



## BOARD OF TRUSTEES

REGULAR MEETING AGENDA

THURSDAY, AUGUST 8, 2019 AT 5:30 PM

CITY HALL - COMMISSION CHAMBERS

1126 EAST STATE ROAD 434, WINTER SPRINGS, FLORIDA

### CALL TO ORDER

Roll Call

Invocation

Pledge of Allegiance

Approval of the Agenda

### AWARDS AND PRESENTATIONS

100. Not Used

### INFORMATIONAL AGENDA

200. Retirement of Larry Wilson

*Attachments:* Jennifer Borregard Bio  
Shelly Jones Bio  
Nicolas Lahaye Bio

### PUBLIC INPUT

*Anyone who wishes to speak during Public Input on any Agenda Item or subject matter will need to fill out a "Public Input" form. Individuals will limit their comments to three (3) minutes, and representatives of groups or homeowners' associations shall limit their comments to five (5) minutes, unless otherwise determined by the City Commission.*

### CONSENT AGENDA

300. Minutes from the Wednesday, June 12, 2019 (Rescheduled from May 9, 2019)  
Board Of Trustees Regular Meeting

*Attachments:* Minutes

### PUBLIC HEARINGS AGENDA

400. Not Used

## **REGULAR AGENDA**

500. Quarterly Investment Return Report From AndCo Consulting

*Attachments:* Third Quarter Investment Return Report

501. 2018 Annual Actuarial Valuation Report from Gabriel, Roeder, Smith & Company

*Attachments* 2018 Annual Actuarial Valuation Report

501. Discussion on Investment Rate Assumption Reduction

*Attachments*

## **REPORTS**

### **PUBLIC INPUT**

*Anyone who wishes to speak during Public Input on any Agenda Item or subject matter will need to fill out a "Public Input" form. Individuals will limit their comments to three (3) minutes, and representatives of groups or homeowners' associations shall limit their comments to five (5) minutes, unless otherwise determined by the City Commission.*

## **ADJOURNMENT**

### **PUBLIC NOTICE**

This is a Public Meeting, and the public is invited to attend and this Agenda is subject to change. Please be advised that one (1) or more Members of any of the City's Advisory Boards and Committees may be in attendance at this Meeting, and may participate in discussions.

Persons with disabilities needing assistance to participate in any of these proceedings should contact the City of Winter Springs at (407) 327-1800 "at least 48 hours prior to meeting, a written request by a physically handicapped person to attend the meeting, directed to the chairperson or director of such board, commission, agency, or authority" - per Section 286.26 *Florida Statutes*.

"If a person decides to appeal any decision made by the board, agency, or commission with respect to any matter considered at such meeting or hearing, he or she will need a record of the proceedings, and that, for such purpose, he or 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" - per Section 286.0105 *Florida Statutes*.

## Jennifer M. Borregard, EA, FCA, MAAA

Consultant

[jennifer.borregard@grsconsulting.com](mailto:jennifer.borregard@grsconsulting.com)



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### Expertise

Jennifer Borregard is a Consultant in GRS' Fort Lauderdale, Florida office. She has more than 20 years of experience in actuarial, administrative and consulting services for public sector retiree health care and pension systems, corporations, and tax-exempt organizations.

Jennifer's responsibilities include valuations for funding and accounting purposes, cost analyses for proposed plan changes, experience studies, cash flow projections, benefit calculations, benefit statements and client data maintenance.

Jennifer has extensive knowledge of Florida Statutes, including Chapter 175 and 185, as they apply to municipal pension plans. She also has experience consulting on hybrid plans, COLAs, Deferred Retirement Option Plans (DROPs), Share Plans and closed plans.

### Professional Designations

- Enrolled Actuary, ERISA
- Fellow, Conference of Consulting Actuaries
- Member, American Academy of Actuaries

### Education

Bachelor of Science, Mathematics, minor in Actuarial Sciences, University of Florida

# Michelle Jones, ASA, EA, FCA, MAAA

Consultant

[shelly.jones@grsconsulting.com](mailto:shelly.jones@grsconsulting.com)



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## Expertise

Michelle (Shelly) Jones is a Consultant in GRS' Fort Lauderdale, Florida office. She has more than 10 years of actuarial and investment related experience with employee retirement systems and retiree health programs.

Her responsibilities include valuations for funding and accounting purposes, actuarial audits, cost analyses for proposed plan changes, experience studies, cash flow projections, retiree health claims calculations and investment return assumption analysis. Shelly has extensive knowledge related to projecting economic assumptions using stochastic and deterministic modeling.

## Professional Designations

- Associate, Society of Actuaries
- Enrolled Actuary, ERISA
- Fellow, Conference of Consulting Actuaries
- Member, American Academy of Actuaries

Shelly has passed both Level I and Level II CFA exams. She is currently awaiting results of the Level III CFA exam which is the last exam in order to earn the CFA Charter.

## Education

Bachelor of Arts, Actuarial Science, University of Connecticut



## Nicolas Lahaye, FSA, EA, FCA, MAAA

Consultant

[nicolas.lahaye@grsconsulting.com](mailto:nicolas.lahaye@grsconsulting.com)

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### Expertise

Nicolas Lahaye is a Consultant in GRS' Fort Lauderdale, Florida office. He has more than 15 years of actuarial and benefits consulting experience. Nicolas provides actuarial and consulting services to both public and private sector employee retirements systems and OPEB plans.

Nicolas's work for his clients includes preparation, supervision, and presentation of actuarial valuations and GASB/FASB accounting disclosures, benefit redesign studies, experience studies, and cash flow projections. He also has significant experience performing modeling studies, including asset/liability studies using deterministic and stochastic approaches.

Nicolas has worked for both public sector and middle market private-sector plans. His pension plan experience includes defined benefit plans and hybrid arrangements, covering plan design features such as final average pay, career average pay, target benefit, and early retirement windows. He also has working knowledge of Florida Statutes, governing operations of municipal pension plans, and group insurance plans offered by public sector employees.

### Professional Designations

- Fellow, Society of Actuaries
- Enrolled Actuary
- Fellow, Conference of Consulting Actuaries
- Member, American Academy of Actuaries

### Education

Bachelor of Actuarial Sciences, Laval University, Quebec, Canada

CITY OF WINTER SPRINGS, FLORIDA  
MINUTES  
**BOARD OF TRUSTEES**  
REGULAR MEETING  
JUNE 12, 2019  
(RESCHEDULED FROM MAY 9, 2019)

**CALL TO ORDER**

The Regular Meeting of Thursday, June 12, 2019 (Rescheduled from May 9, 2019) of the Board of Trustees was called to Order at 5:34 p.m. by Chairperson David Withee in the Commission Chambers (City Hall, 1126 East State Road 434, Winter Springs, Florida 32708).

**Roll Call:**

Chairperson David Withee present  
Vice-Chairperson Barbara Watkins, present  
Board Member Michael Blake, absent  
Board Member Steven Krohn, present  
Board Member Robin Paris, present  
Assistant to the City Clerk, Antonia DeJesus, present  
Assistant to the City Clerk, Christian Gowan, present

A moment of silence was followed by the Pledge of Allegiance.

No changes were made to the Agenda.

**AWARDS AND PRESENTATIONS**

**100. Not Used**

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**INFORMATIONAL AGENDA**

**200. Not Used**

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## **PUBLIC INPUT**

*Chairperson Withee opened “Public Input”.*

No one spoke.

*Chairperson Withee closed “Public Input”.*

## **CONSENT AGENDA**

### **300. Minutes from the Thursday, February 14, 2019 Board of Trustees Regular Meeting**

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Chairperson Withee asked for a Motion to approve the February 14, 2019 Meeting Minutes.

**“SO MOVED.” MOTION BY BOARD MEMBER PARIS. SECONDED. DISCUSSION.**

#### **VOTE:**

**VICE CHAIRPERSON WATKINS: AYE**

**BOARD MEMBER PARIS: AYE**

**BOARD MEMBER KROHN: AYE**

**CHAIRPERSON WITHEE: AYE**

**MOTION CARRIED.**

Related to other City business, Interim City Manager Shawn Boyle asked for the Board to discuss and consider approving a request for an Agenda Item at the next meeting to present a recommendation to lower the assumed rate of return from 7  $\frac{3}{4}$  to 7  $\frac{1}{2}$  percent and remarked that it would cost about “A hundred and fifty thousand dollars (\$150,000.00) - to the Operational Budget on an annual basis. But we’re in a situation where we can do that.” Interim Manager Boyle explained that “It improves our probability that it’s going to be around for the folks that are going to be participating in it.”

Discussion followed on the previous adjustment to the assumed rate of return, the City’s contribution in relation to the investment rate of return, the number of individuals in the Plan, who has access to the Plan, and the desire to ensure that the Plan is survivable and sustainable.

Interim Manager Boyle clarified the difference between the investment rate of return and the City contribution saying, “I’m not suggesting we drop the contributions by a hundred and fifty thousand dollars (\$150,000.00) - I’m increasing the contributions by a hundred and fifty thousand dollars (\$150,000.00) because we’re reducing the investment return assumption over the next thirty (30) years.”

Discussion continued.

Interim Manager Boyle then said that this recommendation is one (1) of five (5) that came from the Actuary and remarked, “I’m probably coming before you over the next six (6) months to evaluate all five (5) of those factors.”

Further discussion followed on the progress that has been made, the work of the Board in improving the Pension Fund, and the desire to create a sustainable fund.

*Mr. Dave West, Senior Consultant, AndCo Consulting, 4901 Vineland Road, Suite 600, Orlando, Florida:* spoke of Plans, rates of return, and funding.

Discussion continued.

Interim Manager Boyle noted that it was helpful to the City Commission to receive input from this Board on such matters, and as such, Interim Manager Boyle was looking for Consensus from this Board so that “Before we go down this path to reduce this multiplier that I have general Consensus from you all to do the work.” Interim Manager Boyle added that the Actuarial might need to do some calculations which might cost around two thousand dollars (\$2,000.00).

Chairperson Withee asked if the Board Members were in agreement that Interim Manager Boyle could bring a Agenda Item to the next Board of Trustees Meeting. Hearing no objections, Chairperson Withee said to Interim Manager Boyle, “You have the Consent of the Board to proceed.”

## **PUBLIC HEARINGS AGENDA**

### **400. Not Used**

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## **REGULAR AGENDA**

### **500. Quarterly Investment Return Report from AndCo Consulting**

*Mr. Dave West, Senior Consultant, AndCo Consulting, 4901 Vineland Road, Suite 600, Orlando, Florida:* addressed the investment report for the March quarter, ratings and performance of various Funds, cash flow, equity allocations, and management changes for the Galliard Fund.

Mr. West then continued with an Investment Performance Review update which brought the Board up to date through May 31, 2109 discussing and expanded on year-to-date numbers for various funds, cash flow, and asset allocation. Mr. West concluded, "I recommend we stay the course."

### **600. REPORTS**

No Reports were given.

### **PUBLIC INPUT**

*Chairperson Withee opened "Public Input".*

No one spoke.

*Chairperson Withee closed "Public Input".*

❖❖ **AGENDA NOTE: REGULAR AGENDA ITEM "500" WAS FURTHER ADDRESSED AS DOCUMENTED.** ❖❖

## **REGULAR AGENDA**

### **500. Quarterly Investment Return Report from AndCo Consulting**

Brief discussion.

Chairperson Withee said, “May I have a Motion from the Board to accept the AndCo Report with no changes to the proposal recommended.”

**“SO MOVED.” MOTION BY BOARD MEMBER PARIS. SECONDED BY BOARD MEMBER KROHN. DISCUSSION.**

**VOTE:**

**BOARD MEMBER KROHN: AYE**

**CHAIRPERSON WITHEE: AYE**

**VICE CHAIRPERSON WATKINS: AYE**

**BOARD MEMBER PARIS: AYE**

**MOTION CARRIED.**

**ADJOURNMENT**

Chairperson Withee adjourned the Meeting at 6:35 p.m.

*RESPECTFULLY SUBMITTED:*

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CHRISTIAN GOWAN  
ASSISTANT TO THE CITY CLERK

Investment Performance Review  
Period Ending June 30, 2019

## Winter Springs General Employees Plan and Trust

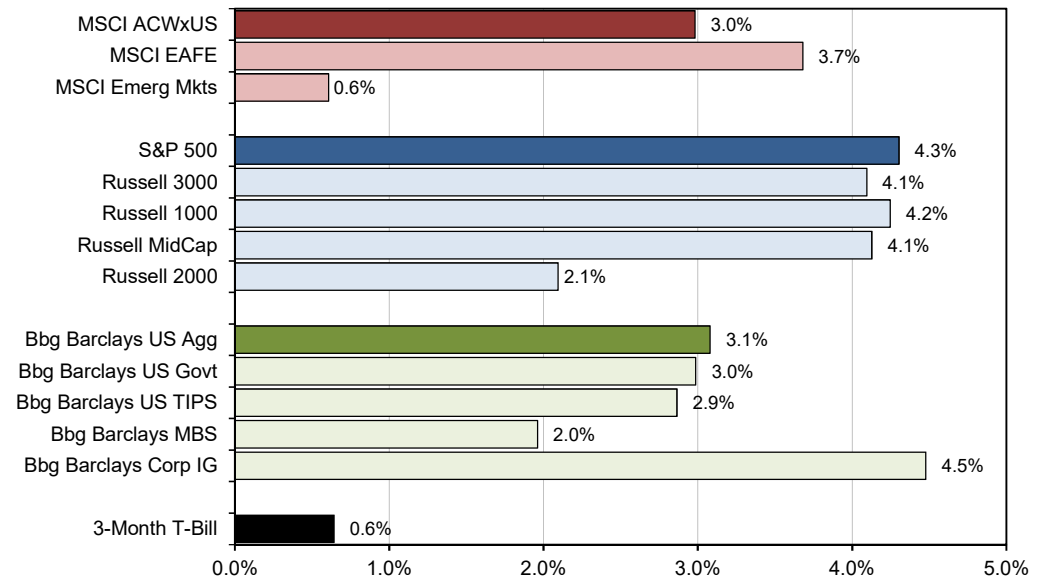
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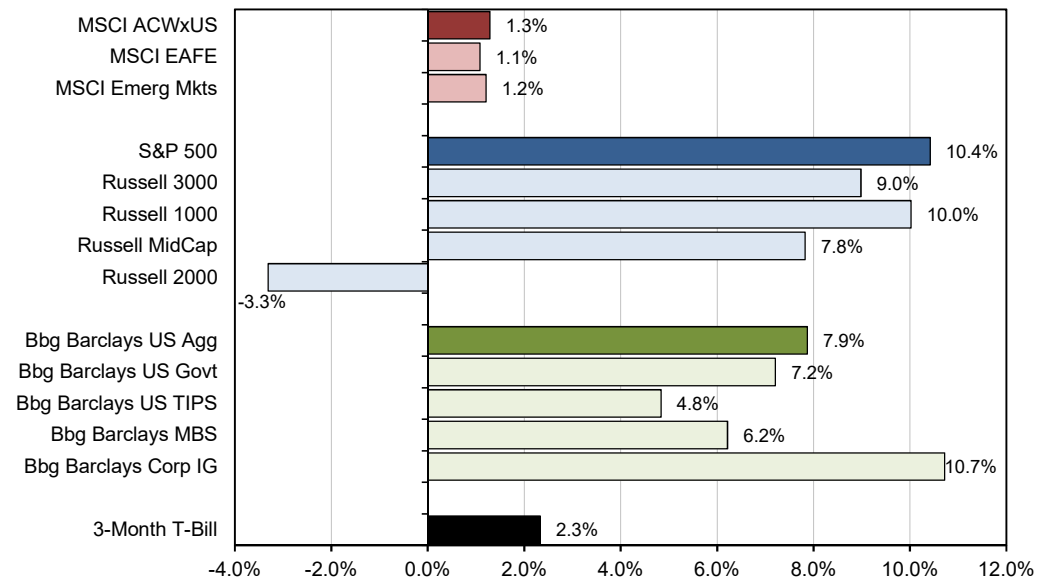
## **2nd Quarter 2019 Market Environment**

- Broad asset class returns were positive during the 2nd quarter of 2019 with both equity and fixed income indices extending their year-to-date gains. US stocks outperformed international stocks during a very volatile quarter. Equity indices rose to start the period as progress in global trade negotiations outweighed signs of weakness in macroeconomic data. However, trade discussions between the US and China fell apart in May prompting increased tariffs and sharp declines in equity markets. The softening in economic data, stubbornly low inflation and the threat of slower future growth caused by ongoing disruption in trade led the Federal Reserve (Fed) to communicate a shift toward a more accommodative policy stance. This change in central bank posture caused markets to rebound strongly, ending the quarter higher for the period. Fixed income returns were also positive during the quarter as the prospect of more accommodative monetary policy pushed interest rates lower, increasing bond prices. Within domestic equity markets, large cap stocks outperformed small cap equities during the quarter with the S&P 500 Index returning 4.3% versus a 2.1% return on the small cap Russell 2000 Index. US equity returns over the 1-year period were positive within large and mid cap stocks, returning 10.4% and 7.8% respectively, but small cap stocks posted a loss, falling -3.3%.
- Similar to US markets, international markets were volatile during the 2nd quarter as investors reacted to mixed economic data, heightened geopolitical uncertainty, particularly around the outlook for global trade and Brexit, and increased accommodation in central bank policy with the European Central Bank (ECB) and People's Bank of China (PBoC) pledging additional stimulus if needed. Developed markets outperformed emerging markets during the period with the MSCI EAFE Index returning 3.7% versus a 0.6% return on the MSCI Emerging Markets Index. Both developing and emerging markets posted modest gains over the 1-year period, returning 1.1% and 1.2% respectively.
- Fixed income returns were in line with equities during the 2nd quarter. The broad market Bloomberg Barclays Aggregate Index returned 3.1% as a more dovish stance from the Fed and other global central banks pushed interest rates lower across the US Treasury Yield Curve. The curve steepened but remained inverted with shorter-term maturities paying higher interest rates than those in the middle of the curve. Investment grade corporate issues were the best performing securities for the second quarter in a row, outperforming Treasury and securitized issues. The Bloomberg Barclays Corporate IG Index returned 4.5% for the period, as corporate credit had tailwinds due to greater interest rate sensitivity, higher yields and tightening credit spreads. Corporate issues also outperformed the other major fixed income sectors over the 1-year period, returning 10.7% versus a 7.9% return for the Bloomberg Barclays Aggregate Index.

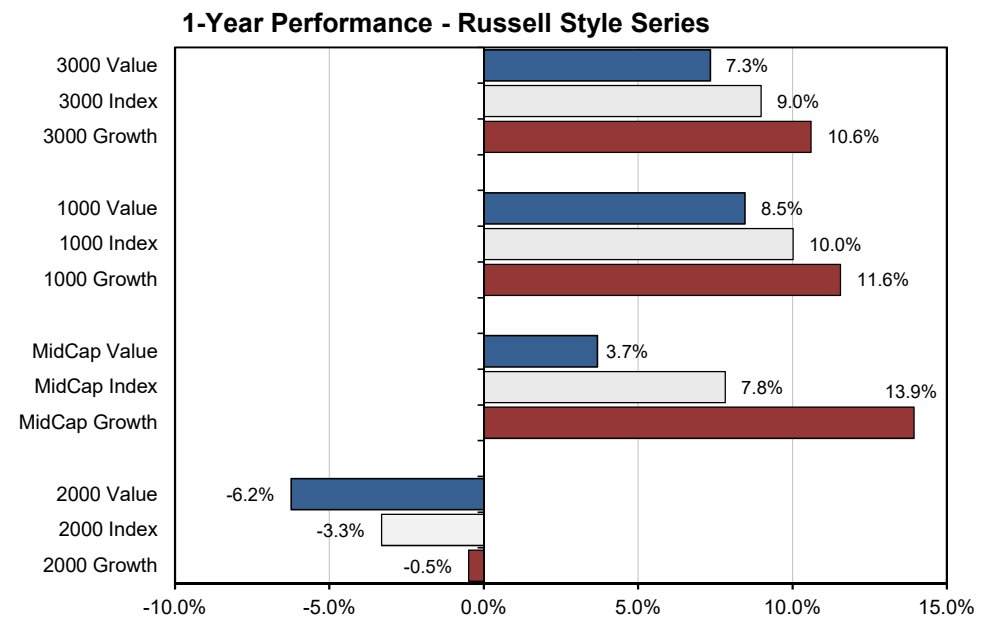
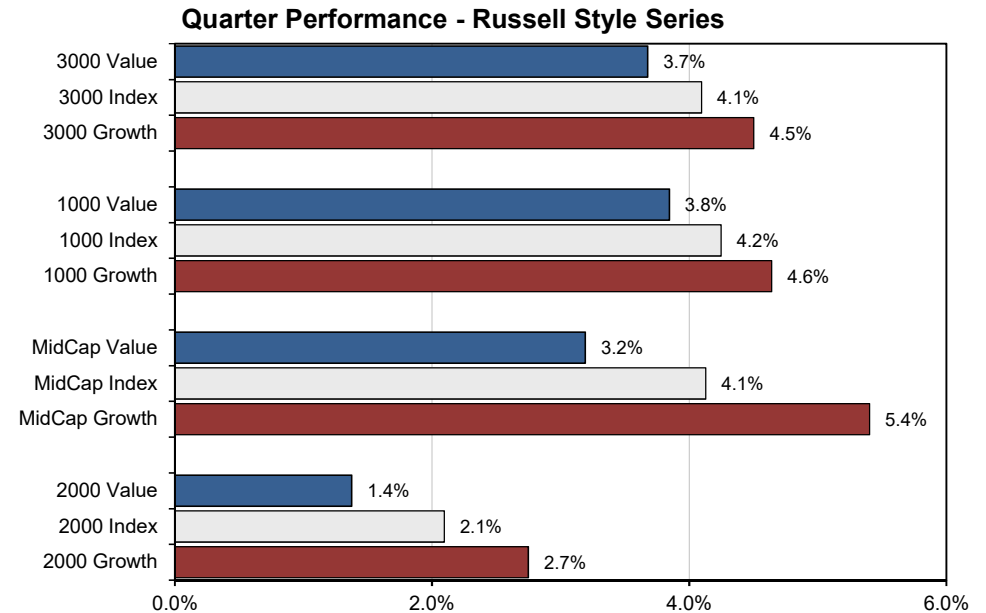
### Quarter Performance



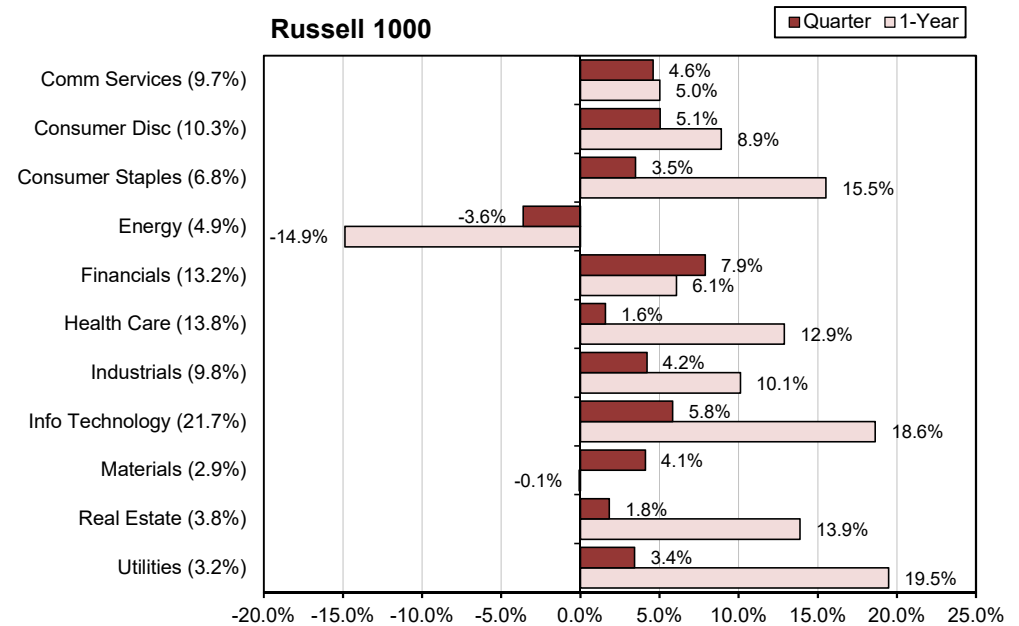
### 1-Year Performance



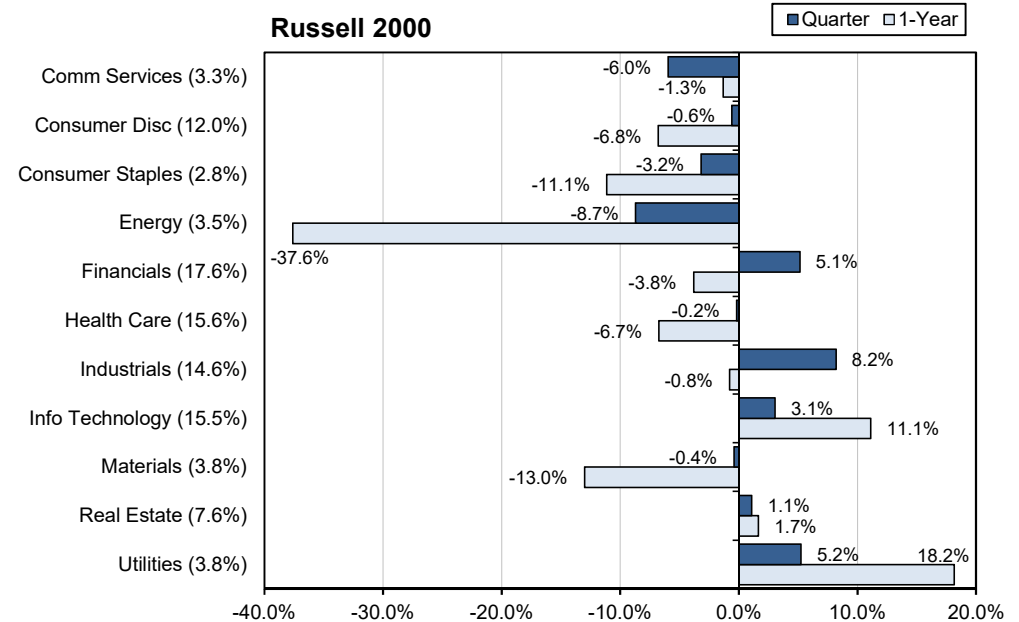
- US equity index returns were modestly positive across the style and capitalization spectrum for the 2nd quarter. Corporate earnings reported during the quarter surprised to the upside, but economic data released during the period showed signs of slowing growth. Developments around global trade were particularly prominent during the period, heavily influencing market sentiment. Positive developments in trade negotiations with China came to an abrupt halt in May leading the US to increase tariffs on \$200 billion of Chinese imports from 10% to 25% and announce that the US would consider tariffs on the remaining \$300 billion in goods imported from China. China retaliated by increasing the tariff range on \$60 billion of US goods from 5-10% to 5-25%. Additionally, the US instituted a ban on sales of technology equipment to Chinese telecommunications firm Huawei citing national security risks. China is expected to take similar action in retaliation although nothing has been announced. Trade talks are ready to resume and both sides have agreed to cease escalations following a meeting between President Trump and President Jinping at the G20 summit held at the end of the quarter. In addition, President Trump threatened a 5% tariff on all Mexican imports as a tact to reduce the level of illegal immigration at the US border with Mexico, and US waivers on sanctions for Iranian oil ended leading to increased tensions in the region that were further escalated after Iran downed a US drone. Despite these headwinds, markets rose following comments from an increasingly accommodative Fed as investors priced in greater odds of easy monetary policy going forward.
- During the quarter, higher market cap stocks outperformed lower market cap stocks across the style spectrum with the only exception being the outperformance of mid cap growth stocks relative to large cap growth stocks. The large cap Russell 1000 Index gained 4.2% during the period versus a 4.1% return for the Russell MidCap Index and a 2.1% gain on the small cap Russell 2000 Index as market participants may be moving toward the relative safety of large cap names as the economy continues to show growing signs of weakness. When viewed over the most recent 1-year period, large cap stocks outperformed relative to small cap stocks. The Russell 1000 returned 10.0% for the year while the Russell 2000 fell -3.3%.
- Growth indices outperformed value indices across the market cap spectrum during the 2nd quarter. Growth stocks have outperformed value in nine of the last ten quarters. The Russell MidCap Growth Index was the best performing style index for the period, returning 5.4% for the quarter with the small cap value index posting the lowest relative return, a gain of 1.4%. The trend of growth outperformance is also visible over the 1-year period as growth indices have benefitted from larger exposures to technology which has been a large driver of index performance over the last year, as well as a meaningful underweight to energy which has been a relative detractor.



- Sector performance was broadly positive across large cap sectors for the 2nd quarter. There were gains for ten out of eleven sectors within the Russell 1000 Index during the period with four sectors outpacing the return of the index. Cyclical sectors such as technology, industrials and consumer discretionary were some of the best performers through the quarter returning 5.8%, 4.2% and 5.1% respectively. Financials also outperformed, returning 7.9%, as investors weighed the benefits of continued economic expansion due to easing monetary policy against the effects of lower interest rates on bank earnings. More defensive higher yielding sectors such as consumer staples, real estate and utilities underperformed for the quarter returning 3.5%, 1.8% and 3.4% respectively. The energy sector was the only large cap sector to post a negative return during the quarter, falling -3.6%, as headwinds from weakening economic data and low oil and natural gas prices weighed on 1st quarter earnings. Health care stocks also lagged as continued discussions in Washington around the potential for increased regulation on drug pricing acted as a headwind. Returns over the 1-year period were positive with nine out of eleven sectors posting gains, six of which were over 10%. Defensive sectors such as utilities, REITs and consumer staples performed well returning 19.5%, 13.9% and 15.5% respectively. Technology returns were also strong gaining 18.6%. Energy and materials were the only sectors to post negative results over the 1-year period with energy falling -14.9% and materials returning -0.1%.



- Quarterly results for small cap sectors were generally worse than their large capitalization counterparts with only two of eleven sectors (industrials and utilities) outperforming their corresponding large cap equivalents. Five of eleven sectors produced gains during the period with four of eleven economic sectors outpacing the Russell 2000 Index return for the quarter. Similar to large caps, cyclical sectors performed well on hopes that any Fed policy easing would counteract the recent weakness in economic growth. The industrials sector performed particularly well returning 8.2%, financials posted a 5.1% gain and technology returned 3.1%. Utilities also outperformed returning 5.2%. The largest detractors over the period were energy and communication services which returned -8.7% and -6.0% respectively. Over the trailing 1-year period, returns were broadly negative. Utilities and technology were relative bright spots returning 18.2% and 11.1%. The energy sector was an outlier in terms of negative returns losing -37.6% during the period. There were also notable losses in materials and consumer staples with materials losing -13.0% and consumer staples falling -11.1%.



**The Market Environment**  
**Top 10 Index Weights & Quarterly Performance for the Russell 1000 & 2000**  
As of June 30, 2019

Top 10 Weighted Stocks				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Microsoft Corp	3.71%	14.0%	37.5%	Information Technology
Apple Inc	3.44%	4.6%	8.6%	Information Technology
Amazon.com Inc	2.85%	6.3%	11.4%	Consumer Discretionary
Facebook Inc A	1.68%	15.8%	-0.7%	Communication Services
Berkshire Hathaway Inc B	1.51%	6.1%	14.2%	Financials
Johnson & Johnson	1.37%	0.3%	17.9%	Health Care
JPMorgan Chase & Co	1.35%	11.3%	10.3%	Financials
Alphabet Inc Class C	1.20%	-7.9%	-3.1%	Communication Services
Exxon Mobil Corp	1.19%	-4.1%	-3.3%	Energy
Alphabet Inc A	1.18%	-8.0%	-4.1%	Communication Services

Top 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
Adient PLC	0.01%	87.3%	-50.0%	Consumer Discretionary
Anadarko Petroleum Corp	0.13%	55.8%	-1.6%	Energy
Cypress Semiconductor Corp	0.03%	49.8%	46.9%	Information Technology
Okta Inc A	0.04%	49.3%	145.2%	Information Technology
Erie Indemnity Co Class A	0.02%	43.2%	122.5%	Financials
Heico Corp	0.02%	41.1%	83.9%	Industrials
Legg Mason Inc-LeggMason RETAIL	0.01%	39.9%	14.4%	Financials
Exact Sciences Corp	0.05%	36.3%	97.4%	Health Care
Caesars Entertainment Corp	0.02%	36.0%	10.5%	Consumer Discretionary
Ardagh Group SA	0.00%	35.9%	9.6%	Materials

Bottom 10 Performing Stocks (by Quarter)				
Russell 1000	Weight	1-Qtr Return	1-Year Return	Sector
2U Inc	0.01%	-46.9%	-55.0%	Information Technology
Alkermes PLC	0.01%	-38.2%	-45.2%	Health Care
Range Resources Corp	0.01%	-37.7%	-58.0%	Energy
Antero Resources Corp	0.00%	-37.4%	-74.1%	Energy
Chesapeake Energy Corp	0.01%	-37.1%	-62.8%	Energy
RPC Inc	0.00%	-36.5%	-48.8%	Energy
Realty Holdings Corp	0.00%	-35.8%	-67.4%	Real Estate
The Chemours Co	0.02%	-34.7%	-44.2%	Materials
United Therapeutics Corp	0.01%	-33.5%	-31.0%	Health Care
Mylan NV	0.04%	-32.8%	-47.3%	Health Care

Top 10 Weighted Stocks				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Array BioPharma Inc	0.48%	90.0%	176.1%	Health Care
The Trade Desk Inc A	0.37%	15.1%	142.8%	Information Technology
Etsy Inc	0.36%	-8.7%	45.5%	Consumer Discretionary
Coupa Software Inc	0.35%	39.2%	103.4%	Information Technology
Five Below Inc	0.32%	-3.4%	22.8%	Consumer Discretionary
Planet Fitness Inc A	0.31%	5.4%	64.9%	Consumer Discretionary
HubSpot Inc	0.31%	2.6%	36.0%	Information Technology
Haemonetics Corp	0.30%	37.6%	34.2%	Health Care
Woodward Inc	0.30%	19.4%	48.0%	Industrials
Ciena Corp	0.29%	10.1%	55.1%	Information Technology

Top 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
Iovance Biotherapeutics Inc	0.13%	157.8%	91.6%	Health Care
Arqule Inc	0.06%	129.9%	99.1%	Health Care
Adverum Biotechnologies Inc	0.03%	126.9%	124.3%	Health Care
Chimerix Inc	0.01%	105.7%	-9.2%	Health Care
Enphase Energy Inc	0.08%	97.5%	170.9%	Information Technology
Maxar Technologies Inc	0.02%	94.8%	-84.0%	Industrials
Array BioPharma Inc	0.48%	90.0%	176.1%	Health Care
Melinta Therapeutics Inc	0.00%	87.3%	-79.1%	Health Care
G1 Therapeutics Inc	0.03%	84.7%	-29.5%	Health Care
Foundation Building Materials Inc	0.01%	80.7%	15.6%	Industrials

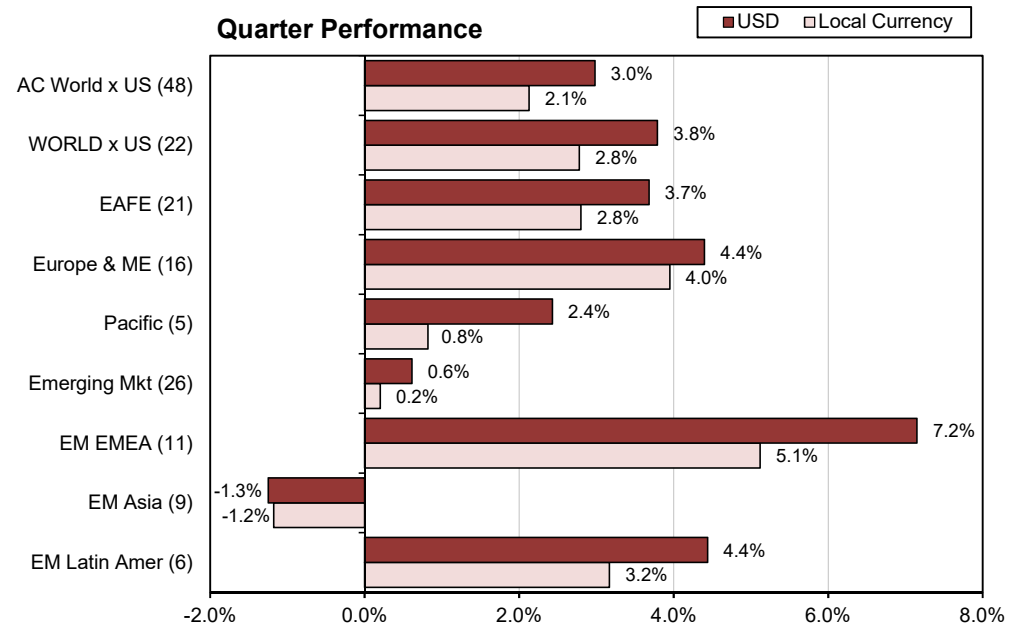
Bottom 10 Performing Stocks (by Quarter)				
Russell 2000	Weight	1-Qtr Return	1-Year Return	Sector
FuelCell Energy Inc	0.00%	-94.0%	-98.9%	Industrials
Halcon Resources Corp	0.00%	-86.9%	-96.0%	Energy
Pioneer Energy Services Corp	0.00%	-85.7%	-95.7%	Energy
Eros International PLC	0.00%	-85.2%	-89.6%	Communication Services
Superior Energy Services Inc	0.01%	-72.2%	-86.7%	Energy
electroCore Inc	0.00%	-71.4%	-87.9%	Health Care
Ultra Petroleum Corp	0.00%	-70.5%	-92.2%	Energy
Nuvecra Corp	0.00%	-69.6%	-83.7%	Health Care
Dean Foods Co	0.00%	-69.5%	-91.1%	Consumer Staples
Kirkland's Inc	0.00%	-67.9%	-80.6%	Consumer Discretionary



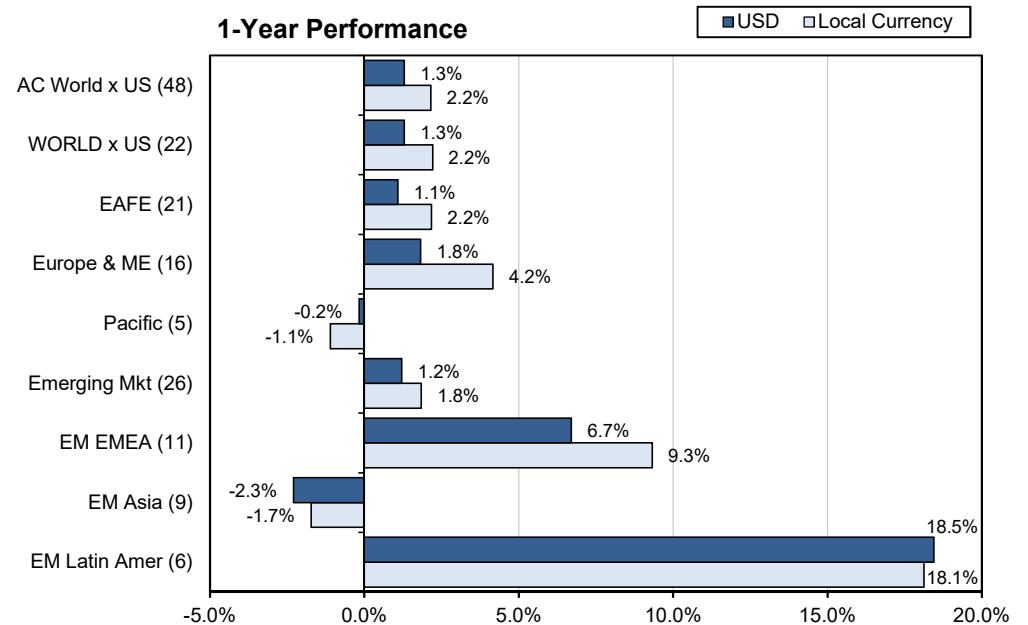


- Broad international equity returns were positive for the quarter in both local currency and USD terms. The MSCI ACWI ex US Index gained 2.1% in local currency terms and 3.0% in US dollar (USD) terms during the 2nd quarter. Similar to US markets, international equity investors balanced difficulties around global trade with central bank shifts toward more accommodative policies as a response to slowing global growth. Notably the ECB President Mario Draghi stated that further monetary policy action may need to be taken if inflation remains below target and the PBoC launched stimulus measures designed to encourage growth following the deterioration of trade negotiations with the US. Returns in USD largely outperformed those in local currency during the quarter as the USD depreciated against most major developed currencies following dovish Fed comments in June. However, the recent USD strength can still be seen over the 1-year period with USD returns trailing most local currency returns. Returns for the MSCI ACWI ex US Index were 2.2% in local currency terms and 1.3% in USD terms for the trailing year.
- Results for developed market international indices were positive in both local currency and USD terms during the 2nd quarter, with the MSCI EAFE Index returning 2.8% and 3.7% respectively. Outside of central bank policy and trade, there was notable news out of the UK with Prime Minister Theresa May resigning from her post after her Brexit withdrawal plan failed to gain parliamentary approval and a new vote for the office is currently underway. UK markets were pressured by continued uncertainty around Brexit with the UK having until October to strike an agreement with the European Union (EU) or withdraw with no agreement in place. Despite the growing uncertainty, the Bank of England (BoE) left monetary policy unchanged. Japan also underperformed as the yen appreciated due to its perceived safe haven status and trade headwinds were expected to affect its export driven economy. The MSCI EAFE Index returned 2.2% and 1.1% for the last twelve months in local currency and USD terms respectively.
- Emerging markets underperformed relative to developed markets for the 2nd quarter, slightly appreciating in both local currency and USD terms. The MSCI Emerging Markets Index gained 0.2% and 0.6% respectively. As expected, geopolitical tensions around trade put pressure on emerging market stocks, with Chinese equities underperforming relative to most countries. Latin American stocks performed well with Brazil and Argentina posting strong returns as commodity prices appreciated from recent lows at the end of 2018 and interest rates fell. Russian equities also performed well, benefiting from increasing commodity prices, but also had a tailwind from a decrease in the likelihood of future US sanctions. One year returns for the MSCI Emerging Market Index were 1.8% in local currency terms and 1.2% in USD terms.

**Quarter Performance**



**1-Year Performance**



**The Market Environment**  
**US Dollar International Index Attribution & Country Detail**  
As of June 30, 2019

MSCI - EAFE	Sector Weight	Quarter Return	1-Year Return
Communication Services	5.4%	4.0%	4.3%
Consumer Discretionary	11.1%	5.9%	-2.6%
Consumer Staples	11.7%	1.9%	4.8%
Energy	5.6%	0.4%	-5.5%
Financials	18.9%	4.3%	-2.9%
Health Care	11.2%	2.0%	7.5%
Industrials	14.8%	5.9%	2.4%
Information Technology	6.7%	6.6%	2.7%
Materials	7.4%	3.9%	0.2%
Real Estate	3.6%	-2.2%	2.3%
Utilities	3.6%	1.5%	9.8%
<b>Total</b>	<b>100.0%</b>	<b>3.7%</b>	<b>1.1%</b>

MSCI - ACWIxUS	Sector Weight	Quarter Return	1-Year Return
Communication Services	6.9%	1.0%	5.6%
Consumer Discretionary	11.3%	3.8%	-3.6%
Consumer Staples	9.8%	2.2%	4.6%
Energy	7.2%	0.5%	-1.4%
Financials	21.9%	4.4%	2.0%
Health Care	8.3%	1.2%	4.2%
Industrials	11.9%	5.2%	2.9%
Information Technology	8.5%	4.0%	-0.7%
Materials	7.6%	2.9%	-0.5%
Real Estate	3.3%	-1.6%	4.3%
Utilities	3.3%	2.2%	10.1%
<b>Total</b>	<b>100.0%</b>	<b>3.0%</b>	<b>1.3%</b>

MSCI - Emerging Mkt	Sector Weight	Quarter Return	1-Year Return
Communication Services	11.7%	-2.4%	4.5%
Consumer Discretionary	13.5%	-1.2%	-7.6%
Consumer Staples	6.6%	3.3%	0.9%
Energy	7.9%	1.2%	16.3%
Financials	25.2%	4.0%	11.9%
Health Care	2.6%	-6.6%	-24.7%
Industrials	5.3%	0.0%	4.1%
Information Technology	13.9%	-0.1%	-6.1%
Materials	7.6%	-1.2%	-1.9%
Real Estate	3.0%	-0.2%	10.1%
Utilities	2.7%	2.9%	9.0%
<b>Total</b>	<b>100.0%</b>	<b>0.6%</b>	<b>1.2%</b>

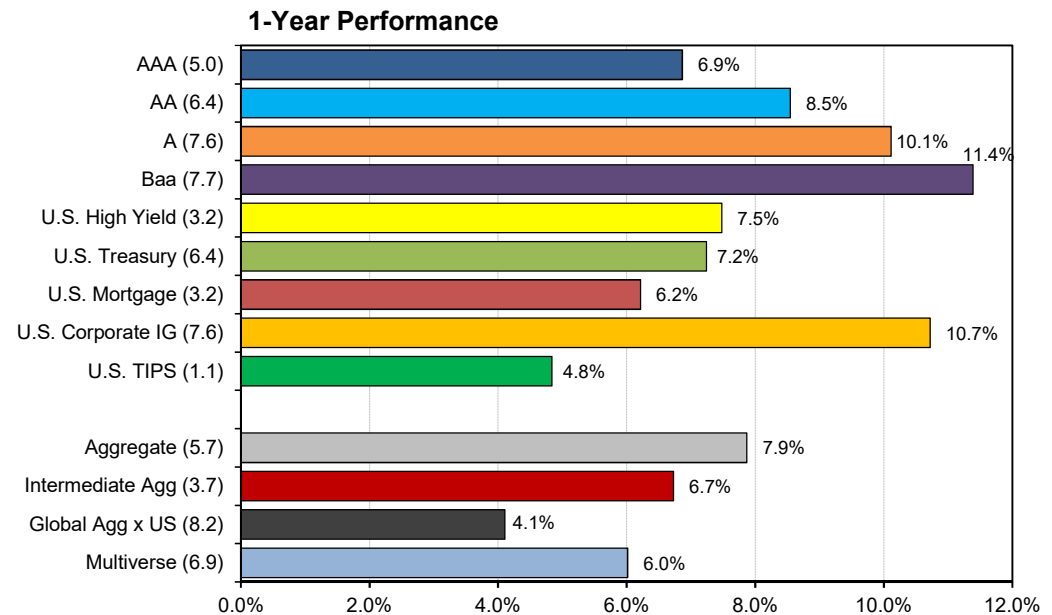
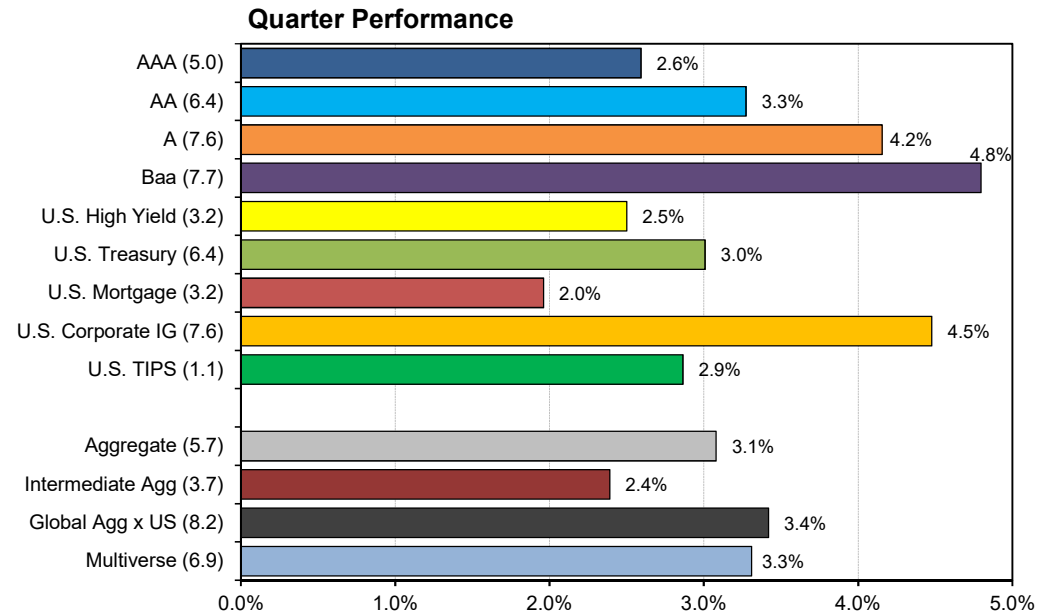
Country	MSCI-EAFE Weight	MSCI-ACWIxUS Weight	Quarter Return	1-Year Return
Japan	23.7%	15.8%	1.0%	-4.2%
United Kingdom	16.8%	11.2%	0.9%	-2.1%
France	11.4%	7.6%	6.5%	3.0%
Switzerland	9.3%	6.2%	8.4%	19.8%
Germany	8.8%	5.9%	7.1%	-3.8%
Australia	7.1%	4.8%	7.3%	6.6%
Hong Kong	4.0%	2.7%	1.0%	10.4%
Netherlands	3.6%	2.4%	5.8%	5.3%
Spain	3.0%	2.0%	2.6%	-2.1%
Sweden	2.7%	1.8%	4.9%	3.4%
Italy	2.3%	1.6%	2.9%	-0.7%
Denmark	1.7%	1.1%	1.6%	5.8%
Singapore	1.4%	0.9%	7.0%	8.3%
Finland	1.0%	0.7%	0.2%	-4.7%
Belgium	1.0%	0.7%	1.2%	-9.1%
Norway	0.7%	0.5%	2.4%	-4.3%
Israel	0.6%	0.4%	-3.6%	-4.5%
Ireland	0.5%	0.4%	4.7%	-9.2%
New Zealand	0.3%	0.2%	3.9%	16.0%
Austria	0.2%	0.2%	0.8%	-13.1%
Portugal	0.2%	0.1%	1.6%	-4.6%
<b>Total EAFE Countries</b>	<b>100.0%</b>	<b>66.8%</b>	<b>3.7%</b>	<b>1.1%</b>
Canada		6.8%	4.9%	3.3%
<b>Total Developed Countries</b>		<b>73.6%</b>	<b>3.8%</b>	<b>1.3%</b>
China		8.3%	-4.0%	-6.7%
Korea		3.3%	-1.0%	-9.1%
Taiwan		2.9%	0.9%	1.1%
India		2.4%	0.5%	7.9%
Brazil		2.0%	7.2%	39.4%
South Africa		1.6%	6.6%	-0.8%
Russia		1.1%	16.9%	27.1%
Thailand		0.8%	9.3%	19.8%
Saudi Arabia		0.8%	0.6%	11.0%
Mexico		0.7%	1.1%	-7.4%
Indonesia		0.6%	3.2%	20.3%
Malaysia		0.6%	1.2%	-0.8%
Philippines		0.3%	4.4%	19.7%
Poland		0.3%	3.5%	10.5%
Qatar		0.3%	0.6%	18.8%
Chile		0.2%	-5.6%	-12.1%
United Arab Emirates		0.2%	-2.7%	3.0%
Turkey		0.1%	2.8%	-17.1%
Colombia		0.1%	-2.4%	-3.7%
Peru		0.1%	-1.9%	3.5%
Argentina		0.1%	31.7%	15.8%
Greece		0.1%	16.2%	-9.2%
Hungary		0.1%	-4.1%	12.7%
Czech Republic		0.0%	2.6%	1.1%
Egypt		0.0%	7.8%	5.4%
Pakistan		0.0%	-20.8%	-36.7%
<b>Total Emerging Countries</b>		<b>26.4%</b>	<b>0.6%</b>	<b>1.2%</b>
<b>Total ACWIxUS Countries</b>		<b>100.0%</b>	<b>3.0%</b>	<b>1.3%</b>

Source: Morningstar Direct, MSCI Global Index Monitor (Returns are Net in USD)

As a result of the GICS classification changes on 9/28/2018 and certain associated reporting limitations, sector performance represents backward looking performance for the prior year of each sector's current constituency, post creation of the Communication Services sector.

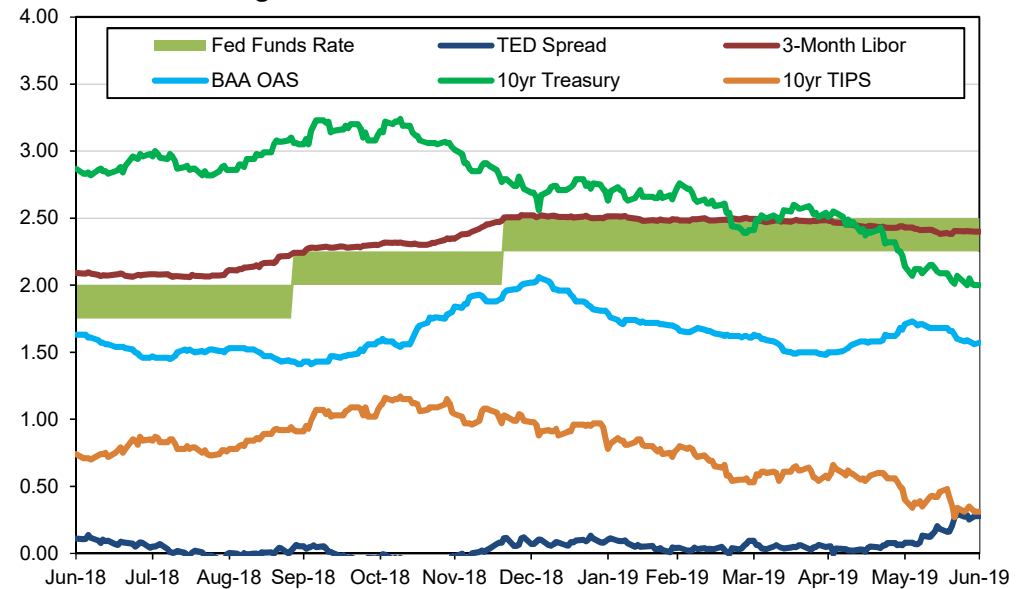


- Broad fixed income benchmarks built on their early 2019 gains during the 2nd quarter. During the 1st quarter, the Federal Open Market Committee (FOMC) reacted to a difficult end to 2018 by issuing guidance that the FOMC is no longer projecting any further interest rate increases through 2019. Federal Reserve Chair Jerome Powell also stated that the Fed would begin tapering the roll off from the planned balance sheet reduction program in May with a plan to halt the program entirely in September. The stoppage of the balance sheet reduction program represents an easing of monetary policy. The Fed took an increasingly dovish stance during the 2nd quarter reacting to softening economic data, tepid inflation and increased risks around global trade. While the committee left interest rates unchanged, the minutes from the June FOMC meeting indicate that the committee felt “downside risks to the outlook for economic activity had risen materially” during the quarter with several participants noting that a “near-term cut in the target range for the Federal Funds Rate could help cushion the effects of possible future adverse shocks to the economy”. These comments led market participants to forecast greater odds of an interest rate cut this year, pushing markets higher. Interest rates fell across all maturities on the US Treasury Yield Curve with the greatest declines occurring in the mid- and long-term issues. The curve remains inverted with short-term maturities paying higher interest rates than issues in the mid- to long-end of the curve. The bellwether Bloomberg Barclays US Aggregate Index posted positive returns for both the 1st quarter and the 1-year period, returning 3.1% and 7.9% respectively.
- Within investment grade credit, lower quality issues outperformed higher quality issues as investors gravitated toward higher risk securities during the quarter. Lower quality issues also benefitted from their higher durations. On an absolute basis, without negating the duration differences in the sub-indices, Baa rated credit was the best performing investment grade credit quality segment returning 4.8% for the quarter, while AAA was the worst performing, returning 2.6%. High yield issues returned 2.5% for the quarter as these issues did not commensurately benefit from the drop in interest rates due to their lower durations. Returns over the 1-year period generally show lower quality securities outperforming higher quality issues.
- Investment grade corporates outperformed the more defensive Treasury and mortgage backed sectors of the Bloomberg Barclays US Aggregate Index’s three broad sectors during the 2nd quarter. Investment grade corporate credit returned 4.5%, as falling interest rates benefitted these securities to a greater degree and credit spreads have continued to tighten since the end of 2018. When viewed over the 1-year period, corporate credit outperformed both Treasuries and mortgage backed securities. Corporate issues returned 10.7% versus a 6.2% return for mortgages and 7.2% gain on Treasury securities.

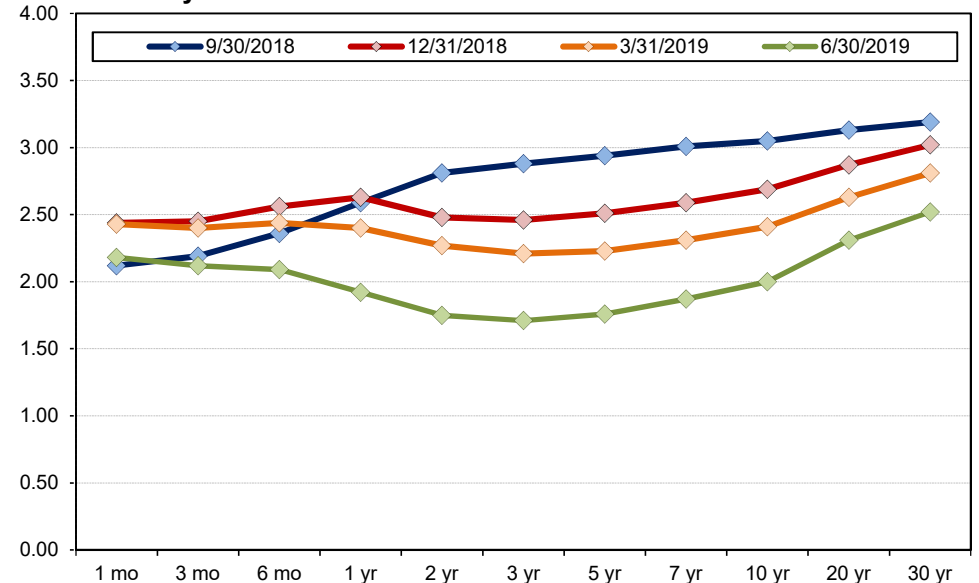


- Global fixed income returns were in line with their domestic counterparts, slightly outperforming during the 2nd quarter. These indices have lower, or in some cases (Germany, Japan), negative yields, but have higher durations. The returns of these indices are also significantly influenced by fluctuations in their currency denomination relative to the USD. The USD depreciated against most other developed currencies, acting as a tailwind to global bond indices. The return on global bonds, as represented by the Bloomberg Barclays Global Aggregate ex US Index, was 3.4%. Global bonds still trail over the 1-year period with the Global Aggregate ex US Index returning 4.1% versus a 7.9% return on the domestically focused Barclays Aggregate Index. As global growth has shown signs of stalling, several international central banks have started to step back from more restrictive postures. The ECB and the PBoC have moved toward an easing of monetary policy and implemented various stimulus programs designed to support their respective economies. The Bank of England and the Bank of Japan made no major policy changes during the quarter as they continue to review macroeconomic data within their respective countries.
- Much of the index performance detailed in the bar graphs on the previous page is visible on a time series basis by reviewing the line graphs to the right. The '1-Year Trailing Market Rates' chart illustrates that the 10-year Treasury yield (green line) fell from recent high's greater than 3.0%, to 2.0% to end the quarter. The blue line illustrates changes in the BAA OAS (Option Adjusted Spread). This measure quantifies the additional yield premium that investors require to purchase and hold non-Treasury issues. This line illustrates an abrupt increase in credit spreads during the 4th quarter of 2018 as investors moved to higher quality assets during the quarter's risk-off environment. Subsequently, spreads dropped steadily until they rose again in May and then later declined in June. This spread tightening is equivalent to an interest rate decrease on corporate bonds, which produces an additional tailwind for corporate bond index returns. These credit spreads have tightened by about 6 basis points over the last three months. The green band across the graph illustrates the gradual increase in the Federal Funds Rate due to the tightening of US monetary policy during 2018. There have been no changes to the Federal Funds Rate in 2019.
- The lower graph provides a snapshot of the US Treasury yield curve at the end of each of the last four calendar quarters. The downward shift in interest rates as well as a general steepening of the yield curve are clearly visible over the last quarter. As mentioned, the yield curve continues to invert as yields on shorter-term maturities fell less than interest rates in the middle- to long-end of the curve.

1-Year Trailing Market Rates

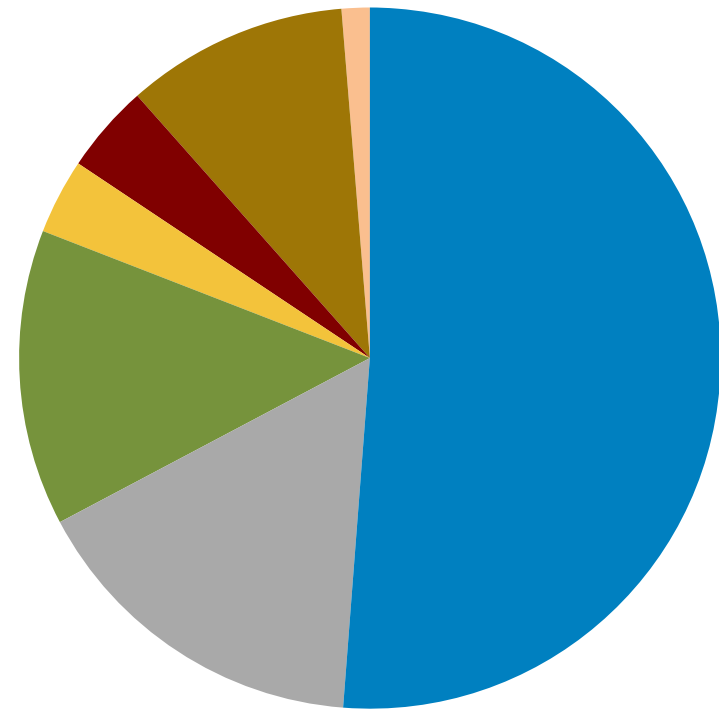
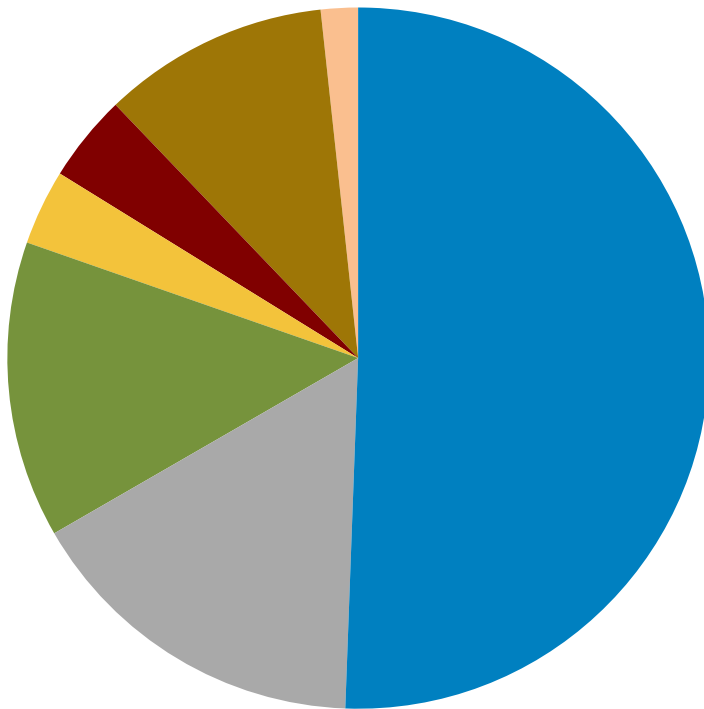


Treasury Yield Curve



Asset Allocation By Segment as of  
 March 31, 2019 : \$52,395,852

Asset Allocation By Segment as of  
 June 30, 2019 : \$53,864,258

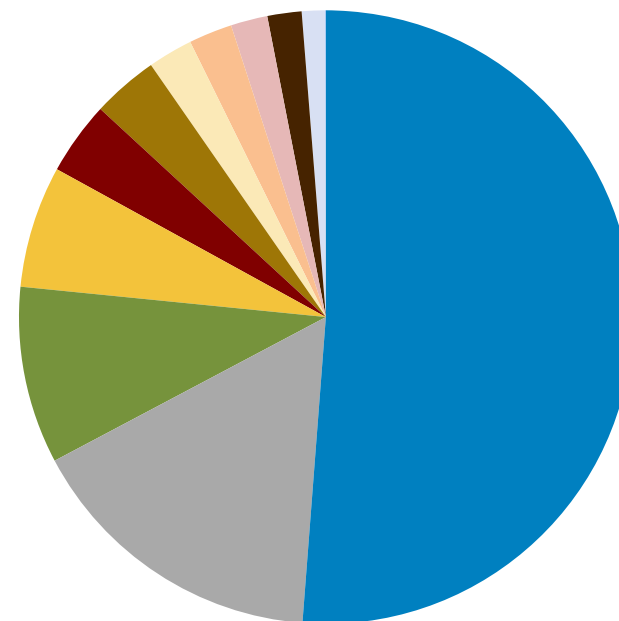
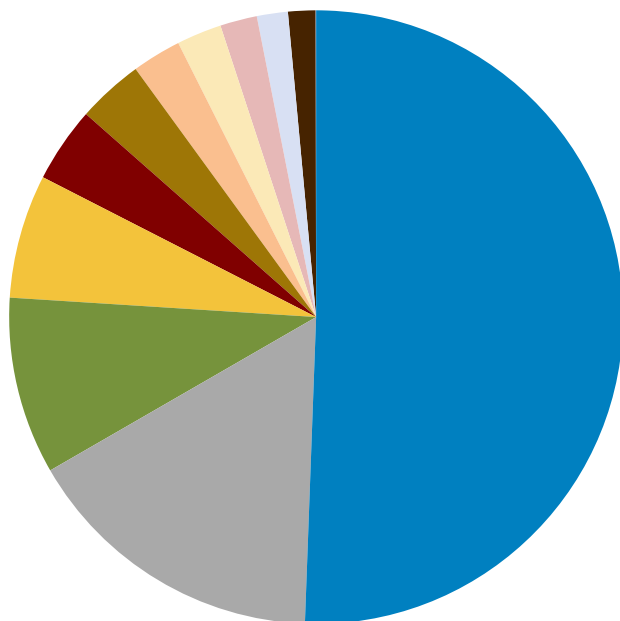


Allocation			Allocation		
Segments	Market Value	Allocation	Segments	Market Value	Allocation
Domestic Equity	26,503,976	50.6	Domestic Equity	27,588,328	51.2
International Equity	8,428,118	16.1	International Equity	8,634,785	16.0
Domestic Fixed Income	7,165,575	13.7	Domestic Fixed Income	7,355,456	13.7
Global Fixed Income	1,821,808	3.5	Global Fixed Income	1,867,102	3.5
Other Fixed Income	2,108,445	4.0	Other Fixed Income	2,202,293	4.1
Real Estate	5,471,251	10.4	Real Estate	5,516,132	10.2
Cash Equivalent	896,679	1.7	Cash Equivalent	700,163	1.3



Asset Allocation By Manager as of  
 March 31, 2019 : \$52,395,852

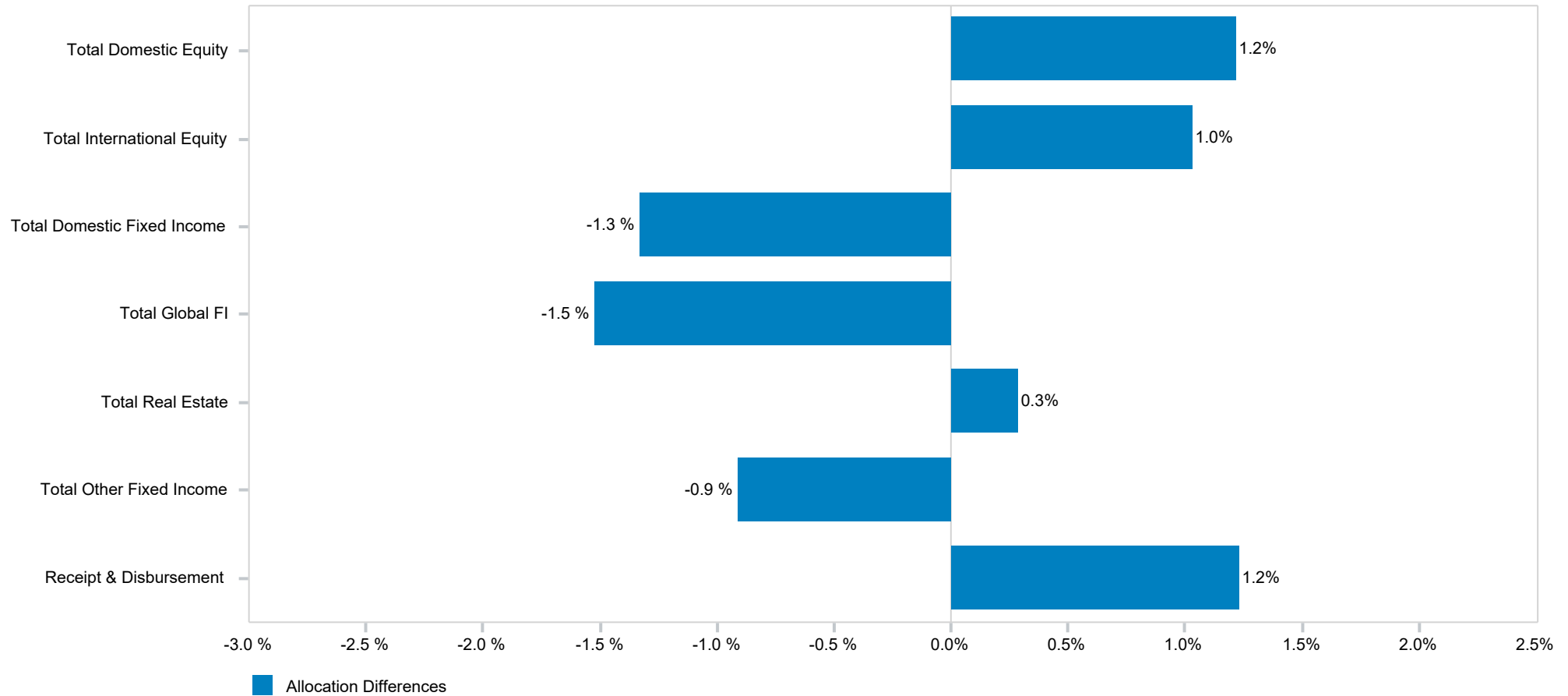
Asset Allocation By Manager as of  
 June 30, 2019 : \$53,864,258



Allocation			Allocation		
	Market Value	Allocation		Market Value	Allocation
Vanguard Total Stock Market (VITSX)	26,503,976	50.6	Vanguard Total Stock Market (VITSX)	27,588,328	51.2
RBC Global (Voyageur)	8,428,118	16.1	RBC Global (Voyageur)	8,634,785	16.0
Galliard Core Fixed Income	4,896,369	9.3	Galliard Core Fixed Income	5,025,853	9.3
Intercontinental	3,415,504	6.5	Intercontinental	3,459,853	6.4
American Core Realty Fund	2,080,769	4.0	American Core Realty Fund	2,081,376	3.9
PIMCO Diversified Income Fund Instl (PDIIX)	1,828,686	3.5	PIMCO Diversified Income Fund Instl (PDIIX)	1,872,973	3.5
Crescent Direct Lending Fund	1,354,747	2.6	Galliard TIPS	1,274,609	2.4
Galliard TIPS	1,243,747	2.4	Crescent Direct Lending Fund	1,231,729	2.3
Vanguard Inflation-Protected Secs (VAIPX)	1,016,439	1.9	Vanguard Inflation-Protected Secs (VAIPX)	1,044,777	1.9
Receipt & Disbursement	856,414	1.6	Crescent Direct Lending II Fund	970,564	1.8
Crescent Direct Lending II Fund	753,698	1.4	Receipt & Disbursement	661,720	1.2
Vanguard Short Term Bond Index (VSCSX)	17,386	0.0	Vanguard Short Term Bond Index (VSCSX)	17,691	0.0



Asset Allocation vs. Target Allocation



Asset Allocation vs. Target Allocation

	Market Value \$	Allocation (%)	Target (%)
Total Domestic Equity	27,588,328	51.2	50.0
Total International Equity	8,634,785	16.0	15.0
Total Domestic Fixed Income	7,362,930	13.7	15.0
Total Global FI	1,872,973	3.5	5.0
Total Real Estate	5,541,229	10.3	10.0
Total Other Fixed Income	2,202,293	4.1	5.0
Receipt & Disbursement	661,720	1.2	0.0
<b>Total Fund</b>	<b>53,864,258</b>	<b>100.0</b>	<b>100.0</b>



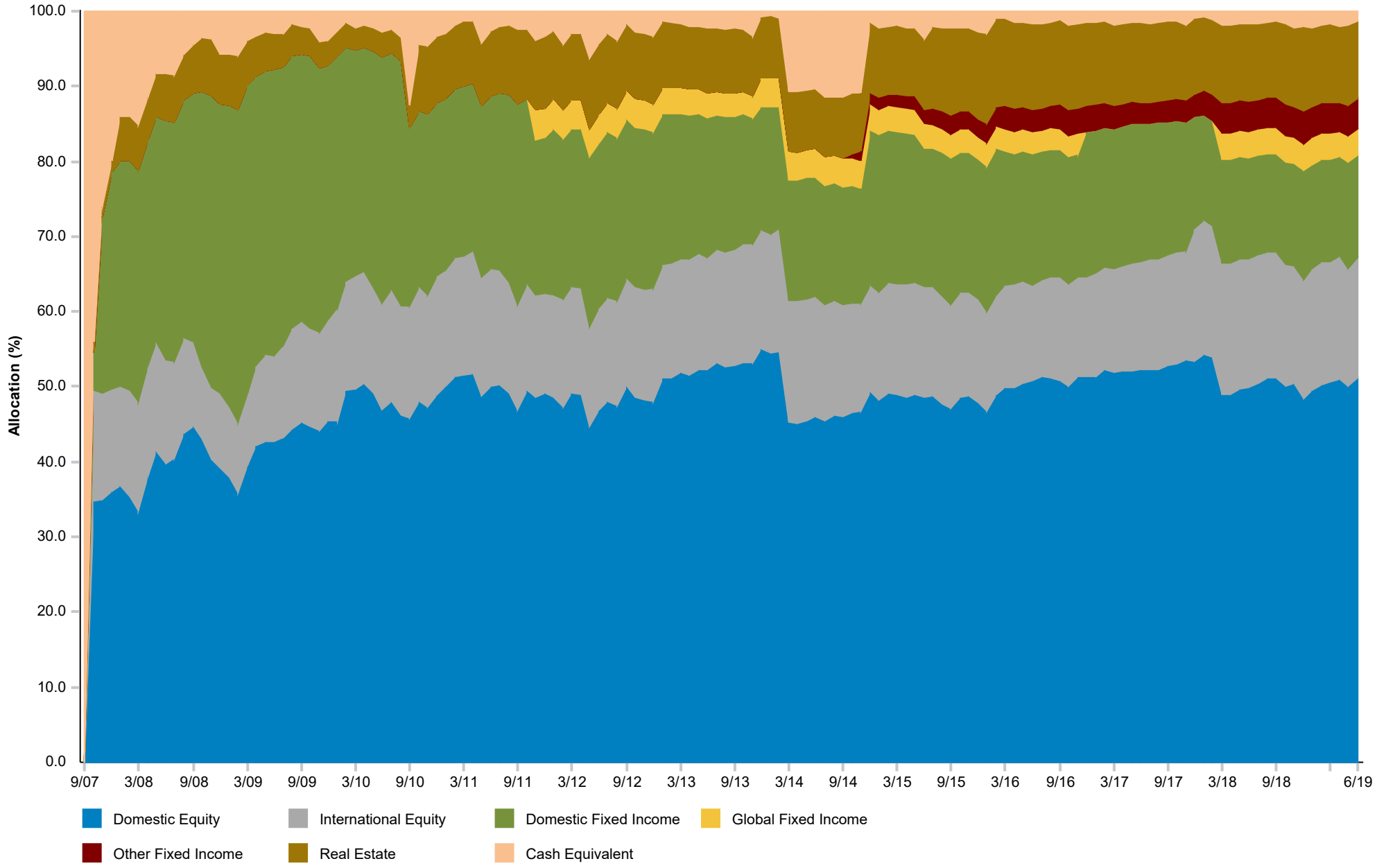
**Asset Allocation**  
**Asset Allocation History By Portfolio**  
As of June 30, 2019

Historical Asset Allocation by Portfolio	Jun-2019		Mar-2019		Dec-2018		Sep-2018		Jun-2018	
	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%
	<b>Total Equity</b>	<b>36,223,113</b>	<b>67.25</b>	<b>34,932,094</b>	<b>66.67</b>	<b>30,887,422</b>	<b>64.25</b>	<b>36,006,659</b>	<b>68.00</b>	<b>34,218,124</b>
<b>Total Domestic Equity</b>	<b>27,588,328</b>	<b>51.22</b>	<b>26,503,976</b>	<b>50.58</b>	<b>23,240,343</b>	<b>48.34</b>	<b>27,105,008</b>	<b>51.19</b>	<b>25,449,555</b>	<b>49.83</b>
Vanguard Total Stock Market (VITSX)	27,588,328	51.22	26,503,976	50.58	23,240,343	48.34	27,105,008	51.19	25,449,555	49.83
<b>Total International Equity</b>	<b>8,634,785</b>	<b>16.03</b>	<b>8,428,118</b>	<b>16.09</b>	<b>7,647,079</b>	<b>15.91</b>	<b>8,901,652</b>	<b>16.81</b>	<b>8,768,569</b>	<b>17.17</b>
RBC Global (Voyageur)	8,634,785	16.03	8,428,118	16.09	7,647,079	15.91	8,901,652	16.81	8,768,569	17.17
<b>Total Fixed Income</b>	<b>11,438,196</b>	<b>21.24</b>	<b>11,111,072</b>	<b>21.21</b>	<b>10,857,897</b>	<b>22.59</b>	<b>10,943,086</b>	<b>20.67</b>	<b>10,723,877</b>	<b>21.00</b>
<b>Total Domestic Fixed Income</b>	<b>7,362,930</b>	<b>13.67</b>	<b>7,173,941</b>	<b>13.69</b>	<b>6,991,729</b>	<b>14.54</b>	<b>6,930,015</b>	<b>13.09</b>	<b>6,931,946</b>	<b>13.57</b>
Galliard Core Fixed Income	5,025,853	9.33	4,896,369	9.34	4,777,469	9.94	4,709,841	8.90	4,698,915	9.20
Galliard TIPS	1,274,609	2.37	1,243,747	2.37	1,212,270	2.52	1,213,425	2.29	1,218,462	2.39
Vanguard Short Term Bond Index (VSCSX)	17,691	0.03	17,386	0.03	16,937	0.04	16,774	0.03	16,663	0.03
Vanguard Inflation-Protected Secs (VAIPX)	1,044,777	1.94	1,016,439	1.94	985,053	2.05	989,974	1.87	997,905	1.95
<b>Total Global FI</b>	<b>1,872,973</b>	<b>3.48</b>	<b>1,828,686</b>	<b>3.49</b>	<b>1,748,164</b>	<b>3.64</b>	<b>1,790,613</b>	<b>3.38</b>	<b>1,774,837</b>	<b>3.48</b>
PIMCO Diversified Income Fund Instl (PDIIX)	1,872,973	3.48	1,828,686	3.49	1,748,164	3.64	1,790,613	3.38	1,774,837	3.48
<b>Total Other Fixed Income</b>	<b>2,202,293</b>	<b>4.09</b>	<b>2,108,445</b>	<b>4.02</b>	<b>2,118,004</b>	<b>4.41</b>	<b>2,222,458</b>	<b>4.20</b>	<b>2,017,094</b>	<b>3.95</b>
Crescent Direct Lending Fund	1,231,729	2.29	1,354,747	2.59	1,385,457	2.88	1,572,728	2.97	1,538,918	3.01
Crescent Direct Lending II Fund	970,564	1.80	753,698	1.44	732,547	1.52	649,730	1.23	478,176	0.94
<b>Total Real Estate</b>	<b>5,541,229</b>	<b>10.29</b>	<b>5,496,273</b>	<b>10.49</b>	<b>5,430,039</b>	<b>11.30</b>	<b>5,372,247</b>	<b>10.15</b>	<b>5,281,755</b>	<b>10.34</b>
American Core Realty Fund	2,081,376	3.86	2,080,769	3.97	2,075,780	4.32	2,066,672	3.90	2,052,496	4.02
Intercontinental	3,459,853	6.42	3,415,504	6.52	3,354,259	6.98	3,305,575	6.24	3,229,259	6.32
<b>Receipt &amp; Disbursement</b>	<b>661,720</b>	<b>1.23</b>	<b>856,414</b>	<b>1.63</b>	<b>896,624</b>	<b>1.87</b>	<b>625,858</b>	<b>1.18</b>	<b>846,678</b>	<b>1.66</b>
<b>Total Fund Portfolio</b>	<b>53,864,258</b>	<b>100.00</b>	<b>52,395,852</b>	<b>100.00</b>	<b>48,071,982</b>	<b>100.00</b>	<b>52,947,850</b>	<b>100.00</b>	<b>51,070,434</b>	<b>100.00</b>

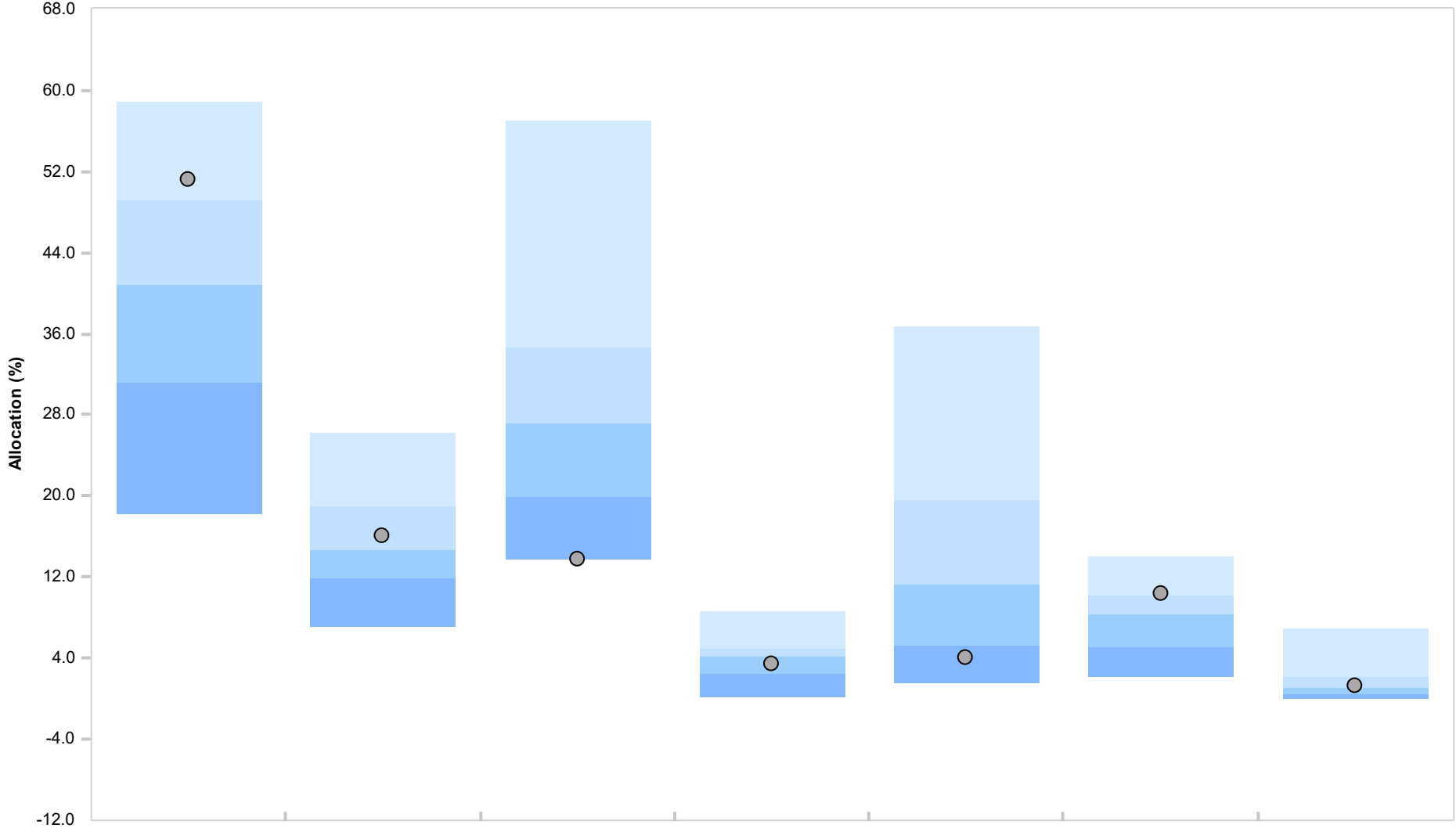




Historical Asset Allocation by Segment



**Plan Sponsor TF Asset Allocation**  
**Total Fund Portfolio Vs. All Public Plans-Total Fund**  
As of June 30, 2019



	<b>US Equity</b>	<b>Intl. Equity</b>	<b>US Fixed Income</b>	<b>Intl. Fixed Income</b>	<b>Alternative Inv.</b>	<b>Real Estate</b>	<b>Cash</b>
● Total Fund Portfolio	51.22 (18)	16.03 (39)	13.67 (96)	3.48 (65)	4.09 (86)	10.29 (23)	1.23 (48)
5th Percentile	58.89	26.29	57.00	8.71	36.71	14.00	6.91
1st Quartile	49.27	19.04	34.71	4.95	19.66	10.13	2.11
Median	40.81	14.67	27.15	4.23	11.33	8.34	1.14
3rd Quartile	31.22	11.91	19.90	2.48	5.32	5.09	0.50
95th Percentile	18.26	7.18	13.71	0.13	1.64	2.17	0.06



Financial Reconciliation Quarter to Date									
	Market Value 04/01/2019	Net Transfers	Contributions	Distributions	Management Fees	Other Expenses	Income	Apprec./ Deprec.	Market Value 06/30/2019
<b>Total Equity</b>	<b>34,932,094</b>	-	<b>107</b>	-	-	<b>-1,424</b>	<b>240,635</b>	<b>1,051,701</b>	<b>36,223,113</b>
<b>Total Domestic Equity</b>	<b>26,503,976</b>	-	-	-	-	-	<b>100,274</b>	<b>984,078</b>	<b>27,588,328</b>
Vanguard Total Stock Market (VITSX)	26,503,976	-	-	-	-	-	100,274	984,078	27,588,328
<b>Total International Equity</b>	<b>8,428,118</b>	-	<b>107</b>	-	-	<b>-1,424</b>	<b>140,361</b>	<b>67,624</b>	<b>8,634,785</b>
RBC Global (Voyageur)	8,428,118	-	107	-	-	-1,424	140,361	67,624	8,634,785
<b>Total Fixed Income</b>	<b>11,111,072</b>	<b>73,147</b>	-	-	<b>-3,527</b>	<b>-156</b>	<b>25,351</b>	<b>232,308</b>	<b>11,438,196</b>
<b>Total Domestic Fixed Income</b>	<b>7,173,941</b>	-	-	-	<b>-3,527</b>	<b>-156</b>	<b>5,657</b>	<b>187,015</b>	<b>7,362,930</b>
Galliard Core Fixed Income	4,896,369	-	-	-	-3,527	-	-	133,011	5,025,853
Galliard TIPS	1,243,747	-	-	-	-	-156	1,023	29,995	1,274,609
Vanguard Short Term Bond Index (VSCSX)	17,386	-	-	-	-	-	86	218	17,691
Vanguard Inflation-Protected Secs (VAIPX)	1,016,439	-	-	-	-	-	4,547	23,791	1,044,777
<b>Total Global FI</b>	<b>1,828,686</b>	<b>-20,701</b>	-	-	-	-	<b>19,695</b>	<b>45,294</b>	<b>1,872,973</b>
PIMCO Diversified Income Fund Instl (PDIIX)	1,828,686	-20,701	-	-	-	-	19,695	45,294	1,872,973
<b>Total Other Fixed Income</b>	<b>2,108,445</b>	<b>93,848</b>	-	-	-	-	-	-	<b>2,202,293</b>
Crescent Direct Lending Fund	1,354,747	-123,018	-	-	-	-	-	-	1,231,729
Crescent Direct Lending II Fund	753,698	216,866	-	-	-	-	-	-	970,564
<b>Total Real Estate</b>	<b>5,496,273</b>	<b>-25,022</b>	-	-	<b>-10,844</b>	-	<b>63,749</b>	<b>17,073</b>	<b>5,541,229</b>
American Core Realty Fund	2,080,769	-25,022	-	-	-5,740	-	30,836	533	2,081,376
Intercontinental	3,415,504	-	-	-	-5,104	-	32,913	16,540	3,459,853
<b>Receipt &amp; Disbursement</b>	<b>856,414</b>	<b>-48,125</b>	<b>677,282</b>	<b>-816,313</b>	-	<b>-12,125</b>	<b>4,586</b>	-	<b>661,720</b>
<b>Total Fund Portfolio</b>	<b>52,395,852</b>	-	<b>677,389</b>	<b>-816,313</b>	<b>-14,370</b>	<b>-13,704</b>	<b>334,321</b>	<b>1,301,082</b>	<b>53,864,258</b>

**Financial Reconciliation Fiscal Year to Date  
Total Fund**

October 1, 2018 To June 30, 2019

<b>Financial Reconciliation Fiscal Year to Date</b>									
	<b>Market Value 10/01/2018</b>	<b>Net Transfers</b>	<b>Contributions</b>	<b>Distributions</b>	<b>Management Fees</b>	<b>Other Expenses</b>	<b>Income</b>	<b>Apprec./ Deprec.</b>	<b>Market Value 06/30/2019</b>
<b>Total Equity</b>	<b>36,006,659</b>	<b>39,903</b>	<b>107</b>	<b>-</b>	<b>-39,903</b>	<b>-4,209</b>	<b>628,751</b>	<b>-408,195</b>	<b>36,223,113</b>
<b>Total Domestic Equity</b>	<b>27,105,008</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>370,839</b>	<b>112,481</b>	<b>27,588,328</b>
Vanguard Total Stock Market (VITX)	27,105,008	-	-	-	-	-	370,839	112,481	27,588,328
<b>Total International Equity</b>	<b>8,901,652</b>	<b>39,903</b>	<b>107</b>	<b>-</b>	<b>-39,903</b>	<b>-4,209</b>	<b>257,912</b>	<b>-520,676</b>	<b>8,634,785</b>
RBC Global (Voyageur)	8,901,652	39,903	107	-	-39,903	-4,209	257,912	-520,676	8,634,785
<b>Total Fixed Income</b>	<b>10,943,086</b>	<b>-169,985</b>	<b>-</b>	<b>-</b>	<b>-26,383</b>	<b>-5,078</b>	<b>82,420</b>	<b>614,135</b>	<b>11,438,196</b>
<b>Total Domestic Fixed Income</b>	<b>6,930,015</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-10,366</b>	<b>-458</b>	<b>20,780</b>	<b>422,959</b>	<b>7,362,930</b>
Galliard Core Fixed Income	4,709,841	-	-	-	-10,366	-	-	326,378	5,025,853
Galliard TIPS	1,213,425	-	-	-	-	-458	2,941	58,700	1,274,609
Vanguard Short Term Bond Index (VSCSX)	16,774	-	-	-	-	-	370	546	17,691
Vanguard Inflation-Protected Secs (VAIPX)	989,974	-	-	-	-	-	17,469	37,334	1,044,777
<b>Total Global FI</b>	<b>1,790,613</b>	<b>-61,250</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>-</b>	<b>61,410</b>	<b>82,199</b>	<b>1,872,973</b>
PIMCO Diversified Income Fund Instl (PDIIX)	1,790,613	-61,250	-	-	-	-	61,410	82,199	1,872,973
<b>Total Other Fixed Income</b>	<b>2,222,458</b>	<b>-108,735</b>	<b>-</b>	<b>-</b>	<b>-16,017</b>	<b>-4,620</b>	<b>230</b>	<b>108,977</b>	<b>2,202,293</b>
Crescent Direct Lending Fund	1,572,728	-392,325	-	-	-13,371	-2,912	-	67,609	1,231,729
Crescent Direct Lending II Fund	649,730	283,590	-	-	-2,646	-1,708	230	41,368	970,564
<b>Total Real Estate</b>	<b>5,372,247</b>	<b>-74,646</b>	<b>-</b>	<b>-</b>	<b>-49,554</b>	<b>-</b>	<b>182,633</b>	<b>110,549</b>	<b>5,541,229</b>
American Core Realty Fund	2,066,672	-74,646	-	-	-17,202	-	92,226	14,326	2,081,376
Intercontinental	3,305,575	-	-	-	-32,352	-	90,407	96,223	3,459,853
<b>Receipt &amp; Disbursement</b>	<b>625,858</b>	<b>204,728</b>	<b>2,283,298</b>	<b>-2,410,354</b>	<b>-</b>	<b>-55,243</b>	<b>13,434</b>	<b>-</b>	<b>661,720</b>
<b>Total Fund Portfolio</b>	<b>52,947,850</b>	<b>-</b>	<b>2,283,405</b>	<b>-2,410,354</b>	<b>-115,840</b>	<b>-64,530</b>	<b>907,238</b>	<b>316,490</b>	<b>53,864,258</b>



Comparative Performance Trailing Returns

Total Fund

As of June 30, 2019

Comparative Performance Trailing Returns

	QTR		FYTD		1 YR		3 YR		5 YR		Inception		Inception Date
<b>Total Fund (Net)</b>	<b>3.10</b>		<b>2.08</b>		<b>6.30</b>		<b>10.60</b>		<b>7.42</b>		<b>6.12</b>		<b>11/01/2000</b>
Total Fund Policy	3.40		3.40		7.50		9.88		7.22		5.82		
Difference	-0.30		-1.32		-1.20		0.72		0.20		0.30		
<b>Total Fund (New Mgrs) (Net)</b>	<b>3.10</b>		<b>2.08</b>		<b>6.30</b>		<b>10.60</b>		<b>7.42</b>		<b>6.25</b>		<b>10/01/2007</b>
Total Fund Policy	3.40		3.40		7.50		9.88		7.22		6.75		
Difference	-0.30		-1.32		-1.20		0.72		0.20		-0.50		
<b>Total Fund (Gross)</b>	<b>3.13</b>	<b>(60)</b>	<b>2.32</b>	<b>(85)</b>	<b>6.68</b>	<b>(37)</b>	<b>10.94</b>	<b>(2)</b>	<b>7.76</b>	<b>(1)</b>	<b>6.72</b>	<b>(10)</b>	<b>11/01/2000</b>
Total Fund Policy	3.40	(30)	3.40	(51)	7.50	(16)	9.88	(12)	7.22	(5)	5.82	(60)	
Difference	-0.27		-1.08		-0.82		1.06		0.54		0.90		
All Public Plans-Total Fund Median	3.23		3.40		6.33		8.90		5.93		5.98		
<b>Total Fund (New Mgrs) (Gross)</b>	<b>3.13</b>	<b>(60)</b>	<b>2.32</b>	<b>(85)</b>	<b>6.68</b>	<b>(37)</b>	<b>10.94</b>	<b>(2)</b>	<b>7.76</b>	<b>(1)</b>	<b>6.76</b>	<b>(5)</b>	<b>10/01/2007</b>
Total Fund Policy	3.40	(30)	3.40	(51)	7.50	(16)	9.88	(12)	7.22	(5)	6.75	(5)	
Difference	-0.27		-1.08		-0.82		1.06		0.54		0.01		
All Public Plans-Total Fund Median	3.23		3.40		6.33		8.90		5.93		5.71		
<b>Total Equity</b>	<b>3.70</b>		<b>0.61</b>		<b>6.33</b>		<b>13.63</b>		<b>8.79</b>		<b>6.99</b>		<b>01/01/2001</b>
Total Equity Policy	4.07		1.41		7.30		13.06		8.49		5.86		
Difference	-0.37		-0.80		-0.97		0.57		0.30		1.13		
<b>Total Domestic Equity</b>	<b>4.09</b>	<b>(56)</b>	<b>1.78</b>	<b>(53)</b>	<b>9.03</b>	<b>(48)</b>	<b>14.12</b>	<b>(43)</b>	<b>10.27</b>	<b>(52)</b>	<b>7.17</b>	<b>(41)</b>	<b>11/01/2000</b>
Total Domestic Equity Policy	4.10	(55)	1.74	(53)	8.98	(48)	14.02	(46)	10.19	(54)	5.97	(93)	
Difference	-0.01		0.04		0.05		0.10		0.08		1.20		
IM U.S. Large Cap Core Equity (SA+CF) Median	4.23		1.89		8.85		13.70		10.31		6.84		
<b>Total International Equity</b>	<b>2.47</b>	<b>(46)</b>	<b>-2.95</b>	<b>(60)</b>	<b>-1.46</b>	<b>(52)</b>	<b>12.80</b>	<b>(6)</b>	<b>4.42</b>	<b>(20)</b>	<b>6.38</b>	<b>(49)</b>	<b>11/01/2000</b>
MSCI EAFE Index	3.97	(14)	0.18	(34)	1.60	(34)	9.65	(33)	2.74	(42)	4.48	(98)	
Difference	-1.50		-3.13		-3.06		3.15		1.68		1.90		
IM International Large Cap Value Equity (SA+CF) Median	2.33		-2.09		-1.33		8.33		2.17		6.24		
<b>Total Fixed Income</b>	<b>2.32</b>		<b>6.51</b>		<b>7.48</b>		<b>4.39</b>		<b>3.70</b>		<b>5.03</b>		<b>11/01/2000</b>
Total Fixed Policy	2.39		6.61		6.73		2.03		2.46		4.56		
Difference	-0.07		-0.10		0.75		2.36		1.24		0.47		
<b>Total Domestic Fixed Income</b>	<b>2.69</b>	<b>(16)</b>	<b>6.41</b>	<b>(60)</b>	<b>6.43</b>	<b>(79)</b>	<b>2.36</b>	<b>(47)</b>	<b>2.57</b>	<b>(62)</b>	<b>4.62</b>	<b>(54)</b>	<b>11/01/2000</b>
Total Domestic Fixed Policy	2.39	(68)	6.61	(39)	6.73	(63)	2.03	(85)	2.46	(78)	4.56	(66)	
Difference	0.30		-0.20		-0.30		0.33		0.11		0.06		
IM U.S. Intermediate Duration (SA+CF) Median	2.51		6.48		6.88		2.33		2.67		4.67		

Returns for periods greater than one year are annualized. Returns are expressed as percentages. 10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details.

Parenthesized number represents pertinent peer group ranking: 1-100, best to worst. Crescent presented on IRR page.



Comparative Performance Trailing Returns

Total Fund

As of June 30, 2019

	QTR		FYTD		1 YR		3 YR		5 YR		Inception		Inception Date
Total Global FI	3.59	(37)	8.23	(12)	10.43	(2)	N/A		N/A		7.47	(2)	04/01/2018
Blmbg. Barc. Global Credit (Hedged)	3.60	(36)	8.27	(12)	9.32	(5)	4.65	(9)	4.35	(1)	7.02	(3)	
Difference	-0.01		-0.04		1.11		N/A		N/A		0.45		
IM Global Fixed Income (MF) Median	3.37		6.51		6.42		2.56		1.51		3.16		
<b>Total Real Estate</b>	<b>1.48</b>	<b>(46)</b>	<b>5.53</b>	<b>(45)</b>	<b>8.05</b>	<b>(32)</b>	<b>9.65</b>	<b>(27)</b>	<b>11.06</b>	<b>(41)</b>	<b>6.28</b>	<b>(18)</b>	<b>10/01/2007</b>
NCREIF Fund Index-ODCE (VW)	0.99	(90)	4.22	(90)	6.40	(91)	7.57	(78)	9.76	(64)	5.38	(57)	
Difference	0.49		1.31		1.65		2.08		1.30		0.90		
IM U.S. Open End Private Real Estate (SA+CF) Median	1.47		5.28		7.59		8.43		10.69		5.50		

Returns for periods greater than one year are annualized. Returns are expressed as percentages.

10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details.

Parenthesized number represents pertinent peer group ranking: 1-100, best to worst. Crescent presented on IRR page.



Comparative Performance Trailing Returns

Total Fund

As of June 30, 2019

	QTR		FYTD		1 YR		3 YR		5 YR		Inception		Inception Date
Vanguard Total Stock Market (VITSX)	4.09	(42)	1.78	(35)	9.00	(26)	14.04	(19)	10.18	(10)	13.01	(11)	03/01/2013
Vanguard Total Stock Market Index Hybrid	4.08	(43)	1.79	(34)	9.00	(27)	14.04	(19)	10.18	(10)	13.03	(10)	
Difference	0.01		-0.01		0.00		0.00		0.00		-0.02		
IM U.S. Multi-Cap Core Equity (MF) Median	3.88		0.47		6.33		12.40		8.12		11.47		
RBC Global (Voyageur)	2.47	(46)	-2.95	(60)	-1.46	(52)	12.80	(6)	4.42	(20)	4.25	(12)	11/01/2007
MSCI EAFE Index	3.97	(14)	0.18	(34)	1.60	(34)	9.65	(33)	2.74	(42)	1.52	(63)	
Difference	-1.50		-3.13		-3.06		3.15		1.68		2.73		
IM International Large Cap Value Equity (SA+CF) Median	2.33		-2.09		-1.33		8.33		2.17		2.49		
Galliard Core Fixed Income	2.72	(13)	6.94	(12)	7.26	(20)	2.36	(47)	2.85	(26)	3.91	(66)	10/01/2007
Bloomberg Barclays Intermed Aggregate Index	2.39	(68)	6.61	(39)	6.73	(63)	2.03	(85)	2.46	(78)	3.73	(84)	
Difference	0.33		0.33		0.53		0.33		0.39		0.18		
IM U.S. Intermediate Duration (SA+CF) Median	2.51		6.48		6.88		2.33		2.67		4.08		
Galliard TIPS	2.49	(86)	5.08	(86)	4.66	(73)	1.93	(97)	1.49	(88)	3.19	(100)	10/01/2007
Blmbg. Barc. U.S. TIPS 1-10 Year	2.53	(73)	5.11	(81)	4.67	(66)	1.93	(97)	1.42	(96)	3.24	(100)	
Difference	-0.04		-0.03		-0.01		0.00		0.07		-0.05		
IM U.S. TIPS (SA+CF) Median	2.83		5.63		4.82		2.16		1.77		3.92		
Vanguard Inflation-Protected Secs (VAIPX)	2.79	(17)	5.54	(17)	4.70	(20)	N/A		N/A		2.96	(27)	01/01/2017
Bloomberg Barclays U.S. TIPS Index	2.86	(11)	5.70	(11)	4.84	(13)	2.08	(31)	1.76	(12)	3.11	(16)	
Difference	-0.07		-0.16		-0.14		N/A		N/A		-0.15		
IM U.S. TIPS (MF) Median	2.50		4.83		4.09		1.84		1.14		2.55		
Vanguard Short Term Bond Index (VSCSX)	1.75	(57)	5.46	(18)	6.16	(13)	2.43	(21)	N/A		2.58	(15)	01/01/2015
Blmbg. Barc. U.S. Corporate 1-5 Year Index	2.09	(20)	5.55	(14)	6.30	(8)	2.65	(12)	2.52	(4)	2.74	(8)	
Difference	-0.34		-0.09		-0.14		-0.22		N/A		-0.16		
IM U.S. Intermediate Investment Grade (MF) Median	1.79		4.72		4.97		1.86		1.71		1.89		
PIMCO Diversified Income Fund Instl (PDIIX)	3.59	(37)	8.22	(12)	10.43	(2)	N/A		N/A		7.46	(2)	04/01/2018
Blmbg. Barc. Global Credit (Hedged)	3.60	(36)	8.27	(12)	9.32	(5)	4.65	(9)	4.35	(1)	7.02	(3)	
Difference	-0.01		-0.05		1.11		N/A		N/A		0.44		
IM Global Fixed Income (MF) Median	3.37		6.51		6.42		2.56		1.51		3.16		
American Core Realty Fund	1.53	(32)	5.29	(50)	7.60	(50)	7.74	(77)	9.55	(76)	5.20	(73)	10/01/2007
American Core Realty Policy	1.35	(67)	4.73	(84)	6.91	(84)	7.88	(74)	10.03	(61)	7.17	(1)	
Difference	0.18		0.56		0.69		-0.14		-0.48		-1.97		
IM U.S. Open End Private Real Estate (SA+CF) Median	1.47		5.28		7.59		8.43		10.69		5.50		
Intercontinental	1.45	(57)	5.67	(33)	8.33	(28)	11.00	(6)	12.02	(28)	13.41	(34)	10/01/2010
NCREIF Fund Index-ODCE	0.99	(90)	4.22	(90)	6.40	(91)	7.57	(78)	9.76	(64)	11.48	(76)	
Difference	0.46		1.45		1.93		3.43		2.26		1.93		
IM U.S. Open End Private Real Estate (SA+CF) Median	1.47		5.28		7.59		8.43		10.69		12.35		

Returns for periods greater than one year are annualized. Returns are expressed as percentages. 10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details.

Parenthesized number represents pertinent peer group ranking: 1-100, best to worst. Crescent presented on IRR page.



As of June 30, 2019

Comparative Performance - IRR						
	QTR	1 YR	3 YR	5 YR	Inception	Inception Date
Crescent Direct Lending Fund	0.00	6.25	8.03	N/A	7.71	10/14/2014
Crescent Direct Lending II Fund	0.00	7.84	N/A	N/A	8.89	03/13/2018





Comparative Performance Fiscal Year Returns

Total Fund

As of June 30, 2019

Comparative Performance Fiscal Year Returns

	FYTD	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010	Oct-2008 To Sep-2009
<b>Total Fund (Net)</b>	<b>2.08 (89)</b>	<b>11.28 (2)</b>	<b>14.16 (12)</b>	<b>11.15 (17)</b>	<b>0.33 (25)</b>	<b>11.85 (15)</b>	<b>15.72 (7)</b>	<b>18.95 (26)</b>	<b>-1.17 (85)</b>	<b>10.67 (32)</b>	<b>0.70 (63)</b>
Total Fund Policy	3.40 (51)	9.81 (10)	12.89 (30)	10.64 (26)	0.55 (21)	11.38 (23)	15.00 (10)	19.61 (17)	2.51 (20)	9.13 (70)	0.33 (67)
Difference	-1.32	1.47	1.27	0.51	-0.22	0.47	0.72	-0.66	-3.68	1.54	0.37
All Public Plans-Total Fund Median	3.40	7.10	11.84	9.74	-0.78	9.93	12.08	17.67	0.69	9.90	1.44
<b>Total Fund (New Mgrs) (Net)</b>	<b>2.08 (89)</b>	<b>11.28 (2)</b>	<b>14.16 (12)</b>	<b>11.15 (17)</b>	<b>0.33 (25)</b>	<b>11.85 (15)</b>	<b>15.72 (7)</b>	<b>18.95 (26)</b>	<b>-1.17 (85)</b>	<b>10.66 (32)</b>	<b>0.68 (63)</b>
Total Fund Policy	3.40 (51)	9.81 (10)	12.89 (30)	10.64 (26)	0.55 (21)	11.38 (23)	15.00 (10)	19.61 (17)	2.51 (20)	9.13 (70)	0.33 (67)
Difference	-1.32	1.47	1.27	0.51	-0.22	0.47	0.72	-0.66	-3.68	1.53	0.35
All Public Plans-Total Fund Median	3.40	7.10	11.84	9.74	-0.78	9.93	12.08	17.67	0.69	9.90	1.44
<b>Total Fund (Gross)</b>	<b>2.32 (85)</b>	<b>11.63 (2)</b>	<b>14.52 (9)</b>	<b>11.51 (13)</b>	<b>0.63 (20)</b>	<b>12.21 (11)</b>	<b>16.33 (5)</b>	<b>19.81 (14)</b>	<b>-0.45 (75)</b>	<b>11.40 (19)</b>	<b>1.43 (51)</b>
Total Fund Policy	3.40 (51)	9.81 (10)	12.89 (30)	10.64 (26)	0.55 (21)	11.38 (23)	15.00 (10)	19.61 (17)	2.51 (20)	9.13 (70)	0.33 (67)
Difference	-1.08	1.82	1.63	0.87	0.08	0.83	1.33	0.20	-2.96	2.27	1.10
All Public Plans-Total Fund Median	3.40	7.10	11.84	9.74	-0.78	9.93	12.08	17.67	0.69	9.90	1.44
<b>Total Fund (New Mgrs) (Gross)</b>	<b>2.32 (85)</b>	<b>11.63 (2)</b>	<b>14.52 (9)</b>	<b>11.51 (13)</b>	<b>0.63 (20)</b>	<b>12.21 (11)</b>	<b>16.33 (5)</b>	<b>19.81 (14)</b>	<b>-0.45 (75)</b>	<b>11.40 (19)</b>	<b>1.39 (52)</b>
Total Fund Policy	3.40 (51)	9.81 (10)	12.89 (30)	10.64 (26)	0.55 (21)	11.38 (23)	15.00 (10)	19.61 (17)	2.51 (20)	9.13 (70)	0.33 (67)
Difference	-1.08	1.82	1.63	0.87	0.08	0.83	1.33	0.20	-2.96	2.27	1.06
All Public Plans-Total Fund Median	3.40	7.10	11.84	9.74	-0.78	9.93	12.08	17.67	0.69	9.90	1.44
<b>Total Equity</b>	<b>0.61</b>	<b>15.01</b>	<b>19.50</b>	<b>14.20</b>	<b>-1.52</b>	<b>15.46</b>	<b>23.09</b>	<b>27.08</b>	<b>-4.58</b>	<b>13.61</b>	<b>-1.09</b>
Total Equity Policy	1.41	14.18	19.00	13.13	-2.28	14.65	22.30	26.46	-1.66	9.34	-6.91
Difference	-0.80	0.83	0.50	1.07	0.76	0.81	0.79	0.62	-2.92	4.27	5.82
<b>Total Domestic Equity</b>	<b>1.78 (53)</b>	<b>17.88 (41)</b>	<b>18.64 (52)</b>	<b>15.21 (25)</b>	<b>-0.59 (62)</b>	<b>17.58 (69)</b>	<b>21.85 (34)</b>	<b>27.76 (61)</b>	<b>-3.30 (90)</b>	<b>14.19 (9)</b>	<b>-4.29 (38)</b>
Total Domestic Equity Policy	1.74 (53)	17.58 (46)	18.71 (51)	14.96 (29)	-0.49 (61)	17.76 (67)	21.60 (37)	30.20 (44)	0.55 (58)	10.96 (32)	-6.91 (64)
Difference	0.04	0.30	-0.07	0.25	-0.10	-0.18	0.25	-2.44	-3.85	3.23	2.62
IM U.S. Large Cap Core Equity (SA+CF) Median	1.89	17.31	18.74	13.26	0.09	19.21	20.66	29.63	1.16	9.53	-5.79
<b>Total International Equity</b>	<b>-2.95 (60)</b>	<b>6.76 (5)</b>	<b>22.69 (36)</b>	<b>10.74 (29)</b>	<b>-4.36 (19)</b>	<b>10.08 (8)</b>	<b>27.54 (18)</b>	<b>24.74 (3)</b>	<b>-8.75 (53)</b>	<b>11.69 (15)</b>	<b>11.87 (19)</b>
MSCI EAFE Index	0.18 (34)	3.25 (28)	19.65 (55)	7.06 (61)	-8.27 (42)	4.70 (63)	24.29 (40)	14.33 (57)	-8.94 (55)	3.71 (66)	3.80 (66)
Difference	-3.13	3.51	3.04	3.68	3.91	5.38	3.25	10.41	0.19	7.98	8.07
IM International Large Cap Value Equity (SA+CF) Median	-2.09	1.44	20.70	8.41	-9.45	5.75	22.93	15.45	-8.62	5.00	6.49
<b>Total Fixed Income</b>	<b>6.51</b>	<b>2.41</b>	<b>3.59</b>	<b>4.93</b>	<b>1.40</b>	<b>3.23</b>	<b>-0.59</b>	<b>6.34</b>	<b>4.67</b>	<b>9.27</b>	<b>10.53</b>
Total Fixed Policy	6.61	-0.93	0.25	3.57	2.95	2.74	-0.71	4.31	4.22	7.52	9.69
Difference	-0.10	3.34	3.34	1.36	-1.55	0.49	0.12	2.03	0.45	1.75	0.84

Returns for periods greater than one year are annualized. Returns are expressed as percentages. 10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details. Intercontinental Returns are preliminary. Parenthesized number represents pertinent peer group ranking: 1-100, best to worst.



Comparative Performance Fiscal Year Returns

Total Fund

As of June 30, 2019

	FYTD	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010	Oct-2008 To Sep-2009
Total Domestic Fixed Income	6.41 (60)	-0.21 (34)	0.61 (60)	4.21 (31)	2.31 (73)	2.61 (63)	-1.30 (95)	5.88 (43)	4.67 (13)	9.27 (22)	10.53 (70)
Total Domestic Fixed Policy	6.61 (39)	-0.93 (96)	0.25 (87)	3.57 (73)	2.95 (32)	2.74 (58)	-0.71 (77)	4.31 (84)	4.22 (23)	7.52 (77)	9.69 (81)
Difference	-0.20	0.72	0.36	0.64	-0.64	-0.13	-0.59	1.57	0.45	1.75	0.84
IM U.S. Intermediate Duration (SA+CF) Median	6.48	-0.38	0.69	3.90	2.70	2.88	-0.27	5.56	3.61	8.25	11.53
Total Global Fixed Income	N/A	N/A	N/A	0.81 (100)	-7.63 (93)	6.31 (12)	3.53 (2)	N/A	N/A	N/A	N/A
Total Global Fixed Income Policy	7.22 (35)	-1.54 (55)	-2.69 (94)	9.71 (20)	-3.83 (50)	-0.07 (96)	-4.60 (82)	N/A	N/A	N/A	N/A
Difference	N/A	N/A	N/A	-8.90	-3.80	6.38	8.13	N/A	N/A	N/A	N/A
IM Global Fixed Income (MF) Median	6.51	-1.29	1.02	7.42	-3.85	3.37	-1.81	7.17	1.74	7.68	13.54
Total Global FI	8.23 (12)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. Global Credit (Hedged)	8.27 (12)	0.39 (17)	3.04 (27)	9.19 (25)	0.86 (18)	6.83 (9)	1.46 (8)	11.61 (5)	1.69 (53)	11.05 (28)	15.99 (27)
Difference	-0.04	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM Global Fixed Income (MF) Median	6.51	-1.29	1.02	7.42	-3.85	3.37	-1.81	7.17	1.74	7.68	13.54
<b>Total Real Estate</b>	<b>5.53 (45)</b>	<b>10.25 (26)</b>	<b>10.01 (19)</b>	<b>11.44 (49)</b>	<b>14.27 (67)</b>	<b>13.47 (38)</b>	<b>16.42 (19)</b>	<b>12.81 (51)</b>	<b>15.82 (72)</b>	<b>2.71 (77)</b>	<b>-32.42 (32)</b>
NCREIF Fund Index-ODCE	4.22 (90)	8.68 (63)	7.66 (62)	10.08 (83)	14.93 (61)	12.40 (68)	13.04 (53)	11.61 (64)	18.27 (43)	6.97 (43)	-35.19 (49)
Difference	1.31	1.57	2.35	1.36	-0.66	1.07	3.38	1.20	-2.45	-4.26	2.77
IM U.S. Open End Private Real Estate (SA+CF) Median	5.28	9.04	8.29	11.32	15.45	12.78	13.18	12.87	16.96	6.43	-35.32

Returns for periods greater than one year are annualized. Returns are expressed as percentages. 10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details. Intercontinental Returns are preliminary. Parenthesized number represents pertinent peer group ranking: 1-100, best to worst.



Comparative Performance Fiscal Year Returns

Total Fund

As of June 30, 2019

	FYTD	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010	Oct-2008 To Sep-2009
Lateef Asset Mgmt. Equity	N/A	N/A	N/A	N/A	N/A	N/A	N/A	33.21 (8)	-1.17 (76)	11.93 (44)	0.53 (23)
Russell 1000 Growth Index	2.19 (64)	26.30 (37)	21.94 (37)	13.76 (23)	3.17 (55)	19.15 (40)	19.27 (63)	29.19 (39)	3.78 (30)	12.65 (35)	-1.85 (37)
Difference	N/A	N/A	N/A	N/A	N/A	N/A	N/A	4.02	-4.95	-0.72	2.38
IM U.S. Large Cap Growth Equity (SA+CF) Median	3.67	24.44	20.81	11.69	3.60	18.19	20.25	27.65	1.38	11.27	-3.00
RBC Global (Voyageur)	-2.95 (60)	6.76 (5)	22.69 (36)	10.74 (29)	-4.36 (19)	10.08 (8)	27.54 (18)	24.74 (3)	-8.75 (53)	11.69 (15)	11.87 (19)
MSCI EAFE Index	0.18 (34)	3.25 (28)	19.65 (55)	7.06 (61)	-8.27 (42)	4.70 (63)	24.29 (40)	14.33 (57)	-8.94 (55)	3.71 (66)	3.80 (66)
Difference	-3.13	3.51	3.04	3.68	3.91	5.38	3.25	10.41	0.19	7.98	8.07
IM International Large Cap Value Equity (SA+CF) Median	-2.09	1.44	20.70	8.41	-9.45	5.75	22.93	15.45	-8.62	5.00	6.49
Vanguard Total Stock Market (VITSX)	1.78 (35)	17.62 (19)	18.64 (38)	15.00 (16)	-0.59 (35)	17.77 (32)	N/A	N/A	N/A	N/A	N/A
Vanguard Total Stock Market Index Hybrid	1.79 (34)	17.62 (19)	18.64 (38)	14.99 (16)	-0.55 (34)	17.77 (32)	21.60 (59)	30.28 (16)	0.71 (26)	11.16 (26)	-6.03 (54)
Difference	-0.01	0.00	0.00	0.01	-0.04	0.00	N/A	N/A	N/A	N/A	N/A
IM U.S. Multi-Cap Core Equity (MF) Median	0.47	14.74	17.59	11.75	-1.81	16.34	22.72	27.01	-1.53	9.27	-5.60
Galliard Core Fixed Income	6.94 (12)	-0.43 (57)	0.44 (73)	4.36 (25)	3.04 (26)	3.15 (38)	-0.64 (74)	5.82 (45)	4.16 (27)	9.63 (17)	12.08 (38)
Bloomberg Barclays Intermed Aggregate Index	6.61 (39)	-0.93 (96)	0.25 (87)	3.57 (73)	2.95 (32)	2.74 (58)	-0.71 (77)	4.31 (84)	4.22 (23)	7.52 (77)	9.69 (81)
Difference	0.33	0.50	0.19	0.79	0.09	0.41	0.07	1.51	-0.06	2.11	2.39
IM U.S. Intermediate Duration (SA+CF) Median	6.48	-0.38	0.69	3.90	2.70	2.88	-0.27	5.56	3.61	8.25	11.53
Galliard TIPS	5.08	0.39	-0.23	4.75	-0.38	0.59	-3.71	6.01	6.73	7.28	3.97
Blmbg. Barc. U.S. TIPS 1-10 Year	5.11	0.33	-0.14	4.83	-0.82	0.61	-3.90	6.32	7.19	7.40	4.02
Difference	-0.03	0.06	-0.09	-0.08	0.44	-0.02	0.19	-0.31	-0.46	-0.12	-0.05
Templeton Global Bond Fund (FBNRX)	N/A	N/A	N/A	0.83	-7.63	6.33	3.54	N/A	N/A	N/A	N/A
FTSE World Government Bond Index	7.22	-1.54	-2.69	9.71	-3.83	-0.07	-4.60	3.29	4.61	4.99	13.78
Difference	N/A	N/A	N/A	-8.88	-3.80	6.40	8.14	N/A	N/A	N/A	N/A
PIMCO Diversified Income Fund Instl (PDIIX)	8.22 (12)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. Global Credit (Hedged)	8.27 (12)	0.39 (17)	3.04 (27)	9.19 (25)	0.86 (18)	6.83 (9)	1.46 (8)	11.61 (5)	1.69 (53)	11.05 (28)	15.99 (27)
Difference	-0.05	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM Global Fixed Income (MF) Median	6.51	-1.29	1.02	7.42	-3.85	3.37	-1.81	7.17	1.74	7.68	13.54
Vanguard Inflation-Protected Secs (VAIPX)	5.54 (17)	0.23 (55)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Bloomberg Barclays U.S. TIPS Index	5.70 (11)	0.41 (40)	-0.73 (61)	6.58 (27)	-0.83 (7)	1.59 (19)	-6.10 (46)	9.10 (19)	9.87 (6)	8.89 (43)	5.67 (41)
Difference	-0.16	-0.18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. TIPS (MF) Median	4.83	0.29	-0.43	5.77	-1.90	0.95	-6.17	8.21	8.10	8.72	5.16
Vanguard Short Term Bond Index (VSCSX)	5.46 (18)	-0.14 (41)	1.55 (27)	3.40 (20)	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Blmbg. Barc. U.S. Corporate 1-5 Year Index	5.55 (14)	0.11 (28)	1.82 (20)	3.33 (21)	1.98 (8)	2.46 (25)	1.47 (16)	6.29 (29)	1.83 (58)	8.25 (37)	16.02 (2)
Difference	-0.09	-0.25	-0.27	0.07	N/A	N/A	N/A	N/A	N/A	N/A	N/A
IM U.S. Intermediate Investment Grade (MF) Median	4.72	-0.38	0.85	2.56	1.21	1.64	-0.52	4.93	1.99	7.52	10.46

Returns for periods greater than one year are annualized. Returns are expressed as percentages. 10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details. Intercontinental Returns are preliminary. Parenthesized number represents pertinent peer group ranking: 1-100, best to worst.



Comparative Performance Fiscal Year Returns

Total Fund

As of June 30, 2019

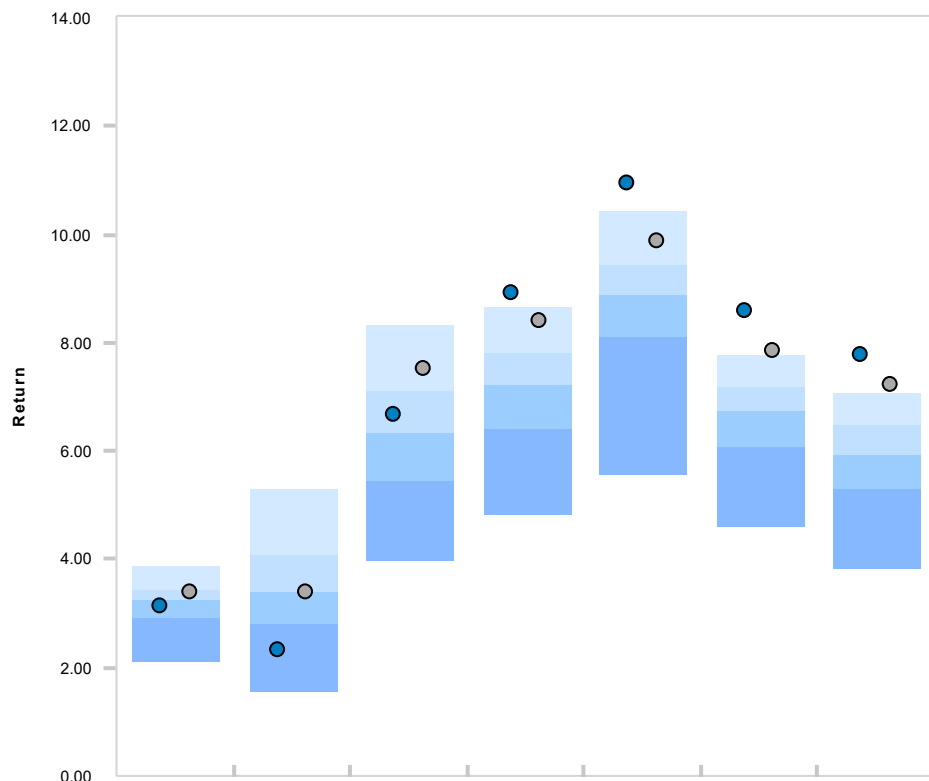
	FYTD	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013	Oct-2011 To Sep-2012	Oct-2010 To Sep-2011	Oct-2009 To Sep-2010	Oct-2008 To Sep-2009
American Core Realty Fund	5.29 (50)	8.50 (66)	7.52 (67)	9.04 (97)	13.98 (69)	12.49 (64)	12.27 (70)	11.56 (65)	16.11 (66)	2.71 (77)	-32.42 (32)
American Core Realty Policy	4.73 (84)	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)	11.77 (63)	18.03 (44)	5.84 (56)	-22.09 (5)
Difference	0.56	-0.32	-0.29	-1.58	-0.73	0.10	-0.20	-0.21	-1.92	-3.13	-10.33
IM U.S. Open End Private Real Estate (SA+CF) Median	5.28	9.04	8.29	11.32	15.45	12.78	13.18	12.87	16.96	6.43	-35.32
Intercontinental	5.67 (33)	11.40 (8)	11.82 (7)	13.30 (23)	13.96 (69)	14.10 (30)	18.21 (10)	13.38 (40)	15.68 (73)	N/A	N/A
NCREIF Fund Index-ODCE	4.22 (90)	8.68 (63)	7.66 (62)	10.08 (83)	14.93 (61)	12.40 (68)	13.04 (53)	11.61 (64)	18.27 (43)	6.97 (43)	-35.19 (49)
Difference	1.45	2.72	4.16	3.22	-0.97	1.70	5.17	1.77	-2.59	N/A	N/A
IM U.S. Open End Private Real Estate (SA+CF) Median	5.28	9.04	8.29	11.32	15.45	12.78	13.18	12.87	16.96	6.43	-35.32

Returns for periods greater than one year are annualized. Returns are expressed as percentages.

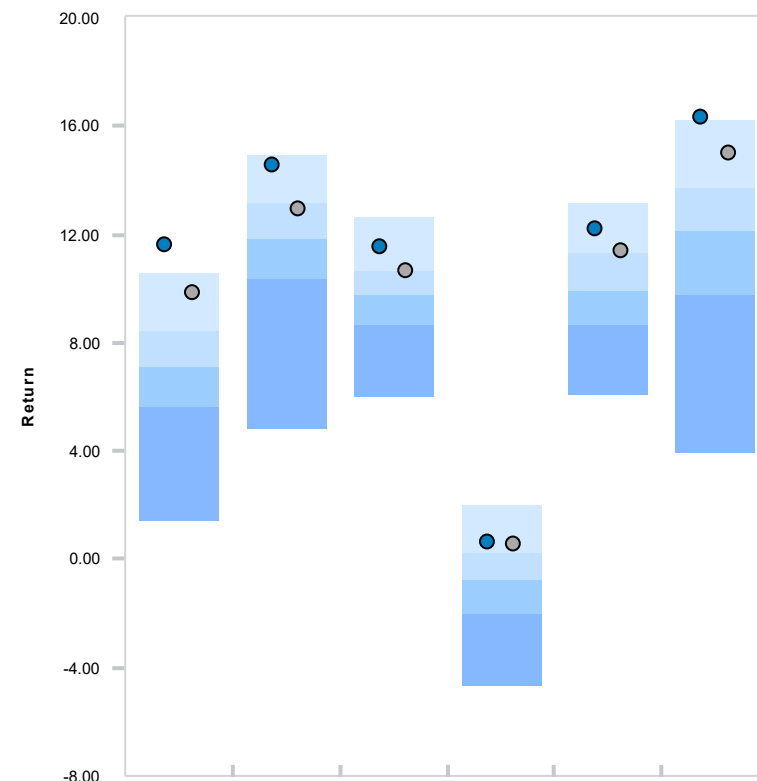
10/1/2007 inception date represents the date new managers were hired. Total Fund Policy represents new policy beginning 10/1/2009. Old policy geometrically linked to new policy. See benchmark history for details. Intercontinental Returns are preliminary. Parenthesized number represents pertinent peer group ranking: 1-100, best to worst.



Plan Sponsor Peer Group Analysis - All Public Plans-Total Fund



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Total Fund Portfolio	3.13 (60)	2.32 (85)	6.68 (37)	8.90 (4)	10.94 (2)	8.59 (1)	7.76 (1)
● Total Fund Policy	3.40 (30)	3.40 (51)	7.50 (16)	8.40 (8)	9.88 (12)	7.84 (5)	7.22 (5)
Median	3.23	3.40	6.33	7.22	8.90	6.73	5.93



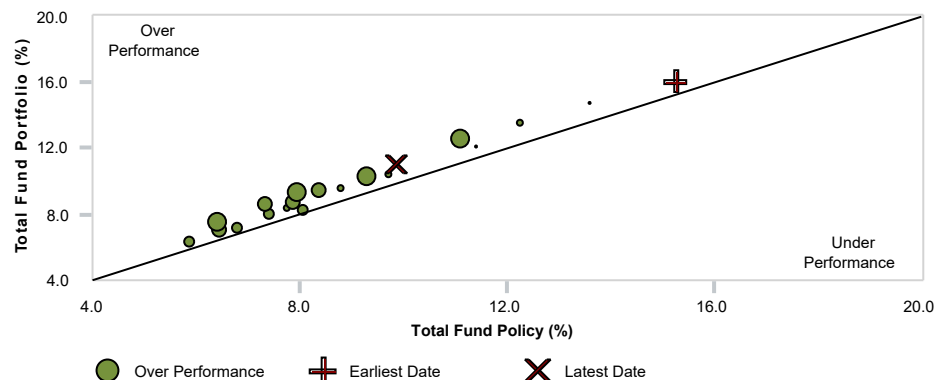
	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Total Fund Portfolio	11.63 (2)	14.52 (9)	11.51 (13)	0.63 (20)	12.21 (11)	16.33 (5)
● Total Fund Policy	9.81 (10)	12.89 (30)	10.64 (26)	0.55 (21)	11.38 (23)	15.00 (10)
Median	7.10	11.84	9.74	-0.78	9.93	12.08

Comparative Performance

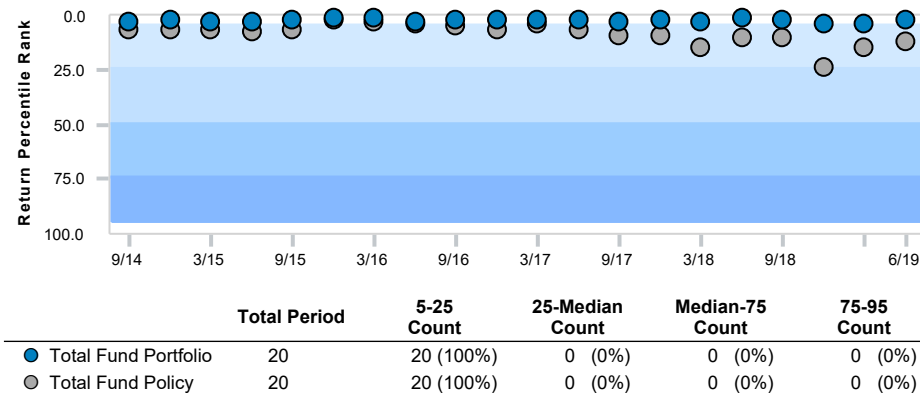
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Total Fund Portfolio	9.36 (21)	-9.28 (89)	4.26 (4)	2.57 (4)	-0.15 (40)	4.54 (7)
Total Fund Policy	9.33 (22)	-8.53 (75)	3.96 (7)	2.07 (11)	-0.57 (66)	4.07 (22)
All Public Plans-Total Fund Median	8.38	-7.55	2.58	1.03	-0.32	3.61



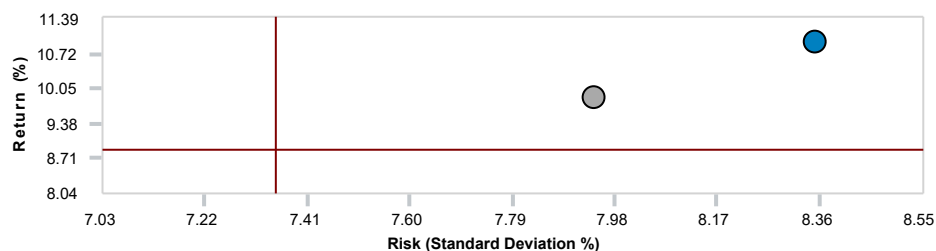
### 3 Yr Rolling Under/Over Performance - 5 Years



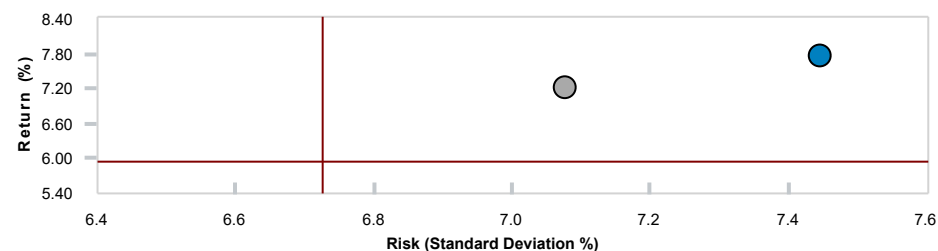
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

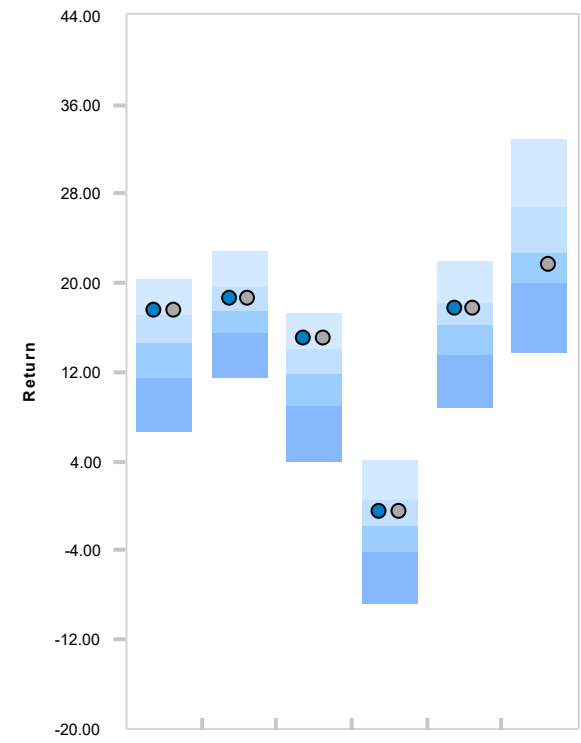
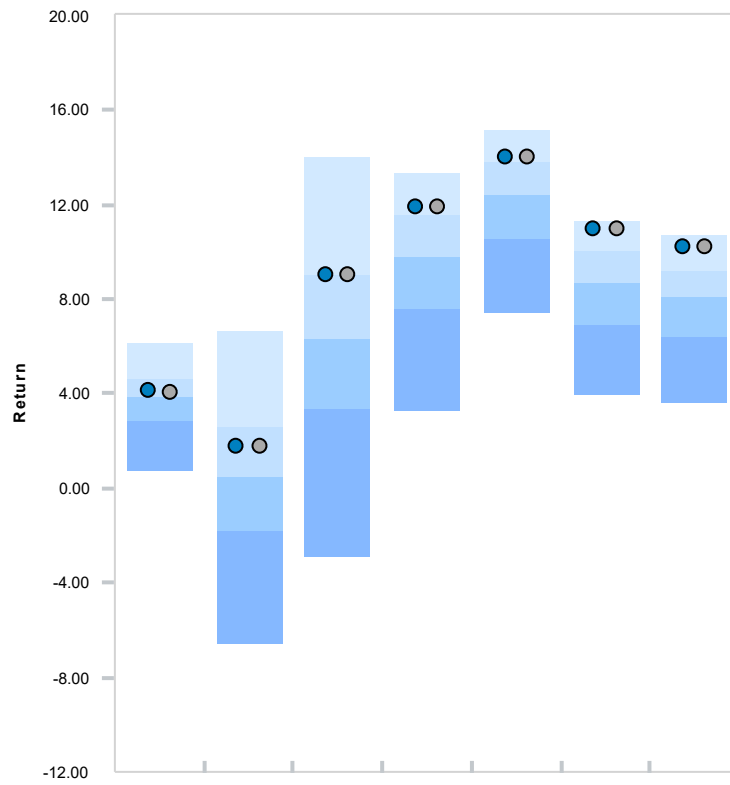
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Fund Portfolio	0.91	108.73	103.63	0.56	1.12	1.13	1.05	5.36
Total Fund Policy	0.00	100.00	100.00	0.00	N/A	1.06	1.00	4.93

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Total Fund Portfolio	0.85	106.78	105.40	0.20	0.63	0.94	1.05	4.67
Total Fund Policy	0.00	100.00	100.00	0.00	N/A	0.91	1.00	4.36



**Peer Group Analysis - IM U.S. Multi-Cap Core Equity (MF)**



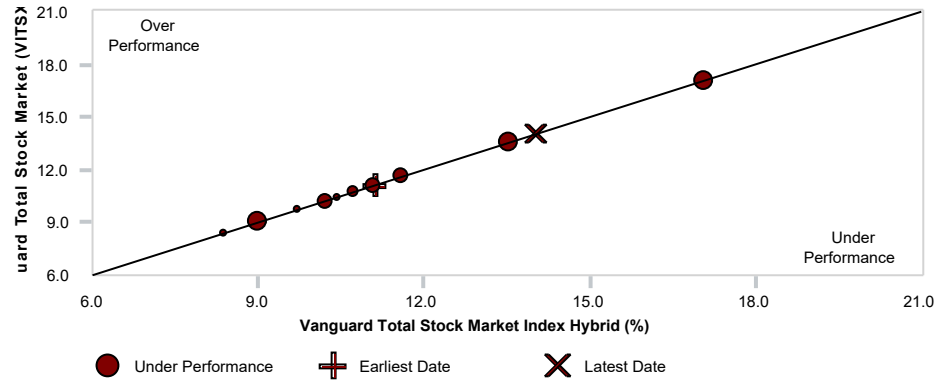
	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR		Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Vanguard Total Stock Market (VITSX)	4.09 (42)	1.78 (35)	9.00 (26)	1.87 (18)	4.04 (19)	0.94 (9)	0.18 (10)	● Vanguard Total Stock Market (VITSX)	7.62 (19)	3.64 (38)	5.00 (16)	3.59 (35)	7.77 (32)	N/A
○ Vanguard Total Stock Market Index Hybrid	4.08 (43)	1.79 (34)	9.00 (27)	1.88 (18)	4.04 (19)	0.94 (9)	0.18 (10)	○ Vanguard Total Stock Market Index Hybrid	7.62 (19)	3.64 (38)	4.99 (16)	3.55 (34)	7.77 (32)	1.60 (59)
Median	3.88	0.47	6.33	9.81	2.40	8.65	8.12	Median	1.74	7.59	1.75	1.81	3.34	2.72

**Comparative Performance**

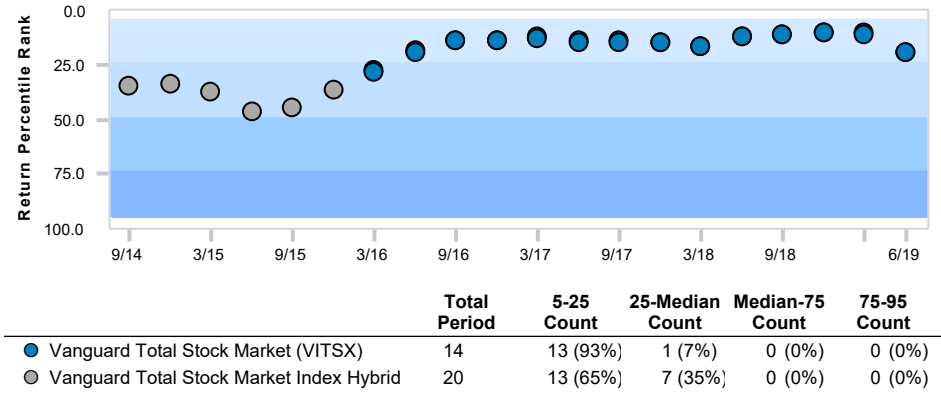
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Vanguard Total Stock Market (VITSX)	14.04 (31)	-14.26 (47)	7.09 (23)	3.91 (18)	-0.60 (48)	6.34 (42)
Vanguard Total Stock Market Index Hybrid	14.06 (31)	-14.26 (47)	7.08 (24)	3.91 (17)	-0.60 (48)	6.34 (41)
IM U.S. Multi-Cap Core Equity (MF) Median	13.30	-14.37	5.83	2.65	-0.62	6.10



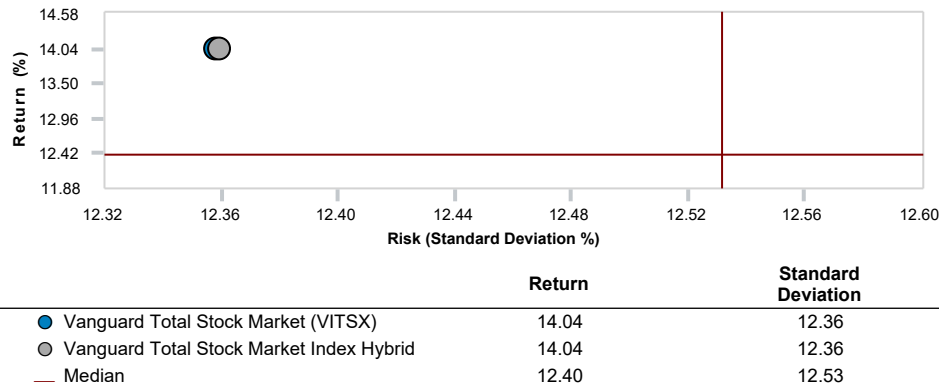
**3 Yr Rolling Under/Over Performance - 5 Years**



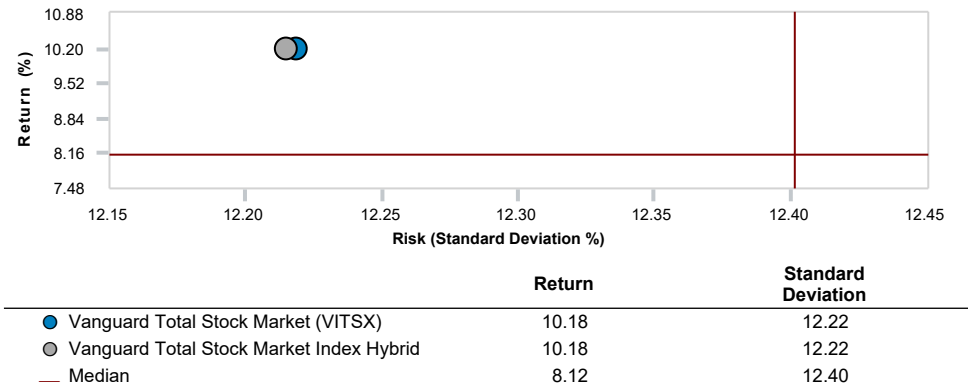
**3 Yr Rolling Percentile Ranking - 5 Years**



**Peer Group Scattergram - 3 Years**



**Peer Group Scattergram - 5 Years**



**Historical Statistics - 3 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Total Stock Market (VIT SX)	0.03	99.99	99.98	0.00	-0.02	1.02	1.00	8.27
Vanguard Total Stock Market Index Hybrid	0.00	100.00	100.00	0.00	N/A	1.02	1.00	8.27

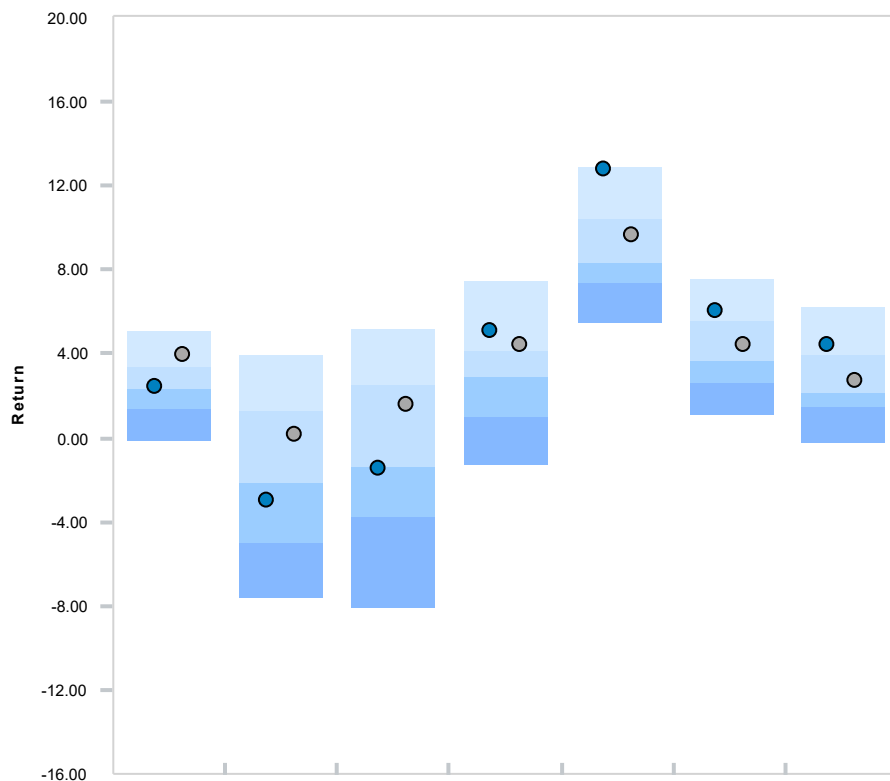
**Historical Statistics - 5 Years**

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Vanguard Total Stock Market (VIT SX)	0.03	99.97	100.00	-0.01	-0.17	0.79	1.00	7.82
Vanguard Total Stock Market Index Hybrid	0.00	100.00	100.00	0.00	N/A	0.79	1.00	7.82

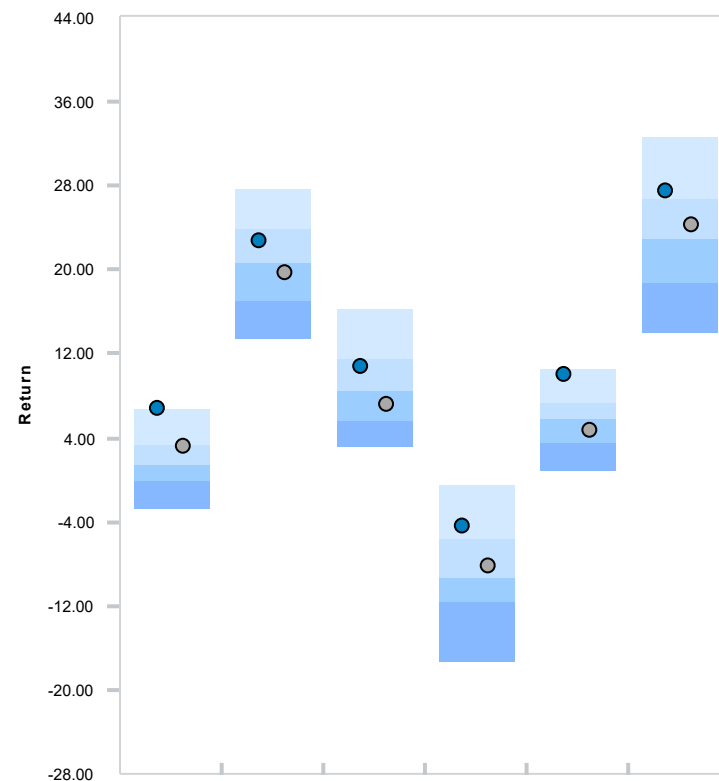




Peer Group Analysis - IM International Large Cap Value Equity (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● RBC Global (Voyageur)	2.47 (46)	-2.95 (60)	-1.46 (52)	5.06 (14)	12.80 (6)	6.03 (20)	4.42 (20)
● MSCI EAFE Index	3.97 (14)	0.18 (34)	1.60 (34)	4.45 (24)	9.65 (33)	4.45 (37)	2.74 (42)
Median	2.33	-2.09	-1.33	2.94	8.33	3.69	2.17



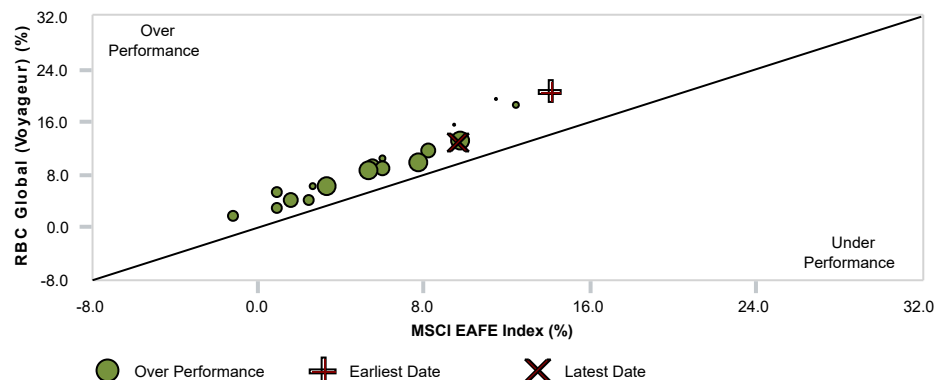
	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● RBC Global (Voyageur)	6.76 (5)	22.69 (36)	10.74 (29)	-4.36 (19)	10.08 (8)	27.54 (18)
● MSCI EAFE Index	3.25 (28)	19.65 (55)	7.06 (61)	-8.27 (42)	4.70 (63)	24.29 (40)
Median	1.44	20.70	8.41	-9.45	5.75	22.93

Comparative Performance

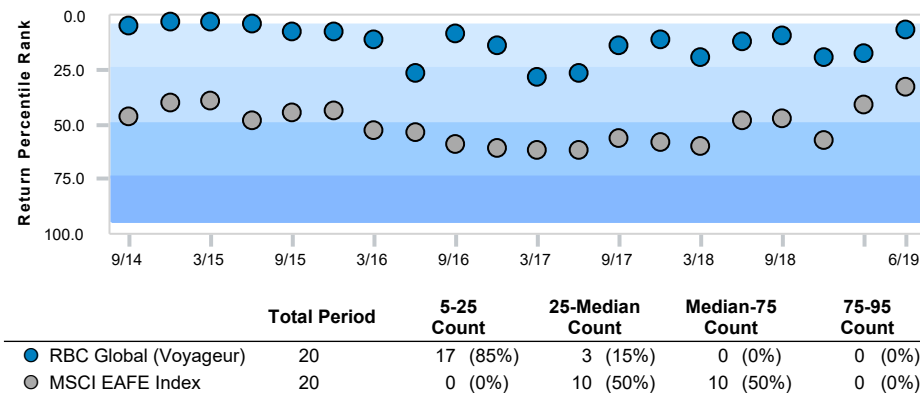
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
RBC Global (Voyageur)	10.23 (33)	-14.08 (73)	1.54 (31)	1.35 (3)	-1.41 (58)	5.22 (27)
MSCI EAFE Index	10.13 (35)	-12.50 (45)	1.42 (33)	-0.97 (17)	-1.41 (58)	4.27 (51)
IM International Large Cap Value Equity (SA+CF) Median	9.44	-12.88	0.88	-2.19	-1.26	4.27



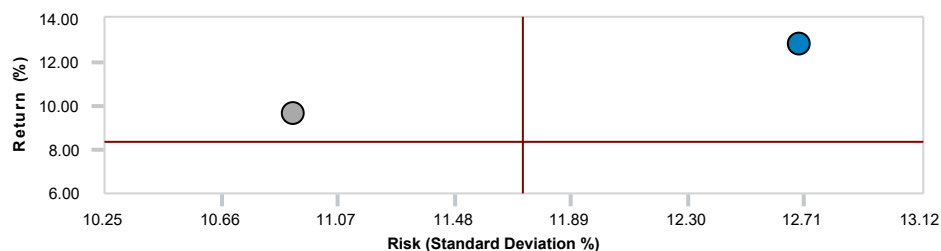
### 3 Yr Rolling Under/Over Performance - 5 Years



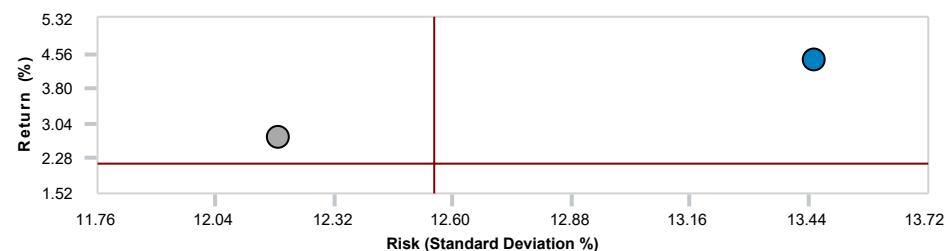
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

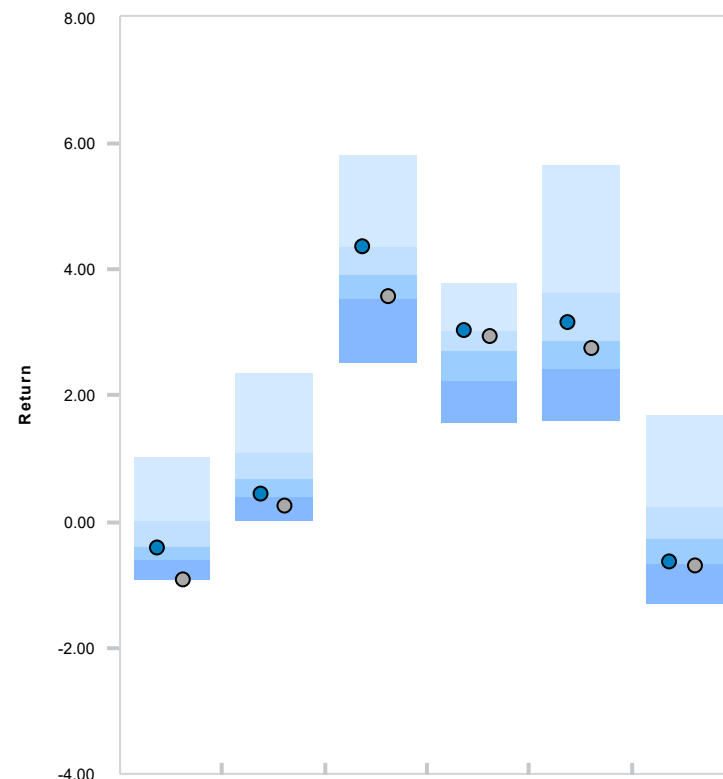
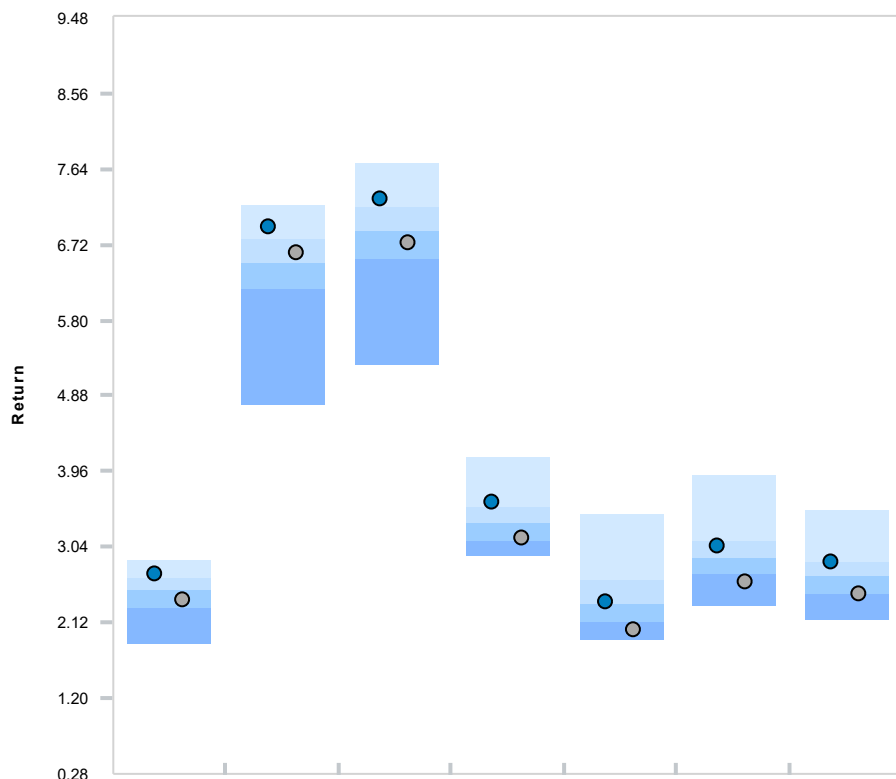
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
RBC Global (Voyageur)	4.27	115.90	102.31	2.11	0.72	0.91	1.10	8.04
MSCI EAFE Index	0.00	100.00	100.00	0.00	N/A	0.77	1.00	7.05

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
RBC Global (Voyageur)	4.58	108.50	98.78	1.67	0.39	0.33	1.04	9.09
MSCI EAFE Index	0.00	100.00	100.00	0.00	N/A	0.21	1.00	8.27



Peer Group Analysis - IM U.S. Intermediate Duration (SA+CF)



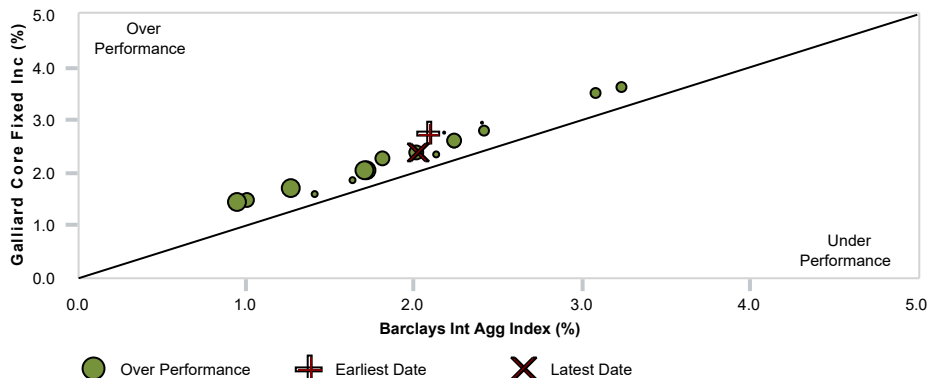
	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Galliard Core Fixed Inc	2.72 (13)	6.94 (12)	7.26 (20)	3.59 (21)	2.36 (47)	3.05 (30)	2.85 (26)	-0.43 (57)	0.44 (73)	4.36 (25)	3.04 (26)	3.15 (38)	-0.64 (74)
● Barclays Int Agg Index	2.39 (68)	6.61 (39)	6.73 (63)	3.14 (75)	2.03 (85)	2.61 (81)	2.46 (78)	-0.93 (96)	0.25 (87)	3.57 (73)	2.95 (32)	2.74 (58)	-0.71 (77)
Median	2.51	6.48	6.88	3.33	2.33	2.89	2.67	-0.38	0.69	3.90	2.70	2.88	-0.27

Comparative Performance

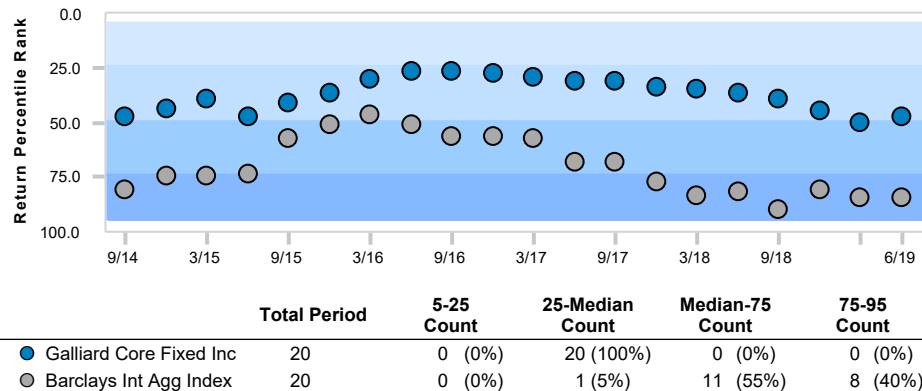
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Galliard Core Fixed Inc	2.56 (34)	1.51 (35)	0.30 (66)	0.05 (73)	-0.90 (53)	0.11 (31)
Barclays Int Agg Index	2.28 (71)	1.80 (10)	0.11 (95)	0.09 (61)	-1.05 (82)	-0.07 (77)
IM U.S. Intermediate Duration (SA+CF) Median	2.45	1.38	0.37	0.12	-0.90	0.02



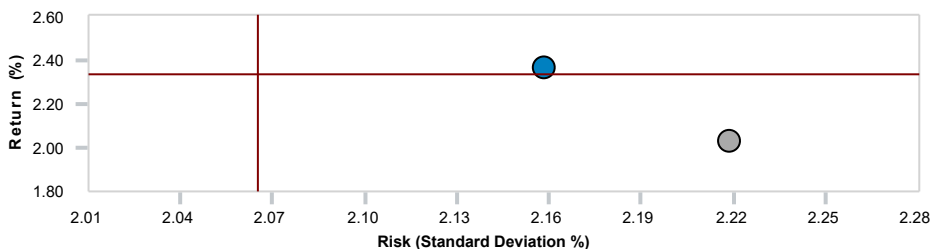
### 3 Yr Rolling Under/Over Performance - 5 Years



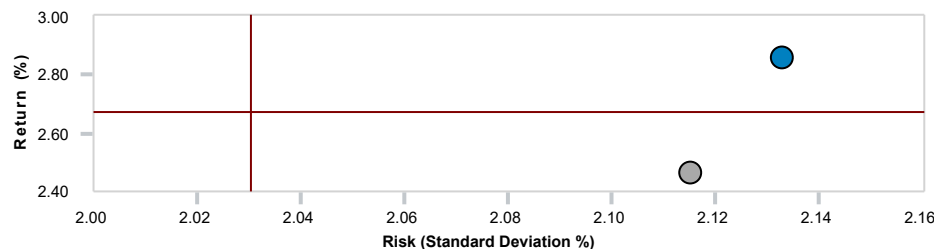
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

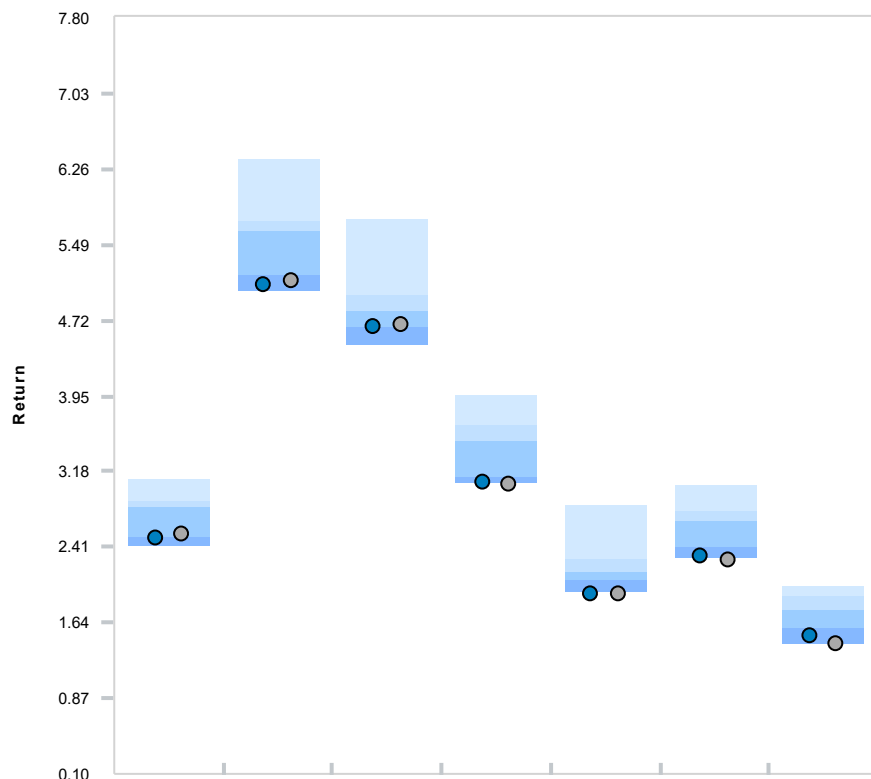
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Galliard Core Fixed Inc	0.28	103.08	89.77	0.40	1.15	0.49	0.96	1.25
Barclays Int Agg Index	0.00	100.00	100.00	0.00	N/A	0.32	1.00	1.32

### Historical Statistics - 5 Years

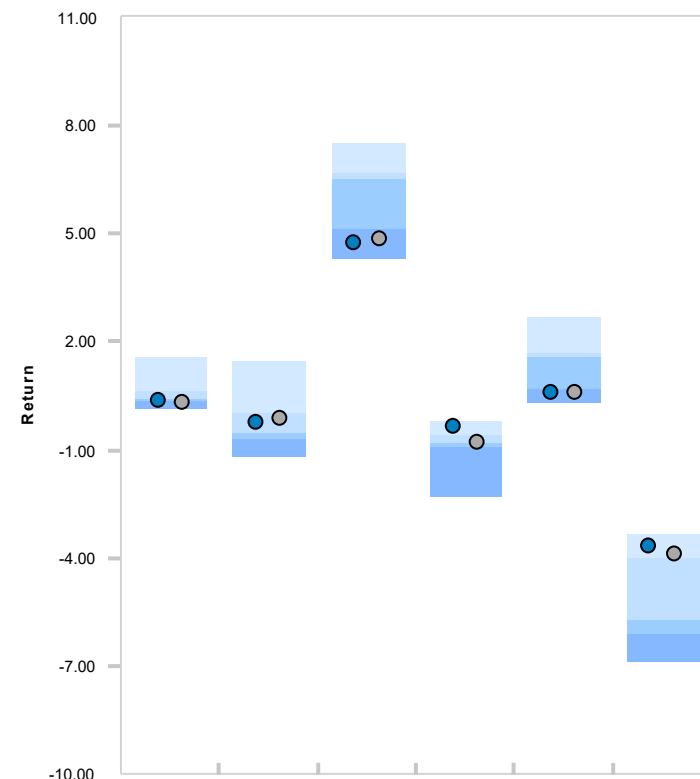
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Galliard Core Fixed Inc	0.32	105.66	91.60	0.39	1.18	0.95	1.00	1.08
Barclays Int Agg Index	0.00	100.00	100.00	0.00	N/A	0.78	1.00	1.12



Peer Group Analysis - IM U.S. TIPS (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Galliard TIPS	2.49 (86)	5.08 (86)	4.66 (73)	3.07 (96)	1.93 (97)	2.31 (90)	1.49 (88)
● Barclays US TIPS 1-10 Yr	2.53 (73)	5.11 (81)	4.67 (66)	3.05 (96)	1.93 (97)	2.28 (96)	1.42 (96)
Median	2.83	5.63	4.82	3.50	2.16	2.67	1.77



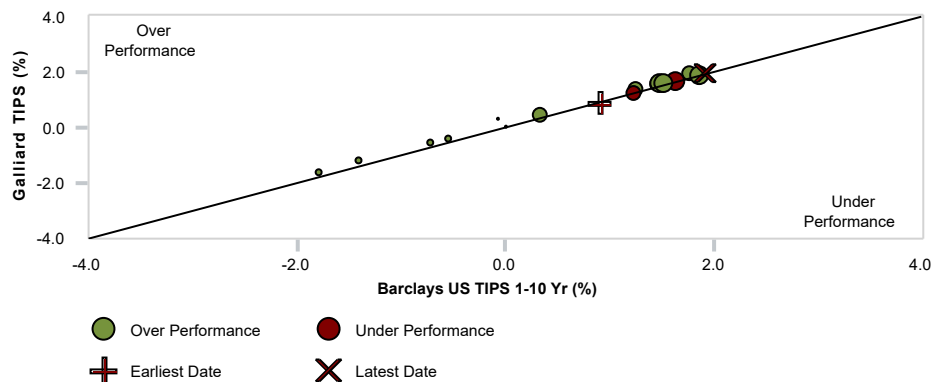
	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Galliard TIPS	0.39 (76)	-0.23 (38)	4.75 (95)	-0.38 (19)	0.59 (86)	-3.71 (10)
● Barclays US TIPS 1-10 Yr	0.33 (91)	-0.14 (35)	4.83 (95)	-0.82 (56)	0.61 (81)	-3.90 (18)
Median	0.43	-0.52	6.53	-0.79	1.57	-5.73

Comparative Performance

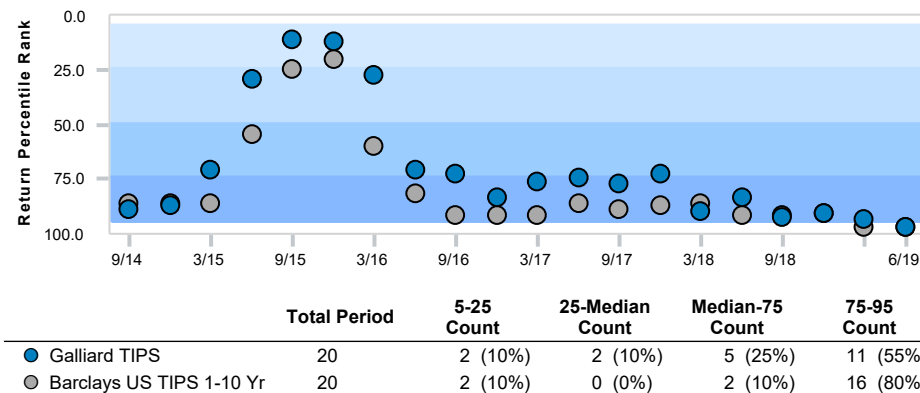
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Galliard TIPS	2.61 (84)	-0.08 (23)	-0.40 (19)	0.63 (81)	-0.39 (18)	0.55 (89)
Barclays US TIPS 1-10 Yr	2.57 (98)	-0.05 (7)	-0.42 (23)	0.61 (86)	-0.40 (18)	0.53 (92)
IM U.S. TIPS (SA+CF) Median	3.20	-0.42	-0.77	0.76	-0.73	1.26



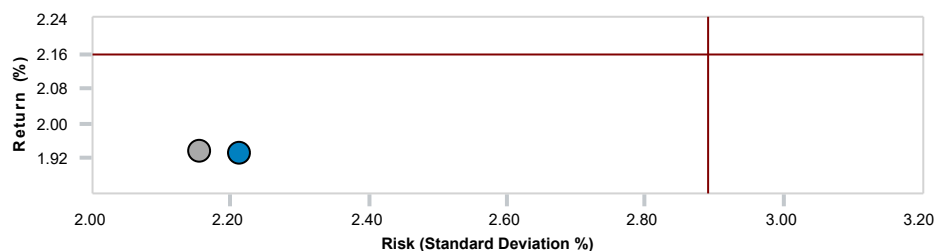
### 3 Yr Rolling Under/Over Performance - 5 Years



### 3 Yr Rolling Percentile Ranking - 5 Years

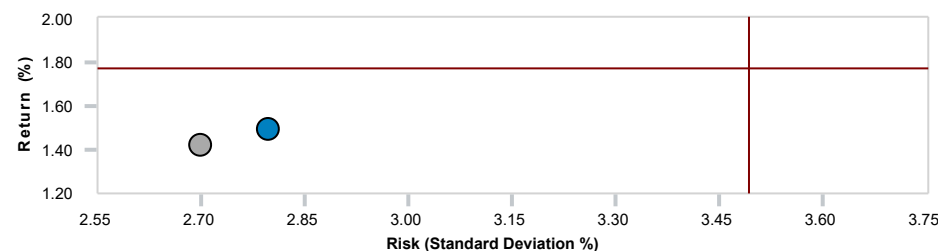


### Peer Group Scattergram - 3 Years



	Return	Standard Deviation
Galliard TIPS	1.93	2.21
Barclays US TIPS 1-10 Yr	1.93	2.16
Median	2.16	2.89

### Peer Group Scattergram - 5 Years



	Return	Standard Deviation
Galliard TIPS	1.49	2.80
Barclays US TIPS 1-10 Yr	1.42	2.70
Median	1.77	3.49

### Historical Statistics - 3 Years

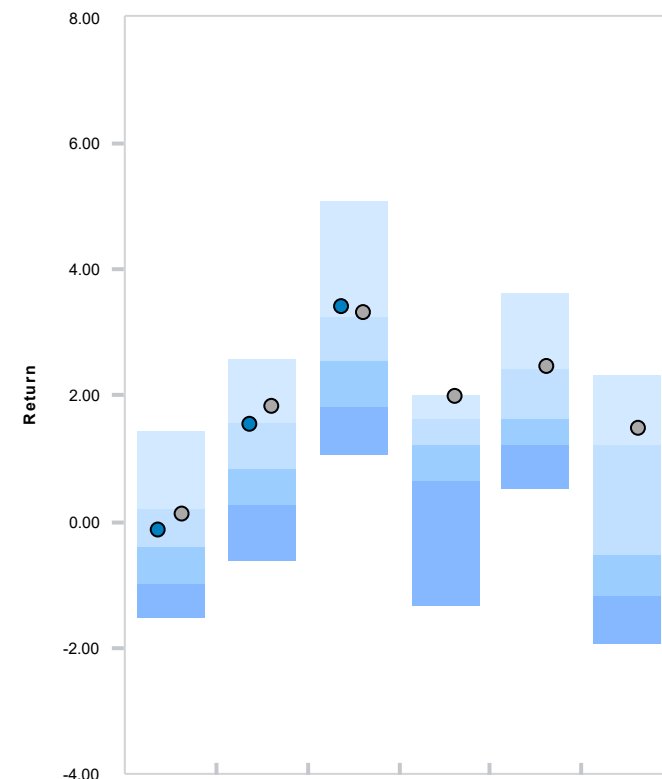
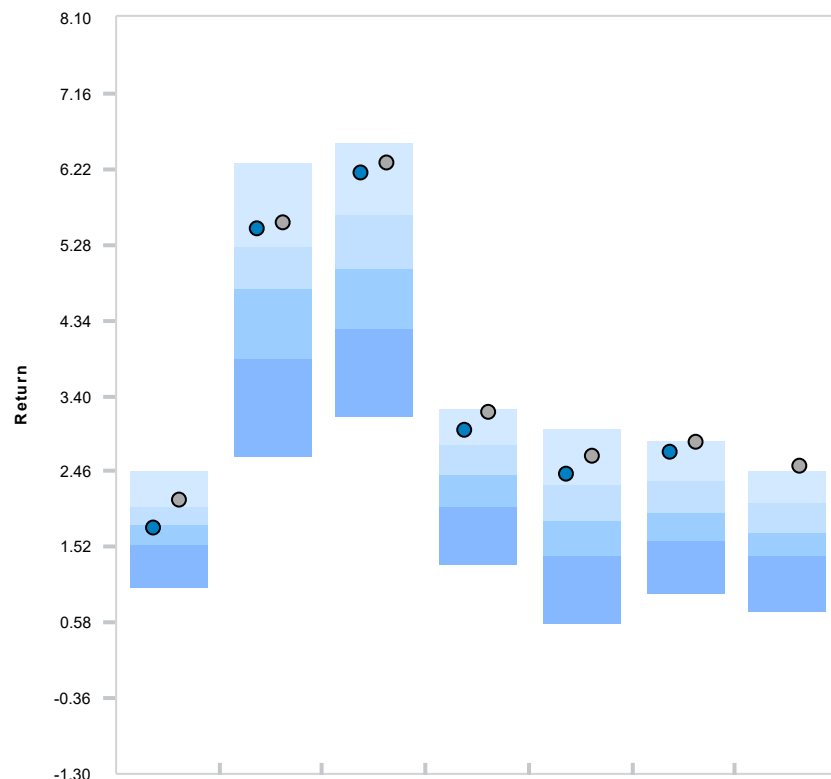
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Galliard TIPS	0.41	99.96	99.93	-0.02	0.00	0.27	1.01	1.34
Barclays US TIPS 1-10 Yr	0.00	100.00	100.00	0.00	N/A	0.28	1.00	1.33

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Galliard TIPS	0.42	99.87	97.28	0.04	0.18	0.25	1.02	1.64
Barclays US TIPS 1-10 Yr	0.00	100.00	100.00	0.00	N/A	0.23	1.00	1.64



Peer Group Analysis - IM U.S. Intermediate Investment Grade (MF)



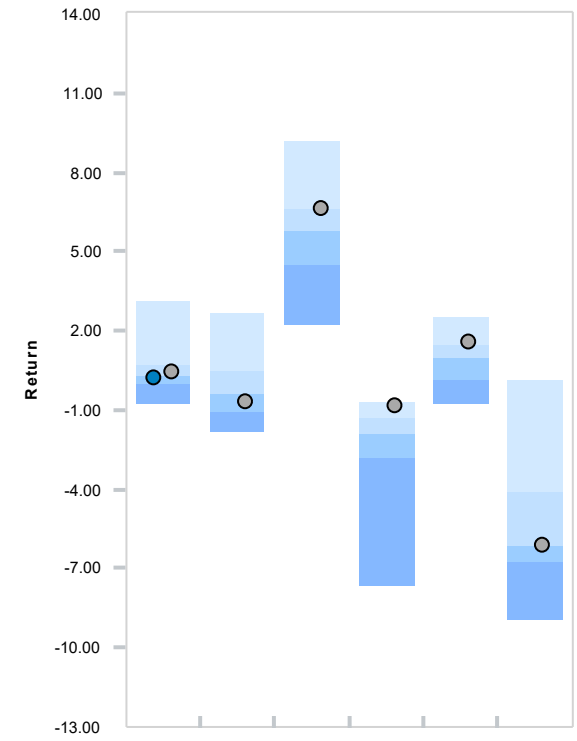
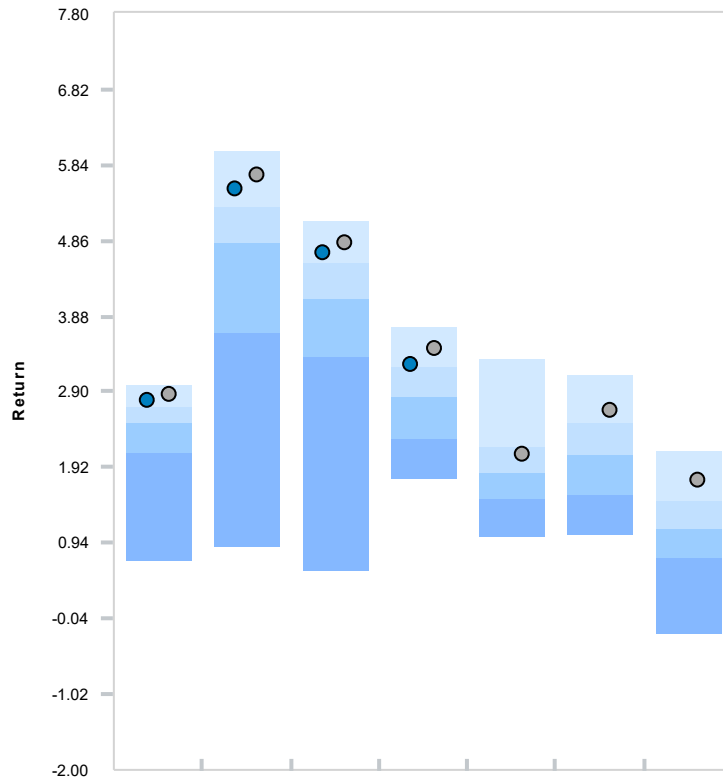
	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● VG ST Bond Index (VSCSX)	1.75 (57)	5.46 (18)	6.16 (13)	2.96 (19)	2.43 (21)	2.70 (14)	N/A	-0.14 (41)	1.55 (27)	3.40 (20)	N/A	N/A	N/A
● Barclays US Corp 1-5 Yr Index	2.09 (20)	5.55 (14)	6.30 (8)	3.18 (6)	2.65 (12)	2.83 (7)	2.52 (4)	0.11 (28)	1.82 (20)	3.33 (21)	1.98 (8)	2.46 (25)	1.47 (16)
Median	1.79	4.72	4.97	2.42	1.86	1.96	1.71	-0.38	0.85	2.56	1.21	1.64	-0.52

Comparative Performance

	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
VG ST Bond Index (VSCSX)	2.66 (13)	0.97 (44)	0.67 (15)	0.28 (21)	-1.03 (91)	-0.05 (38)
Barclays US Corp 1-5 Yr Index	2.61 (17)	0.76 (54)	0.71 (8)	0.29 (21)	-0.80 (65)	-0.09 (43)
IM U.S. Intermediate Investment Grade (MF) Median	1.88	0.80	0.34	0.12	-0.72	-0.13



**Peer Group Analysis - IM U.S. TIPS (MF)**



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR		Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Vanguard Inflation-Protected Secs (VAIPX)	2.79 (17)	5.54 (17)	4.70 (20)	3.26 (24)	N/A	N/A	N/A	● Vanguard Inflation-Protected Secs (VAIPX)	0.23 (55)	N/A	N/A	N/A	N/A	N/A
● Bloomberg Barclays U.S. TIPS Index	2.86 (11)	5.70 (11)	4.84 (13)	3.47 (11)	2.08 (31)	2.65 (14)	1.76 (12)	● Bloomberg Barclays U.S. TIPS Index	0.41 (40)	0.73 (61)	3.58 (27)	0.83 (7)	1.59 (19)	3.10 (46)
Median	2.50	4.83	4.09	2.85	1.84	2.09	1.14	Median	0.29	0.43	3.77	1.90	0.95	3.17

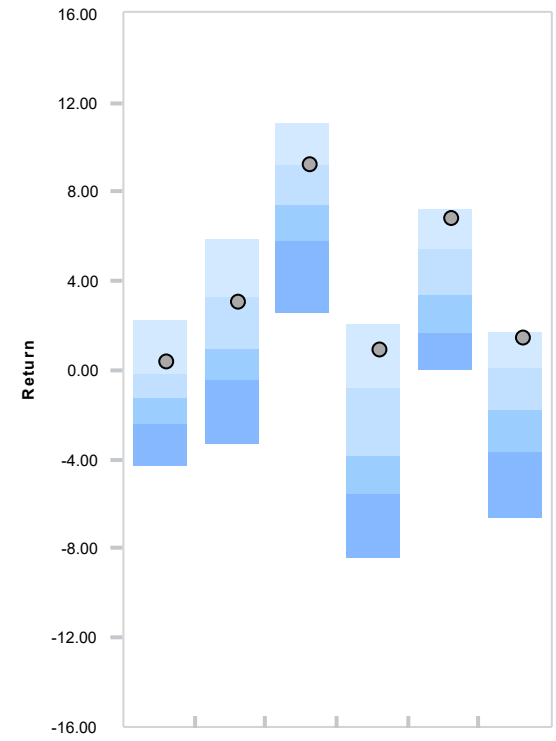
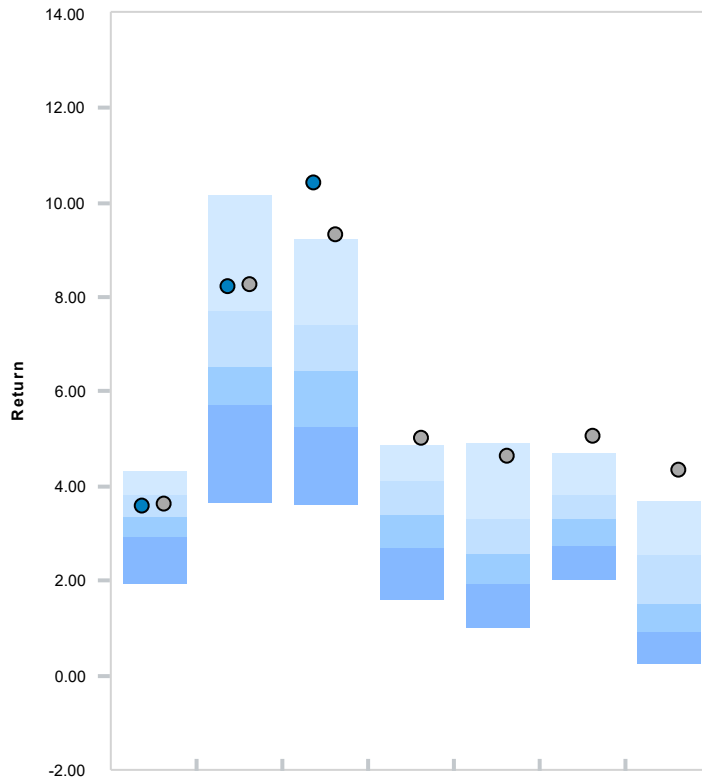
**Comparative Performance**

	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Vanguard Inflation-Protected Secs (VAIPX)	3.19 (45)	-0.50 (30)	-0.79 (58)	0.84 (19)	-0.99 (76)	1.19 (44)
Bloomberg Barclays U.S. TIPS Index	3.19 (44)	-0.42 (24)	-0.82 (60)	0.77 (27)	-0.79 (54)	1.26 (31)
IM U.S. TIPS (MF) Median	3.15	-0.84	-0.72	0.63	-0.75	1.11





**Peer Group Analysis - IM Global Fixed Income (MF)**



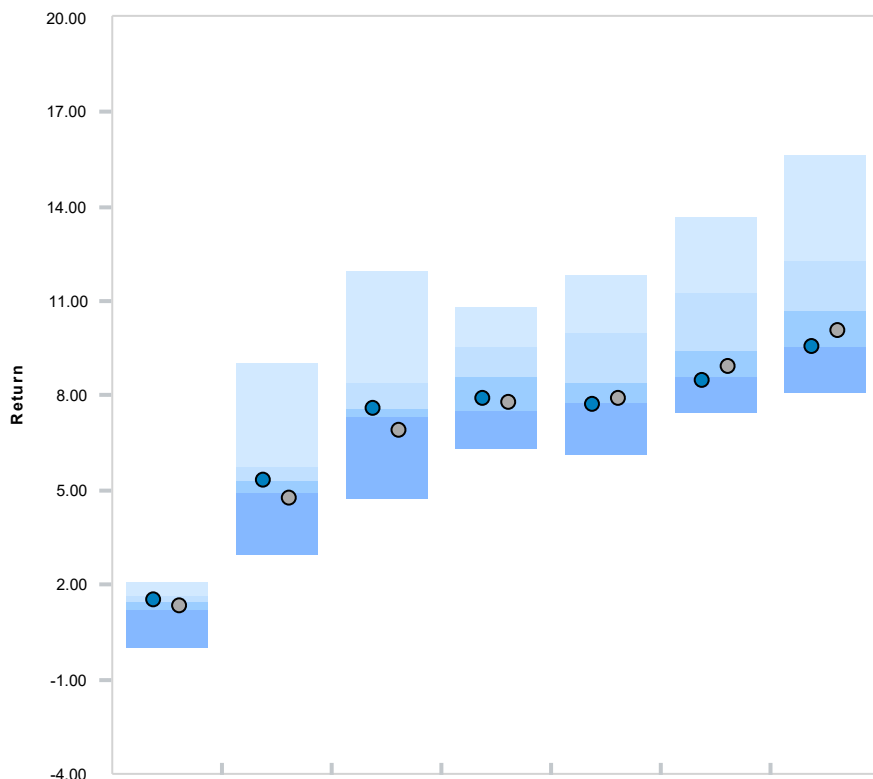
	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR		Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● PIMCO Diversified Income Fund Instl (PDIIX)	3.59 (37)	8.22 (12)	0.43 (2)	N/A	N/A	N/A	N/A	● PIMCO Diversified Income Fund Instl (PDIIX)	N/A	N/A	N/A	N/A	N/A	N/A
● Blmbg. Barc. Global Credit (Hedged)	3.60 (36)	8.27 (12)	9.32 (5)	5.00 (3)	4.65 (9)	5.06 (2)	4.35 (1)	● Blmbg. Barc. Global Credit (Hedged)	1.39 (17)	1.04 (27)	1.19 (25)	1.86 (18)	1.83 (9)	1.46 (8)
Median	3.37	6.51	6.42	3.41	2.56	3.31	1.51	Median	1.29	1.02	1.42	1.85	1.37	1.81

**Comparative Performance**

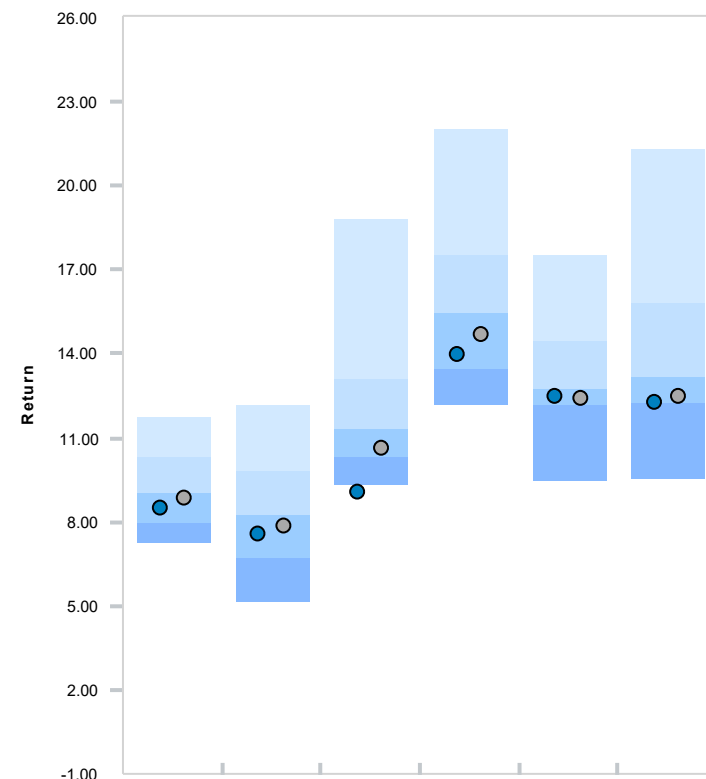
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
PIMCO Diversified Income Fund Instl (PDIIX)	5.81 (1)	-1.26 (91)	2.03 (1)	-0.92 (32)	N/A	N/A
Blmbg. Barc. Global Credit (Hedged)	4.71 (6)	-0.19 (66)	0.98 (8)	-0.44 (13)	-1.15 (97)	1.02 (18)
IM Global Fixed Income (MF) Median	3.10	0.35	-0.39	-2.29	0.80	0.66



Peer Group Analysis - IM U.S. Open End Private Real Estate (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
American Core RE	1.53 (32)	5.29 (50)	7.60 (50)	7.88 (67)	7.74 (77)	8.46 (77)	9.55 (76)
American Core RE Policy	1.35 (67)	4.73 (84)	6.91 (84)	7.76 (73)	7.88 (74)	8.94 (73)	10.03 (61)
Median	1.47	5.28	7.59	8.60	8.43	9.45	10.69



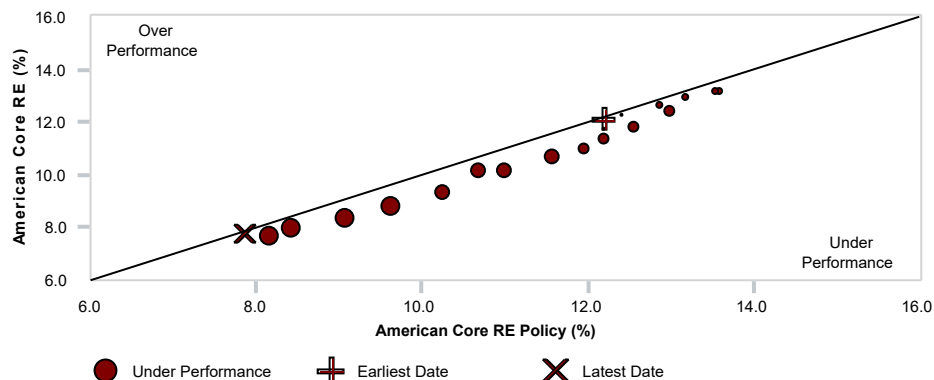
	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
American Core RE	8.50 (66)	7.52 (67)	9.04 (97)	13.98 (69)	12.49 (64)	12.27 (70)
American Core RE Policy	8.82 (59)	7.81 (60)	10.62 (69)	14.71 (62)	12.39 (68)	12.47 (67)
Median	9.04	8.29	11.32	15.45	12.78	13.18

Comparative Performance

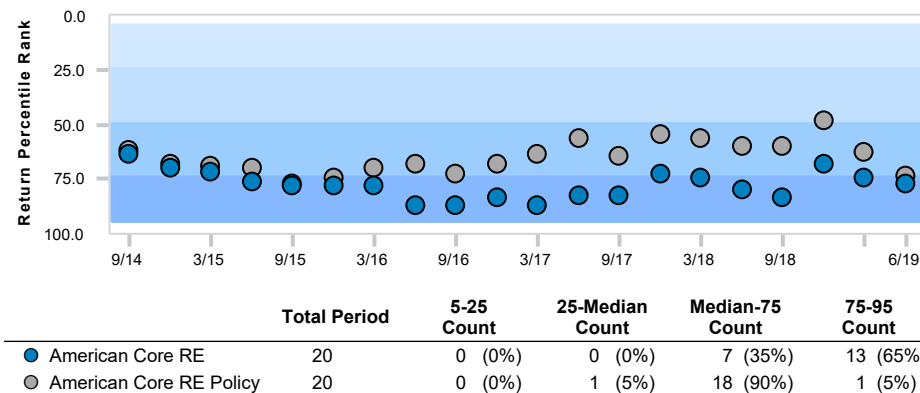
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
American Core RE	1.74 (76)	1.94 (27)	2.19 (47)	2.09 (66)	2.23 (45)	1.73 (87)
American Core RE Policy	1.69 (81)	1.62 (62)	2.09 (54)	2.13 (61)	2.17 (55)	2.15 (57)
IM U.S. Open End Private Real Estate (SA+CF) Median	1.99	1.76	2.10	2.22	2.21	2.25



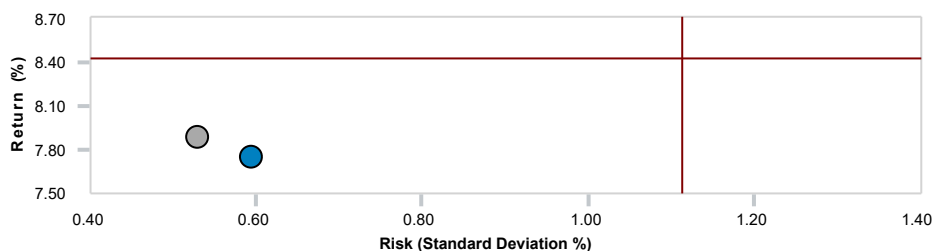
### 3 Yr Rolling Under/Over Performance - 5 Years



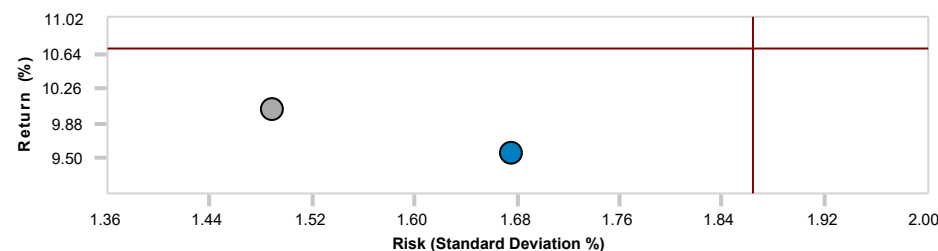
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

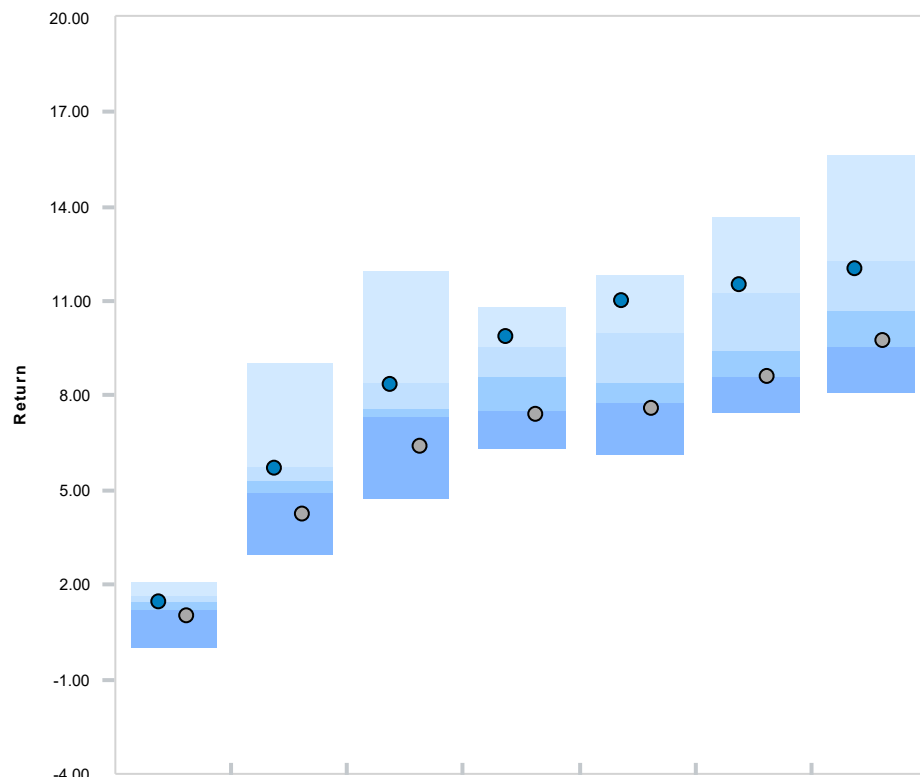
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Core RE	0.74	98.35	N/A	6.45	-0.17	8.91	0.16	0.00
American Core RE Policy	0.00	100.00	N/A	0.00	N/A	7.72	1.00	0.00

### Historical Statistics - 5 Years

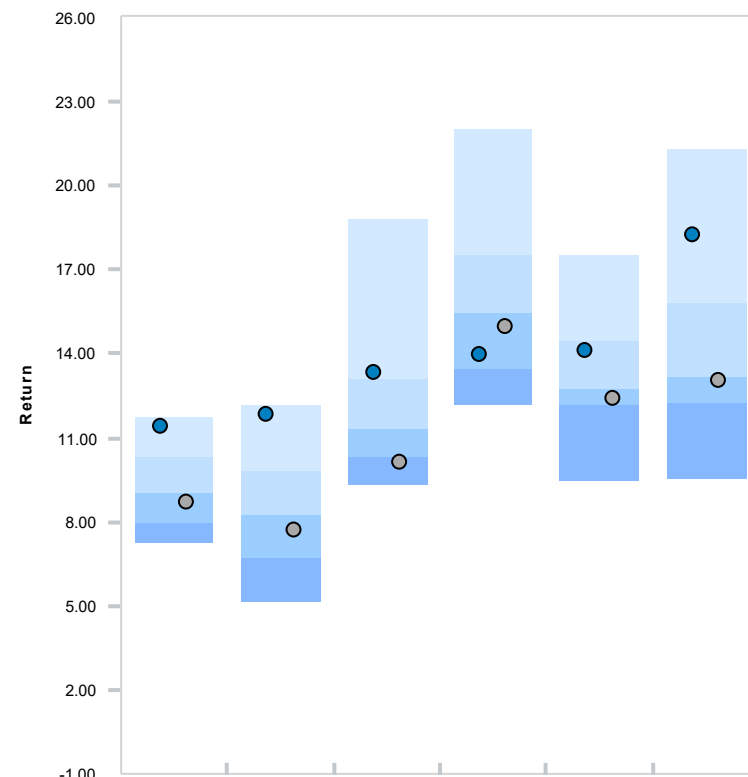
	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
American Core RE	1.02	95.36	N/A	0.52	-0.44	4.38	0.90	0.00
American Core RE Policy	0.00	100.00	N/A	0.00	N/A	4.82	1.00	0.00



Peer Group Analysis - IM U.S. Open End Private Real Estate (SA+CF)



	QTR	FYTD	1 YR	2 YR	3 YR	4 YR	5 YR
● Intercontinental	1.45 (57)	5.67 (33)	8.33 (28)	9.87 (17)	11.00 (6)	11.51 (24)	12.02 (28)
● NCREIF Fund Index	0.99 (90)	4.22 (90)	6.40 (91)	7.42 (76)	7.57 (78)	8.62 (76)	9.76 (64)
Median	1.47	5.28	7.59	8.60	8.43	9.45	10.69



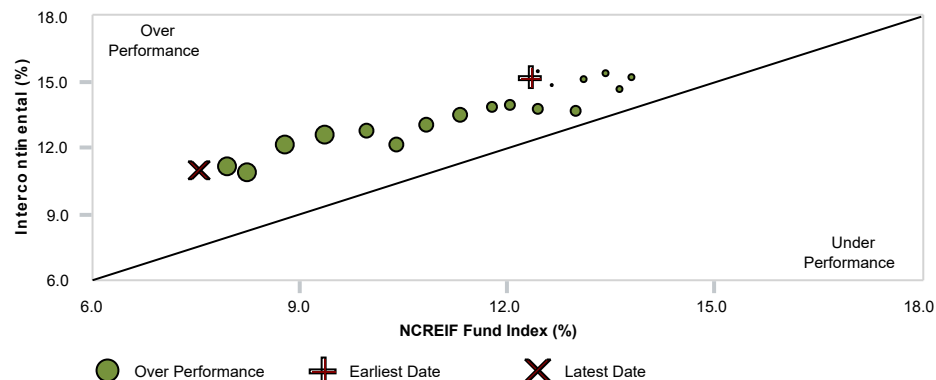
	Oct-2017 To Sep-2018	Oct-2016 To Sep-2017	Oct-2015 To Sep-2016	Oct-2014 To Sep-2015	Oct-2013 To Sep-2014	Oct-2012 To Sep-2013
● Intercontinental	11.40 (8)	11.82 (7)	13.30 (23)	13.96 (69)	14.10 (30)	18.21 (10)
● NCREIF Fund Index	8.68 (63)	7.66 (62)	10.08 (83)	14.93 (61)	12.40 (68)	13.04 (53)
Median	9.04	8.29	11.32	15.45	12.78	13.18

Comparative Performance

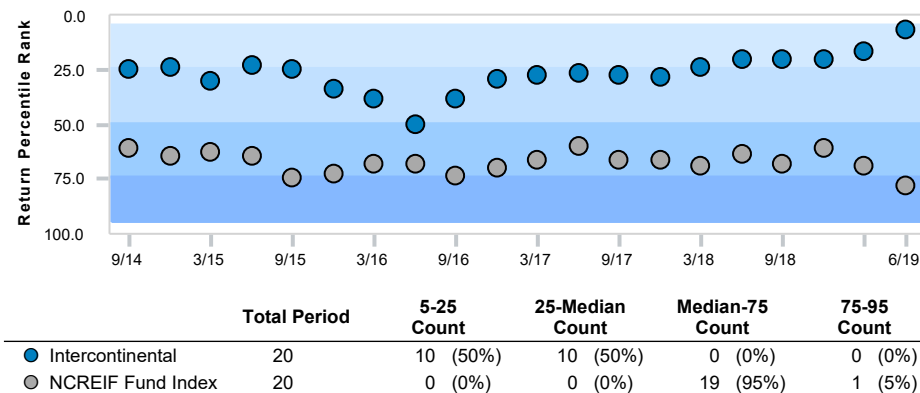
	1 Qtr Ending Mar-2019	1 Qtr Ending Dec-2018	1 Qtr Ending Sep-2018	1 Qtr Ending Jun-2018	1 Qtr Ending Mar-2018	1 Qtr Ending Dec-2017
Intercontinental	1.98 (55)	2.14 (20)	2.52 (23)	2.89 (27)	2.79 (14)	2.75 (14)
NCREIF Fund Index	1.42 (84)	1.76 (51)	2.09 (54)	2.05 (67)	2.20 (52)	2.07 (68)
IM U.S. Open End Private Real Estate (SA+CF) Median	1.99	1.76	2.10	2.22	2.21	2.25



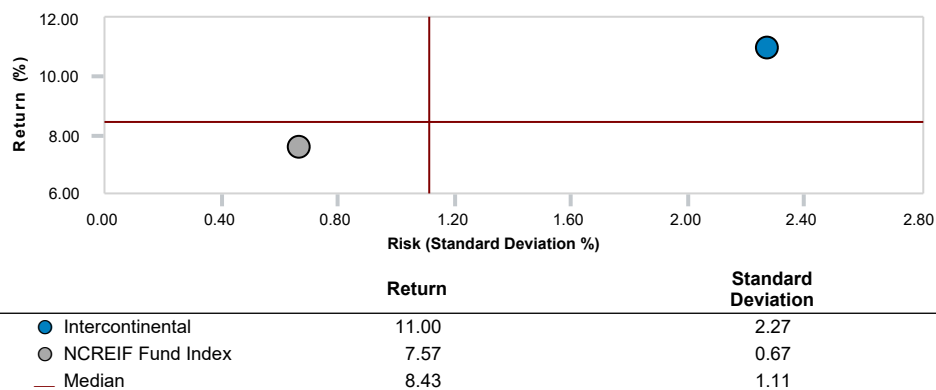
### 3 Yr Rolling Under/Over Performance - 5 Years



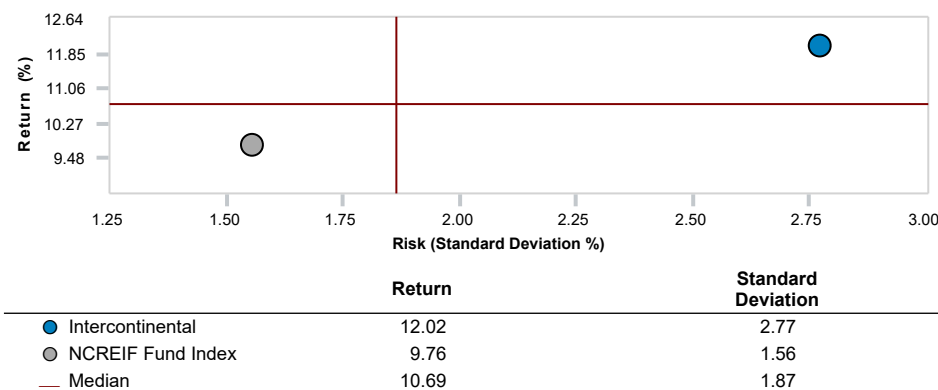
### 3 Yr Rolling Percentile Ranking - 5 Years



### Peer Group Scattergram - 3 Years



### Peer Group Scattergram - 5 Years



### Historical Statistics - 3 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Intercontinental	1.94	143.84	N/A	-4.57	1.67	3.69	2.07	0.00
NCREIF Fund Index	0.00	100.00	N/A	0.00	N/A	6.36	1.00	0.00

### Historical Statistics - 5 Years

	Tracking Error	Up Market Capture	Down Market Capture	Alpha	Information Ratio	Sharpe Ratio	Beta	Downside Risk
Intercontinental	2.43	122.50	N/A	3.46	0.87	3.59	0.86	0.00
NCREIF Fund Index	0.00	100.00	N/A	0.00	N/A	4.50	1.00	0.00



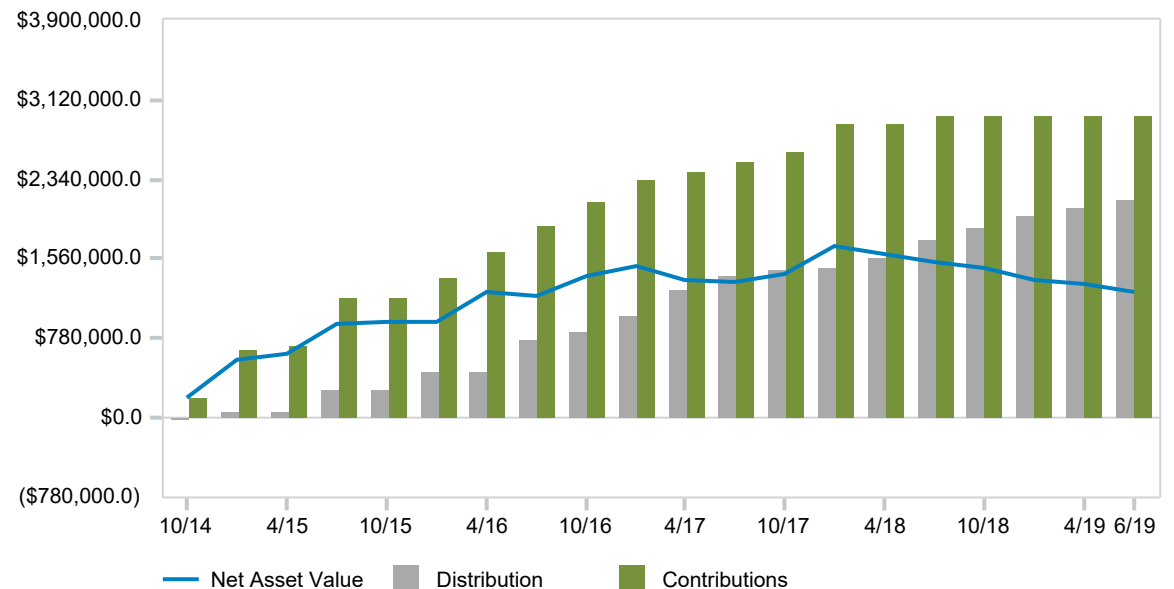
**Fund Information**

<b>Type of Fund:</b>	Direct	<b>Vintage Year:</b>	2014
<b>Strategy Type:</b>	Other	<b>Management Fee:</b>	1.35% of invested equity capital
<b>Size of Fund:</b>	-	<b>Preferred Return:</b>	7.00%
<b>Inception:</b>	09/05/2014	<b>General Partner:</b>	CDL Levered General Partner, Ltd.
<b>Final Close:</b>	9/5/2015 expected	<b>Number of Funds:</b>	
<b>Investment Strategy:</b>	High Current income while focusing on preservation of capital through investment primarily in senior secured loans of private U.S. lower-middle-market companies. The Fund will seek to enhance returns on its investments through the use of leverage. Fund size is \$250 million/ \$500 million with leverage.		

**Cash Flow Summary**

<b>Capital Committed:</b>	\$2,000,000
<b>Capital Invested:</b>	\$2,955,307
<b>Management Fees:</b>	\$38,642
<b>Expenses:</b>	\$192,355
<b>Interest:</b>	-
<b>Total Contributions:</b>	\$2,955,307
<b>Remaining Capital Commitment:</b>	\$282,673
<b>Total Distributions:</b>	\$2,146,526
<b>Market Value:</b>	\$1,231,729
<b>Inception Date:</b>	10/14/2014
<b>Inception IRR:</b>	7.7
<b>TVPI:</b>	1.1

**Cash Flow Analysis**



**Fund Information**

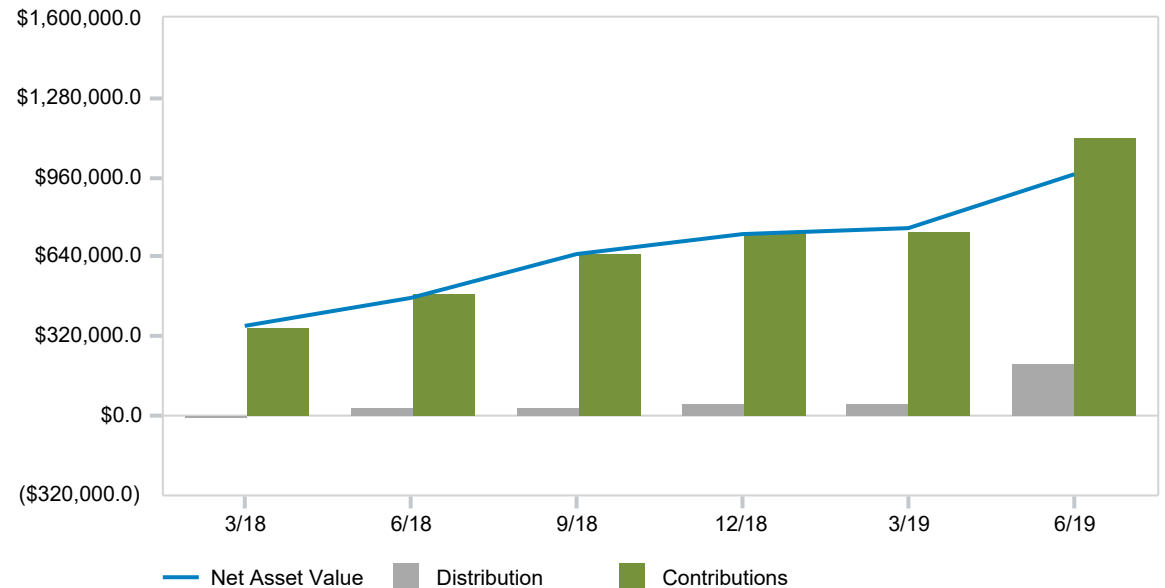
<b>Type of Fund:</b> Direct <b>Strategy Type:</b> Other <b>Size of Fund:</b> 1,500,000,000 <b>Inception:</b> 09/27/2017 <b>Final Close:</b>	<b>Vintage Year:</b> 2017 <b>Management Fee:</b> 75.% of invested equity capital <b>Preferred Return:</b> 7.00% <b>General Partner:</b> Crescent Direct Lending II GP, LLC <b>Number of Funds:</b>
---	--

**Investment Strategy:** Crescent Direct Lending Levered Fund II intends to invest in directly originated senior secured loans (including primarily first lien and unitranche loans and to a lesser extent second lien loans) of private U.S. lower-middle-market companies, primarily in conjunction with private equity investment firms.

**Cash Flow Summary**

<b>Capital Committed:</b>	\$2,000,000
<b>Capital Invested:</b>	\$1,115,413
<b>Management Fees:</b>	\$5,994
<b>Expenses:</b>	\$9,668
<b>Interest:</b>	-
<b>Total Contributions:</b>	\$1,115,413
<b>Remaining Capital Commitment:</b>	\$1,026,420
<b>Total Distributions:</b>	\$212,770
<b>Market Value:</b>	\$970,564
<b>Inception Date:</b>	03/13/2018
<b>Inception IRR:</b>	8.9
<b>TVPI:</b>	1.1

**Cash Flow Analysis**



**Total Fund Policy**

**Allocation Mandate** **Weight (%)**

**Jan-1976**

S&P 500 Index	65.00
Bimbg. Barc. U.S. Aggregate Index	30.00
MSCI EAFE Index	5.00

**Oct-2003**

S&P 500 Index	60.00
Bimbg. Barc. U.S. Aggregate Index	30.00
MSCI EAFE Index	10.00

**Sep-2006**

S&P 500 Index	60.00
Bloomberg Barclays Intermed Aggregate Index	40.00

**Oct-2009**

Russell 3000 Index	50.00
Bloomberg Barclays Intermed Aggregate Index	25.00
MSCI EAFE Index	15.00
Bloomberg Barclays U.S. TIPS Index	5.00
NCREIF Property Index	5.00

**Oct-2010**

Russell 3000 Index	50.00
Bloomberg Barclays Intermed Aggregate Index	20.00
MSCI EAFE Index	15.00
Bloomberg Barclays U.S. TIPS Index	5.00
NCREIF Fund Index-Open End Diversified Core (EW)	10.00

**Vanguard Total Stock Market Policy**

**Allocation Mandate** **Weight (%)**

**Jun-2003**

MSCI US Broad Market Index	100.00
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**Feb-2013**

CRSP U.S. Total Market TR Index	100.00
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**Total Equity Policy**

**Allocation Mandate** **Weight (%)**

**Jan-1970**

S&P 500 Index	90.00
MSCI EAFE Index	10.00

**Oct-2003**

S&P 500 Index	85.00
MSCI EAFE Index	15.00

**Sep-2006**

S&P 500 Index	100.00
---------------	--------

**Oct-2009**

Russell 3000 Index	77.00
MSCI EAFE Index	23.00

**Total Domestic Equity Policy**

**Allocation Mandate** **Weight (%)**

**Jan-1926**

S&P 500 Index	100.00
---------------	--------

**Oct-2009**

Russell 3000 Index	100.00
--------------------	--------

**Total Fixed Income Policy**

**Allocation Mandate** **Weight (%)**

**Nov-2000**

Bimbg. Barc. U.S. Aggregate Index	100.00
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**Sep-2006**

Bloomberg Barclays Intermed Aggregate Index	100.00
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**American Realty Policy**

**Allocation Mandate** **Weight (%)**

**Oct-2007**

NCREIF Property Index	100.00
-----------------------	--------

**Oct-2010**

NCREIF Fund Index-Open End Diversified Core (EW)	100.00
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Winter Springs GE

Total Fund Compliance:	Yes	No	N/A
1. The Total Plan return equaled or exceeded the 7.75% actuarial earnings assumption over the trailing three and five year periods.	✓		
2. The Total Plan return equaled or exceeded the total plan benchmark over the trailing three and five year periods.	✓		
3. The Total Plan return ranked within the top 40th percentile of its peer group over the trailing three and five year periods.	✓		

Equity Compliance:	Yes	No	N/A
1. Total domestic equity returns meet or exceed the benchmark over the trailing three and five year periods.	✓		
2. Total foreign equity returns meet or exceed the benchmark over the trailing three and five year periods.	✓		
3. Total domestic equity returns ranked within the top 40th percentile of its peer group over the trailing three year period.	✓		
4. Total domestic equity returns ranked within the top 40th percentile of its peer group over the trailing five year period.		✓	
5. The total equity allocation was less than 75% of the total plan assets at market.	✓		
6. Total foreign equity was less than 25% of the total plan assets at cost.	✓		

Fixed Income Compliance:	Yes	No	N/A
1. Total fixed income returns meet or exceed the benchmark over the trailing three and five year periods.	✓		
2. Total fixed income returns ranked within the top 40th percentile of its peer group over the trailing three and five year periods.			✓
3. All separately managed fixed income investments have a minimum rating of investment grade or higher.~ ~ 0.41 of bonds is rated BB, since this is below the threshold of 1. marked in compliance	✓		

Manager Compliance:	Vanguard Total			RBC Global			Galliard			TIPS			VG Short BD		
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	
1. Manager outperformed the index over the trailing three year period.			✓	✓			✓			✓					✓
2. Manager outperformed the index over the trailing five year period.			✓	✓			✓			✓					✓
3. Manager ranked within the top 40th percentile over the trailing three year period.			✓	✓				✓			✓				✓
4. Manager ranked within the top 40th percentile over the trailing five year period.			✓	✓			✓				✓				✓
5. Less than four consecutive quarters of under performance relative to the benchmark.			✓	✓			✓			✓					✓
6. Three year down-market capture ratio less than the index.			✓		✓		✓			✓					✓

Manager Compliance:	American RE			Intercontinental			PIMCO			Vanguard Infl-prot		
	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A	Yes	No	N/A
1. Manager outperformed the index over the trailing three year period.		✓		✓					✓			✓
2. Manager outperformed the index over the trailing five year period.		✓		✓					✓			✓
3. Manager ranked within the top 40th percentile over the trailing three year period.		✓		✓					✓			✓
4. Manager ranked within the top 40th percentile over the trailing five year period.		✓		✓					✓			✓
5. Less than four consecutive quarters of under performance relative to the benchmark.	✓			✓			✓					✓
6. Three year down-market capture ratio less than the index.			✓			✓			✓			✓

Winter Springs General Employees General Plan and Trust  
Fee Analysis

As of June 30, 2019

	Estimated Annual Fee (%)	Market Value (\$)	Estimated Annual Fee (\$)	Fee Schedule
Vanguard Total Stock Market (VITSX)	0.04	27,588,328	11,035	0.04 % of Assets
<b>Total Domestic Equity</b>	<b>0.04</b>	<b>27,588,328</b>	<b>11,035</b>	
RBC Global (Voyageur)	0.95	8,634,785	82,030	0.95 % of Assets
<b>Total International Equity</b>	<b>0.95</b>	<b>8,634,785</b>	<b>82,030</b>	
Galliard Core Fixed Income	0.25	5,025,853	12,565	0.25 % of Assets
Galliard TIPS	0.15	1,274,609	1,912	0.15 % of Assets
Vanguard Inflation-Protected Secs (VAIPX)	0.10	1,044,777	1,045	0.10 % of Assets
Vanguard Short Term Bond Index (VSCSX)	0.12	17,691	21	0.12 % of Assets
<b>Total Domestic Fixed Income</b>	<b>0.21</b>	<b>7,362,930</b>	<b>15,543</b>	
PIMCO Diversified Income Fund Instl (PDIIX)	0.75	1,872,973	14,047	0.75 % of Assets
<b>Total Global FI</b>	<b>0.75</b>	<b>1,872,973</b>	<b>14,047</b>	
Crescent Direct Lending Fund	1.35	1,231,729	16,628	1.35 % of Assets
Crescent Direct Lending II Fund	0.75	970,564	7,279	0.75 % of Assets
<b>Total Other Fixed Income</b>	<b>1.09</b>	<b>2,202,293</b>	<b>23,908</b>	
Intercontinental	1.10	3,459,853	38,058	1.10 % of Assets
American Core Realty Fund	1.10	2,081,376	22,895	1.10 % of Assets
<b>Total Real Estate</b>	<b>1.10</b>	<b>5,541,229</b>	<b>60,954</b>	
Receipt & Disbursement		661,720	-	
<b>Total Fund</b>	<b>0.39</b>	<b>53,864,258</b>	<b>207,517</b>	



**Disclosures**

Neither AndCo, nor any covered associates have made political contributions to any official associated with the Winter Springs General Employees General Plan and Trust, in excess of the permitted amount.

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<b>Active Return</b>	- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.
<b>Alpha</b>	- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.
<b>Beta</b>	- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.
<b>Consistency</b>	- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.
<b>Distributed to Paid In (DPI)</b>	- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.
<b>Down Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance
<b>Downside Risk</b>	- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.
<b>Excess Return</b>	- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.
<b>Excess Risk</b>	- A measure of the standard deviation of a portfolio's performance relative to the risk free return.
<b>Information Ratio</b>	- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.
<b>Public Market Equivalent (PME)</b>	- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.
<b>R-Squared</b>	- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.
<b>Return</b>	- Compounded rate of return for the period.
<b>Sharpe Ratio</b>	- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.
<b>Standard Deviation</b>	- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.
<b>Total Value to Paid In (TVPI)</b>	- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life
<b>Tracking Error</b>	- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.
<b>Treynor Ratio</b>	- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.
<b>Up Market Capture</b>	- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.

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AndCo compiled this report for the sole use of the client for which it was prepared. AndCo is responsible for evaluating the performance results of the Total Fund along with the investment advisors by comparing their performance with indices and other related peer universe data that is deemed appropriate. AndCo uses the results from this evaluation to make observations and recommendations to the client.

AndCo uses time-weighted calculations which are founded on standards recommended by the CFA Institute. The calculations and values shown are based on information that is received from custodians. AndCo analyzes transactions as indicated on the custodian statements and reviews the custodial market values of the portfolio. As a result, this provides AndCo with a reasonable basis that the investment information presented is free from material misstatement. This methodology of evaluating and measuring performance provides AndCo with a practical foundation for our observations and recommendations. Nothing came to our attention that would cause AndCo to believe that the information presented is significantly misstated.

This performance report is based on data obtained by the client's custodian(s), investment fund administrator, or other sources believed to be reliable. While these sources are believed to be reliable, the data providers are responsible for the accuracy and completeness of their statements. Clients are encouraged to compare the records of their custodian(s) to ensure this report fairly and accurately reflects their various asset positions.

The strategies listed may not be suitable for all investors. We believe the information provided here is reliable, but do not warrant its accuracy or completeness. Past performance is not an indication of future performance. Any information contained in this report is for informational purposes only and should not be construed to be an offer to buy or sell any securities, investment consulting, or investment management services.

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June 28, 2019

Ms. Casey Howard  
HR and Benefits Manager  
City of Winter Springs  
1126 East State Road 434  
Winter Springs, Florida 32708

**Re: City of Winter Springs Defined Benefit Plan  
October 1, 2018 Actuarial Valuation**

Dear Casey:

As requested, we are pleased to enclose eleven (11) copies of the October 1, 2018 Actuarial Valuation Report for the City of Winter Springs Defined Benefit Plan.

We appreciate the opportunity to partner with you on this important project.

Upon Board approval of the Actuarial Valuation Report, we will upload an electronic copy of the Actuarial Valuation Report along with the required disclosure information to the State portal as required by the State.

If you should have any questions concerning the above, please do not hesitate to contact us.

Sincerest regards,

A handwritten signature in black ink that reads "Jennifer Borregard". The signature is written in a cursive, flowing style.

Jennifer M. Borregard, E.A.  
Consultant and Actuary

Enclosures

# City Of Winter Springs Defined Benefit Plan

ACTUARIAL VALUATION AS OF OCTOBER 1, 2018

This Valuation Determines the Annual Contribution for the Plan Year October 1, 2019 through September 30, 2020 to be Paid in Plan Year October 1, 2019 to September 30, 2020

June 28, 2019







**City of Winter Springs  
Defined Benefit Plan**

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June 28, 2019

City Council  
City of Winter Springs Defined Benefit Plan  
c/o Ms. Casey Howard  
HR and Benefits Manager  
1126 East State Road 434  
Winter Springs, Florida 32708

Dear Council Members:

### [October 1, 2018 Actuarial Valuation](#)

We are pleased to present our October 1, 2018 Actuarial Valuation for the City of Winter Springs Defined Benefit Plan (Plan). The purpose of this report is to indicate appropriate contribution levels, comment on the actuarial stability of the Plan and to satisfy State requirements. The City has retained Gabriel, Roeder, Smith and Company (GRS) to prepare an annual actuarial valuation under Section 3.02 of the Plan.

This report consists of this commentary, detailed Tables I through XV, the State Required Exhibit on Table XVI and Glossary on Table XVII. The Tables contain basic Plan cost figures plus significant details on the benefits, liabilities and experience of the Plan. We suggest you thoroughly review the report at your convenience and contact us with any questions that may arise.

### [Retirement Plan Costs](#)

Our Actuarial Valuation develops the required minimum Plan payment for the Plan Year October 1, 2019 – September 30, 2020 under the Florida Protection of Public Employee Retirement Benefits Act. The minimum payment consists of payment of annual normal costs including amortization of the components of the unfunded actuarial accrued liability over various periods as prescribed by law. The minimum payment is **\$1,641,228 (32.6%)**. The figure in parentheses is the Plan cost expressed as a percentage of projected covered annual payroll for fiscal year October 1, 2019 – September 30, 2020 (\$5,042,067).

This total cost is to be met by member, County and City contributions. We anticipate member contributions will be **\$252,103 (5.0%)** of projected covered payroll for fiscal year ending September 30, 2020). The resulting minimum required County and City contribution is **\$1,389,125 (27.6%)**.

We recommend the City continue to contribute not less than the dollar amount of minimum required contribution due to the closing of the Plan to future general employees.

### Changes in Actuarial Assumptions, Methods and Plan Provisions

The Plan provisions remain unchanged from our October 1, 2017 Actuarial Valuation. The Plan provisions are outlined on Table IX.

The actuarial assumptions and methods remain unchanged from our October 1, 2017 Actuarial Valuation. The actuarial assumptions and methods are outlined on Table X.

### Comparison of October 1, 2017 and October 1, 2018 Valuation Results

Table II of our report provides information of a comparative nature. The left columns of the Table indicate the costs as calculated for October 1, 2017. The right columns indicate the costs as calculated for October 1, 2018.

Comparing the left and right columns of Table II shows the effect of Plan experience during the year. The number of active participants decreased by approximately 12%. Covered payroll decreased by approximately 9%. Total Plan membership increased by less than 1%. Total normal cost and City minimum funding requirement decreased as a dollar amount but increased as a percentage of covered payroll. The unfunded actuarial accrued liability decreased both as a dollar amount and as a percentage of covered payroll.

The value of vested accrued benefits exceeds Plan assets, resulting in a Vested Benefit Security Ratio (VBSR) of 92.9% which is an increase from 89.0% as of the October 1, 2017 Actuarial Valuation. The VBSR is measured on a market value of assets basis.

### Plan Experience

The Plan experienced an actuarial loss in the amount of \$301,553 this year. This indicates actual overall Plan experience was less favorable than expected.

Table XV (salary, turnover and investment yield) provides figures on recent Plan experience. Salary experience indicates actual salary increases averaged approximately 4.7% for General and Forensic Employees and 5.9% for Firefighters and Police Officers for Plan Year ended September 30, 2018 when compared to the assumed salary increase of 3.1% and 3.2%, respectively. Salary increases were a major source of actuarial loss. The three, five and ten-year average annual salary increases are 3.7%, 3.3% and 2.7% for General and Forensic Employees, respectively – 5.2%, 4.2% and 3.2% for Firefighters and Police Officers, respectively.

Employee turnover this year was 260% of the assumed turnover for General and Forensic Employees and 200% of the assumed turnover for Firefighters and Police Officers. Employee turnover was generally an offsetting source of actuarial gain. The three, five and ten-year average annual turnover

is 200%, 180% and 170%, respectively for General and Forensic Employees - 420%, 300% and 240%, respectively for Firefighters and Police Officers.

The smoothed value investment return of 9.49% was greater than the investment return assumption of 7.75%. Smoothed value investment return was an additional offsetting source of actuarial gain during the year. The three, five and ten-year average annual smoothed value investment returns are 9.9%, 9.9% and 7.3%, respectively. The one, three, five and ten-year average annual market value returns are 10.89%, 11.9%, 9.4% and 9.4%, respectively.

### Member Census and Financial Data

The City submitted the Member census data used for this Actuarial Valuation to us as of October 1, 2018. This information contains name, Social Security number, date of birth, date of hire, October 1, 2018 rate of pay, actual salary paid and member contributions for the previous year. Dates of termination and retirement are provided where applicable. The City updated information on inactive participants including retirees, beneficiaries and vested terminees.

Financial information concerning Plan assets was provided by the City as of September 30, 2018. We do not audit the Member census data and asset information that is provided to us; however, we perform certain reasonableness checks. The City is responsible for the accuracy of the data.

### Risks Associated with Measuring the Accrued Liability and Actuarially Determined Contribution

The determination of the accrued liability and the actuarially determined contribution requires the use of assumptions regarding future economic and demographic experience. Risk measures, as illustrated in this report, are intended to aid in the understanding of the effects of future experience differing from the assumptions used in the course of the actuarial valuation. Risk measures may also help with illustrating the potential volatility in the accrued liability and the actuarially determined contribution that result from the differences between actual experience and the actuarial assumptions.

Future actuarial measurements may differ significantly from the current measurements presented in this report due to such factors as the following: Plan experience differing from that anticipated by the economic or demographic assumptions; changes in economic or demographic assumptions due to changing conditions; increases or decreases expected as part of the natural operation of the methodology used for these measurements (such as the end of an amortization period, or additional cost or contribution requirements based on the Plan's funded status); and changes in Plan provisions or applicable law. The scope of an actuarial valuation does not include an analysis of the potential range of such future measurements.

Examples of risk that may reasonably be anticipated to significantly affect the Plan's future financial condition include:

1. Investment risk – actual investment returns may differ from expected returns;
2. Asset / Liability mismatch – changes in asset values may not match changes in liabilities, thereby altering the gap between the accrued liability and assets and consequently altering the funded status and the actuarially determined contribution requirements;
3. Contribution risk – actual contributions may differ from expected future contributions. For example, actual contributions may not be made in accordance with the Plan's funding policy or material changes may occur in the anticipated number of covered employees, covered payroll or other relevant contribution base;
4. Salary and Payroll risk – actual salaries and total payroll may differ from expected, resulting in actual future accrued liability and the actuarially determined contributions differing from expected;
5. Longevity risk – members may live longer or shorter than expected and receive pensions for a period of time other than assumed;
6. Other demographic risks – members may terminate, retire or become disabled at times or with benefits other than assumed resulting in actual future accrued liability and the actuarially determined contributions differing from expected.

The effects of certain trends in experience can generally be anticipated. For example if the investment return since the most recent actuarial valuation is less (or more) than the assumed rate, the actuarially determined contribution can be expected to increase (or decrease). Likewise if longevity is improving (or worsening), increases (or decreases) in the actuarially determined contribution can be anticipated.

The actuarially determined contribution rate shown on page one of the report may be considered as a minimum contribution rate that complies with the Plan's funding policy. The timely receipt of the actuarially determined contributions is critical to support the financial health of the Plan. Users of this report should be aware that contributions made at the actuarially determined rate do not necessarily guarantee benefit security.

### Plan Maturity Measures

Risks facing a pension plan evolve over time. A young plan with virtually no investments and paying few benefits may experience little investment risk. An older plan with a large number of members in pay status and a significant trust fund may be much more exposed to investment risk. Generally accepted plan maturity measures include the following:

	<u>2017</u>	<u>2018</u>
Ratio of market value of assets to payroll	8.69	10.60
Ratio of actuarial accrued liability to payroll	10.55	12.24
Ratio of actives to retirees and beneficiaries	0.95	0.75
Ratio of net cash flow to market value of assets	0.5%	0.2%
Duration of the actuarial accrued liability	12.05	11.76

### **Ratio of Market Value of Assets to Payroll**

The relationship between assets and payroll is a useful indicator of the potential volatility of the actuarially determined contribution. For example, if the market value of assets is 2.0 times the payroll, a return on assets 5% different than assumed would equal 10% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates higher (lower) or increasing (decreasing) volatility in the actuarially determined contribution as a percentage of payroll.

### **Ratio of Actuarial Accrued Liability to Payroll**

The relationship between actuarial accrued liability and payroll is a useful indicator of the potential volatility of the actuarially determined contributions for a fully funded plan. A funding policy targeting a funded ratio of 100% is expected to result in the ratio of assets to payroll and the ratio of liability to payroll converging over time.

The ratio of actuarial accrued liability to payroll may also be used as a measure of sensitivity of the liability itself. For example, if the actuarial accrued liability is 2.5 times payroll, a change in actuarial accrued liability 2% other than assumed would equal 5% of payroll. A higher (lower) or increasing (decreasing) level of this maturity measure generally indicates a higher (lower) or increasing (decreasing) volatility in actuarial accrued liability (and also the actuarially determined contribution) as a percentage of payroll.

### **Ratio of Actives to Retirees and Beneficiaries**

A young plan with many active members and few retirees will have a high ratio of active to retirees. A mature open plan may have close to the same number of actives to retirees resulting in a ratio near 1.0. A super-mature or closed plan may have significantly more retirees than actives resulting in a ratio below 1.0.

### **Ratio of Net Cash Flow to Market Value of Assets**

A positive net cash flow means contributions exceed benefits and expenses. A negative cash flow means existing funds are being used to make payments. A certain amount of negative net cash flow is generally expected to occur when benefits are prefunded through a qualified trust. Large negative net cash flows as a percent of assets may indicate a super-mature plan or a need for additional contributions.

### **Duration of Actuarial Accrued Liability**

The duration of the actuarial accrued liability may be used to approximate the sensitivity to a 1% change in the assumed rate of return. For example, a duration of 10 indicates the actuarial accrued liability would increase approximately 10% if the assumed rate of return were lowered 1%.

### **Additional Risk Assessment**

Additional risk assessment is outside the scope of the annual actuarial valuation. Additional assessment may include scenario tests, sensitivity tests, stochastic modeling, stress tests and a comparison of the present value of accrued benefits at low-risk discount rates with the actuarial accrued liability.

### **Summary**

In our opinion the benefits provided for under the current Plan will be sufficiently funded through the payment of the amount as indicated in this and future Actuarial Valuation reports. We will continue to update you on the future payment requirements for the Plan through our actuarial reports. These reports will also continue to monitor the future experience of the Plan.

The actuarial assumptions used in this Actuarial Valuation are as adopted by the Plan. The economic and demographic actuarial assumptions are based upon the results of an Experience Study for the period October 1, 2011 – September 30, 2016. The mortality assumptions are as prescribed by statute. Each assumption represents an estimate of future Plan experience.

If all actuarial assumptions are met and if all future minimum required contributions are paid, Plan assets will be sufficient to pay all Plan benefits, future contributions are expected to remain relatively stable or decrease as a percent of payroll and the funded status is expected to improve. Plan minimum required contributions are determined in compliance with the requirements of the Florida Protection of Public Employee Retirement Benefits Act with normal cost determined as a level percent of covered payroll and a level dollar amortization payment using an initial closed amortization period of 30 years.



The Unfunded Actuarial Accrued Liability (UAAL) may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions. The UAAL would be different if it reflected the market value of assets rather than the smoothed value of assets.

The Unfunded Actuarial Present Value of Vested Accrued Benefits and the corresponding Vested Benefit Security Ratio may be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may not be appropriate for assessing the need for or the amount of future contributions.

The GASB Net Pension Liability and Plan Fiduciary Net Position as a Percentage of Total Pension Liability may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

The Funded Ratio shown in Table II is for informational purposes and may not be appropriate for assessing the sufficiency of Plan assets to meet the estimated cost of settling benefit obligations but may be appropriate for assessing the need for or the amount of future contributions.

This report should not be relied on for any purpose other than the purpose described in the primary communication. Determinations of the financial results associated with the benefits described in this report in a manner other than the intended purpose may produce significantly different results.

This report has been prepared by actuaries who have substantial experience valuing public employee retirement plans. To the best of our knowledge the information contained in this report is accurate and fairly presents the actuarial position of the Plan as of the valuation date. All calculations have been made in conformity with generally accepted actuarial principles and practices, with the Actuarial Standards of Practice issued by the Actuarial Standards Board and with applicable statutes.

This report may be provided to parties other than the City only in its entirety and only with the permission of an approved representative of the City.

The signing actuaries are independent of the Plan sponsor.

The undersigned are Members of the American Academy of Actuaries and meet the qualification standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. We are available to respond to any questions with regards to matters covered in this report.

Very truly yours,

*L. F. Wilson*

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Lawrence F. Wilson, A.S.A., E.A.  
Senior Consultant and Actuary

*Michelle Jones*

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Shelly L. Jones, A.S.A., E.A.  
Consultant and Actuary

*Jennifer Borregard*

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Jennifer M. Borregard, E.A.  
Consultant and Actuary

Summary of Retirement Plan Costs as of October 1, 2018

	<b><u>Cost Data</u></b>	<b><u>% of Payroll</u></b>
A. Participant Data Summary (Table III)		
1. Active Employees	86	N/A
2. Terminated Vested	164	N/A
3. Receiving Benefits	114	N/A
4. Total Annual Payroll of Active Employees	\$ 5,042,067	100.0%
B. Total Normal Costs		
1. Age Retirement Benefits	\$ 273,174	5.4%
2. Termination Benefits	181,896	3.6%
3. Death Benefits	12,715	0.3%
4. Disability Benefits	4,951	0.1%
5. Estimated Expenses	64,770	1.3%
6. Total Annual Normal Costs	<u>\$ 537,506</u>	10.7%
C. Total Actuarial Accrued Liability		
1. Age Retirement and Termination Benefits Active Employees	\$ 19,038,326	377.6%
2. Death Benefits Active Employees	463,886	9.2%
3. Disability Benefits Active Employees	175,300	3.5%
4. Retired or Terminated Vested Participants Receiving Benefits	30,477,660	604.5%
5. Terminated Vested Participants Entitled to Future Benefits	9,470,263	187.8%
6. Deceased Participants Whose Beneficiaries are Receiving Benefits (includes DROs)	1,995,122	39.6%
7. Disabled Participants Receiving Benefits	0	0.0%
8. Miscellaneous Liability (Refunds in Process)	100,929	2.0%
9. Total Actuarial Accrued Liability	<u>\$ 61,721,486</u>	1224.1%
D. Assets (Table V)		
1. Smoothed Value of Assets	\$ 50,899,575	1009.5%
2. Market Value of Assets	\$ 53,431,514	1059.7%
E. Unfunded Actuarial Accrued Liability (C.9. - D.1.)	\$ 10,821,911	214.6%

Summary of Retirement Plan Costs as of October 1, 2018

	<u>Cost Data</u>	<u>% of Payroll</u>
F. Minimum Required Contribution		
1. Total Normal Cost (including expenses)	\$ 537,506	10.7%
2. Amortization of Unfunded Liability	1,032,209	20.5%
3. Interest Adjustment	71,513	1.4%
4. Total Payment	<u>\$ 1,641,228</u>	32.6%
G. Expected payroll of active employees for FYE 2020 (1.000 x \$5,042,067)	\$ 5,042,067	100.0%
H. Contribution Sources (percent of expected 2020 payroll)		
1. County and City	\$ 1,389,125	27.6%
2. Member	252,103	5.0%
3. Total required contribution	<u>\$ 1,641,228</u>	32.6%
I. Actuarial Gain / (Loss)	\$ (301,553)	(6.0%)
J. Actuarial Present Value of Vested Accrued Benefits		
1. Retired, Terminated Vested, Beneficiaries and Disabled Receiving Benefits	\$ 32,472,782	644.0%
2. Terminated Vested Participants Entitled to Future Benefits and Miscellaneous	9,571,192	189.8%
3. Active Participants Entitled to Future Benefits	<u>15,462,555</u>	306.7%
4. Total Actuarial Present Value of Vested Accrued Benefits	\$ 57,506,529	1140.5%
K. Unfunded Actuarial Present Value of Vested Accrued Benefits (J.4. - D.2., not less than zero)	\$ 4,075,015	80.8%
L. Vested Benefit Security Ratio (D.2. ÷ J.4.)	92.9%	N/A

Comparison of Cost Data of October 1, 2017 and October 1, 2018 Valuations

	October 1, 2017		October 1, 2018	
	Cost Data	% of Compensation	Cost Data	% of Compensation
A. Participants				
1. Active Employees	98	N/A	86	N/A
2. Terminated Vested	162	N/A	164	N/A
3. Receiving Benefits	103	N/A	114	N/A
4. Total Annual Payroll of Active Employees	\$ 5,537,207	100.0%	\$ 5,042,067	100.0%
B. Total Normal Costs	\$ 558,364	10.1%	\$ 537,506	10.7%
C. Actuarial Accrued Liability	\$ 58,419,910	1055.0%	\$ 61,721,486	1224.1%
D. Present Value of Future Benefits	\$ 61,503,467	1110.7%	\$ 64,535,748	1279.9%
E. Smoothed Value of Assets	\$ 46,396,570	837.9%	\$ 50,899,575	1009.5%
F. Market Value of Assets	\$ 48,091,584	868.5%	\$ 53,431,514	1059.7%
G. Unfunded Actuarial Accrued Liability (C. - E.)	\$ 12,023,340	217.1%	\$ 10,821,911	214.6%
H. County and City Minimum Funding Payment	\$ 1,484,498	26.8%	\$ 1,389,125	27.6%
I. Ratios				
1. Vested Benefit Security Ratio	89.0%	N/A	92.9%	N/A
2. Funded Ratio (F. / C.)	82.3%	N/A	86.6%	N/A

Characteristics of Participants in  
Actuarial Valuation as of October 1, 2018

A. <u>Active Plan Participants Summary</u>	
1. Active participants fully vested	74
2. Active participants partially vested	0
3. Active participants non-vested	12
4. Total active participants	86
5. Annual rate of pay of active participants	\$ 5,042,067
B. <u>Retired and Terminated Vested Participant Summary</u>	
1. Retired or terminated vested participants receiving benefits	98
2. Terminated vested participants entitled to future benefits	164
3. Deceased participants whose beneficiaries are receiving benefits (includes DROs)	16
4. Disabled participants receiving benefits	0
C. <u>Projected Annual Retirement Benefits</u>	
1. Retired or terminated vested receiving benefits	\$ 2,865,899
2. Terminated vested entitled to future benefits	\$ 1,623,152
3. Beneficiaries of deceased participants (includes DROs)	\$ 208,500
4. Disabled participants	\$ 0

Statement of Assets as of October 1, 2018

<u>Assets</u>	<u>Market Value</u>
A. <u>Cash and Cash Equivalents</u>	\$ 630,774
B. <u>General Investments</u>	
1. Common Stock	\$ 36,006,658
2. Bonds	8,708,257
3. Real Estate	7,569,940
C. <u>Receivables</u>	
1. Accrued Interest	\$ 0
2. Employee Contribution Receivable	10,557
3. City and County Contributions Receivable	505,328
4. Accounts Receivable	0
D. <u>Payables</u>	
1. Accounts Payable	\$ 0
2. Due to Broker	0
E. <u>Plan Assets</u>	
(A + B + C - D)	\$ 53,431,514

Reconciliation of Plan Assets

A. <u>Market Value of Assets as of October 1, 2017</u>		\$	48,091,584
B. <u>Receipts During Period</u>			
1. Contributions			
a. Member	\$	460,745	
b. City and County		2,635,968	
c. Total	\$	<u>3,096,713</u>	
2. Investment Income			
a. Interest and dividends	\$	739,175	
b. Realized / unrealized gains (losses)		4,759,480	
c. Investment expenses		<u>(255,462)</u>	
d. Net investment income	\$	5,243,193	
3. Total receipts during period			\$ 8,339,906
C. <u>Disbursements During Period</u>			
1. Pension payments and contribution refunds	\$	2,935,206	
2. Administrative expenses		<u>64,770</u>	
3. Total disbursements during period			\$ 2,999,976
D. <u>Market Value of Assets as of September 30, 2018</u>		\$	53,431,514



Development of Smoothed Value of Assets as of September 30

	<u>2017</u>	<u>2018</u>	<u>2019</u>	<u>2020</u>	<u>2021</u>	<u>2022</u>
A. Preliminary total smoothed value from prior year	\$ 42,001,072	\$ 46,396,570	\$ 50,899,575			
B. Market value beginning of year	42,027,234	48,091,584	53,431,514			
C. Market value end of year	48,091,584	53,431,514				
D. Non-investment net cash flow	212,857	96,737				
E. Investment return						
1. Total market value return: C. - B. - D.	5,851,493	5,243,193				
2. Amount for immediate recognition (8% / 7.75%)	3,370,693	3,730,846				
3. Amount for phased-in recognition: E.1. - E.2.	2,480,800	1,512,347				
F. Phased-in recognition of investment return:						
1. Current year	496,160	302,469				
2. First prior year	212,990	496,160	302,469			
3. Second prior year	(592,399)	212,990	496,160	302,469		
4. Third prior year	256,201	(592,399)	212,990	496,160	302,469	
5. Fourth prior year	438,996	256,202	(592,399)	212,990	496,160	302,471
6. Total phased-in recognition of investment return	811,948	675,422	419,220	1,011,619	798,629	302,471
G. Total smoothed value end of year						
1. Preliminary total smoothed value end of year A. + D. + E.2. + F.6.	46,396,570	50,899,575				
2. Upper corridor limit: 120% of C.	57,709,901	64,117,817				
3. Lower corridor limit: 80% of C.	38,473,267	42,745,211				
4. Total smoothed value end of year: G.1., not more than G.2., nor less than G.3.	46,396,570	50,899,575				
H. Difference between total market value and total smoothed value	1,695,014	2,531,939				
I. Smoothed value rate of return	9.9%	9.49%				
J. Market value rate of return	13.9%	10.89%				

Actuarial Gain / (Loss) for  
Plan Year Ended September 30, 2018

A. Derivation of Actuarial Gain / (Loss)

1. City and County net normal cost previous valuation	\$ 281,504
2. Unfunded actuarial accrued liability previous valuation	12,023,340
3. City and County contributions previous year	2,635,968
4. Interest on:	
(a) City and County net normal cost	\$ 21,817
(b) Unfunded actuarial accrued liability	931,809
(c) City and County contributions	102,144
(d) Net total: (a) + (b) - (c)	<u>\$ 851,482</u>
5. Expected unfunded actuarial accrued liability current year: (1. + 2. - 3. + 4.)	\$ 10,520,358
6. Actual unfunded actuarial accrued liability current year	<u>10,821,911</u>
7. Actuarial gain / (loss): (5. - 6.)	\$ (301,553)

B. Approximate Portion of Gain / (Loss)  
due to Investments

1. Smoothed value of assets previous year	\$ 46,396,570
2. Contributions during period	3,096,713
3. Benefits and administrative expenses during period	2,999,976
4. Expected appreciation for period	<u>3,599,483</u>
5. Expected smoothed value of assets current year: (1. + 2. - 3. + 4.)	\$ 50,092,790
6. Actual smoothed value of assets current year	\$ 50,899,575
7. Approximate investment gain / (loss) due to investments: (6. - 5.)	\$ 806,785

C. Approximate Portion of Gain / (Loss)  
due to Liabilities: A.7. - B.7.

\$ (1,108,338)

Amortization of Unfunded Actuarial Accrued LiabilityA. Unfunded Actuarial Accrued Liability

<u>Date</u>	<u>Unfunded Liability</u>	<u>Amortization Payment</u>
October 1, 2018	\$ 10,821,911	\$ 1,032,209
October 1, 2019	\$ 10,548,404	\$ 1,032,209
October 1, 2020	\$ 10,253,700	\$ 1,032,209
October 1, 2021	\$ 9,936,157	\$ 1,032,209
October 1, 2022	\$ 9,594,004	\$ 1,032,209
...		
...		
October 1, 2048	\$ 0	\$ 0

B. Covered Payroll History

<u>Date</u>	<u>Covered Payroll</u>	<u>Annual Increase</u>
October 1, 2018	\$ 5,042,067	(8.9%)
October 1, 2017	\$ 5,537,207	(6.4%)
October 1, 2016	\$ 5,916,189	(13.9%)
October 1, 2015	\$ 6,868,214	(3.2%)
October 1, 2014	\$ 7,093,513	(4.5%)
October 1, 2013	\$ 7,431,031	(9.6%)
October 1, 2012	\$ 8,216,342	(7.4%)
October 1, 2011	\$ 8,875,836	(13.9%)
October 1, 2010	\$ 10,304,054	(4.2%)
October 1, 2009	\$ 10,752,720	(0.1%)
October 1, 2008	\$ 10,767,596	N/A
Ten-Year Average Annual Increase		(7.3%)

Accounting Disclosure Exhibit

	<u>10/01/2017</u>	<u>10/01/2018</u>
<b>I. <u>Number of Plan Members</u></b>		
a. Retirees and beneficiaries receiving benefits	103	114
b. Terminated plan members entitled to but not yet receiving benefits	162	164
c. Active plan members	98	86
d. Total	<u>363</u>	<u>364</u>
<b>II. <u>Financial Accounting Standards Board Allocation as of October 1, 2018</u></b>		
<b>A. <u>Statement of Accumulated Plan Benefits</u></b>		
1. Actuarial present value of accumulated vested plan benefits		
a. Participants currently receiving benefits	\$ 29,276,805	\$ 32,472,782
b. Other participants	24,751,790	25,033,747
c. Total	<u>\$ 54,028,595</u>	<u>\$ 57,506,529</u>
2. Actuarial present value of accumulated non-vested plan benefits		
	\$ 505,700	\$ 423,711
3. Total actuarial present value of accumulated plan benefits	<u>\$ 54,534,295</u>	<u>\$ 57,930,240</u>
<b>B. <u>Statement of Change in Accumulated Plan Benefits</u></b>		
1. Actuarial present value of accumulated plan benefits as of October 1, 2017		\$ 54,534,295
2. Increase (decrease) during year attributable to:		
a. Plan amendment		\$ 0
b. Change in actuarial assumptions		0
c. Benefits paid including refunds		(2,935,206)
d. Other, including benefits accumulated, increase for interest due to decrease in the discount period		6,331,151
e. Net increase		<u>\$ 3,395,945</u>
3. Actuarial present value of accumulated plan benefits as of October 1, 2018		\$ 57,930,240
<b>C. <u>Significant Matters Affecting Calculations</u></b>		
1. Assumed rate of return used in determining actuarial present values		7.75%
2. Change in Plan provisions		None.
3. Change in actuarial assumptions		None.

Accounting Disclosure Exhibit

III. Net Pension Liability and Related Ratios (GASB No. 67 & No. 68)

Measurement date	9/30/2014	9/30/2015	9/30/2016	9/30/2017	9/30/2018	Projected 9/30/2019 *
<b>A. Total Pension Liability (TPL)</b>						
Service Cost	\$ 886,819	\$ 834,402	\$ 808,281	\$ 697,459	\$ 502,667	\$ 472,736
Interest	3,666,120	3,851,130	4,059,813	4,229,901	4,452,760	4,684,511
Benefit Changes	0	0	0	0	0	0
Difference Between Actual and Expected Experience	(581,481)	(107,513)	275,994	(592,087)	124,345	1,281,355
Assumption Changes	0	8,107	0	526,115	2,531,601	0
Benefit Payments, including Refunds of Member Contributions	(1,974,208)	(2,202,769)	(2,450,972)	(2,679,408)	(2,935,206)	(3,497,830)
Net Change in Total Pension Liability	\$ 1,997,250	\$ 2,383,357	\$ 2,693,116	\$ 2,181,980	\$ 4,676,167	\$ 2,940,772
Total Pension Liability (TPL) - (beginning of year)	46,508,261	48,505,511	50,888,868	53,581,984	55,763,964	60,440,131
Total Pension Liability (TPL) - (end of year)	\$ 48,505,511	\$ 50,888,868	\$ 53,581,984	\$ 55,763,964	\$ 60,440,131	\$ 63,380,903
<b>B. Plan Fiduciary Net Position</b>						
Contributions - City and County	\$ 2,527,508	\$ 2,392,948	\$ 2,586,936	\$ 2,605,753	\$ 2,635,968	\$ 1,484,498
Contributions - Member	369,500	358,106	479,257	342,209	460,745	252,103
Net Investment Income	3,885,344	5,160	4,077,452	5,851,493	5,243,193	4,070,185
Benefit Payments, including Refunds of Member Contributions	(1,974,208)	(2,202,769)	(2,450,972)	(2,679,408)	(2,935,206)	(3,497,830)
Administrative Expenses	(159,424)	(11,937)	(28,208)	(55,697)	(64,770)	(64,770)
Other	0	0	0	0	0	0
Net Change in Plan Fiduciary Net Position	\$ 4,648,720	\$ 541,508	\$ 4,664,465	\$ 6,064,350	\$ 5,339,930	2,244,186
Plan Fiduciary Net Position - (beginning of year)	32,172,541	36,821,261	37,362,769	42,027,234	48,091,584	53,431,514
Plan Fiduciary Net Position - (end of year)	\$ 36,821,261	\$ 37,362,769	\$ 42,027,234	\$ 48,091,584	\$ 53,431,514	\$ 55,675,700
<b>C. Net Pension Liability (NPL) - (end of year): (A) - (B)</b>	\$ 11,684,250	\$ 13,526,099	\$ 11,554,750	\$ 7,672,380	\$ 7,008,617	\$ 7,705,203
<b>D. Plan Fiduciary Net Position as a Percentage of TPL: (B) / (A)</b>	75.91 %	73.42 %	78.44 %	86.24 %	88.40 %	87.84 %
<b>E. Covered Employee Payroll **</b>	\$ 7,369,943	\$ 7,070,355	\$ 6,671,503	\$ 5,846,435	\$ 5,342,971	\$ 5,042,067
<b>F. NPL as a Percentage of Covered Employee Payroll: (C) / (E)</b>	158.54 %	191.31 %	173.20 %	131.23 %	131.17 %	152.82 %
<b>G. Notes to Schedule:</b>						
Valuation Date	10/01/2013	10/01/2014	10/01/2015	10/01/2016	10/01/2017	10/01/2018
Reporting Date (GASB No. 68)	9/30/2015	9/30/2016	9/30/2017	9/30/2018	9/30/2019	9/30/2020

Update procedures were used to roll forward the TPL to the measurement date.

See Table VIII, Item V. for a history of benefit changes and assumption changes.

\* Projected - actual amounts will be available after fiscal year end.

\*\* Reported payroll on which contributions to the Plan are based as provided under GASB No. 82.

Accounting Disclosure Exhibit

IV. Schedule of Employer Contributions (GASB No. 67 & No. 68)

Fiscal Year End 9/30	Actuarially Determined Contribution	Actual Contribution <sup>1</sup>	Contribution Deficiency / (Excess)	Covered Payroll <sup>2</sup>	Actual Contribution as a % of Covered Payroll
2009	\$ 1,781,651	\$ 1,781,197	\$ 454	\$ 10,767,596	16.54%
2010	2,311,058	2,311,058	0	10,752,720	21.49%
2011	2,616,924	2,616,924	0	10,304,054	25.40%
2012	1,965,643	1,913,717	51,926	8,875,836	21.56%
2013	2,258,769	2,258,798	(29)	8,216,342	27.49%
2014	2,474,578	2,527,508	(52,930)	7,369,943	34.29%
2015	2,230,908	2,392,948	(162,040)	7,070,355	33.84%
2016	2,067,445	2,586,936	(519,491)	6,671,503	38.78%
2017	1,831,495	2,605,753	(774,258)	5,846,435	44.57%
2018	1,613,548	2,635,968	(1,022,420)	5,342,971	49.34%
2019 <sup>3</sup>	1,484,498	1,484,498	0	5,042,067	29.44%

<sup>1</sup> Per City CAFR prior to September 30, 2014

<sup>2</sup> Reported payroll on which contributions to the Plan are based as provided under GASB No. 82 (projected prior to fiscal year ended September 30, 2014)

<sup>3</sup> Projected - actual amounts will be available after fiscal year end

Accounting Disclosure Exhibit

V. Notes to Schedule of Contributions (GASB No. 67 & No. 68)

**Valuation Date:** Actuarially determined contributions are calculated as of October 1st - two year(s) prior the fiscal year end in which contributions are reported.

**Methods and Assumptions Used to Determine Contribution Rates for Fiscal Year Ending September 30, 2019:**

Actuarial Cost Method	Entry Age Normal
Amortization Method	Level dollar, closed
Amortization Period	30 years
Asset Valuation Method	5-year smoothed market
Inflation	2.75%
Salary Increases	3.0% - 4.5%
Investment Rate of Return	7.75%
Retirement Age	Experience-based table of rates that are specific to the type of eligibility condition
Mortality	<p>For healthy male General Employee participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female General Employee participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For healthy male General Employee participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female General Employee participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For healthy Firefighter and Police Officer participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For healthy Firefighter and Police Officer participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.</p> <p>For disabled male General Employee participants, RP 2000 Disabled Male Mortality Table, set back four years, without projected mortality improvements. For disabled female General employee participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.</p> <p>For disabled male Firefighter and Police Officer participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female Firefighter and Police Officer participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.</p>

Accounting Disclosure Exhibit

V. Notes to Schedule of Contributions (GASB No. 67 & No. 68) (cont'd)

**Other Information:**

Benefit Changes

2011: Plan closed to future general employees; pensionable earnings to base pay, overtime - maximum 150 hours and accrued leave balance as of July 1, 2011; vesting schedule updated; unreduced early retirement eligibility updated; final average pay updated to five year average and future service benefit accrual rate reduced for general employees. 2008: Benefit accrual rate increased.

Assumption Changes

2017: Investment return, salary increase, withdrawal and retirement rates updated. 2016: Mortality rates updated. 2014: Disability rates updated. 2008: Mortality, salary increase, withdrawal, disability and retirement rates updated; administrative expense assumption introduced and actuarial cost method updated.

VI. Discount Rate (GASB No. 67 & No. 68)

A discount rate of 7.75% was used to measure the September 30, 2019 TPL. This discount rate was based on the expected rate of return on Plan investments of 7.75%. The projection of cash flows used to determine this discount rate assumed member contributions will be made at the current member contribution rate and City and County contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member contribution rate. Based upon these assumptions, the Plan's fiduciary net position was projected to be available to make all projected future expected benefit payments of current Plan members. Therefore, the long-term expected rate of return on Plan investments was applied to all periods of projected benefit payments to determine the TPL.

VII. Sensitivity of the NPL to the Discount Rate Assumption (GASB No. 67 & No. 68)

Measurement date: September 30, 2018

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.75%	7.75%	8.75%
NPL	\$ 14,118,554	\$ 7,008,617	\$ 1,044,379

Measurement date: September 30, 2019 \*

	<u>1% Decrease</u>	<u>Current Discount Rate</u>	<u>1% Increase</u>
Discount Rate	6.75%	7.75%	8.75%
NPL	\$ 15,006,107	\$ 7,705,203	\$ 1,575,276

\* Projected - actual amounts will be available after fiscal year end



Accounting Disclosure Exhibit

VIII. Pension Expense and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions - Reporting Date (GASB No. 68)

Pension Expense for Fiscal Year Ending September 30, 2019 \$ 1,311,621

Summary of Outstanding Deferred Inflows and Outflows of Resources as of September 30, 2019

	<u>Deferred Outflows of Resources</u>	<u>Deferred Inflows of Resources</u>
Differences between actual and expected experience on liabilities	\$ 131,515	\$ 229,534
Changes of assumptions or other inputs	1,578,733	0
Net difference between projected and actual earnings on pension Plan investments	<u>0</u>	<u>2,531,939</u>
Total	<u><u>\$ 1,710,248</u></u>	<u><u>\$ 2,761,473</u></u>

Projected Deferred Outflows for County and City Contributions to Be Recognized in Pension Expense for Fiscal Year Ending September 30, 2020 \$ 1,484,498

Summary of Deferred Outflows and Inflows of Resources that to Be Recognized in Pension Expense in Future Years.

<u>Year Ending 30-Sep</u>	<u>Amount</u>
2020	\$ 824,168
2021	(774,293)
2022	(798,629)
2023	(302,471)
2024	0
Thereafter	0

Accounting Disclosure Exhibit

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

IX. Components of Pension Expense (GASB No. 68)

Measurement Date	9/30/2014	9/30/2015	9/30/2016	9/30/2017	9/30/2018	Projected 9/30/2019 *
Service Cost	\$ 886,819	\$ 834,402	\$ 808,281	\$ 697,459	\$ 502,667	\$ 472,736
Interest on Total Pension Liability	3,666,120	3,851,130	4,059,813	4,229,901	4,452,760	4,684,511
Current-Period Benefit Changes	0	0	0	0	0	0
Contributions - Member	(369,500)	(358,106)	(479,257)	(342,209)	(460,745)	(252,103)
Projected Earnings on Plan Investments	(2,604,338)	(2,967,155)	(3,012,502)	(3,370,693)	(3,730,846)	(4,070,185)
Administrative Expenses	159,424	11,937	28,208	55,697	64,770	64,770
Other Changes in Plan Fiduciary Net Position	0	0	0	0	0	0
Recognition of Beginning Deferred Outflows / (Inflows) due to Liabilities	(126,409)	(149,527)	(78,759)	(99,375)	1,158,437	1,917,785
Recognition of Beginning Deferred Outflows / (Inflows) due to Assets	(256,201)	336,198	123,208	(372,952)	(675,422)	(419,220)
Total Pension Expense	<u>\$ 1,355,915</u>	<u>\$ 1,558,879</u>	<u>\$ 1,448,992</u>	<u>\$ 797,828</u>	<u>\$ 1,311,621</u>	<u>\$ 2,398,294</u>

\* Projected - actual amounts will be available after measurement date

Accounting Disclosure Exhibit

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	4.6	0.0	\$ 0	\$ 0
2014 / 2015	\$ 0	4.3	0.3	\$ 0	\$ 0
2015 / 2016	\$ 275,994	3.9	0.9	\$ 70,768	\$ 63,690
2016 / 2017	\$ 0	3.2	1.2	\$ 0	\$ 0
2017 / 2018	\$ 124,345	2.2	1.2	\$ 56,520	\$ 67,825
TOTAL				\$ 127,288	\$ 131,515

Recognition of Deferred (Inflows) due to Differences Between Actual and Expected Experience on Liabilities

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ (581,481)	4.6	0.0	\$ (75,845)	\$ 0
2014 / 2015	\$ (107,513)	4.3	0.3	\$ (25,003)	\$ (7,501)
2015 / 2016	\$ 0	3.9	0.9	\$ 0	\$ 0
2016 / 2017	\$ (592,087)	3.2	1.2	\$ (185,027)	\$ (222,033)
2017 / 2018	\$ 0	2.2	1.2	\$ 0	\$ 0
TOTAL				\$ (285,875)	\$ (229,534)

Recognition of Deferred Outflows due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	4.6	0.0	\$ 0	\$ 0
2014 / 2015	\$ 8,107	4.3	0.3	\$ 1,885	\$ 567
2015 / 2016	\$ 0	3.9	0.9	\$ 0	\$ 0
2016 / 2017	\$ 526,115	3.2	1.2	\$ 164,411	\$ 197,293
2017 / 2018	\$ 2,531,601	2.2	1.2	\$ 1,150,728	\$ 1,380,873
TOTAL				\$ 1,317,024	\$ 1,578,733

Accounting Disclosure Exhibit

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

X. Recognition of Deferred Outflows and (Inflows) due to Liabilities - Measurement Date (GASB No. 68) (cont'd)

Recognition of Deferred (Inflows) due to Changes of Assumptions or Other Inputs

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ 0	4.6	0.0	\$ 0	\$ 0
2014 / 2015	\$ 0	4.3	0.3	\$ 0	\$ 0
2015 / 2016	\$ 0	3.9	0.9	\$ 0	\$ 0
2016 / 2017	\$ 0	3.2	1.2	\$ 0	\$ 0
2017 / 2018	\$ 0	2.2	1.2	\$ 0	\$ 0
TOTAL				\$ 0	\$ 0

XI. Recognition of Deferred Outflows and (Inflows) due to Assets - Measurement Date (GASB No. 68)

Recognition of Deferred Outflows / (Inflows) due to Difference Between Projected and Actual Earnings on Pension Plan Investments

Established	Initial Balance	Initial Recognition Period	Remaining Recognition Period as of 9/30/2018	Recognition Amount for 2017 / 2018	Balance as of 9/30/2018
2013 / 2014	\$ (1,281,006)	5	0	\$ (256,202)	\$ 0
2014 / 2015	\$ 2,961,995	5	1	\$ 592,399	\$ 592,399
2015 / 2016	\$ (1,064,950)	5	2	\$ (212,990)	\$ (425,980)
2016 / 2017	\$ (2,480,800)	5	3	\$ (496,160)	\$ (1,488,480)
2017 / 2018	\$ (1,512,347)	5	4	\$ (302,469)	\$ (1,209,878)
TOTAL				\$ (675,422)	\$ (2,531,939)

## Outline of Principal Provisions of the Retirement Plan

### A. Effective Date

Plan adopted as a Money Purchase Floor Offset plan on October 1, 1997. Plan amended and restated as a Defined Benefit Plan effective October 1, 2000. Plan most recently amended by Resolution 2017-10 adopted November 13, 2017.

### B. Eligibility Requirements

General Employees hired prior to October 1, 2011, Police Officers and Forensic Professionals working 30 or more hours per week are eligible to join the Plan on the first day of the month following completion of six (6) months of service. Electing transferring Firefighters as of October 2, 2008 under the Agreement with the County.

### C. Accrual Service

Years of Accrual Service are any Plan Years during which an Employee completes at least 1,000 hours of service, including years of service completed prior to participation in the Plan.

### D. Compensation

Wages, salaries and other amounts received (whether or not paid in cash) for personal services actually rendered in the course of employment. Effective October 10, 2011 Compensation shall exclude commissions, bonuses, overtime pay in excess of one hundred fifty (150) hours per Plan year and payments for accrued leave in excess of the dollar amount of an Employee's accrued leave balance on July 1, 2011.

### E. Final Average Compensation

Average earnings during the best five (5) consecutive Plan Years out of the last ten (10) Plan Years preceding termination or retirement, but not less than the three (3) highest consecutive compensation periods during employment with the City as of September 30, 2011.

### F. Normal Retirement

#### 1. Eligibility:

- x Attainment of age 65; or
- (b) Completion of 30 years of service and determined to be disabled under the City's long term disability insurance policy.

Outline of Principal Provisions of the Retirement Plan

2. Benefit:

For Firefighters, Police Officers and Forensic Professionals, 3.00% times Final Average Compensation multiplied by Accrual Service, up to a maximum of 30 years.

For General Employees, 3.00% times Accrual Service earned through September 30, 2011 times Final Average Compensation plus 2.50% times Accrual Service earned after September 30, 2011 times Final Average Compensation, up to a maximum of 30 years of Accrual Service.

G. Early Retirement

1. Eligibility:

- (a) Attainment of age 55 and completion of 15 years of service; or
- (b) Completion of 25 years of service.

2. Benefit:

Benefit accrued to date of early retirement, actuarially reduced for each year early retirement benefit commencement precedes age 55. A participant as of September 30, 2011 who attains age 55 and completes 10 or more years of service but less than 15 years of service may receive the accrued benefit as of September 30, 2011 payable without actuarial reduction plus the accrued benefit earned after September 30, 2011 payable with actuarial reduction from normal retirement date.

H. Late Retirement

1. Eligibility:

Continued employment beyond Normal Retirement Date.

2. Benefit:

Greater of (a) and (b):

(a) Accrued benefit calculated as for Normal Retirement based upon service and pay at Late Retirement Date.

(b) Actuarially increased benefit as of Late Retirement Date.

I. Disability Retirement

1. Eligibility:

Completion of 30 years of service and determined to be disabled under the City's long term disability insurance policy.

2. Benefit:

Accrued benefit calculated as for Normal Retirement based upon service and pay at Disability Retirement Date.

Outline of Principal Provisions of the Retirement Plan

J. Death Benefit

Beneficiary entitled to a monthly benefit supported by the present value of the non-forfeitable accrued benefit at the time of the participant's death. If death occurs after actual retirement, the beneficiary receives whatever is payable under the form of benefit option elected.

K. Participant Contributions

Five percent (5%) of compensation.

L. Vested Benefit Upon Termination

100% vested in required participant contributions. Participant contributions made after October 1, 2000 are included in the deferred vested benefit payable at normal or early retirement date.

Upon termination of service prior to normal or early retirement date a participant shall be entitled to a benefit payable at normal or early retirement date calculated as for normal retirement. Based upon pay and service at date of termination multiplied by a percentage from the following table.

<u>Years of Service</u>	<u>Vested Percentage</u>
Less Than 7	0%
7 or More	100%

M. Normal Form of Payment of Retirement Income

Monthly benefit payable for life.

Other Options

Actuarially equivalent joint and survivor at 50%, 75%, 100%; or ten (10) years certain and life.

N. Changes Since Previous Valuation

None.

**Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation**

A. Mortality

Firefighter and Police Officer participants:

For healthy participants during employment, RP 2000 Combined Healthy Participant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For healthy participants post employment, RP 2000 Annuitant Mortality Tables, separate rates for males and females, with 90% Blue Collar Adjustment / 10% White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, 60% RP 2000 Disabled Male Mortality Table setback four years / 40% RP 2000 Annuitant Male Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements. For disabled female participants, 60% RP 2000 Disabled Female Mortality Table set forward two years / 40% RP 2000 Annuitant Female Mortality Table with White Collar Adjustment with no setback, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	29.84	32.60	29.33
60	24.96	27.56	24.76	27.41
62	23.09	25.59	22.97	25.49

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Men	Women	Men	Women
	55	32.06	34.54	31.57
60	27.21	29.49	27.03	29.36
62	25.34	27.51	25.23	27.42

General Employee participants:

For healthy male participants during employment, RP 2000 Combined Male Healthy Participant Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants during employment, RP 2000 Combined Female Healthy Participant Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.



**Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation**

A. Mortality (continued)

For healthy male participants post employment, RP 2000 Annuitant Male Mortality Table, with 50% White Collar / 50% Blue Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB. For healthy female participants post employment, RP 2000 Annuitant Female Mortality Table, with White Collar Adjustment and fully generational mortality improvements projected to each future decrement date with Scale BB.

For disabled male participants, RP 2000 Disabled Male Mortality Table, set back four years, without projected mortality improvements. For disabled female participants, RP 2000 Disabled Female Mortality Table, set forward two years, without projected mortality improvements.

Sample Ages (2018)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	30.53	33.57	30.10
60	25.60	28.54	25.44	28.44
62	23.70	26.58	23.60	26.52

Sample Ages (2038)	Pre-retirement Future Life Expectancy (Years)		Post-retirement Future Life Expectancy (Years)	
	Male	Female	Male	Female
	55	32.67	35.41	32.26
60	27.78	30.38	27.63	30.30
62	25.87	28.40	25.78	28.35

B. Investment Return

7.75%, compounded annually, net of investment expenses - includes assumed inflation of 2.75%.

C. Allowances for Expenses or Contingencies

Prior year's actual administrative expenses are included in normal cost.

D. Salary Increase Factors

Current salary is assumed to increase at a rate based on the table below per year until retirement - includes assumed wage inflation of 3.0%.

<u>Service</u>	<u>General Employees</u>	<u>Forensic Professionals, Firefighters and Police Officers</u>
Less than 5 years	4.50%	4.50%
5 - 14 years	3.25%	3.25%
15 - 20 years	3.00%	3.25%
20+ years	3.00%	3.00%

**Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation**

E. Employee Withdrawal Rates

Withdrawal rates were used in accordance with the following illustrative example.

<u>Service</u>	<u>General Employees</u>		<u>Forensic Professionals, Firefighters and Police Officers</u>	
	<u>Male</u>	<u>Female</u>	<u>Male</u>	<u>Female</u>
Less than 5 years	20.5%	15.5%	13.5%	4.0%
5 - 9 years	8.0%	12.0%	9.0%	4.0%
10+ years	4.5%	5.0%	4.5%	4.0%

F. Disability Rates

1. Line-of-duty disability rates for General Employees were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.000%	0.000%
25	0.001%	0.001%
30	0.001%	0.001%
35	0.001%	0.001%
40	0.001%	0.001%
45	0.004%	0.001%
50	0.006%	0.006%
55	0.006%	0.006%
60	0.010%	0.013%
65	0.010%	0.010%

2. Non-duty disability rates for General Employees were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.00%	0.00%
25	0.01%	0.01%
30	0.01%	0.01%
35	0.02%	0.01%
40	0.02%	0.02%
45	0.08%	0.06%
50	0.16%	0.10%
55	0.25%	0.16%
60	0.30%	0.26%
65	0.10%	0.08%

The disability assumptions are the disability assumptions used in the July 1, 2018 FRS Actuarial Valuation.

Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation

F. Disability Rates (continued)

3. Line-of-duty disability rates for Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.010%	0.000%
25	0.010%	0.004%
30	0.010%	0.004%
35	0.010%	0.004%
40	0.020%	0.040%
45	0.060%	0.040%
50	0.140%	0.050%
55	0.100%	0.080%
60	0.140%	0.150%
65	0.260%	0.150%

4. Non-duty disability rates for Forensic Professionals, Firefighters and Police Officers were used in accordance with the following illustrative example.

<u>Age</u>	<u>Male</u>	<u>Female</u>
20	0.02%	0.00%
25	0.02%	0.02%
30	0.03%	0.02%
35	0.03%	0.03%
40	0.03%	0.03%
45	0.03%	0.06%
50	0.08%	0.11%
55	0.05%	0.11%
60	0.05%	0.11%
65	0.05%	0.11%

The disability assumptions are the disability assumptions used in the July 1, 2018 FRS Actuarial Valuation.

Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation

G. Assumed Retirement Age

Retirement rates were used in accordance with the following tables.

1. For Forensic Professionals, Police Officers and Firefighters:

<u>Age</u>	<u>Years of Service</u>				
	<u>0 - 9</u>	<u>10 - 14</u>	<u>15 - 24</u>	<u>25 - 29</u>	<u>30 or more</u>
Under 55	0.0%	0.0%	0.0%	3.5%	40.0%
55	0.0%	5.0%	25.0%	70.0%	80.0%
56 - 64	0.0%	5.0%	7.5%	7.5%	10.0%
65 and above	100.0%	100.0%	100.0%	100.0%	100.0%

2. For General Employees:

<u>Age</u>	<u>Years of Service</u>		
	<u>0 - 14</u>	<u>15 - 24</u>	<u>25 or more</u>
Under 55	0%	0%	0%
55 - 64	4%	18%	12%
65 and above	100%	100%	100%

H. Marital Assumptions

1. 100% of active members are assumed to be married.
2. Females are assumed to be three (3) years younger than their male spouses.

I. Interest on Future Participant Contributions

3.75%, compounded annually.

J. Asset Valuation Method

The method used for determining the smoothed value of assets phases in the deviation between the expected and actual return on assets at the rate of 20% per year. The smoothed value of assets will be further adjusted to the extent necessary to fall within the corridor whose lower limit is 80% of the fair market value of Plan assets and whose upper limit is 120% of the fair market value of Plan assets - adjusted for equation of balance October 1, 2010.

Actuarial Assumptions and Actuarial Cost Methods  
Used in the Valuation

K. Cost Method

Normal Retirement, Termination, Disability, and Death Benefits: Entry Age Normal Cost Method

Under this method the normal cost for each active employee is the amount which is calculated to be a level percentage of pay that would be required annually from his entry age to his assumed retirement age to fund his estimated benefits, assuming the Plan had always been in effect. The normal cost for the Plan is the sum of such amounts for all employees. The actuarial accrued liability as of any valuation date for each active employee or inactive employee who is eligible to receive benefits under the Plan is the excess of the actuarial present value of estimated future benefits over the actuarial present value of current and future normal costs. The unfunded actuarial accrued liability as of any valuation date is the excess of the actuarial accrued liability over the assets of the Plan.

L. Changes Since Previous Valuation

None.

**Distribution by Attained Age Groups  
and Service Groups as of October 1, 2018**

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25 - 29	-	-	-	-	-	-	-	0
30 - 34	-	-	-	-	-	-	-	0
35 - 39	-	-	-	-	-	-	-	0
40 - 44	-	-	-	-	-	-	-	0
45 - 49	-	-	-	-	-	-	-	0
50 - 54	-	-	-	-	-	2	2	4
55 - 59	-	-	-	-	1	2	-	3
60 - 64	-	-	-	-	-	-	-	0
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>2</b>	<b>7</b>

	<u>10/01/2017</u>	<u>10/01/2018</u>
Average Attained Age	54.34 years	55.34 years
Average Hire Age	27.34 years	27.34 years
Average Pay	\$ 84,559	\$ 82,710
Percent Female	0.0%	0.0%

**Distribution by Attained Age Groups  
and Service Groups as of October 1, 2018**

**General Employees**

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25 - 29	-	-	-	-	-	-	-	0
30 - 34	-	2	-	-	-	-	-	2
35 - 39	-	1	2	1	-	-	-	4
40 - 44	-	-	3	3	2	-	-	8
45 - 49	-	-	1	2	1	1	-	5
50 - 54	-	-	1	1	1	-	-	3
55 - 59	-	2	2	3	-	1	1	9
60 - 64	-	-	1	1	2	1	-	5
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>0</b>	<b>5</b>	<b>10</b>	<b>11</b>	<b>6</b>	<b>3</b>	<b>1</b>	<b>36</b>
				<u>10/01/2017</u>		<u>10/01/2018</u>		
Average Attained Age				48.76 years		49.17 years		
Average Hire Age				32.63 years		32.53 years		
Average Pay				\$ 51,452		\$ 52,428		
Percent Female				31.9%		25.0%		

**Distribution by Attained Age Groups  
and Service Groups as of October 1, 2018**

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; Over</u>	
Under 25	1	-	-	-	-	-	-	1
25 - 29	3	-	-	-	-	-	-	3
30 - 34	2	2	2	-	-	-	-	6
35 - 39	-	-	3	-	-	-	-	3
40 - 44	1	1	2	3	1	-	-	8
45 - 49	-	-	1	-	2	3	-	6
50 - 54	1	-	-	4	1	-	2	8
55 - 59	-	2	-	1	1	-	-	4
60 - 64	-	-	1	-	-	-	-	1
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>8</b>	<b>5</b>	<b>9</b>	<b>8</b>	<b>5</b>	<b>3</b>	<b>2</b>	<b>40</b>
				<u>10/01/2017</u>		<u>10/01/2018</u>		
Average Attained Age				42.44 years		43.38 years		
Average Hire Age				29.34 years		29.68 years		
Average Pay				\$ 58,058		\$ 61,097		
Percent Female				16.7%		17.5%		



**Distribution by Attained Age Groups  
and Service Groups as of October 1, 2018**

**Forensic Professionals**

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; Over</u>	
Under 25	-	-	-	-	-	-	-	0
25 - 29	1	-	-	-	-	-	-	1
30- 3 4	1	-	-	-	-	-	-	1
35 - 39	-	-	-	-	-	-	-	0
40 - 44	-	-	-	-	1	-	-	1
45 - 49	-	-	-	-	-	-	-	0
50 - 54	-	-	-	-	-	-	-	0
55 - 59	-	-	-	-	-	-	-	0
60 - 64	-	-	-	-	-	-	-	0
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>3</b>
				<u>10/01/2017</u>		<u>10/01/2018</u>		
Average Attained Age				34.71 years		33.78 years		
Average Hire Age				23.71 years		25.45 years		
Average Pay				\$ 44,325		\$ 43,948		
Percent Female				100.0%		100.0%		

Distribution by Attained Age Groups  
and Service Groups as of October 1, 2018

Attained Age Group	-----COMPLETED YEARS OF SERVICE-----							Total
	<u>0 - 4</u>	<u>5 - 9</u>	<u>10 - 14</u>	<u>15 - 19</u>	<u>20 - 24</u>	<u>25 - 29</u>	<u>30 &amp; Over</u>	
Under 25	1	-	-	-	-	-	-	1
25 - 29	4	-	-	-	-	-	-	4
30 - 34	3	4	2	-	-	-	-	9
35 - 39	-	1	5	1	-	-	-	7
40 - 44	1	1	5	6	4	-	-	17
45 - 49	-	-	2	2	3	4	-	11
50 - 54	1	-	1	5	2	2	4	15
55 - 59	-	4	2	4	2	3	1	16
60 - 64	-	-	2	1	2	1	-	6
65 & Over	-	-	-	-	-	-	-	0
<b>TOTAL</b>	<b>10</b>	<b>10</b>	<b>19</b>	<b>19</b>	<b>13</b>	<b>10</b>	<b>5</b>	<b>86</b>
				<u>10/01/2017</u>		<u>10/01/2018</u>		
Average Attained Age				46.16 years		46.44 years		
Average Hire Age				30.66 years		30.53 years		
Average Pay				\$ 56,502		\$ 58,629		
Percent Female				24.5%		22.1%		

**Statistics for Participants Entitled to Deferred Benefits  
and Participants Receiving Benefits**

A. Entitled to Deferred Benefits

<b><u>Current Age Group</u></b>	<b><u>Count</u></b>	<b><u>Total Annual Benefit</u></b>	<b><u>Average Annual Benefit</u></b>
Less than 40	32	\$ 205,508	\$ 6,422
40 - 44	25	275,614	11,025
45 - 49	38	447,365	11,773
50 - 54	31	487,409	15,723
55 - 59	22	132,414	6,019
60 - 64	9	54,806	6,090
65 - 69	3	14,571	4,857
70 - 74	3	3,231	1,077
75 & Over	1	2,234	2,234
<b>TOTAL</b>	<b>164</b>	<b>\$ 1,623,152</b>	<b>\$ 9,897</b>

B. Receiving Benefits

<b><u>Current Age Group</u></b>	<b><u>Count</u></b>	<b><u>Total Annual Benefit</u></b>	<b><u>Average Annual Benefit</u></b>
Less than 50	3	\$ 24,124	\$ 8,041
50 - 54	0	-	-
55 - 59	22	761,661	34,621
60 - 64	28	1,129,059	40,324
65 - 69	27	589,471	21,832
70 - 74	16	247,930	15,496
75 - 79	14	301,419	21,530
80 - 84	3	13,331	4,444
85 & Over	1	7,404	7,404
<b>TOTAL</b>	<b>114</b>	<b>\$ 3,074,399</b>	<b>\$ 26,968</b>

Reconciliation of Employee DataA. Active Participants

1. Active participants previous year	98
2. Retired during year	(6)
3. Died during year	0
4. Disabled during year	0
5. Terminated non-vested during year	(3)
6. Terminated vested during year	(8)
7. New active participants	5
8. Out on military leave	0
9. Rehired during year	0
10. Transferred to DC Plan	0
11. Active participants current year	<u>86</u>

B. Participants Receiving Benefits

1. Participants receiving benefits previous year	103
2. New retired participants	6
3. New DRO recipient	0
4. New terminated vested receiving benefits	6
5. New beneficiaries receiving benefits	1
6. Died or ceased payment during year	<u>(2)</u>
7. Retired or terminated vested receiving benefits current year	114

C. Terminated Vested Participants Entitled to Future Benefits

1. Terminated vested entitled previous year	162
2. Died during year	0
3. Commenced receiving benefits during year	(6)
4. New terminated vested	8
5. Terminated vested refunded employee contributions	0
6. Rehired	<u>0</u>
7. Terminated vested entitled current year	164

Projected Retirement Benefits

<u>Fiscal Year Ending</u>		<u>Projected Total</u>
		<u>Annual Payout</u>
2019	\$	3,497,830
2020	\$	3,832,346
2021	\$	4,004,555
2022	\$	4,288,371
2023	\$	4,582,980
2024	\$	4,697,248
2025	\$	4,883,415
2026	\$	5,077,102
2027	\$	5,265,118
2028	\$	5,434,500

The above projected payout of Plan benefits during the next ten years is based on assumptions involving all decrements. Actual payouts may differ from the above estimates depending upon the death, salary and retirement experience of the Plan. However, since the projected payment is recomputed each valuation date, there is an automatic correction to the extent that actual experience varies from expected experience.

Summary of Transaction Information<sup>1</sup>

<u>Year Ending</u>	<u>Benefits Paid</u> <sup>2</sup>	<u>Administrative Expenses</u>	<u>Employee Contributions</u>	<u>City / County Contributions</u> <sup>3</sup>	<u>Smoothed Value</u>
09/30/2018	\$ 2,935,206	\$ 64,770	\$ 460,745	\$ 2,635,968	\$ 50,899,575
09/30/2017	2,679,408	55,697	342,209	2,605,753	46,396,570
09/30/2016	2,450,972	28,208	479,257	2,586,936	42,001,072
09/30/2015	2,202,769	11,937	358,106	2,392,948	37,570,287
09/30/2014	1,974,208	159,424	369,500	2,527,508	33,841,977
09/30/2013	1,732,845	177,541	396,374	2,258,798	29,908,683
09/30/2012	1,606,752	309,874	418,635	1,824,431	26,852,721
09/30/2011	1,165,350	196,423	287,090	2,616,924	25,932,292
09/30/2010	886,521	178,530	284,866	2,311,058	23,887,446
09/30/2009	617,274	116,982	306,420	1,781,197	20,788,655
09/30/2008	384,482	70,423	365,288	1,663,951	18,746,975
09/30/2007	233,953	123,197	N/A	1,843,147	15,526,572
09/30/2006	171,697	84,340	N/A	1,505,020	11,951,383
09/30/2005	N/A	N/A	N/A	1,260,627	9,716,089
09/30/2004	140,509	62,225	N/A	1,013,379	8,134,588
09/30/2003	138,353	47,477	N/A	903,748	7,279,048

<sup>1</sup> Information prior to September 30, 2008 as reported by prior actuary.

<sup>2</sup> Includes refunds.

<sup>3</sup> Values prior to September 30, 2008 include Employee Contributions.

Recent Compensation, Termination and Investment Return Experience

Valuation Date	General & Forensic		Police & Fire		General & Forensic		Police & Fire		Investment Return		
	Compensation				Termination		Net Market Value Yield	Net Smoothed Value Yield	Assumed Rate of Return		
	Actual	% Increase / (Decrease)		Assumed	Ratio of Actual to Expected						
10/01/2018	4.7%	3.1%	5.9%	3.2%	2.6	2.0	10.89%	9.49%	7.75%		
10/01/2017	3.9%	4.0%	4.0%	4.6%	1.7	6.6	13.9%	9.9%	8.0%		
10/01/2016	2.4%	4.2%	5.6%	4.8%	1.8	5.5	10.8%	10.2%	8.0%		
10/01/2015	3.2%	4.4%	3.8%	4.8%	1.9	1.4	0.0%	9.4%	8.0%		
10/01/2014	2.5%	4.7%	1.8%	4.9%	1.2	2.3	11.9%	10.5%	8.0%		
10/01/2013	0.7%	4.7%	0.7%	4.9%	1.4	2.4	16.0%	8.5%	8.0%		
10/01/2012	(2.4%)	4.8%	(6.5%)	5.0%	2.4	2.4	19.5%	2.3%	8.0%		
10/01/2011	4.9%	4.8%	3.5%	5.2%	1.9	2.4	(1.0%)	2.0%	8.0%		
10/01/2010	0.9%	5.0%	2.8%	5.3%	1.2	1.7	12.0%	7.3%	8.0%		
10/01/2009	6.4%	5.1%	11.6%	5.3%	1.1	1.1	2.1%	3.5%	8.0%		
Last 3 Years	3.7%	3.8%	5.2%	4.2%	2.0	4.2	11.9%	9.9%	7.9%		
Last 5 Years	3.3%	4.1%	4.2%	4.5%	1.8	3.0	9.4%	9.9%	7.9%		
Last 10 Years	2.7%	4.5%	3.2%	4.8%	1.7	2.4	9.4%	7.3%	8.0%		

Actuarial Valuation as of October 1, 2018State Required Exhibit

	<u>10/01/2017</u>	<u>10/01/2018</u>
<b>A. <u>Participant Data</u></b>		
1. Active participants	98	86
2. Retired participants and beneficiaries receiving benefits	103	114
3. Disabled participants receiving benefits	0	0
4. Terminated vested participants	162	164
5. Annual payroll of active participants	\$ 5,537,207	\$ 5,042,067
6. Annual benefits payable to those currently receiving benefits	\$ 2,763,149	\$ 3,074,399
<b>B. <u>Value of Assets</u></b>		
1. Smoothed Value	\$ 46,396,570	\$ 50,899,575
2. Market Value	\$ 48,091,584	\$ 53,431,514
<b>C. <u>Liabilities</u></b>		
1. Actuarial present value of future expected benefit payments for active members		
a. Retirement benefits	\$ 21,049,488	\$ 20,093,335
b. Vesting benefits	1,736,234	1,654,020
c. Death benefits	576,007	538,603
d. Disability benefits	225,219	205,816
e. Total	<u>\$ 23,586,948</u>	<u>\$ 22,491,774</u>
2. Actuarial present value of future expected benefit payments for terminated vested members	\$ 8,543,090	\$ 9,470,263
3. Actuarial present value of future expected benefit payments for members currently receiving benefits		
a. Service retired	\$ 27,342,345	\$ 30,477,660
b. Disability retired	0	0
c. Beneficiaries	1,934,460	1,995,122
d. Miscellaneous (Refunds in Process)	96,624	100,929
e. Total	<u>\$ 29,373,429</u>	<u>\$ 32,573,711</u>



Actuarial Valuation as of October 1, 2018

State Required Exhibit

	<u>10/01/2017</u>	<u>10/01/2018</u>
4. Total actuarial present value of future expected benefit payments	\$ 61,503,467	\$ 64,535,748
5. Actuarial accrued liabilities	\$ 58,419,910	\$ 61,721,486
6. Unfunded actuarial accrued liabilities	\$ 12,023,340	\$ 10,821,911
<u>D. Statement of Accumulated Plan Benefits</u>		
1. Actuarial present value of accumulated vested benefits		
a. Participants currently receiving benefits	\$ 29,276,805	\$ 32,472,782
b. Other participants	24,751,790	25,033,747
c. Total	<u>\$ 54,028,595</u>	<u>\$ 57,506,529</u>
2. Actuarial present value of accumulated non-vested plan benefits	<u>505,700</u>	<u>423,711</u>
3. Total actuarial present value of accumulated plan benefits	\$ 54,534,295	\$ 57,930,240
<u>E. Pension Cost</u>		
1. Total normal cost	\$ 558,364	\$ 537,506
2. Payment required to amortize unfunded liability	1,126,303	1,032,209
3. Interest adjustment	76,691	71,513
4. Total required contribution	<u>\$ 1,761,358</u>	<u>\$ 1,641,228</u>
5. Item 4 as a percentage of base payroll	31.8%	32.6%
6. Estimated employee contributions	\$ 276,860	\$ 252,103
7. Item 6 as a percentage of base payroll	5.0%	5.0%
8. Net amount payable by County and City	\$ 1,484,498	\$ 1,389,125
9. Item 8 as a percentage of base payroll	26.8%	27.6%

Actuarial Valuation as of October 1, 2018

State Required Exhibit

	<u>10/01/2017</u>	<u>10/01/2018</u>
<b>F. <u>Past Contributions</u></b>		
1. Total contribution required (previous valuation)	\$ 2,074,293	\$ 1,761,358
2. Actual contributions made:		
a. Members	\$ 460,745	N/A
b. City and County	2,635,968	N/A
c. Total	\$ 3,096,713	N/A
<b>G. <u>Disclosure of Following Items:</u></b>		
1. Actuarial present value of future salaries - attained age	\$ 36,166,792	\$ 32,407,751
2. Actuarial present value of future employee contributions - attained age	\$ 1,808,341	\$ 1,620,388
3. Actuarial present value of future contributions from other sources	N/A	N/A
4. Amount of active members' accumulated contributions	\$ 2,694,676	\$ 2,548,169
5. Actuarial present value of future salaries and future benefits at entry age	N/A	N/A
6. Actuarial present value of future employee contributions at entry age	N/A	N/A

State Required Exhibit

Amortization balances are written down in proportion to amortization payments.

	<u>Unfunded Actuarial Accrued Liabilities</u>	<u>Current Unfunded Liabilities</u>	<u>Amortization Payment</u>	<u>Remaining Funding Period</u>
10/01/2000	Initial	\$ 1,141,227	\$ 138,728	12 years
10/01/2002	Assumption Change	(15,818)	(1,755)	14 years
10/01/2003	Plan Amendment	103,166	11,016	15 years
10/01/2004	Plan Amendment	160,624	16,573	16 years
10/01/2005	Plan Amendment	340,656	34,084	17 years
10/01/2006	Plan Amendment	399,959	38,923	18 years
10/01/2007	Plan Amendment	416,791	39,556	19 years
10/01/2008	Plan Amendment and Assumption Change	1,901,440	176,406	20 years
10/01/2008	Method Change	4,249,998	394,292	20 years
10/01/2009	Actuarial Loss / (Gain)	1,843,539	167,541	21 years
10/01/2010	Actuarial Loss / (Gain)	(345,231)	(30,791)	22 years
10/01/2010	Plan Amendment	(2,001,559)	(178,518)	22 years
10/01/2011	Actuarial Loss / (Gain)	2,214,639	194,170	23 years
10/01/2012	Actuarial Loss / (Gain)	755,556	65,217	24 years
10/01/2013	Actuarial Loss / (Gain)	(594,366)	(50,576)	25 years
10/01/2014	Actuarial Loss / (Gain)	(638,409)	(53,617)	26 years
10/01/2014	Assumption Change	5,995	503	26 years
10/01/2015	Actuarial Loss / (Gain)	(258,363)	(21,440)	27 years
10/01/2016	Actuarial Loss / (Gain)	(1,248,124)	(102,443)	28 years
10/01/2016	Assumption Change	432,621	35,508	28 years
10/01/2017	Actuarial Loss / (Gain)	(631,222)	(51,288)	29 years
10/01/2017	Assumption Change	2,287,239	185,844	29 years
10/01/2018	Actuarial Loss / (Gain)	301,553	24,276	30 years
	TOTAL	\$ 10,821,911	\$ 1,032,209	

This Actuarial Valuation and/or cost determination was prepared and completed by us or under our direct supervision, and we acknowledge responsibility for the results. To the best of our knowledge, the results are complete and accurate, and in our 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 other wise provided for in the valuation. All known events or trends which may require material increase in Plan costs or required contribution rates have been taken into account in the valuation.

*L. F. Wilson*

Lawrence F. Wilson, A.S.A., E.A.  
Enrollment Number: 17-02802

*Michelle Jones*

Shelly L. Jones, A.S.A., E.A.  
Enrollment Number: 17-08646

*Jennifer Borregard*

Jennifer M. Borregard, E.A.  
Enrollment Number: 17-07624

Dated: June 28, 2019

## Glossary

**Actuarial Accrued Liability.** The difference between the Actuarial Present Value of Future Benefits, and the Actuarial Present Value of Future Normal Costs.

**Actuarial Assumptions.** Assumptions about future plan experience that affect costs or liabilities, such as: mortality, withdrawal, disablement, and retirement; future increases in salary; future rates of investment earnings; future investment and administrative expenses; characteristics of members not specified in the data, such as marital status; characteristics of future members; future elections made by members and other items.

**Actuarial Cost Method.** Actuarial Cost Method A procedure for allocating the Actuarial Present Value of Future Benefits between the Actuarial Present Value of Future Normal Costs and the Actuarial Accrued Liability.

**Actuarial Equivalent.** Of equal Actuarial Present Value, determined as of a given date and based on a given set of Actuarial Assumptions.

**Actuarial Present Value of Future Benefits.** The Actuarial Present Value of amounts which are expected to be paid at various future times to active members, retired members, beneficiaries receiving benefits and inactive, non-retired members entitled to either a refund or a future retirement benefit. Expressed another way, it is the value that would have to be invested on the valuation date so that the amount invested plus investment earnings would provide sufficient assets to pay all projected benefits and expenses when due.

**Actuarial Valuation.** The determination, as of a valuation date, of the Normal Cost, Actuarial Accrued Liability, Actuarial Value of Assets, and related Actuarial Present Values for a plan. An Actuarial Valuation for a governmental retirement system typically also includes calculations of items needed for compliance with GASB No. 67.

**Actuarial Value of Assets.** The value of the assets as of a given date, used by the actuary for valuation purposes. This may be the market or fair value of plan assets or a smoothed value in order to reduce the year-to-year volatility of calculated results, such as the funded ratio and the actuarially required contribution.

**Amortization Method.** A method for determining the Amortization Payment. The most common methods used are level dollar and level percentage of payroll. Under the Level Dollar method, the Amortization Payment is one of a stream of payments, all equal, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the Amortization Payment is one of a stream of increasing payments, whose Actuarial Present Value is equal to the UAAL. Under the Level Percentage of Pay method, the stream of payments increases at the rate at which total covered payroll of all active members is assumed to increase.

## Glossary

**Amortization Payment.** That portion of the plan contribution which is designed to pay interest on and to amortize the Unfunded Actuarial Accrued Liability.

**Amortization Period.** The period used in calculating the Amortization Payment.

**Annual Required Contribution.** The employer's periodic required contributions, expressed as a dollar amount or a percentage of covered plan compensation. The annual required contribution consists of the Employer Normal Cost and Amortization Payment plus interest adjustment.

**Closed Amortization Period.** A specific number of years that is reduced by one each year, and declines to zero with the passage of time. For example if the amortization period is initially set at 30 years, it is 29 years at the end of one year, 28 years at the end of two years, etc.

**Employer Normal Cost.** The portion of the Normal Cost to be paid by the employer. This is equal to the Normal Cost less expected member contributions.

**Equivalent Single Amortization Period.** For plans that do not establish separate amortization bases (separate components of the UAAL), this is the same as the Amortization Period. For plans that do establish separate amortization bases, this is the period over which the UAAL would be amortized if all amortization bases were combined upon the current UAAL payment.

**Experience Gain/Loss.** A measure of the difference between actual experience and that expected based upon a set of Actuarial Assumptions, during the period between two actuarial valuations. To the extent that actual experience differs from that assumed, Unfunded Actuarial Accrued Liabilities emerge which may be larger or smaller than projected. Gains are due to favorable experience, e.g., the assets earn more than projected, salaries do not increase as fast as assumed, members retire later than assumed, etc. Favorable experience means actual results produce actuarial liabilities not as large as projected by the actuarial assumptions. Losses are the result of unfavorable experience, i.e., actual results that produce Unfunded Actuarial Accrued Liabilities which are larger than projected.

**Funded Ratio.** The ratio of the Actuarial Value of Assets to the Actuarial Accrued Liability.

**GASB.** Governmental Accounting Standards Board.

### Glossary

**GASB No. 67 and GASB No. 68.** These are the governmental accounting standards that set the accounting rules for public retirement plans and the employers that sponsor or contribute to them. Statement No. 67 sets the accounting rules for the plans themselves, while Statement No. 68 sets the accounting rules for the employers that sponsor or contribute to public retirement plans.

**Normal Cost.** The annual cost assigned, under the Actuarial Cost Method, to the current plan year.

**Open Amortization Period.** An open amortization period is one which is used to determine the Amortization Payment but which does not change over time. In other words, if the initial period is set as 30 years, the same 30-year period is used in determining the Amortization Period each year. In theory, if an Open Amortization Period is used to amortize the Unfunded Actuarial Accrued Liability, the UAAL will never completely disappear, but will become smaller each year, either as a dollar amount or in relation to covered payroll.

**Unfunded Actuarial Accrued Liability.** The difference between the Actuarial Accrued Liability and Actuarial Value of Assets.

**Valuation Date.** The date as of which the Actuarial Present Value of Future Benefits are determined. The benefits expected to be paid in the future are discounted to this date.