

# SEWERAGE & WATER BOARD OF NEW ORLEANS

**PENSION COMMITTEE MEETING  
WEDNESDAY, DECEMBER 12, 2018  
Immediately following Finance and Administration**

**6 2 5 S T . J O S E P H S T R E E T  
2 <sup>N</sup> <sup>D</sup> F L O O R B O A R D R O O M**

Joseph Peychaud, Chair • Lewis Sterling • Eileen Gleason • Ralph Johnson • Lynes Sloss  
Chante Powell • Christopher Bergeron • Latressia Matthews • Marvin Russell

---

## **FINAL AGENDA**

---

### **ROLL CALL**

#### **1. REPORT OF CHIEF FINANCIAL OFFICER**

#### **2. ACTION ITEMS**

- a. Resolution (R-200-2018) 2019 Pension Cost of Living Payment
- b. Resolution (R-199-2018) Investment Policy
- c. Resolution (R-196-2018) 2019 Segal Company Actuarial Services

#### **3. PRESENTATION ITEMS**

- d. Raymond James Investment Policy Presentation
  - September 2018 Quarterly Report

#### **4. INFORMATION ITEMS**

- e. Callan Asset Allocation

#### **5. EXECUTIVE SESSION\***

#### **6. NEW BUSINESS**

#### **7. PUBLIC COMMENT**

#### **8. ADJOURNMENT**

\*Note: The Committee reserves the right to enter into Executive Session pursuant to Louisiana statute (LA. R.S. 42:16)

**JANUARY 1, 2019 COST OF LIVING ADJUSTMENT FOR BOARD PENSIONERS**

**WHEREAS**, it is the policy of the Sewerage and Water Board of New Orleans to provide a Cost of Living Adjustment to pensioners based on the increase in the Consumer Price Index, with a maximum increase of no more than 2% as provided in Article VI, Section 6.1(d) (1) of the Rules and Regulations of the Employees' Retirement System of the Sewerage and Water Board of New Orleans; and

**WHEREAS**, the change in the Consumer Price Index for All Urban Wage Earners and Clerical Workers from August 2017 to August 2018 is 2.877%; and

**WHEREAS**, such funds are to be made available by the Pension Fund of the Sewerage and Water Board of New Orleans to provide for a Cost of Living Adjustment to said pensioners.

**NOW, THEREFORE, BE IT RESOLVED** that the Pension Fund of the Sewerage and Water Board of New Orleans implement a 2% cost of living increase on the first ten-thousand dollars (\$10,000) of said pensioners' original Retirement Allowance (that is, the annual pension benefit paid at the time of retirement), effective January 1, 2019, for pensioners who attained age 65 on or before December 31, 2018. The cost of living increase for a partial year of retirement after age 65 shall be pro-rated based on the actual number of days retired and over age 65 during the twelve-month period ending December 31, 2018 (that is, the number of days elapsed between attainment of age 65 and December 31, 2018).

---

---

I, Ghassan Korban, Executive Director,  
Sewerage and Water Board of New Orleans,  
do hereby certify that the above and foregoing  
is a true and correct copy of a resolution adopted  
at the Regular Meeting of the said Board,  
duly called and held, according to law, on  
December 19, 2018.

---

**Ghassan Korban**  
**EXECUTIVE DIRECTOR**  
**SEWERAGE AND WATER BOARD OF NEW ORLEANS**

**REQUEST FOR APPROVAL TO REVISE THE SEWERAGE & WATER BOARD OF  
NEW ORLEANS EMPLOYEES' RETIREMENT PLAN INVESTMENT POLICY  
STATEMENT**

**WHEREAS**, the Board of Trustees is responsible for overseeing the Retirement Systems' investments and has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully weighed against the long term potential for appreciation of assets; and

**WHEREAS**, the purpose of the Sewerage & Water Board of New Orleans Employees' Retirement Plan Investment Policy Statement is to guide the Board of Trustees in effectively supervising, monitoring and evaluating the investment of the SWBNO Employees' Retirement System assets; and

**WHEREAS**, the primary investment objective shall be to achieve full funding of the actuarial accrued liability so that such assets are preserved for the providing of benefits to participants and their beneficiaries and such long-term return without undue risk maximize the amounts available to provide such benefits; and

**WHEREAS**, the Board of Trustees approved a revised asset allocation plan (R-153-2018) on October 17, 2018 which is not reflected within the current Investment Policy Statement.

**NOW, THEREFORE, BE IT FURTHER RESOLVED** that the Sewerage & Water Board of New Orleans Employees' Retirement Plan Investment Policy Statement is approved as revised to incorporate the new asset allocation plan, and;

**NOW, THEREFORE, BE IT FURTHER RESOLVED** by Board of Trustees of the Employees' Retirement System of the Sewerage and Water Board of New Orleans that the Executive Director be empowered to rebalance the plan's strategic allocation on a relative basis, depending upon market conditions, in accordance with the revised policy.

---

I, Ghassan Korban, Executive Director,  
Sewerage and Water Board of New Orleans,  
do hereby certify that the above and foregoing  
is a true and correct copy of a resolution adopted  
at the Regular Meeting of the said Board,  
duly called and held, according to law, on  
December 19, 2018.

---

**Ghassan Korban**  
**EXECUTIVE DIRECTOR**  
**SEWERAGE AND WATER BOARD OF NEW ORLEANS**

**REQUEST FOR EMERGENCY HIRING OF SEGAL COMPANY FOR ACTUARIAL SERVICES**

**WHEREAS**, on April 27, 2004, the Sewerage & Water Board of New Orleans previously entered a contract with Conefry & Company, LLC to render actuarial services; and

**WHEREAS**, Conefry & Company, LLC no longer has an active contract with the Sewerage & Water Board of New Orleans; and

**WHEREAS**, the Sewerage & Water Board of New Orleans must advertise via a Request for Proposal (RFP), pursuant to procurement regulations, for a replacement to render actuarial services; and

**WHEREAS**, due to the expected time requirements to implement the aforementioned procurement process, it is necessary to hire an actuary on an emergency basis in order to avoid any delays in providing time sensitive actuarial information for both retirees and employees of the Sewerage & Water Board of New Orleans' procurement procedure in hiring an actuary on a long term basis; and

**WHEREAS**, Segal Company offers to perform actuarial services for the Sewerage & Water Board of New Orleans; and

**WHEREAS**, this emergency request of hiring Segal Company for actuarial services will not exceed \$100,000.00.

**NOW, THEREFORE, BE IT FURTHER RESOLVED**, Sewerage and Water Board be authorized to enter into an agreement with Segal Company to perform actuarial services on an interim, emergency basis pending the implementation of the Sewerage & Water Board of New Orleans' procurement process in hiring an actuary on a long term basis.

---

I, Ghassan Korban, Executive Director, Sewerage and Water Board of New Orleans, do hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at the Regular Meeting of the said Board duly called and held, according to law, on December 19, 2018.

---

**Ghassan Korban**  
**Executive Director**  
**SEWERAGE AND WATER BOARD OF NEW ORLEANS**





**SEWERAGE & WATER BOARD of NEW ORLEANS**  
**EMPLOYEES' RETIREMENT SYSTEM**

**Pension Committee Meeting**  
**December 12, 2018**



# Consultant's Presentation 12/12/2018

- Q3-2018 Plan Comparative Performance Analysis Report
- Review Callan Alternative Mix 2
- FFC/RJ Alternative Mix 2 - Rebalancing Strategy
  - Estimated time for implementation
- Revised SWBNOERS Investment Policy Statement
  - Required and Recommended Changes
  - Action Item – See Resolution
  - Ratification - December 19,2018 (estimated)



# Comparative Performance Analysis Report

Sewerage and Water Board of New Orleans ERS

Presented by:

Octave J. Francis III, CIMA®  
Managing Director

For Institutional Client Use Only

**RAYMOND JAMES**

Not approved for rollover solicitations.

© 2018 Raymond James & Associates, Inc., member New York Stock Exchange/SIPC. Raymond James® is a registered trademark of Raymond James Financial, Inc.

TRANSACTION RECORDS AND PORTFOLIO VALUATIONS HAVE BEEN OBTAINED FROM THIRD-PARTY SOURCES. THOUGH EVERY EFFORT HAS BEEN MADE TO ENSURE CORRECTNESS, RAYMOND JAMES CANNOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE REPORTS.

PLEASE NOTE:

AVAILABLE TO YOU UPON WRITTEN REQUEST, AT NO COST, IS AN INVESTMENT ADVISORY DISCLOSURE DOCUMENT (RAYMOND JAMES' FORM ADV, PART 2A).  
IF YOU WOULD LIKE A COPY, PLEASE CONTACT YOUR RAYMOND JAMES REPRESENTATIVE.



# GLOBAL MARKET OBSERVATIONS

Quarterly Economic & Market Commentary  
Q3 2018

## IN THIS ISSUE:

Q3 and T12 Asset Class Returns	3
Caught in the Crossfire	4
Bucking Brussels	5
A Vexing Vassalage	6
Fade to Flat	7
Economic and Sector Snapshots	8

**RAYMOND JAMES**

## DOMESTIC MARKETS



While the tailwinds of U.S. economic and earnings growth fostered by tax cuts were largely anticipated to propel markets onward and upward, the crosswinds created by trade tensions and rising rates have prevailed as of late. The broad U.S. equity market has struggled to make a meaningful march higher, and volatility has spiked substantially.

*Caught in the Crossfire*  
Page 4

## DEVELOPED MARKETS



From its headquarters in Brussels, the European Union (EU) finds itself faced with a fiscal fiasco in Italy and a yet unresolved breakup with Britain following its ‘Brexit’ vote in 2016. A budget dispute pits Italian populists and Brussels against one another, while Prime Minister Theresa May continues to negotiate the terms of Britain’s exit from the EU.

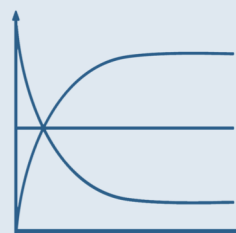
*Bucking Brussels*  
Page 5

## EMERGING MARKETS



To a casual observer of their economies, the major emerging markets would appear to be in fine fettle. Yet, their equity performance has diverged substantially. So long as the influence of U.S. yields and the dominion of the dollar remain vast, emerging markets will remain financial vassals to Fed policy in spite of their own inherent strengths or weaknesses.

*A Vexing Vassalage*  
Page 6



## CREDIT MARKETS

Having met both its inflation and employment targets, the Fed has been keen to raise interest rates. Yet, long-term rates have not kept pace. The overall effect has been a ‘flattening’ of the yield curve. While increases in the federal funds rate have boosted the ‘short’ end of the curve, the ‘long’ end of the curve has remained obstinately flat.

*Fade to Flat*  
Page 7



# ASSET CLASS RETURNS OVER Q3 2018 (%)

GLOBAL MARKET OBSERVATIONS – Q3 2018

Returns for Key Indices – Trailing 12 Months and the Third Quarter of 2018 – Ranked in Order of Performance (Best to Worst)

Broad Asset Class Total Returns		Domestic Equity Total Returns		S&P 500 Equity Sector Total Returns		International Equity Total Returns		Fixed Income Total Returns	
T12	Q3	T12	Q3	T12	Q3	T12	Q3	T12	Q3
U.S. Equity 17.58	U.S. Equity 7.12	Large Growth 26.30	Large Growth 9.17	Cons Disc 32.54	Health Care 14.53	U.S. Large Cap 17.91	U.S. Large Cap 7.71	High Yield 3.05	High Yield 2.40
Blended Portfolio 6.54	Blended Portfolio 2.94	Mid Growth 21.10	Mid Growth 7.57	Info Tech 31.49	Industrials 10.00	Japan 10.20	EM Eastern Europe 6.99	T-Bill 1.57	Emerging Mkt Bond 1.48
Commodities 2.59	Non-U.S. Equity 0.71	Small Growth 21.06	Large Blend 7.42	Health Care 18.35	Comm. Serv. 9.94	EM Eastern Europe 7.75	EM Latin America 4.77	U.S. Tips 0.41	Credit 0.89
Global Real Estate 2.07	Cash & Cash Alternatives 0.50	Large Blend 17.76	Large Value 5.70	S&P 500 17.91	Info Tech 8.80	Pacific ex-Japan 4.27	Japan 3.68	Municipal 0.35	T-Bill 0.50
Non-U.S. Equity 1.76	U.S. Fixed Income 0.02	Small Blend 15.24	Small Growth 5.52	Energy 13.94	Cons Disc 8.18	United Kingdom 2.87	Europe ex-UK 1.77	Short-Term Bond 0.20	Short-Term Bond 0.33
Cash & Cash Alternatives 1.57	Global Real Estate -0.92	Mid Blend 13.98	Mid Blend 5.00	Industrials 11.18	S&P 500 7.71	Developed Markets 2.74	Developed Markets 1.35	Agency -0.56	Aggregate Bond 0.02
U.S. Fixed Income -1.22	Commodities -2.02	Large Value 9.45	Small Blend 3.58	Financials 8.73	Cons Staples 5.70	EM Asia 1.00	Pacific ex-Japan -0.55	MBS -0.92	Agency -0.01
		Small Value 9.33	Mid Value 3.30	Real Estate 4.95	Financials 4.36	Emerging Markets -0.81	Emerging Markets -1.09	Credit -1.10	MBS -0.12
		Mid Value 8.81	Small Value 1.60	Comm. Serv. 4.39	Utilities 2.39	Europe ex-UK -1.49	United Kingdom -1.66	Aggregate Bond -1.22	Municipal -0.15
				Materials 4.01	Real Estate 0.86	EM Latin America -9.09	EM Asia -1.83	Global Bond ex-U.S. -1.45	Long-Term Bond -0.47
				Utilities 2.93	Energy 0.61			Treasury -1.62	Treasury -0.59
				Cons Staples 2.93	Materials 0.36			Long-Term Bond -2.73	U.S. Tips -0.82
								Emerging Mkt Bond -5.01	Global Bond ex-U.S. -1.74

BEST  
↑  
↓  
WORST

Assume all asset classes are U.S. unless otherwise noted | Data as of 09/30/2018 | Ranked in order of performances (best to worst)

All investing involves risk and you may incur a profit or a loss. Past performance is not a guarantee of future results. This material is for informational purposes only and should not be used or construed as a recommendation regarding any security. Indices are unmanaged and cannot accommodate direct investments. An individual who purchases an investment product which attempts to mimic the performance of an index will incur expenses such as management fees and transaction costs which reduce returns. Returns are cumulative total return for stated period, including reinvestment of dividends. Dividends are not guaranteed and a company's future ability to pay dividends may be limited. Source: Morningstar Direct

## CAUGHT IN THE CROSSFIRE

Following a substantial selloff after the close of the quarter, U.S. stocks have continued their sideways slide. As noted in the previous edition of this quarterly commentary, the U.S. equity market continues to remain bridled by protectionist trade policy. An increasingly vitriolic trade war with China rages on. At the time of this writing, the Trump administration has applied tariffs of 10% to over \$250 billion worth of Chinese imports. In order to bolster its bargaining leverage, the Trump administration has also threatened to raise the existing tariff rate to 25% by January 2019 if the current trade dispute is not resolved to its satisfaction. A recalcitrant China retaliated with tariffs of its own on \$60 billion worth of American imports (see chart). Recent rhetoric has further inflamed the situation. A resolution between China and the U.S. does not appear to be forthcoming in the near future.

While many breathed a sigh of relief when the provisional U.S.-Mexico-Canada Agreement (USMCA) was finally brokered on 30 September to replace the North American Free Trade Agreement (NAFTA), simmering tensions with America's largest trading partner have done little to assuage markets. Many companies have voiced concerns that their supply chains have been caught in the crossfire of the trade war, disrupting plans for future investment. While the Trump administration is quick to encourage companies to bring production stateside, onshoring entire supply chains is often ineffective and inefficient. Additionally, the global effects of rising U.S. interest rates has further exacerbated existing uncertainty.

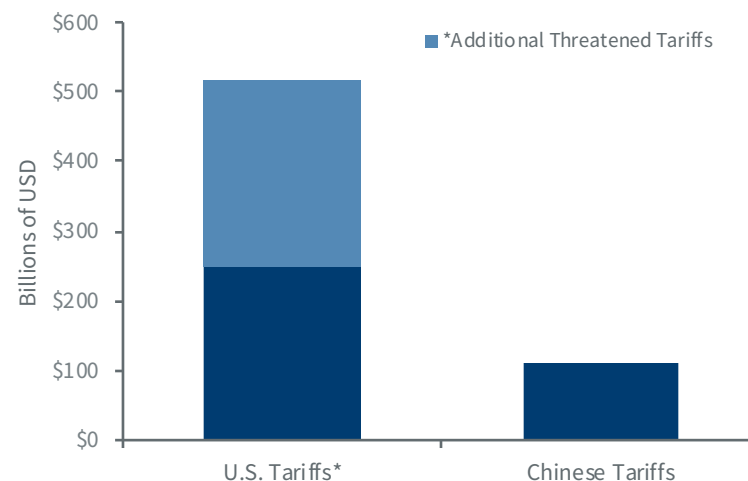
This stands in stark contrast to the relative sanguinity that characterized global growth forecasts at the beginning of the year. The International Monetary Fund (IMF) formerly had spoken of a period of “synchronized global growth” in their generally rosy economic outlook. That outlook has since been revised downward, citing rising “downside risks” to global growth due to “trade measures,” amongst other factors. While the tailwinds of U.S. economic and earnings growth fostered by tax cuts were largely anticipated to propel U.S. markets onward and upward, the crosswinds created by trade tensions and rising rates have prevailed as of late. As measured by the S&P 500 Index, the broad U.S. equity market has struggled to make a meaningful march higher, whereas volatility has spiked substantially (see chart). So long as these uncertainties remain unresolved, they are likely to whip up crosswinds and induce continued turbulence in the markets.

## CONTINUED CROSSWINDS AND CROSSCURRENTS



Source: Standard & Poor's, Bloomberg LP, FactSet as of 10/15/2018

## TARIFF TURBULENCE



Source: U.S. Trade Representative, White House as of 10/15/2018

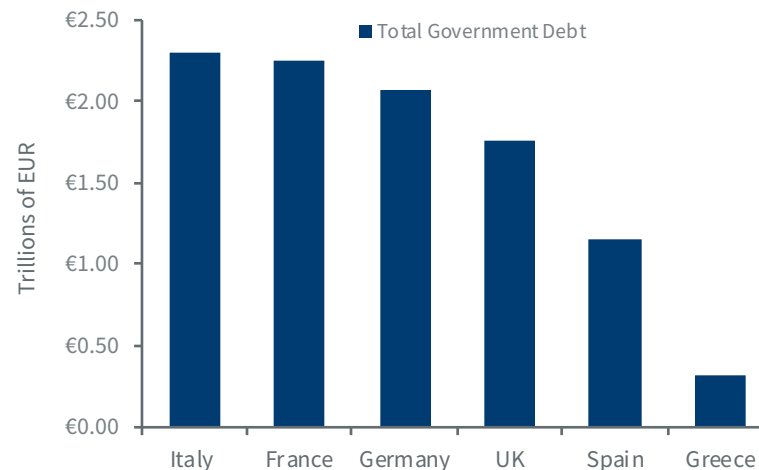


## BUCKING BRUSSELS

From its headquarters in Brussels, the European Union (EU) finds itself faced with a fiscal fiasco in Italy and a yet unresolved breakup with Britain. The fireworks initially sparked by Italy's political pandemonium (see *Improbable Partners*, Q2 2018 Global Market Observations) have yet to fizzle out. As had been feared, a patchwork of proposals (largely derived from previous campaign promises) put forth by Italy's populist government prevailed in its initial budget plan. Much to Brussels' chagrin, the proposal by the populist coalition is projected to swell Italy's budget deficit to 2.4% of its GDP. While such a deficit would seem to be within reason (by comparison, the deficit of the U.S. stood at 3.4% of GDP in 2017), it threatens to further swell Italy's burgeoning government debt, which currently stands at €2.3 trillion (see chart). In nominal terms, it is the highest amongst all European Union countries. Relative to its GDP, Italy's debt is second only to Greece. Having been bullied by both Brussels and the bond markets (which balked at the prospect of Italy increasing its debt burden), the populist coalition hastened to caveat their proposed budget with a promise to trim back the deficit incrementally over the next few years. Even so, the dispute pits the populist coalition and Brussels against one another, which have remained at loggerheads since the Italian elections in March.

This comes as Brussels is due to resolve the terms of a breakup with Britain (which opted to exit the EU in its 2016 'Brexit' vote) at a summit on 17 October. Theresa May, Britain's embattled prime minister, has continued her ongoing negotiations with the EU as she has fended off attacks from within her own party. For a time, it appeared as if a contingent of hardline Brexiteers posed a serious threat to her leadership, and that she would be replaced with a vote of no confidence. However, having made a convincing showing at her Conservative party's conference, those concerns have since faded. Yet, Mrs. May has a long road ahead. She is still tasked with finding a final workable solution to Brexit that will appease both EU officials and Parliament, the specific details of which remain elusively opaque. Brussels has a vested interest in creating an example out of Britain, thus making Mrs. May's job difficult; were it to freely yield concessions, other EU member states (such as Italy) might be tempted to stage exits of their own, weakening the efficacy of the entire union. The value of the British pound, which was drastically dented following the original Brexit vote, has recently advanced on hopes of an agreement (see chart). Suffice to say, markets will be watching the outcome closely.

## DAUNTED BY DEBT



Source: EuroStat as of 10/15/2018

## DANCING QUEEN...?



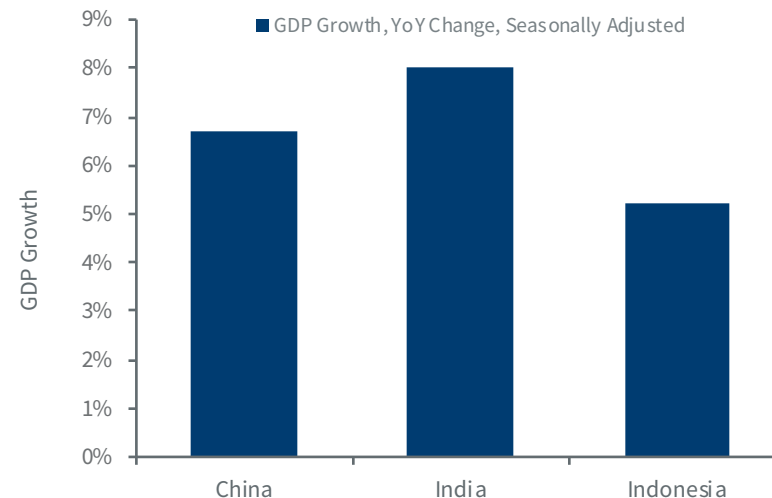
Source: Bloomberg LP, FactSet as of 10/15/2018

## A VEXING VASSALAGE

To a casual observer of their economies, the major emerging markets would appear to be in fine fettle. Most (including those of China, India, and Indonesia) all grew at a healthy clip, which was generally in-line with their previous growth rates (see chart). One would expect that emerging equity markets would follow suit. Yet, their performance has diverged substantially. While notable exceptions include Turkey and Argentina, both of which continue to be plagued by substantial crises (see *Credit Crunch* and *Dominion of the Dollar*, Q2 2018 Global Market Observations), the continued fall of emerging markets as a whole would seem to be vexing. Endogenous, country-specific risks that were responsible for previous falls appear to be largely absent. Previously, emerging markets were the ones that had posed exogenous risks to American markets. The reverse now appears to be true. While trade tensions have posed the greatest threat to China (see *Caught in the Crossfire*, p. 3), rising U.S. interest rates have been the greatest and most pervasive threat to emerging markets.

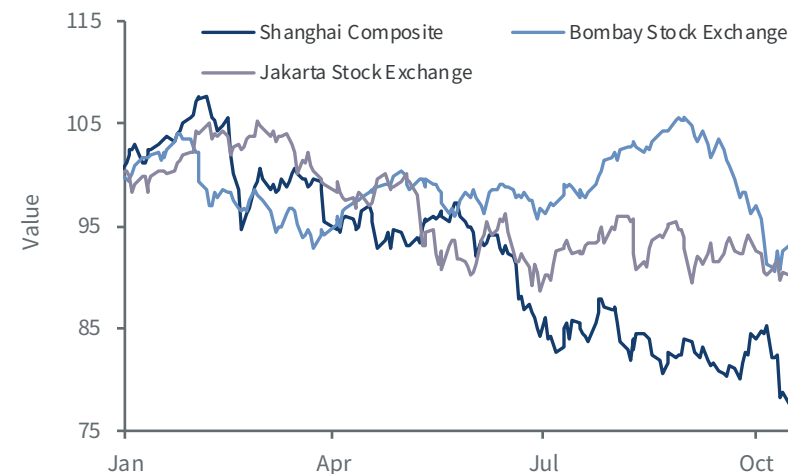
In short, rising rates have become a multi-faceted mace that has mauled emerging markets indiscriminately, irrespective of each country's underlying fundamentals. The fact remains that the fate of emerging markets (including their currencies, debts, and equities) are inextricably intertwined with the U.S. and the interest rates set by its central bank, the Federal Reserve (Fed). When the Fed raises short-term interest rates, it generally begets an appreciation of the dollar. Due to the fact that the overwhelming majority of currency exchanges utilize the dollar as their base currency (i.e., the dollar is the universal medium of exchange), a rise in the dollar inevitably precipitates a fall in the value of foreign currencies. As the dollar rises in value relative to a company's local currency, dollar-denominated debt becomes more expensive to service, causing a credit crunch. Given the sheer amount of dollar-denominated debt held by emerging market firms, this in turn has contributed to falling equity returns (see chart). Additionally, rising rates also beget higher government and corporate bond yields. As U.S. yields rise, they generally become more attractive to investors, often prompting outflows from other investments (including emerging equities and bonds) and inflows into U.S. bonds. So long as the influence of U.S. yields and the dominion of the dollar remain vast, emerging markets will remain financial vassals to Fed policy in spite of their own inherent strengths or weaknesses.

## IN FINE FETTER...?



Source: OECD Stat as of 10/15/2018

## FED FEUDALISM



Source: S&P, Bloomberg LP, FactSet as of 10/15/2018 (100 = 1 January 2018 Value)

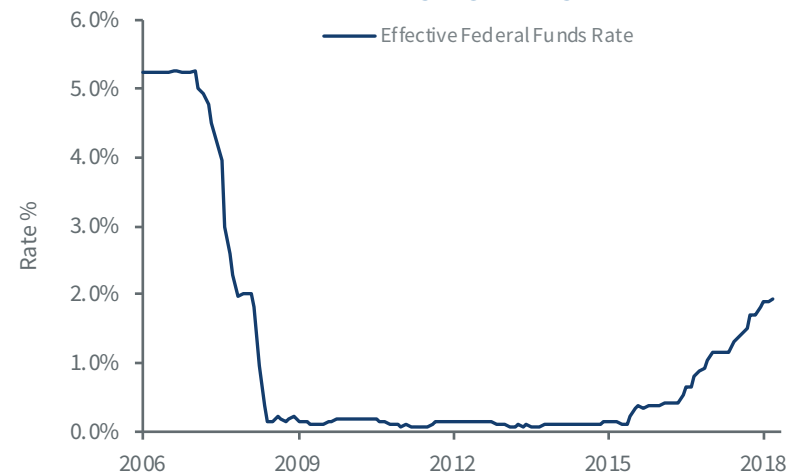
## FADE TO FLAT

Having met both its inflation and employment targets, the U.S. Federal Reserve (Fed) has been keen to continue raising interest rates. On 26 September, the Fed increased its federal funds rate again by 0.25%, raising the target rate to 2.00% - 2.25%. With the Federal Government driving fiscal stimulus in the form of tax cuts and planned spending on infrastructure, the Fed is tasked with buoying the presently strong state of the U.S. economy and staving off runaway inflation, which would overheat it. The Fed also has an interest in raising rates so that it has room to lower them in the future, should a recession occur. It therefore follows that hawkish Fed policy begets both rising government bond yields and, generally, a strengthening U.S. dollar. While higher yields and a stronger dollar bode well for U.S. savers and consumers, both effects spell trouble for debtors and central banks around the world. This peripheral and rather paradoxical dynamic is due to the dominance of the dollar as the most widely circulated currency in the world (see *A Vexing Vassalage*, p. 6).

The rate decision on 26 September marks the eighth increase in the federal funds rate since the central bank first began raising short-term rates two years ago. Over that time, the federal funds rate has increased from 0.00% - 0.25% to 2.00% - 2.25% (see chart). Yet, over that same time period, long-term rates have not kept pace. The overall effect has been a ‘flattening’ of the yield curve. While increases in the federal funds rate have boosted the ‘short’ end of the curve, the ‘long’ end of the curve has remained obstinately flat (see chart).

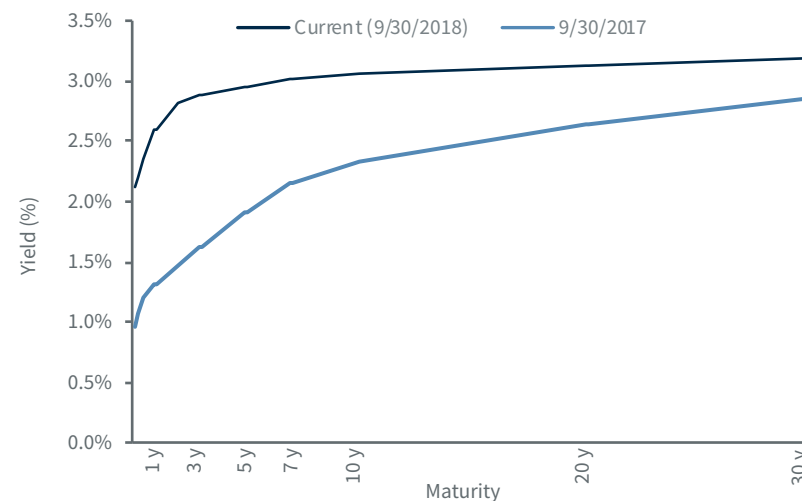
Yield not only compensates creditors for the inherent risk they incur by lending their capital, but also serves as a shield from future inflation (which erodes the future purchasing power of their capital). As a result, an obvious culprit in this curve conundrum is the fact that future inflation expectations remain low. However, the global nature of credit markets points to a second culprit: interest rate disparity. While the Fed has transitioned from a period of easing to tightening, monetary policy around the globe remains rather loose. Yields on most government debt in developed markets struggle to break above 1%, let alone 2%. As a result, U.S. Treasury securities remain remarkably attractive to foreign investors, which contributes to the pressure on the long end of the yield curve and its flat shape.

## RAISING RATES



Source: St. Louis Federal Reserve as of 10/15/2018

## CURVE CONUNDRUM



Source: Bloomberg LP, FactSet as of 09/30/2018

Recent data suggest that the economic expansion continued at a moderately strong pace in 3Q18, with moderate inflation. Trade tariffs have had a significant impact on some sectors, but only a modest impact on overall economic growth and inflation. However, the risks will increase as trade conflicts escalate. Fiscal stimulus (deficit spending) should continue to provide support into early 2019. Federal Reserve officials believe that policy is close to normal, but many believe that rates may need to become restrictive in 2019 or 2020.

**DR. SCOTT BROWN**  
Chief Economist,  
Equity Research

ECONOMIC INDICATOR		COMMENTARY
FAVORABLE	GROWTH	GDP growth is expected to remain moderately strong, although somewhat slower in the second half of 2018, reflecting the tight job market and the fading impact of fiscal stimulus.
	EMPLOYMENT	Demand for workers should remain strong and there may be some slack remaining in the labor market, but the pace of job growth is likely to slow as constraints become more binding.
	BUSINESS INVESTMENT	Sentiment remains strong, although there are some concerns about the negative impact of tariffs. Orders and shipments of capital goods have improved into 3Q18.
	THE DOLLAR	Trade policy conflicts and concerns about global economic risks have led to a flight to safety into U.S. Treasuries and the dollar.
NEUTRAL	HOUSING AND CONSTRUCTION	Builders continue to note supply constraints (a lack of skilled labor, higher costs). Demand remains strong. Home prices have continued to rise, making affordability an important issue.
	CONSUMER SPENDING	Job growth remains supportive, but inflation-adjusted average earnings are trending flat on a year-over-year basis.
	MANUFACTURING	New orders and production have been mixed, but the pace has been generally moderate. Trade tariffs are a concern, disrupting supply chains and dampening expectations for exports.
	INFLATION	Labor cost inflation remains moderate. Core consumer price inflation is at the Fed's target level, but officials have indicated a tolerance for somewhat higher inflation in the near term.
	MONETARY POLICY	Fed policy is close to neutral, but the neutral federal funds rate can be expected to rise over time. Some Fed officials believe that it may be necessary to raise the federal funds rate above a neutral level in 2019 or 2020 (to align the economy more closely with its potential).
	LONG-TERM INTEREST RATES	A strengthening economy, somewhat higher inflation, Fed tightening, and increased government borrowing would normally send bond yields higher. However, long-term interest rates remain low outside the U.S. and there is strong global demand for safe assets.
	FISCAL POLICY	Tax cuts and added spending have provided support for economic growth in the near term (more than expected), but budget deficit projections have risen sharply (a long-term concern given the expected strains on Social Security and Medicare funding).
	REST OF THE WORLD	Fed rate increases have had a negative impact on emerging market economies and trade policy has disrupted supply chains. Nationalistic tendencies and Brexit are concerns in Europe.

This report is intended to highlight the dynamics underlying the 11 S&P 500 sectors, with a goal of providing a timely assessment to be used in developing your personal portfolio strategy. Our time horizon for the sector weightings is not meant to be short-term oriented. Our goal is to look for trends that can be sustainable for several quarters; yet, given the dynamic nature of financial markets, our opinion could change as market conditions dictate. Most investors should seek diversity to balance risk versus reward. For this reason, even the least-favored sectors may be appropriate for portfolios seeking a more balanced equity allocation.

**J. MICHAEL GIBBS**  
Managing Director of Equity  
Portfolio & Technical Strategy

	SECTOR	S&P WEIGHT	TACTICAL COMMENTS
OVERWEIGHT	<b>INFORMATION TECHNOLOGY</b>	<b>20.9%</b>	We think the global macro environment and earnings expectations support a positive stance. However, the risk of heightened trade tensions could hamper many companies in the space. Additionally, a slight softening technical trend should have investors on alert. We expect 3Q earnings results along with management commentary will be important for this market leading sector. A healthy earnings season could suggest recent relative underperformance is likely to reverse. A disappointing quarter could lead to a continuation of declining relative strength trends.
	<b>HEALTH CARE</b>	<b>15.0%</b>	Improving technical trends are supported by decent fundamentals and acceptable valuation. Upside to earnings in 2Q encourages us that more upside may remain in coming quarters. Valuation is mixed, with PEG one standard deviation above the 15-year average while P/E is well below the 15-year average. The continuation of an improving technical trend reinforces our Overweight opinion.
	<b>INDUSTRIALS</b>	<b>9.7%</b>	We think fundamental trends and valuation levels are attractive. Technical trends are attempting to improve. There is a risk of negative fundamentals and sentiment if the U.S. dollar resumes its climb. Additional risk would develop if the U.S. and Canada fail to reach a trade agreement. Despite the highlighted risks, current economic conditions along with attractive fundamentals and valuation justify an Overweight position, in our view.
	<b>ENERGY</b>	<b>6.0%</b>	We remain positive on the energy sector given the Raymond James Energy Team's bullish outlook for global supply and demand of crude. Short term, crude prices rallied due to bullish headlines out of OPEC. The rally has crude and the energy sector near the high of a trading range in place for six months. If price can push to a new high, we expect technical buying to extend the rally.
EQUAL WEIGHT	<b>FINANCIALS</b>	<b>13.5%</b>	We are moving to Equal Weight, influenced by the tight correlation of the yield curve spread and price movement of the sector that has developed this year. With the Fed raising the short end of the curve, lower global yields, and moderate inflation holding longer yields down, the odds seem high for a continuation of a flattening yield curve. Until the correlation of financial stock prices and the 2/10 year spread is broken, we are forced to focus on the yield spread. Sluggish technical trading trends also influence this change of opinion.
	<b>CONSUMER DISC.</b>	<b>10.3%</b>	The sector lost visible members such as CMCSA, ATVI, DIS, CHTR, and NFLX to the new Communications Service sector. Sector heavy weight AMZN remains. Fundamental trends for this consumer-oriented sector are healthy with the U.S. consumer benefiting from robust job market conditions. Earnings growth expectations in the upper teens (2018) and low double digits (2019) reflect the positive environment. Investors recognize the sector tailwinds with valuations at elevated levels.
	<b>COMM. SERVICES</b>	<b>10.0%</b>	We are Equal Weight on the new Communications Services sector. Projected earnings growth for the new sector is expected to be in line (2018) to slightly better (2019) than the overall market. Nonetheless, weakening technical trends for key members of the index in recent months along with growing attention to the companies' business practices by government authorities keep us equal weight. Although any government action, should it occur, would likely take a long time to transpire, we believe the stocks may experience a short-term overhang with the topic drawing media attention.
UNDERWEIGHT	<b>CONSUMER STAPLES</b>	<b>6.7%</b>	Forward-looking earnings continue to move lower for this fundamentally challenged sector. After a period of price underperformance, valuation is attractive on some measures. However, valuation is less enticing with P/E to Growth (PEG) over one standard deviation above the 15-year relative average (vs. S&P 500). Technical price momentum is building, but relative to the overall market, the improvement is less favorable.
	<b>UTILITIES</b>	<b>2.8%</b>	The sector's negative sensitivity to rising interest rates influences our Underweight view with the Fed raising rates. Expectations of earnings growth in 2019 (4% and falling) is well below expectations for the S&P 500 (+9%) and solidifies our stance.
	<b>REAL ESTATE</b>	<b>2.6%</b>	Rising bond yields influenced a sharp pullback in prices over recent days and disrupted what had been an improving trend. With rates likely to trend higher with the Fed raising rates, we are comfortable with our Underweight view of this interest-sensitive sector. Valuation is somewhat attractive, but with modest earnings growth expectations vs. the overall market, valuation becomes less appealing.
	<b>MATERIALS</b>	<b>2.5%</b>	Moderating earnings expectations for 2019 and weak technical trading trends overrule somewhat attractive valuation measures to influence our Underweight opinion.

All content written and assembled by Taylor Krystkowiak, Investment Strategy Analyst.

### ADDITIONAL DISCLOSURES

Any charts and tables presented herein are for illustrative purposes only and should not be considered as the sole basis for an investment decision. There can be no assurance that the future performance of any specific investment or investment strategy made reference to be profitable or equal any corresponding indicated historical performance level(s). This information should not be construed as a recommendation.

The foregoing content is subject to change at any time without notice. Content provided herein is for informational purposes only. There is no guarantee that these statements, opinions or forecasts provided herein will prove to be correct.

Past performance is not a guarantee of future results. Indices and peer groups are not available for direct investment. Any investor who attempts to mimic the performance of an index or peer group would incur fees and expenses that would reduce returns. All investing involves risk. Asset allocation and diversification does not ensure a profit or protect against a loss. Dividends are not guaranteed and a company's future ability to pay them may be limited.

International investing involves additional risks such as currency fluctuations, differing financial accounting standards, and possible political and economic instability. These risks are greater in emerging markets.

High-yield bonds are not suitable for all investors. The risk of default may increase due to changes in the issuer's credit quality. Price changes may occur due to changes in interest rates and the liquidity of the bond. When appropriate, these bonds should only comprise a modest portion of your portfolio.

Investing in small- and mid-cap stocks are riskier investments which include price volatility, less liquidity and the threat of competition.

Not FDIC or NCUA Insured • No Bank Guarantee • May Lose Value

## BROAD ASSET CLASS RETURNS

**U.S. EQUITY** | Russell 3000 Total Return Index: This index represents 3000 large U.S. companies, ranked by market capitalization. It represents approximately 98% of the U.S. equity market. This index includes the effects of reinvested dividends.

**NON-U.S. EQUITY** | MSCI ACWI Ex USA Net Return Index: The index is a market-capitalization-weighted index maintained by Morgan Stanley Capital International (MSCI) and designed to provide a broad measure of stock performance throughout the world, with the exception of U.S.-based companies. The index includes both developed and emerging markets.

**GLOBAL REAL ESTATE** | FTSE EPRA/NAREIT Global Net Return Index: This index is designed to track the performance of listed real estate companies and REITs in both developed and emerging markets. By making the index constituents free-float adjusted, liquidity, size and revenue screened, the series is suitable for use as the basis for investment products. Prior to 2009, this asset class was represented by the NASDAQ Global Real Estate Index.

**CASH & CASH ALTERNATIVES** | Citigroup 3 Month U.S. Treasury-Bill Total Return Index: This index is a measurement of the movement of 3-month T-Bills. The income used to calculate the monthly return is derived by subtracting the original amount invested from the maturity value.

**FIXED INCOME** | Bloomberg Barclays Capital Aggregate Bond Total Return Index: This index represents securities that are SEC-registered, taxable, and dollar denominated. The index covers the U.S. investment grade fixed rate bond market, with index components for government and corporate securities, mortgage pass-through securities, and asset-backed securities.

**COMMODITIES** | Bloomberg Commodity Total Return Index: The index tracks prices of futures contracts on physical commodities on the commodity markets. The index is designed to minimize concentration in any one commodity or sector. It currently has 22 commodity futures in seven sectors. No one commodity can compose less than 2% or more than 15% of the index, and no sector can represent more than 33% of the index (as of the annual weightings of the components). The weightings for each commodity included in the Bloomberg Commodity Index are calculated in accordance with rules that ensure that the relative proportion of each of the underlying individual commodities reflects its global economic significance and market liquidity. Annual rebalancing and reweighting ensure that diversity is maintained over time.

## DOMESTIC EQUITY RETURNS

**LARGE GROWTH** | Russell 1000 Growth Total Return Index: This index represents a segment of the Russell 1000 Index with a greater-than-average growth orientation. Companies in this index have higher price-to-book and price-earnings ratios, lower dividend yields and higher forecasted growth values. This index includes the effects of reinvested dividends.

**MID GROWTH** | Russell Mid Cap Growth Total Return Index: This index contains stocks from the Russell Midcap Index with a greater-than-average growth orientation. The stocks are also members of the Russell 1000 Growth Index. This index includes the effects of reinvested dividends.

**SMALL GROWTH** | Russell 2000 Growth Total Return Index: This index represents a segment of the Russell 2000 Index with a greater-than-average growth orientation. The combined market capitalization of the Russell 2000 Growth and Value Indices will add up to the total market cap of the Russell 2000. This index includes the effects of reinvested dividends.

**LARGE BLEND** | Russell 1000 Total Return Index: This index represents the 1000 largest companies in the Russell 3000 Index. This index is highly correlated with the S&P 500 Index. This index includes the effects of reinvested dividends.

**MID BLEND** | Russell Mid Cap Total Return Index: This index consists of the bottom 800 securities in the Russell 1000 Index as ranked by total market capitalization. This index includes the effects of reinvested dividends.

**SMALL BLEND** | Russell 2000 Total Return Index: This index covers 2000 of the smallest companies in the Russell 3000 Index, which ranks the 3000 largest U.S. companies by market capitalization. The Russell 2000 represents approximately 10% of the Russell 3000 total market capitalization. This index includes the effects of reinvested dividends.

**LARGE VALUE** | Russell 1000 Value Total Return Index: This index represents a segment of the Russell 1000 Index with a less-than-average growth orientation. Companies in this index have low price-to-book and price-earnings ratios, higher dividend yields and lower forecasted growth values. This index includes the effects of reinvested dividends.



## DOMESTIC EQUITY RETURNS (CONT.)

**MID VALUE** | Russell Mid Cap Value Total Return Index: This index contains stocks from the Russell Midcap Index with a less-than-average growth orientation. The stocks are also members of the Russell 1000 Value Index. This index includes the effects of reinvested dividends.

**SMALL VALUE** | Russell 2000 Value Total Return Index: This index represents a segment of the Russell 2000 Index with a less-than-average growth orientation. The combined market capitalization of the Russell 2000 Growth and Value Indices will add up to the total market cap of the Russell 2000. This index includes the effects of reinvested dividends.

## FIXED INCOME RETURNS

**AGGREGATE BOND** | Bloomberg Barclays US Agg Bond Total Return Index: The index is a measure of the investment grade, fixed-rate, taxable bond market of roughly 6,000 SEC-registered securities with intermediate maturities averaging approximately 10 years. The index includes bonds from the Treasury, Government-Related, Corporate, MBS, ABS, and CMBS sectors.

**HIGH YIELD** | Bloomberg Barclays US Corporate High Yield Total Return Index: The index measures the USD-denominated, high yield, fixed-rate corporate bond market. Securities are classified as high yield if the middle rating of Moody's, Fitch and S&P is Ba1/BB+/BB+ or below.

**CREDIT** | Bloomberg Barclays U.S. Credit Total Return Index: The index measures the investment grade, US dollar-denominated, fixed-rate, taxable corporate and government related bond markets. It is composed of the US Corporate Index and a non-corporate component that includes foreign agencies, sovereigns, supranationals and local authorities.

**SHORT-TERM BOND** | Bloomberg Barclays US Govt/Credit 1-3 Yr Total Return Index: The index is the 1-3 year component of the Bloomberg Barclays U.S. Government/Credit Index. The Bloomberg Barclays U.S. Government/Credit Index covers treasuries, agencies, publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements.

**LONG-TERM BOND** | Bloomberg Barclays US Govt/Credit Long Total Return Index: The index is a measure of domestic fixed income securities, including Treasury issues and corporate debt issues, that are rated investment grade (Baa by Moody's Investors Service and BBB by Standard and Poor's) and with maturities of ten years or greater.

**MBS** | Bloomberg Barclays US MBS Total Return Index: The index tracks agency mortgage backed pass-through securities (both fixed-rate and hybrid ARM) guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC). The index is constructed by grouping individual TBA-deliverable MBS pools into aggregates or generics based on program, coupon and vintage.

**TREASURY** | Bloomberg Barclays US Treasury Total Return Index: The index measures US dollar-denominated, fixed-rate, nominal debt issued by the US Treasury. Treasury bills are excluded by the maturity constraint, but are part of a separate Short Treasury Index.

**U.S. TIPS** | Bloomberg Barclays US Treasury US TIPS Total Return Index: The index includes all publicly issued, U.S. Treasury inflation-protected securities that have at least one year remaining to maturity, are rated investment grade, and have \$250 million or more of outstanding face value.

**GLOBAL BOND EX U.S.** | Bloomberg Barclays Gbl Agg Ex USD Total Return Index: The index provides a broad-based measure of the global investment grade fixed-rate debt markets, excluding the United States. Currency exposure is hedged to the US dollar.

**T-BILLS** | Citi Treasury Bill 3 Mon Total Return Index: This index is a measurement of the movement of 3-month T-Bills. The income used to calculate the monthly return is derived by subtracting the original amount invested from the maturity value.

**EMERGING MKT BOND** | J.P. Morgan EMBI Plus Total Return Index: The index tracks total returns for traded external debt instruments (external meaning foreign currency denominated fixed income) in the emerging markets.

**AGENCY** | Bloomberg Barclays US Agency Total Return Index: The index includes native currency agency debentures from issuers such as Fannie Mae, Freddie Mac, and Federal Home Loan Bank. It is a subcomponent of the Government-Related Index (which also includes non-native currency agency bonds, sovereigns, supranationals, and local authority debt) and the U.S. Government Index (which also includes U.S. Treasury debt). The index includes callable and non-callable agency securities that are publicly issued by U.S. government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. government (such as USAID securities).



## FIXED INCOME RETURNS (CONT.)

**MUNICIPAL** | Bloomberg Barclays Municipal Total Return Index: The index is a measure of the long-term tax-exempt bond market with securities of investment grade (rated at least Baa by Moody's Investors Service and BBB by Standard and Poor's). This index has four main sectors: state and local general obligation bonds, revenue bonds, insured bonds, and prerefunded bonds.

## INTERNATIONAL EQUITY RETURNS

**EMERGING MARKETS EASTERN EUROPE** | MSCI EM Eastern Europe Net Return Index: The index captures large and mid cap representation across 4 Emerging Markets (EM) countries in Eastern Europe. With 50 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**EMERGING MARKETS ASIA** | MSCI EM Asia Net Return Index: The index captures large and mid cap representation across 8 Emerging Markets countries. With 554 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**EMERGING MARKETS LATIN AMERICA** | MSCI EM Latin America Net Return Index: The index captures large and mid cap representation across 5 Emerging Markets (EM) countries in Latin America. With 116 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**EMERGING MARKETS** | MSCI Emerging Markets Net Return Index: This index consists of 23 countries representing 10% of world market capitalization. The index is available for a number of regions, market segments/sizes and covers approximately 85% of the free float-adjusted market capitalization in each of the 23 countries.

**PACIFIC EX-JAPAN** | MSCI Pacific Ex Japan Net Return Index: The index captures large and mid cap representation across 4 of 5 Developed Markets (DM) countries in the Pacific region (excluding Japan). With 150 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**UNITED KINGDOM** | MSCI Pacific Ex Japan Net Return Index: The index captures large and mid cap representation across 4 of 5 Developed Markets (DM) countries in the Pacific region (excluding Japan). With 150 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in each country.

**U.S. LARGE CAP** | S&P 500 Total Return Index: The index is widely regarded as the best single gauge of large-cap U.S. equities. There is over USD 7.8 trillion benchmarked to the index, with index assets comprising approximately USD 2.2 trillion of this total. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

**JAPAN** | MSCI Japan Net Return Index: The index is designed to measure the performance of the large and mid cap segments of the Japanese market. With 319 constituents, the index covers approximately 85% of the free float-adjusted market capitalization in Japan.

**FOREIGN DEVELOPED MARKETS** | MSCI EAFE Net Return Index: This index is designed to represent the performance of large and mid-cap securities across 21 developed markets, including countries in Europe, Australasia and the Far East, excluding the U.S. and Canada. The index is available for a number of regions, market segments/sizes and covers approximately 85% of the free float-adjusted market capitalization in each of the 21 countries.

**EUROPE EX UK** | MSCI Europe Ex UK Net Return Index: The index captures large and mid cap representation across 14 Developed Markets (DM) countries in Europe. With 337 constituents, the index covers approximately 85% of the free float-adjusted market capitalization across European Developed Markets excluding the UK.

## EQUITY SECTOR RETURNS

**ENERGY** | S&P 500 Sec/Energy Total Return Index: The S&P 500® Energy Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Energy sector.

**MATERIALS** | S&P 500 Sec/Materials Total Return Index: The S&P 500® Materials Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Materials sector.

**UTILITIES** | S&P 500 Sec/Utilities Total Return Index: The S&P 500® Utilities Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Utilities sector.

**INFO TECH** | S&P 500 Sec/Information Technology Total Return Index: The S&P 500® Info Tech Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Info Tech sector.

## EQUITY SECTOR RETURNS (CONT.)

**CONS STAPLES** | S&P 500 Sec/Cons Staples Total Return Index: The S&P 500® Consumer Staples Index comprises those companies included in the S&P 500 that are classified as members of the GICS® consumer staples sector.

**INDUSTRIALS** | S&P 500 Sec/Industrials Total Return Index: The S&P 500® Industrials Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Industrials sector.

**TELECOM** | S&P 500 Sec/Telecom Services Total Return Index: The S&P 500® Telecom Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Telecom sector.

**HEALTH CARE** | S&P 500 Sec/Health Care Total Return Index: The S&P 500® Health Care Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Health Care sector.

**S&P 500** | S&P 500 Total Return Index: The index is widely regarded as the best single gauge of large-cap U.S. equities. There is over USD 7.8 trillion benchmarked to the index, with index assets comprising approximately USD 2.2 trillion of this total. The index includes 500 leading companies and captures approximately 80% coverage of available market capitalization.

**CONS DISC** | S&P 500 Sec/Cons Disc Total Return Index: The S&P 500® Consumer Discretionary Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Consumer Discretionary sector.

**REAL ESTATE** | S&P 500 Sec/Real Estate Total Return Index: The S&P 500® Real Estate Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Real Estate sector.

**FINANCIALS** | S&P 500 Sec/Financials Total Return Index: The S&P 500® Financials Index comprises those companies included in the S&P 500 that are classified as members of the GICS® Financials sector.

## MISC.

**STOXX 600** | The STOXX Europe 600 Index is derived from the STOXX Europe Total Market Index (TMI) and is a subset of the STOXX Global 1800 Index. With a fixed number of 600 components, the STOXX Europe 600 Index represents large, mid and small capitalization companies across 17 countries of the European region: Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

**CAC 40** | The CAC 40® is a free float market capitalization weighted index that reflects the performance of the 40 largest and most actively traded shares listed on Euronext Paris, and is the most widely used indicator of the Paris stock market. The index serves as an underlying for structured products, funds, exchange traded funds, options and futures.

**DAX** | The DAX® index, the best known German stock exchange barometer, measures the performance of the 30 largest and most liquid companies on the German stock market. It represents around 80 percent of the market capitalization of listed stock corporations in Germany.

**NIKKEI 225** | Japan's Nikkei 225 is a price-weighted index comprised of Japan's top 225 blue-chip companies traded on the Tokyo Stock Exchange. The Nikkei is equivalent to the Dow Jones Industrial Average Index in the United States.

# Sewerage and Water Board of New Orleans ERS Total Composite Investment Analysis

## Sewerage and Water Board of New Orleans ERS Total Composite

## Market Performance

As of September 30, 2018

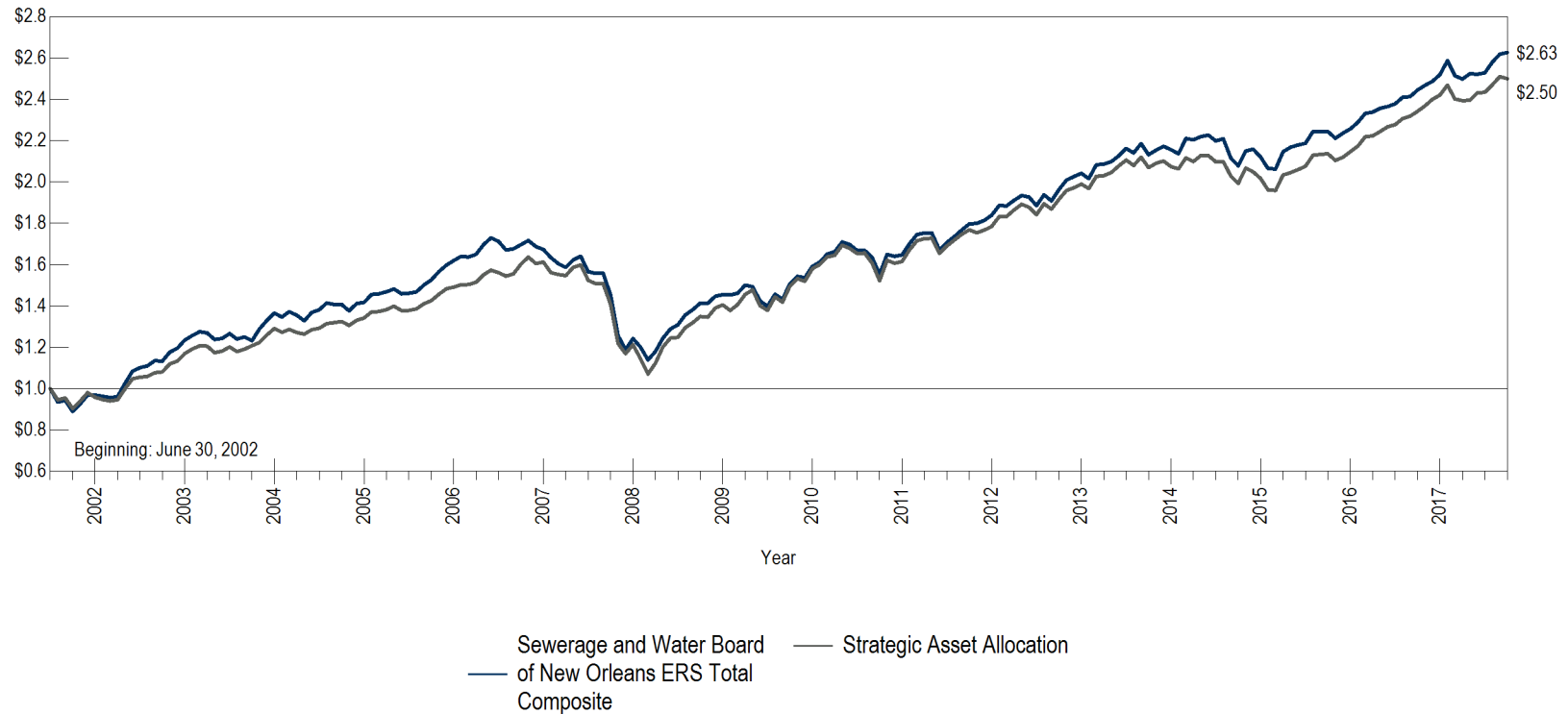
Name	Q3-18	YTD	1 Yr	3 Yrs	5 Yrs	10 Yrs
<b>US Equity</b>						
Russell 3000	7.12	10.57	17.58	17.07	13.46	12.01
S&P 500	7.71	10.56	17.91	17.31	13.95	11.97
Russell 1000	7.42	10.49	17.76	17.07	13.67	12.09
Russell 1000 Growth	9.17	17.09	26.30	20.55	16.58	14.31
Russell 1000 Value	5.70	3.92	9.45	13.55	10.72	9.79
Russell MidCap	5.00	7.46	13.98	14.52	11.65	12.31
Russell 2000	3.58	11.51	15.24	17.12	11.07	11.11
Russell 2000 Growth	5.52	15.76	21.06	17.98	12.14	12.65
Russell 2000 Value	1.60	7.14	9.33	16.12	9.92	9.52
<b>International Equity</b>						
MSCI ACWI	4.28	3.83	9.77	13.40	8.67	8.19
MSCI World ex USA	1.31	-1.50	2.67	9.32	4.24	5.18
MSCI EAFE	1.35	-1.43	2.74	9.23	4.42	5.38
MSCI Emerging Markets	-1.09	-7.68	-0.81	12.36	3.61	5.40
<b>Fixed Income</b>						
91 Day T-Bills	0.49	1.34	1.64	0.86	0.53	0.31
BBgBarc US Aggregate TR	0.02	-1.60	-1.22	1.31	2.16	3.77
BBgBarc US Govt/Credit TR	0.06	-1.85	-1.37	1.45	2.23	3.95
BBgBarc US Municipal TR	-0.15	-0.40	0.35	2.24	3.54	4.75
BBgBarc US High Yield TR	2.40	2.57	3.05	8.15	5.54	9.46
FTSE WGBI TR	-1.62	-2.55	-1.54	1.68	0.20	2.21
FTSE WGBI ex US TR	-2.19	-3.09	-1.57	2.39	-0.23	1.99
<b>Real Estate</b>						
FTSE NAREIT All REIT	0.69	1.80	4.22	9.21	9.66	8.06
NCREIF Property Index	1.67	5.27	7.16	7.76	9.57	6.42
<b>Alternatives</b>						
HFRI Fund of Funds Composite Index	0.27	0.99	3.08	3.29	3.18	2.55
<b>Inflation</b>						
Consumer Price Index	0.18	2.40	2.28	1.99	1.52	1.44

## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Information

As of September 30, 2018

## Growth of a Dollar



## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 7/1/02
Beginning Market Value	\$218,940,638	\$223,108,585	\$25,329,686	\$24,883,493	\$23,225,162	\$11,581,056	--
Contributions	\$3,041,128	\$10,616,892	\$10,616,892	\$10,616,892	\$10,616,892	\$10,616,892	\$10,616,892
Withdrawals	-\$5,832,822	-\$14,974,512	-\$14,974,512	-\$14,974,512	-\$14,974,512	-\$14,974,512	-\$14,974,512
Net Cash Flow	-\$2,791,694	-\$3,009,154	-\$3,009,154	-\$3,009,154	-\$3,009,154	-\$3,009,154	-\$3,009,154
Net Investment Change	\$8,471,222	\$4,520,735	\$202,299,634	\$202,745,827	\$204,404,158	\$216,048,264	\$227,629,320
Ending Market Value	\$224,620,166	\$224,620,166	\$224,620,166	\$224,620,166	\$224,620,166	\$224,620,166	\$224,620,166

## Sewerage and Water Board of New Orleans ERS Total Composite

						Ending September 30, 2018							
	Market Value (\$)	% of Portfolio	1 Mo (%)	3 Mo (%)	YTD (%)	1 Yr (%)	3 Yrs (%)	5 Yrs (%)	7 Yrs (%)	10 Yrs (%)	Inception (%)	Inception Date	
Sewerage and Water Board of New Orleans ERS	224,620,166	100.00	--	--	--	--	--	--	--	--	--		
Sewerage and Water Board of New Orleans ERS Total Composite	224,620,166	100.00	0.31	3.89	4.24	7.43	8.12	6.00	7.79	6.09	6.12	Jul-02	
Strategic Asset Allocation			-0.40	2.70	3.28	6.74	7.84	5.47	7.34	5.91	5.80	Jul-02	
Equity Composite	119,745,830	53.31	0.83	7.07	9.03	--	--	--	--	--	9.03	Jan-18	
Chicago Equity Partners	24,744,744	11.02	0.42	7.41	11.32	19.30	15.96	13.26	16.54	12.42	9.35	Jun-06	
Russell 1000			0.38	7.42	10.49	17.76	17.07	13.67	16.90	12.09	9.31	Jun-06	
Barrow Hanley Mewhinney & Strauss	24,821,519	11.05	1.07	7.89	8.04	14.03	13.65	10.96	14.59	10.15	7.33	Sep-06	
Russell 1000 Value			0.20	5.70	3.92	9.45	13.55	10.72	15.02	9.79	7.02	Sep-06	
NewSouth Capital	31,709,354	14.12	0.98	8.94	12.85	16.30	13.62	10.60	14.49	--	14.49	Sep-11	
Russell 2500			-1.52	4.70	10.41	16.19	16.13	11.37	16.49	--	16.49	Sep-11	
Earnest Partners	19,609,776	8.73	0.87	0.93	-3.86	0.88	11.14	4.63	8.03	--	8.03	Oct-11	
MSCI ACWI ex USA			0.46	0.71	-3.09	1.76	9.97	4.12	7.25	--	7.25	Oct-11	
iShares S&P 500 Growth ETF	18,860,438	8.40	0.79	9.26	17.01	24.71	--	--	--	--	18.83	Mar-16	
S&P 500 Growth			0.73	9.28	17.24	25.21	--	--	--	--	22.67	Mar-16	
Fixed Income Composite	79,312,888	35.31	-0.32	0.39	-0.96	--	--	--	--	--	-0.96	Jan-18	
Pyramis Global Advisors	79,282,529	35.30	-0.33	0.38	-0.98	-0.46	2.85	3.14	3.40	5.46	4.71	May-07	
BBgBarc US Universal TR			-0.43	0.27	-1.41	-1.00	1.98	2.53	2.57	4.22	4.03	May-07	
Zazove Associates, LLC (Residual Asset)	30,359	0.01	1.86	11.91	--	--	--	--	--	--	25.23	Feb-18	
ICE BofAML Convertibles Securities TR			-0.29	4.01	--	--	--	--	--	--	7.86	Feb-18	
Alternatives Composite	18,291,470	8.14	0.86	1.19	0.94	--	--	--	--	--	0.94	Jan-18	
Prisma Capital Partners	18,269,093	8.13	0.86	1.19	0.90	3.18	2.49	2.66	3.83	3.95	3.12	May-07	
HFRI Fund of Funds Composite Index			-0.18	0.27	0.99	3.08	3.29	3.18	3.61	2.55	1.48	May-07	
Equitas Capital Advisors (Residual Asset)	22,377	0.01	-0.14	-0.51	-1.37	--	--	--	--	--	-1.37	Jan-18	
HFRI Fund of Funds Composite Index			-0.18	0.27	0.99	--	--	--	--	--	0.99	Jan-18	
Real Estate Composite	7,011,374	3.12	-2.63	0.51	0.57	--	--	--	--	--	0.57	Jan-18	
Vanguard Real Estate ETF	7,011,374	3.12	-2.63	0.51	0.57	1.82	6.92	8.92	11.28	--	9.68	May-10	
MSCI US REIT			-2.77	0.78	1.32	2.37	6.30	7.78	10.34	--	8.67	May-10	
Cash & Equivalents	258,604	0.12	0.13	0.13	0.26	--	--	--	--	--	0.26	Jan-18	
Cash Account	258,604	0.12	0.13	0.13	0.26	0.47	0.17	0.11	0.09	--	0.08	Dec-08	
FTSE T-Bill 3 Months TR			0.17	0.50	1.29	1.57	0.80	0.49	0.37	--	0.30	Dec-08	

- Strategic Asset Allocation = 10% Russell 1000 / 7.25% Russell 1000 Growth / 10% Russell 1000 Value / 13% Russell 2500 / 9% MSCI ACWI ex USA / 37% BBgBarc US Aggregate TR / 8.75% HFRI Fund of Funds Composite Index / 3.25% MSCI US REIT / 1.75% FTSE T-Bill 3 Months TR

## Sewerage and Water Board of New Orleans ERS Total Composite

	2017 (%)	2016 (%)	2015 (%)	2014 (%)	2013 (%)	2012 (%)	2011 (%)	2010 (%)	2009 (%)	2008 (%)	2007 (%)
<b>Sewerage and Water Board of New Orleans ERS</b>	--	--	--	--	--	--	--	--	--	--	--
<b>Sewerage and Water Board of New Orleans ERS Total Composite</b>	11.64	6.44	-1.66	5.59	11.02	11.65	3.50	9.37	17.13	-25.77	3.33
<i>Strategic Asset Allocation</i>	12.76	6.45	-2.78	4.23	11.50	10.50	2.19	12.45	15.93	-24.83	8.14
<b>Equity Composite</b>	--	--	--	--	--	--	--	--	--	--	--
Chicago Equity Partners	22.00	8.12	2.48	13.07	32.26	15.62	5.35	16.20	28.25	-35.65	1.23
<i>Russell 1000</i>	21.69	12.05	0.92	13.24	33.11	16.42	1.50	16.10	28.43	-37.60	5.77
Barrow Hanley Mewhinney & Strauss	14.09	13.53	-1.85	12.09	30.54	14.67	1.96	11.01	23.02	-36.94	3.97
<i>Russell 1000 Value</i>	13.66	17.34	-3.83	13.45	32.53	17.51	0.39	15.51	19.69	-36.85	-0.17
NewSouth Capital	11.94	9.82	-0.78	11.96	26.05	16.71	--	--	--	--	--
<i>Russell 2500</i>	16.81	17.59	-2.90	7.07	36.80	17.88	--	--	--	--	--
Earnest Partners	30.66	4.59	-6.33	-2.48	12.44	18.50	--	--	--	--	--
<i>MSCI ACWI ex USA</i>	27.19	4.50	-5.66	-3.87	15.29	16.83	--	--	--	--	--
iShares S&P 500 Growth ETF	26.95	--	--	--	--	--	--	--	--	--	--
<i>S&amp;P 500 Growth</i>	27.44	--	--	--	--	--	--	--	--	--	--
<b>Fixed Income Composite</b>	--	--	--	--	--	--	--	--	--	--	--
Pyramis Global Advisors	4.65	5.48	0.14	6.19	-0.67	7.67	7.80	9.92	19.73	-6.75	--
<i>BBgBarc US Universal TR</i>	4.09	3.91	0.43	5.56	-1.35	5.53	7.40	7.16	8.60	2.38	--
Zazove Associates, LLC (Residual Asset)	--	--	--	--	--	--	--	--	--	--	--
<i>ICE BofAML Convertibles Securities TR</i>	--	--	--	--	--	--	--	--	--	--	--
<b>Alternatives Composite</b>	--	--	--	--	--	--	--	--	--	--	--
Prisma Capital Partners	7.05	-1.24	0.15	2.27	11.13	7.32	-3.21	8.01	17.00	-16.55	--
<i>HFRI Fund of Funds Composite Index</i>	7.77	0.51	-0.27	3.36	8.96	4.79	-5.72	5.70	11.47	-21.37	--
Equitas Capital Advisors (Residual Asset)	--	--	--	--	--	--	--	--	--	--	--
<i>HFRI Fund of Funds Composite Index</i>	--	--	--	--	--	--	--	--	--	--	--
<b>Real Estate Composite</b>	--	--	--	--	--	--	--	--	--	--	--
Vanguard Real Estate ETF	4.73	8.42	2.62	30.54	2.38	17.67	8.25	--	--	--	--
<i>MSCI US REIT</i>	3.74	7.14	1.28	28.82	1.26	16.47	7.48	--	--	--	--
<b>Cash &amp; Equivalents</b>	--	--	--	--	--	--	--	--	--	--	--
Cash Account	0.21	0.03	0.00	0.02	0.04	0.01	0.04	0.05	0.10	--	--
<i>FTSE T-Bill 3 Months TR</i>	0.84	0.27	0.03	0.03	0.05	0.07	0.08	0.13	0.17	--	--

## Strategic Asset Allocation Policy

**12/31/1989 - 08/31/1994**

75% CG Broad Bond  
25% S&P 500

**09/01/1994 - 08/31/1997**

55% CG Broad Bond  
25% Russell 1000 Value  
11% Russell 1000 Growth  
9% Russell 2000 Growth

**09/01/1997 - 02/28/1999**

45% CG Broad Bond  
30% Russell 1000 Value  
14% Russell 1000 Growth  
11% Russell 2000 Growth

**03/01/1999 - 08/31/2000**

45% CG Broad Bond  
30% Russell 1000 Value  
14% S&P 500  
11% Russell 2000 Growth

**09/01/2000 - 08/31/2001**

45% CG Broad Bond  
30% Russell 1000 Value  
14% Russell 1000 Growth  
11% Russell 2000 Growth

**09/01/2001 - 01/31/2002**

45% CG Broad Bond  
30% Russell 1000 Value  
14% Russell 1000 Growth  
11% Russell 2000

**02/01/2002 - 02/28/2005**

35% CG Broad Bond  
30% Russell 1000 Value  
14% Russell 1000 Growth  
11% Russell 2000  
10% ML IG Conv. Bonds

**03/01/2005 - 06/30/2007**

40% Russell 3000  
7.75% MSCI ACWI xUS  
25% CG Broad Bond  
10% CG World Gvt Bond  
7.25% CSFB Tremont/Hdge  
10% 90-Day US T-Bill

**07/01/2007 - 08/31/2008**

40% Russell 3000  
7.75% MSCI ACWI xUS  
25% CG Broad Bond  
10% CG World Gvt Bond  
7.25% CSFB Tremont/Hdge  
10% DJ Global Index

**09/01/2008 - 11/30/2008**

40% Russell 3000  
7.75% MSCI ACWI xUS  
25% CG Broad Bond  
10% CG World Gvt Bond  
7.25% CSFB Tremont/Hdge  
5% DJ Wilshire xUS RESI

**12/01/2008 - 04/30/2009**

40% Russell 3000  
7.75% MSCI ACWI xUS  
25% CG Broad Bond  
10% CG World Gvt Bond  
7.25% CSFB Tremont/Hdge  
5% DJ Wilshire REIT  
5% 90 Day US T-Bill

**05/01/2009 - 09/30/2009**

30% Russell 3000  
7.75% MSCI ACWI xUS  
25% Barclays Agg Bond  
10% Barclays Global TIPS  
7.25% CSFB Tremont/Hdge  
20% 90 Day US T-Bill

**10/01/2009 - 03/31/2010**

33.5% Russell 3000  
8.5% MSCI ACWI xUS  
28% Barclays Agg Bond  
9% Barclays Global TIPS  
8.75% CSFB Tremont/Hdge  
7.25% S&P GSCI  
1.75% DJ Wil ex US RESI  
3.25% MSCI REIT

**04/01/2010 - 04/30/2014**

33.5% Russell 3000  
8.5% MSCI ACWI xUS  
28% Barclays Agg Bond  
9% Barclays Global TIPS  
8.75% CSFB Tremont/Hdge  
7.25% S&P GSCI  
3.25% MSCI REIT  
1.75% FTSE EPRA/NAREIT xUS

**05/01/2014 - 11/30/2015**

33% Russell 3000  
9% MSCI ACWI xUS  
28% Barclays Agg Bond  
9% Barclays Global TIPS  
8.75% HFRI Fund of Funds  
7.25% S&P GSCI  
3.25% MSCI REIT  
1.75% FTSE EPRA/NAREIT xUS

**12/01/2015 - 02/28/2016**

33% Russell 3000  
9% MSCI ACWI xUS  
37% Barclays Agg Bond  
8.75% HFRI Fund of Funds  
7.25% S&P GSCI  
3.25% MSCI REIT  
1.75% FTSE EPRA/NAREIT xUS

**03/01/2016 - 04/30/2016**

33% Russell 3  
9% MSCI ACWI x  
37% Barclays Agg Bond  
8.75% HFRI Fund of Funds  
3.25% MSCI REIT  
9% 30 Day US T-Bill

**05/01/2016 - Present**

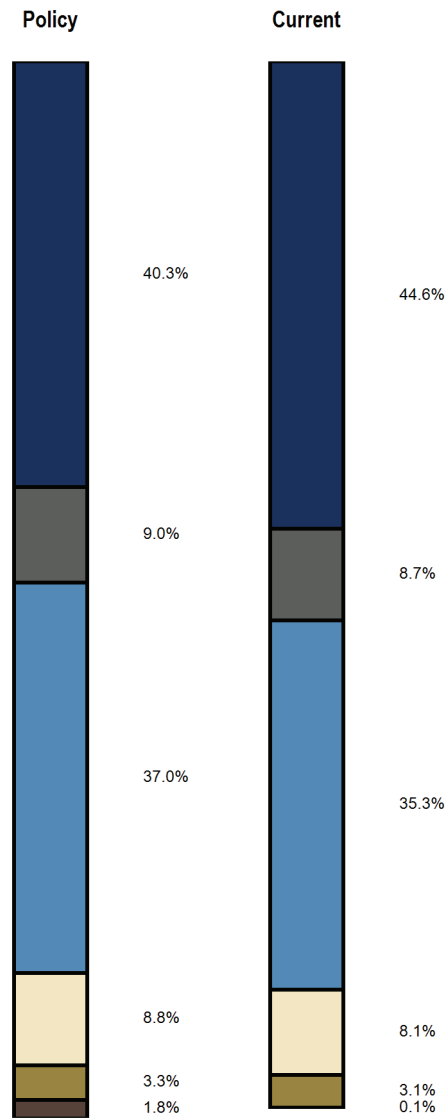
40.25% Russell 3000  
9% MSCI ACWI xUS  
37% Barclays Agg Bond  
8.75% HFRI Fund of Funds  
3.25% MSCI REIT  
1.75% 30 Day US T-Bill



## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Allocation

As of September 30, 2018



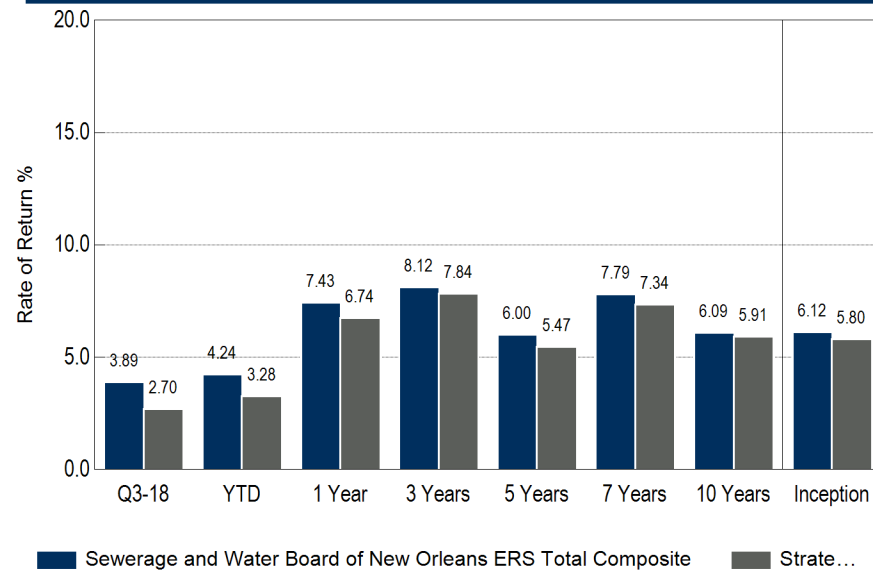
	Current Balance	Current Allocation	Target	Target Range	Difference	Within IPS Range?
<b>US Equity</b>	\$100,136,054	44.6%	40.3%	35.0% - 45.0%	4.3%	Yes
Chicago Equity Partners	\$24,744,744	11.0%	10.0%	8.0% - 12.0%	1.0%	Yes
Barrow Hanley Mewhinney & Strauss	\$24,821,519	11.1%	10.0%	8.0% - 12.0%	1.1%	Yes
NewSouth Capital	\$31,709,354	14.1%	13.0%	11.0% - 15.0%	1.1%	Yes
iShares S&P 500 Growth ETF	\$18,860,438	8.4%	7.3%	6.0% - 10.0%	1.1%	Yes
<b>Non-US Equity</b>	\$19,609,776	8.7%	9.0%	8.0% - 10.0%	-0.3%	Yes
Earnest Partners	\$19,609,776	8.7%	9.0%	7.0% - 11.0%	-0.3%	Yes
<b>US Fixed Income</b>	\$79,312,888	35.3%	37.0%	36.0% - 38.0%	-1.7%	No
Pyramis Global Advisors	\$79,282,529	35.3%	37.0%	35.0% - 40.0%	-1.7%	Yes
Zazove Associates, LLC (Residual Asset)	\$30,359	0.0%	0.0%	0.0% - 1.0%	0.0%	Yes
<b>Alternatives</b>	\$18,291,470	8.1%	8.8%	7.0% - 9.0%	-0.6%	Yes
Prisma Capital Partners	\$18,269,093	8.1%	8.8%	6.0% - 10.0%	-0.6%	Yes
Equitas Capital Advisors (Residual Asset)	\$22,377	0.0%	0.0%	0.0% - 1.0%	0.0%	Yes
<b>Real Estate</b>	\$7,011,374	3.1%	3.3%	2.0% - 4.0%	-0.1%	Yes
Vanguard Real Estate ETF	\$7,011,374	3.1%	3.3%	2.0% - 5.0%	-0.1%	Yes
<b>Cash</b>	\$258,604	0.1%	1.8%	1.0% - 2.0%	-1.6%	No
Cash Account	\$258,604	0.1%	1.8%	1.0% - 3.0%	-1.6%	No
<b>Total</b>	<b>\$224,620,166</b>	<b>100.0%</b>	<b>100.0%</b>			

## Sewerage and Water Board of New Orleans ERS Total Composite

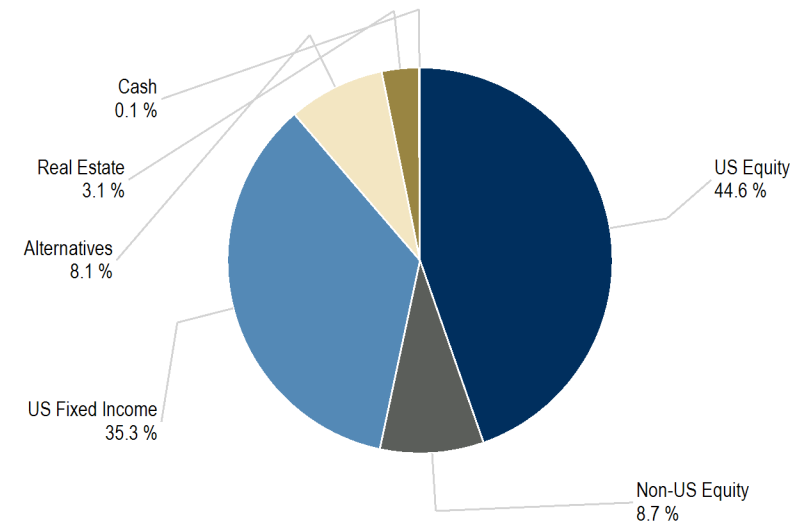
Sewerage and Water Board of New Orleans ERS Total  
Composite Performance

As of September 30, 2018

## Return Summary (%)



## Current Allocation



## Summary of Cash Flows

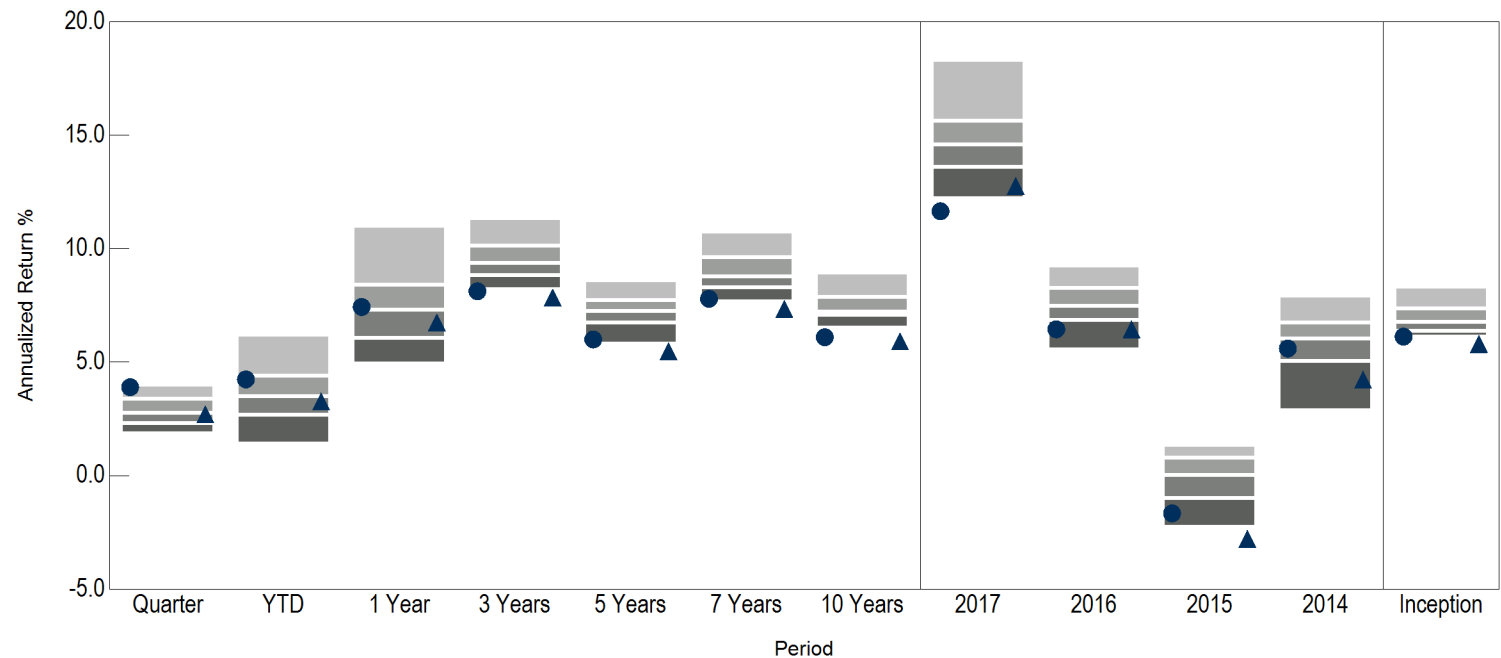
	Quarter-To-Date	Year-To-Date
Beginning Market Value	\$218,940,638	\$223,108,585
Contributions	\$3,041,128	\$10,616,892
Withdrawals	-\$5,832,822	-\$14,974,512
Net Cash Flow	-\$2,791,694	-\$3,009,154
Net Investment Change	\$8,471,222	\$4,520,735
Ending Market Value	\$224,620,166	\$224,620,166
Net Change	\$5,679,528	\$1,511,581

## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Universe Performance

As of September 30, 2018

## Sewerage and Water Board of New Orleans ERS Total Composite vs. InvestorForce Public DB \$50mm-\$250mm Gross



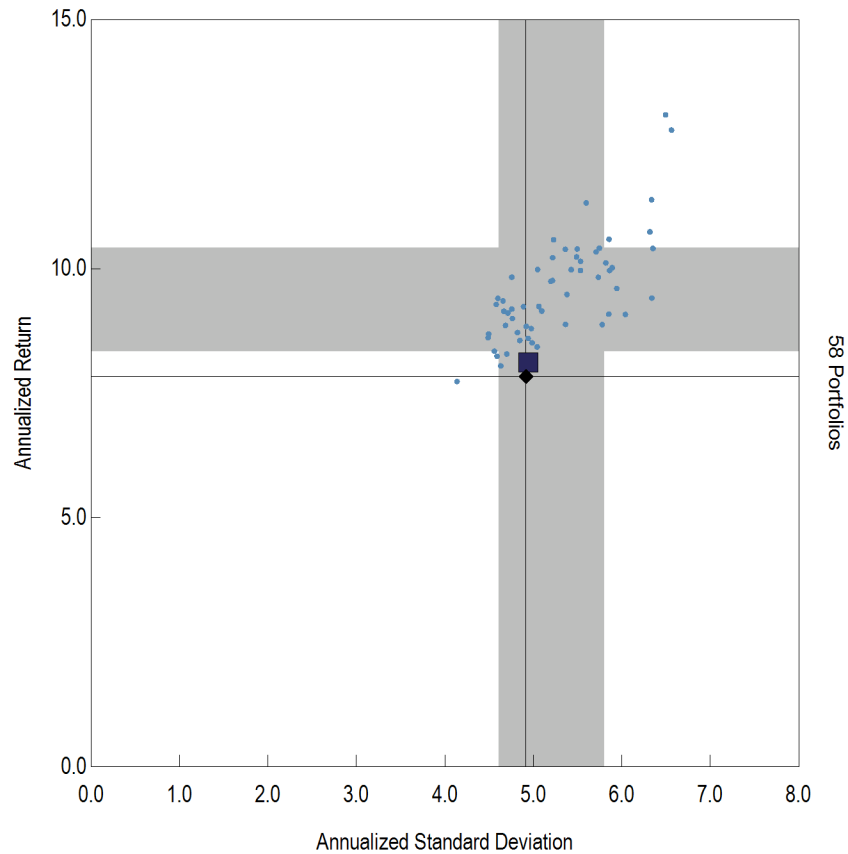
	Return (Rank)											
5th Percentile	3.98	6.19	10.9	11.3	8.59	10.7	8.93	18.3	9.25	1.33	7.91	8.30
25th Percentile	3.40	4.40	8.43	10.1	7.75	9.64	7.90	15.6	8.27	0.80	6.76	7.38
Median	2.77	3.51	7.32	9.38	7.27	8.80	7.25	14.6	7.49	0.04	6.05	6.79
75th Percentile	2.34	2.71	6.09	8.85	6.77	8.30	7.09	13.6	6.88	-0.97	5.06	6.38
95th Percentile	1.89	1.44	4.96	8.23	5.82	7.70	6.53	12.2	5.58	-2.24	2.89	6.14
# of Portfolios	59	59	59	58	56	51	47	72	79	80	69	32
● Sewerage and Water Board of New Orleans ERS Total Composite	5.89 (7)	4.24 (31)	7.43 (46)	8.12 (98)	6.00 (93)	7.79 (93)	6.09 (99)	11.6 (99)	6.44 (86)	-1.66 (87)	5.59 (67)	6.12 (99)
▲ Strategic Asset Allocation	2.70 (53)	3.28 (61)	6.74 (62)	7.84 (99)	5.47 (99)	7.34 (99)	5.91 (99)	12.7 (87)	6.45 (86)	-2.78 (97)	4.23 (89)	5.80 (99)

## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Risk/Return

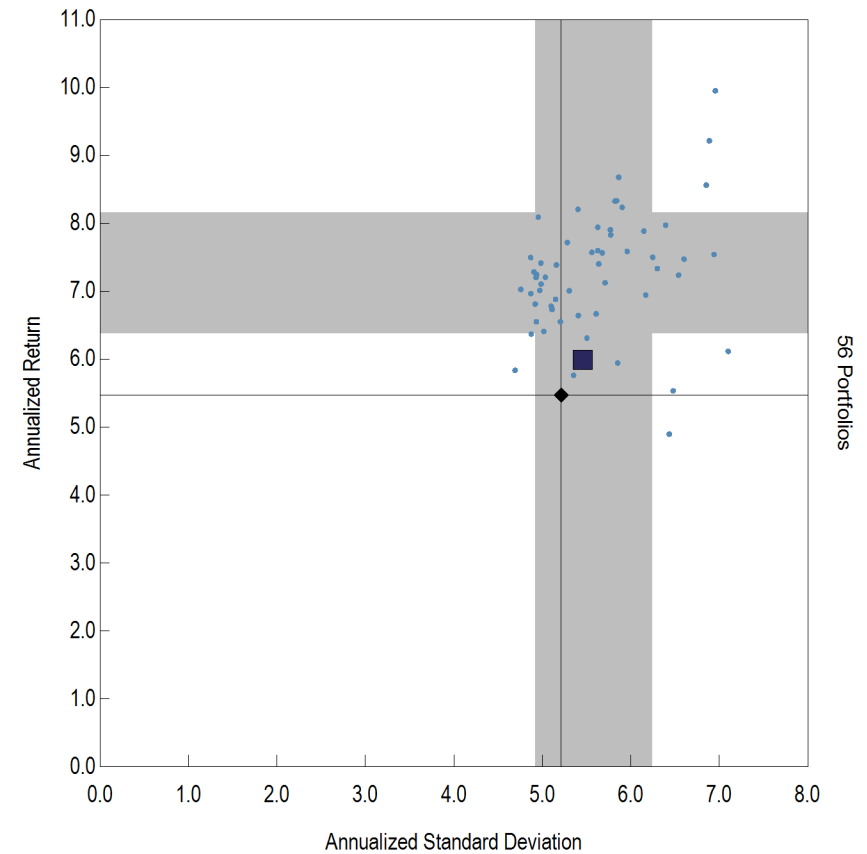
As of September 30, 2018

3 Year Risk/Return



- Sewerage and Water Board of New Orleans ERS Total Composite
- ◆ Strategic Asset Allocation
- 68% Confidence Interval
- InvestorForce Public DB \$50mm-\$250mm Gross

5 Year Risk/Return



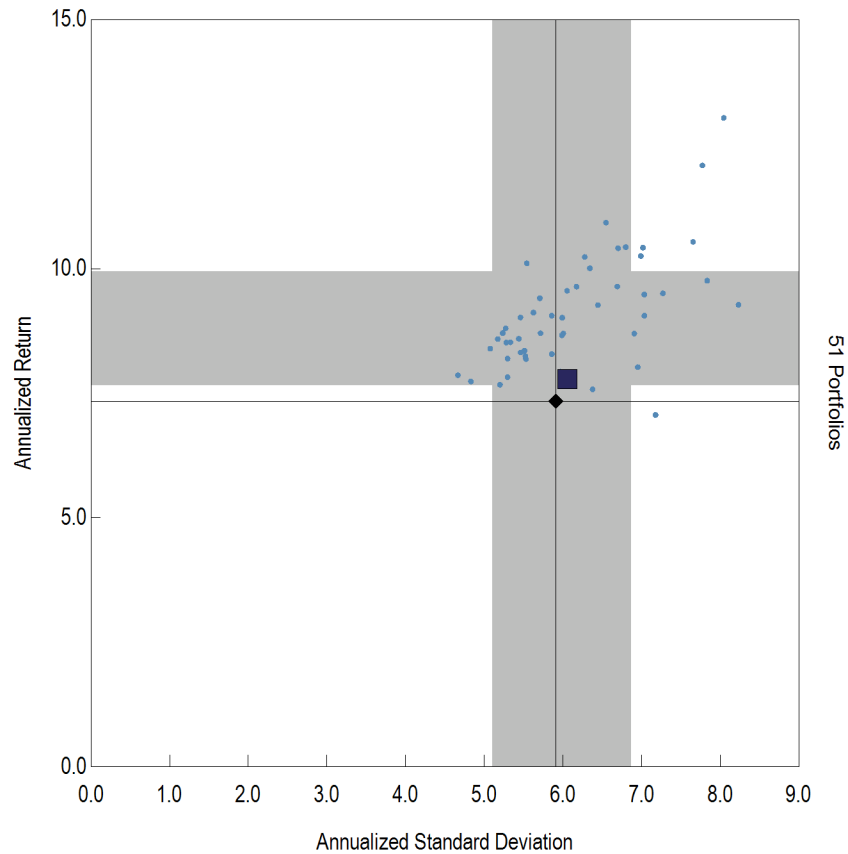
- Sewerage and Water Board of New Orleans ERS Total Composite
- ◆ Strategic Asset Allocation
- 68% Confidence Interval
- InvestorForce Public DB \$50mm-\$250mm Gross

## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Risk/Return

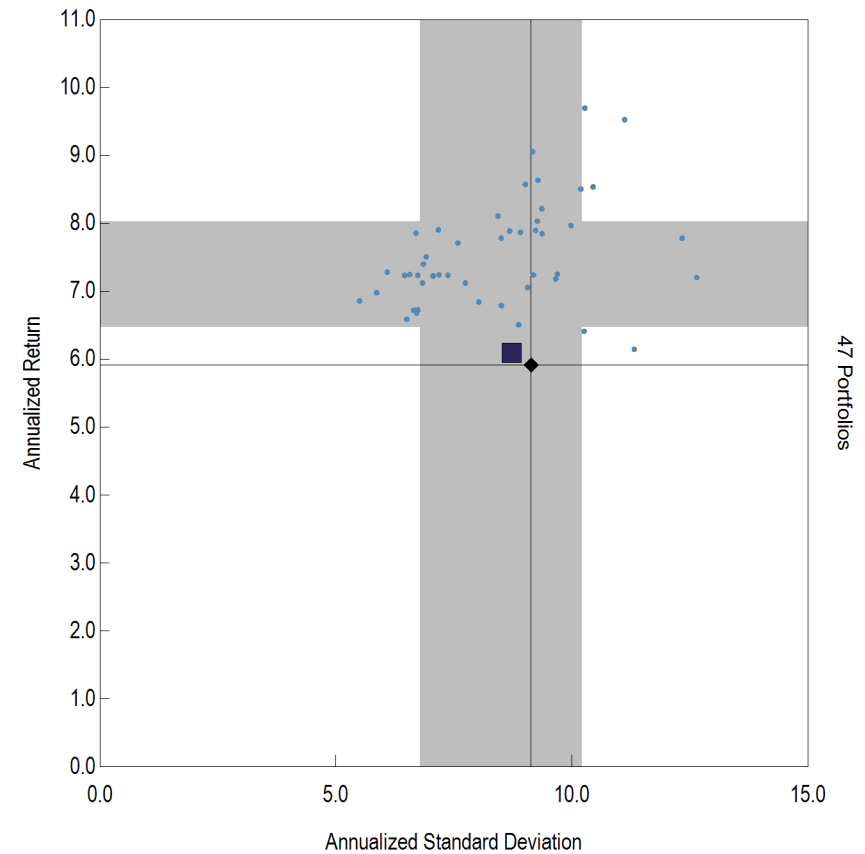
As of September 30, 2018

7 Year Risk/Return



- Sewerage and Water Board of New Orleans ERS Total Composite
- ◆ Strategic Asset Allocation
- 68% Confidence Interval
- InvestorForce Public DB \$50mm-\$250mm Gross

10 Year Risk/Return



- Sewerage and Water Board of New Orleans ERS Total Composite
- ◆ Strategic Asset Allocation
- 68% Confidence Interval
- InvestorForce Public DB \$50mm-\$250mm Gross

## Sewerage and Water Board of New Orleans ERS Total Composite

Sewerage and Water Board of New Orleans ERS Total  
Composite Risk Statistics

As of September 30, 2018

## 3 Year Risk Statistics

	Annualized Return (%)	Annualized Standard Deviation	Annualized Alpha (%)	Beta	Tracking Error	Up Market Capture Ratio (%)	Down Market Capture Ratio (%)	Sharpe Ratio	Information Ratio
Sewerage and Water Board of New Orleans ERS Total Composite	8.12	4.94	0.73	0.94	1.75	96.98	85.03	1.48	0.16
Strategic Asset Allocation	7.84	4.92	0.00	1.00	0.00	100.00	100.00	1.43	--
Chicago Equity Partners	15.96	9.21	-0.89	0.99	1.50	96.31	106.75	1.64	-0.74
Russell 1000	17.07	9.21	0.00	1.00	0.00	100.00	100.00	1.77	--
Barrow Hanley Mewhinney & Strauss	13.65	9.63	0.24	0.99	2.66	103.08	105.15	1.33	0.04
Russell 1000 Value	13.55	9.35	0.00	1.00	0.00	100.00	100.00	1.36	--
NewSouth Capital	13.62	9.45	2.54	0.69	6.41	73.82	71.98	1.36	-0.39
Russell 2500	16.13	11.37	0.00	1.00	0.00	100.00	100.00	1.35	--
Earnest Partners	11.14	11.25	1.18	1.00	2.93	99.54	90.93	0.92	0.40
MSCI ACWI ex USA	9.97	10.88	0.00	1.00	0.00	100.00	100.00	0.84	--
Pyramis Global Advisors	2.85	2.78	0.80	1.03	0.83	116.49	93.77	0.74	1.04
BBgBarc US Universal TR	1.98	2.57	0.00	1.00	0.00	100.00	100.00	0.46	--
Prisma Capital Partners	2.49	10.01	-0.87	1.02	9.51	100.72	129.82	0.17	-0.08
HFRI Fund of Funds Composite Index	3.29	3.04	0.00	1.00	0.00	100.00	100.00	0.82	--
Vanguard Real Estate ETF	6.92	12.62	0.60	1.00	0.75	100.20	96.77	0.48	0.82
MSCI US REIT	6.30	12.57	0.00	1.00	0.00	100.00	100.00	0.44	--
Cash Account	0.17	0.16	-0.08	0.31	0.19	20.73	--	-4.03	-3.29
FTSE T-Bill 3 Months TR	0.80	0.18	0.00	1.00	0.00	100.00	--	0.00	--

## Chicago Equity Partners

As of September 30, 2018

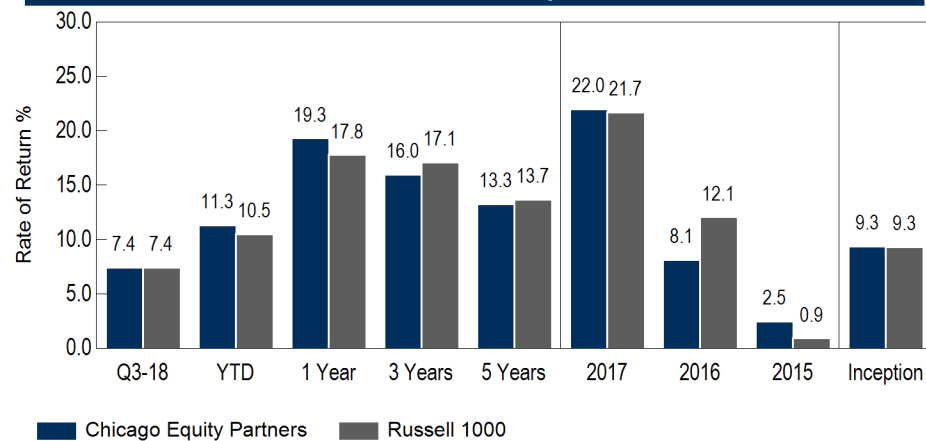
## Account Information

Account Name	Chicago Equity Partners
Account Structure	Separate Account
Investment Style	Active
Inception Date	6/01/06
Account Type	
Benchmark	Russell 1000
Universe	eV US Large Cap Core Equity Net

## 3 Year Risk/Return Statistics

	Chicago Equity Partners	Russell 1000
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	7.58	8.09
Minimum Return	-5.63	-5.38
Annualized Return	15.96	17.07
Total Return	55.91	60.44
Annualized Excess Return Over Risk Free	15.15	16.26
Annualized Excess Return	-1.11	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	0.99	1.00
Upside Deviation	6.82	7.13
Downside Deviation	6.37	6.31

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	9.21	9.21
Alpha	-0.06	0.00
Sharpe Ratio	1.64	1.77
Excess Return Over Market / Risk	-0.12	0.00
Tracking Error	1.50	0.00
Information Ratio	-0.74	--

## CORRELATION STATISTICS

R-Squared	0.97	1.00
Correlation	0.99	1.00

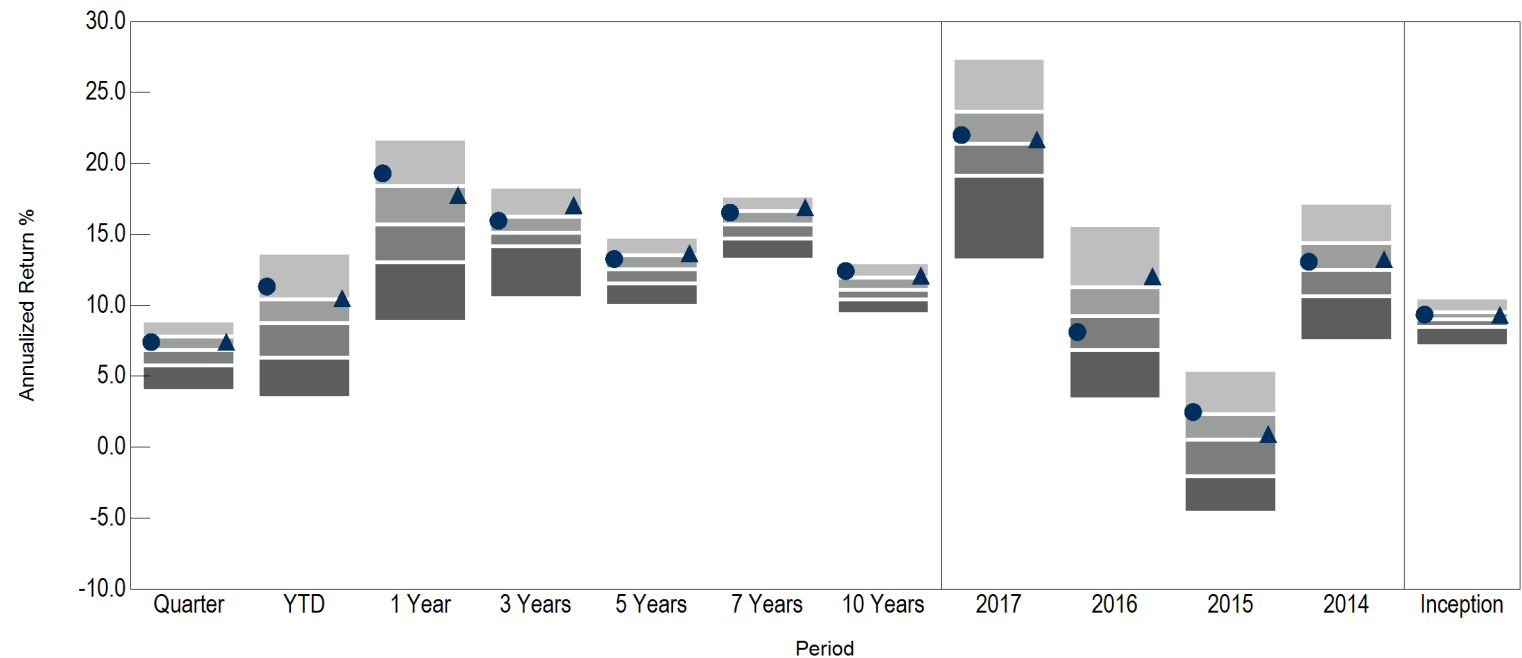
## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 6/1/06
Beginning Market Value	\$23,037,243	\$22,878,422	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	\$0	-\$649,500	-\$649,500	-\$649,500	-\$649,500	-\$649,500	-\$649,500
Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Investment Change	\$1,707,501	\$1,866,322	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744
Ending Market Value	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744	\$24,744,744

## Chicago Equity Partners

As of September 30, 2018

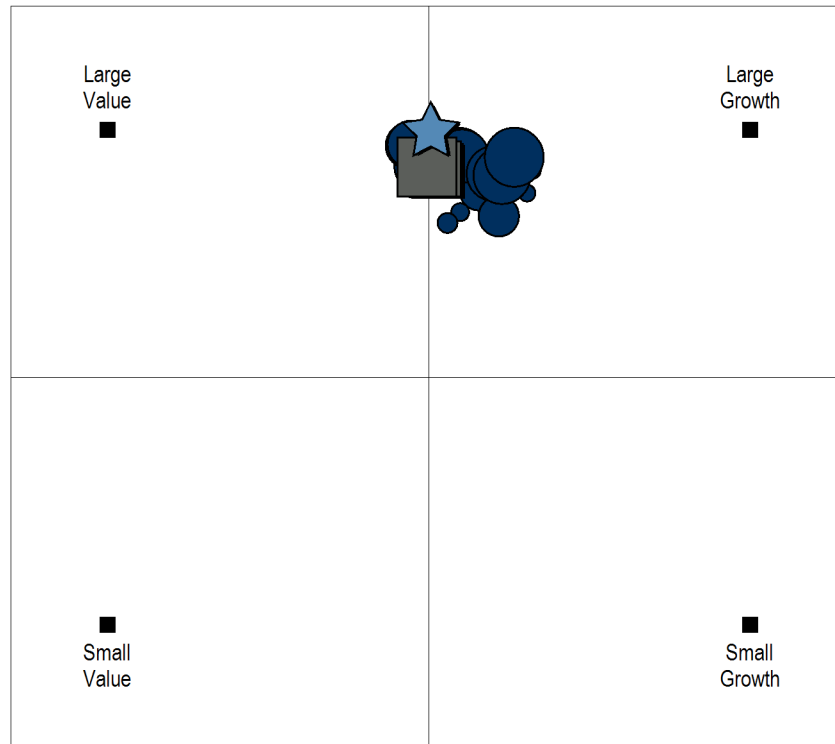
Chicago Equity Partners vs. eV US Large Cap Core Equity Net



	Return (Rank)											
5th Percentile	8.90	13.6	21.7	18.3	14.8	17.7	13.0	27.4	15.6	5.41	17.2	10.5
25th Percentile	7.82	10.4	18.4	16.2	13.5	16.6	11.9	23.6	11.3	2.36	14.4	9.55
Median	6.87	8.75	15.7	15.1	12.5	15.7	11.1	21.4	9.25	0.56	12.5	9.04
75th Percentile	5.78	6.33	13.0	14.1	11.5	14.7	10.4	19.1	6.86	-2.04	10.6	8.49
95th Percentile	4.00	3.51	8.85	10.5	10.0	13.2	9.40	13.2	3.41	-4.58	7.50	7.13
# of Portfolios	168	168	168	159	152	131	113	188	177	142	140	97
● Chicago Equity Partners	7.41 (35)	11.3 (19)	19.3 (18)	15.9 (28)	13.2 (34)	16.5 (27)	12.4 (14)	22.0 (44)	8.12 (64)	2.48 (24)	13.0 (42)	9.35 (39)
▲ Russell 1000	7.42 (35)	10.4 (25)	17.7 (33)	17.0 (18)	13.6 (24)	16.9 (20)	12.0 (23)	21.6 (47)	12.0 (20)	0.92 (47)	13.2 (39)	9.31 (43)

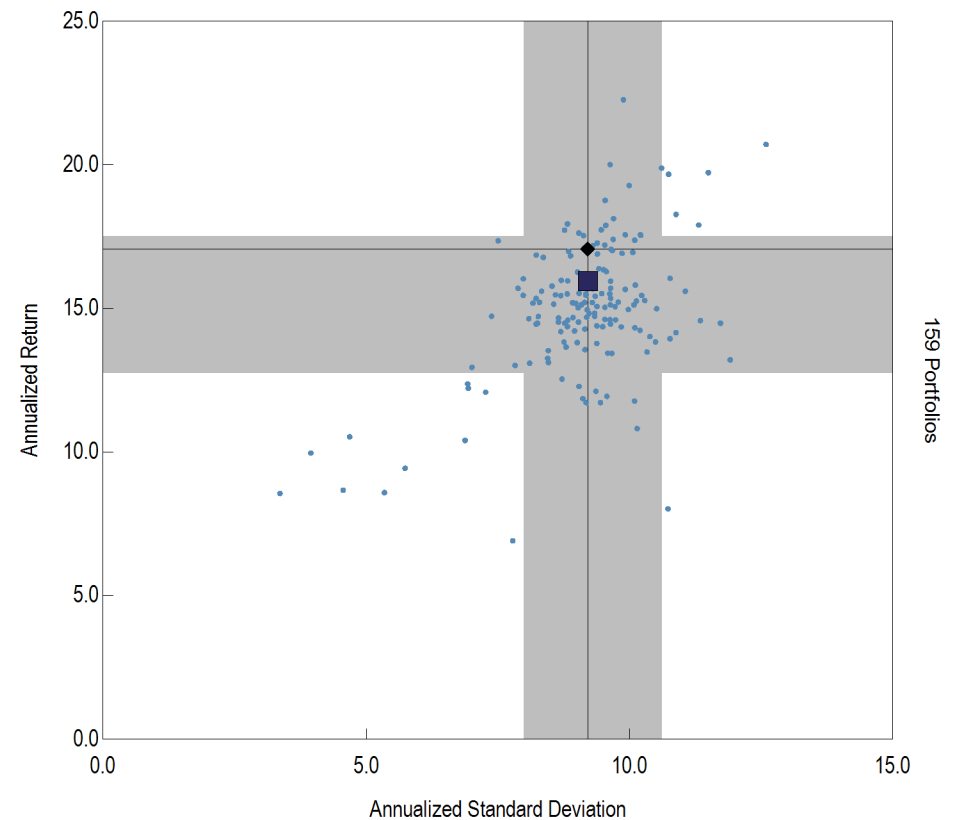


3 Year Style Map



● Chicago Equity Partners    ■ Dow Jones U.S. Total Stock Market    ★ Russell 1000

3 Year Risk/Return



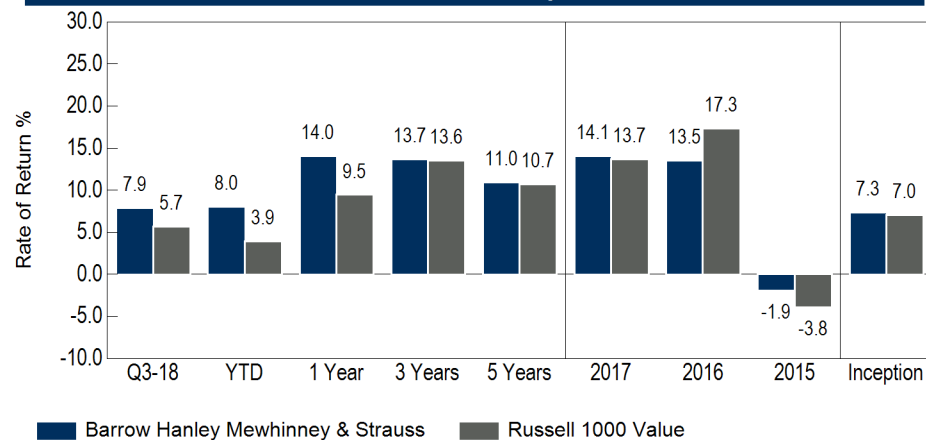
■ Chicago Equity Partners    ■ 68% Confidence Interval  
◆ Russell 1000    ● eV US Large Cap Core Equity Net

As of September 30, 2018

## Account Information

Account Name	Barrow Hanley Mewhinney & Strauss
Account Structure	Separate Account
Investment Style	Active
Inception Date	9/01/06
Account Type	
Benchmark	Russell 1000 Value
Universe	eV US Large Cap Value Equity Net

## Return Summary



## 3 Year Risk/Return Statistics

	Barrow Hanley Mewhinney & Strauss	Russell 1000 Value
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	7.43	7.55
Minimum Return	-5.68	-5.17
Annualized Return	13.65	13.55
Total Return	46.81	46.41
Annualized Excess Return Over Risk Free	12.85	12.75
Annualized Excess Return	0.10	0.00

## RISK SUMMARY STATISTICS

Beta	0.99	1.00
Upside Deviation	7.06	7.19
Downside Deviation	6.88	6.23

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	9.63	9.35
Alpha	0.02	0.00
Sharpe Ratio	1.33	1.36
Excess Return Over Market / Risk	0.01	0.00
Tracking Error	2.66	0.00
Information Ratio	0.04	--

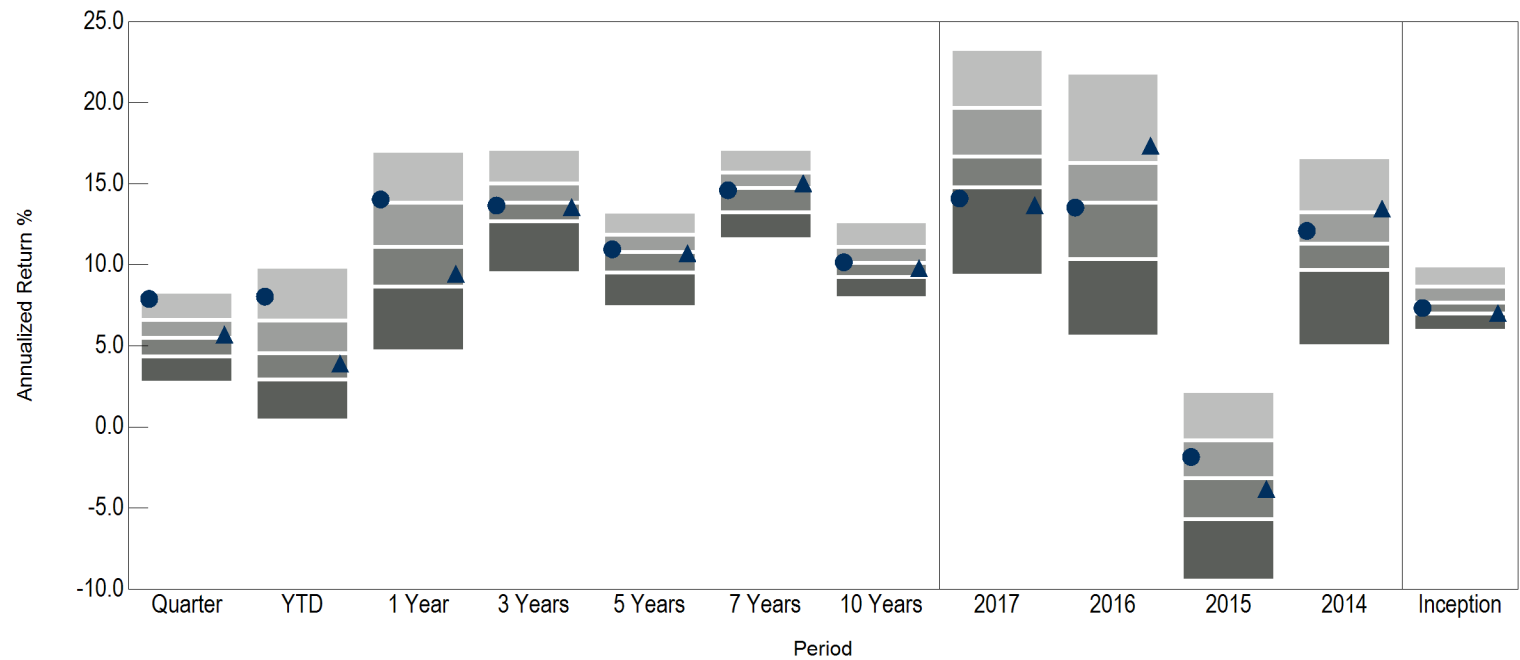
## CORRELATION STATISTICS

R-Squared	0.92	1.00
Correlation	0.96	1.00

## Summary Of Cash Flows

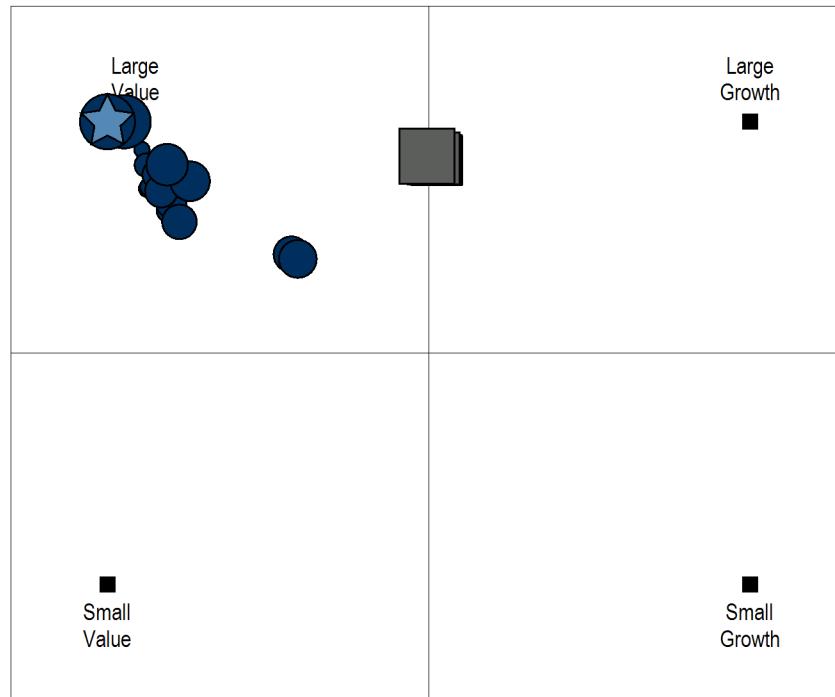
	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 9/1/06
Beginning Market Value	\$23,005,833	\$23,269,045	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	\$0	-\$365,900	-\$365,900	-\$365,900	-\$365,900	-\$365,900	-\$365,900
Net Cash Flow	\$0	-\$72,648	-\$72,648	-\$72,648	-\$72,648	-\$72,648	-\$72,648
Net Investment Change	\$1,815,686	\$1,625,122	\$24,894,167	\$24,894,167	\$24,894,167	\$24,894,167	\$24,894,167
Ending Market Value	\$24,821,519	\$24,821,519	\$24,821,519	\$24,821,519	\$24,821,519	\$24,821,519	\$24,821,519

## Barrow Hanley Mewhinney &amp; Strauss vs. eV US Large Cap Value Equity Net



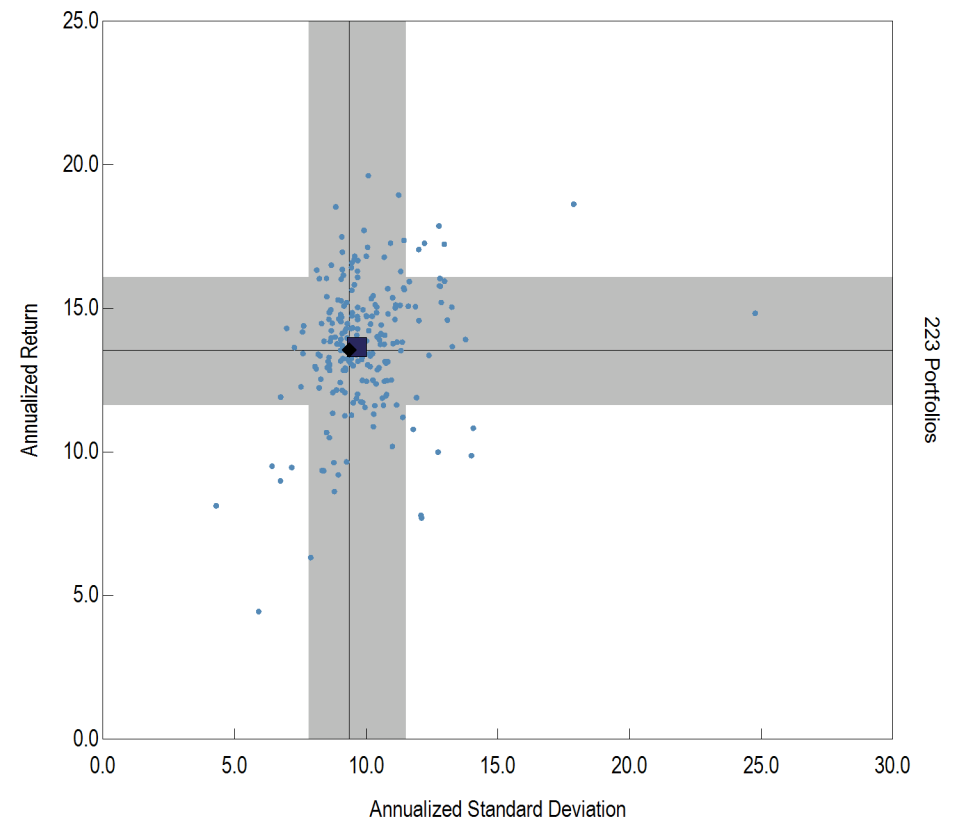
	Return (Rank)											
5th Percentile	8.30	9.85	17.0	17.1	13.2	17.1	12.6	23.3	21.8	2.21	16.6	9.94
25th Percentile	6.63	6.59	13.8	15.0	11.8	15.6	11.1	19.7	16.2	-0.82	13.2	8.66
Median	5.50	4.56	11.1	13.8	10.8	14.7	10.1	16.6	13.8	-3.14	11.3	7.70
75th Percentile	4.36	2.94	8.68	12.6	9.55	13.2	9.27	14.7	10.3	-5.65	9.70	7.01
95th Percentile	2.76	0.43	4.70	9.52	7.40	11.6	7.96	9.36	5.61	-9.44	4.99	5.96
# of Portfolios	227	226	225	223	212	188	168	231	225	195	197	139
● Barrow Hanley Mewhinney & Strauss	7.89 (9)	8.04 (14)	14.0 (24)	13.6 (56)	10.9 (46)	14.5 (53)	10.1 (51)	14.0 (80)	13.5 (53)	-1.85 (37)	12.0 (41)	7.33 (68)
▲ Russell 1000 Value	5.70 (47)	3.92 (62)	9.45 (64)	13.5 (57)	10.7 (52)	15.0 (43)	9.79 (60)	13.6 (86)	17.3 (19)	-3.83 (59)	13.4 (24)	7.02 (75)

3 Year Style Map



- Barrow Hanley Mewhinney & Strauss
- ★ Russell 1000 Value
- Dow Jones U.S. Total Stock Market

3 Year Risk/Return



- Barrow Hanley Mewhinney & Strauss
- ◆ Russell 1000 Value
- 68% Confidence Interval
- eV US Large Cap Value Equity Net

As of September 30, 2018

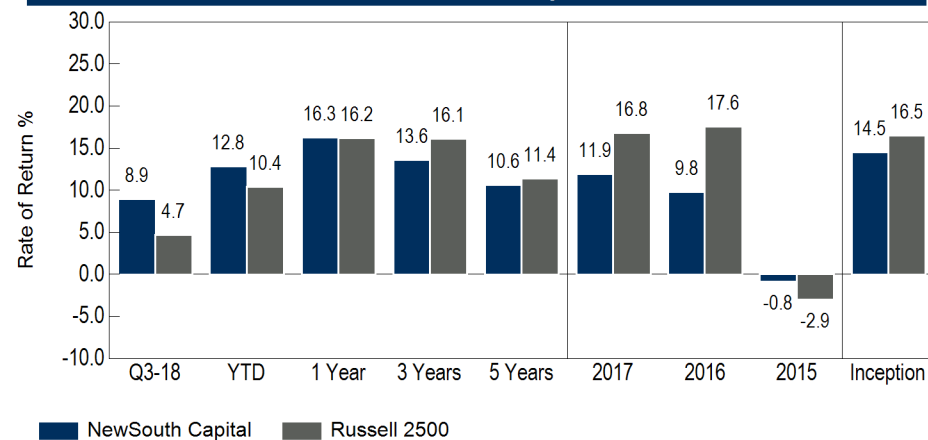
## Account Information

Account Name	NewSouth Capital
Account Structure	Separate Account
Investment Style	Active
Inception Date	9/30/11
Account Type	
Benchmark	Russell 2500
Universe	eV US Small-Mid Cap Core Equity Net

## 3 Year Risk/Return Statistics

	NewSouth Capital	Russell 2500
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	6.92	8.51
Minimum Return	-4.68	-7.97
Annualized Return	13.62	16.13
Total Return	46.67	56.62
Annualized Excess Return Over Risk Free	12.82	15.33
Annualized Excess Return	-2.51	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	0.69	1.00
Upside Deviation	6.79	7.88
Downside Deviation	4.96	9.07

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	9.45	11.37
Alpha	0.21	0.00
Sharpe Ratio	1.36	1.35
Excess Return Over Market / Risk	-0.27	0.00
Tracking Error	6.41	0.00
Information Ratio	-0.39	--

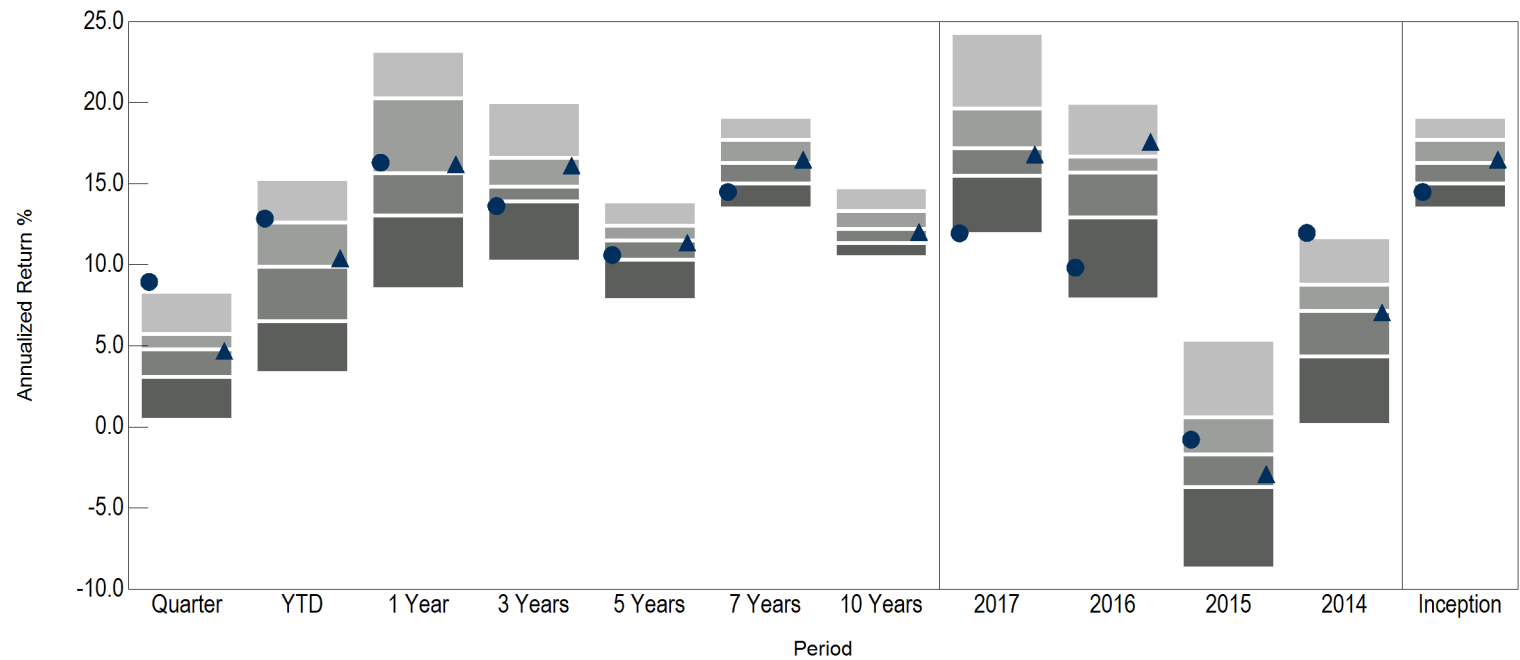
## CORRELATION STATISTICS

R-Squared	0.68	1.00
Correlation	0.83	1.00

## Summary Of Cash Flows

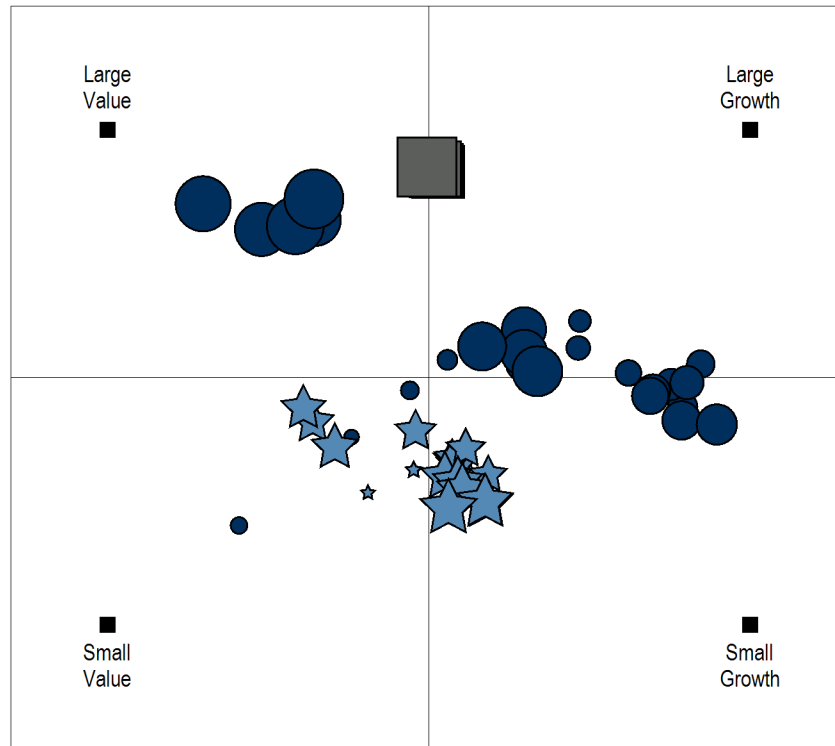
	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 9/30/11
Beginning Market Value	\$29,460,798	\$30,063,942	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	-\$359,046	-\$2,001,246	-\$2,001,246	-\$2,001,246	-\$2,001,246	-\$2,001,246	-\$2,001,246
Net Cash Flow	-\$359,046	-\$359,046	-\$359,046	-\$359,046	-\$359,046	-\$359,046	-\$359,046
Net Investment Change	\$2,607,602	\$2,004,458	\$32,068,400	\$32,068,400	\$32,068,400	\$32,068,400	\$32,068,400
Ending Market Value	\$31,709,354	\$31,709,354	\$31,709,354	\$31,709,354	\$31,709,354	\$31,709,354	\$31,709,354

## NewSouth Capital vs. eV US Small-Mid Cap Core Equity Net



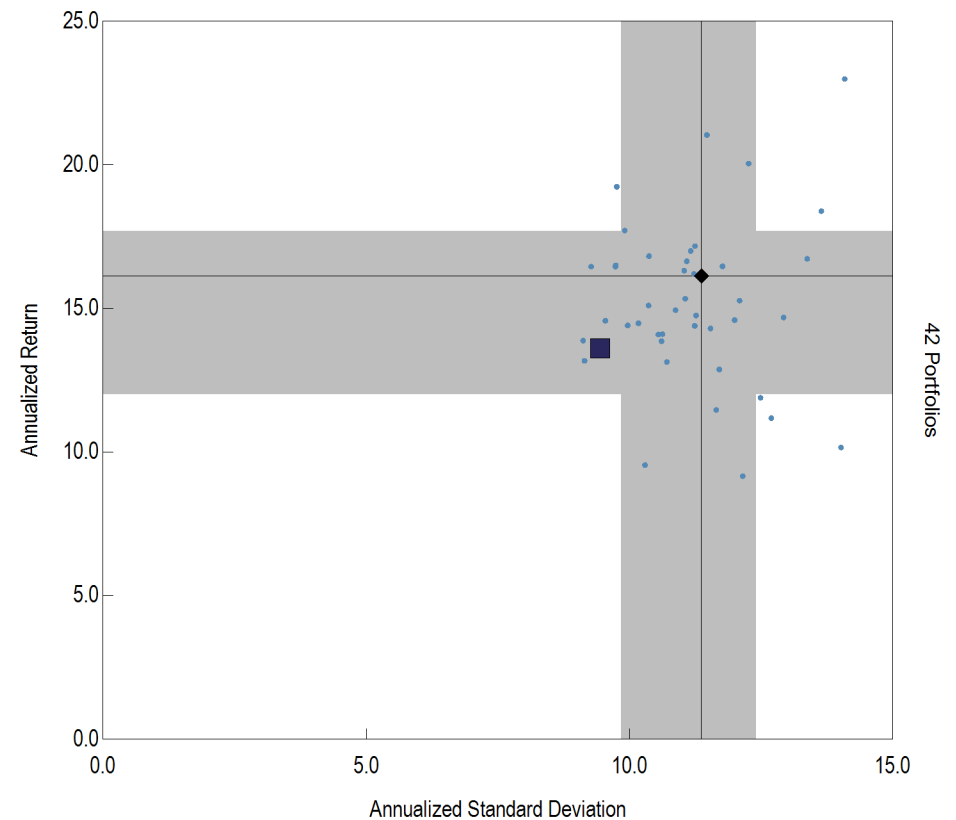
	Return (Rank)											
5th Percentile	8.30	15.2	23.1	20.0	13.8	19.1	14.7	24.2	19.9	5.34	11.6	19.1
25th Percentile	5.74	12.6	20.2	16.6	12.4	17.7	13.3	19.6	16.7	0.63	8.79	17.7
Median	4.81	9.91	15.6	14.8	11.5	16.3	12.2	17.2	15.7	-1.66	7.18	16.3
75th Percentile	3.12	6.56	13.0	13.9	10.3	15.0	11.3	15.4	12.9	-3.69	4.36	15.0
95th Percentile	0.47	3.36	8.52	10.2	7.86	13.5	10.4	11.9	7.87	-8.72	0.15	13.5
# of Portfolios	46	46	46	42	39	34	30	47	44	31	32	34
● NewSouth Capital	8.94 (4)	12.8 (22)	16.3 (47)	13.6 (79)	10.6 (65)	14.4 (84)	-- (--)	11.9 (95)	9.82 (89)	-0.78 (37)	11.9 (1)	14.4 (84)
▲ Russell 2500	4.70 (53)	10.4 (46)	16.1 (47)	16.1 (40)	11.3 (57)	16.4 (44)	12.0 (54)	16.8 (57)	17.5 (17)	-2.90 (65)	7.07 (53)	16.4 (44)

3 Year Style Map



● NewSouth Capital    ■ Dow Jones U.S. Total Stock Market    ★ Russell 2500

3 Year Risk/Return



■ NewSouth Capital    ■ 68% Confidence Interval  
◆ Russell 2500    ● eV US Small-Mid Cap Core Equity Net

As of September 30, 2018

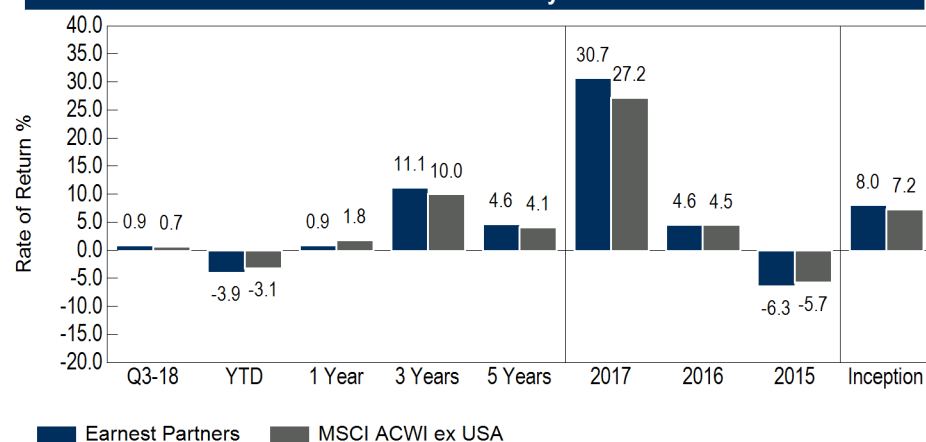
## Account Information

Account Name	Earnest Partners
Account Structure	Separate Account
Investment Style	Active
Inception Date	10/01/11
Account Type	
Benchmark	MSCI ACWI ex USA
Universe	eV ACWI ex-US All Cap Equity Net

## 3 Year Risk/Return Statistics

	Earnest Partners	MSCI ACWI ex USA
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	8.31	8.13
Minimum Return	-8.87	-6.80
Annualized Return	11.14	9.97
Total Return	37.27	32.98
Annualized Excess Return Over Risk Free	10.33	9.16
Annualized Excess Return	1.17	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	1.00	1.00
Upside Deviation	7.59	7.28
Downside Deviation	7.72	5.45

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	11.25	10.88
Alpha	0.09	0.00
Sharpe Ratio	0.92	0.84
Excess Return Over Market / Risk	0.10	0.00
Tracking Error	2.93	0.00
Information Ratio	0.40	--

## CORRELATION STATISTICS

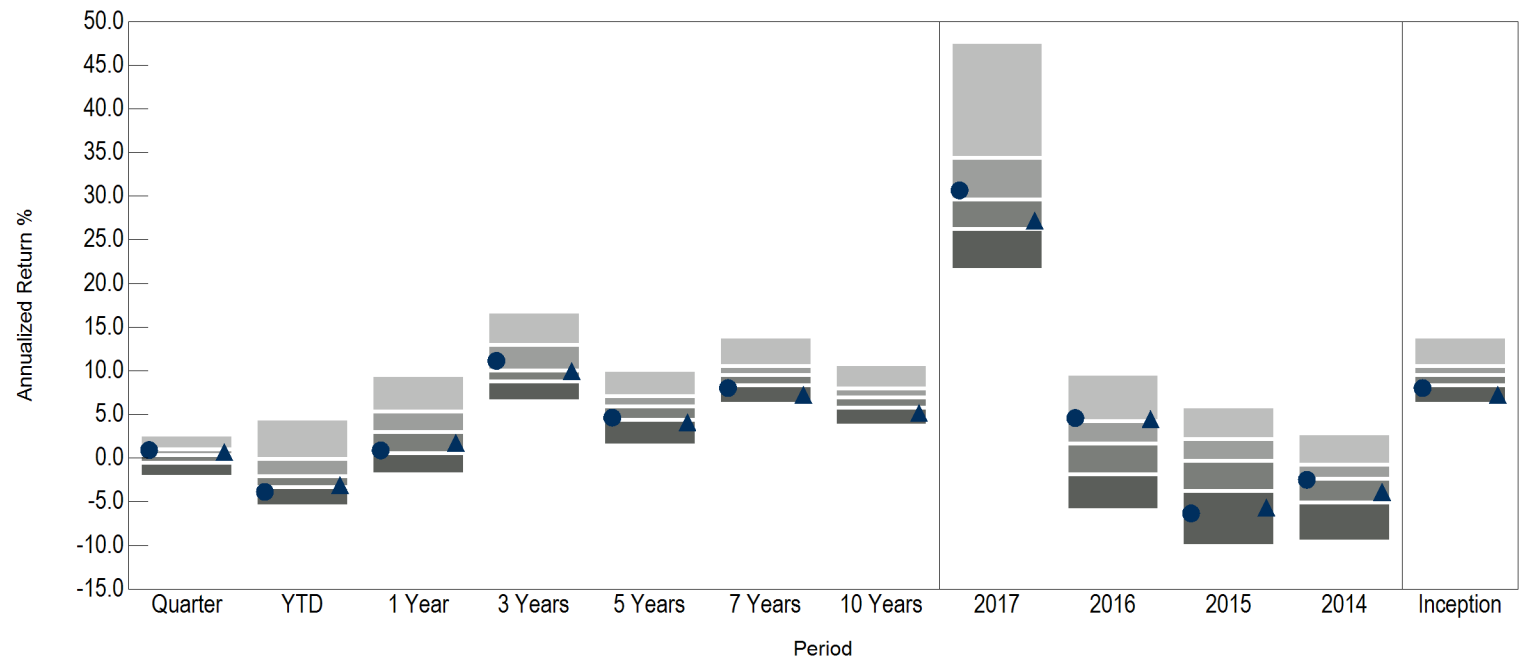
R-Squared	0.93	1.00
Correlation	0.97	1.00

## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 10/1/11
Beginning Market Value	\$19,429,869	\$20,657,984	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	\$0	-\$260,162	-\$260,162	-\$260,162	-\$260,162	-\$260,162	-\$260,162
Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Investment Change	\$179,906	-\$1,048,208	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776
Ending Market Value	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776	\$19,609,776

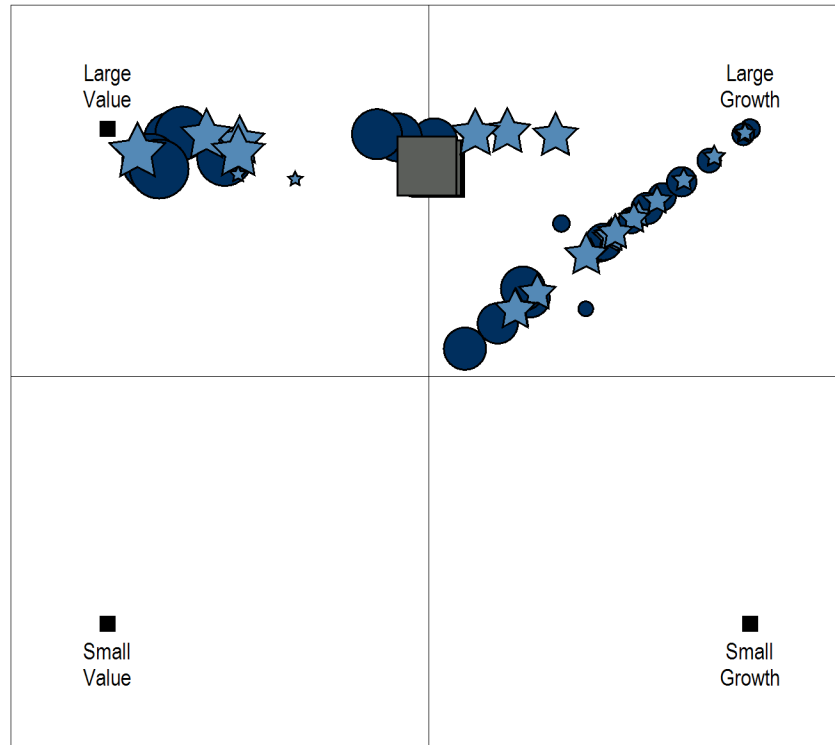


## Earnest Partners vs. eV ACWI ex-US All Cap Equity Net



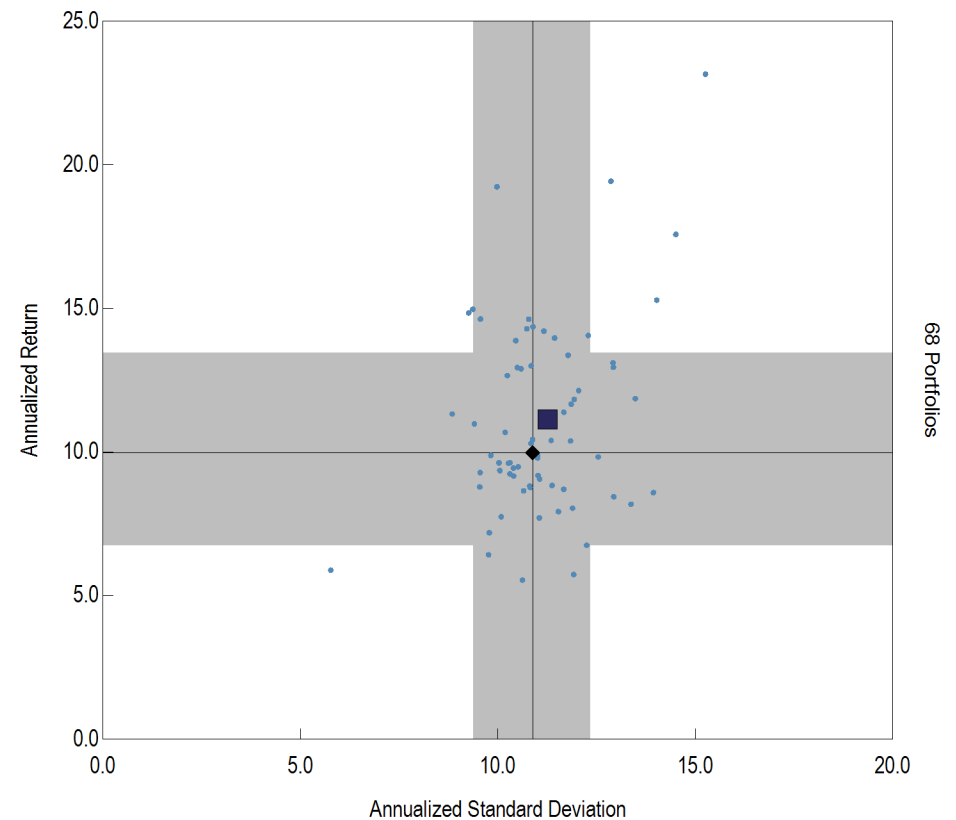
	Return (Rank)											
5th Percentile	2.64	4.46	9.45	16.7	10.0	13.9	10.7	47.6	9.67	5.87	2.82	13.9
25th Percentile	1.06	-0.08	5.35	13.0	7.15	10.5	8.04	34.3	4.28	2.25	-0.71	10.5
Median	0.38	-2.05	3.00	10.0	5.98	9.53	6.97	29.6	1.74	-0.29	-2.30	9.53
75th Percentile	-0.46	-3.25	0.62	8.80	4.43	8.37	5.85	26.2	-1.85	-3.72	-5.06	8.37
95th Percentile	-2.13	-5.50	-1.81	6.53	1.47	6.22	3.74	21.5	-5.90	-10.0	-9.50	6.22
# of Portfolios	70	70	70	68	63	51	40	78	72	56	46	51
● Earnest Partners	0.93 (33)	-3.86 (79)	0.88 (74)	11.1 (42)	4.63 (71)	8.03 (78)	-- (--)	30.6 (42)	4.59 (24)	-6.33 (88)	-2.48 (52)	8.03 (78)
▲ MSCI ACWI ex USA	0.71 (41)	-3.09 (69)	1.76 (66)	9.97 (51)	4.12 (78)	7.25 (87)	5.18 (81)	27.1 (69)	4.50 (24)	-5.66 (86)	-3.87 (64)	7.25 (87)

3 Year Style Map



● Earnest Partners    ■ Dow Jones U.S. Total Stock Market    ★ MSCI ACWI ex USA

3 Year Risk/Return



■ Earnest Partners    ■ 68% Confidence Interval  
◆ MSCI ACWI ex USA    ● eV ACWI ex-US All Cap Equity Net

## iShares S&amp;P 500 Growth ETF

As of September 30, 2018

## Account Information

Account Name	iShares S&P 500 Growth ETF
Account Structure	Separate Account
Investment Style	Passive
Inception Date	3/01/16
Account Type	
Benchmark	S&P 500 Growth
Universe	eV US Large Cap Growth Equity Net

## 2 Year Risk/Return Statistics

	iShares S&P 500 Growth ETF	S&P 500 Growth
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	24	24
Maximum Return	7.11	7.23
Minimum Return	-2.97	-2.98
Annualized Return	22.31	22.53
Total Return	49.59	50.13
Annualized Excess Return Over Risk Free	21.20	21.42
Annualized Excess Return	-0.22	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	0.98	1.00
Upside Deviation	5.91	6.09
Downside Deviation	3.70	3.74

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	7.92	8.07
Alpha	0.03	0.00
Sharpe Ratio	2.68	2.65
Excess Return Over Market / Risk	-0.03	0.00
Tracking Error	0.83	0.00
Information Ratio	-0.27	--

## CORRELATION STATISTICS

R-Squared	0.99	1.00
Correlation	0.99	1.00

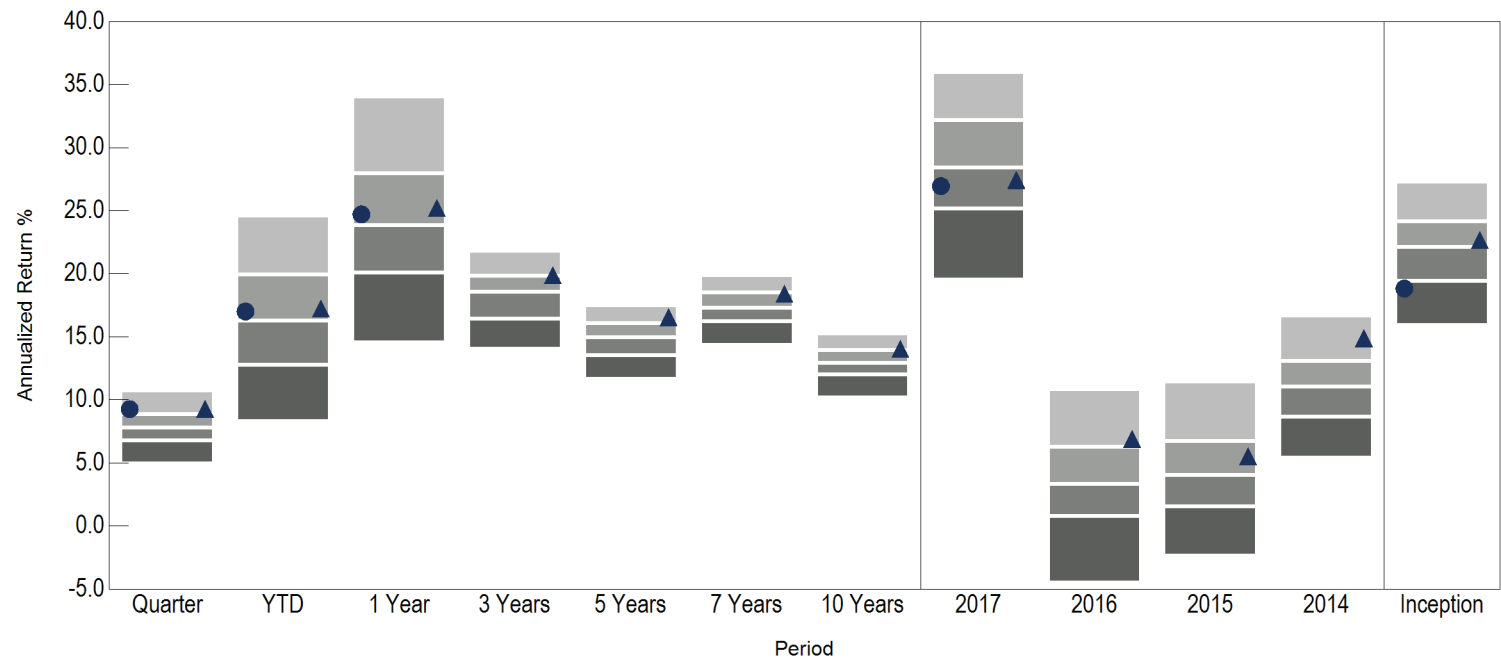
## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 3/1/16
Beginning Market Value	\$17,315,974	\$16,279,292	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	-\$54,936	-\$169,823	-\$169,823	-\$169,823	-\$169,823	-\$169,823	-\$169,823
Net Cash Flow	-\$54,936	-\$54,936	-\$54,936	-\$54,936	-\$54,936	-\$54,936	-\$54,936
Net Investment Change	\$1,599,400	\$2,636,082	\$18,915,374	\$18,915,374	\$18,915,374	\$18,915,374	\$18,915,374
Ending Market Value	\$18,860,438	\$18,860,438	\$18,860,438	\$18,860,438	\$18,860,438	\$18,860,438	\$18,860,438

## iShares S&amp;P 500 Growth ETF

As of September 30, 2018

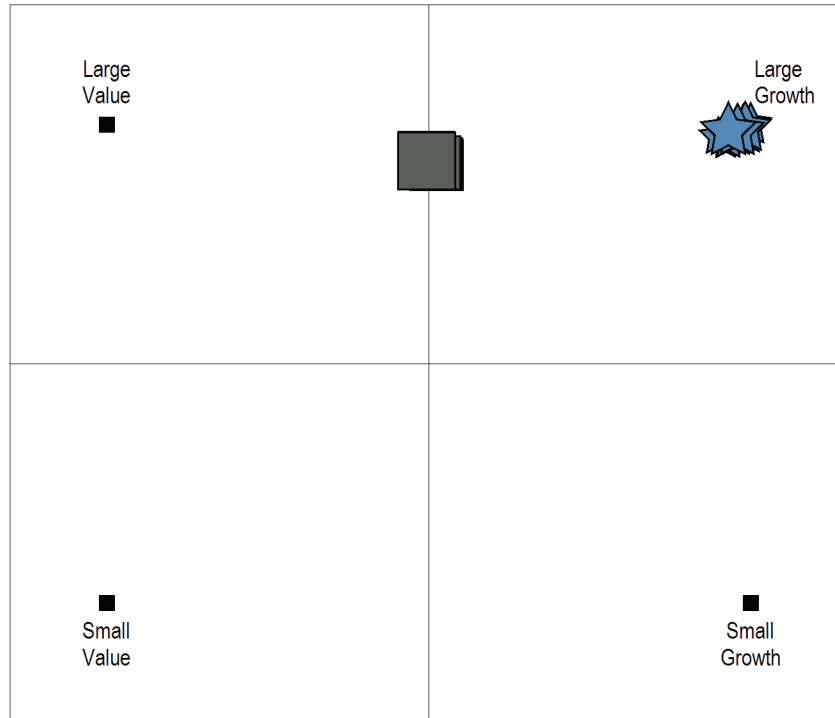
iShares S&amp;P 500 Growth ETF vs. eV US Large Cap Growth Equity Net



## Return (Rank)

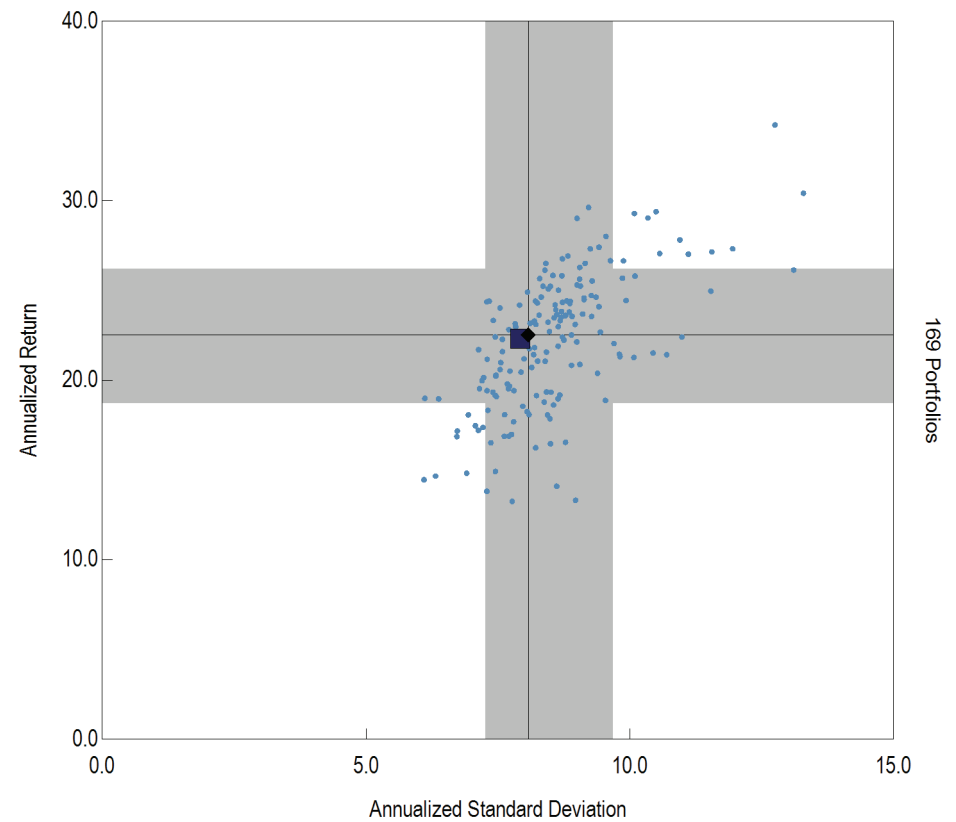
	Quarter	YTD	1 Year	3 Years	5 Years	7 Years	10 Years	2017	2016	2015	2014	Inception
5th Percentile	10.7	24.6	34.0	21.7	17.4	19.8	15.2	35.9	10.8	11.4	16.6	27.3
25th Percentile	8.89	19.9	27.9	19.8	16.1	18.5	13.9	32.2	6.31	6.78	13.1	24.1
Median	7.84	16.3	23.8	18.6	15.0	17.3	12.9	28.4	3.38	4.09	11.0	22.1
75th Percentile	6.82	12.8	20.1	16.4	13.5	16.2	12.0	25.2	0.84	1.61	8.71	19.4
95th Percentile	4.99	8.36	14.5	14.1	11.7	14.3	10.2	19.5	-4.46	-2.31	5.47	15.9
# of Portfolios	172	172	172	163	159	146	138	182	182	175	180	165
● iShares S&P 500 Growth ETF	9.26 (20)	17.0 (46)	24.7 (44)	-- (--)	-- (--)	-- (--)	-- (--)	26.9 (62)	-- (--)	-- (--)	-- (--)	18.8 (83)
▲ S&P 500 Growth	9.28 (19)	17.2 (43)	25.2 (40)	19.8 (25)	16.5 (14)	18.4 (27)	14.0 (25)	27.4 (56)	6.89 (22)	5.52 (37)	14.8 (11)	22.6 (41)

3 Year Style Map



● iShares S&P 500 Growth ETF    ★ S&P 500 Growth  
 ■ Dow Jones U.S. Total Stock Market

2 Year Risk/Return



■ iShares S&P 500 Growth ETF    ■ 68% Confidence Interval  
 ★ S&P 500 Growth    ● eV US Large Cap Growth Equity Net

As of September 30, 2018

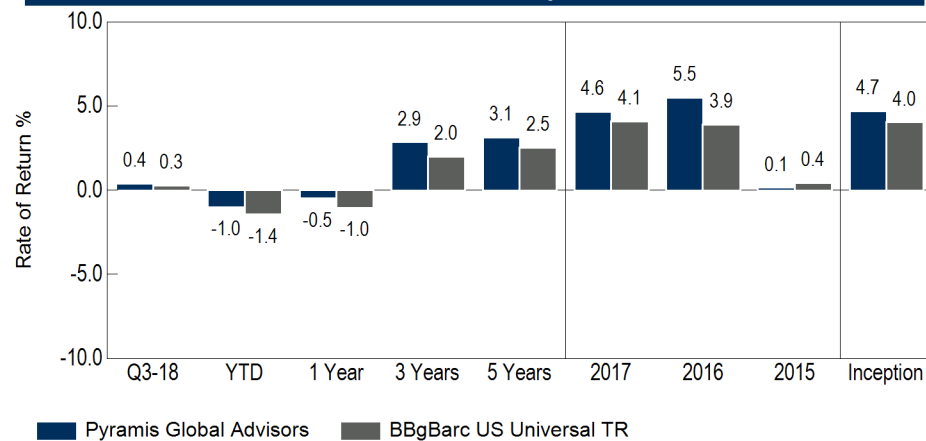
## Account Information

Account Name	Pyramis Global Advisors
Account Structure	Separate Account
Investment Style	Active
Inception Date	5/01/07
Account Type	
Benchmark	BBgBarc US Universal TR
Universe	eV All US Fixed Inc Net

## 3 Year Risk/Return Statistics

	Pyramis Global Advisors	BBgBarc US Universal TR
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	2.05	1.76
Minimum Return	-2.30	-2.25
Annualized Return	2.85	1.98
Total Return	8.80	6.06
Annualized Excess Return Over Risk Free	2.05	1.18
Annualized Excess Return	0.87	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	1.03	1.00
Upside Deviation	1.73	1.43
Downside Deviation	2.20	2.03

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	2.78	2.57
Alpha	0.07	0.00
Sharpe Ratio	0.74	0.46
Excess Return Over Market / Risk	0.31	0.00
Tracking Error	0.83	0.00
Information Ratio	1.04	--

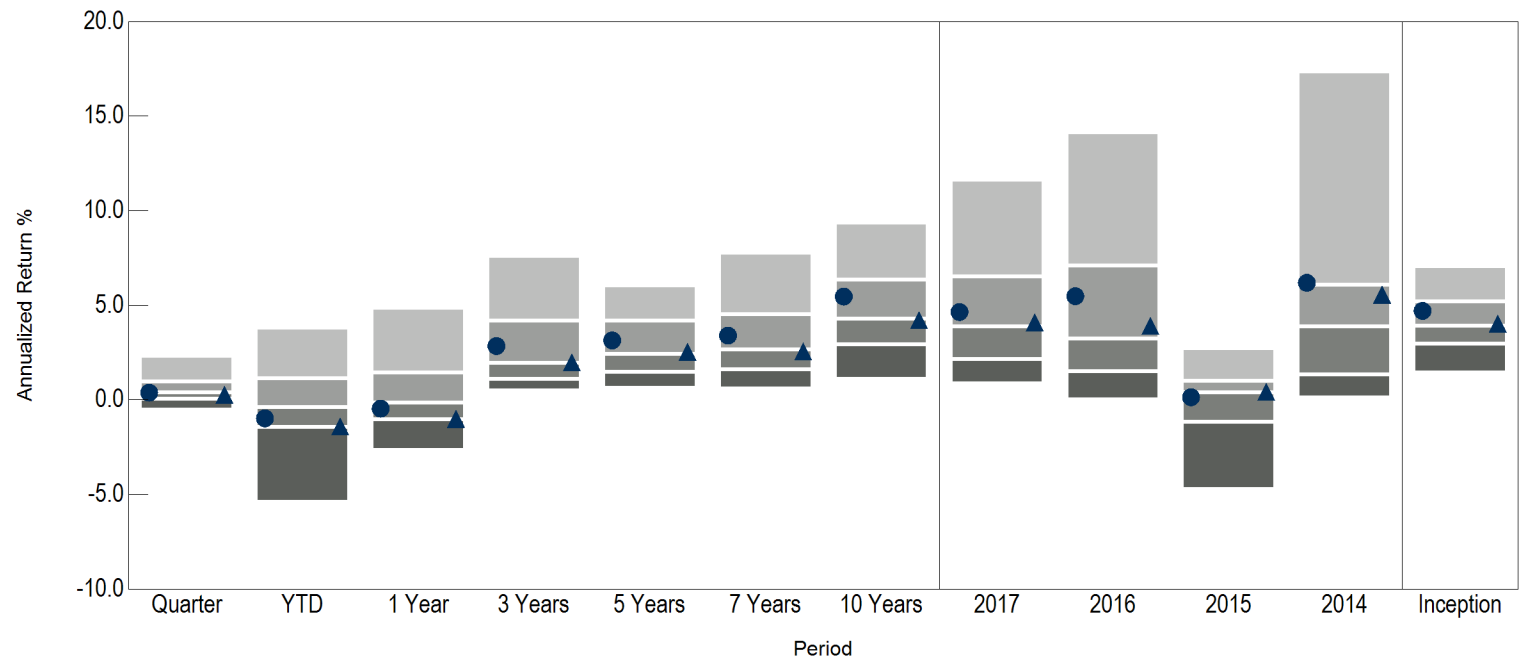
## CORRELATION STATISTICS

R-Squared	0.91	1.00
Correlation	0.95	1.00

## Summary Of Cash Flows

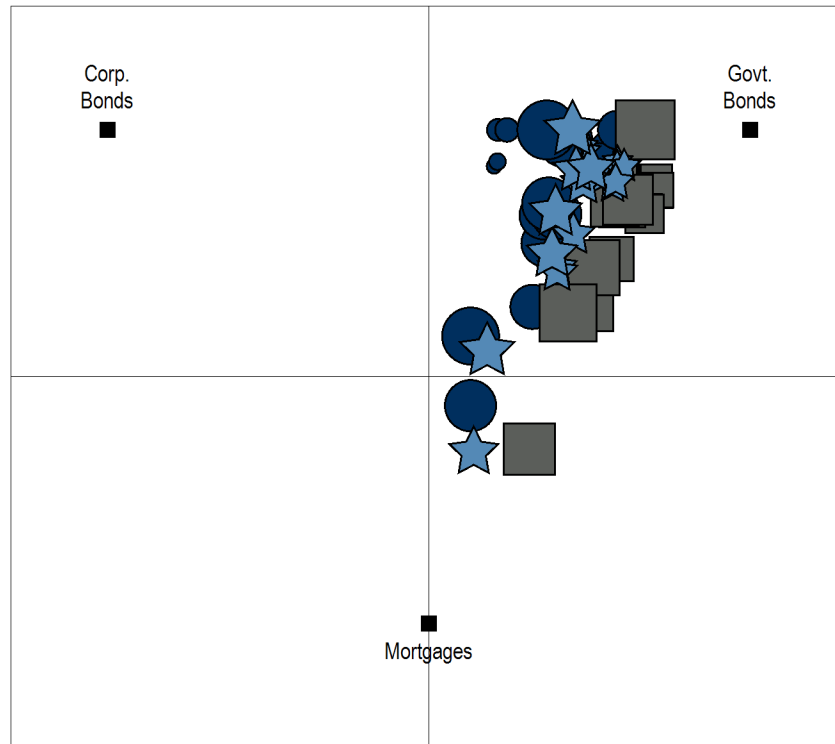
	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 5/1/07
Beginning Market Value	\$78,979,048	\$81,582,671	--	--	--	--	--
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	\$0	-\$500,030	-\$500,030	-\$500,030	-\$500,030	-\$500,030	-\$500,030
Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Investment Change	\$303,482	-\$2,300,142	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529
Ending Market Value	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529	\$79,282,529

## Pyramis Global Advisors vs. eV All US Fixed Inc Net



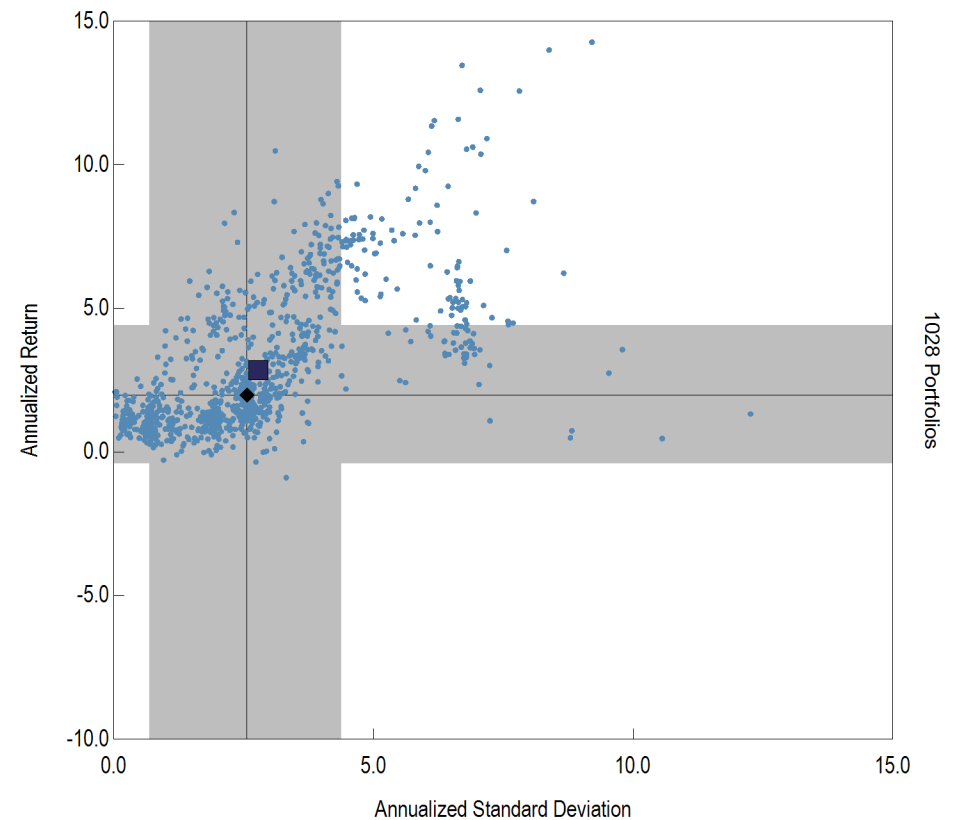
	Return (Rank)											
5th Percentile	2.33	3.81	4.85	7.59	6.03	7.75	9.36	11.6	14.1	2.71	17.3	7.04
25th Percentile	1.01	1.15	1.48	4.22	4.20	4.55	6.38	6.55	7.13	1.03	6.12	5.22
Median	0.42	-0.36	-0.11	1.99	2.44	2.68	4.32	3.91	3.25	0.42	3.92	3.93
75th Percentile	0.07	-1.41	-1.01	1.12	1.50	1.64	2.95	2.19	1.55	-1.12	1.36	2.99
95th Percentile	-0.50	-5.36	-2.61	0.52	0.67	0.61	1.14	0.88	0.05	-4.71	0.16	1.47
# of Portfolios	1,08	1,07	1,07	1,02	952	873	716	1,13	1,03	827	758	623
● Pyramis Global Advisors	0.38 (53)	-0.98 (66)	-0.46 (58)	2.85 (39)	3.14 (39)	3.40 (40)	5.46 (34)	4.65 (40)	5.48 (34)	0.14 (60)	6.19 (24)	4.71 (31)
▲ BBgBarc US Universal TR	0.27 (62)	-1.41 (76)	-1.00 (75)	1.98 (51)	2.53 (49)	2.57 (51)	4.22 (52)	4.09 (48)	3.91 (44)	0.43 (50)	5.56 (33)	4.03 (47)

3 Year Style Map



● Pyramis Global Advisors    ★ BBgBarc US Universal TR  
 ■ BBgBarc US Aggregate TR

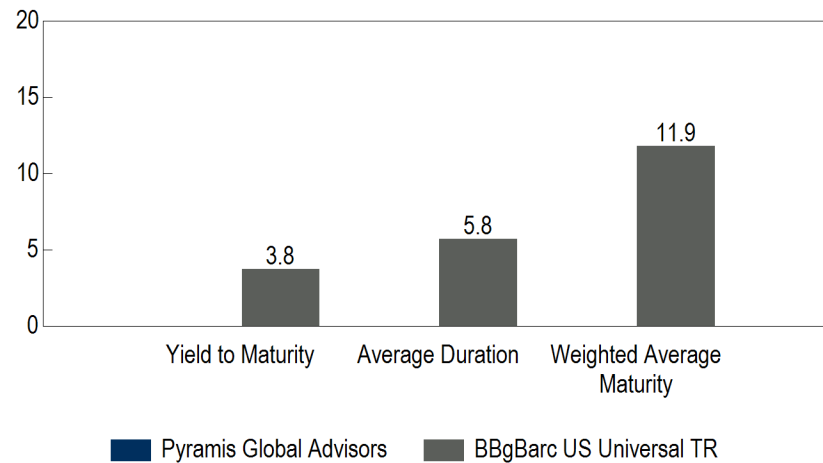
3 Year Risk/Return



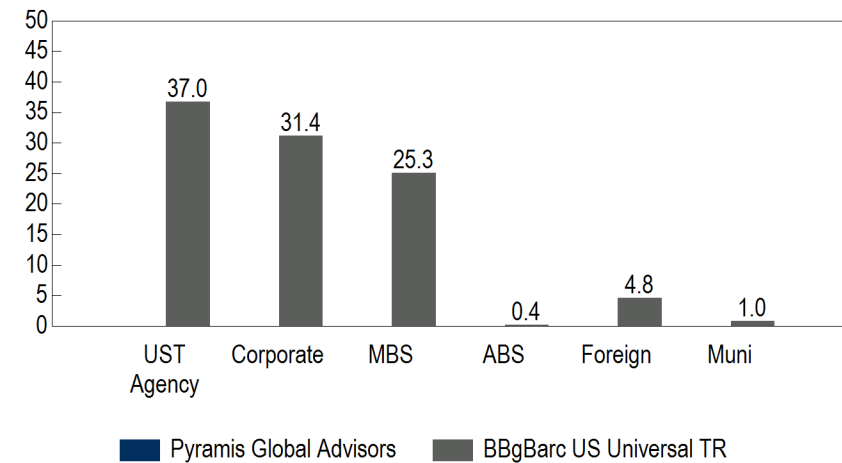
■ Pyramis Global Advisors    ■ 68% Confidence Interval  
 ◆ BBgBarc US Universal TR    ● eV All US Fixed Inc Net



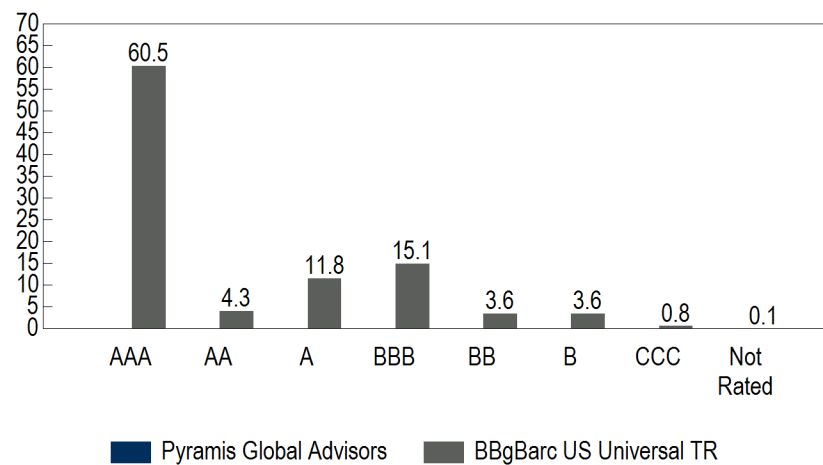
## Fixed Income Characteristics



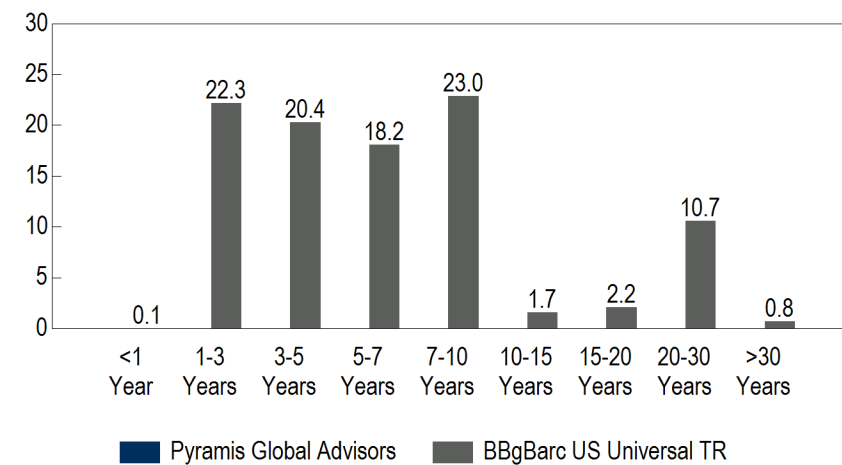
## US Sector Allocation



## Credit Quality Allocation



## Maturity Allocation



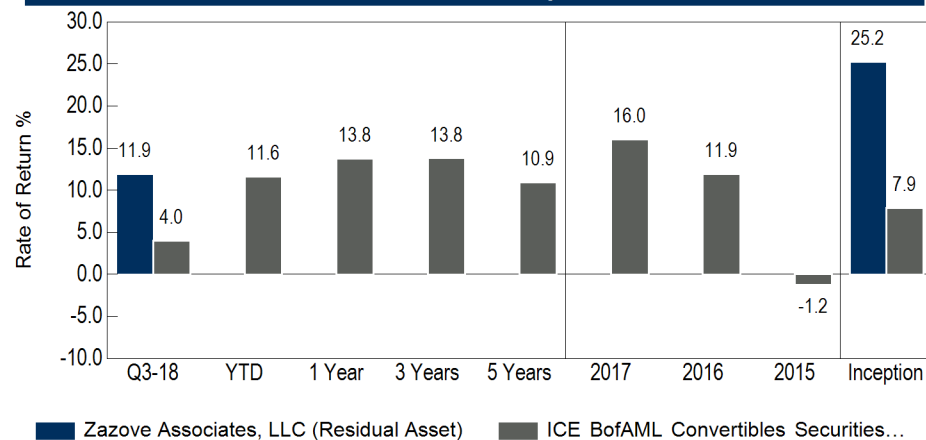
## Zazove Associates, LLC (Residual Asset)

As of September 30, 2018

## Account Information

Account Name	Zazove Associates, LLC (Residual Asset)
Account Structure	Separate Account
Investment Style	Active
Inception Date	2/01/18
Account Type	
Benchmark	ICE BofAML Convertibles Securities TR
Universe	eV US Core Fixed Inc Net

## Return Summary



## 3 Year Risk/Return Statistics

	Zazove Associates, LLC (Residual Asset)	ICE BofAML Convertibles Securities TR
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	9	36
Maximum Return	6.87	5.10
Minimum Return	-2.05	-7.25
Annualized Return	--	13.79
Total Return	--	47.35
Annualized Excess Return Over Risk Free	--	12.99
Annualized Excess Return	--	0.00

## RISK SUMMARY STATISTICS

Beta	--	1.00
Upside Deviation	--	5.17
Downside Deviation	--	7.65

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	--	7.83
Alpha	--	0.00
Sharpe Ratio	--	1.66
Excess Return Over Market / Risk	--	0.00
Tracking Error	--	0.00
Information Ratio	--	--

## CORRELATION STATISTICS

R-Squared	--	1.00
Correlation	--	1.00

## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 2/1/18
Beginning Market Value	\$28,641	\$0	--	--	--	--	\$25,594
Contributions	\$0	\$25,895	\$25,895	\$25,895	\$25,895	\$25,895	\$0
Withdrawals	-\$1,643	-\$3,264	-\$3,264	-\$3,264	-\$3,264	-\$3,264	-\$1,644
Net Cash Flow	-\$1,643	-\$1,643	-\$1,643	-\$1,643	-\$1,643	-\$1,643	-\$1,643
Net Investment Change	\$3,361	\$32,002	\$32,002	\$32,002	\$32,002	\$32,002	\$6,408
Ending Market Value	\$30,359	\$30,359	\$30,359	\$30,359	\$30,359	\$30,359	\$30,359

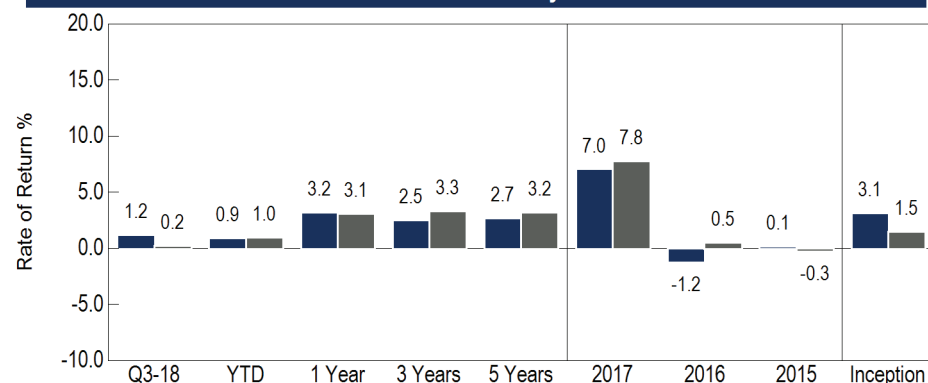
## Prisma Capital Partners

As of September 30, 2018

## Account Information

Account Name	Prisma Capital Partners
Account Structure	Hedge Fund
Investment Style	Active
Inception Date	5/01/07
Account Type	
Benchmark	HFRI Fund of Funds Composite Index
Universe	Commodities Broad Basket MStar MF

## Return Summary



■ Prisma Capital Partners ■ HFRI Fund of Funds Composite Index

## 3 Year Risk/Return Statistics

	Prisma Capital Partners	HFRI Fund of Funds Composite Index
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	11.35	2.33
Minimum Return	-10.09	-2.66
Annualized Return	2.49	3.28
Total Return	7.65	10.17
Annualized Excess Return Over Risk Free	1.69	2.48
Annualized Excess Return	-0.79	0.00

## RISK SUMMARY STATISTICS

Beta	1.02	1.00
Upside Deviation	8.06	1.66
Downside Deviation	9.53	2.76

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	10.01	3.04
Alpha	-0.03	0.00
Sharpe Ratio	0.17	0.81
Excess Return Over Market / Risk	-0.08	0.00
Tracking Error	9.52	0.00
Information Ratio	-0.08	--

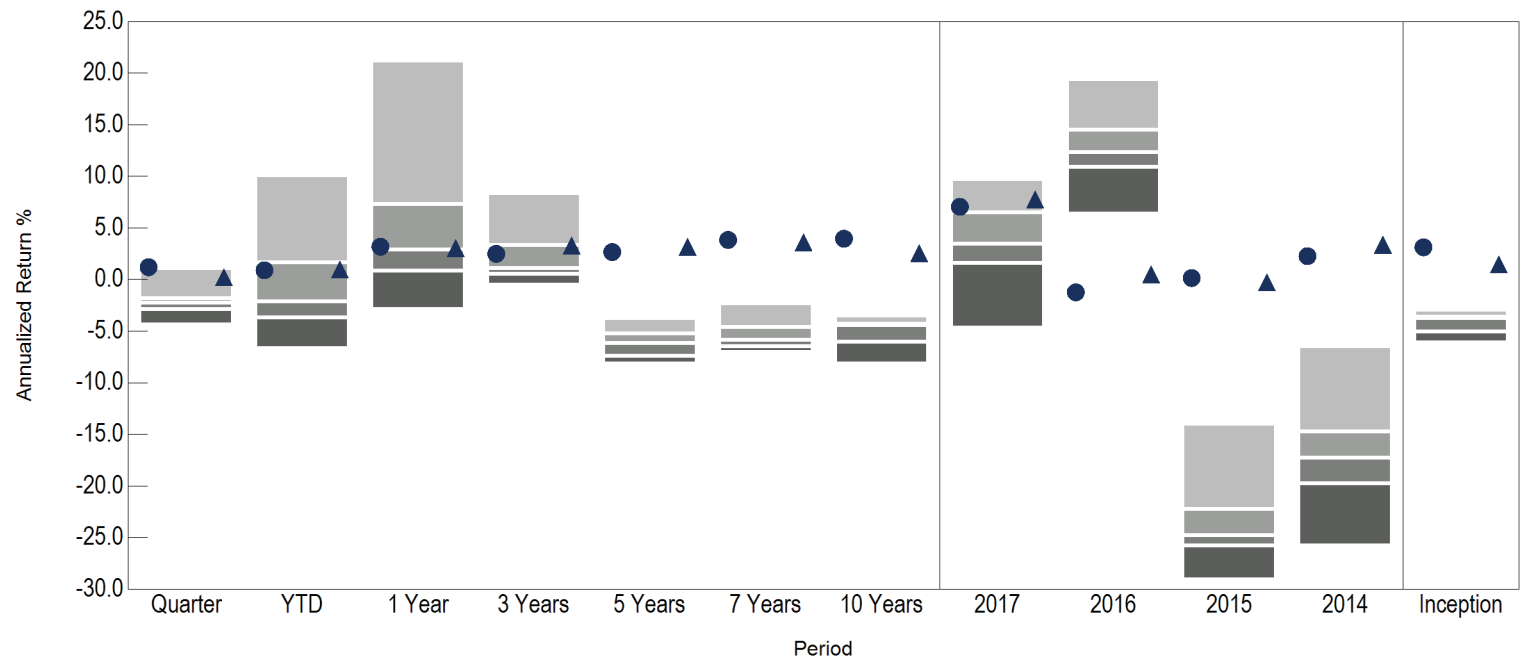
## CORRELATION STATISTICS

R-Squared	0.10	1.00
Correlation	0.31	1.00

## Summary Of Cash Flows

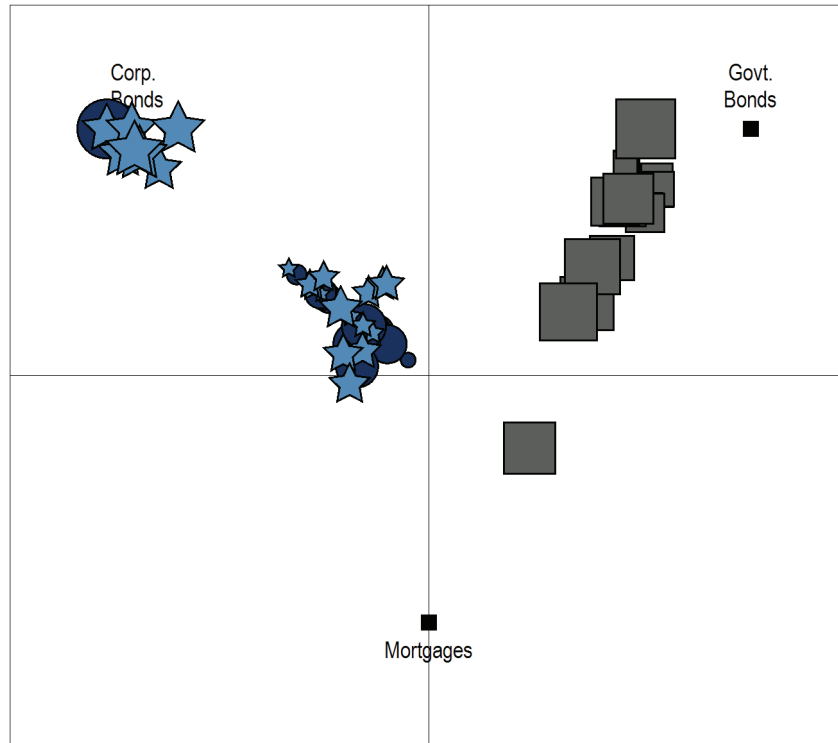
	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 5/1/07
Beginning Market Value	\$20,610,136	\$20,968,736	\$20,813,289	\$20,817,678	\$19,658,559	\$11,581,056	\$11,899,960
Contributions	\$0	\$2,551,000	\$2,551,000	\$2,551,000	\$2,551,000	\$2,551,000	\$2,551,000
Withdrawals	-\$2,557,824	-\$2,868,653	-\$2,868,653	-\$2,868,653	-\$2,868,653	-\$2,868,653	-\$2,868,653
Net Cash Flow	-\$2,557,824	-\$2,557,824	-\$2,557,824	-\$2,557,824	-\$2,557,824	-\$2,557,824	-\$2,557,824
Net Investment Change	\$216,781	-\$141,819	\$13,628	\$9,239	\$1,168,358	\$9,245,861	\$8,926,957
Ending Market Value	\$18,269,093	\$18,269,093	\$18,269,093	\$18,269,093	\$18,269,093	\$18,269,093	\$18,269,093

## Prisma Capital Partners vs. Commodities Broad Basket MStar MF



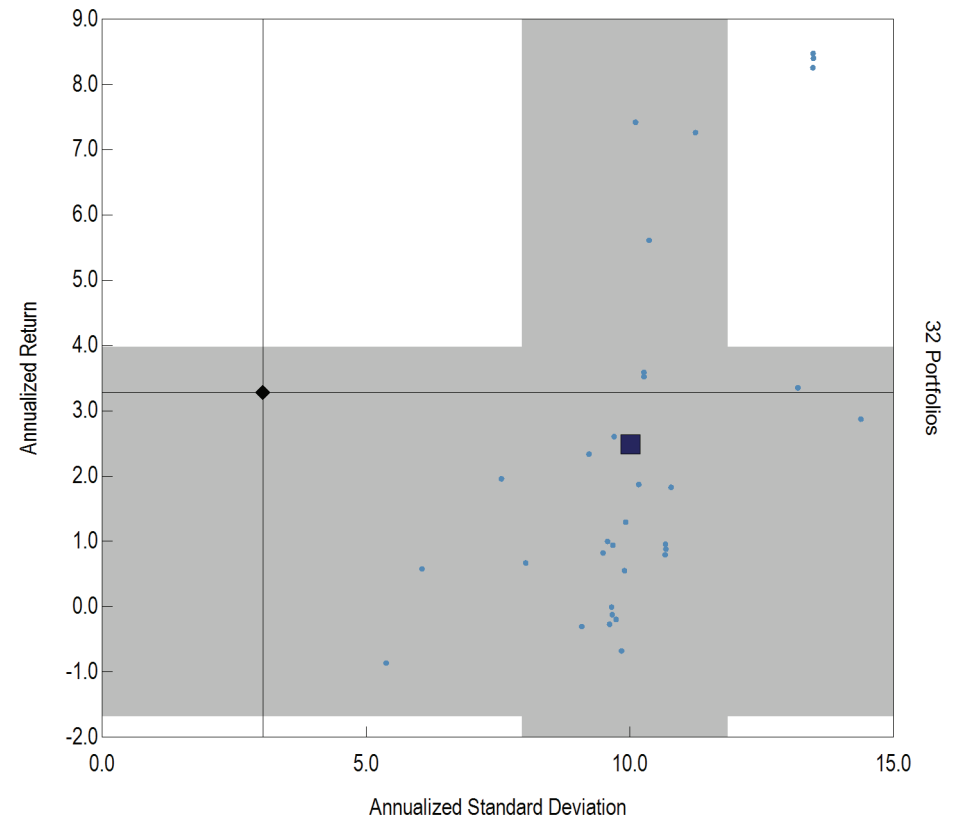
	Return (Rank)											
5th Percentile	1.10	10.0	21.2	8.32	-3.73	-2.36	-3.53	9.71	19.3	-13.9	-6.46	-2.94
25th Percentile	-1.74	1.68	7.32	3.39	-5.16	-4.54	-4.26	6.56	14.5	-22.2	-14.7	-3.58
Median	-2.19	-2.08	2.94	1.15	-6.09	-5.81	-4.40	3.53	12.3	-24.7	-17.2	-3.70
75th Percentile	-2.80	-3.65	0.89	0.57	-7.37	-6.45	-6.01	1.67	10.9	-25.7	-19.6	-4.99
95th Percentile	-4.33	-6.64	-2.85	-0.47	-8.09	-6.96	-8.08	-4.60	6.41	-29.0	-25.7	-6.05
# of Portfolios	33	33	33	32	28	24	7	32	36	37	32	6
● Prisma Capital Partners	1.19 (5)	0.90 (28)	3.18 (42)	2.49 (34)	2.66 (1)	3.83 (1)	3.95 (1)	7.05 (17)	-1.24 (99)	0.15 (1)	2.27 (1)	3.12 (1)
▲ HFRI Fund of Funds Composite Index	0.23 (14)	0.97 (28)	3.05 (48)	3.28 (27)	3.17 (1)	3.60 (1)	2.55 (1)	7.77 (15)	0.51 (99)	-0.27 (1)	3.36 (1)	1.47 (1)

3 Year Style Map



● Prisma Capital Partners  
 ■ BBgBarc US Aggregate TR  
 ★ HFRI Fund of Funds Composite Index

3 Year Risk/Return



■ Prisma Capital Partners  
 ◆ HFRI Fund of Funds Composite Index  
 ■ 68% Confidence Interval  
 ● Commodities Broad Basket MStar MF

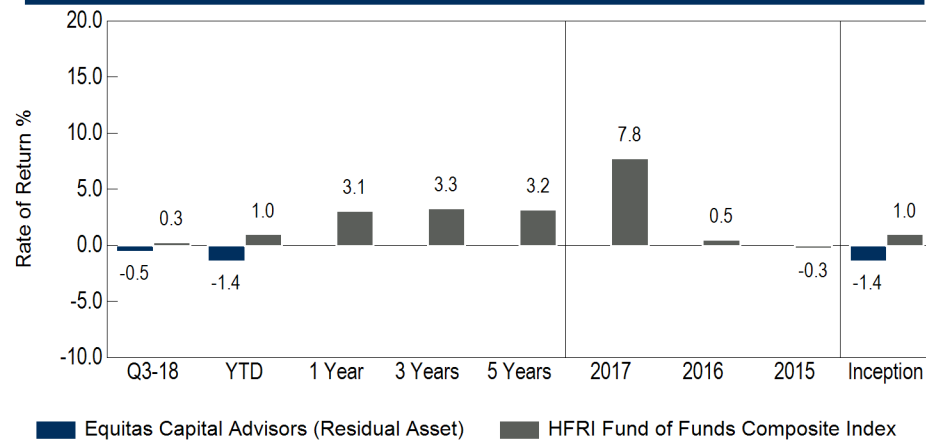
## Equitas Capital Advisors (Residual Asset)

As of September 30, 2018

## Account Information

Account Name	Equitas Capital Advisors (Residual Asset)
Account Structure	Hedge Fund
Investment Style	Active
Inception Date	1/01/18
Account Type	
Benchmark	HFRI Fund of Funds Composite Index
Universe	

## Return Summary



## 3 Year Risk/Return Statistics

	Equitas Capital Advisors (Residual Asset)	HFRI Fund of Funds Composite Index
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	9	36
Maximum Return	-0.10	2.33
Minimum Return	-0.23	-2.66
Annualized Return	--	3.29
Total Return	--	10.20
Annualized Excess Return Over Risk Free	--	2.49
Annualized Excess Return	--	0.00

## RISK SUMMARY STATISTICS

Beta	--	1.00
Upside Deviation	--	1.66
Downside Deviation	--	2.76

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	--	3.04
Alpha	--	0.00
Sharpe Ratio	--	0.82
Excess Return Over Market / Risk	--	0.00
Tracking Error	--	0.00
Information Ratio	--	--

## CORRELATION STATISTICS

R-Squared	--	1.00
Correlation	--	1.00

## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 1/1/18
Beginning Market Value	\$22,491	\$0	--	--	--	--	\$0
Contributions	\$0	\$22,687	\$22,687	\$22,687	\$22,687	\$22,687	\$22,687
Withdrawals	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Cash Flow	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Net Investment Change	-\$114	\$22,377	\$22,377	\$22,377	\$22,377	\$22,377	\$22,377
Ending Market Value	\$22,377	\$22,377	\$22,377	\$22,377	\$22,377	\$22,377	\$22,377

## Vanguard Real Estate ETF

As of September 30, 2018

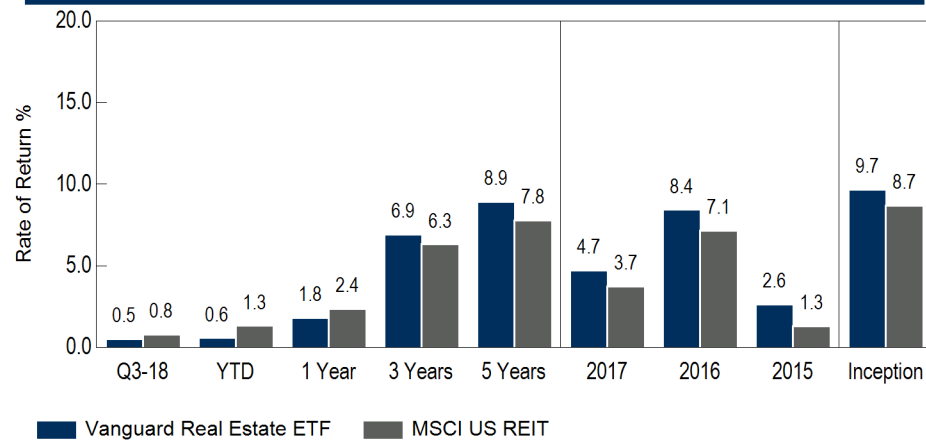
## Account Information

Account Name	Vanguard Real Estate ETF
Account Structure	Separate Account
Investment Style	Passive
Inception Date	5/01/10
Account Type	
Benchmark	MSCI US REIT
Universe	eV US REIT Net

## 3 Year Risk/Return Statistics

	Vanguard Real Estate ETF	MSCI US REIT
<b>RETURN SUMMARY STATISTICS</b>		
Number of Periods	36	36
Maximum Return	10.44	10.10
Minimum Return	-7.66	-7.76
Annualized Return	6.92	6.30
Total Return	22.22	20.13
Annualized Excess Return Over Risk Free	6.11	5.50
Annualized Excess Return	0.61	0.00

## Return Summary



## RISK SUMMARY STATISTICS

Beta	1.00	1.00
Upside Deviation	8.83	8.34
Downside Deviation	7.37	7.31

## RISK/RETURN SUMMARY STATISTICS

Annualized Standard Deviation	12.62	12.57
Alpha	0.05	0.00
Sharpe Ratio	0.48	0.44
Excess Return Over Market / Risk	0.05	0.00
Tracking Error	0.75	0.00
Information Ratio	0.82	--

## CORRELATION STATISTICS

R-Squared	1.00	1.00
Correlation	1.00	1.00

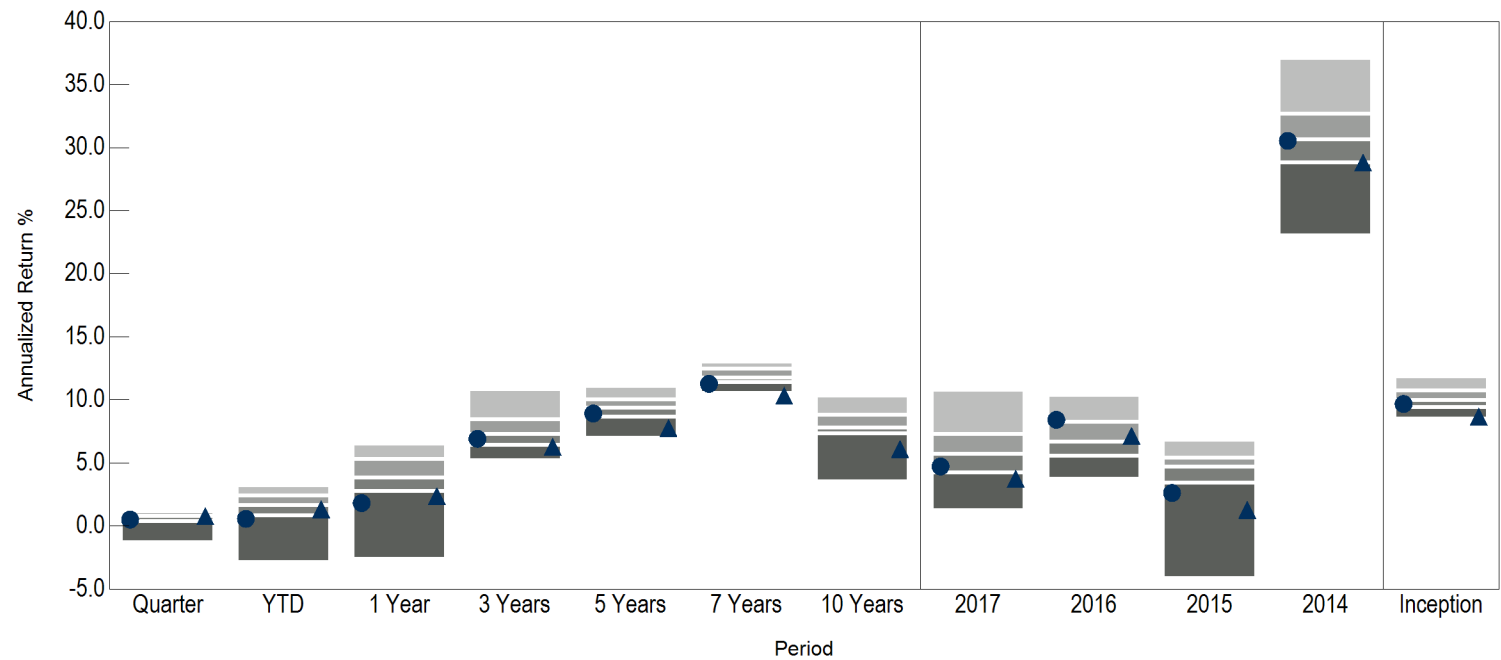
## Summary Of Cash Flows

	Third Quarter	Year-To-Date	One Year	Three Years	Five Years	Ten Years	Inception 5/1/10
Beginning Market Value	\$7,043,155	\$7,220,189	\$4,516,397	\$4,065,815	\$3,566,603	--	\$3,208,661
Contributions	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Withdrawals	-\$67,679	-\$243,246	-\$243,246	-\$243,246	-\$243,246	-\$243,246	-\$243,246
Net Cash Flow	-\$67,679	-\$67,679	-\$67,679	-\$67,679	-\$67,679	-\$67,679	-\$67,679
Net Investment Change	\$35,898	-\$141,136	\$2,562,656	\$3,013,238	\$3,512,450	\$7,079,053	\$3,870,392
Ending Market Value	\$7,011,374	\$7,011,374	\$7,011,374	\$7,011,374	\$7,011,374	\$7,011,374	\$7,011,374

## Vanguard Real Estate ETF

As of September 30, 2018

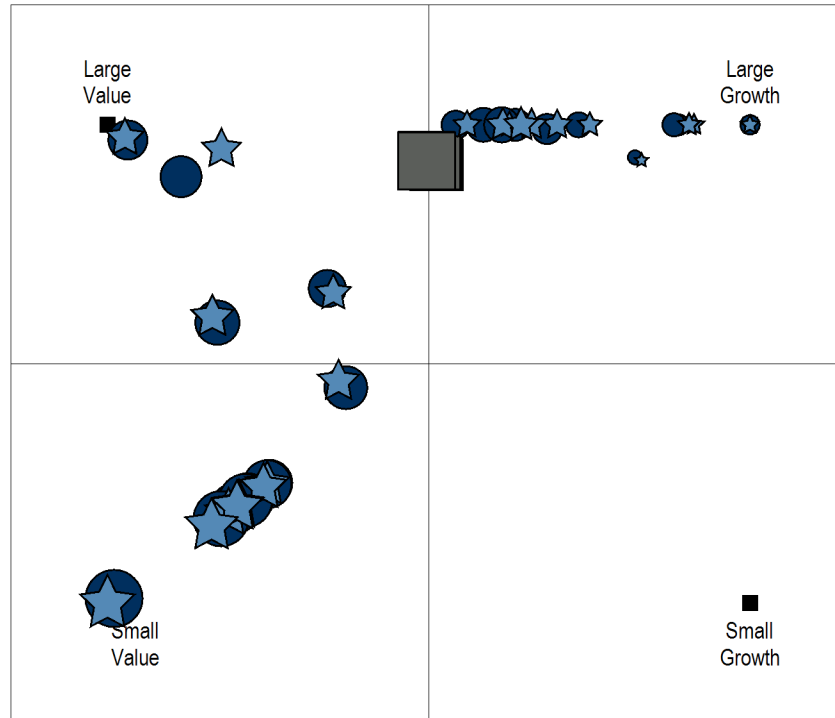
Vanguard Real Estate ETF vs. eV US REIT Net



	Return (Rank)											
5th Percentile	1.32	3.24	6.50	10.8	11.1	13.0	10.3	10.7	10.3	6.81	37.0	11.8
25th Percentile	1.16	2.43	5.34	8.50	10.0	12.5	8.84	7.35	8.27	5.46	32.7	10.7
Median	0.82	1.68	3.87	7.32	9.42	11.8	7.85	5.74	6.73	4.76	30.6	10.0
75th Percentile	0.40	0.90	2.79	6.48	8.69	11.4	7.37	4.28	5.61	3.46	28.8	9.47
95th Percentile	-1.23	-2.80	-2.57	5.23	7.04	10.5	3.59	1.31	3.78	-4.07	23.0	8.54
# of Portfolios	31	31	31	30	29	28	25	36	31	26	26	27
● Vanguard Real Estate ETF	0.51 (67)	0.57 (79)	1.82 (85)	6.92 (59)	8.92 (67)	11.2 (78)	-- (--)	4.73 (65)	8.42 (19)	2.62 (86)	30.5 (52)	9.68 (71)
▲ MSCI US REIT	0.78 (53)	1.32 (55)	2.37 (83)	6.30 (78)	7.78 (87)	10.3 (97)	6.10 (93)	3.74 (85)	7.14 (37)	1.28 (89)	28.8 (76)	8.67 (93)

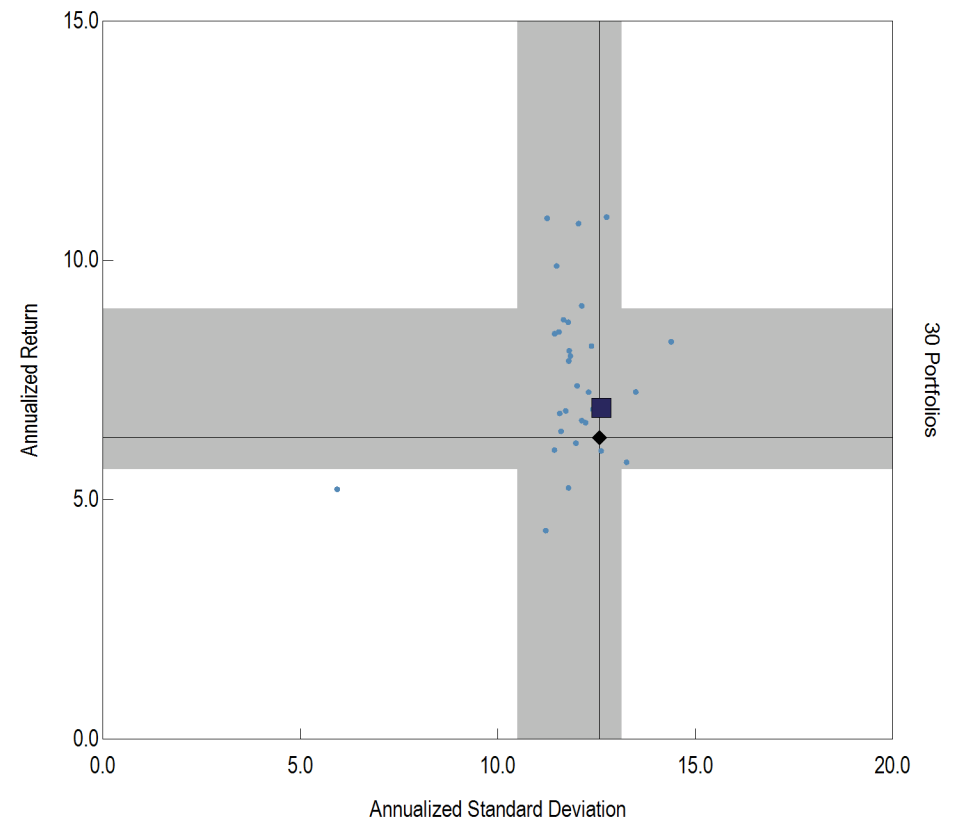


3 Year Style Map



- Vanguard Real Estate ETF
- ★ MSCI US REIT
- Dow Jones U.S. Total Stock Market

3 Year Risk/Return



- Vanguard Real Estate ETF
- ◆ MSCI US REIT
- 68% Confidence Interval
- eV US REIT Net

## **IMPORTANT DISCLOSURES**

This information is provided for your convenience, but should not be used as a substitute for your account's monthly statements and trade confirmations. Material is provided for informational purposes only and does not constitute a recommendation. It has been gathered in a manner which we believe to be reliable, but accuracy is not guaranteed. It is not intended as tax advice. Past performance does not guarantee future results.

Diversification and strategic asset allocation does not ensure a profit or protect against a loss. No investment strategy can guarantee success. Investments are subject to market risk, including possible loss of principal.

Investing in small and mid-cap stocks are riskier investments which include price volatility, less liquidity and the threat of competition. International investing involves additional risks such as currency fluctuations, differing financial accounting standards and possible political and economic instability. These risks are greater in emerging markets. Alternative investment strategies involve greater risks and are only appropriate for the most sophisticated, knowledgeable and wealthiest of investors. Managed futures involve specific risks that maybe greater than those associated with traditional investments and may be offered only to clients who meet specific suitability requirements, including minimum net worth tests. You should consider the special risks with alternative investments including limited liquidity, tax considerations, incentive fee structures, potentially speculative investment strategies, and different regulatory and reporting requirements. Commodities are generally considered speculative because of the significant potential for investment loss. REITs are financial vehicles that pool investors' capital to purchase or finance real estate. REITs involve risks such as refinancing, economic conditions in the real estate industry, changes in property values and dependency on real estate management.

Alternative investments such as Hedge Funds involve substantial risks that may be greater than those associated with traditional investments and are not suitable for all investors. They may be offered only to clients who meet specific suitability requirements, including minimum-net-worth tests. These risks include, but are not limited to, limited liquidity, tax considerations, incentive fee structures, potentially speculative investment strategies, and different regulatory and reporting requirements. Investors should only invest in hedge funds if they do not require a liquid investment and can bear the risk of substantial losses. There is no assurance that any investment will meet its investment objectives or that substantial losses will be avoided. Investors should carefully review any offering materials or prospectuses prior to investing. A Non marketable security is typically a debt security, that is difficult to buy or sell due to the fact that they are not traded on any normal, major secondary market exchanges. Such securities, if traded in any secondary market, are usually only bought and sold through private transactions or in an over-the-counter (OTC) market. For the holder of a non-marketable security, finding a buyer can be difficult, and some non-marketable securities cannot be resold at all because government regulations prohibit any resale.

**Performance:** Performance results are annualized for time periods greater than one year and include all cash and cash equivalents, realized and unrealized capital gains and losses, and dividends, interest and income. The investment results depicted herein represent historical performance. As a result of recent market activity, current performance may vary from the figures shown. Please contact your Financial Advisor for up to date performance information.

**Indices:** Raymond James reserve the right to change the indices at any time. Benchmark indices and blends included in this material are for informational purposes only, are provided solely as a comparison tool and may not reflect the underlying composition and/or investment objective(s) associated with the account(s). In some circumstances, the benchmark index may not be an appropriate benchmark for use with the specific composite portfolio. For instance, an index may not take into consideration certain changes that may have occurred in the portfolio since the inception of the account(s), (e.g., changes from a brokerage to an advisory account or from one advisory program to another, asset class changes, or index changes for individual managers). The volatility of the index used for comparison may be materially different from that of the performance shown. Indices are unmanaged and not available for direct investment. Index returns do not take into account fees or other charges. Such fees and charges would reduce performance. Please see the Benchmark Definitions section of this material for additional information on the indices used for comparison.

**Performance Inception Month End:** Performance Inception Month End refers to performance calculated from the end of the month in which the accounts became eligible for performance. Calculating performance from the Performance Inception Month End allows for a comparison to be made to appropriate benchmarks. Performance Inception Month End does not necessarily correspond to the account opening date.

**Realized/Unrealized Gain/Loss:** The gain and loss information is provided for informational purposes only, may not be complete, is not a substitute 1099 form (or any other appropriate tax form), and should not be used for tax planning or preparation. Gain and loss values are estimates and should be independently verified. We are not responsible for any gain and loss information provided by you or another financial institution. You are responsible for ensuring the accuracy of such information.

**Projected 12 Month Income:** Projected Next 12 Months income includes cash income such as interest and cash dividends, based on current yields and may include income from Raymond James & Associates, Inc. and externally held accounts where data is available. These are projections based on historical data and the actual income may be lower or higher than the projections. Raymond James & Associates, Inc. member New York Stock Exchange/SIPC. Investment advisory services offered through Raymond James & Associates.

*Investors should consider the investment objectives, risks, charges and expenses of an investment company carefully before investing. The prospectus contains this and other information and should be read carefully before investing. The prospectus is available from your investment professional.*

## Index Descriptions

It is not possible to invest directly in an index.

**31 Day T-Bills** – The average discount rate at which the US government is issuing short term-debt.

**Barclays Municipal Bond: 1-10 Year Blend** - A component of the Barclays Capital Municipal Bond Index with municipal bonds in the 1-10 year blend (1-12) maturity range.

**Barclays 1-5 Government/Credit** - Barclays 1-5 Year Government/Credit Index: Includes all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between 1 and 5 years and are publicly issued.

**Barclays 1-5 Year Government** - An inclusion of securities within the Barclays Government Index that have a maturity range from 1 up to (but not including) 5 years.

**Barclays 1-5 Year Treasury** - The 1-5 year component of the Barclays Capital U.S. Treasury Index with securities in the maturity range from 1 year (but not including) 5 years.

**Barclays Credit 1-3 Year** - Barclays 1-5 Year Credit Index: Includes all medium and larger issues of U.S. government, investment-grade corporate, and investment-grade international dollar-denominated bonds that have maturities of between 1 and 3 years and are publicly issued.

**Barclays U.S. Government/Credit (BCGC)** - The Government/Credit component of the U.S. Aggregate. The government portion includes treasuries (public obligations of the U.S. Treasury that have remaining maturities of more than one year) and agencies (publicly issued debt of the U.S. Government agencies, quasi-federal corporations, and corporate or foreign debt guaranteed by the U.S. Government). The credit portion includes publicly issued U.S. corporate and foreign debentures and secured notes that meet specified maturity, liquidity, and quality requirements. Must be a publicly issued, dollar-denominated and non-convertible, U.S. Government or Investment Grade Credit security. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following rating agencies: Moody's, S&P, Fitch; regardless of call features, have at least one year to final maturity, and have an outstanding par value amount of at least \$250 million.

**Barclays Intermediate U.S. Government/Credit (BCIGC)** - The intermediate component of the Barclays Capital Government/Credit Index with securities in the maturity range from 1 up to (but not including) 10 years.

**Barclays Global Aggregate** - The index is designed to be a broad based measure of the global investment-grade, fixed rate, fixed income corporate markets. The major components of this index are the US Aggregate, Pan-European Aggregate, and the Asian-Pacific Aggregate Indices. The index also includes Eurodollar and Euro-denominated corporate bonds, Canadian government, agency and corporate securities.

**Barclays Global Aggregate Intermediate** - The intermediate component of the Barclays Global Aggregate index with securities in the maturity range from 1 up to (but not including) 10 years.

**Barclays U.S. Government: Intermediate** - The intermediate component of the Barclays Capital U.S. Government Index with securities in the maturity range from 1 up to (but not including) 10 years.

**Barclays U.S. Government: Long** - The long component of the Barclays Capital U.S. Government Index with securities in the maturity range from 10 years or more.

**Barclays LT Muni** - A component of the Barclays Capital Municipal Bond Index with municipal bonds with a maturity range greater than 20 years.

**Barclays Municipal Bond Index** - A rules-based, market-value weighted index that is engineered for the long-term tax-exempt bond market. Bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following rating agencies: Moody's, S&P, Fitch. The bonds must be fixed rate, have a dated-date after December 31, 1990, have an outstanding par value of at least \$7million, and be issued as part of a transaction of at least \$75 million. The four main sectors of the index are: general obligation bonds, revenue bonds, insured bonds (including all insured bonds with a Aaa/AAA rating), and prefunded bonds. Remarketed issues, taxable municipal bonds, floating rate bonds, and derivatives, are excluded from the benchmark.

**Barclays U.S. Treasury** - A component of the U.S. Government Index. Must be publicly issued, dollar-denominated and non-convertible, fixed rate (although it may carry a coupon that steps up or changes according to a predetermined schedule) U.S. Treasury security. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following rating agencies: Moody's, S&P, Fitch; regardless of call features, have at least one year to final maturity, and have an outstanding par value amount of at least \$250 million.

**Barclays U.S. Treasury: Intermediate (BCIT)** - The intermediate component of the Barclays Capital U.S. Treasury Index with securities in the maturity range from 1 year (but not including) 10 years.

**Barclays U.S. Treasury: Long** - The long component of the Barclays Capital U.S. Treasury Index with securities in the maturity range from 10 years or more.

**Barclays U.S. Treasury: U.S. TIPS** - Comprised of Inflation-Protection securities issued by the U.S. Treasury. Must be a fixed rate, publicly issued U.S. Treasury Inflation Note that is dollar-denominated and non-convertible. Must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following rating agencies: Moody's, S&P, Fitch; have at least one year to final maturity, and have an outstanding par value amount of at least \$250 million.

**Barclays High Yield Composite BB** - A component of the Barclays U.S. Corporate High Yield Bond Index with bonds in the BB or better.

**Citigroup 1-3 Year U.S. Treasury** - Component of the Citigroup U.S. Treasury that measures total returns for U.S. Treasuries with a maturity between 1-3 years.

**Citigroup 3 Month U.S. Treasury Bill** - This index measures monthly return equivalents of yield averages that are not marked to market. The Three-Month Treasury Bill Indices consist of the last three three-month Treasury bill issues.

**Citigroup World Government Bond** - Citigroup World Government Bond Index (WGBI), includes the most significant and liquid government bond markets globally that carry at least an investment grade rating.

**Citigroup World Government Bond ex US** – Similar to the Citigroup World Government Bond Index (WGBI), includes the most significant and liquid government bond markets globally that carry at least an investment grade rating but excludes bonds from the United States.

**Consumer Price Index** - All Urban Consumers (CPI-U) - As an economic indicator, and as the most widely used measure of inflation, the Consumer Price Index (CPI) is an indicator of the effectiveness of government policy, and as a guide in making economic decisions for business executives, labor leaders, and other private citizens. Published on a monthly basis by the U.S. Bureau of Labor Statistics (BLS), the CPI is a measure of the average change in prices over time of goods and services purchased by households. CPI for All Urban Consumers (CPI-U) encompasses approximately 87 percent of the total U.S. population which includes, in addition to wage earner and clerical worker households, groups such as professional, managerial, and technical workers, the self-employed, short-term workers, the unemployed, and retirees and others not in the labor force.

**Dow Jones UBS Commodity** - Provides a diversified representation of commodity markets as an asset class. The index is comprised of exchange-traded futures on physical commodities; representing 19 commodities which are weighted for economic significance and market liquidity. To promote diversification, weighting restrictions are placed on individual commodities and commodity groups.

**FTSE NAREIT U.S. Real Estate** - All REITs - The index is designed to represent a comprehensive performance of publicly traded REITs which covers the commercial real estate space across the US economy, offering exposure to all investment and property sectors. It is not free float adjusted, and constituents are not required to meet minimum size and liquidity criteria.

**HFRI Equity Hedge Fund Index** - The index is designed to represent strategies which maintain positions both long and short in primarily equity and equity derivative securities. A wide variety of investment processes can be employed to arrive at an investment decision, including both quantitative and fundamental techniques; strategies can be broadly diversified or narrowly focused on specific sectors and can range broadly in terms of levels of net exposure, leverage employed, holding period, concentrations of market capitalizations and valuation ranges of typical portfolios. Equity Hedge managers would typically maintain at least 50% exposure to, and may in some cases be entirely invested in, equities - both long and short.

**HFRI (Hedge Fund Research, Inc.) Fund of Funds Composite Index (1)** - The index only contains fund of funds, which invest with multiple managers through funds or managed accounts. It is an equalweighted index, which includes over 650 domestic and offshore funds that have at least \$50 Million under management or have been actively trading for at least 12 months. All funds report assets in US Dollar, and Net of All Fees returns which are on a monthly basis.

**MSCI ACWI** - A free float-adjusted market capitalization index that is designed to measure the equity market performance of both developed and emerging markets. This "All Country World Index" reflects performance across the Americas, Europe & the Middle East, Africa, Asia, and the Pacific.

**MSCI EAFE** - A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. As of December 31, 2010 the MSCI EAFE Index consists of 22 developed market country indices: Australia, Austria, Belgium, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, the Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, and the United Kingdom.

**MSCI EAFE Value -Net Dividend** - A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. Value attribute for index construction is defined using: book value to price ratio, 12-months forward earnings to price ratio, and dividend yield. Net total return indices reinvest dividends after the deduction of withholding taxes, using (for international indices) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

**MSCI EAFE Growth -Net Dividend** - A free float-adjusted market capitalization index that is designed to measure the equity market performance of developed markets, excluding the U.S. and Canada. Growth attribute for index construction is defined using: long-term forward earnings per share (EPS) growth rate, short-term forward EPS growth rate, current internal growth rate, long-term historical EPS growth trend, long-term historical sales per share growth trend. Net total return indices reinvest dividends after the deduction of withholding taxes, using (for international indices) a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

**MSCI Emerging Markets** - A free float-adjusted market capitalization index that is designed to measure equity market performance of emerging markets. As of December 31, 2010, the MSCI Emerging Markets Index consists of the following 21 emerging market country indices: Brazil, Chile, China, Colombia, Czech Republic, Egypt, Hungary, India, Indonesia, Korea, Malaysia, Mexico, Morocco, Peru, Philippines, Poland, Russia, South Africa, Taiwan, Thailand, and Turkey.

**MSCI World** - A free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets. As of December 31, 2010, the MSCI World Index consists of the following 24 developed market country indices: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Israel, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, Sweden, Switzerland, the United Kingdom, and the United States.

**NCREIF** - The index is a quarterly time series composite total rate of return measure of investment performance of a very large pool of individual commercial real estate properties acquired in the private market for investment purposes only. Information on this index is available at [ncreif.com](http://ncreif.com).

**Russell 1000** - Based on a combination of their market cap and current index membership, this index is comprised of approximately 1,000 of the largest securities from the Russell 3000. Representing approximately 92% of the Russell 3000, the index is created to provide a full and unbiased indicator of the large cap segment.

**Russell 1000 Growth** - Measures the performance of those Russell 1000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 1000 Value** - Measures the performance of those Russell 1000 companies with lower price-to-book ratios and lower expected growth values.

**Russell 2000** - Based on a combination of their market cap and current index membership, this index is comprised of approximately 2,000 of the smaller securities from the Russell 3000. Representing approximately 8% of the Russell 3000, the index is created to provide a full and unbiased indicator of the small cap segment.

**Russell 2000 Growth** - Measures the performance of those Russell 2000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 2000 Value** - Measures the performance of those Russell 2000 companies with lower price-to-book ratios and lower expected growth values.

**Russell 2500** - Based on a combination of their market cap and current index membership, this index is comprised of approximately 2,500 of the smallest securities from the Russell 3000. Measures the performance of the small to mid-cap (smid) segment of the U.S. equity universe.

**Russell 2500 Growth** - Measures the performance of those Russell 2500 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 2500 Value** - Measures the performance of those Russell 2500 companies with lower price-to-book ratios and lower expected growth values.

**Russell 3000** - Representing approximately 98% of the investable U.S. equity market, the Russell 3000 index measures the performance of the largest 3,000 U.S. companies.

**Russell 3000 Growth** - Measures the performance of the broad growth segment of the U.S. equity universe which includes Russell 3000 companies with higher price-to-book ratios and higher forecasted growth values.

**Russell 3000 Value** - Measures the performance of the broad growth segment of the U.S. equity universe which includes Russell 3000 companies with lower price-to-book ratios and lower forecasted growth values.

**Russell Midcap** - A subset of the Russell 1000 index, the Russell Midcap index measures the performance of the mid-cap segment of the U.S. equity universe. Based on a combination of their market cap and current index membership, includes approximately 800 of the smallest securities which represents approximately 27% of the total market capitalization of the Russell 1000 companies. The index is created to provide a full and unbiased indicator of the mid-cap segment.

**Russell Midcap Growth** - Measures the performance of those Russell Mid-cap companies with higher price-to-book ratios and higher forecasted growth values.

**Russell Midcap Value** - Measures the performance of those Russell Mid-cap companies with lower price-to-book ratios and lower expected growth values.

**Standard & Poor's 400 MidCap** - Comprised of 400 domestic stocks that are chosen based upon market capitalization, liquidity and industry representation. The medium size US firms range with a market capitalization between \$2 billion to \$10 billion, and are between the S&P 500 Index and the S&P Smallcap 600 Index. It is a market-weighted index, which represents approximately 7% of the aggregate market value of US companies.

**Standard & Poor's 500** - Representing approximately 75% of the investable US equity market, the S&P 500 measures changes in stock market conditions based on the average performance of 500 widely held common stocks. It is a market-weighted index calculated on a total return basis with dividend reinvested.

**Stark 300 Trader** - The Stark 300 index tracks the performance of the top-300 futures and forex traders. The index is calculated monthly using an equity-weighted formula to determine performance.

## Index Abbreviations

**Bloomberg Barclays** – Abbreviated as BbgBarc and then a descriptor. For example BbgBarc US Aggregate TR is the Bloomberg Barclays United States Aggregate Total Return.

## Statistics and General Definitions

**Alpha** – Measures how well a portfolio performed versus its benchmark after factoring in the amount of risk (as measured by beta) taken. Technically, alpha is the difference between the excess return of a portfolio and the excess return of the benchmark multiplied by beta. Excess return is simply the actual return minus the return of the risk-free asset, U.S. Treasury Bill. A positive alpha indicates the portfolio has performed better than the benchmark on a risk-adjusted basis.

**Allocation Effect** – Attributable to the asset allocation of the portfolio.

**Annual Standard Deviation** – A measure of variability in returns. The annual standard deviation measures the dispersion of annual returns around the average annualized return.

**Annualized Return** – A statistical technique whereby returns covering periods greater than one year are converted to cover a one year period.

**Attribution** – Analytical technique used to evaluate the performance of the portfolio relative to a benchmark. Attribution shows where value was added or subtracted as a result of the investment manager's decisions. The four main attribution effects are: Selection or Manager Effect, Allocation Effect, Currency Effect, and Interaction Effect.

**Beta** – A coefficient measuring a portfolio's relative volatility with respect to its market. Technically, beta is the covariance of a portfolio's return with the benchmark portfolio's return divided by the variance of the benchmark portfolio's return. Thus, a portfolio with a beta greater than 1.00, indicates the portfolio experienced greater volatility than the benchmark, whereas a portfolio with a beta less than 1.00, indicates the portfolio experienced less volatility than the benchmark.

**Commitments** – Also called Committed Capital. The amount an investor has agreed to contribute towards the funding of a venture capital fund. May be paid at one time or over a longer period.

**Consumer Price Index** – Measures the change in consumer prices, as determined by a monthly survey of the U.S. Bureau of Labor Statistics. CPI components include housing costs, food, transportation and electricity.

**Correlation** – Measures the strength of association between two variables. The value ranges between -1 and +1. The strongest linear relationship is indicated by a correlation of -1 or +1. The weakest linear relationship is indicated by a correlation of 0. Positive correlation means if one variable gets bigger, the other variable tends to get bigger. Negative correlation means that if one variable gets bigger, the other variable tends to get smaller.

**Currency Effect** – The effect that changes in currency exchange rates over time affect excess performance

**Downside Capture Ratio** – Measures investment manager's performance in down markets relative to a particular benchmark. A down-market is defined as those periods (months or quarters) in which market return is less than 0%.

**Duration** – A measure of the price sensitivity of a bond or bond portfolio to a change in interest rates.

**Information Ratio** – Describes the risk / reward trade-off of alpha and tracking error. Because the formula for calculating information ratio is Alpha divided by Tracking Error, the larger the information ratio, the more attractive the portfolio is from an overall risk return profile.

**Interaction Effect** – The portion that is not accounted for by the Selection/Manager Effect or Allocation effects.

**R2** – Also called the coefficient of determination. On the detail page, R2 measures how much of the variation in the investment manager's returns can be explained by movements in the market (benchmark).

**Sharpe Ratio** – A risk-adjusted measure calculated using standard deviation and excess return to determine reward per unit of risk. The higher the Sharpe ratio, the better the manager's historical risk-adjusted performance.

**Selection or Manager Effect** – attributable to the investment manager's stock selection decisions

**Tracking Error** – A measure that describes the volatility of the expected excess return (alpha) achieved through active management. Since excess return can only be achieved through a portfolio that actively differs from the benchmark, the level of tracking error is indicative of how different the portfolio will perform relative to any given benchmark.

**Upside Capture Ratio** – Measures investment manager's performance in up markets relative to a particular benchmark. An up-market is defined as those periods (months or quarters) in which market return is greater than 0%.

**RAYMOND JAMES®**

---

©2018 Raymond James & Associates, Inc., member New York Stock Exchange/SIPC  
Raymond James® is a registered trademark of Raymond James Financial, Inc. IFS18-2166584 Exp. 6/29/2019

# Step 2 - Create Alternative Asset Mixes

## Portfolio Optimization Mixes

Component	Mix 2	Mix 2 Alt
Broad US Equity	27%	27%
Global ex US Equity	20%	20%
Real Estate	8%	9%
Hedge Funds	9%	8%
Domestic Fixed	35%	35%
Cash Equivalents	1%	1%
<b>Total</b>	<b>100%</b>	<b>100%</b>

**Total Fixed Income+Cash                      36%                      36%**

### Asset-Only

Expected Return	5.76%	5.77%
Standard Deviation	10.46%	10.50%
Sharpe Ratio	0.327	0.326

- Alternative Mix 2 increases real estate and reduces hedge funds by 1% each.
- The expected impact is to increase return and risk at the margin.



## Sewerage and Water Board of New Orleans ERS Total Composite

As of September 30, 2018

Allocation vs. Targets and Policy						
	Current Balance	Current Allocation	Target	Difference	Target Range	Within IPS Range?
Chicago Equity Partners	\$24,744,744	11.02%	6.75%	\$9,582,883	6.08% - 7.43%	No
Barrow Hanley Mewhinney & Strauss	\$24,821,519	11.05%	4.30%	\$15,162,851	3.87% - 4.73%	No
NewSouth Capital	\$31,709,354	14.12%	8.70%	\$12,167,399	7.83% - 9.57%	No
Earnest Partners	\$19,609,776	8.73%	20.00%	-\$25,314,258	18.00% - 22.00%	No
iShares S&P 500 Growth ETF	\$18,860,438	8.40%	7.25%	\$2,575,476	6.53% - 7.98%	No
Pyramis Global Advisors	\$79,282,529	35.30%	35.00%	\$665,471	31.50% - 38.50%	Yes
Zazove Associates, LLC (Residual Asset)	\$30,359	0.01%				
Prisma Capital Partners	\$18,269,093	8.13%	8.00%	\$299,480	7.20% - 8.80%	Yes
Equitas Capital Advisors (Residual Asset)	\$22,377	0.01%				
Vanguard Real Estate ETF	\$7,011,374	3.12%	9.00%	-\$13,204,441	8.10% - 9.90%	No
Cash Account	\$258,604	0.12%	1.00%	-\$1,987,597	0.00% - 2.00%	Yes

# Alt Mix 2 Estimated Implementation Time

- **Rebalancing Method (among existing managers and mandates)**
  - Most efficient and timely method
  - Requires no additional approvals
  - Estimated 90 days for full implementation
- **New Mandate Method (searches for new managers and mandates)**
  - i.e. Consider one or more searches for 1. International Small Cap Product, 2. International Emerging Market Product and/or 3. Core Real Estate Product
  - Also consider additional searches for other Domestic Small and Mid Cap Products
  - Estimated 9 months to 1 year for full implementation
- **Hybrid Approach**
  - Rebalance – Overlay
  - Then conduct a limited number of select searches for new managers and mandates
  - Estimated 1 year for full implementation

**SEWERAGE & WATER BOARD**  
**of NEW ORLEANS**  
**EMPLOYEES' RETIREMENT SYSTEM**  
**INVESTMENT POLICY STATEMENT**



Original Draft Adopted - November 4, 2004

As Amended – ~~September 20, 2017~~ December 19, 2018

**Document Maintained By:**



## TABLE OF CONTENTS

Executive Summary	Page 4
Statement of Purpose	Page 5
Introduction	Page 6
Statement of Objectives	Page 7
Time Horizon	Page 8
Risk Tolerances	Page 8
Performance Target	Page 8
Asset Allocation Policy	Page 9
Targets/Ranges	Page 9
Asset Class Guidelines	Page 10
Adherence to Policy	Page 10
Cash Holdings	Page 10
Non-Individual Securities	Page 11
Rebalancing	Page 11
Guidelines for Individual Security Holdings	Page 12
Duties and Responsibilities	Page 14
Board of Trustees	Page 14
Pension Consultant	Page 14
Investment Managers	Page 14
Custodian	Page 16
Investment Product and Manager Selection	Page 16
Volatility	Page 17
Liquidity	Page 17
Voting of Proxies	Page 17
Execution of Security Trades	Page 17
Securities Lending Guidelines	Page 17
Control Procedures	Page 18
Conflicts of Interest	Page 18
Review of Liabilities	Page 18
Review of Investment Policy Statement (IPS)	Page 18

Review of Investments	Page 19
Market Indices	Page 19
Compliance	Page 19
Performance Expectations	Page 20
Probationary Period	Page 20
Style Benchmarks	Page 22
Cause for Termination	Page 23
Measuring Costs	Page 23
Policy Adoption Statement	Page 24
Co-Fiduciary Acknowledgement	Page 26
Appendix A – Named Officers, Members and Trustees	Page 27
Appendix B – Capital Market Assumptions	Page 28
Appendix C – Glossary of Terms	Page 29
Appendix D – Manager Guidelines	Attachment

## EXECUTIVE SUMMARY

**Name of Plan:** SWBNO Employees' Retirement System ("the Plan")  
**Type of Plan:** Defined Benefit Plan, IRS Qualified  
**Plan Sponsor:** Sewerage and Water Board of New Orleans (SWBNO)  
**Time Horizon:** Greater than 10 years (Long Term)  
**Assumed ROR:** 7.00% (Actuarial Assumption<sup>1</sup>)  
**Strategic Allocation:** ~~49.25~~47.00% Global Equities / ~~38.75~~36.00% Global Fixed Income / ~~12.00~~17.00% Alternatives

<i>Mandate</i>	<i>Minimum</i>	<i>Target</i>	<i>Maximum</i>
<b>GLOBAL EQUITY</b>	<b>16.50</b>	<b>49.25</b>	<b>65</b>
<i>U.S. Large-Cap Equity</i>	<i>20.00</i>	<i>27.25</i>	<i>35.00</i>
<i>-Large-Cap Value</i>	<i>0</i>	<i>10.00</i>	<i>12.50</i>
<i>-Large-Cap Enhanced-Core</i>	<i>0</i>	<i>10.00</i>	<i>12.50</i>
<i>-Large-Cap Growth</i>	<i>0</i>	<i>7.25</i>	<i>9.00</i>
<i>U.S. Small/Mid-Cap Equity</i>	<i>9.75</i>	<i>13.00</i>	<i>16.25</i>
<i>-SMID-Cap Equity</i>	<i>9.75</i>	<i>13.00</i>	<i>16.25</i>
<i>-Other Small or MID-Cap Equity</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>Non-US Equity</i>	<i>6.75</i>	<i>9.00</i>	<i>11.25</i>
<i>-International Developed-Equity</i>	<i>6.75</i>	<i>9.00</i>	<i>11.25</i>
<i>-International EM Equity</i>	<i>0</i>	<i>0</i>	<i>0</i>
<b>GLOBAL FIXED-INCOME</b>	<b>35.00</b>	<b>38.75</b>	<b>100</b>
<i>-Core-Plus (Global) Bond</i>	<i>0</i>	<i>37.00</i>	<i>40.00</i>
<i>-Core-Fixed</i>	<i>27.75</i>	<i>0</i>	<i>0</i>
<i>-Convertible Bond</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>-High-Yield Fixed</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>-Cash &amp; Equivalents</i>	<i>0</i>	<i>1.75</i>	<i>2.00</i>
<b>ALTERNATIVES</b>	<b>0</b>	<b>13.00</b>	<b>21.00</b>
<i>-Commodities</i>	<i>0</i>	<i>0</i>	<i>0</i>
<i>-HFOF-Absolute-Return</i>	<i>0</i>	<i>8.75</i>	<i>9.625</i>
<i>-Real-Estate/REITs</i>	<i>0</i>	<i>3.25</i>	<i>5.00</i>
<i>-Private-Equity</i>	<i>0</i>	<i>0</i>	<i>0</i>
<b><u>Mandate</u></b>	<b><u>Minimum</u></b>	<b><u>Target</u></b>	<b><u>Maximum</u></b>
<b>GLOBAL EQUITY</b>	<b>0.00</b>	<b>47.00</b>	<b>65.00</b>
<i>U.S. Large Cap Equity</i>	<i>16.47</i>	<i>18.30</i>	<i>20.13</i>

<sup>1</sup> Refer to January 1, ~~2017~~2018 Conefry & Company, LLC Actuarial Valuation.

<u>Large Cap Value</u>	<u>3.87</u>	<u>4.30</u>	<u>4.73</u>
<u>Large Cap Enhanced Core</u>	<u>6.075</u>	<u>6.75</u>	<u>7.425</u>
<u>Large Cap Growth</u>	<u>6.525</u>	<u>7.25</u>	<u>7.975</u>
<u>U.S. Small/Mid Cap Equity</u>	<u>7.83</u>	<u>8.70</u>	<u>9.57</u>
<u>SMID Cap Equity</u>	<u>7.83</u>	<u>8.70</u>	<u>9.57</u>
<u>Other Small or MID Cap Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Non US Equity</u>	<u>18.00</u>	<u>20.00</u>	<u>22.00</u>
<u>International Developed Equity</u>	<u>18.00</u>	<u>20.00</u>	<u>22.00</u>
<u>International EM Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<b><u>GLOBAL FIXED INCOME</u></b>	<b><u>25.00</u></b>	<b><u>36.00</u></b>	<b><u>100</u></b>
<u>Core- Plus (Global)</u>	<u>31.50</u>	<u>35.00</u>	<u>38.50</u>
<u>Core</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Convertible Bond</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>High Yield Fixed</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Cash &amp; Equivalents</u>	<u>0.00</u>	<u>1.00</u>	<u>5.00</u>
<b><u>ALTERNATIVES</u></b>	<b><u>0.00</u></b>	<b><u>17.00</u></b>	<b><u>21.00</u></b>
<u>Commodities</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>HFOF-Absolute Return</u>	<u>7.20</u>	<u>8.00</u>	<u>8.80</u>
<u>Private Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Real Estate/REITs</u>	<u>8.10</u>	<u>9.00</u>	<u>9.90</u>

**The Investment Policy Statement (IPS) should be reviewed and updated at least annually. Any change to this policy should be communicated in writing on a timely basis to all parties of interest.**

## STATEMENT OF PURPOSE

The purpose of this Investment Policy Statement (IPS) is to guide the Board of Trustees (the members of the Sewerage & Water Board and the elected employee members to the Board of Trustees) [ Appendix A] in effectively supervising, monitoring and evaluating the investment of the SWBNO Employees' Retirement System assets. The Plan's investment program is defined in the various sections of the IPS by:

1. Stating in a written document the Board of Trustees' attitudes, expectations, objectives, and guidelines for the investment of all Plan assets.
2. Setting forth an investment structure for managing all Plan assets. This structure includes various asset classes, investment management styles, asset allocation,



and acceptable ranges that, in total, are expected to produce a sufficient level of overall diversification and total investment return over the long-term.

3. Providing guidelines for each investment portfolio that when viewed in conjunction with each individual investment manager's contract, control the level of overall risk and liquidity assumed in that portfolio.
4. Providing policy concurrent rate-of-return and risk characteristics for various investment options utilized in developing asset allocation. [Appendix B].
5. Encouraging effective communications between the Board of Trustees, the investment consultant and hired money managers.
6. Establishing formal criteria to monitor, evaluate, and compare the performance results achieved by the money managers on a regular basis.
7. Complying with all fiduciary, prudence and due diligence requirements experienced investment professionals would utilize; and with all applicable laws, rules and regulations from various local, state, federal, and international political entities that may impact Plan assets.

This IPS has been formulated, based upon consideration by the Board of Trustees, of the financial implications of a wide range of policies, and describes the prudent investment process the Board of Trustees deems appropriate.

## INTRODUCTION

This document establishes the Investment Policy Statement for the SWBNO Employees' Retirement System for the management of the assets held for the benefit of the participants and beneficiaries in the System. The Board of Trustees is responsible for managing the investment process of the Retirement System in a prudent manner with regard to preserving principal while providing reasonable returns.

The Board of Trustees has arrived at this IPS through careful study of the returns and risks associated with various investment strategies in relation to the current and projected liabilities of the Retirement System. This policy has been chosen as the most appropriate policy for achieving the financial objectives of the Retirement System which are described in the Objectives section of this document.

The Board of Trustees has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully ~~weighted~~weighed against the long term potential for appreciation of assets.

In addition to the policy defined herein, the management of the SWBNO Employees' Retirement System will be in strict compliance with all relevant and applicable legislation.

## STATEMENT OF OBJECTIVES

The assets of the SWBNO Employees' Retirement System shall be invested in accordance with all relevant legislation. Specifically:

1. Investment shall be in accordance with the Louisiana Revised Statutes, R.S. 11:3821.
2. Investments shall be made solely in the interest of the participants and beneficiaries of the pension plan and for the exclusive purpose of providing benefits to such participants and their beneficiaries and defraying the reasonable expenses of administering the plan.
3. The Board of Trustees and its investments advisors shall exercise the judgment and care under the circumstances then prevailing which an institutional investor of ordinary prudence, discretion and intelligence exercises in the management of large investments entrusted to it not in regard to speculation but in regard to the permanent disposition of funds considering probable safety of capital as well as probable income.

The primary investment objective shall be to achieve full funding of the actuarial accrued liability so that such assets are preserved for the providing of benefits to participants and their beneficiaries and such long-term return (either in the form of income or capital appreciation or both) may without undue risk maximize the amounts available to provide such benefits. These objectives have been established in conjunction with a comprehensive review of both the current and projected financial requirements and investment returns by asset class.

While there cannot be complete assurance that these objectives will be realized, it is believed that the likelihood of their realization is reasonably high based upon this Investment Policy and historical performance of the asset classes discussed herein. The objectives have been based on a five-year investment horizon, so that short-term fluctuation should be viewed secondary to long-term investment results.

Relative performance benchmarks for the System's investment managers are set forth in the Control Procedures section of this document.

This IPS has been arrived at upon consideration by the Board by a wide range of policies, and describes the prudent investment process the Board deems appropriate. This process includes seeking various asset classes and investment management styles that, in total, are expected to offer participants a sufficient level of overall diversification and total investment return over the long-term. The objectives are:

1. Have the ability to pay all benefit and expense obligations when due;
2. Achieve a fully funded status with regard to the Accumulated Benefit Obligation and 100% of the Projected Benefit Obligation;
3. Maintain the purchasing power of the current assets and all future contributions by producing positive real rates of return on Plan asset;

4. Maximize returns within reasonable and prudent levels of risk in order to minimize contribution;
5. Control costs of administering the plan and managing the investments.; and
6. Maintain flexibility in determining the future level of contributions

Keys to achieving objectives include maximizing investment returns within prudent levels of risk, while minimizing the Plan's reliance on contributions.

### **Time Horizon**

The investment guidelines are based upon the Plan's investment time horizon of (>~~5~~10) greater than ~~five-ten~~ years. Interim fluctuations should be viewed with appropriate perspective. Similarly, the Plan's, strategic asset allocation is based on this long-term perspective. Short-term liquidity requirements are anticipated to be non-existent, or at least should be covered by the annual contribution.

### **Risk Tolerances**

The Board recognizes the difficulty of achieving the Plan's investment objectives in light of the uncertainties and complexities of contemporary investment markets. The Board also recognizes some risk must be assumed to achieve the Plan's long-term investment objectives. In establishing the risk tolerances of the IPS, the ability to withstand short- and intermediate-term variability were considered. These factors were:

- The SWBNO Employees' Retirement System's strong financial condition enables the Board to adopt a long-term investment perspective, allowing for a less aggressive risk tolerance.
- Demographic characteristics of participants suggest an average risk tolerance due to the moderate to aging work force.

In summary, the SWBNO Employees' Retirement System's prospects for the future, current financial condition and several other factors suggest collectively the Plan can tolerate some interim fluctuations in market value and rates of return in order to achieve long-term objectives.

### **Performance Target**

The desired investment objective is a long-term rate of return on assets that is at least 7.00%, as defined by current<sup>2</sup> actuarial assumptions. Annually, the Plan's overall total return, after deducting for advisory, money management, and custodial fees, as well as total transaction costs; should perform above a customized index comprised of market indices weighted by the strategic asset allocation of the Plan.

---

<sup>2</sup> Refer to January 1, ~~2017-2018~~ Conefry & Company, LLC Actuarial Valuation.

## ASSET ALLOCATION POLICY

### Targets and Ranges

It shall be the policy of the SWBNO Employees' Retirement System to invest in each style based asset class ranging between a minimum and a maximum of total plan assets as indicated below:

Stated Ranges are as a Percent of Total Plan Assets

<i>Mandate</i>	<i>Minimum</i>	<i>Target</i>	<i>Maximum</i>
<b><i>GLOBAL EQUITY</i></b>	<b><i>36.50</i></b>	<b><i>49.25</i></b>	<b><i>65</i></b>
<i>U.S. Large Cap Equity</i>	<i>20.00</i>	<i>27.25</i>	<i>35.00</i>
<del><i>Large Cap Value</i></del>	<del><i>0</i></del>	<del><i>10.00</i></del>	<del><i>12.50</i></del>
<del><i>Large Cap Enhanced Core</i></del>	<del><i>0</i></del>	<del><i>10.00</i></del>	<del><i>12.50</i></del>
<del><i>Large Cap Growth</i></del>	<del><i>0</i></del>	<del><i>7.25</i></del>	<del><i>9.00</i></del>
<i>U.S. Small/Mid Cap Equity</i>	<i>9.75</i>	<b><i>13.00</i></b>	<i>16.25</i>
<del><i>SMID Cap Equity</i></del>	<del><i>9.75</i></del>	<del><i>13.00</i></del>	<del><i>16.25</i></del>
<del><i>Other Small or MID Cap Equity</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<i>Non-US Stocks</i>	<i>6.75</i>	<b><i>9.00</i></b>	<i>11.25</i>
<del><i>International Developed Equity</i></del>	<del><i>6.75</i></del>	<del><i>9.00</i></del>	<del><i>11.25</i></del>
<del><i>International EM Equity</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<b><i>GLOBAL FIXED-INCOME</i></b>	<b><i>35.00</i></b>	<b><i>38.75</i></b>	<b><i>100</i></b>
<del><i>Core Plus (Global) Bond</i></del>	<del><i>0</i></del>	<del><i>37.00</i></del>	<del><i>40.00</i></del>
<del><i>Core Fixed</i></del>	<del><i>27.75</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<del><i>Convertible Bond</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<del><i>High Yield Fixed</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<del><i>Cash &amp; Equivalents</i></del>	<del><i>0</i></del>	<del><i>1.75</i></del>	<del><i>2.00</i></del>
<b><i>ALTERNATIVES</i></b>	<b><i>0</i></b>	<b><i>12.00</i></b>	<b><i>21.00</i></b>
<del><i>Commodities</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>
<del><i>HFOF Absolute Return</i></del>	<del><i>0</i></del>	<del><i>8.75</i></del>	<del><i>9.625</i></del>
<del><i>Real Estate/REITs</i></del>	<del><i>0</i></del>	<del><i>3.25</i></del>	<del><i>5.00</i></del>
<del><i>Private Equity</i></del>	<del><i>0</i></del>	<del><i>0</i></del>	<del><i>0</i></del>

<u>Mandate</u>	<u>Minimum</u>	<u>Target</u>	<u>Maximum</u>
<b><u>GLOBAL EQUITY</u></b>	<b><u>0.00</u></b>	<b><u>47.00</u></b>	<b><u>65</u></b>
<u>U.S. Large Cap Equity</u>	<u>16.47</u>	<u>18.30</u>	<u>20.13</u>
<u>Large Cap Value</u>	<u>3.87</u>	<u>4.30</u>	<u>4.73</u>
<u>Large Cap Enhanced Core</u>	<u>6.075</u>	<u>6.75</u>	<u>7.425</u>
<u>Large Cap Growth</u>	<u>6.525</u>	<u>7.25</u>	<u>7.975</u>
<u>U.S. Small/Mid Cap Equity</u>	<u>7.83</u>	<u>8.70</u>	<u>9.57</u>
<u>SMID Cap Equity</u>	<u>7.83</u>	<u>8.70</u>	<u>9.57</u>
<u>Other Small or MID Cap Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<b><u>Non US Stocks</u></b>	<b><u>18.00</u></b>	<b><u>20.00</u></b>	<b><u>22.00</u></b>
<u>International Developed Equity</u>	<u>18.00</u>	<u>20.00</u>	<u>22.00</u>
<u>International EM Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<b><u>GLOBAL FIXED INCOME</u></b>	<b><u>25.00</u></b>	<b><u>36.00</u></b>	<b><u>100</u></b>
<u>Core-Plus (Global)</u>	<u>31.50</u>	<u>35.00</u>	<u>38.50</u>
<u>Core</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Convertible Bond</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>High Yield Fixed</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Cash &amp; Equivalents</u>	<u>0.00</u>	<u>1.00</u>	<u>2.00</u>
<b><u>ALTERNATIVES</u></b>	<b><u>0.00</u></b>	<b><u>17.00</u></b>	<b><u>21.00</u></b>
<u>Commodities</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>HFOF- Absolute Return</u>	<u>7.20</u>	<u>8.00</u>	<u>8.80</u>
<u>Private Equity</u>	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Real Estate/REITs</u>	<u>8.10</u>	<u>9.00</u>	<u>9.90</u>

During the investment manager selection process, the Board of Trustees will communicate specific manager guidelines regarding capitalization and stylistic characteristics such that the total portfolio conforms to policy. It is expected that these guidelines will be strategic in nature and not change frequently.

### **Asset Class Guidelines**

The Board of Trustees believes long-term investment performance, in large part, is primarily a function of asset class mix. The Board of Trustees has reviewed the long-term performance characteristics of the broad asset classes, focusing on balancing the risks and rewards.

History suggest, that while interest-generating investments, such as bond portfolios, have the advantage of relative stability of principal value; they provide little opportunity for real long- term capital growth due to their susceptibility to inflation. On the other hand, equity investments, such as common stocks, clearly have a significantly higher expected return but have the disadvantage of much greater year-by-year variability of return. From an investment decision-making point of view, this year-by-year variability may be worth accepting, provided the time horizon for the equity portion of the portfolio is sufficiently long (greater than five years).

### **Adherence to Policy**

The Board of Trustees is guided by the philosophy that asset allocation is the most significant determinant of long term investment return. The Retirement System asset allocation will be maintained as close to the target allocations as reasonably possible. Contributions to the Plan and withdrawals to pay benefits and expenses shall be allocated across portfolios to bring the asset mix as close to the target allocation as possible.

Rapid, substantive and unanticipated market shifts or changes in economic conditions may cause the asset mix to fall outside of the policy range. Any divergence caused by these factors should be of a short-term nature.

The Board of Trustees or its designee will review the Plan's allocation status at least quarterly. It is anticipated that active rebalancing will occur at least annually.

### **Cash Holdings**

It shall be the policy of The Employees' Retirement System of The Sewerage & Water Board of New Orleans to be fully invested to the maximum extent possible. Any cash holdings in separate short term accounts should be kept as small as possible.

However, the Board of Trustees may from time to time authorize the use of cash equivalent(s)<sup>3</sup> and or money market fund(s)<sup>4</sup> as interim investment vehicle(s) for assets being transitioned from one manager/product to another.

For equity and fixed income portfolios, cash and short term instruments maturing in less than 360 days shall be restricted to a maximum of 5% of each portfolio except for brief periods or when building liquidity in anticipation of a large withdrawal.

Cash equivalent reserves shall consist of cash instruments having a quality rating by at least two rating agencies<sup>5</sup> of A-2, P-2, F-2, or higher.

---

<sup>3</sup> Fixed Income instrument maturing in 360 days or less

<sup>4</sup> Very liquid mutual fund that invests solely in cash equivalents

<sup>5</sup> Standard & Poor's, Moody's and or Fitch

Investment managers shall have discretion to invest up to 5% of assets under management in cash reserves when they deem it appropriate. However, the Investment Managers will be evaluated against their peers on the performance of the total funds under their direct management.

### **Non-Individual Securities**

The Board of Trustees may authorize the use of non-individual securities such as indexed instruments<sup>6</sup> (interchangeably referred to as passive instruments), mutual funds, and other pooled (interchangeably referred to as commingled) investment vehicles.

### **Rebalancing**

The percentage allocation to each asset class may vary as much as plus or minus 10% from the strategic allocation (policy) on a relative basis, depending upon market conditions.

Board staff routinely administers withdrawal requests to facilitate expense and benefit payments on behalf of the Plan. To accomplish these funding objectives, available Plan cash-flows (i.e. interest and dividend income) will be supplemented by distributions taken from Plan managers on a basis consistent with the strategic asset allocation of the Plan.

If there are no cash flows or if cash flows are insufficient to reasonably maintain the Plan's strategic allocation in accordance with policy constraints, the need for rebalancing will be reviewed quarterly.

Upon review, for any period, if the Board of Trustees judges the organic cash flows of the Plan and the distribution methods described above to be insufficient to bring the Plan within acceptable strategic allocation ranges, the Board of Trustees shall decide whether to effect transactions to bring the strategic allocation within the defined threshold ranges.

~~The percentage allocation to each asset class may vary as much as plus or minus 5% from the strategic allocation (policy), depending upon market conditions. When necessary and/or available, cash inflows/outflows will be deployed in a manner consistent with the strategic asset allocation of the Plan. If there are no cash flows, the allocation of the Plan will be reviewed quarterly.~~

~~If the Board of Trustees judges cash flows to be insufficient to bring the Plan within the strategic allocation ranges, the Board of Trustees shall decide whether to effect transactions to bring the strategic allocation within the threshold ranges.~~

---

<sup>6</sup> Also commonly referred to index funds, exchange traded products or ETPs including ETFs, ETNs and UITs.

~~Also commonly referred to index funds, exchange traded funds, or ETFs.~~



## GUIDELINES FOR INDIVIDUAL SECURITY HOLDINGS

	Equities	Fixed Income & Cash	Alternatives
<b>Minimum Diversification Standards:</b>			
Single Investment	(a) Maximum 6% * $\phi$	(a) Maximum 10% * $\phi$ except U.S. Treasury Notes and Bonds	Not Applicable
	(b) Maximum of 5% of outstanding shares of any company		
Single Industry	(c) Maximum 25% *	(b) Maximum 25% *	
Single Sector	(d) Maximum of 2 times the appropriate style index	(c) Maximum of 2 times the appropriate style index. *	
<b>Minimum Liquidity Standards</b>	(a) Readily marketable securities of U.S corporations, foreign securities or ADRs	(a) Readily marketable U.S. Corporate and Government debt obligations, including mortgage pass-through, CMOs, convertible bonds and foreign securities.	Not Applicable
	(b) Traded on one or more domestic or international exchanges.	(b) Remaining outstanding principal value of the issue must be (and remain) at least \$100 million unless Plan Trustees approve.	
<b>Minimum Quality Standards</b>	(a) At least 3 years of earnings history **	Minimum Quality Ratings: Cash & Equivalents – S&P A-2, Moody's P-2, Fitch F-2 S&P – BBB-** Moody's – Baa3** Only Core Plus portfolio is allowed to buy and/or hold bonds rated below BBB-/Baa.	Not Applicable
	(b) Profitable (from continuing operations) in at least 3 of the last 5 years	BBB-/Baa3 bonds not to exceed 15% of portfolio*, †  For Core Plus only, bonds rated below BBB-/Baa3 are not to exceed 15% of portfolio; non-rated bonds are not to exceed 1% of portfolio *	
<b>Bond Maturities</b>		(a) Minimum (single issue) maturity: None, but maturities under 12 months will be viewed as "cash" under this policy  (b) Maximum remaining, term to maturity (single issue) at purchase: 30 years	Not Applicable

	<b>Equities</b>	<b>Fixed Income &amp; Cash</b>	<b>Alternatives</b>
<b>Foreign Securities</b>	(a) Foreign securities to a maximum of 5%*	Foreign debt issues to a maximum of 5%*†  Foreign debt issues to a maximum of 15% for Core Plus portfolio	Foreign debt issues to a maximum of 5%
<b>Prohibited Categories</b>	(a) Preferred stock (b) Lettered stock and other unregistered equity securities (c) Margin purchases (d) Short sales or warrants (e) Issuer related to the investment manager (f) Options, except as noted below (g) Commodity contracts, except stock index futures	(a) issuer related to the investment manager (b) Issues traded flat (not currently accruing interest) (c) Debt obligations of either the Sewerage & Water Board of New Orleans or the City of New Orleans (d) Commodity contracts, except bond futures	(a) Direct Investments
<b>Portfolio Turnover</b> (maximum expected in one quarter without prior consultation)	35%	35%	Not Applicable
<b>Reports to the Pension Committee</b>	At least quarterly	At least quarterly	At least quarterly
<b>Written Reports to the Committee</b>	Monthly	Monthly	Quarterly

\* Percentages refer to the market value of any single investment manager's portfolio, not the total fund. Small/Mid Cap Manager(s) is allowed a maximum of 10% in a single position. Foreign securities limitations do not apply to International Equity Manager(s) or Core-Plus Bond Manager(s).

\*\* Either as a stand-alone company or as a separately identifiable subsidiary, division or line of business. Does not apply to Core Plus (Global) Bond, Private Equity, Real Estate/REIT, or Absolute Return. Refer to individual manager guidelines.

φ Exception given for indexed or exchange-traded funds and notes (ETF's and ETN's).

†With the exception of Convertible Bonds and Core Bond Plus. Refer to individual manager guidelines.

## **DUTIES AND RESPONSIBILITIES**

The Board of Trustees is responsible for overseeing the Retirement Systems' investments. This includes, but is not limited to, the selection of acceptable asset classes, allowable ranges of holdings between asset classes and individual investment managers as a percent of assets, the definition of acceptable securities within each asset class, investment performance expectations, and monitoring compliance with state investment regulations.

The Board of Trustees selects, retains and replaces investment managers and custodians, and controls the asset allocation within policy limits.

The Board of Trustees will communicate the policy and performance expectations to the Investment Managers. The Board of Trustees will also review investment performance regularly to assure the policy is being followed and progress is being made toward achieving the objectives.

### **Board of Trustees**

As ~~named~~ fiduciaries under the Plan, the primary responsibilities of the Board of Trustees are:

1. Prepare and maintain this investment policy statement;
2. Prudently diversify the Plan's assets to meet an agreed upon risk/return profile;
3. Prudently select both actively managed and indexed (passive) investment products;
4. Control and account for all investment, record keeping, and administrative expenses associated with the Plan;
5. Monitor and supervise all service vendors and investment options; and
6. Avoid prohibited transactions and conflicts of interest.

### **Pension Consultant**

The Board of Trustees, ~~utilizing standard SWBNO procurement policy,~~ will retain a (one or more) third-party Consultant(s) to assist the Board of Trustees in managing the overall investment process. The Consultant(s) will be responsible for guiding the Board of Trustees through a disciplined and rigorous investment process to enable the Board of Trustees to meet the fiduciary responsibilities outlined herein.

### **Investment Managers**

Distinguishable from the Board of Trustees and Pension Consultant, who are responsible for managing the investment process, investment managers are responsible for making investment decisions (security selection and price decisions). The Investment Managers shall be responsible for determining investment strategy and implementing security selection and the timing of purchases and sales within the policy guidelines set forth in this statement and as otherwise provided by the Board of Trustees. The specific duties and responsibilities of each investment manager are:

1. Manage the assets under their supervision in accordance with the guidelines and objectives outlined in their respective contracts, prospectus, or trust agreement.
2. Exercise full investment discretion with regards to buying, managing, and selling assets held in the portfolios.
3. If managing a separate account (as opposed to a mutual fund or a commingled account), seek approval from the Board of Trustees prior to purchasing and/or implementing the following securities and transactions, unless otherwise stated in manager's contract with Board of Trustees:
  - Letter stock and other unregistered securities; commodities or other commodity contracts; and short sales or margin transactions. Securities lending; pledging or hypothecating securities.
  - Investments in the equity securities of any company with a record of less than three years continuous operation, including the operation of any predecessor
  - Investments for the purpose of exercising control of management,
4. Vote promptly all proxies and related actions in a manner consistent with the long-term interest and objectives of the Plan as described in this IPS. Each investment manager shall keep detailed records of the voting of proxies and related actions and will comply with all applicable regulatory obligations.
5. Communicate with the Board of Trustees all significant changes pertaining to the fund it manages or the firm itself. Changes in ownership, organizational structure, financial condition, and professional staff are examples of changes to the firm in which the Board is interested.
6. Effect all transactions for the Plan subject to best price and execution. If a manager utilizes brokerage commission generated from Plan assets to effect soft-dollar transactions, records detailing all activity (brokerage and soft-dollar use) will be kept and communicated to the Board of Trustees on a monthly basis.
7. If applicable (i.e. for active equity managers), to direct its trading to designated commission recapture broker(s) at or near target level of 35% of total trades placed on behalf of Plan. Again, records detailing the level of participation will be kept and communicated to the Board of Trustees on a monthly basis.
8. Use the same care, skill, prudence, and due diligence under the circumstances then prevailing that experienced investment professionals, acting in a like capacity and fully familiar with such matters, would use in like activities for like retirement Plans with like aims in accordance and compliance with ERISA and all applicable laws, rules, and regulations.
9. If managing a separate account<sup>7</sup> (as opposed to an indexed product, mutual fund or commingled account), **acknowledge co-fiduciary responsibility by signing and returning a copy of this IPS.**

---

<sup>7</sup> Also referred to as SMA or separately managed account

### **Custodian**

The Board of Trustees, utilizing standard SWBNO procurement policy, will retain a (one or more) third-party Custodian(s) to assist the Board of Trustees in managing the overall investment process. Custodians are responsible for the safekeeping of the Plan's assets. The specific duties and responsibilities of the custodian are:

1. Maintain separate accounts by legal registration
2. Value the holdings
3. Collect all income and dividends owed to the Plan
4. Settle all transactions (buy-sell orders) initiated by the Investment Manager
5. Provide monthly reports that detail transactions, cash flows, securities held and their current value, and change in value of each security and the overall portfolio since the previous report.

### **INVESTMENT PRODUCT AND MANAGER SELECTION**

The process for selecting both indexed strategy products, as well as alternative strategy managers will consist of the Consultant's pre-search development of criterion which consider both quantitative and qualitative characteristics for the specific class and style of indexed or alternative strategy. The Board of Trustees will adopt and diligently apply this criterion in its selection of each passive product or alternative strategy manager.

With exception given to indexed products, for example an iShares or SPDR S&P 500 ETF, as well as alternative strategy managers, for example Private Equity, Absolute Return/HFOFs and/or Real Estate/REIT managers, the Board of Trustees will apply the following due diligence criteria in selecting each (active) equity and fixed income manager.

1. Regulatory oversight: Each investment manager should be a regulated bank, an insurance company, a mutual fund organization, or an SEC registered investment adviser.
2. Correlation to style or peer group: The product should be highly correlated to the asset class of the investment option. This is one of the most critical parts of the analysis, since most of the remaining due diligence involves comparisons of the manager to the appropriate peer group.
3. Performance relative to a peer group: The product's performance should be evaluated against the peer group's median manager return, for 1-, 3-, and 5-year cumulative periods.
4. Performance relative to assumed risk: The product's risk-adjusted performance (standard deviation, alpha and/or Sharpe Ratio) should be evaluated against the peer group's median manager's risk-adjusted performance.

5. Minimum track record: The product's inception date should be greater than three years.
6. Assets under management: The product should have at least \$75 million under management.
7. Holdings consistent with style: The screened product should have no more than 20% of the portfolio invested in "unrelated" asset class securities.
8. Stability of the organization: i.e. *Manager Tenure* - no material organizational or investment team changes in the past two years.

#### **Volatility**

Consistent with the desire for adequate diversification, the investment policy is based on the assumption that the volatility of the combined portfolios will be similar to that of the market opportunity available to institutional investors with similar return objectives.

The volatility of each investment managers' portfolio will be compared to the volatility of appropriate market indices and peer groups. Above median volatility is acceptable only so long as performance is commensurately above median.

#### **Liquidity**

Based on current actuarial assumptions, it is expected that contributions will exceed benefit payments for the foreseeable future. Therefore, there is no need for Investment Managers to maintain liquid reserves for payment of pension benefits.

If benefit payments are projected to exceed contributions in some future period, the Board of Trustees or its designee will notify the investment managers well in advance of any withdrawal orders to allow them sufficient time to build up necessary liquid reserves. The managers will be expected to review the cash flow requirements with the Pension Committee at least annually.

#### **Voting of Proxies**

Voting of proxy ballots shall be for the exclusive benefits of the participants and beneficiaries of the Retirement System. Unless the Board of Trustees provides information on how to vote a proxy, the investment managers shall vote the proxies in accordance with its own policy for shareholder issues. Managers will communicate their proxy voting record to the Board of Trustees in writing every quarter and will provide a written summary of all proxies voted on an annual basis.

#### **Execution of Security Trades**

The Board of Trustees expects the purchase and sale of securities to be made in a manner designed to receive the combination of best price and execution. The Board of Trustees may implement a Directed Brokerage Program in the future. In June of 2001, the Board of Trustees implemented a Commission Recapture Program.

#### **Securities Lending Guidelines**

The Plan may engage in the lending of securities subject to the following guidelines:

1. Collateral on loans is set at 102% of the market value of the security plus accrued interest.

2. Collateral should be marked to market daily.
3. Securities of the System are not released until the custodian bank receives payment for the book entry withdrawal of the loaned security.
4. Eligible securities can include the lending of all U.S. Treasury and other government guaranteed securities, corporate securities, and common stock.

## **CONTROL PROCEDURES**

### **Conflicts of Interest**

The Investment Manager (and any persons acting on its behalf) who enters into a contract with the Plan must reasonably believe, immediately prior to entering into the contract, that the contract represents an arm's length arrangement between the parties and that the Board of Trustees, alone or together with the Board of Trustee's independent agents, understands the proposed method of compensation and its risks. In addition to the requirements of Form ADV, the Investment Manager shall disclose to the Board of Trustees, or to the Board of Trustee's independent agent, prior to entering into an advisory contract, all material information concerning the proposed advisory arrangement including the following:

1. The periods which will be used to measure investment performance throughout the contract and their significance in the computation of the manager's fee.
2. The nature of any index which will be used as a comparative measure of investment performance, the significance of the index, and the reason the Investment Manager believes the index is appropriate.
3. How the securities will be valued and the extent to which the valuation will be determined independently where the Investment Manager's compensation is based in part on the unrealized appreciation of securities for which market quotations are not readily available.

### **Review of Liabilities**

All major liability assumptions regarding number of participants, compensation, benefit levels, and actuarial assumptions will be subject to an annual review by the Board. This review will focus on an analysis of major differences between the Retirement System's assumptions and actual experience.

### **Review of Investment Policy Statement**

The IPS will be reviewed annually and updated with pertinent or substantive changes as frequent as necessary.

### **Review of Investment Objectives**

Investment performance will be reviewed annually to determine the continued feasibility of achieving the investment objectives and the appropriateness of the investment policy for achieving these objectives.

It is not expected that the investment policy will change frequently. In particular, short-term changes in the financial markets should not require an adjustment in the investment policy.

### **Review of Investments**

The Board will review in addition to the total fund; each active manager's and indexed product's performance at least quarterly with its Consultant. The total fund will be measured against a composite index of asset class proxies or benchmarks blended in the same percentages as the IPS asset allocation targets contained herein. Each active investment manager will be measured against an appropriate benchmark(s) as stated in their respective contract(s). Each indexed product will be measured against its appropriate tracking index.

### **Market Indices**

Available benchmarking opportunities for the capital markets include the Dow Jones 30 Industrial Average, S&P 500, Russell 1000 Indexes for large cap equities, the Russell 2000 Index for small cap equities, the MSCI ACWI Index for global equities, the MSCI ACWI ex-U.S. Index for international equities, the Barclays Aggregate Bond Index for investment grade fixed income securities, Venture Economics Index for Private Equity, HFRI Fund-of-Funds Index for Absolute Return and/or other comparable indices appropriate for monitoring individual portfolio investment strategies. Some of the other comparable indices include style indices such as the Russell 1000 Growth or Value Index for large cap growth or value, and the Russell 2000 Growth or Value Index for small cap growth or value.

Performance reviews will focus on:

1. Total Retirement System and investment manager compliance with the IPS guidelines and stated investment regulations.
2. Material changes in the manager organizations, such as in investment philosophy, personnel, acquisitions or losses of major accounts, etc.
3. Comparison of managers' results to a universe of funds using a similar investment style and similar asset classes.
4. Comparison of managers' results to style specific benchmarks established for each individual manager's portfolio. Where multiple asset classes are employed in a portfolio, a customized benchmark index may be developed to mirror the asset classes utilized by the manager.
5. The appropriate market index will be stated in each investment manager's contract.

### **Compliance**

On an ongoing basis, the Board of Trustees and its Consultant will review each investment manager's relative compliance with, and adherence to the principles,



guidelines and benchmarks established in this IPS. Annually, each investment manager will be formally examined and graded individually. If, in the opinion of the Board of Trustees, there is concern for remedial action to be taken by the investment manager, it will be expressed and communicated by the Board of Trustees to the Investment Manager at that time.

The investment managers will be responsible for keeping the Board of Trustees advised of any material changes in personnel, investment strategy, or other pertinent information potentially affecting performance of all managers. The investment managers will be responsible for reconciliation with Custodian Bank.

### **Performance Expectations**

The Board of Trustees recognizes that real return objectives may not be meaningful during some time periods. In order to ensure that investment opportunities available over a specific time period are fairly evaluated, the Board of Trustees will use comparative performance statistics to evaluate investment results. Each investment manager (whether equity, fixed income or alternative manager) and the total Retirement System, will be expected to achieve minimum performance standards as follows:

- 1) Rank in the top forty percent (40%) of an appropriate style peer group of actively managed portfolios over rolling three-year periods.
- 2) Exceed an appropriate benchmark index, net of management fees over rolling three-year periods.

The Board of Trustees is keenly aware that ongoing review and analysis of the Plan's investment products and managers is just as important as the due diligence implemented during the selection process. The net performance of all indexed products and investment managers will be monitored on an ongoing basis; and at the sole discretion of the Board of Trustees, corrective (probation, termination) or progressive (new hire, add funds) action may be taken if it is deemed appropriate at any time.

On a timely basis, but not less than quarterly, the Board of Trustees will meet to review whether or not individual active investment managers as well as indexed products achieve and maintain the Board's performance expectations as outlined above; specifically:

- The manager's adherence to the Plan's investment guidelines
- Material changes in the manager's organization, investment philosophy, and/or personnel
- Any legal, SEC, and/or other regulatory agency proceedings affecting the manager.

While these performance standards should be achieved over a three to five year period complete market cycle, the Board of Trustees will also monitor performance on a shorter-term basis.

The Investment Managers are requested to be aware at all times of the pension plan's actuarial assumption of seven percent (7%) overall annual return.

### **Probationary Period**

Investment managers should be advised that the Board of Trustees intends to track interim progress toward multi-year (3 to 5-year) goals. However, if in the opinion of the Board of Trustees an investment manager's performance is deemed to be deficient, the Board of Trustees will inform the investment manager in writing that the firm has been placed on probation (*Watch List*). The length of an investment manager's probation period will be determined by the Board of Trustees on a case-by-case basis. If the Board of Trustees' concerns are not sufficiently addressed during this probationary period, or if the investment manager is unable to remedy deficiencies in performance, this would constitute grounds for termination of the investment manager.

An Investment Manager may be removed from probation if, in the opinion of the Board of Trustees, the factors which caused the probationary review have been eliminated, mitigated or otherwise appropriately and sufficiently addressed to the complete and total satisfaction of the Board of Trustees.

Specifically, a manager may be placed on the *Watch List* and a thorough review and analysis of the investment manager may be conducted, when:

1. A manager performs below median for their peer group over 1, 3, and/or 5 year cumulative period(s); or over any period deemed relevant by the Board of Trustees.
2. A manager's 1 to 3 year risk adjusted return (alpha and/or Sharpe) falls below the peer group's median risk adjusted return.
3. There is a change in the professionals managing the portfolio.
4. There is a significant decrease in the product's assets.
5. There is an indication the manager is deviating from his/her stated style and/or strategy.
6. There is an increase in the product's fees and expenses.
7. Any extraordinary event such as a substantive change in firm ownership occurs that may interfere with the manager's ability to fulfill their role in the future.

The Board of Trustees has determined it is in the best interest of the Plan's participants that performance objectives be established for each investment manager. Manager performance will be evaluated in terms of an appropriate market index (e.g. the S&P 500 stock index for large cap domestic equity manager) and the relevant peer group (e.g. the Morningstar<sup>8</sup> Large Blend category or manager universe for large cap domestic managerse.g. the PSN<sup>9</sup> Large Cap Universe for large cap domestic managers).

<sup>8</sup> The Morningstar (M\*) Category classifications bifurcates portfolios into peer groups based on their holdings. The categories help investors identify the top-performing funds, assess potential risk, and build well-diversified portfolios. Morningstar regularly reviews the category structure and the portfolios within each category to ensure that the Plan meets the needs of investors. Morningstar assigns categories to all types of portfolios, such as mutual funds, variable annuities, and separate accounts. Portfolios are placed in a given category based on their average holdings statistics over the past three years.

<sup>9</sup> PSN Enterprise is a software application licensed by Plan's Consultant, powered by the PSN investment manager database. The PSN database provides connectivity to separately managed accounts, open ended mutual funds, closed end funds, exchange traded funds, hedge funds, fund of funds, stocks, variable annuities, and other investment content. A proprietary platform of Informa Investment Solutions, the PSN

Formatted: Font: Italic

A manager evaluation may include the following steps:

1. A letter to the manager asking for an analysis/explanation of their performance (underperformance) for the period(s) under review.
2. An analysis of recent transactions, holdings, and portfolio characteristics to determine the cause for underperformance or to check for a change in style.
3. A meeting with the manager, which may be conducted on-site, to gain insight into organizational changes and any changes in strategy or discipline.

### Style Benchmarks

<u>Style-Based Asset Class</u>	<u>Index/Benchmark</u>	<u>Peer Group Universe</u>
<i>Global Equity</i>	<i>Russell 3000 Index</i>	<i>PSN All Cap</i>
<del>Large Cap Value</del>	<del>Russell 1000 Value Index</del>	<del>PSN Large Cap Value</del>
<del>LC Enhanced Core</del>	<del>Russell 1000 Index</del>	<del>PSN Large Cap</del>
<del>Large Cap Growth</del>	<del>Russell 1000 Growth Index</del>	<del>PSN Large Cap Growth</del>
<del>Mid Cap Equity</del>	<del>Russell Mid Cap Index</del>	<del>PSN Mid Cap</del>
<del>SMID Cap Equity</del>	<del>Russell 2500 Index</del>	<del>PSN Small/Mid Cap</del>
<del>Small Cap Equity</del>	<del>Russell 2000 Index</del>	<del>PSN Small Cap</del>
<del>International Equity</del>	<del>MSCI ACWI EX US Index</del>	<del>PSN Int'l Equity</del>

Formatted Table

~~database was fully integrated into the former Check Free System~~Plans ~~Mobius investment manager database in September 2006.~~

<del>International EM Equity</del>	<del>MSCI Emerging Markets Index</del>	<del>PSN Int'l EM</del>
<b><i>Global Fixed Income</i></b>	<b><i>Bloomberg Barclays Aggregate Bond</i></b>	<b><i>PSN Core Plus Fixed</i></b>
<del>U.S. Core Bond</del>	<del>Bloomberg Barclays Aggregate Bond Index</del>	<del>PSN Core Fixed</del>
<del>High Yield</del>	<del>Bloomberg Barclays HY US Index</del>	<del>PSN High Yield</del>
<del>Core Plus (Global) Bond (constrained)</del>	<del>1) Bloomberg Barclays Aggregate Bond Index — Bloomberg Barclays Universal Bond Index</del>	<del>PSN Core Plus Fixed</del>
<del>Global TIPS</del>	<del>Bloomberg Barclays World Inflation Linked Bond Index</del>	<del>PSN Global TIPS</del>
<del>Convertible Bonds</del>	<del>BofA ML Inv. Grade Convertible Bond Index</del>	<del>PSN Convertibles</del>
<b><i>Alternative Investments</i></b>	<b><i>Custom Blended Index</i></b>	
<del>Multi-Strat/Multi-Manager HFOFs/Absolute Return</del>	<del>HFRI Fund of Funds Index</del>	<del>PSN Fund of Funds</del>
<del>Domestic REITs</del>	<del>MSCI REIT</del>	<del>PSN REIT/Real Estate</del>
<del>International REITs</del>	<del>FTSE/EPRA NAREIT ex-US</del>	<del>PSN Global/Int'l REIT</del>
<del>Commodities</del>	<del>S&amp;P GSCI</del>	<del>PSN Commodities &amp; Energy</del>
<del>Private Equity</del>	<del>Cambridge Private Equity</del>	<del>TBD</del>
<b><u>Style Based Asset Class</u></b>	<b><u>Index/Benchmark</u></b>	<b><u>Peer Group/M* Category</u></b>
<b><i>Global Equity</i></b>	<b><i>Russell 3000 Index</i></b>	
<u>Large Cap Value</u>	<u>Russell 1000 Value Index</u>	<u>Large Value</u>
<u>LC Enhanced Core</u>	<u>Russell 1000 Index</u>	<u>Large Blend</u>
<u>Large Cap Growth</u>	<u>Russell 1000 Growth Index</u>	<u>Large Growth</u>
<u>Mid Cap Equity</u>	<u>Russell Mid Cap Index</u>	<u>Mid-Cap Blend</u>
<u>SMID Cap Equity</u>	<u>Russell 2500 Index</u>	<u>Mid-Cap Blend</u>
<u>Small Cap Equity</u>	<u>Russell 2000 Index</u>	<u>Small Blend</u>
<u>International Equity</u>	<u>MSCI ACWI-EX US Index</u>	<u>Foreign Large Blend</u>

<u>International EM Equity</u>	<u>MSCI Emerging Markets Index</u>	<u>Diversified EM</u>
<u><i>Global Fixed Income</i></u>	<u><i>Bloomberg Barclays Aggregate Bond</i></u>	
<u>U.S. Core</u>	<u>Bloomberg Barclays Aggregate Bond Index</u>	<u>Intermediate-Term Bond</u>
<u>High Yield</u>	<u>Bloomberg Barclays HY US Index</u>	<u>High Yield Bond</u>
<u>Core-Plus (Global) (constrained)</u>	1) <u>Bloomberg Barclays Universal Bond Index</u> 2) <u>Bloomberg Barclays Aggregate Bond Index</u>	<u>Multi-Sector Bond</u>
<u>Global TIPS</u>	<u>Bloomberg Barclays World Inflation Linked Bond Index</u>	<u>Inflation Protected Bond</u>
<u>Convertible Bonds</u>	<u>BofA ML Inv. Grade Convertible Bond Index</u>	<u>TBD</u>
<u><i>Alternative Investments</i></u>	<u><i>Custom Blended Index</i></u>	
<u>Multi-Strat/Multi-Manager HFOFs/Absolute Return</u>	<u>HFRI Fund-of-Funds Index</u>	<u>TBD</u>
<u>Domestic REITs</u>	<u>MSCI REIT</u>	<u>Sector Real Estate</u>
<u>International REITs</u>	<u>FTSE/EPRA NAREIT ex US</u>	
<u>Commodities</u>	<u>S&amp;P GSCI</u>	<u>Commodities Broad Basket</u>
<u>Private Equity</u>	<u>Cambridge Private Equity</u>	<u>TBD</u>

### **Cause for Termination**

While the Board of Trustees intends to fairly evaluate both indexed (passive) products and active investment managers over time; the Board reserves the right to terminate its relationship with a product sponsor or investment manager at any time without a probationary period if there is:

1. Failure to meet the Board of Trustees' communication and reporting requirements.
2. A significant change in the personnel managing the investment decisions of the Fund, or a change in the ownership of the Investment Manager that could be deemed to adversely impact the management of Fund assets.
3. A lack of confidence that the Investment Manager or his organization can produce acceptable results in the future.
4. Unacceptable justification for poor performance results.
5. Lack of responsiveness to the Board of Trustees.
6. A change in asset allocation which may result in the termination of an Investment Manager for reasons other than for cause.
7. In the Board of Trustees' opinion, a change of Investment Manager would be beneficial to the Plan.

There is no implied contract for a fixed time period, or otherwise, between the SWBNO Employees' Retirement System and any of its Investment Managers, and the relationship between the parties may be terminated at any time for any reason with prior written notification.

### **Measuring Costs**

The Board of Trustees will review, at least annually, all costs associated with the management of the Plan's investments including:

1. Fees and expense reimbursements of pension consultant
2. Fees and expense ratios of each active investment manager and passive investment product
3. Custody Fees: Encompassing the holding of the assets, the collection of income and disbursement of payments.
4. Trading Costs: Evaluating whether or not the manager is demonstrating attention to best execution efforts, commission recapture program targets<sup>10</sup>, and other efficiencies in trading securities.

<sup>10</sup> Refer to ~~Page 15; Item numbers Page 19 numbers~~ 6 and 7 of this IPS for details

## POLICY ADOPTION STATEMENT

This Investment Policy document is hereby adopted by the Board of Trustees of the Sewerage and Water Board of New Orleans on December 19, 2018.

Adopted by: **The Board of Trustees of Sewerage and Water Board of New Orleans**

\_\_\_\_\_, Trustee  
Mayor LaToya Cantrell - Board President

\_\_\_\_\_, Trustee  
Tamika Duplessis, PhD. - President Pro-Tem

\_\_\_\_\_, Trustee  
Joseph Peychaud - Pension Committee Chairman

\_\_\_\_\_, Trustee  
Christopher Bergeron – Pension Committee Member  
Elected Employee Representative

\_\_\_\_\_, Trustee  
Latriessa Matthews– Pension Committee Member  
Elected Employee Representative

\_\_\_\_\_, Trustee  
Chante' Powell-Pierre – Pension Committee Member  
Elected Employee Representative

\_\_\_\_\_, Trustee  
Marvin Russell – Pension Committee Member  
Elected Employee Representative (Retired)

\_\_\_\_\_, Trustee  
Eileen Gleason, JD – Pension Committee Member

\_\_\_\_\_, Trustee  
Ralph Johnson – Pension Committee Member

\_\_\_\_\_, Trustee  
Lynes “Poco” Sloss – Pension Committee Member

\_\_\_\_\_, Trustee  
Lewis Sterling III – Pension Committee Member

\_\_\_\_\_, Trustee  
Andrew Amacker, PE

\_\_\_\_\_, Trustee  
Nicole M. Barnes

\_\_\_\_\_, Trustee  
Robin Barnes

\_\_\_\_\_, Trustee  
Alejandra Guzman

~~This Investment Policy document is hereby adopted by the Board of Trustees of the Sewerage and Water Board of New Orleans on September 20, 2017.~~

~~Adopted by: The Board of Trustees of Sewerage and Water Board of New Orleans~~

\_\_\_\_\_, Trustee  
Mayor Mitchell J. Landrieu

\_\_\_\_\_, Trustee  
Jeff Hebert – Mayor’s Representative

\_\_\_\_\_, Trustee



~~Christopher Bergeron~~—Elected EE Representative

\_\_\_\_\_, Trustee

~~Chante' Powell Pierre~~—Elected EE Representative

\_\_\_\_\_, Trustee

~~Marvin Russell~~—Elected EE Representative

\_\_\_\_\_, Trustee

~~John Wilson~~—Elected EE Representative

\_\_\_\_\_, Trustee

~~Alan Arnold~~

\_\_\_\_\_, Trustee

~~Robin Barnes~~

\_\_\_\_\_, Trustee

~~Marion Braey~~

\_\_\_\_\_, Trustee

~~Dr. Tamika Duplessis~~

\_\_\_\_\_, Trustee

~~Stacy Horn Koch~~

\_\_\_\_\_, Trustee

~~Ralph Johnson~~

\_\_\_\_\_, Trustee

~~Joseph Psychaud~~

\_\_\_\_\_, Trustee

~~Council District "A" TBD~~

\_\_\_\_\_, Trustee

~~Council District "B" TBD~~

\_\_\_\_\_, Trustee

~~Council District "C" TBD~~

### CO-FIDUCIARY ACKNOWLEDGEMENT

The undersigned hereby acknowledges fiduciary capacity as defined by the Employee Retirement Investment Security Act (ERISA) of 1974.

The undersigned hereby acknowledges that it has read this Investment Policy Statement document and further will comply with the procedural and reporting requirements contained herein; and as amended by the Board of Trustees from time to time.

Acknowledged by:

Print Name:

Title:

Company:

## APPENDIX A

### Sewerage and Water Board of New Orleans Board Officers

Mayor LaToya Cantrell, President  
Tamika Duplessis, PhD., President Pro-Tem

### Sewerage and Water Board of New Orleans Board Members

Andrew Amacker, PE  
Nicole M. Barnes  
Robin Barnes  
Eileen Gleason, JD, Pension Committee Member  
Alejandra Guzman  
Ralph Johnson, Pension Committee Member  
Joseph Peychaud, Pension Committee Chairman  
Lynes R. "Poco" Sloss, Pension Committee Member  
Lewis Sterling III, Pension Committee Member

### Sewerage and Water Board of New Orleans Employee Trustees

Christopher Bergeron, Pension Committee Member  
Latressa Matthews, Pension Committee Member  
Chante' Powell-Pierre, Pension Committee Member  
Marvin Russell, Pension Committee Member

### Sewerage and Water Board of New Orleans Management

Ghassan Korban, Executive Director  
Yvette Downs, Chief Financial Officer

### ~~Sewerage and Water Board of New Orleans~~ ~~Board Officers~~

~~Mitchell J. Landrieu, President~~  
~~Jeff Hebert, Mayor's Representative~~  
~~President Pro Tem~~

~~Sewerage and Water Board of New Orleans~~

~~Board Members~~

~~Alan Arnold~~

~~Robin Barnes~~

~~Marion Braey~~

~~Dr. Tamika Duplessis~~

~~Stacy Horn Koeh~~

~~Ralph Johnson~~

~~Joseph Psychaud~~

~~Sewerage and Water Board of New Orleans~~

~~Employee Trustees~~

~~Christopher Bergeron~~

~~Chante' Powell-Pierre~~

~~Marvin Russell~~

~~John Wilson~~

~~Sewerage and Water Board of New Orleans Management~~

~~Executive Director~~

~~Timothy W. Viezer, PhD, CFA, CAIA~~

~~Chief Investment Officer~~

## APPENDIX B

### 2018-2027

#### Capital Market Expectations

Asset Class	Index	Projected Return*	Projected Risk
<b>Equities</b>			
Broad Domestic Equity	Russell 3000	6.85%	18.25%
Large Cap	S&P 500	6.75%	17.40%
Small/Mid Cap	Russell 2500	7.00%	22.60%
Global ex-US Equity	MSCI ACWI ex USA	7.00%	21.00%
International Equity	MSCI World ex USA	6.75%	19.70%
Emerging Markets Equity	MSCI EM	7.00%	27.45%
<b>Fixed Income</b>			
Short Duration	BB Barclays 1-3 Yr G/C	2.60%	2.10%
Domestic Fixed	BB Barclays Aggregate	3.00%	3.75%
Long Duration	BB Barclays Long G/C	3.00%	10.95%
TIPS	BB Barclays TIPS	3.00%	5.25%
High Yield	BB Barclays High Yield	4.75%	10.35%
Non-US Fixed	BB Barclays Gbl Agg xUSD	1.40%	9.20%
Emerging Market Debt	EMBI Global Diversified	4.50%	9.60%
<b>Other</b>			
Real Estate	Callan Real Estate	5.75%	16.35%
Private Equity TR	Post Venture Capital	7.35%	32.90%
Hedge Funds	Callan Hedge FoF	5.05%	9.15%
Commodities	Bloomberg Commodity	2.65%	18.30%
Cash Equivalents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%

\* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

The above table is an excerpt from the Callan Asset Liability Study; the study was developed and submitted by Callan & Associates in July 2018. The SWBNO Board commissioned, reviewed and adopted the above expectations or capital market assumptions together with associated asset allocation recommendations in September 2018, as part of a complete Plan asset liability and funding analysis.

Neither forecasts nor past performance are indicative of future results; therefore there is no implied assurance of any individual asset class or proxy index as represented, realizing the referenced expected return or risk characteristics.

#### SUMMARY OF CAPITAL MARKET ASSUMPTIONS

## LONG-TERM CAPITAL MARKET ASSUMPTIONS RETURN AND RISK CHARACTERISTICS

	$E_R$	$E_\sigma$	
ASSET CLASS	RETURN	RISK	CORRELATIONS
US Large Cap Equity	8.40	17.00	1.00
US Mid Cap Equity	8.55	21.00	.91
US Small Cap Equity	8.70	25.00	.80
US Long Bonds	4.75	6.00	.30
Cash Equivalents	3.00	3.00	.01
Non-US Equity	8.70	20.00	.65
Non-US Fixed Income	4.75	10.00	.04
Inflation Indexed Bonds	4.50	5.50	.30
High Yield Bonds	7.00	10.00	.50
Private Equity	12.00	30.00	.73
Absolute Return	7.50	9.00	.50
Real Estate	7.00	16.00	.45
Emerging Equities	9.50	28.00	.60

**Correlations** are to US Large Cap Equity;

$E_R$  = Expected AROR Annualized Rate of Return; and

$E_\sigma$  = Expected Risk quantified as a measurement of Standard Deviation or the annual variability of returns.

The above table was developed in November 2009 utilizing data that was derived from sources believed to be accurate and reliable. Neither forecasts nor past performance are indicative of future results; therefore there is no implied assurance of any individual asset class achieving the referenced expected return, risk or correlation characteristics.

## APPENDIX C

### GLOSSARY OF TERMS

**Absolute Return Strategies:** Strategies that are developed by private investment firms that seek to generate high absolute returns taking active positions in a variety of markets employing different financial instruments.

**Active Management:** (also called *active investing*) refers to a portfolio management strategy wherein the manager makes specific investments with the goal of outperforming an investment benchmark index. Investors or mutual funds that do not aspire to create a return in excess of the market benchmark index will often invest in an index fund that replicates as closely as possible the investment weighting and returns of that index. This is called passive management. Active management is the opposite of passive management, because the manager of a passive management fund does *not* seek to outperform the benchmark index.

**Accumulated Benefit Obligation:** ABO is an approximate measure of the liability of a pension plan in the event of a termination at the date the calculation is performed.

**Alpha:** This statistic measures a portfolio's return in excess of the market return adjusted for risk. It is a measure, of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk, which was taken for that level of market exposure.

**Asset Allocation:** The process of determining the optimal allocation of a fund's portfolio among broad asset classes.

**AROR:** Annualized rate of return.

**Basis Point:** 100 bps (basis points) equals 1%.

**Best Execution:** This is formally defined as the difference between the strike price (the price at which a security is actually bought or sold) and the "fair market price", which involves calculating opportunity costs by examining the security price immediately after the trade is placed. Best execution occurs when the trade involves no lost opportunity cost, for example, when there is no increase in the price of a security shortly after it is sold.

**Beta:** A statistical measure of the volatility or sensitivity, of rates of return on a portfolio or security in comparison to a market index. The beta value measures the expected change in return per one percent change in the return on the market. Thus, a portfolio with a beta of 1.1 would move 10% more than the market.

**Commingled Fund:** This is a type of investment fund that is similar to a mutual fund in that investors purchase and redeem units that represent ownership in a pool of securities. Commingled funds usually are offered through a bank- administered plan allowing for broader and more efficient investing.

**Commission Recapture:** An agreement by which a plan Fiduciary earns credits based upon the amount of brokerage commissions paid. These credits can be used for services

that will benefit the plan such as consulting services, custodian fees, or hardware and software expenses.

**Convertible Bonds:** Securities, usually bonds or preferred shares that can be converted into common stock.

**Core Fixed Income** - A fixed income approach that applies 90% or more of the securities available in the Lehman Brothers Aggregate Index. MBS issues should be the major component of the portfolio in a core product.

**Core Fixed Plus:** A debt investment with which the investor loans money to an entity (company or government) that borrows the funds for a defined period of time at a specified interest rate. This fixed-income style permits managers to add instruments with greater risk and greater potential return, such as high yield, global and emerging market debt, to their core portfolios of investment-grade bonds.

**Correlation Coefficient:** Correlation measures the degree to which two variables are associated with one another. Correlation is a commonly used tool for constructing a well-diversified portfolio. Traditionally, equities and fixed-income asset returns have not moved closely together. The asset returns are not strongly correlated. A balanced fund with equities and fixed-income assets represents a diversified portfolio that attempts to take advantage of the low Correlation between the two asset classes.

**Defined Benefit Plan:** A DB plan is a type of employee benefit plan in which employees know (through a formula) what they receive upon retirement or after a specified number of years of employment with an employer. The employer is obligated to contribute funds into the defined benefit plan based on an actuarially determined obligation that takes into consideration the age of the workforce, their length of service and the investment earnings that are projected to be achieved from the funds contributed. Defined Benefit Plans are over funded if the present value of the future payment obligations to employees is less than the current value of the assets in the Plan. It is under funded if the obligations exceed the current value of these Plan assets.

**Direct Investment:** (1). Also referred to as **Direct Stock Plans** are offered by companies that allow you to purchase or sell stock directly through them without your having to engage an investment advisor or pay commissions to a broker. But you may have to pay a fee for using the plan's services. Some companies require that you already own stock in the company or are employed by the company before you may participate in their direct stock plans. You may be able to buy stock by investing a specific dollar amount rather than having to pay for an entire share. DSPs usually will not allow you to buy or sell your securities at a specific market price or at a specific time. Rather, the company will purchase or sell shares for the plan at established times — for example, on a daily, weekly, or monthly basis — and at an average market price. You can find when the company will buy and sell shares and how it determines the price by reading the company's disclosure documents. Depending on the plan, you may be able to have your shares transferred to your broker to have them sold, but the plan may charge you a fee to do so. (2.) Also refers to the prohibited process or transaction type as it relates to alternatives. For this purpose, Direct Investment is defined as an investment made



directly by an investor with a private company as it relates to a Private Equity or Absolute Return transaction; without the benefit and discretion of a third party investment manager or advisor.

**Directed Brokerage:** Circumstances in which a board of trustees or other fiduciary requests that the investment to a particular broker so that the commissions generated can be used for specific services or resources. See *Soft Dollars*.

**Dollar-Weighted Rate of Return:** Method of performance measurement that calculates returns based on the cash flows of a security or portfolio. A dollar-weighted return applies a discounted cash flow approach to obtain the return for a period. The discount rate that equates the cash inflow at the end of the period plus any net cash flows within the period with the initial outflow is the dollar-weighted rate of return. This return also is referred to as the internal rate of return (IRR).

**Economically-Targeted Investment (ETI):** Investments where the goal is to target a certain economic activity, sector, or area in order to produce corollary benefits in addition to the main objective of earning a competitive risk-adjusted rate of return.

**Equal Weighted:** In a portfolio setting, this is a composite of a manager's return for accounts managed that gives equal consideration to each portfolio's return without regard to size of the portfolio. Compare to *Size-Weighted Return*. In index context, equal weighted means each stock is given equal consideration to the index return without regard to market capitalization. The Value Line Index is an example of an equal weighted index.

**ERISA:** Employee Retirement Income Security Act is a 1974 law governing the operation of most private pension and benefit plans. The law eased pension eligibility rules, set up the *Pension Benefit Guaranty Corporation*, and established guidelines for the management of pension funds.

**Fiduciary:** Indicates the relationship of trust and confidence where one person (the Fiduciary) holds or controls property for the benefit of another person.

Any person who (1) exercises any discretionary authority or control over the management of a plan or the management or disposition of its assets, (2) renders investment advice for a fee or other compensation with respect to the funds or property of a plan, or has the authority to do so, or (3) has any discretionary authority or responsibility in the administration of a plan.

**Foreign Direct Investment (FDI)** is defined as a company from one country making a physical investment into building or factory in another country. Its definition can be extended to include investments made to acquire lasting interest in enterprises operating outside of the economy of the investor.

**Fund-of-Funds:** A fund-of-funds (**FoF**) is an investment fund that uses an investment strategy of holding a portfolio of other investment funds rather than investing directly in shares, bonds or other securities. This type of investing is often referred to as multi-manager investment.

There are different types of 'fund of funds', each investing in a different type of collective investment scheme (typically one type per FoF), eg. Mutual Fund FoF, Hedge Fund FoF, Private Equity FoF or Investment Trust FoF.

**Geometric Return:** A method of calculating returns which links portfolio results on a quarterly or monthly basis. This method is best illustrated by an example, and a comparison to Arithmetic Returns, which does not utilize a time link. Suppose a \$100 portfolio returned +25% in the first quarter (ending value is \$125) but lost 20% in the second quarter (ending value is \$100). Over the two quarters the return was 0% - this is the geometric return. However, the arithmetic calculation would simply average the two returns:  $(+25\%)(.5) + (-20\%)(.5) = +2.5\%$ .

**Global:** This term commonly refers to all countries including the United States. Common benchmarks include the MSCI All Country World Index (ACWI).

**Hedge Fund:** A hedge fund is a private investment fund open to a limited range of investors that is permitted by regulators to undertake a wider range of activities than other investment funds and also pays a performance fee to its investment manager. Although each fund will have its own strategy which determines the type of investments and the methods of investment it undertakes, hedge funds as a class invest in a broad range of investments, from shares, debt and commodities to works of art.

As the name implies, hedge funds often seek to offset potential losses in the principal markets they invest in by hedging their investments using a variety of methods, most notably short selling. However, the term "hedge fund" has come to be applied to many funds that do not actually hedge their investments, and in particular to funds using short selling and other "hedging" methods to increase rather than reduce risk, with the expectation of increasing return.

**Hedge Fund Fund-of-Funds:** (HFOFs) An investment fund consisting of multiple hedge funds. HFOFs can be made up of several hedge funds with similar strategic focus or several hedge funds with varying or multiple strategies. The latter would be referred to as a multi-strategy HFOF.

**International:** This term commonly refers to all countries excluding the United States. Common benchmarks include the MSCI All Country World Index (ACWI) ex US and the MSCI EAFE Index.

**Large Cap (LC) Enhanced Core:** An investment seeking to provide a total return that exceeds that of typically the S&P 500 index. The fund normally invests at least 80% of net assets in common stocks that comprise the S&P 500 Index, convertible securities that are convertible into stocks included in that index, and derivatives whose returns are closely equivalent to the returns of the S&P 500 Index or its components. It generally holds fewer stocks than the index and may hold securities that are not in the index.

**Large Cap Growth:** Large-Cap Growth funds seek to invest in large companies with good growth prospects. According to Morningstar, large-cap funds invest in companies with market capitalizations of more than \$11 billion. Other organizations may use different definitions. Large-cap funds typically are less volatile than mid-cap and small-

cap funds because large companies are more established and more predictably successful than smaller companies. Large companies also are more likely to pay dividends. Growth funds often have high P/E ratios because managers are willing to pay a premium for stocks of fast-growing companies.

**Large Cap Value:** Large-Cap Value funds seek capital appreciation by investing primarily in large companies with market capitalizations of \$5 billion or more. In selecting stocks, managers of value funds target companies that appear undervalued in terms of price-earnings ratios, price-to-book ratios or other such measures. Large-cap funds tend to be less volatile than those that invest in smaller companies.

**Liquidity Risk:** The risk that there will be insufficient cash to meet the fund's disbursement and expense requirements.

**Market Capitalization:** The market cap of a stock is its current price multiplied by the number of shares outstanding. It is the measure of a company's total value on a stock exchange.

**Market Timing:** A form of *Active Management* that moves funds between asset classes based on short-term expectations of movements in the capital markets. (Not recommended as a prudent process). It is very difficult to improve investment performance by attempting to forecast market peaks and troughs. A forecasting accuracy of at least 71% is required to outperform a buy and hold strategy.

**Market-Weighted:** Typically used in an index composite. The stocks in the index are weighted based on the total *Market Capitalization* of the issue. Thus, more consideration is given to the index's return for higher market capitalized issues than smaller market capitalized issues.

**Money Markets:** Financial markets in which financial assets with a maturity of less than one year are traded. Money market funds also. Refer to open-end mutual funds that invest in low-risk, highly liquid, short-term financial instruments and whose net asset value is kept stable at \$1 per share. The average portfolio maturity is 30 to 60 days.

**Passive Management:** (also called **passive investing**) is a financial strategy in which a fund manager makes as few portfolio decisions as possible, in order to minimize transaction costs, including the incidence of capital gains tax. One popular method is to mimic the performance of an externally specified index—called an 'index funds'. Passive management is most common in the equity markets, where index funds track a stock market index, but it is becoming more common in other investment types, including bonds, commodities, and hedge funds.

**Private Equity:** Equity capital made available to companies or investors, but not quoted on a stock market. The funds raised through private equity can be used to develop new products and technologies, to expand working capital, to make acquisitions, or to strengthen a company's balance sheet.

**Profit Sharing Plan:** Retirement plan that receives contributions as a percentage of the company's profits.

**Projected Benefit Obligation:** PBO is a measure of a pension plan's liability at the calculation date assuming that the plan is ongoing and will not terminate in the foreseeable future.

**Proxy Voting:** A written authorization given by a shareholder to someone else to vote his or her shares at a stockholders annual or special meeting called to elect directors or for some other corporate purpose.

**REIT (Real Estate Investment Trust):** An investment fund whose objective is to hold real estate-related assets, either through mortgages, construction and development loans, or equity interests.

**Residual Risk:** Residual risk is the unsystematic, firm-specific, or diversifiable risk of a security or portfolio. It is the portion of the total risk of a security or portfolio that is unique to the security or portfolio itself and is not related to the overall market. The residual risk in a portfolio can be decreased by including assets that do not have similar unique risk.

For example, a company that relies heavily on oil would have the unique risk associated with a sudden cut in the supply of oil. A company that supplies oil would benefit from a cut in another company's supply of oil. A combination of the two assets helps to cancel out the unique risk of the supply of oil. The level of residual risk in a portfolio is a reflection of the "bets" which the manager places in a particular asset class or sector. Diversification of a portfolio can reduce or eliminate the residual risk of a portfolio.

**Risk-Adjusted Return:** The return on an asset or portfolio, modified to explicitly account for the risk of the asset or portfolio.

**Risk-Free Rate-of-Return ( $R_f$ ):** This rate is widely accepted as the return on a 90-day T-Bill. This is used as a proxy for no risk due to its US Government issuance and short-term maturity. The term is really a misnomer since nothing is free of risk. It is utilized since certain economic models require a "risk free" point of departure. See *Sharpe Ratio*.

**R-squared ( $R^2$ ):** Formally called the coefficient of determination, this measures the overall strength or "explanatory power" of a statistical relationship. In general, a higher  $R^2$  means a stronger statistical relationship between the variables that have been estimated, and therefore more confidence in using the estimation for decision-making.

**SWBNO:** Sewerage and Water Board of New Orleans (Plan Sponsor)

**Safe Harbor Rules:** A series of guidelines which when in full compliance may limit a fiduciary's liabilities.

**Sharpe Ratio:** This statistic is a commonly used measure of risk-adjusted return. It is calculated by subtracting the *Risk-free Return* (usually the then current 3-Month T-Bill rate) from the portfolio return and dividing the resulting "excess return" by the portfolio's total risk level (standard deviation). The result is a measure of return gained per unit of total risk taken. The Sharpe ratio can be used to compare the relative performance of managers. If two managers have the same level of risk but different levels of excess return, the manager with the higher Sharpe ratio would be preferable. The Sharpe ratio is most helpful when comparing managers with both different returns and different levels of risk. In this case, the Sharpe ratio provides a per-unit measure of the two managers that enables a comparison.

**Socially-Targeted Investment:** An investment that is undertaken based upon social, rather than purely financial, guidelines. See also *Economically-Targeted Investment*.

**Soft-Dollars:** The portion of a plan's commission expense incurred in the buying and selling of securities that is allocated through a *Directed Brokerage* arrangement for the purpose of acquiring goods or services for the benefit of the plan. In many soft dollar arrangements, the payment scheme is affected through a brokerage affiliate of the consultant. Broker-consultants servicing smaller plans receive commissions directly from the counseled account. Other soft dollar schemes are effected through brokerages that, while acting as the clearing/transfer agent, also serve as the conduit for the payment of fees between the primary parties to the directed fee arrangement.

**Standard Deviation (Risk):** A statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns were normally distributed (i.e., has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

**Strategic Asset Allocation:** Rebalancing back to the normal mix at specified time intervals (quarterly) or when established tolerance bands are violated ( $\pm 5\%$ ).

**Tactical Asset Allocation:** The "first cousin" to *Market Timing* because it uses certain "indicators" to make adjustments in the proportions of portfolio invested in three asset classes - stocks, bonds, and cash.

**Time Horizon:** *The Plan* or portfolio's investment time horizon is defined as the point in time when disbursements in a given year exceed the sum of contributions, and increase in assets as a result of investment performance. In other words, *the Plan's* time Horizon is the point in time when there is more money going out than there is coming in.

It can also be described as the primary variable in determining the allocation between equities and fixed income. An investment time horizon of less than five years is considered *short*, while five years or more is considered *long*.

**Time-Weighted Rate of Return:** Method of performance measurement that strips the effect of cash flows on investment performance by calculating sub period returns before and after a cash flow and averaging these sub period returns. Because dollars invested do not depend on the investment manager's choice, it is inappropriate to weight returns within a period by dollars.

**Treasury Inflation Protected Securities (TIPS):** A special type of Treasury note or bond that offers protection from inflation. As with other Treasuries, when you buy an inflation-indexed security you receive interest payments every six months and a payment of principal when the security matures. The difference is that the coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI).

**Trading Costs:** Behind investment management fees, trading accounts for the second highest cost of plan administration. Trading costs usually are usually quoted in cents per share. Median institutional trading costs range around 5 to 7 cents per share.

**(U.S.) 90-Day T-Bill:** The 90-Day or 3-Month T-Bill provides a measure of riskless return. The rate of return is the average interest rate available in the beginning of each month for a T-Bill maturing in 90 days.

**(U.S.) Large Cap:** Companies based in the United States referred to as domestic companies having market capitalizations between \$10 billion and \$200 billion.

**(U.S.) Mid Cap:** Companies based in the United States referred to as domestic companies having a market capitalization of between \$2 billion and \$10 billion.

**(U.S.) SMID Cap:** Companies based in the United States referred to as domestic companies having a market capitalization of between \$300 million and \$10 billion. A term commonly used to refer to an equity style of management which combines both Small Cap and Mid Cap disciplines. A term used to acknowledge both Small and Mid-Cap Stocks collectively.

**(U.S.) Small Cap:** The definition of (U.S.) small-cap can vary throughout the investment industry, but generally a company based in the United States with a market capitalization between \$300 million to \$2 billion.

**Variance:** The Variance is a statistical measure that indicates the spread of values within a set of values. For example, the range of daily prices for a stock will have a variance over a time period that reflects the amount that the stock price varies from the average, or mean price of the stock over the time period. Variance is useful as a risk statistic because it gives an indication of how much the value of a portfolio might fluctuate up or down from the average value over a given time.

This glossary was compiled from various sources including the following:

Eugene B. Burroughs, CFA, Investment Terminology (Revised Edition), International Foundation of Employee Benefit Plans, Inc., 1993;

John Downes, Jordan Elliot Goodman, Dictionary of Finance and Investment Terms (Third Edition), Barron's Educational Series, Inc.;

John W. Guy, How to Invest Someone Else's Money, Irwin Professional Publishing, Burr Ridge, Illinois;

Donald B. Trone, William R. Allbright, Philip R. Taylor, The Management of Investment Decisions, Irwin Professional Publishing, Burr Ridge, Illinois;

Donald B. Trone and William R. Allbright, Procedural Prudence for Fiduciaries, self-published, 1997;

Foundation for Fiduciary Studies, Auditor's Handbook, 2002-2003;

[PSN Enterprise](#)

[Investment and Wealth Institute \(formerly Investment Management Consultants Association or IMCA; and Morningstar Advisor Investment Management Consultants Association \(IMCA\); and](#)

[PSN Enterprise](#)

**SEWERAGE & WATER BOARD**  
**of NEW ORLEANS**  
**EMPLOYEES' RETIREMENT SYSTEM**  
**INVESTMENT POLICY STATEMENT**



**Original Draft Adopted - November 4, 2004**

**As Amended – December 19, 2018**

**Document Maintained By:**



FFC INVESTMENT ADVISORS

*of*

**RAYMOND JAMES®**

## TABLE OF CONTENTS

Executive Summary	Page 4
Statement of Purpose	Page 5
Introduction	Page 6
Statement of Objectives	Page 7
Time Horizon	Page 8
Risk Tolerances	Page 8
Performance Target	Page 8
Asset Allocation Policy	Page 9
Targets/Ranges	Page 9
Asset Class Guidelines	Page 10
Adherence to Policy	Page 10
Cash Holdings	Page 10
Non-Individual Securities	Page 11
Rebalancing	Page 11
Guidelines for Individual Security Holdings	Page 12
Duties and Responsibilities	Page 14
Board of Trustees	Page 14
Pension Consultant	Page 14
Investment Managers	Page 14
Custodian	Page 16
Investment Product and Manager Selection	Page 16
Volatility	Page 17
Liquidity	Page 17
Voting of Proxies	Page 17
Execution of Security Trades	Page 17
Securities Lending Guidelines	Page 17
Control Procedures	Page 18
Conflicts of Interest	Page 18
Review of Liabilities	Page 18
Review of Investment Policy Statement (IPS)	Page 18



Review of Investments	Page 19
Market Indices	Page 19
Compliance	Page 19
Performance Expectations	Page 20
Probationary Period	Page 20
Style Benchmarks	Page 22
Cause for Termination	Page 23
Measuring Costs	Page 23
Policy Adoption Statement	Page 24
Co-Fiduciary Acknowledgement	Page 26
Appendix A – Named Officers, Members and Trustees	Page 27
Appendix B – Capital Market Assumptions	Page 28
Appendix C – Glossary of Terms	Page 29
Appendix D – Manager Guidelines	Attachment

## EXECUTIVE SUMMARY

<b>Name of Plan:</b>	SWBNO Employees' Retirement System ("the Plan")
<b>Type of Plan:</b>	Defined Benefit Plan, IRS Qualified
<b>Plan Sponsor:</b>	Sewerage and Water Board of New Orleans (SWBNO)
<b>Time Horizon:</b>	Greater than 10 years (Long Term)
<b>Assumed ROR:</b>	7.00% (Actuarial Assumption <sup>1</sup> )
<b>Strategic Allocation:</b>	47.00% Global Equities / 36.00% Global Fixed Income / 17.00% Alternatives

<i><b>Mandate</b></i>	<i><b>Minimum</b></i>	<i><b>Target</b></i>	<i><b>Maximum</b></i>
<b>GLOBAL EQUITY</b>	<b>0.00</b>	<b>47.00</b>	<b>65.00</b>
<b>U.S. Large Cap Equity</b>	<b>16.47</b>	<b>18.30</b>	<b>20.13</b>
Large Cap Value	3.87	4.30	4.73
Large Cap Enhanced Core	6.075	6.75	7.425
Large Cap Growth	6.525	7.25	7.975
<b>U.S. Small/Mid Cap Equity</b>	<b>7.83</b>	<b>8.70</b>	<b>9.57</b>
SMID Cap Equity	7.83	8.70	9.57
Other Small or MID Cap Equity	0.00	0.00	0.00
<b>Non US Equity</b>	<b>18.00</b>	<b>20.00</b>	<b>22.00</b>
International Developed Equity	18.00	20.00	22.00
International EM Equity	0.00	0.00	0.00
<b>GLOBAL FIXED INCOME</b>	<b>25.00</b>	<b>36.00</b>	<b>100</b>
Core- Plus (Global)	31.50	35.00	38.50
Core	0.00	0.00	0.00
Convertible Bond	0.00	0.00	0.00
High Yield Fixed	0.00	0.00	0.00
Cash & Equivalents	0.00	1.00	5.00
<b>ALTERNATIVES</b>	<b>0.00</b>	<b>17.00</b>	<b>21.00</b>
Commodities	0.00	0.00	0.00
HFOF-Absolute Return	7.20	8.00	8.80
Private Equity	0.00	0.00	0.00
Real Estate/REITs	8.10	9.00	9.90

<sup>1</sup> Refer to January 1, 2018 Conefry & Company, LLC Actuarial Valuation.

**The Investment Policy Statement (IPS) should be reviewed and updated at least annually. Any change to this policy should be communicated in writing on a timely basis to all parties of interest.**

## **STATEMENT OF PURPOSE**

The purpose of this Investment Policy Statement (IPS) is to guide the Board of Trustees (the members of the Sewerage & Water Board and the elected employee members to the Board of Trustees) [ Appendix A] in effectively supervising, monitoring and evaluating the investment of the SWBNO Employees' Retirement System assets. The Plan's investment program is defined in the various sections of the IPS by:

1. Stating in a written document the Board of Trustees' attitudes, expectations, objectives, and guidelines for the investment of all Plan assets.
2. Setting forth an investment structure for managing all Plan assets. This structure includes various asset classes, investment management styles, asset allocation, and acceptable ranges that, in total, are expected to produce a sufficient level of overall diversification and total investment return over the long-term.
3. Providing guidelines for each investment portfolio that when viewed in conjunction with each individual investment manager's contract, control the level of overall risk and liquidity assumed in that portfolio.
4. Providing policy concurrent rate-of-return and risk characteristics for various investment options utilized in developing asset allocation. [Appendix B].
5. Encouraging effective communications between the Board of Trustees, the investment consultant and hired money managers.
6. Establishing formal criteria to monitor, evaluate, and compare the performance results achieved by the money managers on a regular basis.
7. Complying with all fiduciary, prudence and due diligence requirements experienced investment professionals would utilize; and with all applicable laws, rules and regulations from various local, state, federal, and international political entities that may impact Plan assets.

This IPS has been formulated, based upon consideration by the Board of Trustees, of the financial implications of a wide range of policies, and describes the prudent investment process the Board of Trustees deems appropriate.

## **INTRODUCTION**

This document establishes the Investment Policy Statement for the SWBNO Employees' Retirement System for the management of the assets held for the benefit of the participants and beneficiaries in the System. The Board of Trustees is responsible for managing the investment process of the Retirement System in a prudent manner with regard to preserving principal while providing reasonable returns.

The Board of Trustees has arrived at this IPS through careful study of the returns and risks associated with various investment strategies in relation to the current and projected liabilities of the Retirement System. This policy has been chosen as the most appropriate policy for achieving the financial objectives of the Retirement System which are described in the Objectives section of this document.

The Board of Trustees has adopted a long-term investment horizon such that the chances and duration of investment losses are carefully weighed against the long term potential for appreciation of assets.

In addition to the policy defined herein, the management of the SWBNO Employees' Retirement System will be in strict compliance with all relevant and applicable legislation.

## STATEMENT OF OBJECTIVES

The assets of the SWBNO Employees' Retirement System shall be invested in accordance with all relevant legislation. Specifically:

1. Investment shall be in accordance with the Louisiana Revised Statutes, R.S. 11:3821.
2. Investments shall be made solely in the interest of the participants and beneficiaries of the pension plan and for the exclusive purpose of providing benefits to such participants and their beneficiaries and defraying the reasonable expenses of administering the plan.
3. The Board of Trustees and its investments advisors shall exercise the judgment and care under the circumstances then prevailing which an institutional investor of ordinary prudence, discretion and intelligence exercises in the management of large investments entrusted to it not in regard to speculation but in regard to the permanent disposition of funds considering probable safety of capital as well as probable income.

The primary investment objective shall be to achieve full funding of the actuarial accrued liability so that such assets are preserved for the providing of benefits to participants and their beneficiaries and such long-term return (either in the form of income or capital appreciation or both) may without undue risk maximize the amounts available to provide such benefits. These objectives have been established in conjunction with a comprehensive review of both the current and projected financial requirements and investment returns by asset class.

While there cannot be complete assurance that these objectives will be realized, it is believed that the likelihood of their realization is reasonably high based upon this Investment Policy and historical performance of the asset classes discussed herein. The objectives have been based on a five-year investment horizon, so that short-term fluctuation should be viewed secondary to long-term investment results.

Relative performance benchmarks for the System's investment managers are set forth in the Control Procedures section of this document.

This IPS has been arrived at upon consideration by the Board by a wide range of policies, and describes the prudent investment process the Board deems appropriate. This process includes seeking various asset classes and investment management styles that, in total, are expected to offer participants a sufficient level of overall diversification and total investment return over the long-term. The objectives are:

1. Have the ability to pay all benefit and expense obligations when due;
2. Achieve a fully funded status with regard to the Accumulated Benefit Obligation and 100% of the Projected Benefit Obligation;
3. Maintain the purchasing power of the current assets and all future contributions by producing positive real rates of return on Plan asset;

4. Maximize returns within reasonable and prudent levels of risk in order to minimize contribution;
5. Control costs of administering the plan and managing the investments.; and
6. Maintain flexibility in determining the future level of contributions

Keys to achieving objectives include maximizing investment returns within prudent levels of risk, while minimizing the Plan's reliance on contributions.

### **Time Horizon**

The investment guidelines are based upon the Plan's investment time horizon of (>10) greater than ten years. Interim fluctuations should be viewed with appropriate perspective. Similarly, the Plan's, strategic asset allocation is based on this long-term perspective. Short-term liquidity requirements are anticipated to be non-existent, or at least should be covered by the annual contribution.

### **Risk Tolerances**

The Board recognizes the difficulty of achieving the Plan's investment objectives in light of the uncertainties and complexities of contemporary investment markets. The Board also recognizes some risk must be assumed to achieve the Plan's long-term investment objectives. In establishing the risk tolerances of the IPS, the ability to withstand short- and intermediate-term variability were considered. These factors were:

- The SWBNO Employees' Retirement System's strong financial condition enables the Board to adopt a long-term investment perspective, allowing for a less aggressive risk tolerance.
- Demographic characteristics of participants suggest an average risk tolerance due to the moderate to aging work force.

In summary, the SWBNO Employees' Retirement System's prospects for the future, current financial condition and several other factors suggest collectively the Plan can tolerate some interim fluctuations in market value and rates of return in order to achieve long-term objectives.

### **Performance Target**

The desired investment objective is a long-term rate of return on assets that is at least 7.00%, as defined by current<sup>2</sup> actuarial assumptions. Annually, the Plan's overall total return, after deducting for advisory, money management, and custodial fees, as well as total transaction costs; should perform above a customized index comprised of market indices weighted by the strategic asset allocation of the Plan.

---

<sup>2</sup> Refer to January 1, 2018 Coney & Company, LLC Actuarial Valuation.

## ASSET ALLOCATION POLICY

### Targets and Ranges

It shall be the policy of the SWBNO Employees' Retirement System to invest in each style based asset class ranging between a minimum and a maximum of total plan assets as indicated below:

#### Stated Ranges are as a Percent of Total Plan Assets

<i><b>Mandate</b></i>	<i><b>Minimum</b></i>	<i><b>Target</b></i>	<i><b>Maximum</b></i>
<b>GLOBAL EQUITY</b>	<b>0.00</b>	<b>47.00</b>	<b>65</b>
<b>U.S. Large Cap Equity</b>	<b>16.47</b>	<b>18.30</b>	<b>20.13</b>
<i>Large Cap Value</i>	<i>3.87</i>	<i>4.30</i>	<i>4.73</i>
<i>Large Cap Enhanced Core</i>	<i>6.075</i>	<i>6.75</i>	<i>7.425</i>
<i>Large Cap Growth</i>	<i>6.525</i>	<i>7.25</i>	<i>7.975</i>
<b>U.S. Small/Mid Cap Equity</b>	<b>7.83</b>	<b>8.70</b>	<b>9.57</b>
<i>SMID Cap Equity</i>	<i>7.83</i>	<i>8.70</i>	<i>9.57</i>
<i>Other Small or MID Cap Equity</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<b>Non US Stocks</b>	<b>18.00</b>	<b>20.00</b>	<b>22.00</b>
<i>International Developed Equity</i>	<i>18.00</i>	<i>20.00</i>	<i>22.00</i>
<i>International EM Equity</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<b>GLOBAL FIXED INCOME</b>	<b>25.00</b>	<b>36.00</b>	<b>100</b>
<i>Core-Plus (Global)</i>	<i>31.50</i>	<i>35.00</i>	<i>38.50</i>
<i>Core</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Convertible Bond</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>High Yield Fixed</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Cash &amp; Equivalents</i>	<i>0.00</i>	<i>1.00</i>	<i>2.00</i>
<b>ALTERNATIVES</b>	<b>0.00</b>	<b>17.00</b>	<b>21.00</b>
<i>Commodities</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>HFOF- Absolute Return</i>	<i>7.20</i>	<i>8.00</i>	<i>8.80</i>
<i>Private Equity</i>	<i>0.00</i>	<i>0.00</i>	<i>0.00</i>
<i>Real Estate/REITs</i>	<i>8.10</i>	<i>9.00</i>	<i>9.90</i>

During the investment manager selection process, the Board of Trustees will communicate specific manager guidelines regarding capitalization and stylistic characteristics such that the total portfolio conforms to policy. It is expected that these guidelines will be strategic in nature and not change frequently.

### **Asset Class Guidelines**

The Board of Trustees believes long-term investment performance, in large part, is primarily a function of asset class mix. The Board of Trustees has reviewed the long-term performance characteristics of the broad asset classes, focusing on balancing the risks and rewards.

History suggest, that while interest-generating investments, such as bond portfolios, have the advantage of relative stability of principal value; they provide little opportunity for real long- term capital growth due to their susceptibility to inflation. On the other hand, equity investments, such as common stocks, clearly have a significantly higher expected return but have the disadvantage of much greater year-by-year variability of return. From an investment decision-making point of view, this year-by-year variability may be worth accepting, provided the time horizon for the equity portion of the portfolio is sufficiently long (greater than five years).

### **Adherence to Policy**

The Board of Trustees is guided by the philosophy that asset allocation is the most significant determinant of long term investment return. The Retirement System asset allocation will be maintained as close to the target allocations as reasonably possible. Contributions to the Plan and withdrawals to pay benefits and expenses shall be allocated across portfolios to bring the asset mix as close to the target allocation as possible.

Rapid, substantive and unanticipated market shifts or changes in economic conditions may cause the asset mix to fall outside of the policy range. Any divergence caused by these factors should be of a short-term nature.

The Board of Trustees or its designee will review the Plan's allocation status at least quarterly. It is anticipated that active rebalancing will occur at least annually.

### **Cash Holdings**

It shall be the policy of The Employees' Retirement System of The Sewerage & Water Board of New Orleans to be fully invested to the maximum extent possible. Any cash holdings in separate short term accounts should be kept as small as possible.

However, the Board of Trustees may from time to time authorize the use of cash equivalent(s)<sup>3</sup> and or money market fund(s)<sup>4</sup> as interim investment vehicle(s) for assets being transitioned from one manager/product to another.

---

<sup>3</sup> Fixed Income instrument maturing in 360 days or less

<sup>4</sup> Very liquid mutual fund that invests solely in cash equivalents



For equity and fixed income portfolios, cash and short term instruments maturing in less than 360 days shall be restricted to a maximum of 5% of each portfolio except for brief periods or when building liquidity in anticipation of a large withdrawal.

Cash equivalent reserves shall consist of cash instruments having a quality rating by at least two rating agencies<sup>5</sup> of A-2, P-2, F-2, or higher.

Investment managers shall have discretion to invest up to 5% of assets under management in cash reserves when they deem it appropriate. However, the Investment Managers will be evaluated against their peers on the performance of the total funds under their direct management.

### **Non-Individual Securities**

The Board of Trustees may authorize the use of non-individual securities such as indexed instruments<sup>6</sup> (interchangeably referred to as passive instruments), mutual funds, and other pooled (interchangeably referred to as commingled) investment vehicles.

### **Rebalancing**

The percentage allocation to each asset class may vary as much as plus or minus 10% from the strategic allocation (policy) on a relative basis, depending upon market conditions.

Board staff routinely administers withdrawal requests to facilitate expense and benefit payments on behalf of the Plan. To accomplish these funding objectives, available Plan cash-flows (i.e. interest and dividend income) will be supplemented by distributions taken from Plan managers on a basis consistent with the strategic asset allocation of the Plan.

If there are no cash flows or if cash flows are insufficient to reasonably maintain the Plan's strategic allocation in accordance with policy constraints, the need for rebalancing will be reviewed quarterly.

Upon review, for any period, if the Board of Trustees judges the organic cash flows of the Plan and the distribution methods described above to be insufficient to bring the Plan within acceptable strategic allocation ranges, the Board of Trustees shall decide whether to effect transactions to bring the strategic allocation within the defined threshold ranges.

---

<sup>5</sup> Standard & Poor's, Moody's and or Fitch

<sup>6</sup> Also commonly referred to index funds, exchange traded products or ETPs including ETFs, ETNs and UITs.

## GUIDELINES FOR INDIVIDUAL SECURITY HOLDINGS

	Equities	Fixed Income & Cash	Alternatives
<b>Minimum Diversification Standards:</b>			
Single Investment	(a) Maximum 6% * $\phi$	(a) Maximum 10% * $\phi$ except U.S. Treasury Notes and Bonds	Not Applicable
	(b) Maximum of 5% of outstanding shares of any company		
Single Industry	(c) Maximum 25% *	(b) Maximum 25% *	
Single Sector	(d) Maximum of 2 times the appropriate style index	(c) Maximum of 2 times the appropriate style index. *	
<b>Minimum Liquidity Standards</b>	(a) Readily marketable securities of U.S. corporations, foreign securities or ADRs	(a) Readily marketable U.S. Corporate and Government debt obligations, including mortgage pass-through, CMOs, convertible bonds and foreign securities.	Not Applicable
	(b) Traded on one or more domestic or international exchanges.	(b) Remaining outstanding principal value of the issue must be (and remain) at least \$100 million unless Plan Trustees approve.	
<b>Minimum Quality Standards</b>	(a) At least 3 years of earnings history **	Minimum Quality Ratings: Cash & Equivalents – S&P A-2, Moody's P-2, Fitch F-2 S&P – BBB-** Moody's – Baa3** Only Core Plus portfolio is allowed to buy and/or hold bonds rated below BBB-/Baa.	Not Applicable
	(b) Profitable (from continuing operations) in at least 3 of the last 5 years	BBB-/Baa3 bonds not to exceed 15% of portfolio*, †  For Core Plus only, bonds rated below BBB-/Baa3 are not to exceed 15% of portfolio; non-rated bonds are not to exceed 1% of portfolio *	
<b>Bond Maturities</b>		(a) Minimum (single issue) maturity: None, but maturities under 12 months will be viewed as "cash" under this policy  (b) Maximum remaining, term to maturity (single issue) at purchase: 30 years	Not Applicable

	<b>Equities</b>	<b>Fixed Income &amp; Cash</b>	<b>Alternatives</b>
<b>Foreign Securities</b>	(a) Foreign securities to a maximum of 5%*	Foreign debt issues to a maximum of 5%*†  Foreign debt issues to a maximum of 15% for Core Plus portfolio	Foreign debt issues to a maximum of 5%
<b>Prohibited Categories</b>	(a) Preferred stock (b) Lettered stock and other unregistered equity securities (c) Margin purchases (d) Short sales or warrants (e) Issuer related to the investment manager (f) Options, except as noted below (g) Commodity contracts, except stock index futures	(a) issuer related to the investment manager (b) Issues traded flat (not currently accruing interest) (c) Debt obligations of either the Sewerage & Water Board of New Orleans or the City of New Orleans (d) Commodity contracts, except bond futures	(a) Direct Investments
<b>Portfolio Turnover</b> (maximum expected in one quarter without prior consultation)	35%	35%	Not Applicable
<b>Reports to the Pension Committee</b>	At least quarterly	At least quarterly	At least quarterly
<b>Written Reports to the Committee</b>	Monthly	Monthly	Quarterly

\* Percentages refer to the market value of any single investment manager's portfolio, not the total fund. Small/Mid Cap Manager(s) is allowed a maximum of 10% in a single position. Foreign securities limitations do not apply to International Equity Manager(s) or Core-Plus Bond Manager(s).

\*\* Either as a stand-alone company or as a separately identifiable subsidiary, division or line of business. Does not apply to Core Plus (Global) Bond, Private Equity, Real Estate/REIT, or Absolute Return. Refer to individual manager guidelines.

φ Exception given for indexed or exchange-traded funds and notes (ETF's and ETN's).

† With the exception of Convertible Bonds and Core Bond Plus. Refer to individual manager guidelines.

## **DUTIES AND RESPONSIBILITIES**

The Board of Trustees is responsible for overseeing the Retirement Systems' investments. This includes, but is not limited to, the selection of acceptable asset classes, allowable ranges of holdings between asset classes and individual investment managers as a percent of assets, the definition of acceptable securities within each asset class, investment performance expectations, and monitoring compliance with state investment regulations.

The Board of Trustees selects, retains and replaces investment managers and custodians, and controls the asset allocation within policy limits.

The Board of Trustees will communicate the policy and performance expectations to the Investment Managers. The Board of Trustees will also review investment performance regularly to assure the policy is being followed and progress is being made toward achieving the objectives.

### **Board of Trustees**

As named fiduciaries under the Plan, the primary responsibilities of the Board of Trustees are:

1. Prepare and maintain this investment policy statement;
2. Prudently diversify the Plan's assets to meet an agreed upon risk/return profile;
3. Prudently select both actively managed and indexed (passive) investment products;
4. Control and account for all investment, record keeping, and administrative expenses associated with the Plan;
5. Monitor and supervise all service vendors and investment options; and
6. Avoid prohibited transactions and conflicts of interest.

### **Pension Consultant**

The Board of Trustees, utilizing standard SWBNO procurement policy, will retain a (one or more) third-party Consultant(s) to assist the Board of Trustees in managing the overall investment process. The Consultant(s) will be responsible for guiding the Board of Trustees through a disciplined and rigorous investment process to enable the Board of Trustees to meet the fiduciary responsibilities outlined herein.

### **Investment Managers**

Distinguishable from the Board of Trustees and Pension Consultant, who are responsible for managing the investment process, investment managers are responsible for making investment decisions (security selection and price decisions). The Investment Managers shall be responsible for determining investment strategy and implementing security selection and the timing of purchases and sales within the policy guidelines set forth in this statement and as otherwise provided by the Board of Trustees. The specific duties and responsibilities of each investment manager are:

1. Manage the assets under their supervision in accordance with the guidelines and objectives outlined in their respective contracts, prospectus, or trust agreement.
2. Exercise full investment discretion with regards to buying, managing, and selling assets held in the portfolios.
3. If managing a separate account (as opposed to a mutual fund or a commingled account), seek approval from the Board of Trustees prior to purchasing and/or implementing the following securities and transactions, unless otherwise stated in manager's contract with Board of Trustees:
  - Letter stock and other unregistered securities; commodities or other commodity contracts; and short sales or margin transactions. Securities lending; pledging or hypothecating securities.
  - Investments in the equity securities of any company with a record of less than three years continuous operation, including the operation of any predecessor
  - Investments for the purpose of exercising control of management,
4. Vote promptly all proxies and related actions in a manner consistent with the long-term interest and objectives of the Plan as described in this IPS. Each investment manager shall keep detailed records of the voting of proxies and related actions and will comply with all applicable regulatory obligations.
5. Communicate with the Board of Trustees all significant changes pertaining to the fund it manages or the firm itself. Changes in ownership, organizational structure, financial condition, and professional staff are examples of changes to the firm in which the Board is interested.
6. Effect all transactions for the Plan subject to best price and execution. If a manager utilizes brokerage commission generated from Plan assets to effect soft-dollar transactions, records detailing all activity (brokerage and soft-dollar use) will be kept and communicated to the Board of Trustees on a monthly basis.
7. If applicable (i.e. for active equity managers), to direct its trading to designated commission recapture broker(s) at or near target level of 35% of total trades placed on behalf of Plan. Again, records detailing the level of participation will be kept and communicated to the Board of Trustees on a monthly basis.
8. Use the same care, skill, prudence, and due diligence under the circumstances then prevailing that experienced investment professionals, acting in a like capacity and fully familiar with such matters, would use in like activities for like retirement Plans with like aims in accordance and compliance with ERISA and all applicable laws, rules, and regulations.
9. If managing a separate account<sup>7</sup> (as opposed to an indexed product, mutual fund or commingled account), **acknowledge co-fiduciary responsibility by signing and returning a copy of this IPS.**

---

<sup>7</sup> Also referred to as SMA or separately managed account

### **Custodian**

The Board of Trustees, utilizing standard SWBNO procurement policy, will retain a (one or more) third-party Custodian(s) to assist the Board of Trustees in managing the overall investment process. Custodians are responsible for the safekeeping of the Plan's assets. The specific duties and responsibilities of the custodian are:

1. Maintain separate accounts by legal registration
2. Value the holdings
3. Collect all income and dividends owed to the Plan
4. Settle all transactions (buy-sell orders) initiated by the Investment Manager
5. Provide monthly reports that detail transactions, cash flows, securities held and their current value, and change in value of each security and the overall portfolio since the previous report.

### **INVESTMENT PRODUCT AND MANAGER SELECTION**

The process for selecting both indexed strategy products, as well as alternative strategy managers will consist of the Consultant's pre-search development of criterion which consider both quantitative and qualitative characteristics for the specific class and style of indexed or alternative strategy. The Board of Trustees will adopt and diligently apply this criterion in its selection of each passive product or alternative strategy manager.

With exception given to indexed products, for example an iShares or SPDR S&P 500 ETF, as well as alternative strategy managers, for example Private Equity, Absolute Return/HFOFs and/or Real Estate/REIT managers, the Board of Trustees will apply the following due diligence criteria in selecting each (active) equity and fixed income manager.

1. Regulatory oversight: Each investment manager should be a regulated bank, an insurance company, a mutual fund organization, or an SEC registered investment adviser.
2. Correlation to style or peer group: The product should be highly correlated to the asset class of the investment option. This is one of the most critical parts of the analysis, since most of the remaining due diligence involves comparisons of the manager to the appropriate peer group.
3. Performance relative to a peer group: The product's performance should be evaluated against the peer group's median manager return, for 1-, 3-, and 5-year cumulative periods.
4. Performance relative to assumed risk: The product's risk-adjusted performance (standard deviation, alpha and/or Sharpe Ratio) should be evaluated against the peer group's median manager's risk-adjusted performance.

5. Minimum track record: The product's inception date should be greater than three years.
6. Assets under management: The product should have at least \$75 million under management.
7. Holdings consistent with style: The screened product should have no more than 20% of the portfolio invested in "unrelated" asset class securities.
8. Stability of the organization: i.e. *Manager Tenure* - no material organizational or investment team changes in the past two years.

### **Volatility**

Consistent with the desire for adequate diversification, the investment policy is based on the assumption that the volatility of the combined portfolios will be similar to that of the market opportunity available to institutional investors with similar return objectives.

The volatility of each investment managers' portfolio will be compared to the volatility of appropriate market indices and peer groups. Above median volatility is acceptable only so long as performance is commensurately above median.

### **Liquidity**

Based on current actuarial assumptions, it is expected that contributions will exceed benefit payments for the foreseeable future. Therefore, there is no need for Investment Managers to maintain liquid reserves for payment of pension benefits.

If benefit payments are projected to exceed contributions in some future period, the Board of Trustees or its designee will notify the investment managers well in advance of any withdrawal orders to allow them sufficient time to build up necessary liquid reserves. The managers will be expected to review the cash flow requirements with the Pension Committee at least annually.

### **Voting of Proxies**

Voting of proxy ballots shall be for the exclusive benefits of the participants and beneficiaries of the Retirement System. Unless the Board of Trustees provides information on how to vote a proxy, the investment managers shall vote the proxies in accordance with its own policy for shareholder issues. Managers will communicate their proxy voting record to the Board of Trustees in writing every quarter and will provide a written summary of all proxies voted on an annual basis.

### **Execution of Security Trades**

The Board of Trustees expects the purchase and sale of securities to be made in a manner designed to receive the combination of best price and execution. The Board of Trustees may implement a Directed Brokerage Program in the future. In June of 2001, the Board of Trustees implemented a Commission Recapture Program.

### **Securities Lending Guidelines**

The Plan may engage in the lending of securities subject to the following guidelines:

1. Collateral on loans is set at 102% of the market value of the security plus accrued interest.

2. Collateral should be marked to market daily.
3. Securities of the System are not released until the custodian bank receives payment for the book entry withdrawal of the loaned security.
4. Eligible securities can include the lending of all U.S. Treasury and other government guaranteed securities, corporate securities, and common stock.

## **CONTROL PROCEDURES**

### **Conflicts of Interest**

The Investment Manager (and any persons acting on its behalf) who enters into a contract with the Plan must reasonably believe, immediately prior to entering into the contract, that the contract represents an arm's length arrangement between the parties and that the Board of Trustees, alone or together with the Board of Trustee's independent agents, understands the proposed method of compensation and its risks. In addition to the requirements of Form ADV, the Investment Manager shall disclose to the Board of Trustees, or to the Board of Trustee's independent agent, prior to entering into an advisory contract, all material information concerning the proposed advisory arrangement including the following:

1. The periods which will be used to measure investment performance throughout the contract and their significance in the computation of the manager's fee.
2. The nature of any index which will be used as a comparative measure of investment performance, the significance of the index, and the reason the Investment Manager believes the index is appropriate.
3. How the securities will be valued and the extent to which the valuation will be determined independently where the Investment Manager's compensation is based in part on the unrealized appreciation of securities for which market quotations are not readily available.

### **Review of Liabilities**

All major liability assumptions regarding number of participants, compensation, benefit levels, and actuarial assumptions will be subject to an annual review by the Board. This review will focus on an analysis of major differences between the Retirement System's assumptions and actual experience.

### **Review of Investment Policy Statement**

The IPS will be reviewed annually and updated with pertinent or substantive changes as frequent as necessary.

### **Review of Investment Objectives**

Investment performance will be reviewed annually to determine the continued feasibility of achieving the investment objectives and the appropriateness of the investment policy for achieving these objectives.



It is not expected that the investment policy will change frequently. In particular, short-term changes in the financial markets should not require an adjustment in the investment policy.

### **Review of Investments**

The Board will review in addition to the total fund; each active manager's and indexed product's performance at least quarterly with its Consultant. The total fund will be measured against a composite index of asset class proxies or benchmarks blended in the same percentages as the IPS asset allocation targets contained herein. Each active investment manager will be measured against an appropriate benchmark(s) as stated in their respective contract(s). Each indexed product will be measured against its appropriate tracking index.

### **Market Indices**

Available benchmarking opportunities for the capital markets include the Dow Jones 30 Industrial Average, S&P 500, Russell 1000 Indexes for large cap equities, the Russell 2000 Index for small cap equities, the MSCI ACWI Index for global equities, the MSCI ACWI ex-U.S. Index for international equities, the Barclays Aggregate Bond Index for investment grade fixed income securities, Venture Economics Index for Private Equity, HFRI Fund-of-Funds Index for Absolute Return and/or other comparable indices appropriate for monitoring individual portfolio investment strategies. Some of the other comparable indices include style indices such as the Russell 1000 Growth or Value Index for large cap growth or value, and the Russell 2000 Growth or Value Index for small cap growth or value.

Performance reviews will focus on:

1. Total Retirement System and investment manager compliance with the IPS guidelines and stated investment regulations.
2. Material changes in the manager organizations, such as in investment philosophy, personnel, acquisitions or losses of major accounts, etc.
3. Comparison of managers' results to a universe of funds using a similar investment style and similar asset classes.
4. Comparison of managers' results to style specific benchmarks established for each individual manager's portfolio. Where multiple asset classes are employed in a portfolio, a customized benchmark index may be developed to mirror the asset classes utilized by the manager.
5. The appropriate market index will be stated in each investment manager's contract.

### **Compliance**

On an ongoing basis, the Board of Trustees and its Consultant will review each investment manager's relative compliance with, and adherence to the principles,

guidelines and benchmarks established in this IPS. Annually, each investment manager will be formally examined and graded individually. If, in the opinion of the Board of Trustees, there is concern for remedial action to be taken by the investment manager, it will be expressed and communicated by the Board of Trustees to the Investment Manager at that time.

The investment managers will be responsible for keeping the Board of Trustees advised of any material changes in personnel, investment strategy, or other pertinent information potentially affecting performance of all managers. The investment managers will be responsible for reconciliation with Custodian Bank.

### **Performance Expectations**

The Board of Trustees recognizes that real return objectives may not be meaningful during some time periods. In order to ensure that investment opportunities available over a specific time period are fairly evaluated, the Board of Trustees will use comparative performance statistics to evaluate investment results. Each investment manager (whether equity, fixed income or alternative manager) and the total Retirement System, will be expected to achieve minimum performance standards as follows:

- 1) Rank in the top forty percent (40%) of an appropriate style peer group of actively managed portfolios over rolling three-year periods.
- 2) Exceed an appropriate benchmark index, net of management fees over rolling three-year periods.

The Board of Trustees is keenly aware that ongoing review and analysis of the Plan's investment products and managers is just as important as the due diligence implemented during the selection process. The net performance of all indexed products and investment managers will be monitored on an ongoing basis; and at the sole discretion of the Board of Trustees, corrective (probation, termination) or progressive (new hire, add funds) action may be taken if it is deemed appropriate at any time.

On a timely basis, but not less than quarterly, the Board of Trustees will meet to review whether or not individual active investment managers as well as indexed products achieve and maintain the Board's performance expectations as outlined above; specifically:

- The manager's adherence to the Plan's investment guidelines
- Material changes in the manager's organization, investment philosophy, and/or personnel
- Any legal, SEC, and/or other regulatory agency proceedings affecting the manager.

While these performance standards should be achieved over a three to five year period complete market cycle, the Board of Trustees will also monitor performance on a shorter-term basis.

The Investment Managers are requested to be aware at all times of the pension plan's actuarial assumption of seven percent (7%) overall annual return.

### **Probationary Period**

Investment managers should be advised that the Board of Trustees intends to track interim progress toward multi-year (3 to 5-year) goals. However, if in the opinion of the Board of Trustees an investment manager's performance is deemed to be deficient, the Board of Trustees will inform the investment manager in writing that the firm has been placed on probation (*Watch List*). The length of an investment manager's probation period will be determined by the Board of Trustees on a case-by-case basis. If the Board of Trustees' concerns are not sufficiently addressed during this probationary period, or if the investment manager is unable to remedy deficiencies in performance, this would constitute grounds for termination of the investment manager.

An Investment Manager may be removed from probation if, in the opinion of the Board of Trustees, the factors which caused the probationary review have been eliminated, mitigated or otherwise appropriately and sufficiently addressed to the complete and total satisfaction of the Board of Trustees.

Specifically, a manager may be placed on the *Watch List* and a thorough review and analysis of the investment manager may be conducted, when:

1. A manager performs below median for their peer group over 1, 3, and/or 5 year cumulative period(s); or over any period deemed relevant by the Board of Trustees.
2. A manager's 1 to 3 year risk adjusted return (alpha and/or Sharpe) falls below the peer group's median risk adjusted return.
3. There is a change in the professionals managing the portfolio.
4. There is a significant decrease in the product's assets.
5. There is an indication the manager is deviating from his/her stated style and/or strategy.
6. There is an increase in the product's fees and expenses.
7. Any extraordinary event such as a substantive change in firm ownership occurs that may interfere with the manager's ability to fulfill their role in the future.

The Board of Trustees has determined it is in the best interest of the Plan's participants that performance objectives be established for each investment manager. Manager performance will be evaluated in terms of an appropriate market index (e.g. the S&P 500 stock index for large cap domestic equity manager) and the relevant peer group (e.g. the Morningstar<sup>8</sup> Large Blend category or manager universe for large cap domestic managers).

A manager evaluation may include the following steps:

1. A letter to the manager asking for an analysis/explanation of their performance (underperformance) for the period(s) under review.

---

<sup>8</sup> The Morningstar (M\*) Category classifications bifurcates portfolios into peer groups based on their holdings. The categories help investors identify the top-performing funds, assess potential risk, and build well-diversified portfolios. Morningstar regularly reviews the category structure and the portfolios within each category to ensure that the Plan meets the needs of investors. Morningstar assigns categories to all types of portfolios, such as mutual funds, variable annuities, and separate accounts. Portfolios are placed in a given category based on their average holdings statistics over the past three years.

2. An analysis of recent transactions, holdings, and portfolio characteristics to determine the cause for underperformance or to check for a change in style.
3. A meeting with the manager, which may be conducted on-site, to gain insight into organizational changes and any changes in strategy or discipline.

**Style Benchmarks**

<b><u>Style Based Asset Class</u></b>	<b><u>Index/Benchmark</u></b>	<b><u>Peer Group/M* Category</u></b>
<i>Global Equity</i>	<i>Russell 3000 Index</i>	
Large Cap Value	Russell 1000 Value Index	Large Value
LC Enhanced Core	Russell 1000 Index	Large Blend
Large Cap Growth	Russell 1000 Growth Index	Large Growth
Mid Cap Equity	Russell Mid Cap Index	Mid-Cap Blend
SMID Cap Equity	Russell 2500 Index	Mid-Cap Blend
Small Cap Equity	Russell 2000 Index	Small Blend
International Equity	MSCI ACWI-EX US Index	Foreign Large Blend

International EM Equity	MSCI Emerging Markets Index	Diversified EM
<b><i>Global Fixed Income</i></b>	<b><i>Bloomberg Barclays Aggregate Bond</i></b>	
U.S. Core	Bloomberg Barclays Aggregate Bond Index	Intermediate-Term Bond
High Yield	Bloomberg Barclays HY US Index	High Yield Bond
Core-Plus (Global) (constrained)	1) Bloomberg Barclays Universal Bond Index 2) Bloomberg Barclays Aggregate Bond Index	Multi-Sector Bond
Global TIPS	Bloomberg Barclays World Inflation Linked Bond Index	Inflation Protected Bond
Convertible Bonds	BofA ML Inv. Grade Convertible Bond Index	TBD
<b><i>Alternative Investments</i></b>	<b><i>Custom Blended Index</i></b>	
Multi-Strat/Multi-Manager HFOFs/Absolute Return	HFRI Fund-of-Funds Index	TBD
Domestic REITs	MSCI REIT	Sector Real Estate
International REITs	FTSE/EPRA NAREIT ex US	
Commodities	S&P GSCI	Commodities Broad Basket
Private Equity	Cambridge Private Equity	TBD

### **Cause for Termination**

While the Board of Trustees intends to fairly evaluate both indexed (passive) products and active investment managers over time; the Board reserves the right to terminate its relationship with a product sponsor or investment manager at any time without a probationary period if there is:

1. Failure to meet the Board of Trustees' communication and reporting requirements.
2. A significant change in the personnel managing the investment decisions of the Fund, or a change in the ownership of the Investment Manager that could be deemed to adversely impact the management of Fund assets.
3. A lack of confidence that the Investment Manager or his organization can produce acceptable results in the future.
4. Unacceptable justification for poor performance results.
5. Lack of responsiveness to the Board of Trustees.
6. A change in asset allocation which may result in the termination of an Investment Manager for reasons other than for cause.
7. In the Board of Trustees' opinion, a change of Investment Manager would be beneficial to the Plan.

There is no implied contract for a fixed time period, or otherwise, between the SWBNO Employees' Retirement System and any of its Investment Managers, and the relationship between the parties may be terminated at any time for any reason with prior written notification.

### **Measuring Costs**

The Board of Trustees will review, at least annually, all costs associated with the management of the Plan's investments including:

1. Fees and expense reimbursements of pension consultant
2. Fees and expense ratios of each active investment manager and passive investment product
3. Custody Fees: Encompassing the holding of the assets, the collection of income and disbursement of payments.
4. Trading Costs: Evaluating whether or not the manager is demonstrating attention to best execution efforts, commission recapture program targets<sup>9</sup>, and other efficiencies in trading securities.

---

<sup>9</sup> Refer to Page 15; Item numbers 6 and 7 of this IPS for details

## **POLICY ADOPTION STATEMENT**

This Investment Policy document is hereby adopted by the Board of Trustees of the Sewerage and Water Board of New Orleans on December 19, 2018.

Adopted by: **The Board of Trustees of Sewerage and Water Board of New Orleans**

\_\_\_\_\_, Trustee

Mayor LaToya Cantrell - Board President

\_\_\_\_\_, Trustee

Tamika Duplessis, PhD. - President Pro-Tem

\_\_\_\_\_, Trustee

Joseph Peychaud - Pension Committee Chairman

\_\_\_\_\_, Trustee

Christopher Bergeron – Pension Committee Member

Elected Employee Representative

\_\_\_\_\_, Trustee

Latriessa Matthews– Pension Committee Member

Elected Employee Representative

\_\_\_\_\_, Trustee

Chante' Powell-Pierre – Pension Committee Member

Elected Employee Representative

\_\_\_\_\_, Trustee

Marvin Russell – Pension Committee Member

Elected Employee Representative (Retired)

\_\_\_\_\_, Trustee

Eileen Gleason, JD – Pension Committee Member

\_\_\_\_\_, Trustee

Ralph Johnson – Pension Committee Member

\_\_\_\_\_, Trustee

Lynes “Poco” Sloss – Pension Committee Member

\_\_\_\_\_, Trustee

Lewis Sterling III – Pension Committee Member

\_\_\_\_\_, Trustee

Andrew Amacker, PE

\_\_\_\_\_, Trustee

Nicole M. Barnes

\_\_\_\_\_, Trustee

Robin Barnes

\_\_\_\_\_, Trustee

Alejandra Guzman



## **CO-FIDUCIARY ACKNOWLEDGEMENT**

The undersigned hereby acknowledges fiduciary capacity as defined by the Employee Retirement Investment Security Act (ERISA) of 1974.

The undersigned hereby acknowledges that it has read this Investment Policy Statement document and further will comply with the procedural and reporting requirements contained herein; and as amended by the Board of Trustees from time to time.

Acknowledged by:

Print Name:

Title:

Company:

## **APPENDIX A**

### **Sewerage and Water Board of New Orleans Board Officers**

Mayor LaToya Cantrell, President  
Tamika Duplessis, PhD., President Pro-Tem

### **Sewerage and Water Board of New Orleans Board Members**

Andrew Amacker, PE  
Nicole M. Barnes  
Robin Barnes  
Eileen Gleason, JD, Pension Committee Member  
Alejandra Guzman  
Ralph Johnson, Pension Committee Member  
Joseph Peychaud, Pension Committee Chairman  
Lynes R. "Poco" Sloss, Pension Committee Member  
Lewis Sterling III, Pension Committee Member

### **Sewerage and Water Board of New Orleans Employee Trustees**

Christopher Bergeron, Pension Committee Member  
Latressa Matthews, Pension Committee Member  
Chante' Powell-Pierre, Pension Committee Member  
Marvin Russell, Pension Committee Member

### **Sewerage and Water Board of New Orleans Management**

Ghassan Korban, Executive Director  
Yvette Downs, Chief Financial Officer

## APPENDIX B

### 2018-2027

### Capital Market Expectations

Asset Class	Index	Projected Return*	Projected Risk
<b><u>Equities</u></b>			
Broad Domestic Equity	Russell 3000	6.85%	18.25%
Large Cap	S&P 500	6.75%	17.40%
Small/Mid Cap	Russell 2500	7.00%	22.60%
Global ex-US Equity	MSCI ACWI ex USA	7.00%	21.00%
International Equity	MSCI World ex USA	6.75%	19.70%
Emerging Markets Equity	MSCI EM	7.00%	27.45%
<b><u>Fixed Income</u></b>			
Short Duration	BB Barclays 1-3 Yr G/C	2.60%	2.10%
Domestic Fixed	BB Barclays Aggregate	3.00%	3.75%
Long Duration	BB Barclays Long G/C	3.00%	10.95%
TIPS	BB Barclays TIPS	3.00%	5.25%
High Yield	BB Barclays High Yield	4.75%	10.35%
Non-US Fixed	BB Barclays Gbl Agg xUSD	1.40%	9.20%
Emerging Market Debt	EMBI Global Diversified	4.50%	9.60%
<b><u>Other</u></b>			
Real Estate	Callan Real Estate	5.75%	16.35%
Private Equity TR	Post Venture Capital	7.35%	32.90%
Hedge Funds	Callan Hedge FoF	5.05%	9.15%
Commodities	Bloomberg Commodity	2.65%	18.30%
Cash Equivalents	90-Day T-Bill	2.25%	0.90%
Inflation	CPI-U	2.25%	1.50%

\* Geometric returns are derived from arithmetic returns and the associated risk (standard deviation).

The above table is an excerpt from the Callan Asset Liability Study; the study was developed and submitted by Callan & Associates in July 2018. The SWBNO Board commissioned, reviewed and adopted the above expectations or capital market assumptions together with associated asset allocation recommendations in September 2018, as part of a complete Plan asset liability and funding analysis.

Neither forecasts nor past performance are indicative of future results; therefore there is no implied assurance of any individual asset class or proxy index as represented, realizing the referenced expected return or risk characteristics.

## APPENDIX C

### GLOSSARY OF TERMS

**Absolute Return Strategies:** Strategies that are developed by private investment firms that seek to generate high absolute returns taking active positions in a variety of markets employing different financial instruments.

**Active Management:** (also called *active investing*) refers to a portfolio management strategy wherein the manager makes specific investments with the goal of outperforming an investment benchmark index. Investors or mutual funds that do not aspire to create a return in excess of the market benchmark index will often invest in an index fund that replicates as closely as possible the investment weighting and returns of that index. This is called passive management. Active management is the opposite of passive management, because the manager of a passive management fund does *not* seek to outperform the benchmark index.

**Accumulated Benefit Obligation:** ABO is an approximate measure of the liability of a pension plan in the event of a termination at the date the calculation is performed.

**Alpha:** This statistic measures a portfolio's return in excess of the market return adjusted for risk. It is a measure, of the manager's contribution to performance with reference to security selection. A positive alpha indicates that a portfolio was positively rewarded for the residual risk, which was taken for that level of market exposure.

**Asset Allocation:** The process of determining the optimal allocation of a fund's portfolio among broad asset classes.

**AROR:** Annualized rate of return.

**Basis Point:** 100 bps (basis points) equals 1%.

**Best Execution:** This is formally defined as the difference between the strike price (the price at which a security is actually bought or sold) and the "fair market price", which involves calculating opportunity costs by examining the security price immediately after the trade is placed. Best execution occurs when the trade involves no lost opportunity cost, for example, when there is no increase in the price of a security shortly after it is sold.

**Beta:** A statistical measure of the volatility or sensitivity, of rates of return on a portfolio or security in comparison to a market index. The beta value measures the expected change in return per one percent change in the return on the market. Thus, a portfolio with a beta of 1.1 would move 10% more than the market.

**Commingled Fund:** This is a type of investment fund that is similar to a mutual fund in that investors purchase and redeem units that represent ownership in a pool of securities. Commingled funds usually are offered through a bank- administered plan allowing for broader and more efficient investing.

**Commission Recapture:** An agreement by which a plan Fiduciary earns credits based upon the amount of brokerage commissions paid. These credits can be used for services

that will benefit the plan such as consulting services, custodian fees, or hardware and software expenses.

**Convertible Bonds:** Securities, usually bonds or preferred shares that can be converted into common stock.

**Core Fixed Income** - A fixed income approach that applies 90% or more of the securities available in the Lehman Brothers Aggregate Index. MBS issues should be the major component of the portfolio in a core product.

**Core Fixed Plus:** A debt investment with which the investor loans money to an entity (company or government) that borrows the funds for a defined period of time at a specified interest rate. This fixed-income style permits managers to add instruments with greater risk and greater potential return, such as high yield, global and emerging market debt, to their core portfolios of investment-grade bonds.

**Correlation Coefficient:** Correlation measures the degree to which two variables are associated with one another. Correlation is a commonly used tool for constructing a well-diversified portfolio. Traditionally, equities and fixed-income asset returns have not moved closely together. The asset returns are not strongly correlated. A balanced fund with equities and fixed-income assets represents a diversified portfolio that attempts to take advantage of the low Correlation between the two asset classes.

**Defined Benefit Plan:** A DB plan is a type of employee benefit plan in which employees know (through a formula) what they receive upon retirement or after a specified number of years of employment with an employer. The employer is obligated to contribute funds into the defined benefit plan based on an actuarially determined obligation that takes into consideration the age of the workforce, their length of service and the investment earnings that are projected to be achieved from the funds contributed. Defined Benefit Plans are over funded if the present value of the future payment obligations to employees is less than the current value of the assets in the Plan. It is under funded if the obligations exceed the current value of these Plan assets.

**Direct Investment:** (1). Also referred to as **Direct Stock Plans** are offered by companies that allow you to purchase or sell stock directly through them without your having to engage an investment advisor or pay commissions to a broker. But you may have to pay a fee for using the plan's services. Some companies require that you already own stock in the company or are employed by the company before you may participate in their direct stock plans. You may be able to buy stock by investing a specific dollar amount rather than having to pay for an entire share. DSPs usually will not allow you to buy or sell your securities at a specific market price or at a specific time. Rather, the company will purchase or sell shares for the plan at established times — for example, on a daily, weekly, or monthly basis — and at an average market price. You can find when the company will buy and sell shares and how it determines the price by reading the company's disclosure documents. Depending on the plan, you may be able to have your shares transferred to your broker to have them sold, but the plan may charge you a fee to do so. (2.) Also refers to the prohibited process or transaction type as it relates to alternatives. For this purpose, Direct Investment is defined as an investment made

directly by an investor with a private company as it relates to a Private Equity or Absolute Return transaction; without the benefit and discretion of a third party investment manager or advisor.

**Directed Brokerage:** Circumstances in which a board of trustees or other fiduciary requests that the investment to a particular broker so that the commissions generated can be used for specific services or resources. See *Soft Dollars*.

**Dollar-Weighted Rate of Return:** Method of performance measurement that calculates returns based on the cash flows of a security or portfolio. A dollar-weighted return applies a discounted cash flow approach to obtain the return for a period. The discount rate that equates the cash inflow at the end of the period plus any net cash flows within the period with the initial outflow is the dollar-weighted rate of return. This return also is referred to as the internal rate of return (IRR).

**Economically-Targeted Investment (ETI):** Investments where the goal is to target a certain economic activity, sector, or area in order to produce corollary benefits in addition to the main objective of earning a competitive risk-adjusted rate of return.

**Equal Weighted:** In a portfolio setting, this is a composite of a manager's return for accounts managed that gives equal consideration to each portfolio's return without regard to size of the portfolio. Compare to *Size-Weighted Return*. In index context, equal weighted means each stock is given equal consideration to the index return without regard to market capitalization. The Value Line Index is an example of an equal weighted index.

**ERISA:** Employee Retirement Income Security Act is a 1974 law governing the operation of most private pension and benefit plans. The law eased pension eligibility rules, set up the *Pension Benefit Guaranty Corporation*, and established guidelines for the management of pension funds.

**Fiduciary:** Indicates the relationship of trust and confidence where one person (the Fiduciary) holds or controls property for the benefit of another person.

Any person who (1) exercises any discretionary authority or control over the management of a plan or the management or disposition of its assets, (2) renders investment advice for a fee or other compensation with respect to the funds or property of a plan, or has the authority to do so, or (3) has any discretionary authority or responsibility in the administration of a plan.

**Foreign Direct Investment (FDI)** is defined as a company from one country making a physical investment into building or factory in another country. Its definition can be extended to include investments made to acquire lasting interest in enterprises operating outside of the economy of the investor.

**Fund-of-Funds:** A fund-of-funds (FoF) is an investment fund that uses an investment strategy of holding a portfolio of other investment funds rather than investing directly in shares, bonds or other securities. This type of investing is often referred to as multi-manager investment.

There are different types of 'fund of funds', each investing in a different type of collective investment scheme (typically one type per FoF), eg. Mutual Fund FoF, Hedge Fund FoF, Private Equity FoF or Investment Trust FoF.

**Geometric Return:** A method of calculating returns which links portfolio results on a quarterly or monthly basis. This method is best illustrated by an example, and a comparison to Arithmetic Returns, which does not utilize a time link. Suppose a \$100 portfolio returned +25% in the first quarter (ending value is \$125) but lost 20% in the second quarter (ending value is \$100). Over the two quarters the return was 0% - this is the geometric return. However, the arithmetic calculation would simply average the two returns:  $(+25\%)(.5) + (-20\%)(.5) = +2.5\%$ .

**Global:** This term commonly refers to all countries including the United States. Common benchmarks include the MSCI All Country World Index (ACWI).

**Hedge Fund:** A hedge fund is a private investment fund open to a limited range of investors that is permitted by regulators to undertake a wider range of activities than other investment funds and also pays a performance fee to its investment manager. Although each fund will have its own strategy which determines the type of investments and the methods of investment it undertakes, hedge funds as a class invest in a broad range of investments, from shares, debt and commodities to works of art.

As the name implies, hedge funds often seek to offset potential losses in the principal markets they invest in by hedging their investments using a variety of methods, most notably short selling. However, the term "hedge fund" has come to be applied to many funds that do not actually hedge their investments, and in particular to funds using short selling and other "hedging" methods to increase rather than reduce risk, with the expectation of increasing return.

**Hedge Fund Fund-of-Funds:** (HFOFs) An investment fund consisting of multiple hedge funds. HFOFs can be made up of several hedge funds with similar strategic focus or several hedge funds with varying or multiple strategies. The latter would be referred to as a multi-strategy HFOF.

**International:** This term commonly refers to all countries excluding the United States. Common benchmarks include the MSCI All Country World Index (ACWI) ex US and the MSCI EAFE Index.

**Large Cap (LC) Enhanced Core:** An investment seeking to provide a total return that exceeds that of typically the S&P 500 index. The fund normally invests at least 80% of net assets in common stocks that comprise the S&P 500 Index, convertible securities that are convertible into stocks included in that index, and derivatives whose returns are closely equivalent to the returns of the S&P 500 Index or its components. It generally holds fewer stocks than the index and may hold securities that are not in the index.

**Large Cap Growth:** Large-Cap Growth funds seek to invest in large companies with good growth prospects. According to Morningstar, large-cap funds invest in companies with market capitalizations of more than \$11 billion. Other organizations may use different definitions. Large-cap funds typically are less volatile than mid-cap and small-

cap funds because large companies are more established and more predictably successful than smaller companies. Large companies also are more likely to pay dividends. Growth funds often have high P/E ratios because managers are willing to pay a premium for stocks of fast-growing companies.

**Large Cap Value:** Large-Cap Value funds seek capital appreciation by investing primarily in large companies with market capitalizations of \$5 billion or more. In selecting stocks, managers of value funds target companies that appear undervalued in terms of price-earnings ratios, price-to-book ratios or other such measures. Large-cap funds tend to be less volatile than those that invest in smaller companies.

**Liquidity Risk:** The risk that there will be insufficient cash to meet the fund's disbursement and expense requirements.

**Market Capitalization:** The market cap of a stock is its current price multiplied by the number of shares outstanding. It is the measure of a company's total value on a stock exchange.

**Market Timing:** A form of *Active Management* that moves funds between asset classes based on short-term expectations of movements in the capital markets. (Not recommended as a prudent process). It is very difficult to improve investment performance by attempting to forecast market peaks and troughs. A forecasting accuracy of at least 71% is required to outperform a buy and hold strategy.

**Market-Weighted:** Typically used in an index composite. The stocks in the index are weighted based on the total *Market Capitalization* of the issue. Thus, more consideration is given to the index's return for higher market capitalized issues than smaller market capitalized issues.

**Money Markets:** Financial markets in which financial assets with a maturity of less than one year are traded. Money market funds also. Refer to open-end mutual funds that invest in low-risk, highly liquid, short-term financial instruments and whose net asset value is kept stable at \$1 per share. The average portfolio maturity is 30 to 60 days.

**Passive Management:** (also called **passive investing**) is a financial strategy in which a fund manager makes as few portfolio decisions as possible, in order to minimize transaction costs, including the incidence of capital gains tax. One popular method is to mimic the performance of an externally specified index—called an 'index funds'. Passive management is most common in the equity markets, where index funds track a stock market index, but it is becoming more common in other investment types, including bonds, commodities, and hedge funds.

**Private Equity:** Equity capital made available to companies or investors, but not quoted on a stock market. The funds raised through private equity can be used to develop new products and technologies, to expand working capital, to make acquisitions, or to strengthen a company's balance sheet.

**Profit Sharing Plan:** Retirement plan that receives contributions as a percentage of the company's profits.



**Projected Benefit Obligation:** PBO is a measure of a pension plan's liability at the calculation date assuming that the plan is ongoing and will not terminate in the foreseeable future.

**Proxy Voting:** A written authorization given by a shareholder to someone else to vote his or her shares at a stockholders annual or special meeting called to elect directors or for some other corporate purpose.

**REIT (Real Estate Investment Trust):** An investment fund whose objective is to hold real estate-related assets, either through mortgages, construction and development loans, or equity interests.

**Residual Risk:** Residual risk is the unPlanatic, firm-specific, or diversifiable risk of a security or portfolio. It is the portion of the total risk of a security or portfolio that is unique to the security or portfolio itself and is not related to the overall market. The residual risk in a portfolio can be decreased by including assets that do not have similar unique risk.

For example, a company that relies heavily on oil would have the unique risk associated with a sudden cut in the supply of oil. A company that supplies oil would benefit from a cut in another company's supply of oil. A combination of the two assets helps to cancel out the unique risk of the supply of oil. The level of residual risk in a portfolio is a reflection of the "bets" which the manager places in a particular asset class or sector. Diversification of a portfolio can reduce or eliminate the residual risk of a portfolio.

**Risk-Adjusted Return:** The return on an asset or portfolio, modified to explicitly account for the risk of the asset or portfolio.

**Risk-Free Rate-of-Return ( $R_f$ ):** This rate is widely accepted as the return on a 90-day T-Bill. This is used as a proxy for no risk due to its US Government issuance and short-term maturity. The term is really a misnomer since nothing is free of risk. It is utilized since certain economic models require a "risk free" point of departure. See *Sharpe Ratio*.

**R-squared ( $R^2$ ):** Formally called the coefficient of determination, this measures the overall strength or "explanatory power" of a statistical relationship. In general, a higher  $R^2$  means a stronger statistical relationship between the variables that have been estimated, and therefore more confidence in using the estimation for decision-making.

**SWBNO:** Sewerage and Water Board of New Orleans (Plan Sponsor)

**Safe Harbor Rules:** A series of guidelines which when in full compliance may limit a fiduciary's liabilities.

**Sharpe Ratio:** This statistic is a commonly used measure of risk-adjusted return. It is calculated by subtracting the *Risk-free Return* (usually the then current 3-Month T-Bill rate) from the portfolio return and dividing the resulting "excess return" by the portfolio's total risk level (standard deviation). The result is a measure of return gained per unit of total risk taken. The Sharpe ratio can be used to compare the relative performance of managers. If two managers have the same level of risk but different levels of excess return, the manager with the higher Sharpe ratio would be preferable. The Sharpe ratio is most helpful when comparing managers with both different returns and different levels of risk. In this case, the Sharpe ratio provides a per-unit measure of the two managers that enables a comparison.

**Socially-Targeted Investment:** An investment that is undertaken based upon social, rather than purely financial, guidelines. See also *Economically-Targeted Investment*.

**Soft-Dollars:** The portion of a plan's commission expense incurred in the buying and selling of securities that is allocated through a *Directed Brokerage* arrangement for the purpose of acquiring goods or services for the benefit of the plan. In many soft dollar arrangements, the payment scheme is affected through a brokerage affiliate of the consultant. Broker-consultants servicing smaller plans receive commissions directly from the counseled account. Other soft dollar schemes are effected through brokerages that, while acting as the clearing/transfer agent, also serve as the conduit for the payment of fees between the primary parties to the directed fee arrangement.

**Standard Deviation (Risk):** A statistical measure of portfolio risk. It reflects the average deviation of the observations from their sample mean. Standard deviation is used as an estimate of risk since it measures how wide the range of returns typically is. The wider the typical range of returns, the higher the standard deviation of returns, and the higher the portfolio risk. If returns were normally distributed (i.e., has a bell shaped curve distribution) then approximately 2/3 of the returns would occur within plus or minus one standard deviation from the sample mean.

**Strategic Asset Allocation:** Rebalancing back to the normal mix at specified time intervals (quarterly) or when established tolerance bands are violated ( $\pm 5\%$ ).

**Tactical Asset Allocation:** The "first cousin" to *Market Timing* because it uses certain "indicators" to make adjustments in the proportions of portfolio invested in three asset classes - stocks, bonds, and cash.

**Time Horizon:** *The Plan* or portfolio's investment time horizon is defined as the point in time when disbursements in a given year exceed the sum of contributions, and increase in assets as a result of investment performance. In other words, *the Plan's* time Horizon is the point in time when there is more money going out than there is coming in.

It can also be described as the primary variable in determining the allocation between equities and fixed income. An investment time horizon of less than five years is considered *short*, while five years or more is considered *long*.

**Time-Weighted Rate of Return:** Method of performance measurement that strips the effect of cash flows on investment performance by calculating sub period returns before and after a cash flow and averaging these sub period returns. Because dollars invested do not depend on the investment manager's choice, it is inappropriate to weight returns within a period by dollars.

**Treasury Inflation Protected Securities (TIPS):** A special type of Treasury note or bond that offers protection from inflation. As with other Treasuries, when you buy an inflation-indexed security you receive interest payments every six months and a payment of principal when the security matures. The difference is that the coupon payments and underlying principal are automatically increased to compensate for inflation by tracking the consumer price index (CPI).

**Trading Costs:** Behind investment management fees, trading accounts for the second highest cost of plan administration. Trading costs usually are usually quoted in cents per share. Median institutional trading costs range around 5 to 7 cents per share.

**(U.S.) 90-Day T-Bill:** The 90-Day or 3-Month T-Bill provides a measure of riskless return. The rate of return is the average interest rate available in the beginning of each month for a T-Bill maturing in 90 days.

**(U.S.) Large Cap:** Companies based in the United States referred to as domestic companies having market capitalizations between \$10 billion and \$200 billion.

**(U.S.) Mid Cap:** Companies based in the United States referred to as domestic companies having a market capitalization of between \$2 billion and \$10 billion.

**(U.S.) SMID Cap:** Companies based in the United States referred to as domestic companies having a market capitalization of between \$300 million and \$10 billion. A term commonly used to refer to an equity style of management which combines both Small Cap and Mid Cap disciplines. A term used to acknowledge both Small and Mid-Cap Stocks collectively.

**(U.S.) Small Cap:** The definition of (U.S.) small-cap can vary throughout the investment industry, but generally a company based in the United States with a market capitalization between \$300 million to \$2 billion.

**Variance:** The Variance is a statistical measure that indicates the spread of values within a set of values. For example, the range of daily prices for a stock will have a variance over a time period that reflects the amount that the stock price varies from the average, or mean price of the stock over the time period. Variance is useful as a risk statistic because it gives an indication of how much the value of a portfolio might fluctuate up or down from the average value over a given time.

This glossary was compiled from various sources including the following:

Eugene B. Burroughs, CFA, Investment Terminology (Revised Edition), International Foundation of Employee Benefit Plans, Inc., 1993;  
John Downes, Jordan Elliot Goodman, Dictionary of Finance and Investment Terms (Third Edition), Barron's Educational Series, Inc.;  
John W. Guy, How to Invest Someone Else's Money, Irwin Professional Publishing, Burr Ridge, Illinois;  
Donald B. Trone, William R. Allbright, Philip R. Taylor, The Management of Investment Decisions, Irwin Professional Publishing, Burr Ridge, Illinois;  
Donald B. Trone and William R. Allbright, Procedural Prudence for Fiduciaries, self-published, 1997;  
Foundation for Fiduciary Studies, Auditor's Handbook, 2002-2003;  
PSN Enterprise  
Investment and Wealth Institute (formerly Investment Management Consultants Association or IMCA; and Morningstar Advisor

August 2, 2018



## **Sewerage & Water Board of New Orleans**

Asset Allocation and Liability  
Study:  
Supplemental Information

---

**Weston Lewis, CFA, CAIA**  
Atlanta Plan Sponsor Consulting

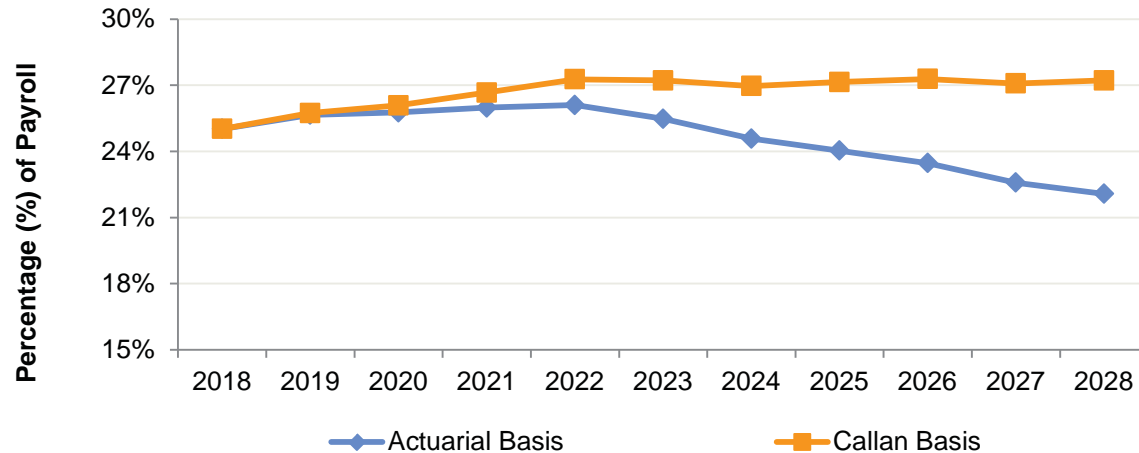
**Cody Chapman, CFA, CAIA**  
Atlanta Plan Sponsor Consulting

**Karen Harris, CFA, ASA**  
Capital Markets Research Group

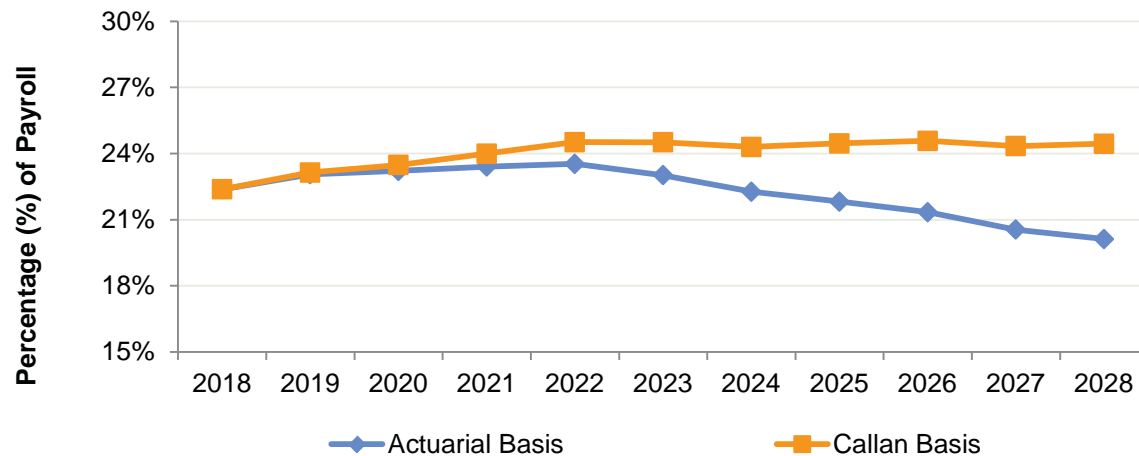
# Step 1 - Building the Actuarial Valuation Model

## 1. Level Population – 15 vs 20 Year Closed

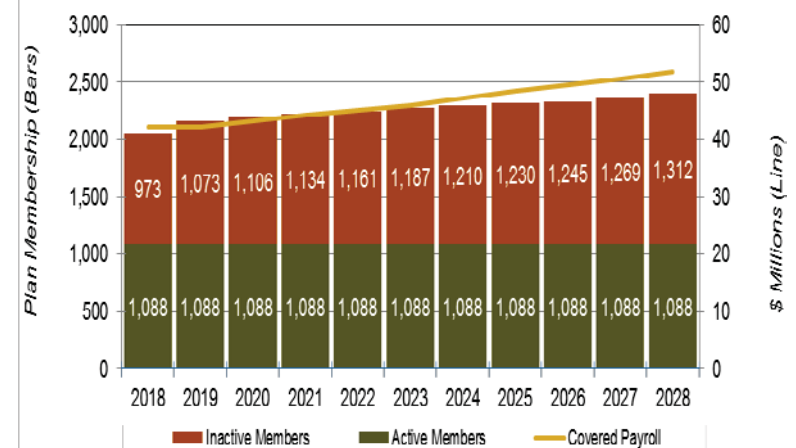
**Contribution Rates - 15 Year Closed**



**Contribution Rates - 20 Year Closed**



**Plan Membership - Level**



- Using the Callan Basis of lower expected returns, the charts compare the impact of 15 versus 20 year closed amortization.
- Extending the amortization period 5 years reduces the contribution rates by ~3% of pay (~\$1M per year)

# Step 3 – Simulated Ranges of Outcomes for Mix 3

## 1. Level Population – 15 Year Closed

*Results are Undiscounted*

Range of Funded Status (AVA) - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2.5th	75.5%	78.7%	81.7%	84.9%	89.2%	94.9%	100.1%	105.3%	111.0%	116.9%	122.2%
25th	75.5	77.3	78.7	79.6	80.8	83.2	86.0	88.4	90.9	93.5	95.9
50th	75.5	76.6	76.9	76.6	76.6	77.8	79.1	80.3	81.5	83.2	85.3
75th	75.5	75.8	75.0	73.5	72.3	72.3	72.7	72.4	73.0	74.3	75.3
97.5th	75.5	74.2	71.0	67.4	64.3	62.4	61.3	59.2	58.8	59.3	60.5
VAR	0.0	2.5	5.9	9.2	12.3	15.4	17.7	21.1	22.7	23.9	24.8
Range of Contributions (% Pay)- Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	25.22%	27.88%	30.76%	33.88%	36.98%	39.36%	40.74%	42.86%	44.09%	44.34%	44.87%
75th	25.22	26.55	27.75	29.23	30.80	31.62	32.07	32.85	33.54	33.25	33.51
50th	25.22	25.96	26.37	26.95	27.56	27.62	27.32	27.15	27.10	26.49	26.35
25th	25.22	25.42	25.01	24.71	24.39	23.39	22.07	21.19	20.24	19.07	18.53
2.5th	25.22	24.49	22.80	20.82	18.29	14.99	11.87	9.02	5.87	2.89	0.17
VAR	0.0	1.9	4.4	6.9	9.4	11.7	13.4	15.7	17.0	17.9	18.5
Range of Contribution Dollars - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	\$10.5	\$11.7	\$13.3	\$15.0	\$16.5	\$17.8	\$19.0	\$20.6	\$21.6	\$22.5	\$23.3
75th	10.5	11.1	11.9	12.9	13.8	14.4	15.1	15.9	16.4	16.8	17.3
50th	10.5	10.9	11.3	11.9	12.3	12.5	12.8	13.1	13.3	13.5	13.6
25th	10.5	10.6	10.7	10.9	11.0	10.7	10.4	10.3	10.0	9.7	9.6
2.5th	10.5	10.1	9.7	9.1	8.2	6.8	5.6	4.3	2.8	1.3	0.1
VAR	0.0	0.8	2.0	3.1	4.2	5.3	6.2	7.5	8.3	9.0	9.7

# Step 3 – Simulated Ranges of Outcomes for Mix 3

## 1. Level Population – 20 Year Closed

*Results are Undiscounted*

Range of Funded Status (AVA) - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2.5th	75.5%	78.3%	80.9%	83.7%	87.7%	92.9%	97.9%	102.8%	107.7%	113.0%	118.3%
25th	75.5	76.9	77.9	78.4	79.1	81.0	83.4	85.2	87.0	89.0	90.6
50th	75.5	76.2	76.1	75.3	74.9	75.5	76.2	76.8	77.3	78.3	79.5
75th	75.5	75.4	74.3	72.2	70.5	69.9	69.6	68.6	68.4	68.8	69.2
97.5th	75.5	73.8	70.2	66.0	62.4	59.7	57.8	55.0	53.6	53.2	53.2
VAR	0.0	2.5	5.9	9.3	12.5	15.8	18.5	21.8	23.8	25.1	26.3
Range of Contributions (% Pay)- Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	22.56%	24.98%	27.49%	30.17%	32.85%	34.92%	36.05%	37.88%	38.92%	39.04%	39.44%
75th	22.56	23.84	24.91	26.21	27.55	28.28	28.67	29.36	29.88	29.63	29.77
50th	22.56	23.33	23.73	24.25	24.79	24.86	24.61	24.50	24.48	23.89	23.76
25th	22.56	22.87	22.56	22.33	22.06	21.24	20.15	19.44	18.68	17.64	17.16
2.5th	22.56	22.07	20.67	18.98	16.87	14.03	11.45	9.05	6.44	3.78	1.61
VAR	0.0	1.6	3.8	5.9	8.1	10.1	11.4	13.4	14.4	15.2	15.7
Range of Contribution Dollars - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	\$9.4	\$10.5	\$11.9	\$13.3	\$14.7	\$15.8	\$16.9	\$18.2	\$19.0	\$19.8	\$20.5
75th	9.4	10.0	10.7	11.6	12.3	12.9	13.5	14.2	14.6	15.0	15.4
50th	9.4	9.8	10.2	10.7	11.1	11.3	11.5	11.8	12.0	12.1	12.3
25th	9.4	9.5	9.7	9.8	9.9	9.7	9.5	9.4	9.2	8.9	8.9
2.5th	9.4	9.1	8.8	8.3	7.6	6.4	5.4	4.3	3.1	1.8	0.8
VAR	0.0	0.7	1.7	2.7	3.6	4.6	5.4	6.4	7.0	7.6	8.2

- Using the median funded status, it appears that 20 year closed amortization maintains the plans funded ratio in 75-80% range.

# Step 3 – Simulated Ranges of Outcomes for Mix 2

## 1. Level Population – 20 Year Closed

*Results are Undiscounted*

Range of Funded Status (AVA) - Mix 2

Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2.5th	75.5%	78.1%	80.5%	82.8%	86.2%	90.9%	95.5%	99.6%	103.9%	108.7%	113.0%
25th	75.5	76.9	77.7	78.0	78.5	80.2	82.2	83.8	85.3	87.1	88.6
50th	75.5	76.2	76.0	75.2	74.6	75.2	75.8	76.2	76.8	77.3	78.6
75th	75.5	75.5	74.3	72.3	70.6	70.1	69.7	68.7	68.5	68.8	69.0
97.5th	75.5	74.0	70.6	66.8	63.2	60.8	58.7	56.0	54.7	54.3	54.2
VAR	0.0	2.2	5.4	8.4	11.4	14.4	17.1	20.2	22.1	23.0	24.4

Range of Contributions (% Pay)- Mix 2

Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	22.56%	24.86%	27.19%	29.76%	32.31%	34.18%	35.56%	37.19%	38.22%	38.34%	38.74%
75th	22.56	23.81	24.86	26.14	27.47	28.18	28.61	29.34	29.89	29.68	29.79
50th	22.56	23.35	23.77	24.34	24.95	25.05	24.86	24.86	24.91	24.40	24.40
25th	22.56	22.92	22.70	22.59	22.44	21.81	20.84	20.26	19.70	18.83	18.33
2.5th	22.56	22.19	20.99	19.54	17.70	15.24	12.97	10.84	8.79	6.45	4.35
VAR	0.0	1.5	3.4	5.4	7.4	9.1	10.7	12.3	13.3	13.9	14.3

Range of Contribution Dollars - Mix 2

Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	\$9.4	\$10.4	\$11.8	\$13.2	\$14.5	\$15.6	\$16.6	\$17.9	\$18.7	\$19.4	\$20.1
75th	9.4	10.0	10.7	11.5	12.3	12.9	13.4	14.1	14.7	15.0	15.4
50th	9.4	9.8	10.2	10.7	11.2	11.4	11.6	12.0	12.2	12.4	12.6
25th	9.4	9.6	9.7	9.9	10.1	9.9	9.8	9.8	9.6	9.5	9.5
2.5th	9.4	9.2	8.9	8.6	7.9	6.9	6.0	5.2	4.2	3.1	2.2
VAR	0.0	0.6	1.6	2.5	3.3	4.2	5.0	5.9	6.5	7.0	7.5

- Using the median funded status, it appears that 20 year closed amortization maintains the plans funded ratio in 75-80% range.



# Step 1 - Building the Actuarial Valuation Model

## Impact of New Entrants

Study Profile	Date of Birth	Annual Salary	Count	Salary 1	Count 1	Salary 2	Count 2
	01/01/1966	38,200	80	28,019	59	81,044	21
	01/01/1980	39,100	75	28,247	64	89,319	11
	01/01/1991	33,000	115	28,196	108	71,853	7
							14%

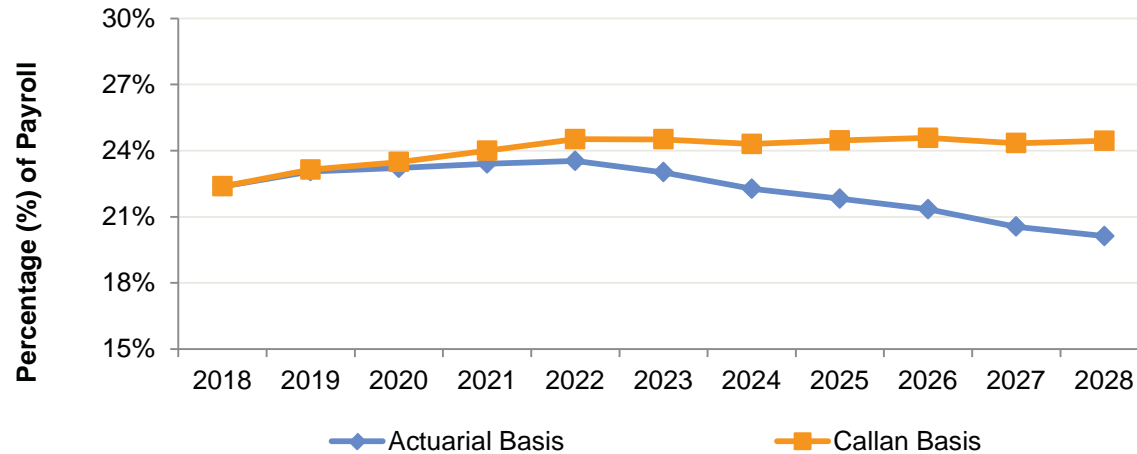
New Profile	Date of Birth	Annual Salary	Count	Date of Birth	Annual Salary	Count
	03/09/1965	28,019	37	01/21/1962	81,044	42
	11/17/1980	28,247	53	11/20/1978	89,319	22
	03/05/1991	28,196	96	12/07/1987	71,853	14
						30%

- Original study's new entrant profile is shown in the upper left table (green) based on last year's new hires (264 new actives).
  - The profile consisted of two distinct groups as shown in the columns to the right (Salary 1/Count 1, Salary 2/Count2)
- In this supplement, we tested the impact of using a new profile as highlighted in the upper red table.
  - New entrants were separated in two groups based on salary, and the % of higher paid employees was increased from 14 to 30%
- The higher pay associated with the new profile will increase total salary

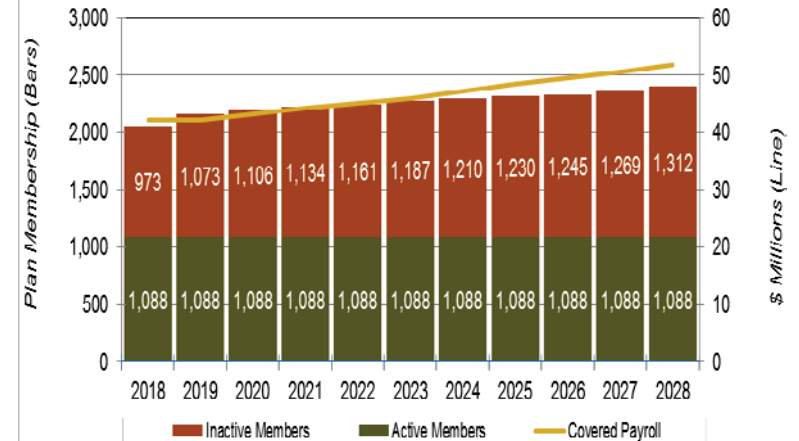
# Step 1 - Building the Actuarial Valuation Model

## 1. Level Population –20 Year Closed

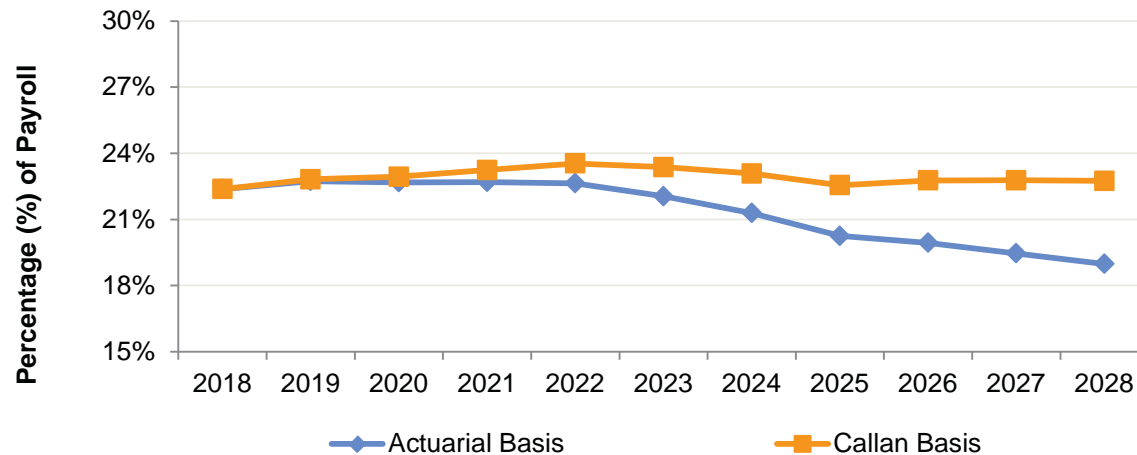
Original Contribution Rates - 20 Year Closed



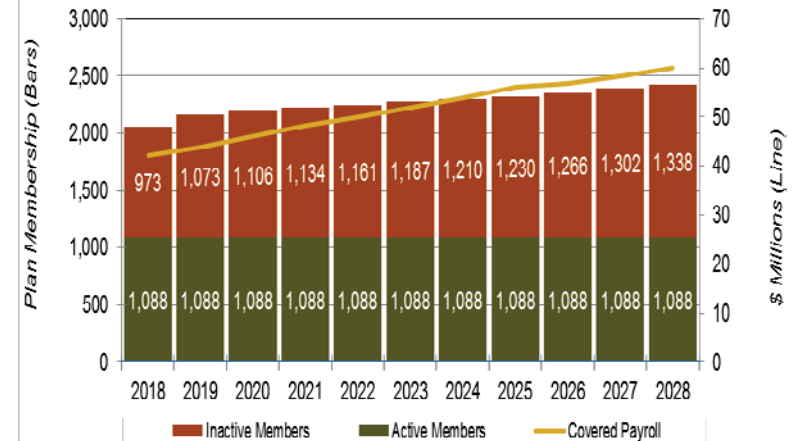
Plan Membership - Level



New Profile Contribution Rates - 20 Year Closed



Plan Membership (New Profile) - Level



- Contribution dollars increase with the new profile but not a material change in the rates.

# Step 3 – Simulated Ranges of Outcomes for Mix 3

## 1. Level Population – 20 Year Closed (Original Study)

*Results are Undiscounted*

Range of Funded Status (AVA) - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2.5th	75.5%	78.3%	80.9%	83.7%	87.7%	92.9%	97.9%	102.8%	107.7%	113.0%	118.3%
25th	75.5	76.9	77.9	78.4	79.1	81.0	83.4	85.2	87.0	89.0	90.6
50th	75.5	76.2	76.1	75.3	74.9	75.5	76.2	76.8	77.3	78.3	79.5
75th	75.5	75.4	74.3	72.2	70.5	69.9	69.6	68.6	68.4	68.8	69.2
97.5th	75.5	73.8	70.2	66.0	62.4	59.7	57.8	55.0	53.6	53.2	53.2
VAR	0.0	2.5	5.9	9.3	12.5	15.8	18.5	21.8	23.8	25.1	26.3
Range of Contributions (% Pay)- Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	22.56%	24.98%	27.49%	30.17%	32.85%	34.92%	36.05%	37.88%	38.92%	39.04%	39.44%
75th	22.56	23.84	24.91	26.21	27.55	28.28	28.67	29.36	29.88	29.63	29.77
50th	22.56	23.33	23.73	24.25	24.79	24.86	24.61	24.50	24.48	23.89	23.76
25th	22.56	22.87	22.56	22.33	22.06	21.24	20.15	19.44	18.68	17.64	17.16
2.5th	22.56	22.07	20.67	18.98	16.87	14.03	11.45	9.05	6.44	3.78	1.61
VAR	0.0	1.6	3.8	5.9	8.1	10.1	11.4	13.4	14.4	15.2	15.7
Range of Contribution Dollars - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	\$9.4	\$10.5	\$11.9	\$13.3	\$14.7	\$15.8	\$16.9	\$18.2	\$19.0	\$19.8	\$20.5
75th	9.4	10.0	10.7	11.6	12.3	12.9	13.5	14.2	14.6	15.0	15.4
50th	9.4	9.8	10.2	10.7	11.1	11.3	11.5	11.8	12.0	12.1	12.3
25th	9.4	9.5	9.7	9.8	9.9	9.7	9.5	9.4	9.2	8.9	8.9
2.5th	9.4	9.1	8.8	8.3	7.6	6.4	5.4	4.3	3.1	1.8	0.8
VAR	0.0	0.7	1.7	2.7	3.6	4.6	5.4	6.4	7.0	7.6	8.2

- Using the median funded status, it appears that 20 year closed amortization maintains the plans funded ratio in 75-80% range.

# Step 3 – Simulated Ranges of Outcomes for Mix 3

## 1. Level Population – 20 Year Closed (New Profile of Hires)

*Results are Undiscounted*

Range of Funded Status (AVA) - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
2.5th	75.5%	78.3%	80.9%	83.8%	87.7%	93.0%	97.9%	102.9%	107.7%	113.0%	117.9%
25th	75.5	76.9	78.0	78.5	79.2	81.3	83.6	85.5	87.3	89.4	91.0
50th	75.5	76.2	76.1	75.4	75.0	75.8	76.6	77.2	77.8	78.8	80.2
75th	75.5	75.4	74.3	72.3	70.6	70.2	70.0	69.2	69.1	69.6	70.0
97.5th	75.5	73.8	70.2	66.1	62.6	60.1	58.3	55.7	54.5	54.4	54.4
VAR	0.0	2.5	5.9	9.2	12.4	15.6	18.2	21.5	23.3	24.3	25.8
Range of Contributions (% Pay)- Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	22.56%	24.59%	26.71%	28.92%	31.06%	32.61%	33.40%	34.21%	35.30%	35.63%	35.76%
75th	22.56	23.50	24.29	25.28	26.29	26.73	26.92	26.78	27.42	27.39	27.40
50th	22.56	23.01	23.18	23.48	23.79	23.70	23.36	22.58	22.69	22.39	22.16
25th	22.56	22.56	22.08	21.71	21.33	20.49	19.44	18.18	17.59	16.91	16.44
2.5th	22.56	21.79	20.31	18.63	16.64	14.08	11.81	9.21	6.88	4.86	2.92
VAR	0.0	1.6	3.5	5.4	7.3	8.9	10.0	11.6	12.6	13.2	13.6
Range of Contribution Dollars - Mix 3											
Percentile	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028
97.5th	\$9.4	\$10.7	\$12.3	\$13.9	\$15.4	\$16.7	\$17.9	\$19.0	\$19.8	\$20.8	\$21.5
75th	9.4	10.2	11.1	12.1	13.0	13.7	14.4	15.0	15.5	15.9	16.4
50th	9.4	10.0	10.6	11.2	11.8	12.1	12.5	12.6	12.8	13.1	13.2
25th	9.4	9.8	10.1	10.4	10.6	10.5	10.4	10.2	9.9	9.9	9.9
2.5th	9.4	9.4	9.2	8.9	8.2	7.2	6.3	5.0	3.8	2.6	1.8
VAR	0.0	0.7	1.7	2.6	3.6	4.6	5.4	6.5	7.1	7.7	8.3

- In the median case, using a different new entrant profile does not materially change the funded status. While contributions rates decline, the dollars of contributions increase ~\$.5-1M
- Targeted returns and risk/reward tradeoff analysis did not change.

## Step 5 – Rebalancing Ranges

---

	Growth Assets			Broad U.S. Equity			Global ex - U.S. equity			Real Estate			Hedge Funds			Fixed Income		
	Min	Target	Max	Min	Target	Max	Min	Target	Max	Min	Target	Max	Min	Target	Max	Min	Target	Max
<b>Mix 2</b>	59%	64%	69%	22%	27%	32%	16%	20%	24%	6%	8%	10%	7%	9%	11%	30%	35%	40%
<b>Mix 3</b>	64%	69%	74%	24%	29%	34%	17%	22%	27%	7%	9%	11%	7%	9%	11%	25%	30%	35%

- Rebalancing ranges first consider growth relative to fixed income.
- Within growth, ranges reflect rebalancing equity, real estate and hedge funds.

*Results are Undiscounted*

# Disclaimers

---

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

*This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.*

*Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.*

*Past performance is no guarantee of future results.*

*The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.*

August 22, 2018



## **Sewerage & Water Board of New Orleans**

Asset Allocation and Liability Study:  
Supplemental Information for Alternative Mix 2

---

**Weston Lewis, CFA, CAIA**  
Atlanta Plan Sponsor Consulting

**Cody Chapman, CFA, CAIA**  
Atlanta Plan Sponsor Consulting

**Karen Harris, CFA, ASA**  
Capital Markets Research Group

# Step 2 - Create Alternative Asset Mixes

## Portfolio Optimization Mixes

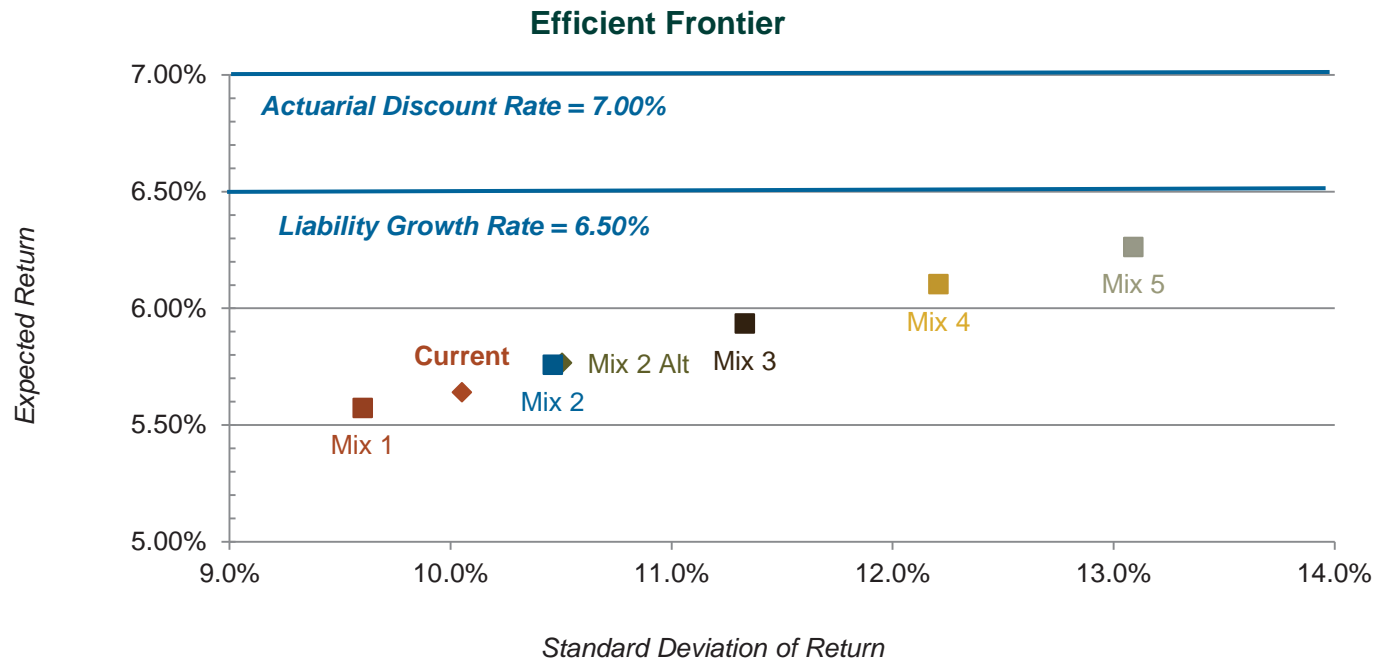
Component	Mix 2	Mix 2 Alt
Broad US Equity	27%	27%
Global ex US Equity	20%	20%
Real Estate	8%	9%
Hedge Funds	9%	8%
Domestic Fixed	35%	35%
Cash Equivalents	1%	1%
<b>Total</b>	<b>100%</b>	<b>100%</b>
 <b>Total Fixed Income+Cash</b>	 <b>36%</b>	 <b>36%</b>
 <b>Asset-Only</b>		
Expected Return	5.76%	5.77%
Standard Deviation	10.46%	10.50%
Sharpe Ratio	0.327	0.326

- Alternative Mix 2 increases real estate and reduces hedge funds by 1% each.
- The expected impact is to increase return and risk at the margin.



## Step 2 - Create Alternative Asset Mixes

### Efficient Frontier



- Graph plots the return and risk characteristics of asset mixes under consideration.
- Alternative Mix 2 plots very closely to Mix 2 considered in the study.

## Step 3 – Simulate Financial Condition

Alternative Mix 2	Downside Scenario (97.5)	Expected Case	Upside Scenario (2.5th)
10 Year Geometric Returns		5.77%	
Risk (SD of Return)		10.50%	
Sharpe Ratio		0.326	
Range of Nominal Returns (5 yr annualized)	-2.0%	5.5%	12.3%
Range of Real Returns (5 yr annualized)	-4.3%	3.1%	10.1%
Net Cash Flow Year 5	-6.1%	-4.9%	-4.1%
Employer Contribution Rate* Year 5	38.7%	27.8%	16.3%
Funded Ratio Year 5	63.5%	77.5%	93.1%
Funded Ratio Year 10	61.3%	84.4%	117.7%
Ultimate Net Cost 10 Years	171.8	108.6	14.8

\* Assumes 20 Year Closed Amortization

15

- The table above highlights the range of simulated results for the alternative Mix 2.

# Disclaimers

---

*This report is for informational purposes only and should not be construed as legal or tax advice on any matter. Any decision you make on the basis of this content is your sole responsibility. You should consult with legal and tax advisers before applying any of this information to your particular situation.*

*This report may consist of statements of opinion, which are made as of the date they are expressed and are not statements of fact.*

*Reference to or inclusion in this report of any product, service or entity should not be construed as a recommendation, approval, affiliation or endorsement of such product, service or entity by Callan.*

*Past performance is no guarantee of future results.*

*The statements made herein may include forward-looking statements regarding future results. The forward-looking statements herein: (i) are best estimations consistent with the information available as of the date hereof and (ii) involve known and unknown risks and uncertainties such that actual results may differ materially from these statements. There is no obligation to update or alter any forward-looking statement, whether as a result of new information, future events or otherwise. Undue reliance should not be placed on forward-looking statements.*

# Step 3 – Simulate Financial Condition

## 1. Level Population

Alternative Mix 2	Downside Scenario (97.5)	Expected Case	Upside Scenario (2.5th)
10 Year Geometric Returns		5.77%	
Risk (SD of Return)		10.50%	
Sharpe Ratio		0.326	
Range of Nominal Returns (5 yr annualized)	-2.0%	5.5%	12.3%
Range of Real Returns (5 yr annualized)	-4.3%	3.1%	10.1%
Net Cash Flow Year 5	-7.0%	-5.7%	-4.8%
Employer Contribution Rate* Year 5	32.6%	23.7%	14.1%
Funded Ratio Year 5	60.2%	74.5%	90.1%
Funded Ratio Year 10	52.5%	76.2%	109.9%
Ultimate Net Cost 10 Years	175.3	113.6	22.9

\* Assumes 20 Year Closed Amortization

- The table above highlights the range of simulated results for the alternative Mix 2.