

PRIVATE MARKETS REVIEW

(Abbreviated Report)

DALLAS POLICE & FIRE PENSION SYSTEM

Fourth Quarter, 2017

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- The Investment Performance Analysis is provided as a management aid for the client's internal use only. Portfolio performance reported in the Investment Performance Analysis does not constitute a recommendation by NEPC, LLC.
- Information in this report on market indices and security characteristics is received from sources external to NEPC, LLC. While efforts are made to ensure that this external data is accurate, NEPC, LLC cannot accept responsibility for errors that may occur.



May, 2018

Trustees
 Dallas Police & Fire Pension System
 4100 Harry Hines Blvd – Suite 100
 Dallas, TX 75219

RE: Private Markets Strategy – 4th Quarter 2017

Dear Trustees:

We are pleased to present the December 31, 2017 Private Markets Report for Dallas Police & Fire Pension System, (DPFP). The report provides a variety of performance analysis for the private markets portfolio. The reports include trailing performance, performance by investment stage and vintage year performance.

The DPFP experienced a positive quarter with a nominal IRR of 1.50%. The annualized IRR of the private markets portfolio since inception was 1.10% at quarter end. Since inception, the Total Value to Paid In multiple (current valuation plus cumulative distributions, divided by total capital calls) was 1.05.

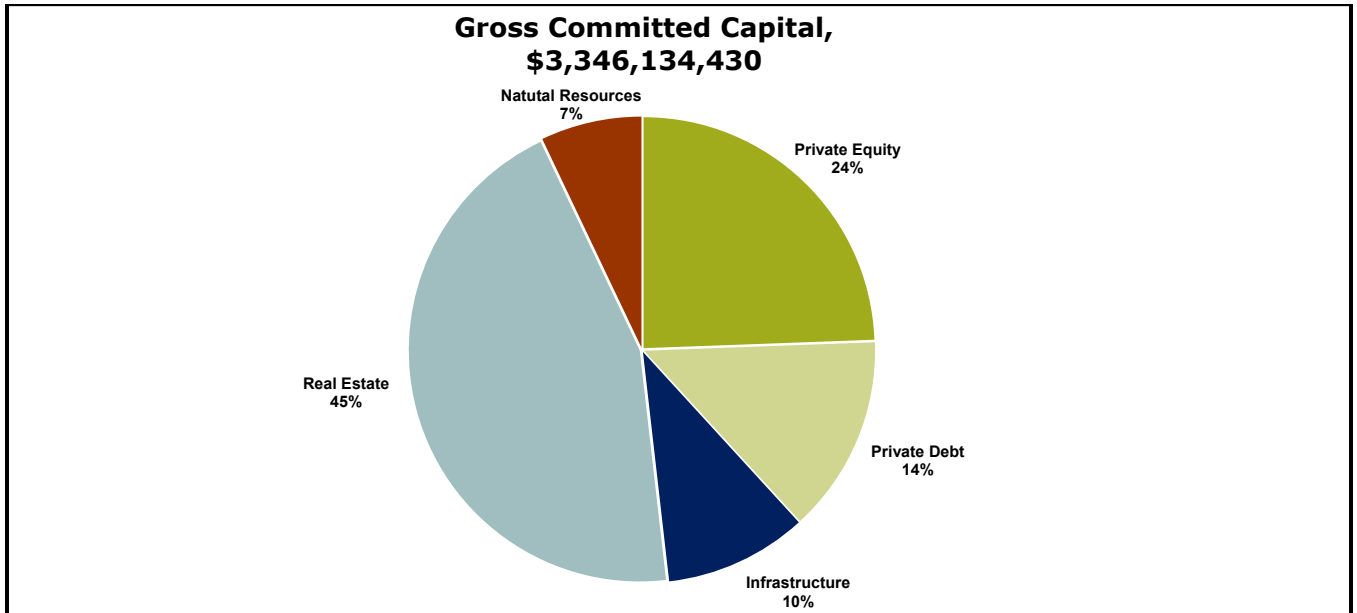
The following table presents the status of the DPFP private markets portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$3,346,134,430	\$153,554,416	\$3,166,942,899	\$2,317,170,840	\$1,039,012,619	94.64%	73.17%

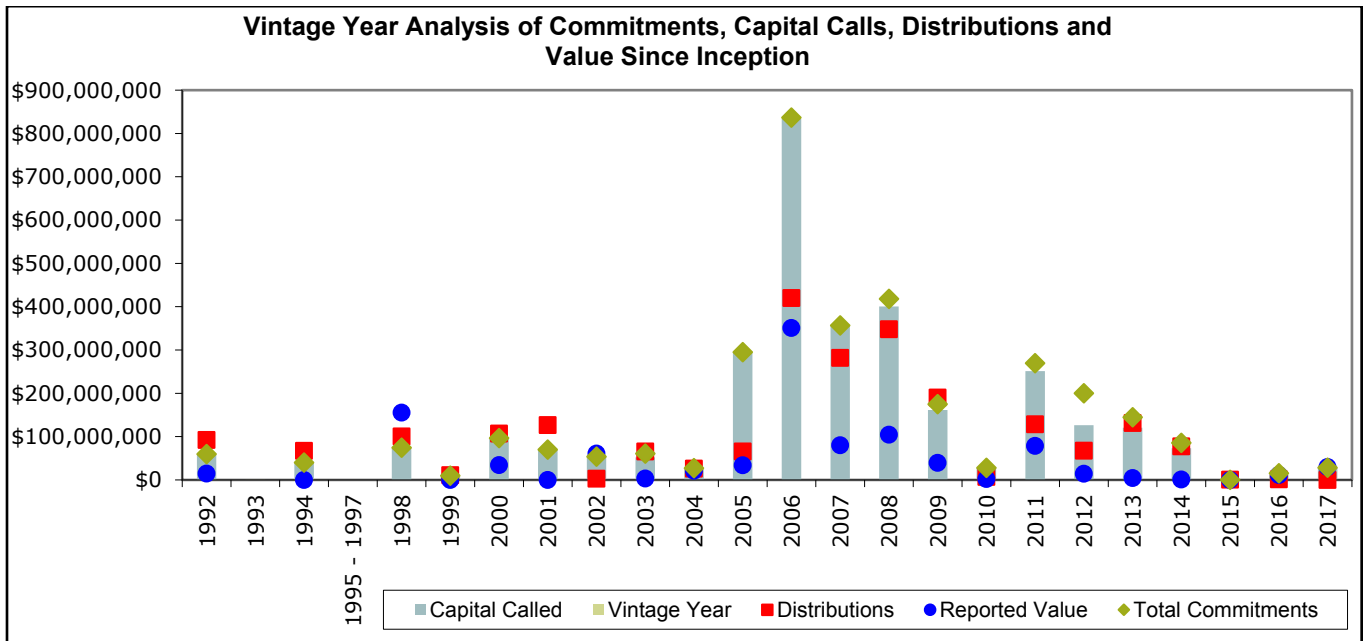
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 12/31/2017	Private Markets Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$46,292,868	\$1,085,305,487	\$2,099,918,772	Varies By Category	49.48%	51.68%

Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception (October 13, 1994)
\$3,356,183,459	1.05	1.10%

As of December 31, 2017, the DFP has made commitments totaling \$3,346.13 million to 88 private markets assets.



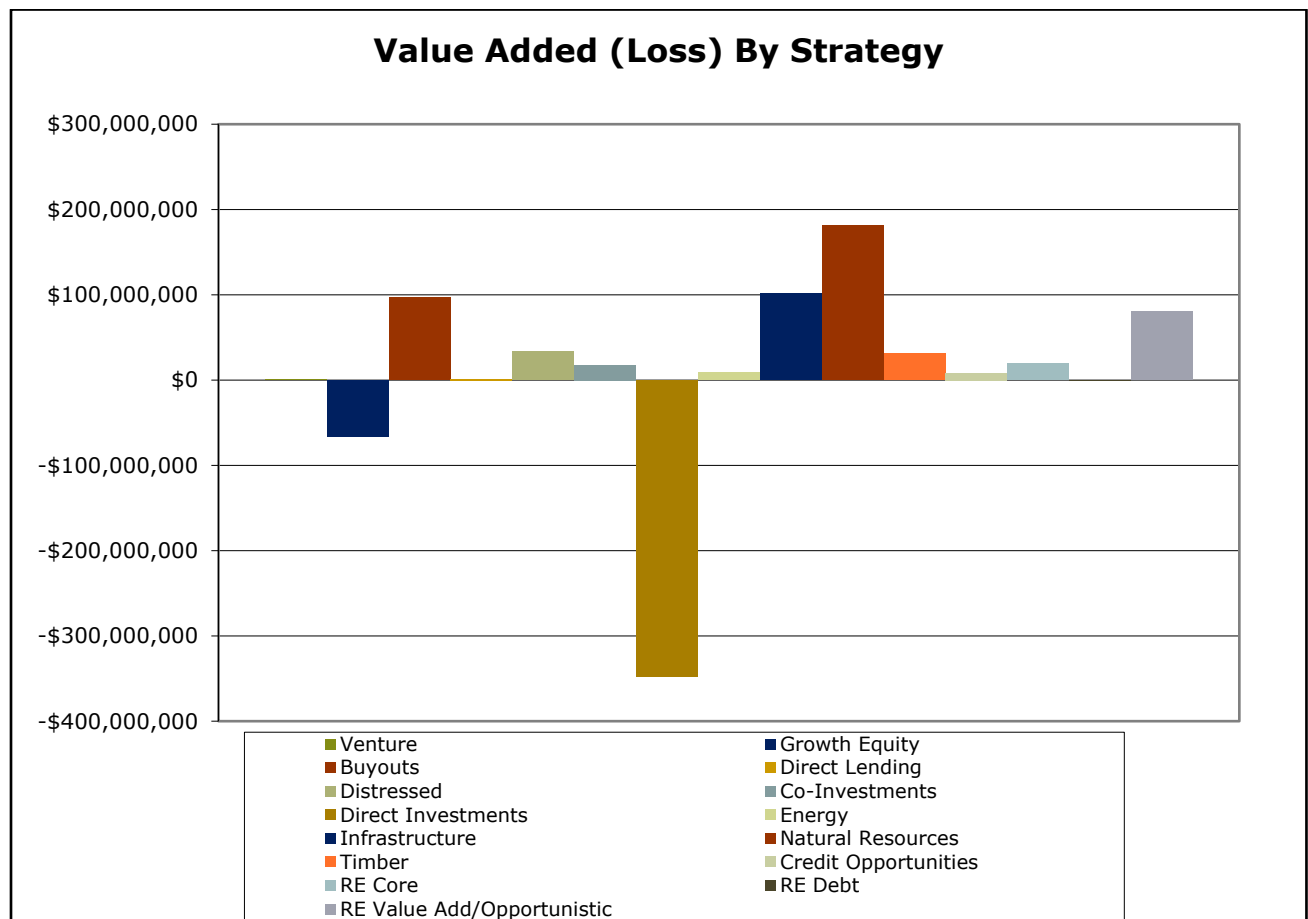
The following chart provides an analysis of the vintage year performance comparing the capital calls to the distributions and reported value for the private markets program:



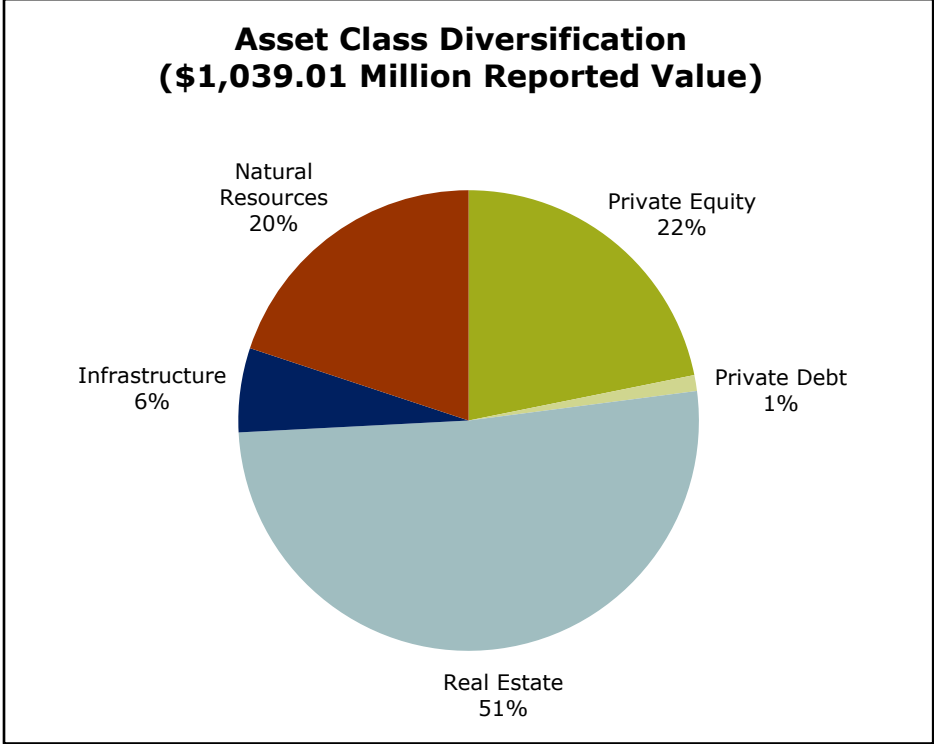
During the quarter-ended December 31, 2017, the DFPF private markets portfolio funded 17 investments and received 22 distributions from its funds. The summary of the cash flows follows:

Amount Funded for the Quarter	Number of Funds Calling Capital	Distributions for the Quarter	Number of Funds Making Distributions	Net Cash/Stock Flows for the Quarter
\$3,733,436	17	\$45,266,623	17	\$41,533,186

Since inception the DFPF private markets portfolio added \$163.10 million in value to the DFPF. Investment strategies adding value include Venture \$0.29 million, Buyouts \$96.27 million, Direct Lending \$1.21 million, Distressed \$33.44 million, Co-investments \$17.48 million, Energy \$8.67 million, Infrastructure \$101.70 million, Natural Resources \$181.30 million, Timber \$30.76 million, Credit Opportunities \$8.28 million, RE Core \$19.21 million, RE Value Add/Opportunistic \$79.95 million. Strategies losing value include Growth Equity (\$66.27) million, Direct Investments (\$348.32) million, and RE Debt (\$0.88) million.



As of December 31, 2017, the private markets funds in the DFPF portfolio had the following investment strategy diversification based on the investment fund's reported value:



We thank you for the opportunity to work with the DFPF and look forward to continued success in the future.

Dallas Police & Fire Pension System
Performance Analysis - Total Private Markets Program

12/31/2017

Investment Name	Commitment Amount	Paid in Capital	Capital to be Funded	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR (SI)
Private Equity / Debt	\$ 1,278,370,965	\$ 1,176,757,647	\$ 39,139,281	\$ 1,062,050,553	\$ 238,456,964	\$ 1,300,507,517	\$ 97,655,274	92%	0.88	1.08	2.10%
Real Assets	\$ 2,067,763,466	\$ 1,990,185,252	\$ 7,153,587	\$ 1,255,120,287	\$ 800,555,655	\$ 2,055,675,942	\$ 65,442,596	96%	0.63	1.03	0.64%
Total	\$ 3,346,134,430	\$ 3,166,942,899	\$ 46,292,868	\$ 2,317,170,840	\$ 1,039,012,619	\$ 3,356,183,459	\$ 163,097,870	95%	0.73	1.05	1.10%

Performance Analysis - Private Markets Subsectors

Investment Name	Commitment Amount	Paid in Capital	Capital to be Funded	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR (SI) ¹
Private Equity	\$ 817,067,403	\$ 738,023,676	\$ 38,315,926	\$ 580,845,366	\$ 226,874,281	\$ 807,719,647	\$ 54,729,004	90%	0.77	1.07	1.76%
Private Debt	\$ 461,303,562	\$ 438,733,970	\$ 823,355	\$ 481,205,187	\$ 11,582,683	\$ 492,787,870	\$ 42,926,270	95%	1.07	1.10	2.75%
Natural Resources	\$ 236,406,706	\$ 236,406,706	\$ -	\$ 241,584,128	\$ 206,889,255	\$ 448,473,383	\$ 212,066,677	100%	1.02	1.90	9.26%
Real Estate	\$ 1,497,356,760	\$ 1,463,107,600	\$ 2,286,685	\$ 682,545,338	\$ 532,236,698	\$ 1,214,782,036	\$ (248,325,564)	98%	0.47	0.83	-3.67%
Infrastructure	\$ 334,000,000	\$ 290,670,946	\$ 4,866,901	\$ 330,990,822	\$ 61,429,702	\$ 392,420,523	\$ 101,701,483	87%	1.14	1.35	7.58%
Total	\$ 3,346,134,430	\$ 3,166,942,899	\$ 46,292,868	\$ 2,317,170,840	\$ 1,039,012,619	\$ 3,356,183,459	\$ 163,097,870	95%	0.73	1.05	1.10%

Notes:

1. IRR's are since inception as of the following dates: Private Equity (10.13.94), Private Debt (12.20.01), Real Estate (3.31.99), Natural Resources (3.12.99), Infrastructure (10.3.07)

PRIVATE EQUITY & DEBT REVIEW

DALLAS POLICE & FIRE PENSION SYSTEM

Fourth Quarter, 2017



Private Equity and Private Debt

The following table presents the status of the DFPF PRIVATE EQUITY portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$817,067,403	\$61,293,673	\$738,023,676	\$580,845,366	\$226,874,281	90.33%	38.05%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 12/31/2017	Private Equity Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$38,315,926	\$265,190,207	\$2,099,918,772	5%	10.80%	12.63%

Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception
\$807,719,647	1.07	1.76%

The following table presents the status of the DFPF PRIVATE DEBT portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$461,303,562	\$21,763,165	\$438,733,970	\$481,205,187	\$11,582,683	95.11%	109.68%

Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)	Total Fund Composite as of 12/31/2017	Private Debt Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$823,355	\$12,406,038	\$2,099,918,772	5%	0.55%	0.59%

Total Value (Reported Value + Distributions)	Total Value To Capital Call Ratio	Internal Rate of Return IRR, Since Inception
\$492,787,870	1.10	2.75%

Dallas Police & Fire Pension System
Private Equity & Debt Funds - Executive IRR Summary

12/31/2017

Investment Name	Vintage Year	Commitment Amount	QTD	YTD	1 Year	3 Year	5 Year	Inception
Active Funds:								
1 BankCap Partners Fund I	2007	20,000,000	4.96	16.62	16.62	13.98	8.02	2.39
2 Highland Crusader Fund	2003	50,955,397	9.81	-15.61	-15.61	-10.73	-1.72	4.20
3 Hudson Clean Energy Partners	2009	25,000,000	-16.23	-35.55	-35.55	-26.95	-20.11	-15.40
4 Huff Alternative Fund ³	2000	66,795,718	-0.05	-1.24	-1.24	4.83	3.48	1.75
5 Huff Energy Fund ³	2006	100,000,000	-0.01	0.80	0.80	2.55	-10.12	2.90
6 Industry Ventures Partnership Holdings IV	2016	5,000,000	3.77	32.66	32.66			25.22
7 Lone Star CRA Fund ³	2008	50,000,000	0.00	-34.38	-34.38	-29.77	-27.27	-10.82
8 Lone Star Growth Capital ³	2006	16,000,000	0.00	-84.40	-84.40	-47.72	-35.74	1.94
9 Lone Star Opportunities Fund V, LP ³	2012	75,000,000	0.00	-75.28	-75.28	-62.89	-61.47	-61.29
10 Miscellaneous Private Equity Expenses	2016	185,839						
11 North Texas Opportunity Fund	2000	10,000,000	-9.48	-9.09	-9.09	-27.47	-22.48	0.82
12 OCM Opportunities Fund IV	2001	50,000,000	-4.41	-12.27	-12.27	9.67	13.80	28.36
13 Riverstone Credit Partners	2016	10,000,000	2.25	8.12	8.12			12.92
14 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	0.01	-6.74	-6.74	-33.29	-35.33	-27.71
Total: Active Funds		484,220,208	-0.28	-23.09	-23.09	-10.97	-12.84	1.25
Completed Funds:								
1 Ashmore Global Special Situations Fund IV ¹	2007	70,000,000		-5.61	-5.61	-25.96	-15.73	-10.12
2 BankCap Partners Opportunity Fund, LP ²	2013	20,000,000				-1.74		-5.69
3 CDK Southern Cross	2008	1,535,316				-99.99	-43.64	-20.08
4 Highland Credit Ops	2006	35,348,165	3.42	3.04	3.04	3.04	9.44	-2.06
5 Huff Alternative Income Fund	2008	47,300,000					-2.21	-4.01
6 Kainos Capital Partners, L.P. ²	1994	40,000,000						17.82
7 Levine Leichtman Capital Partners IV ²	2013	35,000,000				28.58		24.76
8 Levine Leichtman Capital Partners V, L.P. ²	2008	50,000,000				26.05	14.37	20.12
9 Levine Leichtman Deep Value Fund	2013	25,000,000				16.20		15.26
10 Levine Leichtman Private Capital Solutions II, L.P. ²	2006	75,000,000				-0.03	-5.52	0.73
11 Lone Star Fund IX (U.S.), L.P. ¹	2012	25,000,000				1.46	1.98	1.30
12 Lone Star Fund VII (U.S.), L.P. ¹	2014	35,000,000		-2.33	-2.33			-3.28
13 Lone Star Fund VIII (U.S.), L.P. ¹	2011	25,000,000		-2.03	-2.03	-11.80	56.29	47.54
14 Merit Energy Partners E-I ¹	2013	25,000,000		-2.51	-2.51	-2.29		16.26
15 Merit Energy Partners F-I ¹	2004	7,018,930		-20.57	-20.57	-21.87	-6.81	14.48
16 Merit Energy Partners G, LP ¹	2005	8,748,346		-20.57	-20.57	-27.73	-25.02	-17.19
17 Merit Energy Partners H, LP ¹	2008	39,200,000		-20.57	-20.57	-18.29	-15.70	-9.96
18 Oaktree Loan Fund 2X ¹	2010	10,000,000		-20.57	-20.57	-15.36	-14.47	-13.78
19 Oaktree Power Fund III ¹	2007	60,000,000		-6.65	-6.65	-41.69	-11.88	2.24
20 Pharos Capital Co-Investment, LLC	2011	30,000,000		-6.65	-6.65	19.06	12.47	12.35
21 Pharos Capital Co-Investments, LP	2007	20,000,000					18.25	-9.92
22 Pharos Capital Partners IIA, L.P. ¹	2008	40,000,000		-27.37	-27.37	-7.79	29.91	8.42
23 Pharos Capital Partners III, LP ¹	2005	20,000,000				-40.65	-19.59	-2.39
24 Pharos Capital Partners III, LP	2012	50,000,000				-21.07	-18.74	-19.95
Total: Completed Funds		794,150,757	3.42	-6.26	-6.26	-1.33	4.17	2.76
Total: Dallas Police & Fire Pension System		1,278,370,965	-0.20	-22.28	-22.28	-7.18	-5.98	2.10

1. Funds sold in Evercore secondary sale during Q1 2017
2. Funds sold in Evercore secondary sale during Q4 2016
3. Q4 2017 valuations are preliminary pending final audit.

Dallas Police & Fire Pension System
Private Equity & Debt Funds - Performance Analysis by Investment Strategy

12/31/2017

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
Venture													
1 Industry Ventures Partnership Holdings IV	2016	5,000,000	1,725,000	3,275,000	0	20,462	1,998,028	2,018,490	293,490	35%	0.01	1.17	25.22%
Subtotal: Venture		5,000,000	1,725,000	3,275,000	0	20,462	1,998,028	2,018,490	293,490	35%	0.01	1.17	25.22%
Growth Equity													
1 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	15,348,386	9,162,930	24,511,316	4,511,316	100%	0.77	1.23	2.39%
2 Hudson Clean Energy Partners	2009	25,000,000	24,994,470	0	0	3,661,896	6,956,781	10,618,677	-14,375,793	100%	0.15	0.42	-15.40%
3 Lone Star CRA Fund ³	2008	50,000,000	57,519,050	0	0	12,928,698	39,215,558	52,144,256	-5,374,794	115%	0.22	0.91	-10.82%
4 Lone Star Growth Capital ³	2006	16,000,000	12,800,000	16,000,000	0	12,800,000	1,590,420	14,390,420	1,590,420	80%	1.00	1.12	1.94%
5 Lone Star Opportunities Fund V, LP ³	2012	75,000,000	56,250,000	18,750,000	0	531,444	14,194,022	14,725,466	-41,524,534	75%	0.01	0.26	-61.29%
6 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,911,187	1,827,685	10,738,872	738,872	100%	0.89	1.07	0.82%
Subtotal: Growth Equity		196,000,000	181,563,520	34,750,000	0	54,181,611	72,947,396	127,129,007	-54,434,512	84%	0.30	0.70	-15.23%
Buyouts													
1 Huff Alternative Fund ³	2000	66,795,718	66,795,718	0	12,022,676	57,386,716	32,418,587	89,805,303	10,986,909	100%	0.73	1.14	1.75%
Subtotal: 120 Buyouts		66,795,718	66,795,718	0	12,022,676	57,386,716	32,418,587	89,805,303	10,986,909	100%	0.73	1.14	1.75%
Direct Lending													
1 Riverstone Credit Partners	2016	10,000,000	9,176,645	823,355	102,142	1,238,017	9,248,336	10,486,353	1,207,566	92%	0.13	1.13	12.92%
Subtotal: Direct Lending		10,000,000	9,176,645	823,355	102,142	1,238,017	9,248,336	10,486,353	1,207,566	92%	0.13	1.13	12.92%
Distressed													
1 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,508,450	8,588	82,517,038	32,517,038	100%	1.65	1.65	28.36%
Subtotal: Distressed		50,000,000	50,000,000	0	0	82,508,450	8,588	82,517,038	32,517,038	100%	1.65	1.65	28.36%
Direct Investment													
1 Miscellaneous Private Equity Expenses	2016	185,839	185,839	0	0	0	0	0	-185,839	100%	0.00	0.00	N/A
Subtotal: Direct Investment		185,839	185,839	0	0	0	0	0	-185,839	100%	0.00	0.00	N/A
Energy													
1 Huff Energy Fund ³	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	119,403,284	123,880,678	24,947,988	100%	0.05	1.25	2.90%
2 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,458,572	106,986	1,565,558	-3,546,749	97%	0.29	0.31	-27.71%
Subtotal: Energy		105,283,254	104,992,328	290,926	-947,331	5,935,966	119,510,270	125,446,236	21,401,239	100%	0.06	1.21	2.43%
Credit Opportunities													
1 Highland Crusader Fund	2003	50,955,397	50,955,397	0	0	62,263,032	2,325,759	64,588,791	13,633,394	100%	1.22	1.27	4.20%
Subtotal: Credit Opportunities		50,955,397	50,955,397	0	0	62,263,032	2,325,759	64,588,791	13,633,394	100%	1.22	1.27	4.20%
Total: Active Funds		484,220,208	465,394,447	39,139,281	11,177,487	263,534,254	238,456,964	501,991,218	25,419,284	96%	0.55	1.05	1.25%

Dallas Police & Fire Pension System
Private Equity & Debt Funds - Performance Analysis by Investment Strategy

12/31/2017

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
Completed Funds:													
1 Ashmore Global Special Situations Fund IV ¹	2007	70,000,000	70,012,300	0	0	39,652,711	0	39,652,711	-30,359,589	100%	0.57	0.57	-10.12%
2 BankCap Partners Opportunity Fund, LP ²	2013	20,000,000	19,587,052	0	0	18,266,454	0	18,266,454	-1,320,597	100%	0.93	0.93	-5.69%
3 CDK Southern Cross	2008	1,535,316	1,535,316	0	0	0	0	0	-1,535,316	100%	0.00	0.00	-20.08%
4 Highland Credit Ops	2006	35,348,165	35,348,165	0	0	29,994,190	0	29,994,190	-5,353,975	100%	0.85	0.85	-2.06%
5 HM Capital Sector Performance Fund	2008	47,300,000	44,354,248	0	1,933,378	39,792,545	0	39,792,545	-6,495,081	100%	0.86	0.86	-4.01%
6 Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	100%	1.59	1.59	17.82%
7 Kainos Capital Partners, L.P. ²	2013	35,000,000	30,316,015	0	0	43,263,688	0	43,263,688	12,947,673	100%	1.43	1.43	24.76%
8 Levine Leichtman Capital Partners IV ²	2008	50,000,000	38,009,085	0	0	78,916,788	0	78,916,788	40,907,703	100%	2.08	2.08	20.12%
9 Levine Leichtman Capital Partners V, L.P. ²	2013	25,000,000	19,181,272	0	-4,405	24,506,336	0	24,506,336	5,329,470	100%	1.28	1.28	15.26%
10 Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	88,688,224	0	88,688,224	2,662,562	100%	1.03	1.03	0.73%
11 Levine Leichtman Private Capital Solutions II, L.P. ²	2012	25,000,000	17,961,807	0	-175	18,691,764	0	18,691,764	730,132	100%	1.04	1.04	1.30%
12 Lone Star Fund IX (U.S.), L.P. ¹	2014	35,000,000	24,241,467	0	0	23,459,730	0	23,459,730	-781,738	100%	0.97	0.97	-3.28%
13 Lone Star Fund VII (U.S.), L.P. ¹	2011	25,000,000	23,469,024	0	0	41,624,566	0	41,624,566	18,155,542	100%	1.77	1.77	47.54%
14 Lone Star Fund VIII (U.S.), L.P. ¹	2013	25,000,000	22,564,537	0	0	28,017,551	0	28,017,551	5,453,014	100%	1.24	1.24	16.26%
15 Merit Energy Partners E-I ¹	2004	7,018,930	7,031,052	0	-1,741	14,975,776	0	14,975,776	7,946,464	100%	2.13	2.13	14.48%
16 Merit Energy Partners F-I ¹	2005	8,748,346	8,749,275	0	0	3,801,206	0	3,801,206	-4,948,069	100%	0.43	0.43	-17.19%
17 Merit Energy Partners G, LP ¹	2008	39,200,000	39,320,050	0	0	26,756,651	0	26,756,651	-12,563,399	100%	0.68	0.68	-9.96%
18 Merit Energy Partners H, LP ¹	2010	10,000,000	10,033,415	0	0	6,870,451	0	6,870,451	-3,162,964	100%	0.68	0.68	-13.78%
19 Oaktree Loan Fund 2X ¹	2007	60,000,000	60,004,628	0	0	65,066,951	0	65,066,951	5,062,323	100%	1.08	1.08	2.24%
20 Oaktree Power Fund III ¹	2011	30,000,000	16,167,147	0	0	23,839,959	0	23,839,959	7,672,812	100%	1.47	1.47	12.35%
21 Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	100%	0.50	0.50	-9.92%
22 Pharos Capital Co-Investments, LP	2008	40,000,000	40,000,000	0	0	67,459,271	0	67,459,271	27,459,271	100%	1.69	1.69	8.42%
23 Pharos Capital Partners IIA, L.P. ²	2005	20,000,000	20,080,306	0	0	17,715,199	0	17,715,199	-2,365,108	100%	0.88	0.88	-2.39%
24 Pharos Capital Partners III, LP ²	2012	50,000,000	28,397,038	0	-54,286	20,196,932	0	20,196,932	-8,145,820	100%	0.71	0.71	-19.95%
Total: Completed Funds		794,150,757	711,363,200	0	14,917,109	798,516,299	0	798,516,299	72,235,990	96%	1.10	1.10	2.76%
Total: Dallas Police & Fire Pension System		1,278,370,965	1,176,757,647	39,139,281	26,094,596	1,062,050,553	238,456,964	1,300,507,517	97,655,274	92%	0.88	1.08	2.10%

1. Funds sold in Evercore secondary sale during Q1 2017
2. Funds sold in Evercore secondary sale during Q4 2016
3. Q4 2017 valuations are preliminary pending final audits.

Dallas Police & Fire Pension System
As of 12/31/2017

Growth Equity			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
BankCap Partners Fund I	2007	18	2.39%	14.90%	10.02%	3.46%	0.77x	1.64x	1.08x	0.56x	1.23x	2.38x	1.56x	1.18x	4	3	3	U.S. Growth Equity
Hudson Clean Energy Partners	2009	7	-15.40%	---	10.00%	---	0.15x	---	0.75x	---	0.42x	---	1.64x	---	NA	NA	NA	U.S. Growth Equity
Lone Star CRA Fund	2008	7	-10.82%	---	11.06%	---	0.22x	---	1.30x	---	0.91x	---	1.68x	---	NA	NA	NA	U.S. Growth Equity
Lone Star Growth Capital	2006	12	1.94%	13.63%	6.37%	4.57%	1.00x	1.57x	1.31x	1.16x	1.12x	1.97x	1.35x	1.24x	4	4	4	U.S. Growth Equity
Lone Star Opportunities Fund V, LP	2012	12	-61.29%	16.06%	13.76%	11.26%	0.01x	0.59x	0.28x	0.05x	0.26x	1.60x	1.49x	1.42x	4	4	4	U.S. Growth Equity
North Texas Opportunity Fund	2000	13	0.82%	9.74%	4.40%	-4.42%	0.89x	1.66x	1.33x	0.76x	1.07x	1.70x	1.33x	0.76x	3	3	3	U.S. Growth Equity

Buyouts			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
Huff Alternative Fund	2000	54	1.75%	22.18%	14.27%	10.28%	0.73x	2.25x	1.86x	1.52x	1.14x	2.41x	1.93x	1.54x	4	4	4	U.S. Buyout

Direct Lending			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
Riverstone Credit Partners	2016	140	12.92%	18.52%	6.96%	-6.60%	0.13x	0.01x	0.00x	0.00x	1.13x	1.16x	1.05x	0.95x	2	1	2	U.S. All PE

Distressed			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
OCM Opportunities Fund IV	2001	2	28.36%	---	---	---	1.65x	---	---	---	1.65x	---	---	---	NA	NA	NA	U.S. Distressed

Energy			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
Huff Energy Fund	2006	11	2.90%	12.02%	1.76%	-3.99%	0.05x	1.31x	0.99x	0.57x	1.25x	1.57x	1.08x	0.86x	2	4	2	U.S. Energy
Yellowstone Energy Ventures II, L.P.	2008	13	-27.71%	9.30%	5.87%	1.01%	0.29x	0.97x	0.71x	0.45x	0.31x	1.46x	1.36x	1.05x	4	4	4	U.S. Energy

Credit Opportunities			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
Highland Crusader Fund	2003	6	4.20%	0.00%	12.63%	0.00%	1.22x	0.00x	1.60x	0.00x	1.27x	0.00x	1.64x	0.00x	1	1	1	Global Distressed

Venture			IRR				DPI				TVPI				Quartile Rank			
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	Benchmark
Industry Ventures Partnership Holdings IV	2016	58	25.22%	19.04%	4.24%	-9.85%	0.01x	0.00x	0.00x	0.00x	1.17x	1.17x	1.04x	0.93x	1	NA	1	U.S. Venture

1. Benchmark data is from Cambridge Associates/ThomsonOne as of 12.31.2017
2. Data includes active funds only.

PRIVATE REAL ASSETS REVIEW

(Real Estate, Infrastructure, Natural Resources)

DALLAS POLICE & FIRE PENSION SYSTEM

Fourth Quarter, 2017



Real Estate and Real Assets

The following table presents the status of the DFPF **REAL ESTATE** portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$1,497,356,760	\$32,035,426	\$1,463,107,600	\$682,545,338	\$532,236,698	97.71%	26.15%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 12/31/2017	Real Estate Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$2,286,685	\$534,523,384		\$2,099,918,772	12%	25.35%	25.45%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$1,214,782,036			0.83		-3.67%	

The following table presents the status of the DFPF **NATURAL RESOURCES** portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$236,406,706	\$0	\$236,406,706	\$241,584,128	\$206,889,255	100.00%	102.19%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 12/31/2017	Natural Resources Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$0	\$206,889,255		\$2,099,918,772	3%	9.85%	9.85%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$448,473,383			1.90		9.26%	

The following table presents the status of the DFPF **INFRASTRUCTURE** portfolio as of December 31, 2017:

Since Inception Commitments	Terminated Commitments	Amount Funded	Amount Distributed	Reported Value	Call Ratio	Distribution Ratio
\$334,000,000	\$38,462,152	\$290,670,946	\$330,990,822	\$61,429,702	79.85%	113.87%
Unfunded Commitment	Market Exposure (Reported Value + Unfunded Commitment)		Total Fund Composite as of 12/31/2017	Infrastructure Target	Reported Value of Total Fund	Market Exposure as a % Total Fund
\$4,866,901	\$66,296,603		\$2,099,918,772	5%	2.93%	3.16%
Total Value (Reported Value + Distributions)			Total Value To Capital Call Ratio		Internal Rate of Return IRR, Since Inception	
\$392,420,524			1.35		7.58%	

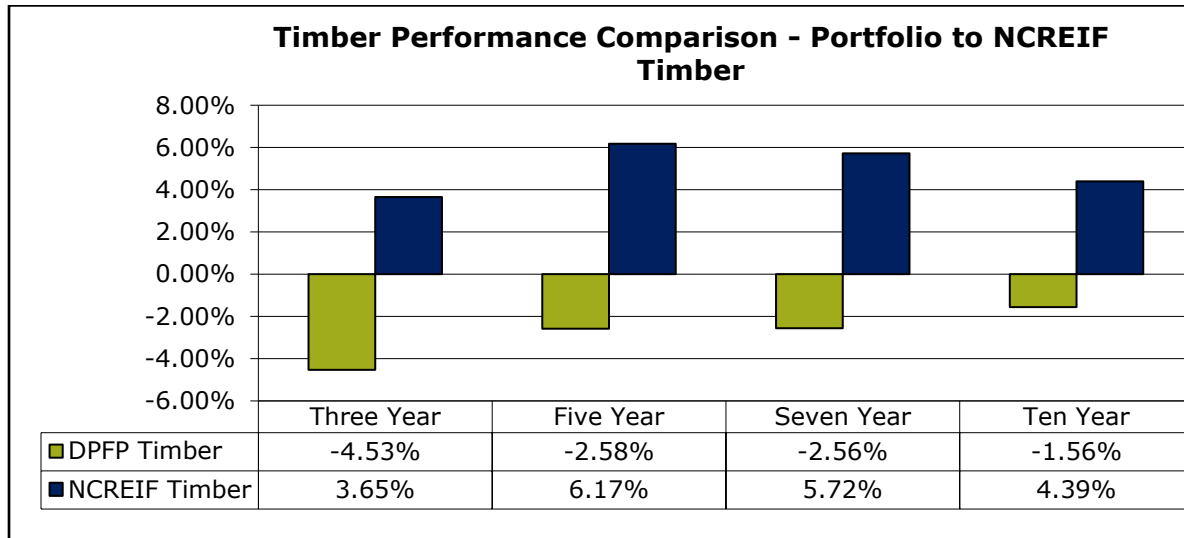
Dallas Police & Fire Pension System
Total Real Assets Program - Investment Strategy Performance Analysis

12/31/2017

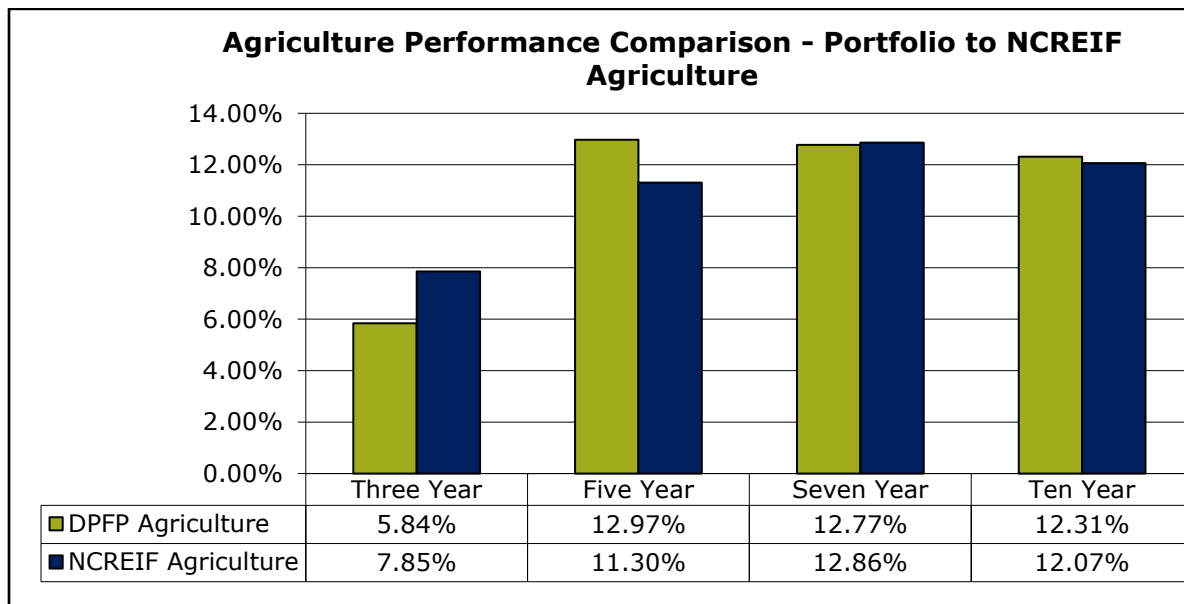
Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
Direct Investments		902,740,801	902,740,800	0	0	199,697,716	501,626,519	701,324,235	-201,416,566	100%	0.22	0.78	-4.17%
RE Core		39,205,318	39,205,318	0	0	25,699,944	28,974,636	54,674,580	15,469,262	100%	0.66	1.39	5.62%
RE Debt		4,500,000	4,500,000	0	0	4,084,829	959,288	5,044,117	544,117	100%	0.91	1.12	5.75%
RE Value Add/Opportun													
1 Hearthstone MS II Homebuilding Investors	1999	10,000,000	7,973,058	1,008,131	0	10,989,565	0	10,989,565	3,016,507	80%	1.38	1.38	26.70%
2 Hearthstone MS III Homebuilding Investors	2003	10,000,000	1,221,446	1,278,554	0	3,497,890	676,255	4,174,145	2,952,699	12%	2.86	3.42	24.66%
Subtotal: RE Value Add/Opportun		20,155,554	9,350,058	2,286,685	0	15,039,617	676,255	15,715,872	6,365,814	80%	1.61	1.68	26.04%
Infrastructure													
1 AIRRO	2008	37,000,000	36,103,160	896,840	-369,904	16,714,775	24,479,260	41,194,035	5,460,778	98%	0.47	1.15	2.46%
2 AIRRO II	2013	10,000,000	7,395,879	2,604,121	-412,312	58,731	4,453,999	4,512,730	-2,470,837	74%	0.01	0.65	-10.21%
3 J.P. Morgan Maritime Fund, L.P.	2009	50,000,000	48,634,059	1,365,941	-10,321	2,707,451	32,496,443	35,203,894	-13,419,843	97%	0.06	0.72	-10.57%
Subtotal: Infrastructure		97,000,000	92,133,099	4,866,901	-792,537	19,480,958	61,429,702	80,910,659	-10,429,902	95%	0.21	0.89	-2.95%
Natural Resources													
1 Hancock Agricultural	1998	74,420,001	74,420,001	0	0	100,196,343	155,526,332	255,722,675	181,302,674	100%	1.35	3.44	15.90%
Subtotal: Natural Resources		74,420,001	74,420,001	0	0	100,196,343	155,526,332	255,722,675	181,302,674	100%	1.35	3.44	15.90%
Timber													
1 BTG International Timberland	2006	80,107,009	80,107,009	0	0	16,000,000	36,725,887	52,725,887	-27,381,122	100%	0.20	0.66	-6.92%
2 FIA Timberland	1992	59,649,696	59,649,696	0	0	92,321,865	14,637,036	106,958,901	47,309,205	100%	1.55	1.79	7.63%
Subtotal: Timber		139,756,705	139,756,705	0	0	108,321,865	51,362,923	159,684,788	19,928,083	100%	0.78	1.14	2.54%
Total: Active Funds & Investments		1,277,778,379	1,262,105,981	7,153,587	-792,537	472,521,272	800,555,655	1,273,076,926	11,763,483	99%	0.37	1.01	0.17%
Total: Completed Funds & Investments		789,985,087	728,079,272	0	840,631	782,599,016	0	782,599,016	53,679,113	97%	1.07	1.07	1.73%
Total: Dallas Police & Fire Pension System		2,067,763,466	1,990,185,252	7,153,587	48,094	1,255,120,287	800,555,655	2,055,675,942	65,442,596	96%	0.63	1.03	0.64%

Timber and Agriculture Benchmarks

The following graph shows the performance of the DFPF **Timber** portfolio vs. the NCREIF Timber Index* as of December 31, 2017:



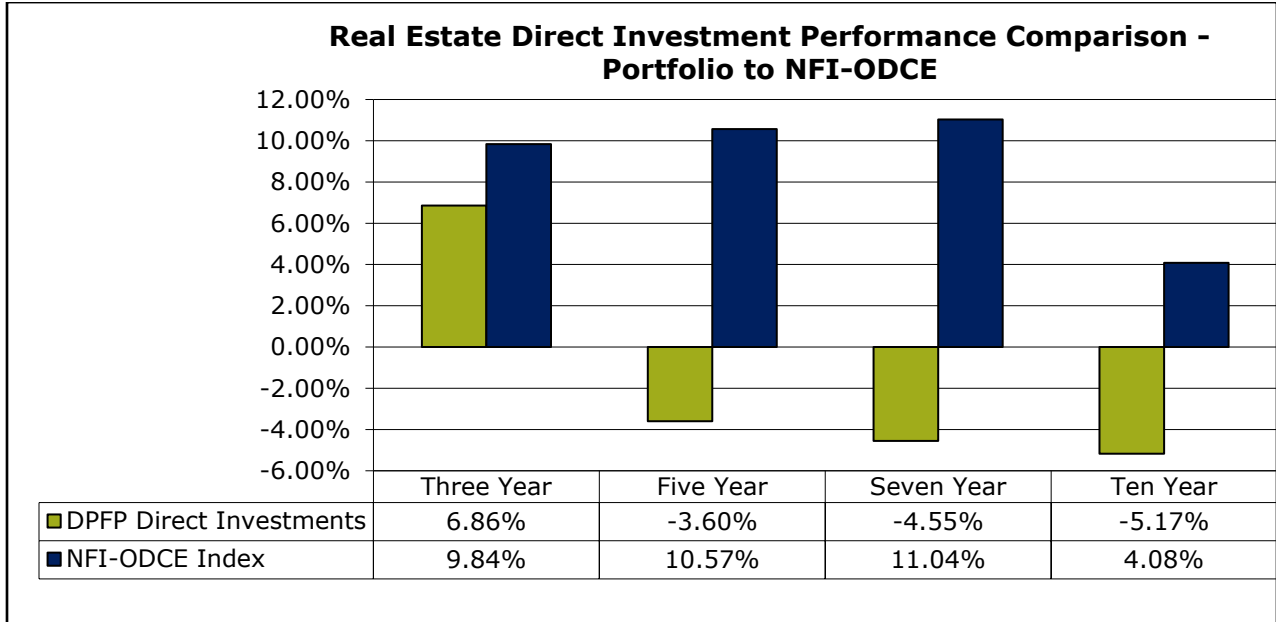
The following graph shows the performance of the DFPF **Agriculture** portfolio vs. the NCREIF Agriculture Index* as of December 31, 2017:



*NCREIF Agriculture and Timber index returns are calculated gross of fees and on a time-weighted basis, NEPC has used an assumed fee of 100 basis points. DFPF returns are calculated net of fees using a money-weighted return

Real Estate Benchmark

The following graph shows the performance of the DPFP **Direct Investment Real Estate** portfolio vs. the NCREIF NFI-ODCE Index** as of December 31, 2017:



**NFI-ODCE Index returns are net of fees and calculated on a time-weighted basis; DPFP returns are calculated net of fees using a money-weighted return

Dallas Police & Fire Pension System
As of 12/31/2017

U.S. RE			IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
Hearthstone MS II Homebuilding Investors	1999	16	26.70%	17.81%	10.20%	9.23%	1.38x	1.78x	1.50x	1.40x	1.38x	1.80x	1.51x	1.40x	1	4	4	U.S RE
Hearthstone MS III Homebuilding Investors	2003	25	24.66%	20.10%	10.80%	-1.62%	2.86x	1.76x	1.39x	0.91x	3.42x	1.76x	1.51x	0.91x	1	1	1	U.S RE

Infrastructure			IRR				DPI				TVPI				Quartile Rank			Benchmark
Fund Name	Vintage Year	Sample Size	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	Fund	1st Quartile	Median	3rd Quartile	IRR	DPI	TVPI	
AIRRO	2008	10	2.46%	11.73%	8.22%	7.08%	0.47x	1.34x	0.80x	0.60x	1.15x	1.86x	1.57x	1.45x	4	4	4	Infrastructure
AIRRO II	2013	7	-10.21%	---	-0.44%	---	0.01x	---	0.04x	---	0.65x	---	0.99x	---	NA	NA	NA	Infrastructure
J.P. Morgan Maritime Fund, L.P.	2009	3	-10.57%	---	---	---	0.06x	---	---	---	0.72x	---	---	---	NA	NA	NA	Infrastructure

1. Benchmark data is from Cambridge Associates/ThomsonOne as of 12.31.2017
2. Data includes active funds only.

APPENDIX

Vintage Year Performance Analysis

DALLAS POLICE & FIRE PENSION SYSTEM

Fourth Quarter, 2017



Dallas Police & Fire Pension System
Private Equity & Debt - Vintage Year Performance Analysis

12/31/2017

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
1994													
1 Huff Alternative Income Fund	1994	40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	100%	1.59	1.59	17.82%
Subtotal: 1994		40,000,000	40,000,000	0	2,018,676	66,940,198	0	66,940,198	24,921,522	100%	1.59	1.59	17.82%
2000													
1 Huff Alternative Fund	2000	66,795,718	66,795,718	0	12,022,676	57,386,716	32,418,587	89,805,303	10,986,909	100%	0.73	1.14	1.75%
2 North Texas Opportunity Fund	2000	10,000,000	10,000,000	0	0	8,911,187	1,827,685	10,738,872	738,872	100%	0.89	1.07	0.82%
Subtotal: 2000		76,795,718	76,795,718	0	12,022,676	66,297,903	34,246,272	100,544,175	11,725,781	100%	0.75	1.13	1.63%
2001													
1 OCM Opportunities Fund IV	2001	50,000,000	50,000,000	0	0	82,508,450	8,588	82,517,038	32,517,038	100%	1.65	1.65	28.36%
Subtotal: 2001		50,000,000	50,000,000	0	0	82,508,450	8,588	82,517,038	32,517,038	100%	1.65	1.65	28.36%
2003													
1 Highland Crusader Fund	2003	50,955,397	50,955,397	0	0	62,263,032	2,325,759	64,588,791	13,633,394	100%	1.22	1.27	4.20%
Subtotal: 2003		50,955,397	50,955,397	0	0	62,263,032	2,325,759	64,588,791	13,633,394	100%	1.22	1.27	4.20%
2004													
1 Merit Energy Partners E-I	2004	7,018,930	7,031,052	0	-1,741	14,975,776	0	14,975,776	7,946,464	100%	2.13	2.13	14.48%
Subtotal: 2004		7,018,930	7,031,052	0	-1,741	14,975,776	0	14,975,776	7,946,464	100%	2.13	2.13	14.48%
2005													
1 Merit Energy Partners F-I	2005	8,748,346	8,749,275	0	0	3,801,206	0	3,801,206	-4,948,069	100%	0.43	0.43	-17.19%
2 Pharos Capital Partners IIA, L.P.	2005	20,000,000	20,080,306	0	0	17,715,199	0	17,715,199	-2,365,108	100%	0.88	0.88	-2.39%
Subtotal: 2005		28,748,346	28,829,581	0	0	21,516,405	0	21,516,405	-7,313,177	100%	0.75	0.75	-5.35%
2006													
1 Highland Credit Ops	2006	35,348,165	35,348,165	0	0	29,994,190	0	29,994,190	-5,353,975	100%	0.85	0.85	-2.06%
2 Huff Energy Fund	2006	100,000,000	99,880,021	119,979	-947,331	4,477,394	119,403,284	123,880,678	24,947,988	100%	0.05	1.25	2.90%
3 Levine Leichtman Deep Value Fund	2006	75,000,000	75,000,000	0	11,025,662	88,688,224	0	88,688,224	2,662,562	100%	1.03	1.03	0.73%
4 Lone Star Growth Capital	2006	16,000,000	12,800,000	16,000,000	0	12,800,000	1,590,420	14,390,420	1,590,420	80%	1.00	1.12	1.94%
Subtotal: 2006		226,348,165	223,028,186	16,119,979	10,078,331	135,959,808	120,993,704	256,953,512	23,846,996	93%	0.58	1.10	1.49%
2007													
1 Ashmore Global Special Situations Fund IV	2007	70,000,000	70,012,300	0	0	39,652,711	0	39,652,711	-30,359,589	100%	0.57	0.57	-10.12%
2 BankCap Partners Fund I	2007	20,000,000	20,000,000	0	0	15,348,386	9,162,930	24,511,316	4,511,316	100%	0.77	1.23	2.39%
3 Oaktree Loan Fund 2X	2007	60,000,000	60,004,628	0	0	65,066,951	0	65,066,951	5,062,323	100%	1.08	1.08	2.24%
4 Pharos Capital Co-Investment, LLC	2007	20,000,000	20,000,000	0	0	10,019,157	0	10,019,157	-9,980,843	100%	0.50	0.50	-9.92%
Subtotal: 2007		170,000,000	170,016,928	0	0	130,087,205	9,162,930	139,250,135	-30,766,793	100%	0.77	0.82	-3.70%
2008													
1 CDK Southern Cross	2008	1,535,316	1,535,316	0	0	0	0	0	-1,535,316	100%	0.00	0.00	-20.08%
2 HM Capital Sector Performance Fund	2008	47,300,000	44,354,248	0	1,933,378	39,792,545	0	39,792,545	-6,495,081	100%	0.86	0.86	-4.01%
3 Levine Leichtman Capital Partners IV	2008	50,000,000	38,009,085	0	0	78,916,788	0	78,916,788	40,907,703	100%	2.08	2.08	20.12%
4 Lone Star CRA Fund	2008	50,000,000	57,519,050	0	0	12,928,698	39,215,558	52,144,256	-5,374,794	115%	0.22	0.91	-10.82%
5 Merit Energy Partners G, LP	2008	39,200,000	39,320,050	0	0	26,756,651	0	26,756,651	-12,563,399	100%	0.68	0.68	-9.96%
6 Pharos Capital Co-Investments, LP	2008	40,000,000	40,000,000	0	0	67,459,271	0	67,459,271	27,459,271	100%	1.69	1.69	8.42%

Dallas Police & Fire Pension System
Private Equity & Debt - Vintage Year Performance Analysis

12/31/2017

Investment Name	Vintage Year	Commitment Amount	Paid in Capital	Capital to be Funded	Additional Fees	Cumulative Distributions	Valuation	Total Value	Net Benefit	Call Ratio	DPI Ratio	TVPI Ratio	IRR
7 Yellowstone Energy Ventures II, L.P.	2008	5,283,254	5,112,307	170,947	0	1,458,572	106,986	1,565,558	-3,546,749	97%	0.29	0.31	-27.71%
Subtotal: 2008		233,318,570	225,850,056	170,947	1,933,378	227,312,525	39,322,544	266,635,069	38,851,636	100%	1.00	1.17	4.33%
2009													
1 Hudson Clean Energy Partners	2009	25,000,000	24,994,470	0	0	3,661,896	6,956,781	10,618,677	-14,375,793	100%	0.15	0.42	-15.40%
Subtotal: 2009		25,000,000	24,994,470	0	0	3,661,896	6,956,781	10,618,677	-14,375,793	100%	0.15	0.42	-15.40%
2010													
1 Merit Energy Partners H, LP	2010	10,000,000	10,033,415	0	0	6,870,451	0	6,870,451	-3,162,964	100%	0.68	0.68	-13.78%
Subtotal: 2010		10,000,000	10,033,415	0	0	6,870,451	0	6,870,451	-3,162,964	100%	0.68	0.68	-13.78%
2011													
1 Lone Star Fund VII (U.S.), L.P.	2011	25,000,000	23,469,024	0	0	41,624,566	0	41,624,566	18,155,542	100%	1.77	1.77	47.54%
2 Oaktree Power Fund III	2011	30,000,000	16,167,147	0	0	23,839,959	0	23,839,959	7,672,812	100%	1.47	1.47	12.35%
Subtotal: 2011		55,000,000	39,636,171	0	0	65,464,525	0	65,464,525	25,828,354	72%	1.65	1.65	28.09%
2012													
1 Levine Leichtman Private Capital Solutions II, L.P.	2012	25,000,000	17,961,807	0	-175	18,691,764	0	18,691,764	730,132	100%	1.04	1.04	1.30%
2 Lone Star Opportunities Fund V, LP	2012	75,000,000	56,250,000	18,750,000	0	531,444	14,194,022	14,725,466	-41,524,534	75%	0.01	0.26	-61.29%
3 Pharos Capital Partners III, LP	2012	50,000,000	28,397,038	0	-54,286	20,196,932	0	20,196,932	-8,145,820	100%	0.71	0.71	-19.95%
Subtotal: 2012		150,000,000	102,608,845	18,750,000	-54,461	39,420,140	14,194,022	53,614,162	-48,940,222	85%	0.38	0.52	-37.75%
2013													
1 BankCap Partners Opportunity Fund, LP	2013	20,000,000	19,587,052	0	0	18,266,454	0	18,266,454	-1,320,597	100%	0.93	0.93	-5.69%
2 Kainos Capital Partners, L.P.	2013	35,000,000	30,316,015	0	0	43,263,688	0	43,263,688	12,947,673	100%	1.43	1.43	24.76%
3 Levine Leichtman Capital Partners V, L.P.	2013	25,000,000	19,181,272	0	-4,405	24,506,336	0	24,506,336	5,329,470	100%	1.28	1.28	15.26%
4 Lone Star Fund VIII (U.S.), L.P.	2013	25,000,000	22,564,537	0	0	28,017,551	0	28,017,551	5,453,014	100%	1.24	1.24	16.26%
Subtotal: 2013		105,000,000	91,648,876	0	-4,405	114,054,030	0	114,054,030	22,409,559	98%	1.24	1.24	15.63%
2014													
1 Lone Star Fund IX (U.S.), L.P.	2014	35,000,000	24,241,467	0	0	23,459,730	0	23,459,730	-781,738	100%	0.97	0.97	-3.28%
Subtotal: 2014		35,000,000	24,241,467	0	0	23,459,730	0	23,459,730	-781,738	69%	0.97	0.97	-3.28%
2016													
1 Industry Ventures Partnership Holdings IV	2016	5,000,000	1,725,000	3,275,000	0	20,462	1,998,028	2,018,490	293,490	35%	0.01	1.17	25.22%
2 Miscellaneous Private Equity Expenses	2016	185,839	185,839	0	0	0	0	0	-185,839	100%	0.00	0.00	N/A
3 Riverstone Credit Partners	2016	10,000,000	9,176,645	823,355	102,142	1,238,017	9,248,336	10,486,353	1,207,566	92%	0.13	1.13	12.92%
Subtotal: 2016		15,185,839	11,087,485	4,098,354	102,142	1,258,479	11,246,364	12,504,843	1,315,216	73%	0.11	1.12	12.35%
Total: Dallas Police & Fire Pension System		1,278,370,965	1,176,757,647	39,139,281	26,094,596	1,062,050,553	238,456,964	1,300,507,517	97,655,274	92%	0.88	1.08	2.10%