUTIONS APPLICABLE TO THE
PLAN/FISCAL YEAR ENDING SEPTEMBER 30, 2021

GASB 67/68 DISCLOSURE INFORMATION
AS OF SEPTEMBER 30, 2019

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

February 5, 2020

Board of Trustees
City of Holly Hill
Firefighters' Pension Board

Re: City of Holly Hill Firefighters' Pension Plan

Dear Board:

We are pleased to present to the Board this report of the annual actuarial valuation of the City of Holly Hill Firefighters' Pension Plan. Included are the related results for GASB Statements No. 67 and No. 68. The funding valuation was performed to determine whether the assets and contributions are sufficient to provide the prescribed benefits and to develop the appropriate funding requirements for the applicable plan year. The calculation of the liability for GASB results was performed for the purpose of satisfying the requirements of GASB Statements No. 67 and No. 68. Use of the results for other purposes may not be applicable and may produce significantly different results.

The valuations have been conducted in accordance with generally accepted actuarial principles and practices, including the applicable Actuarial Standards of Practice as issued by the Actuarial Standards Board, and reflect laws and regulations issued to date pursuant to the provisions of Chapters 112 and 175, Florida Statutes, as well as applicable federal laws and regulations. In our opinion, the assumptions used in the valuations, as adopted by the Board of Trustees, represent reasonable expectations of anticipated plan experience. Future actuarial measurements may differ significantly from the current measurements presented in this report for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations. Due to the limited scope of the valuations, we did not perform an analysis of the potential range of such future measurements.

In conducting the valuations, we have relied on personnel, plan design, and asset information supplied by the City of Holly Hill, financial reports prepared by the custodian bank, and the actuarial assumptions and methods described in the Actuarial Assumptions section of this report. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness. As a result of this review, we have no reason to doubt the substantial accuracy of the information and believe that it has produced appropriate results. This information, along with any adjustments or modifications, is summarized in various sections of this report.

The total pension liability, net pension liability, and certain sensitivity information shown in this report are based on an actuarial valuation performed as of October 1, 2018. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending September 30, 2019 using generally accepted actuarial principles. It is our opinion that the assumptions used for this purpose are internally consistent, reasonable, and comply with the requirements under GASB No. 67 and No. 68.

The undersigned are familiar with the immediate and long-term aspects of pension valuations, and meet the Qualification Standards of the American Academy of Actuaries necessary to render the actuarial opinions contained herein. All of the sections of this report are considered an integral part of the actuarial opinions.

To our knowledge, no associate of Foster & Foster, Inc. working on valuations of the program has any direct financial interest or indirect material interest in the City of Holly Hill, nor does anyone at Foster & Foster, Inc. act as a member of the Board of Trustees of the Firefighters' Pension Plan. Thus, there is no relationship existing that might affect our capacity to prepare and certify this actuarial report.

If there are any questions, concerns, or comments about any of the items contained in this report, please contact us at 239-433-5500.

Respectfully submitted,

Foster & Foster, Inc.

By: Patrick T. Donlan

Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #17-6595

By: Sara Carlson

Sara E. Carlson, ASA, EA, MAAA
Enrolled Actuary #17-8546

PTD/lke

Enclosures

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SUMMARY OF REPORT

The regular annual actuarial valuation of the City of Holly Hill Firefighters' Pension Plan, performed as of October 1, 2019, has been completed and the results are presented in this Report. The contribution amounts set forth herein are applicable to the plan/fiscal year ending September 30, 2021.

The contribution requirements, compared with those set forth in the January 2, 2020 actuarial impact statement, determined as of October 1, 2018, are as follows:

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	9/30/2021	9/30/2020
Minimum Required Contribution		
% of Projected Annual Payroll	56.3%	54.0%
Member Contributions (Est.)		
% of Projected Annual Payroll	7.0%	7.0%
City And State Required Contribution		
% of Projected Annual Payroll	49.3%	47.0%
State Contribution (Est.) [1]	\$47,064	\$47,064
% of Projected Annual Payroll	7.2%	7.2%
City Required Contribution [2]		
% of Projected Annual Payroll	42.1%	39.8%

[1] Represents the amount received in calendar 2019. As per a Mutual Consent Agreement between the Membership and the City, all State Monies received each year will be available to offset the City’s required contribution.

[2] The required contribution from the combination of City and State sources for the year ending September 30, 2021, is 49.3% of the actual payroll realized in that year. As a budgeting tool, the City may contribute 42.1% of each Member’s Salary and then make a one-time adjustment to account for the actual State Monies received.

As you can see, the Minimum Required Contribution shows an increase when compared to the results determined in the January 2, 2020 actuarial impact statement. The increase is attributable to the fact that an actuarial gain from 2009 that was amortized over 10 years was fully recognized in this report. The increase was offset in part by net favorable actuarial experience during the past year as described below.

Plan experience was favorable overall on the basis of the plan's actuarial assumptions. Sources of actuarial gain included an average salary increase of -0.83% which fell short of the 5.78% assumption and an investment return of 8.00% (Actuarial Asset Basis) which exceeded the 7.40% assumption. These gains were offset in part by losses associated with inactive mortality experience and unfavorable turnover experience.

CHANGES SINCE PRIOR VALUATION

Plan Changes

Chapter 2019-21, Laws of Florida was signed into effect granting certain disability benefits to firefighters participating in an employer-sponsored retirement plan. Effective July 1, 2019, "the retirement plan must consider the firefighter totally and permanently disabled in the line of duty if he or she meets the retirement plan's definition of totally and permanently disabled due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer." For this purpose, “cancer” is as defined in Section 112.1816(1), Florida Statutes.

Please note that the benefit changes only relate to the disability benefits for the Pension Fund and do not provide for other additional benefits that are provided for in Florida Statutes Section 112.1816.

Actuarial Assumption/Method Changes

There have been no changes of actuarial assumptions or methods since the prior valuation other than an increase in the expected percentage of disabilities that are in line-of-duty, as a result of the plan change described above.

CONTRIBUTION IMPACT OF ANNUAL CHANGES

(1)	Contribution Determined as of October 1, 2018	39.9%
(2)	Summary of Contribution Impact by component:	
	Change in State Contribution Percentage	-0.1%
	Change in Normal Cost Rate	-0.8%
	Change in Administrative Expense Percentage	-0.8%
	Payroll Change Effect on UAAL Amortization	0.3%
	Investment Return (Actuarial Asset Basis)	-0.6%
	Salary Increases	-2.5%
	Active Decrements	0.7%
	Inactive Mortality	0.9%
	Full Recognition of 2009 Gain Base	4.5%
	Assumption Change	0.0%
	Other	0.6%
	Total Change in Contribution	2.2%
(3)	Contribution Determined as of October 1, 2019	42.1%

COMPARATIVE SUMMARY OF PRINCIPAL VALUATION RESULTS

	10/1/2019	10/1/2018
A. Participant Data		
Actives	12	12
Service Retirees	11	11
DROP Retirees	1	1
Beneficiaries	0	0
Disability Retirees	0	0
Terminated Vested	1	0
Total	25	24
Total Annual Payroll	$655,225	$662,103
Payroll Under Assumed Ret. Age	655,225	662,103
Annual Rate of Payments to:		
Service Retirees	349,276	349,276
DROP Retirees	53,475	53,475
Beneficiaries	0	0
Disability Retirees	0	0
Terminated Vested	0	0
B. Assets		
Actuarial Value (AVA) [1]	4,897,220	4,586,582
Market Value (MVA) [1]	4,853,789	4,687,772
C. Liabilities		
Present Value of Benefits		
Actives		
Retirement Benefits	2,698,416	2,574,439
Disability Benefits	81,314	77,322
Death Benefits	47,565	45,616
Vested Benefits	259,776	267,958
Refund of Contributions	8,664	10,720
Service Retirees	3,445,983	3,509,892
DROP Retirees [1]	825,822	775,239
Beneficiaries	0	0
Disability Retirees	0	0
Terminated Vested	526	0
Share Plan Balances [1]	0	0
Total	7,368,066	7,261,186

C. Liabilities - (Continued)	10/1/2019	10/1/2018
Present Value of Future Salaries	5,212,031	5,561,782
Present Value of Future Member Contributions	364,842	389,325
Normal Cost (Retirement)	118,599	121,907
Normal Cost (Disability)	6,254	5,872
Normal Cost (Death)	3,000	2,936
Normal Cost (Vesting)	16,419	18,668
Normal Cost (Refunds)	2,050	3,808
Total Normal Cost	146,322	153,191
Present Value of Future Normal Costs	1,112,359	1,213,088
Accrued Liability (Retirement)	1,795,034	1,584,553
Accrued Liability (Disability)	36,978	33,443
Accrued Liability (Death)	24,924	22,357
Accrued Liability (Vesting)	125,225	120,960
Accrued Liability (Refunds)	1,215	1,654
Accrued Liability (Inactives) [1]	4,272,331	4,285,131
Share Plan Balances [1]	0	0
Total Actuarial Accrued Liability (EAN AL)	6,255,707	6,048,098
Unfunded Actuarial Accrued Liability (UAAL)	1,358,487	1,461,516
Funded Ratio (AVA / EAN AL)	78.3%	75.8%

D. Actuarial Present Value of Accrued Benefits	10/1/2019	10/1/2018
Vested Accrued Benefits		
Inactives + Share Plan Balances [1]	4,272,331	4,285,131
Actives	933,675	616,786
Member Contributions	376,485	333,865
Total	5,582,491	5,235,782
Non-vested Accrued Benefits	11,344	156,952
Total Present Value Accrued Benefits (PVAB)	5,593,835	5,392,734
Funded Ratio (MVA / PVAB)	86.8%	86.9%
Increase (Decrease) in Present Value of Accrued Benefits Attributable to:		
Plan Amendments	0	
Assumption Changes	0	
Plan Experience	164,975	
Benefits Paid	(349,987)	
Interest	386,113	
Other	0	
Total	201,101	

Valuation Date	10/1/2019	10/1/2018
Applicable to Fiscal Year Ending	9/30/2021	9/30/2020
E. Pension Cost		
Normal Cost (with interest)		
% of Total Annual Payroll [2]	23.2	24.0
Administrative Expenses (with interest)		
% of Total Annual Payroll [2]	4.5	5.3
Payment Required to Amortize Unfunded Actuarial Accrued Liability over 29 years (as of 10/1/2019, with interest)		
% of Total Annual Payroll [2]	28.6	24.7
Minimum Required Contribution		
% of Total Annual Payroll [2]	56.3	54.0
Expected Member Contributions		
% of Total Annual Payroll [2]	7.0	7.0
Expected City and State Contribution		
% of Total Annual Payroll [2]	49.3	47.0
F. Past Contributions		
Plan Years Ending:	9/30/2019	
Total Required Contribution	327,311	
City and State Requirement	276,496	
Actual Contributions Made:		
Members (excluding buyback)	43,146	
City	229,432	
State	47,064	
Total	319,642	
G. Net Actuarial (Gain)/Loss	(75,400)	

[1] The asset values and liabilities include accumulated DROP and Share Plan Balances as of 9/30/2019 and 9/30/2018.

[2] Contributions developed as of 10/1/2019 are expressed as a percentage of total annual payroll at 10/1/2019 of $655,225.

H. Schedule Illustrating the Amortization of the Total Unfunded Actuarial Accrued Liability as of:

Year	Projected Unfunded Actuarial Accrued Liability
2019	1,358,487
2020	1,265,194
2021	1,145,799
2028	346,703
2048	0

I. (i) 5 Year Comparison of Actual and Assumed Salary Increases

		Actual	Assumed
Year Ended	9/30/2019	-0.83%	5.78%
Year Ended	9/30/2018	3.56%	5.50%
Year Ended	9/30/2017	3.21%	5.74%
Year Ended	9/30/2016	4.07%	6.00%
Year Ended	9/30/2015	3.63%	6.00%

(ii) 5 Year Comparison of Investment Return on Market Value and Actuarial Value

		Market Value	Actuarial Value	Assumed
Year Ended	9/30/2019	4.75%	8.00%	7.40%
Year Ended	9/30/2018	7.00%	6.61%	7.40%
Year Ended	9/30/2017	10.59%	7.12%	7.40%
Year Ended	9/30/2016	9.75%	7.32%	7.50%
Year Ended	9/30/2015	-0.54%	8.56%	7.50%

(iii) Average Annual Payroll Growth

(a) Payroll as of:	10/1/2019	$655,225
	10/1/2009	630,037
(b) Total Increase		4.00%
(c) Number of Years		10.00
(d) Average Annual Rate		0.39%

STATEMENT BY ENROLLED ACTUARY

This actuarial valuation was prepared and completed by me or under my direct supervision, and I acknowledge responsibility for the results. To the best of my knowledge, the results are complete and accurate, and in my opinion, the techniques and assumptions used are reasonable and meet the requirements and intent of Part VII, Chapter 112, Florida Statutes. There is no benefit or expense to be provided by the plan and/or paid from the plan's assets for which liabilities or current costs have not been established or otherwise taken into account in the valuation. All known events or trends which may require a material increase in plan costs or required contribution rates have been taken into account in the valuation.

Patrick T. Donlan

Patrick T. Donlan, EA, ASA, MAAA
Enrolled Actuary #17-6595

Please let us know when the report is approved by the Board and unless otherwise directed we will provide copies of the report to the following offices to comply with Chapter 112, Florida Statutes:

Mr. Keith Brinkman
Bureau of Local
Retirement Systems
Post Office Box 9000
Tallahassee, FL 32315-9000

Mr. Steve Bardin
Municipal Police and Fire
Pension Trust Funds
Division of Retirement
Post Office Box 3010
Tallahassee, FL 32315-3010

RECONCILIATION OF UNFUNDED ACTUARIAL ACCRUED LIABILITIES

(1)	Unfunded Actuarial Accrued Liability as of October 1, 2018	$1,461,516
(2)	Sponsor Normal Cost developed as of October 1, 2018	106,844
(3)	Expected administrative expenses for the year ended September 30, 2019	33,611
(4)	Expected interest on (1), (2) and (3)	117,302
(5)	Sponsor contributions to the System during the year ended September 30, 2019	276,496
(6)	Expected interest on (5)	8,890
(7)	Expected Unfunded Actuarial Accrued Liability as of September 30, 2019 (1)+(2)+(3)+(4)-(5)-(6)	1,433,887
(8)	Change to UAAL due to Assumption Change	0
(9)	Change to UAAL due to Actuarial (Gain)/Loss	(75,400)
(10)	Unfunded Actuarial Accrued Liability as of October 1, 2019	1,358,487

Type of Base	Date Established	Years Remaining	10/1/2019 Amount	Amortization Amount
Benefit Improv.	10/1/2003	14	173,328	18,899
Actuarial Loss	10/1/2004	9	466,224	67,767
Benefit Improv.	10/1/2005	16	533,981	54,035
Actuarial Loss	10/1/2005	9	179,101	26,033
Actuarial Loss	10/1/2006	9	10,602	1,541
Actuarial Gain	10/1/2007	9	(32,027)	(4,655)
Method Change	10/1/2008	9	(5,046)	(733)
Benefit Change	10/1/2008	19	5,014	465
Actuarial Gain	10/1/2010	1	(17,874)	(17,874)
Assumption	10/1/2010	11	62,112	7,867
Actuarial Loss	10/1/2011	2	61,201	31,692
Actuarial Loss	10/1/2012	3	26,726	9,552
Software Change	10/1/2013	14	(110,601)	(12,059)
Actuarial Gain	10/1/2013	4	(10,242)	(2,841)
Actuarial Gain	10/1/2014	5	(40,206)	(9,228)
Use of Excess Reserve	10/1/2015	8	(13,710)	(2,171)
Actuarial Gain	10/1/2015	6	(7,880)	(1,558)
Benefit Change	10/1/2015	26	(126,935)	(10,366)
Assumption	10/1/2016	17	172,131	16,873

Type of Base	Date Established	Years Remaining	10/1/2019 Amount	Amortization Amount
Actuarial Loss	10/1/2016	7	62,975	11,032
Actuarial Gain	10/1/2017	8	(17,431)	(2,760)
Actuarial Loss	10/1/2018	9	63,360	9,210
Benefit Change	10/1/2018	29	(916)	(72)
Actuarial Gain	10/1/2019	10	(75,400)	(10,181)
			1,358,487	180,468

DETAILED ACTUARIAL (GAIN)/LOSS ANALYSIS

(1)	Unfunded Actuarial Accrued Liability (UAAL) as of October 1, 2018	$1,461,516
(2)	Expected UAAL as of October 1, 2019	1,433,887
(3)	Summary of Actuarial (Gain)/Loss, by component:	
	Investment Return (Actuarial Asset Basis)	(27,350)
	Salary Increases	(118,743)
	Active Decrements	31,538
	Inactive Mortality	40,938
	Other	(1,783)
	Increase in UAAL due to (Gain)/Loss	(75,400)
	Assumption Changes	0
(4)	Actual UAAL as of October 1, 2019	$1,358,487

ACTUARIAL ASSUMPTIONS AND METHODS

Mortality Rate

Healthy Active Lives:

Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB

Healthy Inactive Lives:

Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB

Disabled Lives:

Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale

The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.

90% (previously 75%) of active deaths are assumed to be service-incurred.

Interest Rate

7.40% per year compounded annually, net of investment related expenses. This is supported by the target asset allocation of the trust and the expected long-term return by asset class.

Salary Increases

Service	Assumed Salary Increase
< 1	10.0%
1+	5.5%

This assumption is based on the results of an experience study performed in 2016. Salary in year of retirement is increased individually to account for lump sums.

Payroll Growth

0.00% for purposes of amortizing the Unfunded Actuarial Accrued Liability. This assumption cannot exceed the ten-year average payroll growth, in compliance with Part VII of Chapter 112, Florida Statutes.

Administrative Expenses

$28,645 annually, based on the average of actual expenses incurred in the prior two fiscal years. Previously, the actual expense in the prior fiscal year was used. Using a two-year average results in a less volatile estimate than the prior method.

Amortization Method

New UAAL amortization bases are established according to the following amortization periods:

Experience: 10 Years.
Assumption/Method Changes: 20 Years.
Benefit Changes: 30 Years.

Termination Rates

Service	Assumed Withdrawal Rate
< 1	15.0%
1 – 4	10.0%
5 – 9	6.0%
10 +	2.0%

This assumption is based on the results of an experience study performed in 2016. For prior assumption, see Tables on the following page (1304).

Disability Rates

See Tables on the following page (1207). This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Retirement Age

Service	Age	Previous Retirement Rates	New Retirement Rates
<25	48-49	5.0%	5.0%
	50	100.0%	50.0%
	51-54	100.0%	20.0%
	55-59	100.0%	20.0%
	60+	100.0%	100.0%
25+	All	100.0%	100.0%

This assumption is based on the results of an experience study performed in 2016.

Early Retirement

Commencing with the earliest Early Retirement Age (48), members are assumed to retire with an immediate, subsidized benefit at the rate of 5% per year. We feel this assumption is reasonable based on the plan provisions.

GLOSSARY

Total Annual Payroll is the projected annual rate of pay as of the valuation date for all covered Members.

Present Value of Benefits is the single sum value on the valuation date of all future benefits to be paid to current Members, Retirees, Beneficiaries, Disability Retirees and Vested Terminations.

Total Required Contribution is equal to the Normal Cost plus an amount sufficient to amortize the Unfunded Accrued Liability over no more than 30 years. The required amount is adjusted for interest according to the timing of contributions during the year.

Entry Age Normal Cost Method - Under this method, the normal cost is the sum of the individual normal costs for all active participants. For an active participant, the normal cost is the participant's normal cost accrual rate, multiplied by the participant's current compensation.

(a) The normal cost accrual rate equals

(i) the present value of future benefits for the participant, determined as of the participant's entry age, divided by

(ii) the present value of the compensation expected to be paid to the participant for each year of the participant's anticipated future service, determined as of the participant's entry age .

(b) In calculating the present value of future compensation, the salary scale is applied both retrospectively and prospectively to estimate compensation in years prior to and subsequent to the valuation year based on the compensation used for the valuation.

(c) The accrued liability is the sum of the individual accrued liabilities for all participants and beneficiaries. A participant's accrued liability equals the present value, at the participant's attained age, of future benefits less the present value at the participant's attained age of the individual normal costs payable in the future. A beneficiary's accrued liability equals the present value, at the beneficiary's attained age, of future benefits. The unfunded accrued liability equals the total accrued liability less the actuarial value of assets.

(d) Under this method, the entry age used for each active participant is the participant's age at the time he or she would have commenced participation if the plan had always been in existence under current terms, or the age as of which he or she first earns service credits for purposes of benefit accrual under the current terms of the plan.

DISCUSSION OF RISK

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition.

Throughout this report, actuarial results are determined using various actuarial assumptions. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position.

Below are examples of ways in which plan experience can deviate from assumptions and the potential impact of that deviation. Typically, this results in an actuarial gain or loss representing the current-year financial impact on the plan's unfunded liability of the experience differing from assumptions; this gain or loss is amortized over a period of time determined by the plan's amortization method. When assumptions are selected that adequately reflect plan experience, gains and losses typically offset one another in the long term, resulting in a relatively low impact on the plan's contribution requirements associated with plan experience. When assumptions are too optimistic, losses can accumulate over time and the plan's amortization payment could potentially grow to an unmanageable level.

- <u>Investment Return</u>: When the rate of return on the Actuarial Value of Assets falls short of the assumption, this produces a loss representing assumed investment earnings that were not realized. Further, it is unlikely that the plan will experience a scenario that matches the assumed return in each year as capital markets can be volatile from year to year. Therefore, contribution amounts can vary in the future.

- <u>Salary Increases</u>: When a plan participant experiences a salary increase that was greater than assumed, this produces a loss representing the cost of an increase in anticipated plan benefits for the participant as compared to the previous year. The total gain or loss associated with salary increases for the plan is the sum of salary gains and losses for all active participants.

- <u>Demographic Assumptions:</u> Actuarial results take into account various potential events that could happen to a plan participant, such as retirement, termination, disability, and death. Each of these potential events is assigned a liability based on the likelihood of the event and the financial consequence of the event for the plan. Accordingly, actuarial liabilities reflect a blend of financial consequences associated with various possible outcomes (such as retirement at one of various possible ages). Once the outcome is known (e.g. the participant retires) the liability is adjusted to reflect the known outcome. This adjustment produces a gain or loss depending on whether the outcome was more or less favorable than other outcomes that could have occurred.

Impact of Plan Maturity on Risk

For newer pension plans, most of the participants and associated liabilities are related to active members who have not yet reached retirement age. As pension plans continue in operation and active members reach retirement ages, liabilities begin to shift from being primarily related to active members to being shared amongst active and retired members. Plan maturity is a measure of the extent to which this shift has occurred. It is important to understand that plan maturity can have an impact on risk tolerance and the overall risk characteristics of the plan. For example, closed plans with a large amount of retired liability do not have as long of a time horizon to recover from losses (such as losses on investments due to lower than expected investment returns) as plans where the majority of the liability is attributable to active members. For this reason, less tolerance for investment risk may be warranted for highly mature closed plans with a substantial inactive liability. Similarly, mature closed plans paying substantial retirement benefits resulting in a small positive or net negative cash flow can be more sensitive to near term investment volatility, particularly if the size of the fund is shrinking, which can result in less assets being available for investment in the market.

To assist with determining the maturity of the plan, we have provided some relevant metrics in the table following titled "Plan Maturity Measures and Other Risk Metrics". Highlights of this information are discussed below:

- The Support Ratio, determined as the ratio of active to inactive members, has decreased from 130.0% on October 1, 2016 to 100.0% on October 1, 2019, indicating that the plan has been maturing during the period.

- The Accrued Liability Ratio, determined as the ratio of the Inactive Accrued Liability, which is the liability associated with members who are no longer employed but are due a benefit from the plan, to the Total Accrued Liability, is 68.3%. With a plan of this maturity, losses due to lower than expected investment returns or demographic factors may result in larger increases in contribution requirements than would be needed for a less mature plan. Please note Chapter 112, Florida Statutes, requires that the plan sponsor contributes the minimum required contribution; thus, there is minimal solvency risk to the plan.

- The Funded Ratio, determined as the ratio of the Actuarial Value of Assets to the Total Accrued Liability, has increased from 73.6% on October 1, 2016 to 78.3% on October 1, 2019.

- The Net Cash Flow Ratio, determined as the ratio of the Net Cash Flow (contributions minus benefit payments and administrative expenses) to the Market Value of Assets, stayed approximately the same from October 1, 2016 to October 1, 2019. The current Net Cash Flow Ratio of -1.1% indicates that contributions are not currently covering the plan's benefit payments and administrative expenses.

It is important to note that the actuary has identified the risks in this section as the most significant risks based on the characteristics of the plan and the nature of the project, however, it is not an exhaustive list of potential risks that could be considered. Additional advanced modeling, as well as the identification of additional risks, can be provided at the request of the audience addressed on page 2 of this report.

PLAN MATURITY MEASURES AND OTHER RISK METRICS

	10/1/2016	10/1/2017	10/1/2018	10/1/2019
Support Ratio				
Total Actives	13	12	12	12
Total Inactives [1]	10	11	12	12
Actives / Inactives [1]	130.0%	109.1%	100.0%	100.0%
Asset Volatility Ratio				
Market Value of Assets (MVA)	4,038,666	4,415,578	4,687,772	4,853,789
Total Annual Payroll	719,133	663,536	662,103	655,225
MVA / Total Annual Payroll	561.6%	665.5%	708.0%	740.8%
Accrued Liability (AL) Ratio				
Inactive Accrued Liability	3,337,966	4,003,942	4,285,131	4,272,331
Total Accrued Liability (EAN)	5,557,699	5,788,993	6,048,098	6,255,707
Inactive AL / Total AL	60.1%	69.2%	70.9%	68.3%
Funded Ratio				
Actuarial Value of Assets (AVA)	4,088,144	4,334,053	4,586,582	4,897,220
Total Accrued Liability (EAN)	5,557,699	5,788,993	6,048,098	6,255,707
AVA / Total Accrued Liability (EAN)	73.6%	74.9%	75.8%	78.3%
Net Cash Flow Ratio				
Net Cash Flow [2]	(62,650)	(43,499)	(32,765)	(54,024)
Market Value of Assets (MVA)	4,038,666	4,415,578	4,687,772	4,853,789
Ratio	-1.6%	-1.0%	-0.7%	-1.1%

[1] Excludes terminated participants awaiting a refund of member contributions.

[2] Determined as total contributions minus benefit payments and administrative expenses.

PARTIAL HISTORY OF PREMIUM TAX REFUNDS

Received During Fiscal Year	Amount	Increase from Previous Year
1998	37,877.82	_____%
1999	30,833.45	-18.6%
2000	35,052.40	13.7%
2001	31,716.65	-9.5%
2002	35,164.02	10.9%
2003	40,824.85	16.1%
2004	42,041.90	3.0%
2005	49,744.48	18.3%
2006	54,012.60	8.6%
2007	79,761.23	47.7%
2008	-	-100.0%
2009	149,514.32	N/A
2010	62,261.02	-58.4%
2011	59,948.14	-3.7%
2012	56,963.81	-5.0%
2013	60,550.10	6.3%
2014	62,760.89	3.7%
2015	55,150.95	-12.1%
2016	51,534.90	-6.6%
2017	43,415.38	-15.8%
2018	43,892.39	1.1%
2019	47,064.20	7.2%

STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2019

ASSETS	COST VALUE	MARKET VALUE
Cash and Cash Equivalents:		
Short Term Investments	29,937.83	29,937.83
Prepaid Expenses	3,212.00	3,212.00
Cash	(3,562.26)	(3,562.26)
Total Cash and Equivalents	29,587.57	29,587.57
Receivables:		
City Contributions in Transit	17,677.16	17,677.16
Investment Income	14,598.33	14,598.33
Total Receivable	32,275.49	32,275.49
Investments:		
U. S. Bonds and Bills	104,586.86	110,794.02
Federal Agency Guaranteed Securities	170,247.61	177,277.47
Corporate Bonds	1,054,118.17	1,090,736.58
Municipal Obligations	85,644.25	90,267.75
Mutual Funds:		
Fixed Income	433,140.12	486,788.45
Equity	1,473,984.32	2,442,807.74
Pooled/Common/Commingled Funds:		
Real Estate	350,159.08	393,254.13
Total Investments	3,671,880.41	4,791,926.14
Total Assets	3,733,743.47	4,853,789.20
LIABILITIES		
Total Liabilities	0.00	0.00
NET POSITION RESTRICTED FOR PENSIONS	3,733,743.47	4,853,789.20

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2019
Market Value Basis

<u>ADDITIONS</u>			
Contributions:			
Member		43,146.43	
City		229,431.79	
State		47,064.20	
Total Contributions			319,642.42
Investment Income:			
Net Realized Gain (Loss)	3,091.28		
Unrealized Gain (Loss)	115,777.55		
Net Increase in Fair Value of Investments		118,868.83	
Interest & Dividends		124,533.94	
Less Investment Expense[1]		(23,362.21)	
Net Investment Income			220,040.56
Total Additions			539,682.98
<u>DEDUCTIONS</u>			
Distributions to Members:			
Benefit Payments		349,986.60	
Lump Sum DROP Distributions		0.00	
Refunds of Member Contributions		0.00	
Total Distributions			349,986.60
Administrative Expense			23,678.79
Total Deductions			373,665.39
Net Increase in Net Position			166,017.59
NET POSITION RESTRICTED FOR PENSIONS			
Beginning of the Year			4,687,771.61
End of the Year			4,853,789.20

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.

ACTUARIAL ASSET VALUATION
SEPTEMBER 30, 2019

Actuarial Assets for funding purposes are developed by increasing the Actuarial Assets used in the most recent actuarial valuation of the Fund by the average annual market value rate of return (net of investment related expenses) for the past four years. Actuarial Assets shall not be less than 80% nor greater than 120% of Market Value of Assets.

Details of the derivation are set forth as follows:

Plan Year End	Rate of Return[1]
09/30/2016	9.75%
09/30/2017	10.59%
09/30/2018	7.00%
09/30/2019	4.75%

Annualized Rate of Return for prior four (4) years: 8.00%

(A) 10/01/2018 Actuarial Assets:		$4,586,581.62
(I) Net Investment Income:		
1. Interest and Dividends	124,533.94	
2. Realized Gains (Losses)	3,091.28	
3. Unrealized Gains (Losses)	115,777.55	
4. Change in Actuarial Value	144,620.66	
5. Investment Related Expenses	(23,362.21)	
Total		364,661.22
(B) 10/01/2019 Actuarial Assets:		$4,897,219.87

Actuarial Asset Rate of Return = 2I/(A+B-I):	8.00%
10/01/2019 Limited Actuarial Assets:	$4,897,219.87
10/01/2019 Market Value of Assets:	$4,853,789.20
Actuarial Gain/(Loss) due to Investment Return (Actuarial Asset Basis)	$27,349.59

[1]Market Value Basis, net of investment related expenses.

CHANGES IN NET ASSETS AVAILABLE FOR BENEFITS
SEPTEMBER 30, 2019
Actuarial Asset Basis

REVENUES		
Contributions:		
Member	43,146.43	
City	229,431.79	
State	47,064.20	
Total Contributions		319,642.42
Earnings from Investments:		
Interest & Dividends	124,533.94	
Net Realized Gain (Loss)	3,091.28	
Unrealized Gain (Loss)	115,777.55	
Change in Actuarial Value	144,620.66	
Total Earnings and Investment Gains		388,023.43
EXPENDITURES		
Distributions to Members:		
Benefit Payments	349,986.60	
Lump Sum DROP Distributions	0.00	
Refunds of Member Contributions	0.00	
Total Distributions		349,986.60
Expenses:		
Investment related[1]	23,362.21	
Administrative	23,678.79	
Total Expenses		47,041.00
Change in Net Assets for the Year		310,638.25
Net Assets Beginning of the Year		4,586,581.62
Net Assets End of the Year[2]		4,897,219.87

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.
[2]Net Assets may be limited for actuarial consideration.

DEFERRED RETIREMENT OPTION PLAN ACTIVITY
October 1, 2018 to September 30, 2019

Beginning of the Year Balance	90,406.65
Plus Additions	47,768.16
Investment Return Earned	7,136.20
Less Distributions	0.00
End of the Year Balance	145,311.01

CITY CONTRIBUTIONS IN EXCESS OF MINIMUM REQUIREMENT
FOR THE FISCAL YEAR ENDED (FYE) SEPTEMBER 30, 2019

(1)	City and State Required Contribution	276,496.00
(2)	Less Allowable State Contribution	(47,064.20)
(3)	Equals Required City Contribution for Fiscal 2019	229,431.80
(4)	Less 2018 Prepaid Contribution	0.00
(5)	Less Actual City Contributions	(229,431.79)
(6)	City Contributions in Excess of Minimum Requirement Applied to Reduce Unfunded Actuarial Accrued Liability as of September 30, 2019	$0.01

STATISTICAL DATA

	10/1/2016	10/1/2017	10/1/2018	10/1/2019
Actives				
Number	13	12	12	12
Average Current Age	38.8	38.9	36.5	38.7
Average Age at Employment	30.0	30.5	28.6	29.8
Average Past Service	8.8	8.4	7.9	8.9
Average Annual Salary	$55,318	$55,295	$55,175	$54,602
Service Retirees				
Number	10	10	11	11
Average Current Age	63.4	64.4	64.5	65.5
Average Annual Benefit	$32,302	$32,302	$31,752	$31,752
DROP Retirees				
Number	0	1	1	1
Average Current Age	N/A	50.3	51.3	52.3
Average Annual Benefit	N/A	$53,475	$53,475	$53,475
Beneficiaries				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
Disability Retirees				
Number	0	0	0	0
Average Current Age	N/A	N/A	N/A	N/A
Average Annual Benefit	N/A	N/A	N/A	N/A
Terminated Vested				
Number	0	0	0	1
Average Current Age [1]	N/A	N/A	N/A	N/A
Average Annual Benefit [2]	N/A	N/A	N/A	N/A

[1] Effective 10/1/2018, the Average Current Age excludes participants awaiting a refund of contributions.

[2] The Average Annual Benefit excludes participants awaiting a refund of contributions.

AGE AND SERVICE DISTRIBUTION

PAST SERVICE

AGE	0	1	2	3	4	5-9	10-14	15-19	20-24	25-29	30+	Total
15 - 19												0
20 - 24												0
25 - 29		1										1
30 - 34				1		2						3
35 - 39	1						3					4
40 - 44												0
45 - 49						1	1	1				3
50 - 54						1						1
55 - 59												0
60 - 64												0
65+												0
Total	1	1	0	1	0	4	4	1	0	0	0	12

VALUATION PARTICIPANT RECONCILIATION

1. Active lives

a. Number in prior valuation 10/1/2018	12
b. Terminations	
i. Vested (partial or full) with deferred annuity	0
ii. Vested in refund of member contributions only	(1)
iii. Refund of member contributions or full lump sum distribution received	0
c. Deaths	
i. Beneficiary receiving benefits	0
ii. No future benefits payable	0
d. Disabled	0
e. Retired	0
f. DROP	0
g. Continuing participants	11
h. New entrants	1
i. Total active life participants in valuation	12

2. Non-Active lives (including beneficiaries receiving benefits)

	Service Retirees, Vested Receiving Benefits	DROP Benefits	Receiving Death Benefits	Receiving Disability Benefits	Vested (Deferred Annuity)	Vested (Due Refund)	Total
a. Number prior valuation	11	1	0	0	0	0	12
Retired	0	0	0	0	0	0	0
DROP	0	0	0	0	0	0	0
Vested (Deferred Annuity)	0	0	0	0	0	0	0
Vested (Due Refund)	0	0	0	0	0	1	1
Hired/Terminated in Same Year	0	0	0	0	0	0	0
Death, With Survivor	0	0	0	0	0	0	0
Death, No Survivor	0	0	0	0	0	0	0
Disabled	0	0	0	0	0	0	0
Refund of Contributions	0	0	0	0	0	0	0
Rehires	0	0	0	0	0	0	0
Expired Annuities	0	0	0	0	0	0	0
Data Corrections	0	0	0	0	0	0	0
b. Number current valuation	11	1	0	0	0	1	13

SUMMARY OF CURRENT PLAN

Latest Amendment Date	September 12, 2016.
Eligibility	Employees who are classified as full-time Firefighters shall participate in the System as a condition of employment.
Credited Service	Total years and fractional parts of years of service with the City as a Firefighter.
Earnings	Total compensation reportable on Form W-2 plus tax deferred, tax sheltered or tax exempt items of income, excluding sick leave incentive, cleaning or 10-10 allowances, or any other non-regular payments. Overtime limited to 300 hours per year and lump sum sick and vacation limited to amounts accrued as of September 30, 2012.
Average Monthly Earnings	Average Earnings for the best 5 years during the 10 years immediately preceding termination.
Member Contributions	7.00% of Salary.
City and State Contributions	Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII of Chapter 112, Florida Statutes.
Normal Retirement	
Date	Earlier of age 50 and 6 years of Credited Service or completion of 25 years of Credited Service, regardless of age.
Benefit	3.00% of Average Monthly Earnings times Credited Service
Form of Benefit	Ten Year Certain and Life Annuity (options available).
Supplement	Retirees receive $19.00 per month per year of Credited Service payable to the date on which unreduced Social Security benefits become payable.

Early Retirement

Eligibility	Age 48 and 6 Years of Credited Service.
Benefit	Accrued benefit, actuarially reduced for each year that Early Retirement precedes Normal Retirement (determined as if employment continued).

Vesting

Schedule	100% after 6 years of Credited Service.
Benefit Amount	Member will receive the vested portion of his (her) accrued benefit payable at the otherwise Normal Retirement Date.

Disability

Eligibility	
Service Incurred	Covered from Date of Employment.
Non-Service Incurred	10 years of Credited Service.
Benefit	Benefit accrued to date of disability, but not less than 42% of Average Monthly Earnings (Service Incurred).
Duration	Payable for life with ten years certain or until recovery, as determined by the Board (options available).

Pre-Retirement Death Benefits

Benefit if Not Vested	Designated Beneficiary shall receive a refund of the Member's Contributions.
Benefit if Vested	Monthly accrued benefit payable at the Member's Normal Retirement Date to designated beneficiary for 10 years (options available).
Minimum Benefit for Spouse, if Member dies in active service and is vested	50% of salary at time of death payable for life of the spouse, commencing on the first day of the month following the Member's death.

Board of Trustees	a. Two Commission appointees, b. Two Members of the Department elected by the membership, and c. Fifth Member elected by other four appointed by Commission.
Deferred Retirement Option Plan	
Eligibility	Eligibility for Normal Retirement.
Participation	Not to exceed 60 months.
Rate of Return	6.50% per annum, credited quarterly.
Form of Distribution	Lump sum at termination of employment.
Chapter 175 Share Account	Pursuant to Chapter 2015-39, Laws of Florida, a share plan exists but is currently not funded as the City and Membership mutually consented to allow the City to use all annual State Monies to offset its funding requirements.

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STATEMENT OF FIDUCIARY NET POSITION
SEPTEMBER 30, 2019

ASSETS	MARKET VALUE
Cash and Cash Equivalents:	
Short Term Investments	29,938
Prepaid Expenses	3,212
Cash	(3,562)
Total Cash and Equivalents	29,588
Receivables:	
City Contributions in Transit	17,677
Investment Income	14,598
Total Receivable	32,275
Investments:	
U. S. Bonds and Bills	110,794
Federal Agency Guaranteed Securities	177,277
Corporate Bonds	1,090,737
Municipal Obligations	90,268
Mutual Funds:	
Fixed Income	486,788
Equity	2,442,808
Pooled/Common/Commingled Funds:	
Real Estate	393,254
Total Investments	4,791,926
Total Assets	4,853,789
Total Liabilities	0
NET POSITION RESTRICTED FOR PENSIONS	4,853,789

STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED SEPTEMBER 30, 2019
Market Value Basis

ADDITIONS		
Contributions:		
Member	43,146	
City	229,432	
State	47,064	
Total Contributions		319,642
Investment Income:		
Net Increase in Fair Value of Investments	118,869	
Interest & Dividends	124,534	
Less Investment Expense[1]	(23,362)	
Net Investment Income		220,041
Total Additions		539,683
DEDUCTIONS		
Distributions to Members:		
Benefit Payments	349,987	
Lump Sum DROP Distributions	0	
Refunds of Member Contributions	0	
Total Distributions		349,987
Administrative Expense		23,679
Total Deductions		373,666
Net Increase in Net Position		166,017
NET POSITION RESTRICTED FOR PENSIONS		
Beginning of the Year		4,687,772
End of the Year		4,853,789

[1]Investment related expenses include investment advisory, custodial and performance monitoring fees.

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2019)

Plan Administration
The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:
a. Two Commission appointees,
b. Two Members of the Department elected by the membership, and
c. Fifth Member elected by other four appointed by Commission.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	12
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	-
Active Plan Members	12
	24

Benefits Provided
The Plan provides retirement, termination, disability and death benefits.
A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Holly Hill Firefighters' Pension Plan prepared by Foster & Foster Actuaries and Consultants.
Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

Contributions
Member Contributions: 7.00% of Salary.
City and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII of Chapter 112, Florida Statutes.

Investments
Investment Policy:
The following was the Board's adopted asset allocation policy as of September 30, 2019:

Asset Class	Target Allocation
Domestic Equity	35.00%
International Equity	15.00%
Bonds	30.00%
Convertibles	10.00%
Private Real Estate	5.00%
REITS	5.00%
Total	100.00%

Concentrations:
The Plan did not hold investments in any one organization that represent 5 percent or more of the Pension Plan's Fiduciary Net Position.

Rate of Return:
For the year ended September 30, 2019, the annual money-weighted rate of return on Pension Plan investments, net of Pension Plan investment expense, was 4.75 percent.
The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

<u>Deferred Retirement Option Program</u>
Eligibility for Normal Retirement.
Participation: Not to exceed 60 months.
Rate of Return: 6.50% per annum, credited quarterly.
The DROP balance as September 30, 2019 is $145,311.

NET PENSION LIABILITY OF THE SPONSOR

The components of the Net Pension Liability of the Sponsor on September 30, 2019 were as follows:

Total Pension Liability	$ 6,233,971
Plan Fiduciary Net Position	$ (4,853,789)
Sponsor's Net Pension Liability	$ 1,380,182
Plan Fiduciary Net Position as a percentage of Total Pension Liability	77.86%

Actuarial Assumptions:
The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.70%
Salary Increases	Service based
Discount Rate	7.40%
Investment Rate of Return	7.40%

Mortality Rate Healthy Active Lives:
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.
Mortality Rate Healthy Inactive Lives:
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.
Mortality Rate Disabled Lives:
Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.
The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman’s July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.
75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated August 10, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.
For 2019 the inflation rate assumption of the investment advisor was 2.40%.
These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Long Term Expected Real Rate of Return
Domestic Equity	7.3%
International Equity	2.7%
Bonds	3.6%
Convertibles	6.3%
Private Real Estate	4.9%
REITS	7.2%

Discount Rate:

The Discount Rate used to measure the Total Pension Liability was 7.40 percent.

The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

	1% Decrease 6.40%	Current Discount Rate 7.40%	1% Increase 8.40%
Sponsor's Net Pension Liability	$ 2,096,720	$ 1,380,182	$ 783,162

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SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	153,193	156,508	170,029
Interest	439,372	424,522	402,775
Change in Excess State Money	-	-	-
Changes of benefit terms	(678)	-	-
Differences between Expected and Actual Experience	32,132	(28,615)	69,117
Changes of assumptions	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(349,987)	(345,506)	(323,535)
Net Change in Total Pension Liability	274,032	206,909	318,386
Total Pension Liability - Beginning	5,959,939	5,753,030	5,434,644
Total Pension Liability - Ending (a)	$ 6,233,971	$ 5,959,939	$ 5,753,030
Plan Fiduciary Net Position			
Contributions - Employer	229,432	258,025	214,936
Contributions - State	47,064	43,892	43,415
Contributions - Employee	43,146	44,435	45,607
Net Investment Income	220,041	304,959	420,410
Benefit Payments, including Refunds of Employee Contributions	(349,987)	(345,506)	(323,535)
Administrative Expense	(23,679)	(33,611)	(26,803)
Net Change in Plan Fiduciary Net Position	166,017	272,194	374,030
Plan Fiduciary Net Position - Beginning	4,687,772	4,415,578	4,041,548
Plan Fiduciary Net Position - Ending (b)	$ 4,853,789	$ 4,687,772	$ 4,415,578
Net Pension Liability - Ending (a) - (b)	$ 1,380,182	$ 1,272,167	$ 1,337,452
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	77.86%	78.65%	76.75%
Covered Payroll[1]	$ 616,377	$ 709,566	$ 651,531
Net Pension Liability as a percentage of Covered Payroll	223.92%	179.29%	205.28%

GASB 67

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	169,795	176,408	172,709
Interest	378,039	373,007	353,643
Change in Excess State Money	(18,139)	-	-
Changes of benefit terms	(131,917)	-	-
Differences between Expected and Actual Experience	15,721	(45,225)	-
Changes of assumptions	162,997	-	-
Benefit Payments, including Refunds of Employee Contributions	(325,259)	(271,874)	(271,874)
Net Change in Total Pension Liability	251,237	232,316	254,478
Total Pension Liability - Beginning	5,183,407	4,951,091	4,696,613
Total Pension Liability - Ending (a)	$ 5,434,644	$ 5,183,407	$ 4,951,091
Plan Fiduciary Net Position			
Contributions - Employer	203,657	176,497	160,213
Contributions - State	51,535	55,151	62,761
Contributions - Employee	51,275	54,681	52,767
Net Investment Income	358,369	(20,243)	310,762
Benefit Payments, including Refunds of Employee Contributions	(325,259)	(271,874)	(271,874)
Administrative Expense	(40,976)	(29,063)	(21,821)
Net Change in Plan Fiduciary Net Position	298,601	(34,851)	292,808
Plan Fiduciary Net Position - Beginning	3,742,947	3,777,798	3,484,990
Plan Fiduciary Net Position - Ending (b)	$ 4,041,548	$ 3,742,947	$ 3,777,798
Net Pension Liability - Ending (a) - (b)	$ 1,393,096	$ 1,440,460	$ 1,173,293
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	74.37%	72.21%	76.30%
Covered Payroll[1]	$ 732,502	$ 692,977	$ 659,584
Net Pension Liability as a percentage of Covered Payroll	190.18%	207.87%	177.88%

Notes to Schedule of Changes in Net Pensin Liability and Related Ratios

[1] The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Changes of benefit terms:
For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that the treatment of cancer will be treated as duty-related.

For measurement date 09/30/2016, amounts reported as changes of benefit terms resulted from the following Ordinance 2982, adopted September 12, 2016, provided that the Member Contributions be reduced, effective 2015, from 8% to 7% of Salary.
Ordinance 2974, adopted June 14, 2016, complied with recent State and Federal legislation, including the adoption Plan that will not be funded at this time, the implementation of a cap of 300 hours per year of pensionable overtime, limiting the pensionable lump sum sick and annual leave that is pensionable to the amounts on the books at October

Changes of assumptions:
For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from the August 10, 2016 Actuarial Experience Study. The Board has made the following assumptions changes, as outlined below.
• The assumed individual salary increase was changed from a flat 6.0%, to a service based table, with the rate of during the first year of employment and 5.5% for all future years of service.
• The assumed rates of retirement were changed as outlined below:

Service	Age	Current Retirement Rates
<25	48-49	5.0%
	50	100.0%
	51-54	100.0%
	55-59	100.0%
	60+	100.0%
25+	All	100.0%

• The assumed rate of mortality has been changed to match that used by the FRS for special risk employees in their July 1, 2015 valuation report.
• The investment return assumption was reduced from 7.5% to 7.4%, net of investment related expenses.
• The assumed rates of withdrawal have been changed from an age based table to a the following service based table:

Service	Assumed Withdrawal
>1	15.0%
1-4	10.0%
5-9	6.0%
10+	2.0%

• The inflation assumption rate was lowered from 3.00% to 2.70%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

GASB 67

SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll[1]	Contributions as a percentage of Covered Payroll
09/30/2019	$ 276,496	$ 276,496	$ -	$ 616,377	44.86%
09/30/2018	$ 300,917	$ 301,917	$ (1,000)	$ 709,566	42.55%
09/30/2017	$ 258,351	$ 258,351	$ -	$ 651,531	39.65%
09/30/2016	$ 252,310	$ 255,192	$ (2,882)	$ 732,502	34.84%
09/30/2015	$ 231,648	$ 231,648	$ -	$ 692,977	33.43%
09/30/2014	$ 222,974	$ 222,974	$ -	$ 659,584	33.81%

[1] The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality:

Healthy Active Lives:
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.
Healthy Inactive Lives:
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.
Disabled Lives:
Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.
The assumed rates of mortality were mandated by Chapter 2015- 157, Laws of Florida. This law mandates the use of the assumption used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report. We feel this assumption sufficiently accommodates future mortality improvements.

Termination Rates:

Service	Assumed Withdrawal Rate
< 1	15.0%
1 – 4	10.0%
5 – 9	6.0%
10 +	2.0%

This assumption is based on the results of an experience study performed in 2016.

Disability Rates: See Tables on the following page (1207). This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Retirement Age:

Service	Age	Retirement Rates
<25	48-49	5.0%
	50	50.0%
	51-54	20.0%
	55-59	20.0%
	60+	100.0%
25+	All	100.0%

This assumption is based on the results of an experience study performed in 2016.

Early Retirement: Commencing with the earliest Early Retirement Age (48), members are assumed to retire with an immediate, subsidized benefit at the rate of 5% per year. We feel this assumption is reasonable based on the plan provisions.

Interest Rate: 7.40% per year, compounded annually, net of investment related expenses. This is supported by the target asset class allocation of the trust and the expected long-term return by asset class.

Salary Increases: 10.0% in first year of employment and 5.5% per year after that. This assumption is based on the results of an experience study performed in 2016. Salary in year of retirement is increased individually to account for lump sums.

Payroll Growth: None.

Funding Method: Entry Age Normal Actuarial Cost Method. A load based on the salary increase at the current 5.50% assumption is used to develop the dollar funding requirements. There is also a half year interest adjustment of 3.70% based on assumed timing of City contributions.

Amortization Period: Level Percentage of Pay, Closed

Remaining Amortization Period: 28 years (as of 10/01/2017).

Asset Valuation Method: Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

Disability Rate Table:

Age	% Becoming Disabled During the Year
20	0.07%
30	0.11%
40	0.19%
50	0.51%

SCHEDULE OF INVESTMENT RETURNS

Last 10 Fiscal Years

Fiscal Year Ended	Annual Money-Weighted Rate of Return Net of Investment Expense
09/30/2019	4.75%
09/30/2018	7.00%
09/30/2017	10.59%
09/30/2016	9.75%
09/30/2015	-0.54%
09/30/2014	9.06%

NOTES TO THE FINANCIAL STATEMENTS
(For the Year Ended September 30, 2019)

General Information about the Pension Plan

Plan Description
The Plan is a single-employer defined benefit pension plan administered by the Plan's Board of Trustees comprised of:
a. Two Commission appointees,
b. Two Members of the Department elected by the membership, and
c. Fifth Member elected by other four appointed by Commission.
Employees who are classified as full-time Firefighters shall participate in the System as a condition of employment.

Plan Membership as of October 1, 2018:

Inactive Plan Members or Beneficiaries Currently Receiving Benefits	12
Inactive Plan Members Entitled to But Not Yet Receiving Benefits	-
Active Plan Members	12
	24

Benefits Provided
The Plan provides retirement, termination, disability and death benefits.
A summary of the benefit provisions can be found in the October 1, 2018 Actuarial Valuation Report for the City of Holly Hill Firefighters' Pension Plan prepared by Foster & Foster Actuaries and Consultants.
Incorporated are the benefit changes for measurement date 09/30/2019 as noted under the Notes to Schedule of Changes in Net Pension Liability and Related Ratios.

Contributions
Member Contributions: 7.00% of Salary.
City and State Contributions: Remaining amount required in order to pay current costs and amortize unfunded past service cost, if any, as provided in Part VII of Chapter 112, Florida Statutes.

Net Pension Liability

The measurement date is September 30, 2019.
The measurement period for the pension expense was October 1, 2018 to September 30, 2019.
The reporting period is October 1, 2018 through September 30, 2019.

The Sponsor's Net Pension Liability was measured as of September 30, 2019.
The Total Pension Liability used to calculate the Net Pension Liability was determined as of that date.

Actuarial Assumptions:
The Total Pension Liability was determined by an actuarial valuation as of October 1, 2018 updated to September 30, 2019 using the following actuarial assumptions:

Inflation	2.70%
Salary Increases	Service based
Discount Rate	7.40%
Investment Rate of Return	7.40%

Mortality Rate Healthy Active Lives:
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.
Mortality Rate Healthy Inactive Lives:
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.
Mortality Rate Disabled Lives:
Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.
The above assumption rates were mandated by Chapter 2015-157, Laws of Florida. This law mandates the use of the assumptions used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in Milliman's July 1, 2018 FRS valuation report for special risk employees. We feel this assumption sufficiently accommodates future mortality improvements.
75% of active deaths are assumed to be service-incurred.

The most recent actuarial experience study used to review the other significant assumptions was dated August 10, 2016.

The Long-Term Expected Rate of Return on Pension Plan investments can be determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of Pension Plan investment expenses and inflation) are developed for each major asset class.
For 2019 the inflation rate assumption of the investment advisor was 2.40%.
These ranges are combined to produce the Long-Term Expected Rate of Return by weighting the expected future real rates of return by the target asset allocation percentage and by adding expected inflation.

Best estimates of geometric real rates of return for each major asset class included in the Pension Plan's target asset allocation as of September 30, 2019 are summarized in the following table:

Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Domestic Equity	35.00%	7.30%
International Equity	15.00%	2.70%
Bonds	30.00%	3.60%
Convertibles	10.00%	6.30%
Private Real Estate	5.00%	4.90%
REITS	5.00%	7.20%
Total	100.00%	

Discount Rate:
The Discount Rate used to measure the Total Pension Liability was 7.40 percent.
The projection of cash flows used to determine the Discount Rate assumed that Plan Member contributions will be made at the current contribution rate and that Sponsor contributions will be made at rates equal to the difference between actuarially determined contribution rates and the Member rate. Based on those assumptions, the Pension Plan's Fiduciary Net Position was projected to be available to make all projected future benefit payments of current plan members. Therefore, the Long-Term Expected Rate of Return on Pension Plan investments was applied to all periods of projected benefit payments to determine the Total Pension Liability.

CHANGES IN NET PENSION LIABILITY

	Increase (Decrease)		
	Total Pension Liability (a)	Plan Fiduciary Net Position (b)	Net Pension Liability (a)-(b)
Balances at September 30, 2018	$ 5,959,939	$ 4,687,772	$ 1,272,167
Changes for a Year:			
Service Cost	153,193	-	153,193
Interest	439,372	-	439,372
Differences between Expected and Actual Experience	32,132	-	32,132
Changes of assumptions	-	-	-
Changes of benefit terms	(678)	-	(678)
Contributions - Employer	-	229,432	(229,432)
Contributions - State	-	47,064	(47,064)
Contributions - Employee	-	43,146	(43,146)
Net Investment Income	-	220,041	(220,041)
Benefit Payments, including Refunds of Employee Contributions	(349,987)	(349,987)	-
Administrative Expense	-	(23,679)	23,679
Net Changes	274,032	166,017	108,015
Balances at September 30, 2019	$ 6,233,971	$ 4,853,789	$ 1,380,182

Sensitivity of the Net Pension Liability to changes in the Discount Rate.

	1% Decrease 6.40%	Current Discount Rate 7.40%	1% Increase 8.40%
Sponsor's Net Pension Liability	$ 2,096,720	$ 1,380,182	$ 783,162

Pension Plan Fiduciary Net Position.
Detailed information about the pension Plan's Fiduciary Net Position is available in a separately issued Plan financial report.

PENSION EXPENSE AND DEFERRED OUTFLOWS OF RESOURCES AND DEFERRED INFLOWS OF RESOURCES RELATED TO PENSIONS

For the year ended September 30, 2019, the Sponsor will recognize a Pension Expense of $326,900.
On September 30, 2019, the Sponsor reported Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions from the following sources:

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between Expected and Actual Experience	56,494	17,169
Changes of assumptions	32,599	-
Net difference between Projected and Actual Earnings on Pension Plan investments	47,034	-
Total	$ 136,127	$ 17,169

Amounts reported as Deferred Outflows of Resources and Deferred Inflows of Resources related to pensions will be recognized in Pension Expense as follows:

Year ended September 30:	
2020	$ 38,768
2021	$ 19,003
2022	$ 29,790
2023	$ 31,397
2024	$ -
Thereafter	$ -

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SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2019	09/30/2018	09/30/2017
Total Pension Liability			
Service Cost	153,193	156,508	170,029
Interest	439,372	424,522	402,775
Change in Excess State Money	-	-	-
Changes of benefit terms	(678)	-	-
Differences between Expected and Actual Experience	32,132	(28,615)	69,117
Changes of assumptions	-	-	-
Benefit Payments, including Refunds of Employee Contributions	(349,987)	(345,506)	(323,535)
Net Change in Total Pension Liability	274,032	206,909	318,386
Total Pension Liability - Beginning	5,959,939	5,753,030	5,434,644
Total Pension Liability - Ending (a)	$ 6,233,971	$ 5,959,939	$ 5,753,030
Plan Fiduciary Net Position			
Contributions - Employer	229,432	258,025	214,936
Contributions - State	47,064	43,892	43,415
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Net Change in Plan Fiduciary Net Position	166,017	272,194	374,030
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Plan Fiduciary Net Position - Ending (b)	$ 4,853,789	$ 4,687,772	$ 4,415,578
Net Pension Liability - Ending (a) - (b)	$ 1,380,182	$ 1,272,167	$ 1,337,452
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	77.86%	78.65%	76.75%
Covered Payroll[1]	$ 616,377	$ 709,566	$ 651,531
Net Pension Liability as a percentage of Covered Payroll	223.92%	179.29%	205.28%

GASB 68

SCHEDULE OF CHANGES IN NET PENSION LIABILITY AND RELATED RATIOS

Last 10 Fiscal Years

	09/30/2016	09/30/2015	09/30/2014
Total Pension Liability			
Service Cost	169,795	176,408	172,709
Interest	378,039	373,007	353,643
Change in Excess State Money	(18,139)	-	-
Changes of benefit terms	(131,917)	-	-
Differences between Expected and Actual Experience	15,721	(45,225)	-
Changes of assumptions	162,997	-	-
Benefit Payments, including Refunds of Employee Contributions	(325,259)	(271,874)	(271,874)
Net Change in Total Pension Liability	251,237	232,316	254,478
Total Pension Liability - Beginning	5,183,407	4,951,091	4,696,613
Total Pension Liability - Ending (a)	$ 5,434,644	$ 5,183,407	$ 4,951,091
Plan Fiduciary Net Position			
Contributions - Employer	203,657	176,497	160,213
Contributions - State	51,535	55,151	62,761
Contributions - Employee	51,275	54,681	52,767
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Benefit Payments, including Refunds of Employee Contributions	(325,259)	(271,874)	(271,874)
Administrative Expense	(40,976)	(29,063)	(21,821)
Net Change in Plan Fiduciary Net Position	298,601	(34,851)	292,808
Plan Fiduciary Net Position - Beginning	3,742,947	3,777,798	3,484,990
Plan Fiduciary Net Position - Ending (b)	$ 4,041,548	$ 3,742,947	$ 3,777,798
Net Pension Liability - Ending (a) - (b)	$ 1,393,096	$ 1,440,460	$ 1,173,293
Plan Fiduciary Net Position as a percentage of the Total Pension Liability	74.37%	72.21%	76.30%
Covered Payroll[1]	$ 732,502	$ 692,977	$ 659,584
Net Pension Liability as a percentage of Covered Payroll	190.18%	207.87%	177.88%

Notes to Schedule of Changes in Net Pensin Liability and Related Ratios

[1] The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Changes of benefit terms:
For measurement date 09/30/2019, amounts reported as changes of benefit terms resulted from the provisions of Chapter 112.1816, Florida Statutes. The Statutes state that, effective July 1, 2019, a death or disability (under the Plan's definition of total and permanent disability) for a Firefighter due to the diagnosis of cancer or circumstances that arise out of the treatment of cancer will be treated as duty-related.

For measurement date 09/30/2016, amounts reported as changes of benefit terms resulted from the following changes:
Ordinance 2982, adopted September 12, 2016, provided that the Member Contributions be reduced, effective October 1, 2015, from 8% to 7% of Salary.
Ordinance 2974, adopted June 14, 2016, complied with recent State and Federal legislation, including the adoption of a Share Plan that will not be funded at this time, the implementation of a cap of 300 hours per year of pensionable overtime, and limiting the pensionable lump sum sick and annual leave that is pensionable to the amounts on the books at October 1, 2012.

Changes of assumptions:
For measurement date 09/30/2016, amounts reported as changes of assumptions resulted from the August 10, 2016 Actuarial Experience Study. The Board has made the following assumptions changes, as outlined below.
• The assumed individual salary increase was changed from a flat 6.0%, to a service based table, with the rate of 10.0% during the first year of employment and 5.5% for all future years of service.
• The assumed rates of retirement were changed as outlined below:

Service	Age	Current Retirement Rates
<25	48-49	5.0%
	50	100.0%
	51-54	100.0%
	55-59	100.0%
	60+	100.0%
25+	All	100.0%

• The assumed rate of mortality has been changed to match that used by the FRS for special risk employees in their July 1, 2015 valuation report.
• The investment return assumption was reduced from 7.5% to 7.4%, net of investment related expenses.
• The assumed rates of withdrawal have been changed from an age based table to a the following service based table:

Service	Assumed Withdrawal Rate
>1	15.0%
1-4	10.0%
5-9	6.0%
10+	2.0%

• The inflation assumption rate was lowered from 3.00% to 2.70%, matching the long-term inflation assumption utilized by the Plan's investment consultant.

SCHEDULE OF CONTRIBUTIONS

Last 10 Fiscal Years

Fiscal Year Ended	Actuarially Determined Contribution	Contributions in relation to the Actuarially Determined Contributions	Contribution Deficiency (Excess)	Covered Payroll[1]	Contributions as a percentage of Covered Payroll
09/30/2019	$ 276,496	$ 276,496	$ -	$ 616,377	44.86%
09/30/2018	$ 300,917	$ 301,917	$ (1,000)	$ 709,566	42.55%
09/30/2017	$ 258,351	$ 258,351	$ -	$ 651,531	39.65%
09/30/2016	$ 252,310	$ 255,192	$ (2,882)	$ 732,502	34.84%
09/30/2015	$ 231,648	$ 231,648	$ -	$ 692,977	33.43%
09/30/2014	$ 222,974	$ 222,974	$ -	$ 659,584	33.81%

[1] The Covered Payroll numbers shown are in compliance with GASB 82, except for the 09/30/2015 measurement period which includes DROP payroll.

Notes to Schedule

Valuation Date: 10/01/2017

Actuarially determined contribution rates are calculated as of October 1, two years prior to the end of the fiscal year in which contributions are reported.

Methods and assumptions used to determine contribution rates:

Mortality:

Healthy Active Lives:
Female: RP2000 Generational, 100% Combined Healthy White Collar, Scale BB.
Male: RP2000 Generational, 10% Combined Healthy White Collar / 90% Combined Healthy Blue Collar, Scale BB.
Healthy Inactive Lives:
Female: RP2000 Generational, 100% Annuitant White Collar, Scale BB.
Male: RP2000 Generational, 10% Annuitant White Collar / 90% Annuitant Blue Collar, Scale BB.
Disabled Lives:
Female: 60% RP2000 Disabled Female set forward two years / 40% Annuitant White Collar with no setback, no projection scale.
Male: 60% RP2000 Disabled Male setback four years / 40% Annuitant White Collar with no setback, no projection scale.
The assumed rates of mortality were mandated by Chapter 2015- 157, Laws of Florida. This law mandates the use of the assumption used in either of the two most recent valuations of the Florida Retirement System (FRS). The above rates are those outlined in the July 1, 2016 FRS actuarial valuation report. We feel this assumption sufficiently accommodates future mortality improvements.

Termination Rates:

Service	Assumed Withdrawal Rate
< 1	15.0%
1 – 4	10.0%
5 – 9	6.0%
10 +	2.0%

This assumption is based on the results of an experience study performed in 2016.

Disability Rates: See Tables on the following page (1207). This assumption was developed from those used by other plans containing Florida municipal Firefighters.

Retirement Age:

Service	Age	Retirement Rates
<25	48-49	5.0%
0	50	50.0%
0	51-54	20.0%
0	55-59	20.0%
0	60+	100.0%
25+	All	100.0%

This assumption is based on the results of an experience study performed in 2016.

Early Retirement: Commencing with the earliest Early Retirement Age (48), members are assumed to retire with an immediate, subsidized benefit at the rate of 5% per year. We feel this assumption is reasonable based on the plan provisions.

Interest Rate: 7.40% per year, compounded annually, net of investment related expenses. This is supported by the target asset class allocation of the trust and the expected long-term return by asset class.

Salary Increases: 10.0% in first year of employment and 5.5% per year after that. This assumption is based on the results of an experience study performed in 2016. Salary in year of retirement is increased individually to account for lump sums.

Payroll Growth: None.

Funding Method: Entry Age Normal Actuarial Cost Method. A load based on the salary increase at the current 5.50% assumption is used to develop the dollar funding requirements. There is also a half year interest adjustment of 3.70% based on assumed timing of City contributions.

Amortization Period: Level Percentage of Pay, Closed

Remaining Amortization Period: 28 years (as of 10/01/2017).

Asset Valuation Method: Each year, the prior Actuarial Value of Assets is brought forward utilizing the historical geometric 4-year average Market Value return. It is possible that over time this technique will produce an insignificant bias above or below Market Value.

Disability Rate Table:

Age	% Becoming Disabled During the Year
20	0.07%
30	0.11%
40	0.19%
50	0.51%

EXPENSE DEVELOPMENT AND AMORTIZATION SCHEDULES

The following information is not required to be disclosed but is provided for informational purposes.

GASB 68

COMPONENTS OF PENSION EXPENSE
FISCAL YEAR SEPTEMBER 30, 2019

	Net Pension Liability	Deferred Inflows	Deferred Outflows	Pension Expense
Beginning balance	$ 1,272,167	$ 128,678	$ 190,025	$ -
Total Pension Liability Factors:				
Service Cost	153,193	-	-	153,193
Interest	439,372	-	-	439,372
Changes in benefit terms	(678)	-	-	(678)
Differences between Expected and Actual Experience with regard to economic or demographic assumptions	32,132	-	32,132	-
Current year amortization of experience difference	-	(5,723)	(23,395)	17,672
Change in assumptions about future economic or demographic factors or other inputs	-	-	-	-
Current year amortization of change in assumptions	-	-	(32,599)	32,599
Benefit Payments, including Refunds of Employee Contributions	(349,987)	-	-	-
Net change	274,032	(5,723)	(23,862)	642,158
Plan Fiduciary Net Position:				
Contributions - Employer	229,432	-	-	-
Contributions - State	47,064	-	-	-
Contributions - Employee	43,146	-	-	(43,146)
Projected Net Investment Income	344,896	-	-	(344,896)
Difference between projected and actual earnings on Pension Plan investments	(124,855)	-	124,855	-
Current year amortization	-	(40,588)	(89,693)	49,105
Benefit Payments, including Refunds of Employee Contributions	(349,987)	-	-	-
Administrative Expenses	(23,679)	-	-	23,679
Net change	166,017	(40,588)	35,162	(315,258)
Ending Balance	$ 1,380,182	$ 82,367	$ 201,325	$ 326,900

GASB 68

AMORTIZATION SCHEDULE - INVESTMENTS

Plan Year Ending	Differences Between Projected and Actual Earnings	Recognition Period (Years)	Increase (Decrease) in Pension Expense Arising from the Recognition of the of Differences Between Projected and Actual Earnings on Pension Plan Investments										
			2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	$ 124,855	5	$ 24,971	$ 24,971	$ 24,971	$ 24,971	$ 24,971	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ 20,581	5	$ 4,116	$ 4,116	$ 4,116	$ 4,116	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ (123,052)	5	$ (24,610)	$ (24,610)	$ (24,610)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ (79,889)	5	$ (15,978)	$ (15,978)	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2015	$ 303,030	5	$ 60,606	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Increase (Decrease) in Pension Expense			$ 49,105	$ (11,501)	$ 4,477	$ 29,087	$ 24,971	$ -	$ -	$ -	$ -	$ -	$ -

GASB 68

AMORTIZATION SCHEDULE - CHANGES OF ASSUMPTIONS

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Changes of Assumptions

Plan Year Ending	Changes of Assumptions	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2016	$ 162,997	5	$ 32,599	$ 32,599	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Increase (Decrease) in Pension Expense			$ 32,599	$ 32,599	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -

GASB 68

AMORTIZATION SCHEDULE - EXPERIENCE

Increase (Decrease) in Pension Expense Arising from the Recognition of the Effects of Differences between Expected and Actual Experience

Plan Year Ending	Differences Between Expected and Actual Experience	Recognition Period (Years)	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029
2019	$ 32,132	5	$ 6,428	$ 6,426	$ 6,426	$ 6,426	$ 6,426	$ -	$ -	$ -	$ -	$ -	$ -
2018	$ (28,615)	5	$ (5,723)	$ (5,723)	$ (5,723)	$ (5,723)	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2017	$ 69,117	5	$ 13,823	$ 13,823	$ 13,823	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
2016	$ 15,721	5	$ 3,144	$ 3,144	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Net Increase (Decrease) in Pension Expense			$ 17,672	$ 17,670	$ 14,526	$ 703	$ 6,426	$ -	$ -	$ -	$ -	$ -	$ -