



Nebraska Investment Council

First Quarter 2021 Real Estate Performance Review

September 2021

Real Estate Markets Performance and Overview

As of 3/31/2021

Performance Summary	Quarter (%)		1 Year (%)		3 Year (%)		5 Year (%)	
	TGRS	TNET	TGRS	TNET	TGRS	TNET	TGRS	TNET
NFI-ODCE Value Weight	2.1	1.9	2.3	1.5	4.9	4.0	6.2	5.3
NCREIF Property Index "NPI"	1.7		2.6		4.9		5.8	

- The NFI-ODCE trailing one-year return now stands at 1.5% net. Due to moderation in the real estate market, and compounded by market distress caused by COVID-19, 5-year real estate returns have dipped below the sector's long-run average of 7-9% gross.

United States Real Estate Market Update (1Q21)

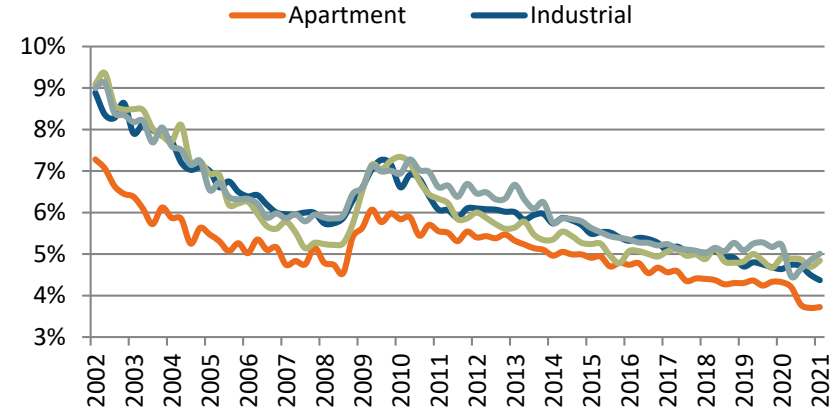
General

- As a result of the COVID-19 pandemic, national, state and local governments across the world implemented stay-at-home orders, which caused a near complete halt of the world economy in the 1st half 2020. Governments dramatically expanded expenditures in order to protect people and businesses from large-scale disruption. In 1Q21, equity markets continued to bounce back from the March 2020 rout and even exceeded prior highs, and the S&P 500 produced a gross total return of 6.2%. The MSCI US REIT index continued to rebound and produced a return of 8.8% and returned close to pre-COVID levels.
- The U.S. entered a recession in February 2020, but the economy has since rebounded with the accelerated development and rollout of vaccines. In the 1st quarter, GDP grew at an annualized rate of 6.4%. The unemployment rate peaked in April at 14.7% and has since declined to 6.1% at quarter end 1Q21. The Federal Reserve has acted aggressively via quantitative easing and rate cuts, thus far financial markets have stabilized. The world economy shrunk by -3.3% in 2020 but is forecasted to grow 6.0% in 2021.

Commercial Real Estate

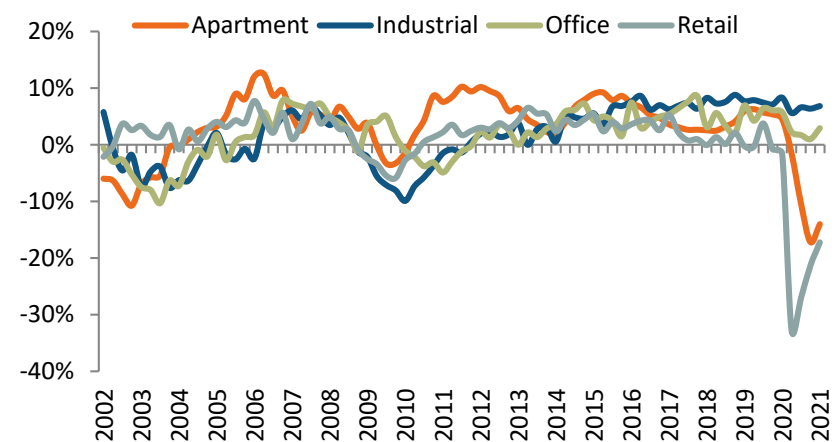
- Through April of 2021, transaction volume was up by 60% YoY, after rebounding from a COVID-19 induced slowdown. Transaction volume has been the strongest in the apartment and industrial sectors.
- Transaction cap rates (5.9%) expanded +34 bps during the quarter. Current valuation cap rates declined for industrial (-13 bps). The office (+15 bps) and retail (+16 bps) property sectors experienced cap rate expansion. Apartment valuation cap rates were flat.
- NOI growth has substantially diverged between property sectors due to the impacts of COVID-19. Retail NOI has contracted substantially (-17%) YoY as rent collections declined and retailers were shutdown. Apartment NOI contracted (-14%), primarily driven by declines in CBD effective market rents.
- In the first quarter of 2021, \$34 bn of aggregate capital was raised by real estate funds. There continues to be substantial dry powder, ~\$362 billion, seeking exposure to private real estate.
- 10-year treasury bond yields rose 80 bps to 1.7% during the quarter as a result of an improving economic growth outlook and growing inflationary pressures.

Current Value Cap Rates by Property Type



Source: NCREIF

4 Quarter Rolling NOI Growth



Source: NCREIF

United States Property Matrix (1Q21)

INDUSTRIAL

- In 1Q21, industrial properties were the highest returning sector at 4.7% and outperformed the NPI by 300 bps.
- Transaction volumes fell to \$21.6 billion in the first quarter of the year, resulting in a 23.0% decrease year-over-year. Individual asset sales increased 23.4% year-over-year, while portfolio purchases turned in a year-over-year volume decrease of 21.9%. At slightly over \$21.6 billion, the industrial sector decreased a significant \$20.1 billion quarter-over-quarter.
- The industrial sector turned in NOI growth of 6.8% over the past year, an increase from the prior periods TTM growth of 6.4% in 4Q20. Market rent growth is expected to decelerate compared to its pre-pandemic levels but remains strong.
- Vacancy increased by 5 bps year-over-year to 3.5%, remaining close to all-time historic lows. E-commerce continues to drive demand.
- Industrial cap rates compressed approximately 30 bps from a year ago, to 4.4%. Industrial overall fundamentals still top all property sectors.

MULTIFAMILY

- The apartment sector delivered a 1.7% return during the quarter, performing in line with the NPI.
- Transaction volume in the first quarter of 2021 fell to \$38.1 billion, resulting in a decrease of 6.0% year-over-year. This volume continues to make multifamily the most actively traded sector for the fifteenth straight quarter.
- Cap rates remained steady at 3.7% through the quarter, compressing 60 bps year-over-year. Multifamily cap rates remain at the lowest level observed in years, driven by continued decrease in NOI and increases in valuation.
- The multifamily sector saw increasing vacancy rates throughout the entirety of 2020 due to the global pandemic. As 2021 begins, the sector appears to have shaken the trend as vacancy rates decreased 90 bps quarter-over-quarter, though still 70 bps higher than a year ago. Various rent concessions have helped managers to maintain tenants throughout the pandemic, these concessions will continue to have various impacts on NOI over the next few quarters. The aging millennials have begun shifting their desires to suburban living, but continued home price appreciation has deterred the full effect of this migratory trend.

OFFICE

- The office sector returned 1.0% in 1Q21, 70 bps below the NPI return over the period.
- Transaction volumes decreased by 32.0% year-over-year in the first quarter. Transaction volume equaled \$21.2 billion for the quarter, a decrease of \$9.4 billion quarter-over-quarter. Single asset transactions accounted for 62.0% of volume.
- Office sector vacancy rates have expanded since the beginning of the pandemic due to work from home orders and uncertainty revolving around the future of office space. Office continues to be the highest vacancy property type at close to 12.4%.
- NOI growth in the office sector looks to have begun its recovery, 2.9% TTM growth for the quarter, after falling for three straight periods.
- Office cap rates compressed from a year ago to approximately 4.8%, a compression of just 5 bps. Office-using job growth was stunted significantly in 2020 due to many work from home orders. Though we are beginning to observe a slow but steady flow back to in-office work, there is still uncertainty in the sector as many companies remain hesitant.

RETAIL

- As of 1Q21, the retail sector delivered a quarterly return of -0.5%, performing 225 bps below the NPI.
- Transaction volumes totaled \$8.8 billion in the first quarter, falling 34% year-over-year. Single asset transactions accounted for just over 86.5% of all sales volume for the quarter.
- Cap rates have compressed approximately 20 bps within the sector over the last year, to 5.0%. The current valuation cap rate did expand quarter-over-quarter by 20 bps due to slight downward valuation adjustments made across the sector in general.
- NOI growth slightly increased though still significantly negative, -17.2% over the last year. This is a 4.1% increase from last quarter. Retail is expected to continue to suffer from the shift towards e-commerce and hesitance of the consumer.
- Retail vacancy rates increased 235 bps over the past year to 9.9%. Many big box stores have closed as the need for retail space shrinks, translating to a negative outlook for rent growth. Paired with the global economic crisis, which has had a significant negative impact on this sector.

Global Real Estate Market Update (1Q21)

- Global investment activity during the first quarter of 2021 was down significantly relative to 4Q20 and by 19% over the year compared to 2020. During 1Q21, transaction volumes recovered significantly in the APAC regions while the EU and US continued to experience significant depression.

- Increased availability of the vaccine has driven an uptick in investor appetite, specifically in regions that were among the first to be affected by the virus such as APAC. Interest in the quarter was concentrated primarily in multifamily properties, as well as senior housing.

- Investment activity in the Americas witnessed a sharp decline and fell by 38% year-over-year. Despite a slow down in COVID cases, the roll out of the vaccine hasn't helped spur investment to pre-COVID levels. Transaction volume in the US decreased 37% relative to 4Q20.

- In the Asia Pacific region, volumes were still slightly down year-over-year, but transaction activity remained the same relative to 4Q20. Singapore, Taiwan, and Hong Kong saw improvements in deal activity during 1Q21, while mainland China overtook Japan as the top market.

- Although investment activity dropped in the EMEA region, it dropped less than the Americas, with a 26% year-over-year decline. Apartment transactions in the region were up a noteworthy double-digit rate.

- In the office sector, global leasing activity declined by over 31% year-over-year and vacancy rates increased by 70 bps to 13.6%. The declines represent a continued uncertainty about future office space needs. US coastal markets have been more affected than lower-cost and high-growth markets. Across the main European markets, leasing activity fell 23% year-over-year. In the APAC region, net absorption increased for the third consecutive quarter.

- Despite a recovery in sales, the retail sector continued to suffer globally as the shutdowns and social distancing measures of the COVID-19 outbreak posed challenges for operators. The bifurcation between property types (necessity-based vs malls/street retail) and markets (urban vs suburban) has continued to widen. However, gateway cities, such as New York and London, have seen noteworthy increases in leasing activity.

- With the multifamily market recording the quarter's only increase in investments globally, the sector remains the most liquid in commercial real estate highlighting its attractiveness. Throughout the world, the re-opening of businesses has contributed to a pickup in urban demand, leading to a growth in asking rents, as the number of tours and leases increased during the quarter.

- Industrial yields continued to compress due to strong market fundamentals and heightened demand. US vacancy rates fell to 5.2% in 1Q21. EMEA vacancy rates slightly climbed to 4.7% for the quarter, while the Asia Pacific region saw a dip to 11.4%.

Global Total Commercial Real Estate Volume - 2020 - 2021

\$ US Billions	Q1 2021	Q1 2020	% Change	Full Year	Full Year	% Change
			Q1 21 - Q1 20	Ending 1Q21	Ending 1Q20	Full Year
Americas	89	122	-27%	347	560	-38%
EMEA	64	85	-25%	293	396	-26%
Asia Pacific	123	128	-4%	786	802	-2%
Total	275	335	-18%	1426	1758	-19%

Source: Real Capital Analytics, Inc., Q1' 21

Global Outlook - GDP (Real) Growth % pa, 2020-2022

	2020	2021	2022
Global	-3.3	6.0	4.4
Asia Pacific	0.2	5.1	5.0
Australia	-2.4	4.5	3.3
China	2.3	8.5	5.5
India	-7.5	9.8	6.8
Japan	-4.7	2.6	2.2
North America	-3.9	6.4	4.0
US	-3.5	6.5	4.0
Middle East	-2.8	3.1	4.1
European Union	-6.0	4.5	4.3
France	-8.1	5.8	3.9
Germany	-4.8	3.4	4.1
UK	-10.1	6.1	5.5

Source: Bloomberg

Executive Summary

Portfolio Overview

- NAV for the DB/CBB portfolio ended Q1 at \$987 million, resulting in an allocation of 5.4%
 - Real Estate Policy target range is between 1.0% and 11.0%
- NAV for the Endowments portfolio ended Q1 at \$54 million, resulting in an allocation of 3.4%
 - Real Estate Policy target range is between 0.0% and 10.0%
 - The Endowment’s core portfolio is currently out of compliance due to the non-core portfolio’s larger than expected distributions
 - As recent commitments to non-core funds are called, the portfolio should move towards its target allocation
- The OSERS portfolio currently makes up 9.0% of the total plan’s assets. Closed-end funds have started to liquidate, bringing the plan in line with the real estate allocation target of 7.5% by late 2021.

Investment Line-up Changes & Pacing

- DB/CBB 2021 Pacing: \$70 million to Non-Core planned for 2021
 - Subsequent to quarter end capital pacing for 2021 have been filled
- 50-50 Endowment 2021 Pacing: \$2.5 million to Non-Core planned for 2021
 - Subsequent to quarter end capital pacing for 2021 have been filled
- Healthcare Endowment 2021 Pacing: \$1.5 million to Non-Core planned for 2021
 - Subsequent to quarter end capital pacing for 2021 have been filled
- OSERS 2021 Pacing: \$10 million to Non-Core and \$15 million to Core planned for 2021

Executive Summary (cont'd)

Performance

- In the near-term commercial real estate has appeared to stabilize following market dislocation in the second and third quarters of 2020. The portfolios' total time weighted returns across the DB/CBB (1.8% net) and Endowments (1.7% net) held up well against NFI-ODCE (1.9% net) for the quarter.

- In the long-term the DB/CBB, the two Endowment programs, and the OSERS portfolio continue to perform relatively in-line with ODCE, despite UBS TPF's drag on performance and COVID-19 distress. Since inception time weighted returns for the DB/CBB, Endowments, and OSERS exceed the benchmark by 19 basis points, 482 basis points, and 50 basis points, respectively.

- The since inception dollar weighted returns of the Plans have started to moderate similar to that of the overall real estate market.
 - DB/CBB plan (Est. Q4 2004): 6.4% net IRR and 1.4x net equity multiple
 - Endowments (Est. Q4 2008): 8.4% net IRR and 1.4x net equity multiple
 - OSERS (Est. Q3 1995): 8.4% net IRR and 1.4x net equity multiple

Portfolio Overview

Portfolio Detail ¹ as of March 31, 2021	Defined Benefit Portfolio	Endowment Portfolio	Total NIC Portfolio	OSERS RE Portfolio
Number of Active Investments	21	9	30	8
Total Commitments	\$1,188,500,000	\$87,000,000	\$1,275,500,000	\$330,736,306
Unfunded Commitments	\$166,647,334	\$8,086,864	\$174,734,198	\$8,225,820
Cumulative Paid-In	\$1,432,385,647	\$129,830,299	\$1,562,215,946	\$416,875,560
Cumulative Distributions	\$984,208,796	\$114,924,268	\$1,099,133,064	\$468,796,622
Net Asset Value	\$986,755,131	\$54,072,368	\$1,040,827,499	\$130,063,045
Total Value ²	\$1,970,963,927	\$168,996,636	\$2,139,960,563	\$598,859,667
DPI ³	0.69x	0.89x	0.70x	1.12x
TVPI ⁴	1.38x	1.30x	1.37x	1.44x
IRR since inception	6.39%	8.39%	6.48%	8.39%
Real Estate Inception Date	12/31/2004	12/1/2008	12/31/2004	9/30/1995

¹Total Paid-In Cash includes all contributions and all management fees

²Total Distributions + Net Asset Value

³Distributions / Paid-In Cash

⁴Total Value / Paid-In Cash

DB/CBB Portfolio Time Weighted Performance¹

As of 3/31/2021

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception		TWR	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET	Calculation Inception		
Core																					
Lion Properties Fund	0.9	1.3	2.2	2.0	3.5	-0.4	3.1	2.3									5.2	4.4	1Q19	4.1	1.1
PRISA SA	0.9	1.2	2.1	1.9	3.9	-0.8	3.0	2.2	4.2	1.5	5.7	4.9	4.3	2.3	6.7	5.9	6.2	5.3	2Q06	5.4	1.9
UBS Trumbull Property Fund	1.0	0.2	1.3	1.1	3.9	-6.9	-3.2	-3.9	4.4	-4.3	0.0	-0.7	4.5	-1.8	2.6	1.8	5.2	4.3	3Q06	4.2	1.7
Core	0.9	1.0	1.9	1.8	3.7	-2.2	1.4	0.6	4.1	0.1	4.2	3.4	4.3	1.2	5.6	4.8	6.2	5.3	2Q06	5.5	1.5
Core Debt																					
UBS Trumbull Property Income Fund	1.0	0.6	1.5	1.3	3.6	-1.9	1.7	0.9	3.8	0.8	4.7	3.9	4.0	1.4	5.5	4.7	6.4	5.7	2Q15	5.1	1.2
Core Debt	1.0	0.6	1.5	1.3	3.6	-1.9	1.7	0.9	3.8	0.8	4.7	3.9	4.0	1.4	5.5	4.7	6.4	5.7	2Q15	5.1	1.2
Core Plus																					
PRISA II	1.0	1.1	2.1	1.8	4.1	-2.3	1.7	0.6	4.0	1.5	5.6	4.4	4.2	2.9	7.2	6.0	4.7	3.5	3Q07	6.1	1.7
Core Plus	1.0	1.1	2.1	1.8	4.1	-2.3	1.7	0.6	4.0	1.5	5.6	4.4	4.2	2.9	7.2	6.0	4.7	3.5	3Q07	6.1	1.7
Value Added																					
Almanac Realty Securities V, LP	-1.4	0.3	-1.1	-1.1	-32.4	-0.2	-31.5	-31.9	-4.5	-5.6	-8.4	-9.3	7.2	-5.9	2.9	1.7	8.5	6.0	3Q08	11.9	1.5
Almanac Realty Securities VII	1.9	1.7	3.6	3.3	7.7	7.0	15.1	13.8	8.2	4.9	13.4	12.1	8.5	6.4	15.3	13.0	15.6	12.5	3Q15	13.0	1.4
Almanac Realty Securities VIII	1.4	2.9	4.3	2.9	5.2	29.3	35.5	25.8									14.9	-0.5	3Q19	5.9	1.1
Rockwood Capital Real Estate Partners Fund IX	1.1	0.1	1.2	0.5	3.2	1.7	5.0	1.9	2.9	-9.0	-6.4	-9.2	2.9	-1.9	0.8	-1.8	9.0	5.9	4Q13	10.5	1.3
Rockwood Capital Real Estate Partners Fund X	0.3	5.7	6.0	5.6	2.3	22.0	24.8	22.7	2.5	7.3	9.9	7.6					7.1	4.3	4Q16	5.8	1.2
Rockwood Capital Real Estate Partners Fund XI	1.5	4.1	5.6	4.6	-6.9	-56.2	-63.0	2.6									-64.2	16.0	4Q19	-1.5	1.0
Value Added	1.1	3.7	4.8	4.2	4.5	16.7	21.9	18.5	5.1	4.7	10.1	7.2	5.5	5.9	11.6	8.7	4.6	2.0	4Q07	6.0	1.2
Opportunistic																					
AG Realty Fund VIII	-0.3	1.2	0.8	0.7	-2.4	-13.2	-15.3	-13.1	-3.7	-1.6	-5.2	-4.9	-2.0	2.3	0.2	-0.6	10.9	7.5	2Q12	12.7	1.5
CBRE Strategic Partners U.S. Opportunity 5	-0.8	4.6	3.8	3.8	-1.6	17.1	15.3	15.3	-0.8	10.2	9.4	9.1	2.2	5.2	7.8	7.2	-10.1	-11.8	4Q08	5.4	1.4
Landmark Real Estate Fund VI	-0.1	0.0	-0.1	-0.3	3.3	-16.8	-13.0	-14.0	-4.8	-8.5	-10.7	-11.7	4.9	-12.8	-6.1	-7.3	4.7	3.1	1Q11	18.9	1.6
Landmark Real Estate Fund VII	-0.1	0.0	-0.1	-0.3	12.4	-16.3	-4.7	-4.9	6.7	-8.3	-1.4	-2.2	9.5	-6.5	3.1	1.4	16.1	11.7	1Q15	7.4	1.2
Landmark Real Estate Fund VIII	-0.3	0.0	-0.3	-0.9	16.2	-8.0	7.1	3.5	13.3	-2.0	11.6	5.8					2.5	-2.0	4Q17	10.7	1.2
Rockpoint Real Estate Fund III	-0.2	2.2	2.0	1.3	0.7	10.4	11.2	8.3	0.9	3.0	4.0	1.3	1.2	3.4	4.6	2.0	8.7	2.8	2Q09	13.6	1.4
Torchlight Debt Fund VII, LP	1.2	4.9	6.1	3.3													12.5	6.7	4Q20	3.6	1.0
Torchlight Debt Opportunity Fund IV	0.3	0.2	0.5	0.8	2.0	-3.7	-1.8	1.3	4.7	-6.8	-2.3	1.5	6.9	-1.7	5.0	5.7	6.9	6.9	1Q14	9.3	1.4
Torchlight Debt Opportunity Fund V	0.7	3.5	4.1	2.9	3.3	3.0	6.4	6.5	7.0	0.4	7.5	6.7	11.1	3.9	15.3	11.4	15.3	8.5	3Q15	10.4	1.3
Torchlight Debt Opportunity Fund VI	1.2	1.4	2.6	2.2	5.9	1.5	7.5	6.1									11.8	3.1	3Q18	3.6	1.0
Opportunistic	0.5	1.4	1.9	1.3	6.9	-3.5	3.2	2.0	5.8	-1.6	4.1	2.2	7.9	-0.9	7.0	4.4	1.1	-3.2	4Q08	10.2	1.3
Total Portfolio																					
NIC - DB Direct	0.9	1.2	2.1	1.8	4.1	-1.2	2.9	1.9	4.3	0.5	4.8	3.7	4.8	1.5	6.3	5.1	7.7	6.5	1Q05	6.4	1.4
Indices																					
NFI-ODCE Value Weight	1.0	1.1	2.1	1.9	3.8	-1.4	2.3	1.5	4.1	0.8	4.9	4.0	4.2	1.9	6.2	5.3	7.3	6.3	1Q05		

¹Returns shown are time-weighted, which ignores both the timing and magnitude of cash flows into and out of the portfolio. While time-weighted returns are commonly used as a standard measure of performance in traditional asset classes, the Internal Rate of Return ("IRR") is a better and more common measure of real estate performance

Endowment Portfolio Time Weighted Performance

As of 3/31/2021

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception		TWR Calculation Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
Core																					
Lion Properties Fund	0.9	1.3	2.2	2.0	3.5	-0.4	3.1	2.3									4.8	4.0	2Q19	3.8	1.1
PRISA SA	0.9	1.2	2.1	1.9	3.8	-0.8	3.0	2.2	4.2	1.4	5.6	4.7	4.3	2.3	6.7	5.8	11.1	10.1	1Q10	9.1	2.0
UBS Trumbull Property Fund	1.0	0.2	1.3	1.1	3.9	-6.9	-3.2	-3.9	4.4	-4.3	0.0	-0.7	4.5	-1.8	2.6	1.8	7.9	7.0	1Q10	6.2	1.7
Core	1.0	1.0	1.9	1.7	3.7	-2.4	1.2	0.5	4.1	-0.2	4.0	3.2	4.3	1.1	5.4	4.6	11.2	10.2	1Q10	8.1	1.5
Core Debt																					
UBS Trumbull Property Income Fund	1.0	0.6	1.5	1.3	3.6	-1.9	1.7	0.8	3.8	0.8	4.7	3.9	4.0	1.4	5.5	4.7	5.5	4.7	2Q16	4.8	1.2
Core Debt	1.0	0.6	1.5	1.3	3.6	-1.9	1.7	0.8	3.8	0.8	4.7	3.9	4.0	1.4	5.5	4.7	5.5	4.7	2Q16	4.8	1.2
Opportunistic																					
Landmark Real Estate Fund VII	-0.1	0.0	-0.1	-0.3	12.4	-16.3	-4.7	-4.9	6.7	-8.3	-1.4	-2.2	9.5	-6.5	3.1	1.4	16.1	11.6	1Q15	7.4	1.2
Metropolitan Real Estate Partners International III, L.P.	-0.1	-1.4	-1.6	-1.8	7.1	-12.7	-6.0	-7.1	3.7	-11.7	-8.2	-9.3	3.7	-6.3	-2.7	-3.7	-10.5	-11.6	3Q09	5.0	1.1
Metropolitan Real Estate Partners VI, L.P.	4.7	-7.6	-3.0	-3.1	-1.2	1.3	0.4	-0.4	-1.1	1.1	0.3	-0.6	0.7	2.1	3.0	2.0	10.5	9.9	1Q09	11.2	1.5
Metropolitan Real Estate Secondaries and Co-Investments Fund, L.P.	-0.1	-1.1	-1.2	-1.4	-0.2	-16.2	-16.4	-12.1	1.1	-4.5	-3.5	-2.7	0.8	2.9	3.7	2.8	3.5	2.4	1Q16	6.9	1.2
Torchlight Debt Fund VII, LP	1.2	4.9	6.1	3.3													12.5	6.7	4Q20	3.6	1.0
Opportunistic	0.7	-1.7	-1.0	-1.3	3.9	-12.6	-9.1	-7.8	2.6	-5.3	-2.9	-3.1	3.4	-1.2	2.3	1.3	10.5	9.5	1Q09	9.2	1.3
Total Portfolio																					
NIC - DB Endowment	0.9	0.5	1.4	1.2	3.7	-4.3	-0.7	-1.1	3.7	-1.1	2.6	1.9	4.1	0.8	4.9	4.0	11.1	10.3	1Q09	8.4	1.4
Indices																					
NFI-ODCE Value Weight	1.0	1.1	2.1	1.9	3.8	-1.4	2.3	1.5	4.1	0.8	4.9	4.0	4.2	1.9	6.2	5.3	6.4	5.4	1Q09		

- Portfolio is underperforming the benchmark over the Quarter, 1-Year, 3-Year, and 5-Year timeframes
- Portfolio is outperforming the benchmark over the Since Inception timeframes

OSERS Portfolio Time Weighted Performance

As of 3/31/2021

Returns (%)	Quarter				1 Year				3 Year				5 Year				Inception		TWR Calculation Inception	Net IRR	Equity Multiple
	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	INC	APP	TGRS	TNET	TGRS	TNET			
Core																					
JP Morgan Strategic Property Fund	0.8	1.0	1.9	1.6	3.4	-1.7	1.7	0.7	3.7	0.7	4.5	3.4	3.9	1.8	5.8	4.7	9.0	8.3	1Q98	9.6	3.0
UBS Trumbull Property Fund	1.0	0.2	1.3	1.1	3.9	-6.9	-3.2	-3.9	4.4	-4.3	0.0	-0.7	4.5	-1.8	2.6	1.7	8.9	7.8	4Q95	10.3	2.5
Core	0.9	0.7	1.6	1.4	3.6	-4.2	-0.6	-1.5	4.1	-1.7	2.3	1.4	4.2	0.0	4.2	3.2	9.4	8.4	4Q95	10.0	2.7
Value Added																					
Almanac Realty Securities VI	0.0	1.3	1.3	1.0	0.2	-3.6	-3.3	-4.5	6.1	-17.7	-12.3	-13.1	6.6	-11.1	-5.0	-5.8	5.1	3.6	1Q12	8.9	1.3
Almanac Realty Securities VII	1.9	1.7	3.6	3.3	7.7	7.0	15.1	13.8	8.2	4.9	13.4	12.1	8.5	6.4	15.3	13.0	15.6	12.5	3Q15	13.0	1.3
Value Added	1.5	1.6	3.2	2.9	6.4	5.0	11.6	10.3	7.9	-0.9	6.9	5.8	7.3	1.3	8.7	7.2	9.2	8.2	1Q98	7.4	1.4
Opportunistic																					
25 Capital Residential Mortgage Opportunities Fund	1.6	-9.2	-7.6	-8.5	10.3	271.2	295.5	275.3	3.2	-9.1	-6.0	-10.1	1.1	-2.9	-1.6	-5.0	2.1	-2.4	1Q13	2.5	1.1
JP Morgan India Fund II	0.2	6.1	6.3	5.5	0.0	13.0	13.0	9.4	-2.6	-20.4	-23.2	-25.2	-0.2	-14.0	-14.6	-16.6	-5.8	-8.7	4Q12	-14.3	0.5
Mariner Real Estate Partners III	0.0	13.2	13.2	12.9	0.0	-24.2	-24.2	-25.4	0.0	-7.9	-7.9	-9.4	0.0	-3.5	-3.5	-4.9	3.9	2.5	4Q11	7.9	1.5
Mariner Real Estate Partners IV	0.0	5.3	5.3	5.0	0.0	17.0	17.0	15.8	0.0	15.8	15.8	12.9	0.0	21.3	21.3	16.9	13.6	10.0	1Q15	14.2	1.4
Opportunistic	0.3	3.6	3.9	3.5	0.8	20.1	21.0	18.8	-0.1	1.8	1.7	-0.7	-0.2	4.7	4.6	2.0	7.9	5.4	4Q11	5.5	1.2
Total Portfolio																					
OSERS	0.6	2.7	3.3	2.9	2.2	12.4	14.8	13.0	1.7	0.7	2.4	0.4	1.7	3.1	4.8	2.7	9.5	8.2	4Q95	8.4	1.4
Indices																					
NFI-ODCE Value Weight	1.0	1.1	2.1	1.9	3.8	-1.4	2.3	1.5	4.1	0.8	4.9	4.0	4.2	1.9	6.2	5.3	8.7	7.7	4Q95		

- Portfolio is underperforming the benchmark over the Quarter, 1-Year, 3-Year, and 5-Year timeframes
- Portfolio is outperforming the benchmark over the Since Inception timeframe

OSERS – Real Assets Evolution of Performance

Partnership Name	Vintage Year	Real Asset Strategy	IRR as of										
			12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	3/31/2021
BTG Pactual Timberland	2004	Real Estate	0.00%	4.15%	4.38%	3.91%	3.53%	3.15%	2.63%	1.30%	1.21%	1.20%	1.20%
JP Morgan Maritime Global	2010	Infrastructure	0.00%	-86.16%	7.20%	-1.93%	-18.11%	-23.19%	-10.76%	-6.96%	-7.29%	-9.32%	-6.10%
Total Real Assets Portfolio			0.00%	2.90%	4.47%	3.58%	1.69%	0.05%	0.42%	-0.51%	-0.88%	-1.63%	-0.88%

Partnership Name	Vintage Year	Real Asset Strategy	TVPI as of										
			12/31/2011	12/31/2012	12/31/2013	12/31/2014	12/31/2015	12/31/2016	12/31/2017	12/31/2018	12/31/2019	12/31/2020	3/31/2021
BTG Pactual Timberland	2004	Real Estate	1.00x	1.33x	1.41x	1.40x	1.39x	1.38x	1.33x	1.16x	1.16x	1.16x	1.16x
JP Morgan Maritime Global	2010	Infrastructure	1.00x	0.32x	1.10x	0.97x	0.74x	0.60x	0.73x	0.76x	0.70x	0.59x	0.70x
Total Real Assets Portfolio			1.00x	1.20x	1.34x	1.25x	1.11x	1.00x	1.03x	0.96x	0.93x	0.87x	0.93x

Non-Core IRR Equivalent

RE Strategy	NIC Performance	NFI-ODCE	NPI	Inception Date
DB Value Added	6.0%	6.1%	7.2%	8/24/2007
DB Opportunistic	10.2%	8.7%	9.0%	9/24/2007
DB Value Added & Opportunistic	8.2%	7.4%	8.1%	8/24/2007

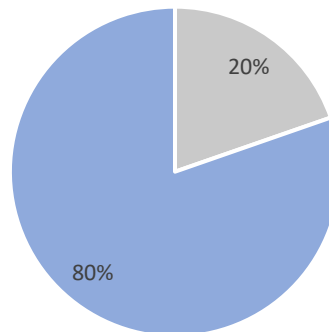
RE Strategy	NIC Performance	NFI-ODCE	NPI	Inception Date
Endowment Opportunistic	9.2%	8.0%	8.7%	12/1/2008

RE Strategy	OSERS Performance	NFI-ODCE	NPI	Inception Date
OSERS Value Added	7.4%	6.6%	8.3%	1/1/1998
OSERS Opportunistic	5.5%	8.5%	8.9%	8/3/2011
OSERS Value Added & Opportunistic	6.2%	7.8%	8.5%	1/1/1998

DB/CBB Real Estate Equity/Debt Exposure

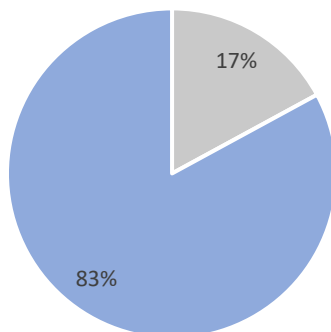
Total Real Estate

■ % Debt ■ % Equity



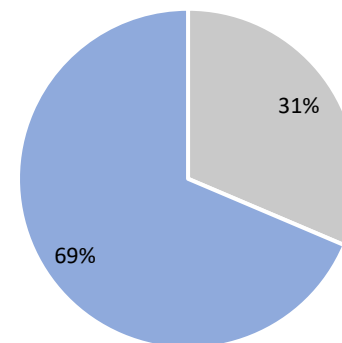
Core

■ % Debt ■ % Equity



Non-Core

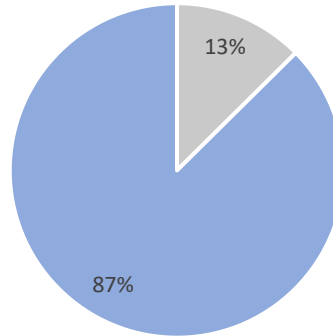
■ % Debt ■ % Equity



Endowment Capital Stack Exposure

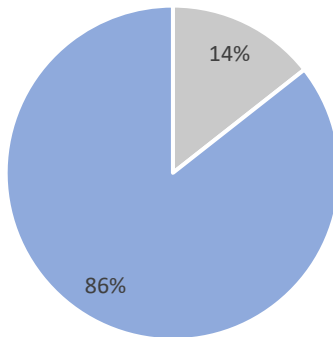
Total Real Estate

■ % Debt ■ % Equity



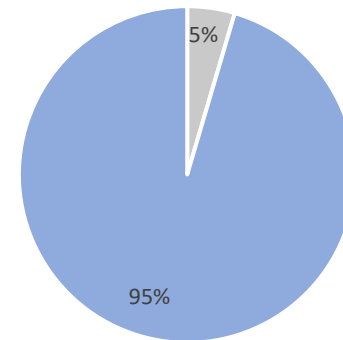
Core

■ % Debt ■ % Equity



Non-Core

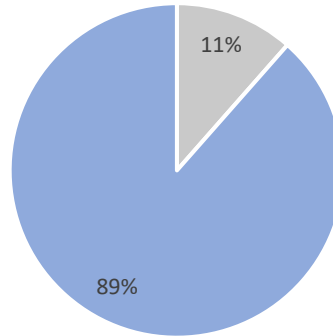
■ % Debt ■ % Equity



OSERS Capital Stack Exposure

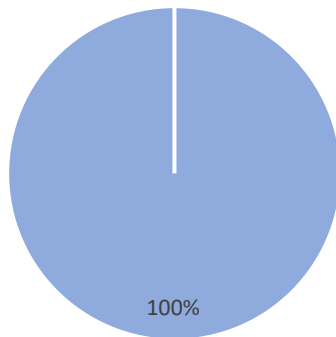
Total Real Estate

■ % Debt ■ % Equity



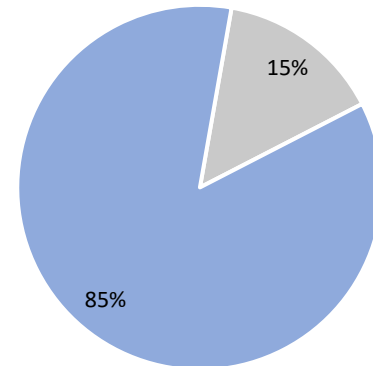
Core

■ % Debt ■ % Equity

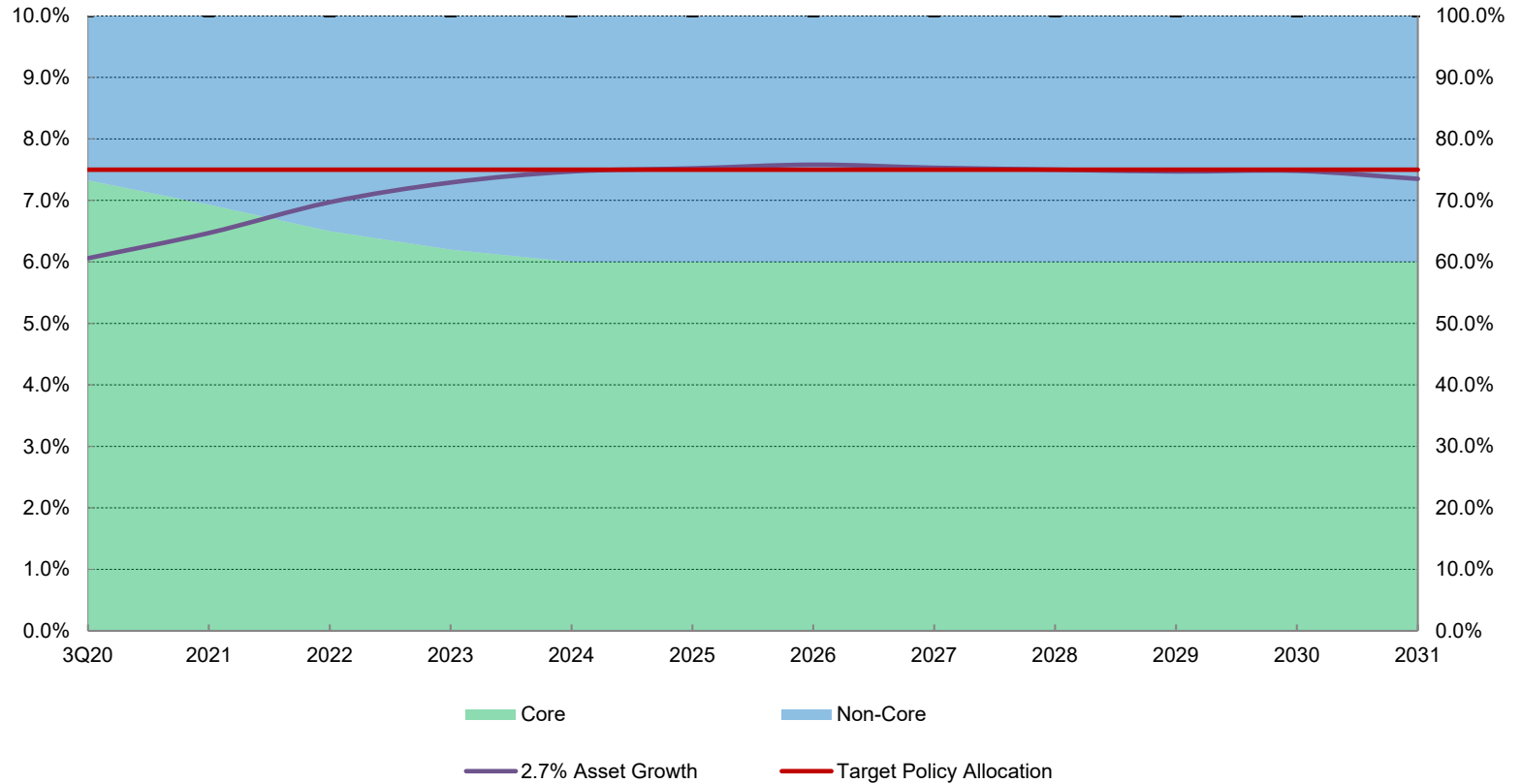


Non-Core

■ % Debt ■ % Equity

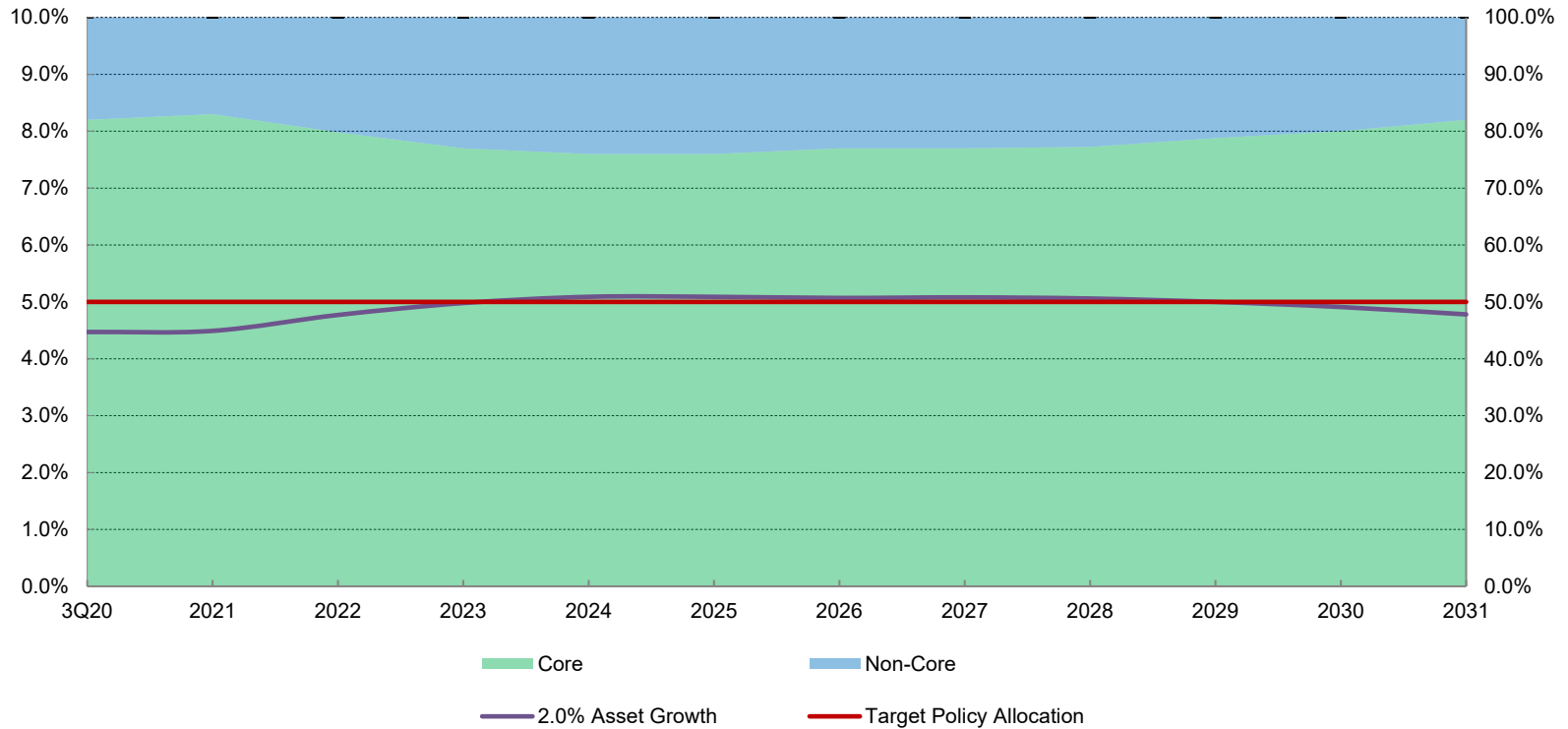


Projected NAV of Real Estate as a Percent of Total Program



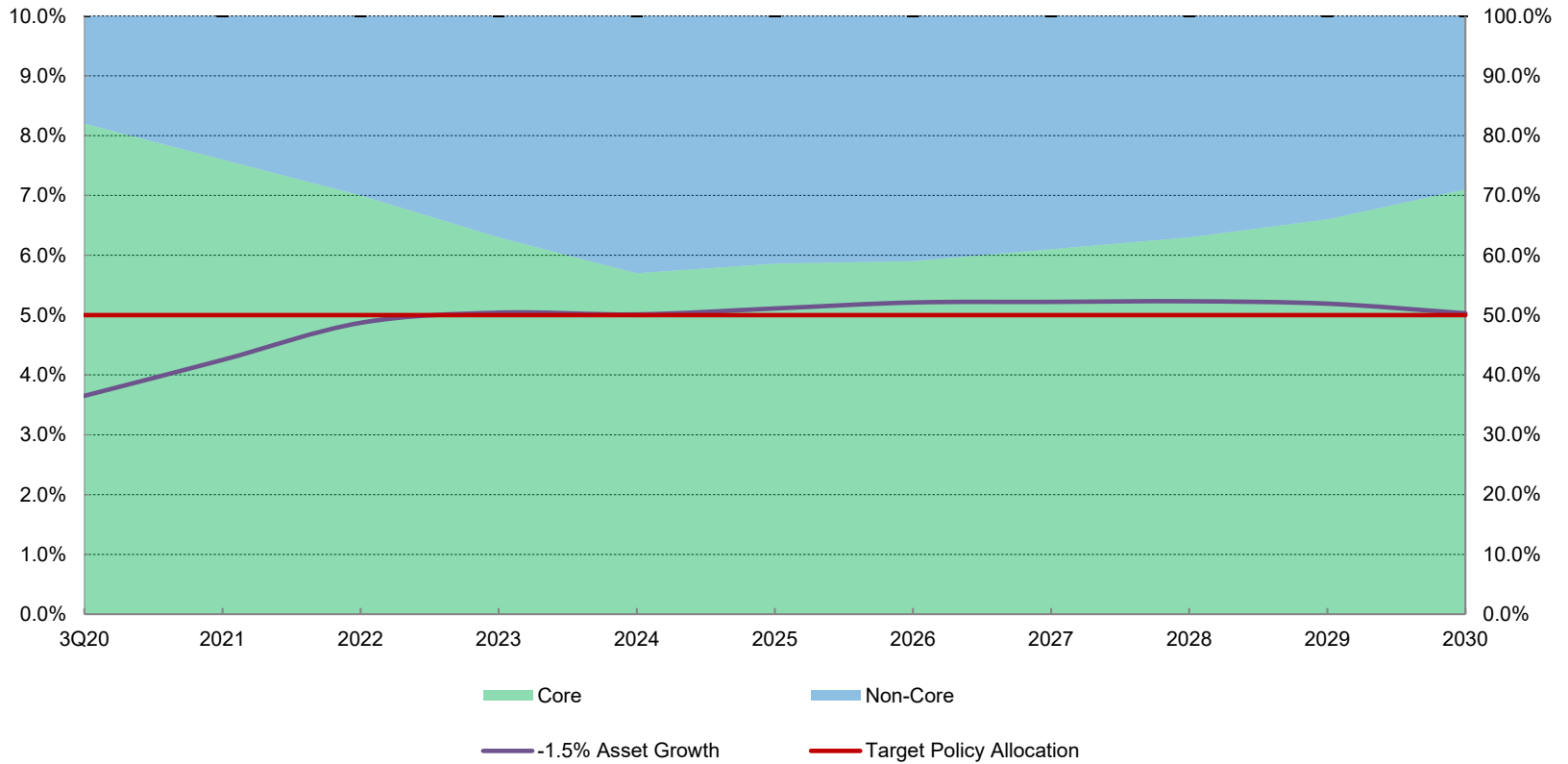
50-50 Endowment Current Pacing

Projected NAV of Real Estate as a Percent of Total Program



Healthcare Endowment Current Pacing

Projected NAV of Real Estate as a Percent of Total Program



OSERS – Current Pacing

Projected NAV of Real Estate as a Percent of Total Program

