Investment Performance Review Period Ending December 31, 2017

Southfield Fire & Police Retirement System



Table Of Contents

Asset Allocation Vs. Target Allocation	Page 5
Asset Allocation by Segment	Page 6
Comparative Performance Trailing Returns	Page 7
Investment Policy Summary	Page 14
Definitions & Disclosure Pages	Page 15



			Index Re	eturns (%)		
Equities	Month	3 M	YTD	1 Year	3 Yr Ann	5 Yr Ann
S&P 500 Total Return	1.11	6.64	21.83	21.83	11.40	15.78
Russell Midcap Index	0.92	6.05	18.50	18.50	9.56	14.95
Russell 2000 Index	(0.41)	3.33	14.63	14.63	9.93	14.11
Russell 1000 Growth Indx	0.78	7.86	30.21	30.21	13.77	17.31
Russell 1000 Value Index	1.44	5.31	13.64	13.64	8.63	14.03
Russell 3000 Index	0.99	6.33	21.12	21.12	11.10	15.57
MSCI EAFE NR	1.61	4.23	25.03	25.03	7.79	7.89
MSCI EM NR	3.59	7.44	37.28	37.28	9.09	4.35

	V	В	G		V	В	G
L	13.6	21.7	30.2	L	17.3	12.0	7.0
М	13.3	18.5	25.3	M	19.9	13.7	7.3
S	7.8	14.6	22.1	s	31.6	21.2	11.3
		YTD		-		2016	

Russell Indices Style Returns

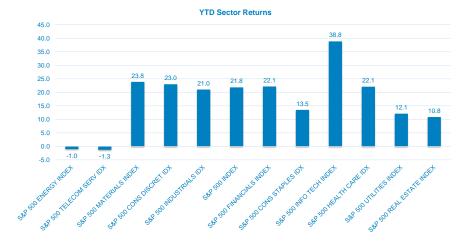
		Index Re	turns (%)		_		
Fixed Income	<u>Month</u>	<u>3 M</u>	YTD	1 Year	Mod. Adj. Duration	Yield to Worst	
U.S. Aggregate	0.46	0.39	3.54	3.54	5.98	2.71	
U.S. Corporate Investment Grade	0.91	1.17	6.42	6.42	7.58	3.25	
U.S. Corporate High Yield	0.30	0.47	7.50	7.50	3.86	5.72	
Global Aggregate	0.35	1.08	7.39	7.39	6.99	1.66	

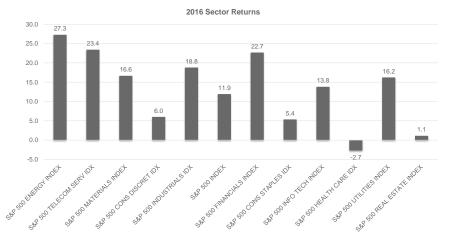
		maex Re	turns (%)		_		
Fixed Income	<u>Month</u>	<u>3 M</u>	YTD	1 Year	Mod. Adj. Duration	Yield to Worst	
U.S. Aggregate	0.46	0.39	3.54	3.54	5.98	2.71	
U.S. Corporate Investment Grade	0.91	1.17	6.42	6.42	7.58	3.25	-
U.S. Corporate High Yield	0.30	0.47	7.50	7.50	3.86	5.72	-
Global Aggregate	0.35	1.08	7.39	7.39	6.99	1.66	

		Levels	
<u>Currencies</u>	12/31/17	12/31/16	12/31/15
Euro Spot	1.20	1.05	1.09
British Pound Spot	1.35	1.23	1.47
Japanese Yen Spot	112.69	116.96	120.22
Swiss Franc Spot	0.97	1.02	1.00
		11-	

			Levels (%)		
Key Rates	12/31/17	12/31/16	12/31/15	12/31/14	12/31/13
3 Month	1.38	0.50	0.16	0.04	0.07
US 2 Year	1.88	1.19	1.05	0.66	0.38
US 10 Year	2.41	2.44	2.27	2.17	3.03
US 30 Year	2.74	3.07	3.02	2.75	3.97
ICE LIBOR USD 3M	1.69	1.00	0.61	0.26	0.25
Euribor 3 Month ACT/360	(0.33)	(0.32)	(0.13)	0.08	0.29
Bankrate 30Y Mortgage Rates Na	3.85	4.06	3.90	3.99	4.54
Prime	4.50	3.75	3.50	3.25	3.25

		Levels	
Commodities	12/31/17	12/31/16	12/31/15
Oil	60.42	56.91	48.18
Gasoline	2.49	2.34	2.00
Natural Gas	2.95	3.73	3.08
Gold	1,309.30	1,168.90	1,074.30
Silver	17.15	16.30	14.17
Copper	330.05	252.55	217.00
Corn	350.75	389.00	408.50
BBG Commodity TR Idx	179.96	176.94	158.31

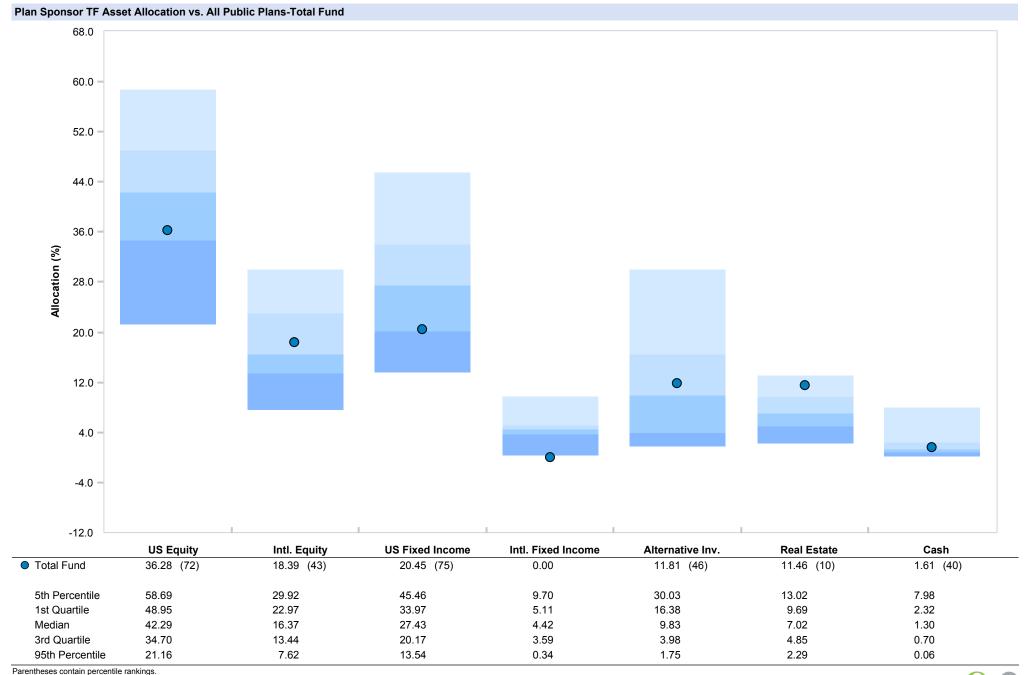






- Total Fund return of +3.53% lagged the Policy Index return of +3.60%. The primary driver of the underperformance for the quarter was Brandes Emerging Markets.
- Morgan Dempsey (Micro Cap Equity) outperformed their benchmark by 2.13% for the quarter. Their watch status was set to expire on 12/31/2017.
- 1607 Capital Partners outperformed their benchmark by 0.45% for the quarter, and ranks favorably over all time periods.
- In their second quarter of watch status, Brandes Emerging Markets underperformed by -4.32%. Their watch status was set to expire on 12/31/2017.
- Both Domestic Fixed Income managers, Tortoise Credit and Loomis Sayles continue to outperform their benchmarks.
- Avignon Holdings LLC carried at \$3.42 million book value. No investment activity this period.
- Fintan is in the process of winding down their institutional fund. During the quarter, we received \$665,426 in total distributions.
- Nantucket outperformed for the quarter and long term. Longer term results remain strong vs. benchmark and peers.
- KStone Partners outperformed for the quarter. Long term results remain strong.
- JCR Fund II had multiple realizations during the quarter. Early in Q1 2018, the fund made its final distribution and ended. Fund III continued to call capital, and is now 72% called. JCR Fund IV has not yet called capital.
- Landmark Fund VII made their first call during December and has begun investing.
- At quarter end, cash was above the target level, offset by below target allocations to real estate and alternatives.
 Allocation levels are being addressed.
- As of 12/31/2017, the Total Fund is in compliance with the Investment Policy Statement and Public Act 314.





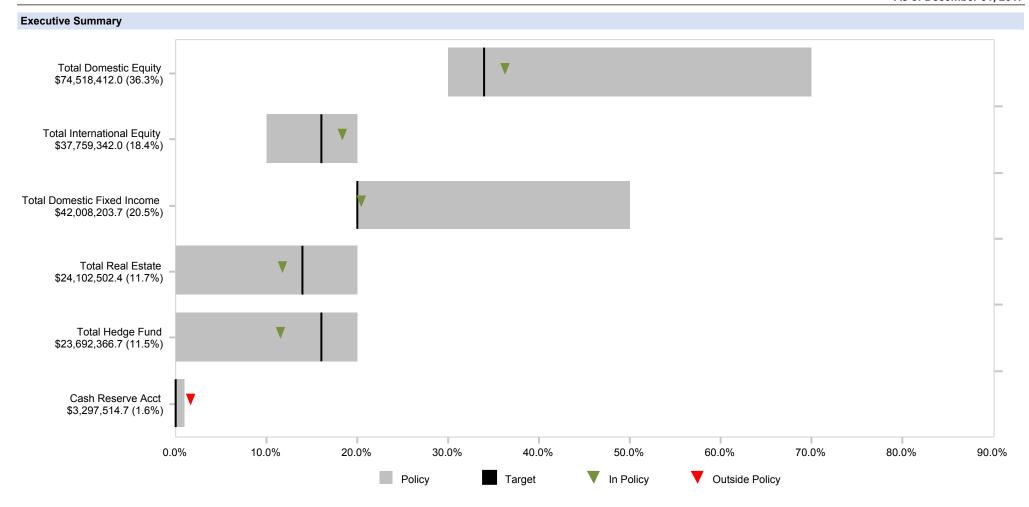
Calculation based on quarterly periodicity.



Comparative Performance Trailing Returns Southfield Fire & Police Retirement System As of December 31, 2017

Comparative I	Performance								
	QTR	YTD	1 YR	3 YR	5 YR	7 YR	10 YR	Inception	Inception Date
Total Fund	3.5345	13.6898	13.6898	7.6233	9.0696	7.6758	5.8153	7.7574	01/01/1989





Asset Allocation Compliance								
	Asset Allocation \$	Current Allocation (%)	Minimum Allocation (%)	Target Allocation (%)	Maximum Allocation (%)	Min. Rebal. (\$000)	Target Rebal. (\$000)	Max. Rebal. (\$000)
Total Fund	205,378,342	100.0	N/A	100.0	N/A	-	-	-
Total Domestic Equity	74,518,412	36.3	30.0	34.0	70.0	-12,904,909	-4,689,776	69,246,427
Total International Equity	37,759,342	18.4	10.0	16.0	20.0	-17,221,508	-4,898,807	3,316,326
Total Domestic Fixed Income	42,008,204	20.5	20.0	20.0	50.0	-932,535	-932,535	60,680,967
Total Real Estate	24,102,502	11.7	0.0	14.0	20.0	-24,102,502	4,650,465	16,973,166
Total Hedge Fund	23,692,367	11.5	0.0	16.0	20.0	-23,692,367	9,168,168	17,383,302
Cash Reserve Acct	3,297,515	1.6	0.0	0.0	1.0	-3,297,515	-3,297,515	-1,243,731



Asset Allocation Attributes														
	Domestic	Equity	Internation	al Equity	Domestic Incor		Real E	state	Hedge	Fund	Cash Equ	uivalent	Total F	und
	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%	(\$)	%
Total Fund	74,168,610	36.11	35,871,195	17.47	41,288,132	20.10	24,102,502	11.74	23,692,367	11.54	6,255,536	3.05	205,378,342	100.00
Total Domestic Equity	74,168,610	99.53	-	-	-	-	-	-	-	-	349,802	0.47	74,518,412	36.28
LSIA LC 30/70	17,429,078	99.67	-	_	-	_	_	_	_	_	58,560	0.33	17,487,638	8.51
LSIA Dividend Aristocrats	13,101,971	99.22	-	-	-	-	-	-	-	-	103,148	0.78	13,205,119	6.43
LSIA S&P 500 Low Volatility	12,505,112	99.43	-	-	-	-	-	-	-	-	71,685	0.57	12,576,797	6.12
NTGI S&P Midcap 400 - Lending	20,331,787	100.00	-	_	-	_	-	_	-	_	385	0.00	20,332,172	9.90
Morgan Dempsey	10,800,662	98.94	-	-	-	-	-	-	-	-	116,024	1.06	10,916,686	5.32
Total International Equity	-	-	35,871,195	95.00	-	-	-	-	-	-	1,888,147	5.00	37,759,342	18.39
1607 Capital Partners	_	_	26,541,014	93.36	_	_	_	_	_	_	1,888,147	6.64	28,429,161	13.84
Brandes Emerging Mkts	-	-	9,330,181	100.00	-	-	-	-	-	-	-	-	9,330,181	4.54
Total Domestic Fixed Income	-	-	-	-	41,288,132	98.29	-	-	-	-	720,072	1.71	42,008,204	20.45
Avignon - Mortgage Loan	_	_	_	_	3,420,002	100.00	_	_	_	_	_	_	3,420,002	1.67
Tortoise Credit	_	_	_	_	18,746,886	96.30	_	_	_	_	720,072	3.70	19,466,959	9.48
Loomis Sayles Intermediate Duration	-	-	-	-	19,121,243	100.00	-	-	-	-	-	-	19,121,243	9.31
Total Real Estate	-	-	-	-	-	-	24,102,502	100.00	-	-	-	-	24,102,502	11.74
PRISA I	_	_	_	_	_	_	6,990,877	100.00	_	_	_	_	6,990,877	3.40
PRISA II	_	_	-	_	-	_	5,027,619	100.00	-	_	_	_	5,027,619	2.45
PRISA III	_	_	_	_	_	_	5,716,309	100.00	_	_	_	_	5,716,309	2.78
JCR Capital Fund 2	_	_	_	_	_	_	5,237	100.00	_	_	_	_	5,237	0.00
JCR Capital Fund 3 B	_	_	_	_	_	_	5,790,588	100.00	_	_	_	_	5,790,588	2.82
Landmark Real Estate Partners VII, L.P.	-	-	-	-	-	-	571,873	100.00	-	-	-	-	571,873	0.28
Total Hedge Fund	-	-	-	-	-	-	-	-	23,692,367	100.00	-	-	23,692,367	11.54
Nantucket Institutional	_	_	_	_	_	_	_	_	12,281,432	100.00	_	_	12,281,432	5.98
Fintan Partners	_	_	_	_	_	_	_	_	420,055	100.00	_	_	420,055	0.20
KStone Partners	-	-	-	-	-	-	-	-	10,990,880	100.00	-	-	10,990,880	5.35
Cash Reserve Acct	-	-	-	-	-	-	-	-	_	-	3,297,515	100.00	3,297,515	1.61



Comparative Performance																	
	Q ⁻	TR	Y	TD	1 `	YR	3 Y	r	5 \	ΥR	7 `	ΥR	10	YR	Incep	otion	Inceptio Date
Total Fund	3.53	(62)	13.69	(79)	13.69	(79)	7.62	(43)	9.07	(54)	7.68	(77)	5.82	(73)	7.76	(93)	01/01/1989
Total Fund Policy	3.60	(57)	12.69	(89)	12.69	(89)	7.15	(60)	8.52	(70)	8.07	(58)	5.82	(73)	8.55	(62)	
All Public Plans-Total Fund Median	3.69		15.41		15.41		7.41		9.14		8.19		6.15		8.70		
Population	548		540		540		519		503		485		435		41		
Total Fund (Net of Fees)	3.42		13.11		13.11		6.90		N/A		N/A		N/A		6.50		01/01/2014
Total Domestic Equity	5.97		17.07		17.07		N/A		N/A		N/A		N/A		17.18		01/01/2016
LSIA LC 30/70	6.17	(88)	N/A		N/A		N/A		N/A		N/A		N/A		12.24	(92)	05/01/2017
S&P 500 Equal Weighted	6.22	(88)	18.90	(83)	18.90	(83)	10.11	(85)	15.79	(77)	13.63	(87)	10.15	(12)	12.03	(93)	
IM U.S. Large Cap Enhanced Index Equity (SA+CF) Median	6.85	` '	22.24	. ,	22.24	. ,	11.56	` /	16.24	` /	14.32	` '	9.00		14.54	` '	
Population	61		61		61		59		58		57		55		61		
LSIA Dividend Aristocrats	8.26	(9)	21.59	(53)	21.59	(53)	11.32	(44)	16.14	(38)	N/A		N/A		16.06	(33)	07/01/2012
S&P 500 Dividend Aristocrats Index TR	8.31	(8)	21.73	(52)	21.73	(52)	11.17	(50)	16.04	(40)	15.03	(16)	12.14	(2)	15.97	(36)	
IM U.S. Large Cap Core Equity (SA+CF) Median	6.67		21.82	. ,	21.82		11.16	, ,	15.76	, ,	13.74	. ,	8.75		15.44	, ,	
Population	265		264		264		261		248		227		208		239		
LSIA S&P 500 Low Volatility	4.63	(89)	17.22	(88)	17.22	(88)	N/A		N/A		N/A		N/A		17.22	(88)	01/01/2017
S&P 500 Low Volatility Index TR	4.65	(89)	17.41	(87)	17.41	(87)	10.58	(64)	14.37	(80)	13.84	(46)	10.16	(11)	17.41	(87)	
IM U.S. Large Cap Core Equity (SA+CF) Median	6.67		21.82		21.82		11.16		15.76		13.74		8.75		21.82		
Population	265		264		264		261		248		227		208		264		
NTGI S&P Midcap 400 - Lending	6.27	(49)	16.31	(60)	16.31	(60)	11.33	(32)	15.13	(63)	12.72	(79)	N/A		16.74	(78)	07/01/2009
S&P MidCap 400 Index	6.25	(59)	16.24	(68)	16.24	(68)	11.14	(45)	15.01	(74)	12.85	(74)	9.97	(62)	16.78	(75)	
IM U.S. Mid Cap Core Equity (SA+CF) Median	6.27		16.49		16.49		11.12		15.61		13.23		10.03		17.04		
Population	53		53		53		52		47		44		39		44		
Morgan Dempsey	4.03	(22)	13.04	(56)	13.04	(56)	11.06	(55)	N/A		N/A		N/A		6.88	(78)	04/01/2014
40/60 R2000V/Russell Micro	1.90	(59)	11.02	(76)	11.02	(76)	9.21	(73)	13.82	(87)	11.16	(85)	7.93	(95)	7.69	(70)	
IM U.S. Micro Cap Equity (SA+CF) Median	2.43		14.11		14.11		11.20		15.79		12.95		10.38		9.84		
Population	54		52		52		50		46		39		33		49		
Total International Equity	4.93		32.14		32.14		N/A		N/A		N/A		N/A		19.40		01/01/2016
1607 Capital Partners	5.51	(51)	32.99	(39)	32.99	(39)	10.05	(47)	9.17	(47)	7.34	(46)	4.94	(33)	7.35	(35)	07/01/2006
MSCI AC World ex USA	5.06	(59)	27.77		27.77		8.33	(71)	7.28	(72)	5.41	(74)	2.31	(82)	4.73	(81)	0.70172000
IM International Equity (SA+CF) Median	5.54	(00)	30.70	(00)	30.70	(00)	9.82	(, ,)	8.99	()	7.11	(, ,)	3.81	(02)	6.40	(0.)	
Population	988		987		987		937		855		732		619		532		



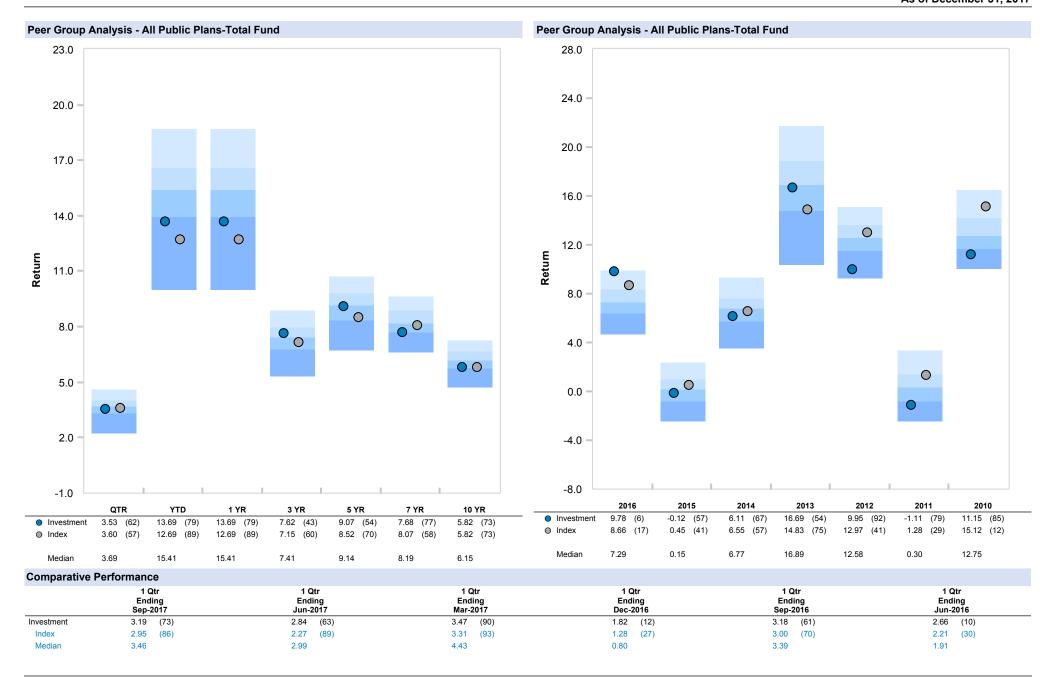
Returns for periods greater than one year are annualized. Returns are expressed as percentages.

	Q.	TR	Y	ΓD	1 `	YR	3 \	/R	5 \	ΥR	7 \	Y R	10	YR	Incep	otion	Inception Date
Brandes Emerging Mkts	3.18	(95)	28.67	(84)	28.67	(84)	9.38	(56)	N/A		N/A		N/A		3.27	(87)	07/01/2014
MSCI Emerging Markets Index	7.50	(35)	37.75	(44)	37.75	(44)	9.50	(55)	4.73	(73)	2.92	(78)	2.02	(79)	5.66	(57)	
IM Emerging Markets Equity (SA+CF) Median	6.96		37.03		37.03		9.78		5.84		4.33		3.12		6.11		
Population	279		279		279		264		221		162		121		252		
Total Domestic Fixed Income	0.14		2.98		2.98		N/A		N/A		N/A		N/A		3.97		01/01/2016
Tortoise Credit	0.21	(19)	3.49	(14)	3.49	(14)	3.20	(4)	N/A		N/A		N/A		3.64	(4)	10/01/2013
Bloomberg Barclays Intermed Aggregate Index	-0.07	(79)	2.27	(79)	2.27	(79)	1.82	(78)	1.70	(69)	2.56	(73)	3.53	(82)	2.21	(67)	
IM U.S. Intermediate Duration (SA+CF) Median	0.01	. ,	2.57	` '	2.57	, ,	2.12	, ,	1.87	. ,	2.85		3.93	,	2.38	, ,	
Population	152		151		151		148		144		137		122		146		
Loomis Sayles Intermediate Duration	0.10	(32)	3.01	(24)	3.01	(24)	N/A		N/A		N/A		N/A		1.08	(22)	08/01/2016
Bloomberg Barclays Intermediate US Govt/Credit Idx	-0.20	(94)	2.14	(85)	2.14	(85)	1.76	(87)	1.50	(87)	2.45	(84)	3.32	(91)	-0.07	(91)	
IM U.S. Intermediate Duration (SA+CF) Median	0.01		2.57		2.57		2.12		1.87		2.85		3.93		0.46		
Population	152		151		151		148		144		137		122		151		
PRISA Real Estate Composite	2.85		9.07		9.07		12.60		13.38		13.77		4.96		8.23		07/01/1993
PRISA I	1.90	(74)	7.46	(74)	7.46	(74)	10.49	(69)	11.89	(64)	12.56	(58)	4.69	(87)	6.63	(83)	01/01/2006
NCREIF Fund Index-ODCE (VW)	2.07	(64)	7.62	(67)	7.62	(67)	10.42	(74)	11.53	(74)	12.07	(78)	5.03	(67)	6.80	(68)	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.14		8.52		8.52		10.93		12.20		12.75		5.25		7.20		
Population	20		20		20		20		20		20		19		16		
PRISA II	2.54	(26)	8.06	(58)	8.06	(58)	12.03	(27)	13.09	(32)	14.33	(32)	3.96	(95)	6.22	(93)	01/01/2006
NCREIF Fund Index-ODCE (VW)	2.07	(64)	7.62	(67)	7.62	(67)	10.42	(74)	11.53	(74)	12.07	(78)	5.03	(67)	6.80	(68)	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.14		8.52		8.52		10.93		12.20		12.75		5.25		7.20		
Population	20		20		20		20		20		20		19		16		
PRISA III	4.30	(1)	11.97	(6)	11.97	(6)	17.14	(1)	N/A		N/A		N/A		17.28	(1)	04/01/2013
NCREIF Fund Index-ODCE (VW)	2.07	(64)	7.62	(67)	7.62	(67)	10.42	(74)	11.53	(74)	12.07	(78)	5.03	(67)	11.55	(70)	
IM U.S. Open End Private Real Estate (SA+CF) Median	2.14		8.52		8.52		10.93		12.20		12.75		5.25		12.23		
Population	20		20		20		20		20		20		19		20		



	Q.	TR	Y	ΓD	1	YR	3 \	r (R	5 \	r	7 \	/R	10	YR	Ince	otion	Inception Date
Total Hedge Fund	2.10		7.19		7.19		N/A		N/A		N/A		N/A		4.83		01/01/2016
Nantucket Institutional	2.53	(18)	11.48	(8)	11.48	(8)	5.34	(3)	7.89	(1)	7.08	(1)	N/A		5.31	(1)	07/01/2008
HFRI FOF: Diversified Index	1.86	(28)	6.66	(23)	6.66	(23)	2.27	(35)	3.82	(17)	2.65	(50)	1.12	(41)	1.42	(47)	
IM Alternative Multi-Strategy (MF) Median	1.35		4.43		4.43		1.69		2.64		2.59		0.86		1.21		
Population	232		206		206		147		68		39		15		15		
Fintan Partners	6.33	(1)	-6.06	(100)	-6.06	(100)	N/A		N/A		N/A		N/A		-1.95	(99)	10/01/2015
90 Day T-Bill +5%/Yr	1.51	(6)	5.90	(28)	5.90	(28)	5.40	(6)	5.26	(1)	5.21	(1)	5.40	(1)	5.52	(26)	
IM Alternative Credit Focus (MF) Median	0.47		4.09		4.09		2.50		1.91		2.84		3.05		4.10		
Population	279		274		274		199		114		60		26		238		
KStone Partners	1.57	(6)	7.36	(15)	7.36	(15)	N/A		N/A		N/A		N/A		4.90	(40)	10/01/2015
90 Day T-Bill +3.5%/Yr	1.15	(17)	4.39	(47)	4.39	(47)	3.89	(22)	3.75	(5)	3.70	(14)	3.89	(35)	4.01	(52)	
IM Alternative Credit Focus (MF) Median	0.47		4.09		4.09		2.50		1.91		2.84		3.05		4.10		
Population	279		274		274		199		114		60		26		238		







As of December 31, 2017

Fund Information

Size of Fund:

Inception:

Final Close:

Type of Fund: Direct

Value-Add Real Estate

74,000,000

06/01/2012

09/30/2014

Strategy Type:

1.50% on Committed Capital plus 20% Incentive Fee after 9.00 % Preferred

Return

2012

Preferred Return: 9.00% General Partner:

JCR Capital

Cash Flow Summary

Investment Strategy: The Fund II investment strategy was to provide capital to real estate sponsors seeking financing for distressed, opportunistic, and value-added commercial real estate. It focused on

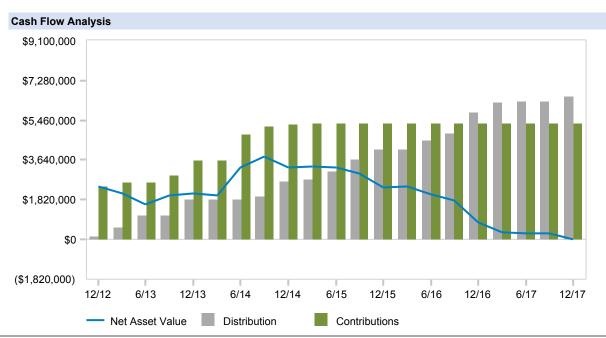
Vintage Year:

Management Fee:

middle-market transactions between \$2-15 million, providing sponsors with debt and structured equity. The fund offered customized capital solutions to commercial real estate middle market

sponsors whose assets do not typically attract institutional capital.

Capital Committed: \$5,000,000 **Capital Contributed:** \$4,752,071 Management Fees: **Expenses:** Catch Up Interest: \$139,352 **Remaining Capital Commitment:** \$247,929 Distributions (Income + Return of Capital): \$6,563,801 Market Value: \$5,237 **Inception Date:** 11/09/2012 Inception IRR: 13.02 TVPI: 1.28 DPI: 1.27





Fund Information

Cash Flow Summary

Type of Fund: Direct Vintage Year: 2014

Strategy Type: Value-Add Real Estate Management Fee: 1.50% on Committed Capital plus 20% after 9% Preferred Return

 Size of Fund:
 329,500,000
 Preferred Return:
 9.00%

 Inception:
 06/02/2014
 General Partner:
 JCR Capital

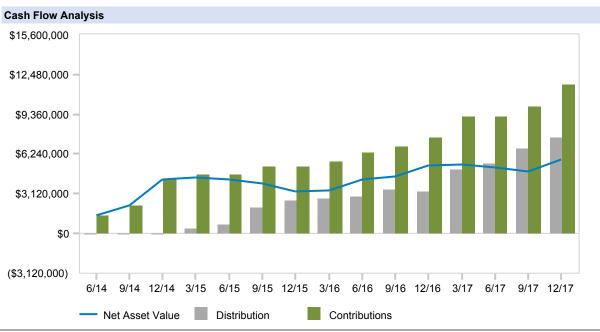
 Final Close:
 01/14/2016

Investment Strategy: In line with the prior JCR funds, Fund III B is credit-focused with a mandate of protecting principal while providing investors with attractive risk adjusted returns, including current yield

and profit participation components. Fund III B's investment strategy is to provide capital to middle market sponsors for value-add, opportunistic and special situations. The fund targets a

variety of asset classes and typically provides high leverage senior debt, mezzanine debt, preferred equity, joint venture equity and programmatic joint venture facilities.

Capital Committed: \$10,000,000 **Capital Contributed:** \$7,249,548 **Management Fees:** \$467,158 **Expenses:** Catch Up Interest: **Remaining Capital Commitment:** \$2,750,452 Distributions (Income + Return of Capital): \$7,554,625 Market Value: \$5.790.588 **Inception Date:** 06/02/2014 Inception IRR: 11.60 TVPI: 1.11 DPI: 0.62





Total Portfolio Compliance Summary							
	December 31, 2017	Current	IPS Target	IPS Range	Act 314	Compliance	Compliance
	Market Value \$	Allocation %	Allocation %	Allocation %	Limit %	within Ranges	w/314 Limits
Total Portfolio (excluding Unfunded Commitments)	205,378,342.00	100.0%					
Fotal Equity (14)	112,277,754.00	54.7%	50.0%	40.0% - 70.0%	70.0%	YES	YES
Domestic Equity (14)	74,518,412.00	36.3%	34.0%	30.0% - 70.0%	70.0%	YES	YES
	,,		55 / 5		10.070		
International Equity (4.4)	27 750 242 00	18.4%	16.0%	10.0% - 20.0%	70.0%	YES	YES
International Equity (14)	37,759,342.00	10.4%	10.0%	10.0% - 20.0%	70.0%	TES	169
Total US Fixed Income (17 & 17.1.a.iii)	42,008,204.00	20.5%	20.0%	20.0% - 50.0%	100.0%	YES	YES
US Investment Grade Fixed Income (17)	42,008,204.00	20.5%	20.0%	20.0% - 50.0%	100.0%	YES	YES
US Non-Investment Grade Fixed Income (17.1.a.iii)	-	0.0%	0.0%	0.0% - 0.0%	100.0%	YES	YES
Total Non US Fixed Income (20k)		0.0%	0.0%	0.0% - 0.0%	20.0%	YES	YES
Fotal Real Estate (18 & 19)	24,102,502.00	11.7%	14.0%	0.0% - 20.0%	20.0%	YES	YES
Niternative Investments (20d)	02.002.07.00	11.5%	16.0%	0.0% - 20.0%	20.0%	YES	YES
Alternative Investments (20d)	23,692,367.00	11.3%	10.0%	0.0% - 20.0%	20.0%	TES	159
Short Term/Cash Reserves	3,297,515.00	1.6%	0.0%	0.0% - 1.0%	N/A	NO	YES



Total Fund Objectives:

- To earn an annual average return of 7.75% over rolling 5 year periods.
- To earn an average annual, real return of 3.75% after inflation over rolling five year periods.
- To meet the assumed actuarial rate of return with a high degree of probability.
- To rank in the 50th percentile over twelve month rolling periods and in the 40th percentile over rolling five year periods, among public employee retirement funds.

Manager Objectives:

 To exceed their performance return standard with equal or less risk over all three year periods.

Asset Allocation Policy:

Asset Class	Target	Ranges
U.S. Equities	34%	30 – 70%
Non-U.S. Equities	16%	10 – 20%
Global Fixed Income	20%	20 - 50%
Real Estate	14%	0 - 20%
Alternative Investments	16%	0 – 20%
Cash & Equivalents	0%	0 – 1%

Equity Portfolio Guidelines:

- No more than 5% of the portfolio may be invested in the stock of any one company.
- No more than 10% of the portfolio may be invested in ADRs.

Fixed Income Portfolio Guidelines:

- No more than 5% of the portfolio may be invested with one issuer, except for the U.S. Treasury and Agency securities.
- No more than 15% of the portfolio in below investment grade.
- No more than 30% of total assets in non-U.S. dollar denominated securities. At least 75% of any non-U.S. currency exposure must be hedged. May invest beyond the 30% limit in Yankee and Euro issues.

Other Portfolio Guidelines:

- Managers are expected to be fully invested at all times, however they
 may raise cash if this is deemed appropriate under the circumstances.
- · Leveraging the portfolio is prohibited.
- Derivative contracts only as permitted.
- Additional investment policies and guidelines are contained in the formal Statement of Investment Policies, Procedures and Objectives.
- All investment managers should follow State of Michigan laws governing the investment of public retirement plan assets.



		urn

- Arithmetic difference between the manager's performance and the designated benchmark return over a specified time period.

Alpha

- A measure of the difference between a portfolio's actual performance and its expected return based on its level of risk as determined by beta. It determines the portfolio's non-systemic return, or its historical performance not explained by movements of the market.

Beta

- A measure of the sensitivity of a portfolio to the movements in the market. It is a measure of the portfolio's systematic risk.

Consistency

- The percentage of quarters that a product achieved a rate of return higher than that of its benchmark. Higher consistency indicates the manager has contributed more to the product's performance.

Distributed to Paid In (DPI)

- The ratio of money distributed to Limited Partners by the fund, relative to contributions. It is calculated by dividing cumulative distributions by paid in capital. This multiple shows the investor how much money they got back. It is a good measure for evaluating a fund later in its life because there are more distributions to measure against.

Down Market Capture

- The ratio of average portfolio performance over the designated benchmark during periods of negative returns. A lower value indicates better product performance

Downside Risk

- A measure similar to standard deviation that utilizes only the negative movements of the return series. It is calculated by taking the standard deviation of the negative quarterly set of returns. A higher factor is indicative of a riskier product.

Excess Return

- Arithmetic difference between the manager's performance and the risk-free return over a specified time period.

Excess Risk

- A measure of the standard deviation of a portfolio's performance relative to the risk free return.

Information Ratio

- This calculates the value-added contribution of the manager and is derived by dividing the active rate of return of the portfolio by the tracking error. The higher the Information Ratio, the more the manager has added value to the portfolio.

Public Market Equivalent (PME)

- Designs a set of analyses used in the Private Equity Industry to evaluate the performance of a Private Equity Fund against a public benchmark or index.

R-Squared

- The percentage of a portfolio's performance that can be explained by the behavior of the appropriate benchmark. A high R-Squared means the portfolio's performance has historically moved in the same direction as the appropriate benchmark.

Return

- Compounded rate of return for the period.

Sharpe Ratio

- Represents the excess rate of return over the risk free return divided by the standard deviation of the excess return. The result is an absolute rate of return per unit of risk. A higher value demonstrates better historical risk-adjusted performance.

Standard Deviation

- A statistical measure of the range of a portfolio's performance. It represents the variability of returns around the average return over a specified time period.

Total Value to Paid In (TVPI)

- The ratio of the current value of remaining investments within a fund, plus the total value of all distributions to date, relative to the total amount of capital paid into the fund to date. It is a good measure of performance before the end of a fund's life

Tracking Error

- This is a measure of the standard deviation of a portfolio's returns in relation to the performance of its designated market benchmark.

Treynor Ratio

- Similar to Sharpe ratio but utilizes beta rather than excess risk as determined by standard deviation. It is calculated by taking the excess rate of return above the risk free rate divided by beta to derive the absolute rate of return per unit of risk. A higher value indicates a product has achieved better historical risk-adjusted performance.

Up Market Capture

- The ratio of average portfolio performance over the designated benchmark during periods of positive returns. A higher value indicates better product performance.



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

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

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

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

Additional information included in this document may contain data provided by from index databases, public economic sources and the managers themselves.

This document may contain data provided by Bloomberg Barclays. Bloomberg Barclays Index data provided by way of Barclays Live.

This document may contain data provided by Standard and Poor's. Nothing contained within any document, advertisement or presentation from S&P Indices constitutes an offer of services in jurisdictions where S&P Indices does not have the necessary licenses. All information provided by S&P Indices is impersonal and is not tailored to the needs of any person, entity or group of persons. Any returns or performance provided within any document is provided for illustrative purposes only and does not demonstrate actual performance. Past performance is not a guarantee of future investment results.

This document may contain data provided by MSCI, Inc. Copyright MSCI, 2017. Unpublished. All Rights Reserved. This information may only be used for your internal use, may not be reproduced or redisseminated in any form and may not be used to create any financial instruments or products or any indices. This information is provided on an "as is" basis and the user of this information assumes the entire risk of any use it may make or permit to be made of this information. Neither MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information makes any express or implied warranties or representations with respect to such information or the results to be obtained by the use thereof, and MSCI, its affiliates and each such other person hereby expressly disclaim all warranties (including, without limitation, all warranties of originality, accuracy, completeness, timeliness, non-infringement, merchantability and fitness for a particular purpose) with respect to this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any other person involved in or related to compiling, computing or creating this information have any liability for any direct, indirect, special, incidental, punitive, consequential or any other damages (including, without limitation, lost profits) even if notified of, or if it might otherwise have anticipated, the possibility of such damages.

This document may contain data provided by Russell Investment Group. Russell Investment Group is the source owner of the data contained or reflected in this material and all trademarks and copyrights related thereto. The material may contain confidential information and unauthorized use, disclosure, copying, dissemination or redistribution is strictly prohibited. This is a user presentation of the data. Russell Investment Group is not responsible for the formatting or configuration of this material or for any inaccuracy in presentation thereof.

This document may contain data provided by Morningstar. All rights reserved. Use of this content requires expert knowledge. It is to be used by specialist institutions only. The information contained herein: (1) is proprietary to Morningstar and/or its content providers; (2) may not be copied, adapted or distributed; and (3) is not warranted to be accurate, complete or timely. Neither Morningstar nor its content providers are responsible for any damages or losses arising from any use of this information, except where such damages or losses cannot be limited or excluded by law in your jurisdiction. Past financial performance is not guarantee of future results.



Putting clients first.



CHICAGO | CLEVELAND | DALLAS | DETROIT | ORLANDO | PITTSBURGH | RENO | TULSA