

Chicago Transit Authority
Employees' Retirement Plan
Performance Summary

**December 31, 2016** 

# **Total Fund Composite**

Market Value: \$1,711.5 Million and 100.0% of Fund

#### **Ending December 31, 2016**

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	Asset Class	Market Value	3 Mo Net Cash Flows	% of Portfolio	Policy %	Policy Difference
otal Fund Composite		\$1,711,549,337	-\$48,769,906	100.0%	100.0%	\$0
Total Fixed Income Composite		\$346,414,199	-\$26,424,043	20.2%	22.0%	-\$30,126,655
U.S. Fixed Income Composite		\$152,019,384	-\$2,205,543	8.9%	9.0%	-\$2,020,056
Baird Advisors	Core Fixed Income	\$50,206,924	-\$2,057,998	2.9%		
Chicago Equity Partners	Core Fixed Income	\$50,738,930	-\$71,448	3.0%		
Amalgatrust	Core Plus Fixed Income	\$51,073,530	-\$76,097	3.0%		
Stable Value Composite		\$53,979,827	-\$17,071,977	3.2%	5.0%	-\$31,597,640
Goode	Stable Value	\$53,979,827	-\$17,071,977	3.2%		
Bank Loans Composite		\$36,327,924	\$0	2.1%	2.0%	\$2,096,937
Symphony	Senior Secured Loans	\$36,327,924	\$0	2.1%		
Global Fixed Income Composite		\$104,087,064	-\$7,146,523	6.1%	6.0%	\$1,394,104
Franklin Templeton Global Bond	Global Fixed Income	\$53,610,536	-\$2,061,696	3.1%		
Logan Circle Partners EMD	EM Fixed Income	\$50,476,528	-\$5,084,827	2.9%		
Total Equity Composite		\$859,745,343	-\$12,856,584	50.2%	49.0%	\$21,086,168
U.S. Equity Composite		\$532,694,896	-\$2,157,039	31.1%	28.0%	\$53,461,082
Large Cap Equity Composite		\$338,909,757	-\$557,186	19.8%	18.0%	\$30,830,876
Edgar Lomax	Large-Cap Value	\$82,257,315	-\$192,660	4.8%		
Paradigm	Large-Cap Value	\$91,477,324	-\$203,387	5.3%		
Northern Trust S&P 500	Large-Cap Core	\$110,942,399	-\$2,688	6.5%		
Mid Cap Equity Composite		\$91,999,400	-\$1,294,129	5.4%	5.0%	\$6,421,933
Denali	Mid-Cap Value	\$60,940,953	-\$194,173	3.6%		
Nuveen	Mid-Cap Growth	\$31,058,447	-\$1,099,956	1.8%		
Small Cap Equity Composite		\$101,785,739	-\$305,725	5.9%	5.0%	\$16,208,273
Ariel	Small-Cap Value	\$60,368,209	-\$126,719	3.5%		
Channing	Small-Cap Value	\$40,488,491	-\$177,443	2.4%		
The Boston Company	Small-Cap Core	\$929,040	-\$1,563	0.1%		
Non-U.S. Equity Composite		\$327,050,447	-\$10,699,544	19.1%	21.0%	-\$32,374,914
Northern Trust ACWI ex US	Non-U.S. Large-Cap Core	\$48,773,542	-\$8,551	2.8%		
Brown Capital	Non-U.S. Large-Cap Core	\$85,196,079	-\$205,229	5.0%		
LSV	Non-U.S. Small-Cap Core	\$52,888,843	-\$2,252,203	3.1%		
Northern Trust Emerging Markets	<b>Emerging Markets</b>	\$41,993,918	-\$8,024,468	2.5%		
Victory Capital	EM Small-Cap	\$45,218,010	-\$90,585	2.6%		
Morgan Stanley Emerging Markets	Emerging Markets	\$52,980,054	-\$118,508	3.1%		
Cash Composite		\$13,147,032	-\$8,485,527	0.8%		\$13,147,032

# **Total Fund Composite**

Market Value: \$1,711.5 Million and 100.0% of Fund

#### **Ending December 31, 2016**

	Asset Class	Market Value	3 Mo Net Cash Flows	% of Portfolio	Policy %	Policy Difference
Hedge Fund Composite		\$193,848,716	\$0	11.3%	7.0%	\$74,040,263
BlackRock Multi Manager Partners	Hedged Equity Hedge FoF	\$36,769,337	\$0	2.1%		
Viking Global Investors	Long/Short Hedge Fund	\$10,877,627	\$0	0.6%		
Graham Absolute Return	Hedged Equity Hedge FoF	\$12,518,662	\$0	0.7%		
Magnitude Capital	Multi-Strat. Hedge FoF	\$51,784,034	\$0	3.0%		
Pluscios	Multi-Strat. Hedge FoF	\$38,161,594	\$0	2.2%		
Aetos Multi Strategy Arbitrage Fund	Multi-Strat. Hedge Fund	\$9,438,621	\$0	0.6%		
Aetos Distressed Investment Strategies Fund	Distressed Debt Hedge Fund	\$30,639,946	\$0	1.8%		
Harbinger Capital Partners	Event Driven Hedge Fund	\$3,658,894		0.2%		
Real Estate Composite		\$228,110,917	\$2,966,197	13.3%	12.0%	\$22,724,997
Open-End Real Estate Composite		\$174,167,383	\$1,500,949	10.2%		\$174,167,383
Heitman America Real Estate	Core Real Estate	\$18,605,173	\$2,880,348	1.1%		
JPMorgan Strategic Property Fund	Core Real Estate	\$47,479,474	-\$562,459	2.8%		
PRISA I	Core Real Estate	\$45,359,329	-\$523,621	2.7%		
Rreef America II	Core Real Estate	\$14,724,757	-\$158,954	0.9%		
JPMorgan Alternative Property Fund	Value-Added Real Estate	\$38,464	-\$5,158	0.0%		
UBS Trumbull Property Fund	Core Real Estate	\$47,960,186	-\$129,207	2.8%		
Closed-End Real Estate Composite		\$53,943,534	\$1,465,249	3.2%		\$53,943,534
Private Equity Composite		\$70,283,130	-\$3,969,949	4.1%	10.0%	-\$100,871,804

### Annualized Performance (Net of Fees)

Market Value: \$1,711.5 Million and 100.0% of Fund

				End	ding De	cember	31, 201	6			Incep	otion
	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
<b>Total Fund Composite</b>	1.2%	0.7%	6.8%	6.8%	3.2%	3.7%	7.3%	8.0%	7.4%	5.3%	8.2%	Dec-90
Total Fund Policy Benchmark	1.3%	0.5%	6.4%	6.4%	3.5%	4.6%	8.0%	8.8%	8.1%	5.0%		Dec-90
Actuarial Rate	0.7%	2.0%	8.3%	8.3%	8.3%	8.3%	8.4%	8.4%	8.4%	8.4%	8.5%	Dec-90
Total Fixed Income Composite	0.8%	-0.6%	4.6%	4.6%	1.9%	2.2%	1.5%	1.9%	2.8%	3.4%	4.4%	Mar-00
BBgBarc US Aggregate TR	0.1%	-3.0%	2.6%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	5.2%	Mar-00
U.S. Fixed Income Composite	0.1%	-3.1%	2.2%	2.2%	1.4%	2.5%	1.5%	2.2%	3.4%	4.1%	4.6%	Mar-00
BBgBarc US Aggregate TR	0.1%	-3.0%	2.6%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	5.2%	Mar-00
Baird Advisors	0.3%	-2.7%	4.0%	4.0%	2.2%	3.7%	2.3%	3.2%	4.4%		4.4%	Aug-09
BBgBarc US Aggregate TR	0.1%	-3.0%	2.6%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	3.6%	Aug-09
Chicago Equity Partners	-0.1%	-3.7%	0.9%	0.9%	0.7%	2.3%	1.0%	1.3%	3.2%		3.1%	Aug-09
BBgBarc US Aggregate TR	0.1%	-3.0%	2.6%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	3.6%	Aug-09
Amalgatrust	0.1%	-2.9%									-2.4%	Jun-16
BBgBarc US Aggregate TR	0.1%	-3.0%	2.6%	2.6%	1.6%	3.0%	1.7%	2.2%	3.6%	4.3%	-2.5%	Jun-16
Stable Value Composite	0.1%	0.3%	1.1%	1.1%	1.1%	1.1%	0.8%	1.2%	1.9%	2.3%	3.1%	Jun-01
Ryan Labs 3Yr GIC	0.1%	0.3%	1.4%	1.4%	1.3%	1.2%	1.2%	1.2%	1.7%	2.6%	3.2%	Jun-01
Goode	0.1%	0.3%	1.1%	1.1%	1.2%	1.2%	1.3%	1.6%	1.8%	2.4%	2.8%	Dec-02
Ryan Labs 3Yr GIC	0.1%	0.3%	1.4%	1.4%	1.3%	1.2%	1.2%	1.2%	1.7%	2.6%	2.9%	Dec-02
Bank Loans Composite	1.4%	2.5%									3.8%	Jul-16
CSFB Leveraged Loan	1.1%	2.3%	9.9%	9.9%	4.6%	3.8%	4.4%	5.3%	5.5%	4.3%	4.0%	Jul-16
Symphony	1.4%	2.5%	-								3.8%	Jul-16
CSFB Leveraged Loan	1.1%	2.3%	9.9%	9.9%	4.6%	3.8%	4.4%	5.3%	5.5%	4.3%	4.0%	Jul-16
Global Fixed Income Composite	2.2%	1.6%	9.4%	9.4%			-	-			3.8%	Jul-15
BBgBarc Global Aggregate TR	-0.5%	-7.1%	2.1%	2.1%	-0.6%	-0.2%	-0.8%	0.2%	1.7%	3.3%	1.2%	Jul-15
Franklin Templeton Global Bond	2.5%	6.1%	5.9%	5.9%							1.7%	Jul-15
BBgBarc Global Aggregate TR	-0.5%	-7.1%	2.1%	2.1%	-0.6%	-0.2%	-0.8%	0.2%	1.7%	3.3%	1.2%	Jul-15
Logan Circle Partners EMD	2.0%	-2.5%	13.1%	13.1%							5.9%	Jul-15
JP Morgan EMBI Global TR	1.4%	-4.2%	10.2%	10.2%	5.6%	5.6%	2.4%	5.4%	6.8%	6.8%	6.4%	Jul-15
Total Equity Composite	1.6%	1.1%	9.6%	9.6%	2.5%	3.1%	9.4%	10.6%	9.1%	4.4%	4.3%	Mar-00
MSCI ACWI	2.2%	1.2%	7.9%	7.9%	2.6%	3.1%	7.7%	9.4%	7.3%	3.6%	3.2%	Mar-00
U.S. Equity Composite	1.8%	5.4%	13.5%	13.5%	4.5%	5.9%	12.9%	13.3%	12.0%	6.5%	5.3%	Mar-00
Russell 3000	2.0%	4.2%	12.7%	12.7%	6.4%	8.4%	14.2%	14.7%	12.9%	7.1%	4.8%	Mar-00
Large Cap Equity Composite	1.6%	3.5%	11.7%	11.7%	4.5%	7.3%	13.5%	13.7%	11.9%	6.3%	4.5%	Mar-00
Russell 1000	1.9%	3.8%	12.1%	12.1%	6.3%	8.6%	14.3%	14.7%	12.9%	7.1%	4.6%	Mar-00
Edgar Lomax	1.7%	5.2%	16.9%	16.9%	5.2%	8.6%	14.2%	13.0%	12.7%	6.1%	7.3%	Apr-00
S&P 500 Value	2.5%	7.3%	17.4%	17.4%	6.6%	8.5%	14.0%	14.7%	12.4%	5.5%	5.5%	Apr-00

### Annualized Performance (Net of Fees)

Market Value: \$1,711.5 Million and 100.0% of Fund

				End	ding De	cember	31, 201	6	, ,		Incep	ition
	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
Paradigm	1.4%	3.5%	10.9%	10.9%	4.2%	7.4%	13.9%	14.7%	12.5%	6.3%	6.9%	Apr-00
Russell 1000 Value	2.5%	6.7%	17.3%	17.3%	6.2%	8.6%	14.1%	14.8%	12.7%	5.7%	6.8%	Apr-00
Northern Trust S&P 500	2.0%	3.8%	12.0%	12.0%							7.1%	Jul-15
S&P 500	2.0%	3.8%	12.0%	12.0%	6.5%	8.9%	14.3%	14.7%	12.8%	6.9%	6.8%	Jul-15
Mid Cap Equity Composite	0.7%	6.1%	12.7%	12.7%	5.1%	6.5%	14.0%	13.9%	12.0%	6.4%	4.8%	Mar-00
Russell MidCap	1.1%	3.2%	13.8%	13.8%	5.4%	7.9%	14.1%	14.7%	13.7%	7.9%	8.0%	Mar-00
Denali	1.9%	10.5%	20.5%	20.5%	9.5%	10.2%	17.3%	16.5%	14.2%		15.7%	Oct-09
Russell MidCap Value	1.8%	5.5%	20.0%	20.0%	6.9%	9.5%	15.0%	15.7%	14.3%	7.6%	15.6%	Oct-09
Nuveen	-1.4%	-1.6%	1.6%	1.6%	0.7%	3.4%	11.0%	11.9%	11.9%	7.3%	7.6%	Jun-97
Russell MidCap Growth	0.3%	0.5%	7.3%	7.3%	3.5%	6.2%	12.9%	13.5%	12.9%	7.8%	7.9%	Jun-97
Small Cap Equity Composite	3.5%	11.5%	23.3%	23.3%	6.1%	4.7%	12.5%	13.6%	13.1%	7.6%	8.4%	Mar-00
Russell 2000	2.8%	8.8%	21.3%	21.3%	7.7%	6.7%	14.0%	14.5%	13.2%	7.1%	7.1%	Mar-00
Ariel	3.8%	9.4%	20.7%	20.7%	4.3%	5.2%	12.4%	14.2%	12.3%	13.0%	14.0%	Jan-91
Russell 2000 Value	4.1%	14.1%	31.7%	31.7%	10.4%	8.3%	14.3%	15.1%	13.1%	6.3%	12.3%	Jan-91
Channing	3.1%	15.0%	28.3%	28.3%	10.2%	8.2%	15.1%	16.4%	14.8%		15.6%	Dec-09
Russell 2000 Value	4.1%	14.1%	31.7%	31.7%	10.4%	8.3%	14.3%	15.1%	13.1%	6.3%	14.2%	Dec-09
The Boston Company	1.3%	7.1%	18.1%	18.1%	6.5%	5.3%	13.6%	13.9%	12.6%	7.0%	9.3%	Dec-98
Russell 2000	2.8%	8.8%	21.3%	21.3%	7.7%	6.7%	14.0%	14.5%	13.2%	7.1%	8.1%	Dec-98
Non-U.S. Equity Composite	1.2%	-5.1%	3.5%	3.5%	-0.5%	-2.6%	1.8%	4.5%	2.7%	-0.8%	2.7%	Mar-00
MSCI ACWI ex USA	2.6%	-1.3%	4.5%	4.5%	-0.7%	-1.8%	2.2%	5.0%	2.9%	1.0%	2.8%	Mar-00
Northern Trust ACWI ex US	2.6%	-1.2%	4.8%	4.8%							2.4%	Aug-15
MSCI ACWI exUS IMI	2.5%	-1.5%	4.9%	4.9%	0.3%	-1.0%	3.1%	5.8%	3.7%	1.7%	2.9%	Aug-15
Brown Capital	1.4%	-5.2%	-6.2%	-6.2%	0.6%	0.1%	6.7%	9.6%	5.5%		5.8%	Nov-09
MSCI EAFE	3.4%	-0.7%	1.0%	1.0%	0.1%	-1.6%	4.0%	6.5%	3.8%	0.7%	4.0%	Nov-09
LSV	3.5%	1.5%	9.4%	9.4%							4.8%	Jul-15
MSCI EAFE Small Cap	2.9%	-2.9%	2.2%	2.2%	5.8%	2.1%	8.3%	10.6%	7.8%	2.9%	0.6%	Jul-15
Northern Trust Emerging Markets	0.2%	-4.3%	11.0%	11.0%	-2.9%				-		-5.0%	Nov-14
MSCI Emerging Markets	0.2%	-4.2%	11.2%	11.2%	-2.7%	-2.6%	-2.6%	1.3%	0.5%	1.8%	-4.8%	Nov-14
Victory Capital	-1.1%	-13.0%									-9.4%	Jun-16
MSCI Emerging Markets Small Cap	-0.2%	-6.2%	2.3%	2.3%	-2.4%	-1.3%	-0.7%	3.5%	1.4%	3.4%	0.9%	Jun-16
Morgan Stanley Emerging Markets	0.3%	-7.7%	7.7%	7.7%							-2.2%	Jul-15
MSCI Emerging Markets	0.2%	-4.2%	11.2%	11.2%	-2.7%	-2.6%	-2.6%	1.3%	0.5%	1.8%	-0.9%	Jul-15

### Annualized Performance (Net of Fees)

Market Value: \$1,711.5 Million and 100.0% of Fund

#### Ending December 31, 2016

#### Inception

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	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
Hedge Fund Composite	0.3%	0.3%	0.6%	0.6%	1.0%	2.2%	2.8%	3.1%	2.1%	3.4%	4.1%	Dec-05
HFRI FOF: Conservative Index	0.8%	1.6%	1.9%	1.9%	1.1%	1.8%	3.2%	3.4%	2.6%	1.3%	2.0%	Dec-05
BlackRock Multi Manager Partners	0.5%	-3.4%	-2.9%	-2.9%	-2.6%	-0.7%	2.7%	3.4%	2.8%		1.6%	Jan-08
HFRI FOF: Conservative Index	0.8%	1.6%	1.9%	1.9%	1.1%	1.8%	3.2%	3.4%	2.6%	1.3%	0.8%	Jan-08
HFRX Equity Hedge Index	0.2%	0.8%	0.1%	0.1%	-1.1%	-0.3%	2.4%	2.9%	0.3%	-1.2%	-1.3%	Jan-08
Viking Global Investors	0.1%	-3.1%	-3.4%	-3.4%	2.2%	5.9%					5.9%	Dec-13
HFRI Equity Hedge (Total) Index	0.8%	1.3%	5.5%	5.5%	2.2%	2.1%	5.0%	5.5%	4.1%	2.9%	2.1%	Dec-13
HFRX Equity Hedge Index	0.2%	0.8%	0.1%	0.1%	-1.1%	-0.3%	2.4%	2.9%	0.3%	-1.2%	-0.3%	Dec-13
Graham Absolute Return	2.4%	11.3%	11.8%	11.8%	6.5%	7.8%					7.8%	Dec-13
HFRI Fund of Funds Composite Index	0.9%	0.9%	0.5%	0.5%	0.1%	1.2%	3.1%	3.4%	2.4%	1.3%	1.2%	Dec-13
Magnitude Capital	-0.7%	-1.0%	-2.8%	-2.8%	1.6%	3.8%	4.1%	4.8%	5.1%	4.7%	5.6%	Jan-06
HFRI FOF: Conservative Index	0.8%	1.6%	1.9%	1.9%	1.1%	1.8%	3.2%	3.4%	2.6%	1.3%	2.0%	Jan-06
Pluscios	0.4%	1.7%	0.3%	0.3%	-0.7%	0.3%	2.6%	3.9%	3.5%		6.6%	Feb-09
HFRI FOF: Conservative Index	0.8%	1.6%	1.9%	1.9%	1.1%	1.8%	3.2%	3.4%	2.6%	1.3%	3.4%	Feb-09
Aetos Multi Strategy Arbitrage Fund	1.0%	1.8%	3.6%	3.6%	0.9%	1.0%			-		1.8%	Apr-13
HFRI RV: Multi-Strategy Index	1.2%	1.6%	6.4%	6.4%	3.5%	3.4%	4.5%	5.3%	5.2%	3.7%	3.6%	Apr-13
Aetos Distressed Investment Strategies Fund	1.0%	2.5%	7.5%	7.5%	1.8%	2.5%					3.9%	Apr-13
HFRI ED: Distressed/Restructuring Index	2.8%	5.6%	15.1%	15.1%	2.9%	1.4%	4.5%	5.6%	5.4%	3.8%	3.3%	Apr-13

### Annualized Performance (Net of Fees)

Market Value: \$1,711.5 Million and 100.0% of Fund

				En	ding De	cember	· 31, 201	6			Incep	Inception
	1 Mo	3 Mo	YTD	1 Yr	2 Yrs	3 Yrs	4 Yrs	5 Yrs	7 Yrs	10 Yrs	Return	Since
Real Estate Composite	2.6%	2.6%	7.4%	7.4%	10.8%	11.4%	12.2%	11.7%	11.7%	3.0%	6.8%	Dec-81
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%		Dec-81
CPI +5%	0.4%	1.2%	7.2%	7.2%	6.5%	6.2%	6.3%	6.4%	6.7%	6.9%		Dec-81
Open-End Real Estate Composite	1.9%	1.9%	7.4%	7.4%	11.1%	11.1%	-	-			11.9%	Apr-13
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	11.6%	Apr-13
Heitman America Real Estate	2.3%	2.3%	8.8%	8.8%	11.7%	11.1%	11.8%				11.8%	Jan-13
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	11.5%	Jan-13
JPMorgan Strategic Property Fund	1.9%	1.9%	7.3%	7.3%	10.7%	10.4%	11.5%	11.5%	12.2%	5.5%	7.9%	Oct-00
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	7.1%	Oct-00
PRISA I	2.2%	2.2%	7.9%	7.9%	11.1%	11.6%	12.1%	11.4%	13.1%	4.5%	6.8%	Jan-01
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	7.0%	Jan-01
Rreef America II	2.4%	2.4%	8.1%	8.1%	11.8%	11.9%	12.5%	12.0%	13.3%	5.1%	7.4%	Oct-00
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	7.1%	Oct-00
JPMorgan Alternative Property Fund	3.2%	3.2%	3.8%	3.8%	3.8%	-7.8%	-6.3%	-1.3%	2.6%	-4.6%	-4.5%	Dec-06
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	4.9%	Dec-06
UBS Trumbull Property Fund	1.5%	1.5%	6.3%	6.3%							7.3%	Oct-15
NFI	0.6%	1.9%	7.8%	7.8%	10.8%	11.0%	11.5%	11.2%	12.3%	4.8%	8.8%	Oct-15
Closed-End Real Estate Composite	4.6%	4.6%	7.5%	7.5%	10.3%	12.4%			-		13.4%	Apr-13

0.6%

1.7%

8.0%

8.0%

10.6%

11.0%

11.0%

10.9%

11.7%

6.9%

Apr-13

11.0%

NPI

### Fee Schedule

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee <sup>1</sup>	Industry Average <sup>2</sup>
Core Fixed Income	Baird Advisors	0.22% on the first \$50 million 0.20% on the next \$50 million 0.15% on the Balance	0.22% \$110,414	0.26%
Core Fixed Income	Chicago Equity Partners	0.30% on the first \$25 million 0.25% on the next \$75 million 0.20% on the Balance	0.27% \$139,347	0.26%
Core Plus Fixed Income	Amalgatrust	0.30% on the first \$25 million 0.285% on the next \$25 million 0.20% on the Balance	0.29% \$148,397	0.26%
Stable Value	Goode	0.20% on the first \$50 million 0.15% on the next \$50 million 0.10% on the Balance	0.20% \$105,970	0.20%
EM Fixed Income	Logan Circle Partners EMD	0.65% on the Balance	0.65% \$328,097	0.65%
Global Fixed Income	Franklin Templeton Global Bond	0.47% on the first \$50 million 0.36% on the next \$50 million 0.30% on the Balance	0.46% \$247,998	0.35%
Senior Secured Loans	Symphony	0.50% on the Balance	0.50% \$181,640	0.50%
Large-Cap Value	Edgar Lomax	0.54% on the first \$50 million 0.40% on the next \$25 million 0.35% on the next \$25 million 0.30% on the Balance	0.48% \$395,401	0.51%
Large-Cap Value	Paradigm	0.50% on the first \$50 million 0.40% on the next \$50 million 0.30% on the next \$50 million 0.20% on the Balance	0.45% \$415,909	0.51%
Large-Cap Core	Northern Trust S&P 500	0.005% on the Balance	0.01% \$5,547	0.05%
Large-Cap Growth	Decatur	0.60% on the first \$50 million 0.40% on the next \$25 million 0.35% on the Balance	0.58% \$316,931	0.53%
Mid-Cap Value	Denali	0.75% on the first \$25 million 0.70% on the next \$25 million 0.65% on the Balance	0.71% \$433,616	0.65%
Mid-Cap Growth	Nuveen	0.65% on the first \$25 million 0.50% on the next \$25 million 0.40% on the Balance	0.62% \$192,792	0.79%
Small-Cap Value	Ariel	0.60% on the first \$10 million 0.50% on the next \$10 million 0.40% on the Balance	0.45% \$271,473	0.82%

## Fee Schedule

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee <sup>1</sup>	Industry Average <sup>2</sup>
Small-Cap Value	Channing	1.00% on the first \$25 million 0.90% on the next \$25 million 0.80% on the Balance	0.96% \$389,396	0.96%
Non-U.S. Large-Cap Core	Brown Capital	0.75% on the first \$50 million 0.65% on the next \$50 million 0.55% on the next \$50 million 0.50% on the next \$50 million	0.71% \$603,775	0.60%
Non-U.S. Small-Cap Core	LSV	1.00% on the first \$25 million 0.90% on the next \$25 million 0.80% on the Balance	0.94% \$498,111	0.85%
Emerging Markets	Morgan Stanley Emerging Markets	0.85% on the Balance	0.85% \$450,330	0.90%
Emerging Markets	Northern Trust Emerging Markets	0.10% on the Balance	0.10% \$41,994	0.95%
Hedged Equity Hedge FoF	BlackRock Multi Manager Partners	1.00% on the Balance	1.00% \$367,693	1.00%
Long/Short Hedge Fund	Viking Global Investors	1.50% on the Balance Plus 20% Incentive Fee	1.50% \$163,164	1.69%
Hedged Equity Hedge FoF	Graham Absolute Return	2.00% on the Balance Plus 25% performance fee	2.00% \$250,373	1.69%
Multi-Strat. Hedge FoF	Magnitude Capital	1.00% on the Balance Plus 10% Performance Fee, above high watermark Plus 15-30 bps Administration Fee	1.00% \$517,840	1.00%
Multi-Strat. Hedge FoF	Pluscios	1.10% on the Balance Plus 10% Incentive Fee, above 91-Day T-Bill Hurdle	1.10% \$419,778	1.00%

### Fee Schedule

Asset Class	Investment Manager	Fee Schedule	Expense Ratio & Estimated Annual Fee <sup>1</sup>	Industry Average <sup>2</sup>
Multi-Strat. Hedge Fund	Aetos Multi Strategy Arbitrage Fund	1.00% on the Balance	1.00% \$94,386	1.69%
Distressed Debt Hedge Fund	Aetos Distressed Investment Strategies Fund	1.00% on the Balance	1.00% \$306,399	1.69%
Core Real Estate	Heitman America Real Estate	1.10% on the first \$10 million 1.00% on the next \$15 million 0.90% on the next \$25 million 0.80% on the next \$50 million 0.70% on the Balance	1.05% \$196,052	1.01%
Core Real Estate	JPMorgan Strategic Property Fund	1.00% on the Balance	1.00% \$474,795	1.01%
Core Real Estate	PRISAI	0.75% on the first \$10 million 0.65% on the next \$15 million 0.60% on the next \$25 million 0.55% on the next \$50 million 0.50% on the Balance Plus 6% Performance Fee Maximum Total Fee of 1.15%	0.65% \$294,656	1.01%
Core Real Estate	Rreef America II	0.95% on the Balance	0.95% \$139,885	1.01%
Core Real Estate	UBS Trumbull Property Fund	0.955% on the first \$10,000,000 0.825% on the next \$15,000,000 0.805% on the next \$25,000,000 0.79% on the Balance	0.85% \$408,672	1.01%
Non-U.S. Large-Cap Core	Northern Trust ACWI ex US	0.035% on the Balance	0.04% \$17,071	0.80%
Total Investment Management Fe	es		0.52% \$8,934,406	0.60%

<sup>&</sup>lt;sup>1</sup> Expense Ratio & Estimated Annual Fee are Based on Market Value at Month End for Open-Ended accounts only.

<sup>&</sup>lt;sup>2</sup> Source: 2016 Marquette Associates Investment Management Fee Study.