AGENDA

A REGULAR MEETING OF THE REAL ESTATE COMMITTEE

AND THE BOARD OF INVESTMENTS*

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, SUITE 810, PASADENA, CALIFORNIA 91101

8:00 A.M., WEDNESDAY, APRIL 11, 2018**

*The Committee may take action on any item on the agenda, and agenda items may be taken out of order.*

I. CALL TO ORDER

II. APPROVAL OF THE MINUTES

A. Approval of the Minutes of the Regular Meeting of February 14, 2018.

III. PUBLIC COMMENT

IV. NON – CONSENT ITEMS

A. Recommendation as submitted by John McClelland, Principal Investment Officer: That the Committee approve and adopt the immediate, intermediate and ongoing actions identified by the Real Estate Structure Review and associated recommendations to the Board for approval. (Memo dated March 19, 2018)

V. REPORTS

A. Real Estate IMA Attribution Project-Final Conclusions
The Townsend Group
Jennifer Young Stevens, Principal
Robert Miranda, Vice President
Felix Fels, Associate
(Presentation dated April 11, 2018)

VI. REPORT ON STAFF ACTION ITEMS

VII. GOOD OF THE ORDER
(For Information Purposes Only

VIII. ADJOURNMENT

*The Board of Investments has adopted a policy permitting any member of the Board to attend a standing committee meeting open to the public. Members of the Board of Investments who are not members of the Committee may attend and participate in a meeting of a Committee but may not vote, make a motion, or second on any matter discussed at the meeting. The only action the Committee may take at the meeting is approval of a recommendation to take further action at a subsequent meeting of the Board.

**Although the meeting is scheduled for 8:00 a.m., it can start anytime thereafter, depending on the length of the Board of Investment meeting preceding it. Please be on call.

***Documents subject to public disclosure that relate to an agenda item for an open session of the Board of Investments that are distributed to members of the Board of Investments less than 72 hours prior to the meeting will be available for public inspection at the time they are distributed to a majority of the Board of Investments Members at LACERA's offices at 300 N. Lake Avenue, Suite 820, Pasadena, CA 91101, during normal business hours of 9:00 a.m. to 5:00 p.m. Monday through Friday.***

***Persons requiring an alternative format of this agenda pursuant to Section 202 of the Americans with Disabilities Act of 1990 may request one by calling Cynthia Guider at (626) 564-6000, from 8:30 a.m. to 5:00 p.m. Monday through Friday, but no later than 48 hours prior to the time the meeting is to commence. Assistive Listening Devices are available upon request. American Sign Language (ASL) Interpreters are available with at least three (3) business days notice before the meeting date.***

MINUTES OF THE REGULAR MEETING OF THE REAL ESTATE

COMMITTEE AND THE BOARD OF INVESTMENTS

LOS ANGELES COUNTY EMPLOYEES RETIREMENT ASSOCIATION

300 N. LAKE AVENUE, SUITE 810, PASADENA, CA 91101

WEDNESDAY, FEBRUARY 14, 2018

PRESENT: Michael Schneider, Chair

Ron Okum, Vice Chair

David Green

Wayne Moore

Gina Sanchez

Shawn Kehoe, Alternate

MEMBERS AT LARGE:

Herman Santos

David Muir

Joseph Kelly

STAFF, ADVISORS, PARTICIPANTS

Jonathan Grabel, Chief Investment Officer

John McClelland, Principal Investment Officer – Real Estate

Meketa Investment Group
Stephen McCourt, Managing Principal
Leandro Festino, Vice President

STAFF, ADVISORS, PARTICIPANTS (Continued)

The Townsend Group
Jennifer Young Stevens, Principal
Robert Miranda, Vice President
Felix Fels, Associate

I. CALL TO ORDER

The Meeting was called to order by Chair Schneider at 8:45 a.m., in the Board Room of Gateway Plaza.

II. APPROVAL OF MINUTES

A. Approval of the Minutes of the Regular Meeting of September 11, 2017.

Mr. Santos made a motion, seconded by Mr. Okum, to approve the minutes of the regular meeting of September 11, 2017, with the revision to correct the time on Item I. The motion carried by unanimous vote.

III. PUBLIC COMMENT

There were no requests from the public to speak.

IV. REPORT

A. Performance Attribution Analysis and Lessons Learned
The Townsend Group
Jennifer Young Stevens, Principal
Robert Miranda, Vice President
Felix Fels, Associate
(Memo dated February 14, 2018)

The Townsend Group were present and answered questions from the Committee.

V. REPORT OF STAFF ACTION ITEMS

There were no items to report.

VI. GOOD OF THE ORDER
(For information purposes only)

There were no comments.

VII. ADJOURNMENT

There being no further business to come before the Committee, the meeting was adjourned at 9:10 a.m.

March 19, 2018

TO: Each Member
Real Estate Committee

FROM: John McClelland
Principal Investment Officer, Real Estate

FOR: April 11, 2018 Real Estate Committee Meeting

SUBJECT: **REAL ESTATE STRUCTURE REVIEW**

## RECOMMENDATIONS

Adopt the immediate, intermediate and on-going actions identified by this Real Estate Structure Review.

## EXECUTIVE SUMMARY

LACERA has been investing in private real estate since 1985. The real estate allocation target is currently 11% of the total Fund, which translates into $6.1 billion.[1] The real estate portfolio, at $6.2 billion, is slightly over the target but within set rebalance ranges. The portfolio consists predominantly of office, retail, industrial, multifamily and hotel assets located in the United States. While the portfolio has mainly been invested in core properties, value-added and high-return investments have been made.

This report provides a structure review of the real estate program. It describes the role of real estate in the total Fund portfolio, investment philosophy, the return objectives, and program structure. A discussion section is followed by recommendations for program modification that are intended to result in the prospects for improved performance.

The program has met several of its asset class goals, including diversifying the Fund and generating cash flow. However, it has failed to meet its ten-year return objective. Extensive research has been devoted to identifying the cause of under-performance and steps that can be taken to improve performance in the future. The Board's real estate consultant, The Townsend Group, has been instrumental in conducting attribution analysis, and several reports on this topic have been presented to the Board. Under-performance over the ten-year period is discussed throughout the remainder of this structure review.

This review identifies immediate steps that can be taken with the potential to improve performance which include; (i.) suspending any additional value-added investing by the Fund's separate account managers on a discretionary basis; (ii.) establishing manager-specific performance hurdles against

[1] Based on the total Fund value as of December 31, 2017.

which future performance will be evaluated; and (iii.) identifying intentional, Board-approved, benchmark variances and measuring their ongoing relative contribution to performance.

Intermediate term actions recommended by this report include: (i.) critically evaluating historical manager performance and terminating or modifying mandates as appropriate; (ii.) increasing exposure to the industrial sector; and (iii.) decreasing exposure to the multifamily sector.

Ongoing recommended actions that are expected to increase prospects for improved performance consist of: (i.) using U.S.-focused value-add and high-return commingled funds to generate higher returns; (ii.) using U.S.-focused open-end core commingled funds to gain access to large assets (like central business district (CBD) office and regional malls) and increase diversification; (iii.) culling the portfolio of under-performing assets. In addition, benchmark variances should be identified and evaluated annually.

## ROLE OF REAL ESTATE

LACERA's Real Estate Objectives Policies and Procedures (the "OPP") identifies the role of real estate to be:

- Enhancing the diversification of the total Fund.
- Providing competitive risk-adjusted returns relative to other asset classes.
- Hedging against inflation when market conditions allow such a hedge.

The program has generally succeeded in accomplishing the role identified. Real estate has enhanced the diversification of the total Fund. **TABLE 1** illustrates that over both the five- and ten-year period, the correlations between real estate and the other asset classes in the portfolio have been low or negative, indicating diversification.

Real estate, as measured by LACERA's custom benchmark, delivered competitive risk-adjusted returns relative to other asset classes. Real estate generated a 6.3% return with a standard deviation of 5.8% over the ten-year period ending September 2017. This return and risk level was lower than U.S. public equities and higher than fixed income, as expected.

Unfortunately, LACERA real estate program failed to meet the benchmark during this ten-year period. The ten-year return from real estate of 3.0% is lower than both the return from U.S. equity of 7.4% and the return from fixed income of 5.5%. Under-performance, which is mainly attributable to non-core investments, has been the subject of substantial analysis by staff and the consultant. Numerous recommendations related to improving performance appear at the end of this review.

**TABLE 1**
**RISK AND RETURN OF LACERA COMPOSITES**
**(as of September 30, 2017)**

| | 5 Years | | | 10 Years | | |
|---|---|---|---|---|---|---|
| **ASSET CLASS** | **Return (Net)** | **Standard Deviation** | **Correlation to Real Estate** | **Return (Net)** | **Standard Deviation** | **Correlation to Real Estate** |
| **Real Estate** | **9.4%** | **2.4%** | **1.00** | **3.0%** | **6.9%** | **1.00** |
| U.S. Equity | 14.2% | 7.9% | -0.68 | 7.4% | 17.1% | -0.14 |
| Non-U.S. Equity | 9.5% | 9.5% | -0.53 | 2.5% | 20.1% | -0.25 |
| Fixed Income | 3.4% | 2.9% | -0.15 | 5.5% | 3.9% | -0.44 |
| Private Equity | 14.8% | 3.4% | 0.03 | 11.1% | 8.2% | 0.45 |
| Commodities | -9.1% | 14.0% | -0.36 | -5.4% | 21.7% | -0.14 |
| Hedge Funds | 5.2% | 4.1% | -0.36 | --- | --- | --- |
| Cash | 0.6% | 0.2% | -0.28 | 90.0% | 1.5% | -0.27 |
| **TOTAL FUND** | **8.9%** | **4.4%** | **-0.6** | **5.3%** | **9.7%** | **-0.11** |

There has been very little inflation over the prior ten-year period. Therefore, it remains unproven whether the real estate program will provide the desired hedge.

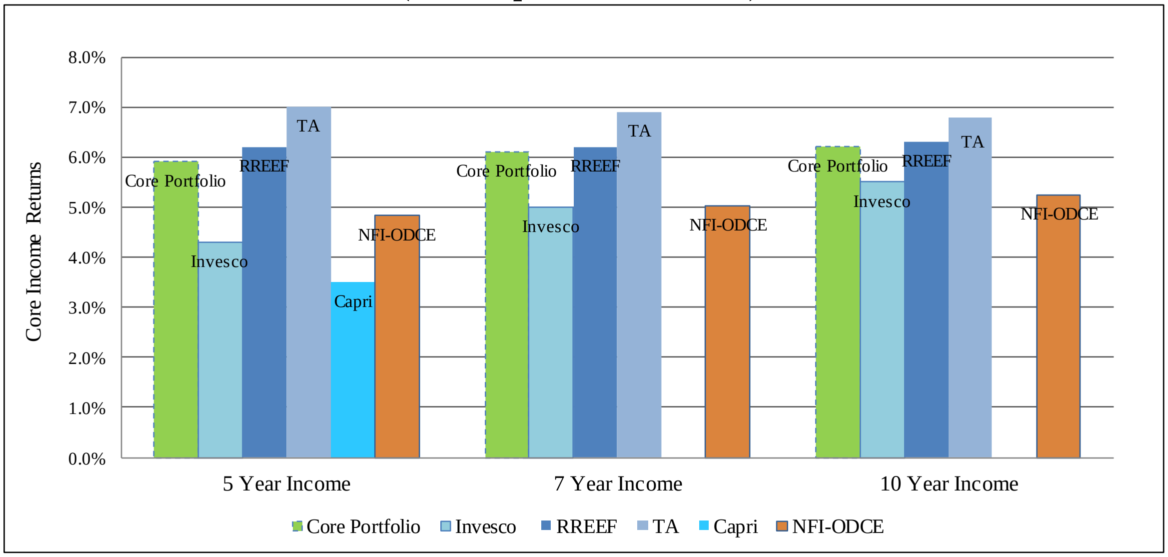
## INVESTMENT PHILOSOPHY

The Real Estate OPP also identifies investment philosophy, or objectives, to guide program decisions. Each of these is summarized below.

- Maximize long-term total cash returns.

  The $4.6 billion core portion of the portfolio, which comprises the majority of the program, generated the majority of its return from income rather than appreciation. Thus, this objective has been achieved. **CHART 1** illustrates the income component of return from core assets over the last five-, seven- and ten-year periods.

**CHART 1**
**CORE REAL ESTATE INCOME RETURNS**
**(as of September 30, 2017)**




Although the income returns have been satisfactory, it is worth noting that appreciation from the core portfolio was negative, indicating depreciation, over the last ten-year period. (See **TABLE 3** below)

- Achieve a total return competitive with other asset classes.

  As discussed previously and illustrated on **TABLE 1**, this objective was achieved over the five-year period. However, the program has failed to deliver a competitive return over the ten-year period ending September 2017.

- Maintain broad diversification.

  The program is broadly diversified across property type and geography. There are a total of 96 individual assets included in the separate account portfolio, which comprised 86% of the portfolio as of the end of September 2017.

- Control risk

  Risk has been controlled in the portfolio using several tools. The primary risk-control tool has been to emphasize investment in core real estate. Core real estate has historically been less risky than non-core real estate, albeit with commensurately lower returns. Leverage has been limited and managed such that maturity dates are not concentrated. Loans secured by portfolio assets are not cross-collateralized and are largely non-recourse to LACERA.[2] The maximum size of equity investment in any single property has been restricted to $150

[2] Recourse provisions are limited to instances where the borrower lies, cheats or steals. These are often referred to as “bad boy carve-outs” and are common in real estate loans.

million. Separate account managers have been charged with controlling risk at the property level. Finally, the program has been intentionally diversified by property type, geography and manager to control risk.

## RETURN OBJECTIVES

The current return objective, or benchmark, for the real estate program is to exceed the NCREIF-ODCE index by 40 basis points over a rolling ten-year period on a net-of-fee basis.[3] The benchmarks for different types of real estate investments are outlined on **TABLE 2**.

**TABLE 2**
**REAL ESTATE RETURN OBJECTIVES[4]**

| Investment Category | After Fee Benchmark |
|---|---|
| Private Core | ODCE |
| Private Value-Add | OCDE+100 bps |
| Private High-Return | ODCE+300 bps |
| Public REITs (Domestic) | NAREIT |
| Public REITs (International) | FTSE/EPRA/NAREIT |
| Private Debt | ≥NPI Income |
| **Total Portfolio** | **ODCE + 40 bps** |

Return objectives for the real estate program have varied since the program was established in 1985. The ODCE-based objective was adopted in July 2013. Prior to that, the return objective was based on the NCREIF Property Index (NPI), which replaced real rate of return objectives in January 2009.[5]

The OPP also calls for a comparison of the returns to the current asset class assumptions used in portfolio construction (asset allocation modeling). Notwithstanding the asset allocation study currently underway, the prior study utilized a 10-year return assumption of 5.7% and a standard deviation of 14.0.[6]

The ten-year return of 3.0% for real estate failed to achieve the asset class assumed return of 5.7%. Risk, as measured by standard deviation, was 6.4% for the portfolio, lower than the asset class assumption of 14.0% and slightly higher than the custom benchmark of 5.8%. **TABLE 3** summarizes performance by investment type.

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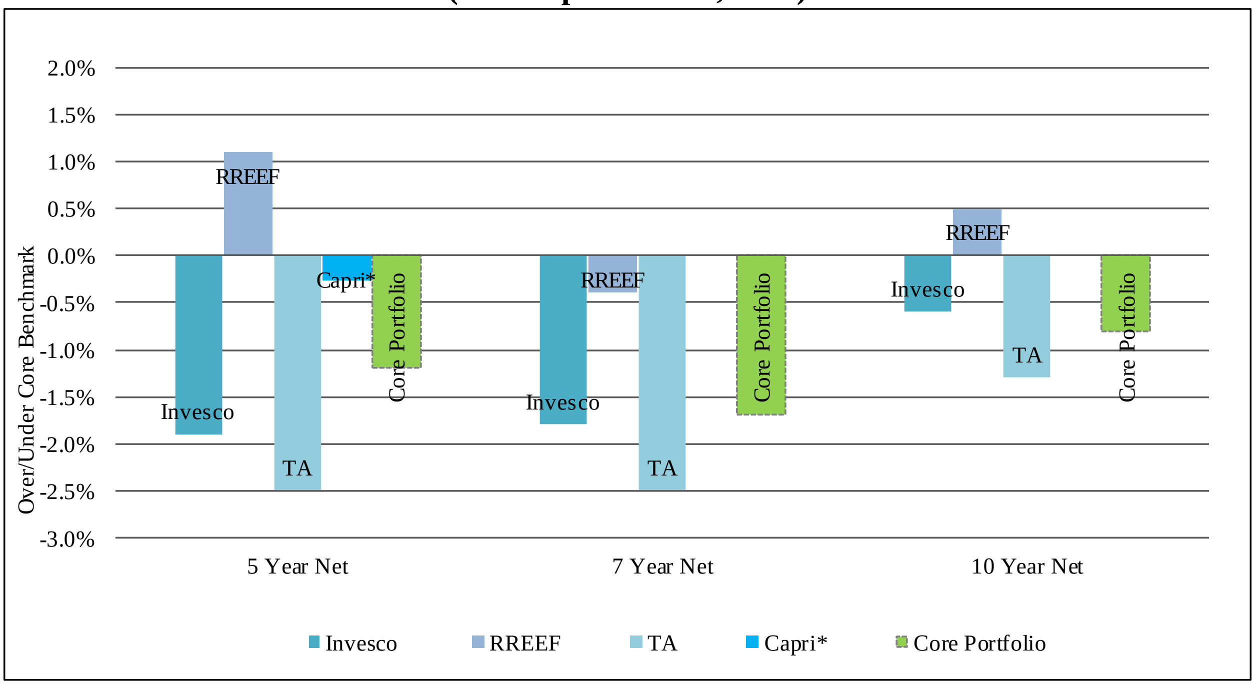
[3] NCREIF-ODCE is the National Council of Real Estate Fiduciaries (NCREIF) Fund Index (NFI) Open-end Diversified Core Equity Index (ODCE).
[4] The Total Portfolio benchmark is weighted 70% core, 25% value-add and 5% high-return.
[5] The real rate of return objective was 4% from 1985-1997, 6% from 1997-2005 and 5% from 2005-2008.
[6] 2015 Wilshire Capital Markets Assumptions, March 2015.

**TABLE 3**
**TEN-YEAR RETURNS BY INVESTMENT TYPE**
**(as of September 30, 2017)**

| Investment Type | Net Market Value ($ in millions) | % of Portfolio | Income | Apprec. | Total Gross Return | Total Net Return | Custom Benchmark | Difference |
|---|---|---|---|---|---|---|---|---|
| Core | $4,623 | 74% | 6.2% | -0.7% | 5.5% | 5.2% | 6.0% | -0.8% |
| Value Added | $626 | 10% | 5.1% | -6.7% | -2.0% | -3.0% | 6.9% | -9.9% |
| High Return | $986 | 16% | 2.9% | -14.4% | -11.9% | -16.1% | 9.0% | -25.1% |
| **Total** | **$6,234** | **100%** | **5.8%** | **-2.0%** | **3.7%** | **3.0%** | **6.3%** | **-3.3%** |

Core investing has most closely tracked the benchmark, under-performing by 80 basis points. The core portfolio primarily consists of properties held in separate accounts plus the LACERA headquarters building. **CHART 2** illustrates separate account performance relative to the benchmark over five-, seven- and ten-year time periods.

**CHART 2**
**CORE OVER/UNDER PERFORMANCE**
**(as of September 30, 2017)**




*Capri compared to NPI-Apartment

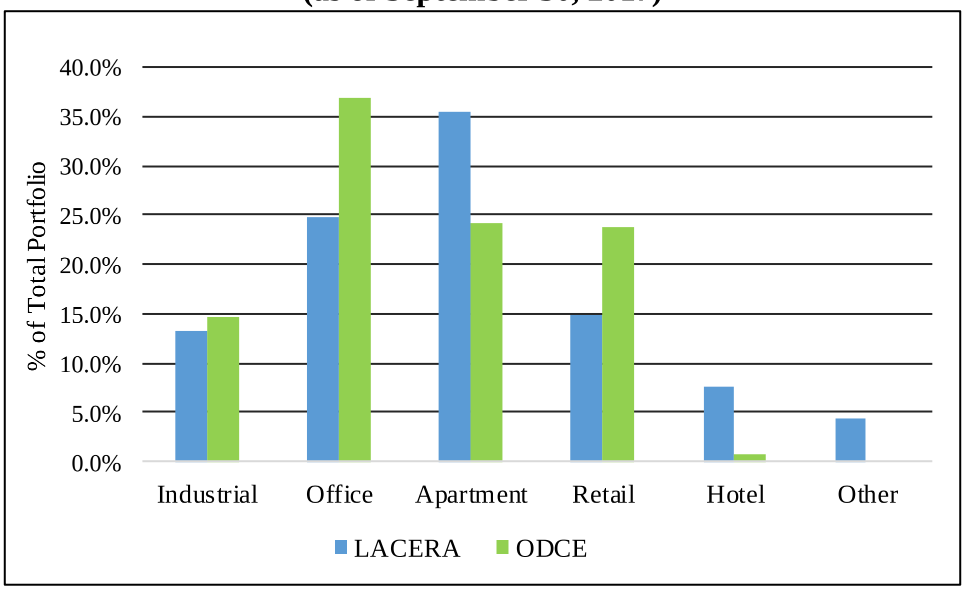
Notably, only the RREEF separate account has met or exceeded the core benchmark over any of the time periods measured.

Attribution analysis completed by the Board's real estate consultant, The Townsend Group, has identified numerous factors contributing to under/over-performance. A sample of these factors includes:

- Suburban office properties have consistently been the weakest performers.
- Warehouse industrial properties have consistently been the strongest performers.
- The program's relative under-weight to industrial properties has detracted from performance.
- The program's relative under-weight to office properties has enhanced performance.
- LACERA's smaller apartments (<$100 million) have consistently performed well.

**CHART 3** compares LACERA's property diversification to NFI-ODCE.

**CHART 3**
**PROPERTY DIVERSIFICATION**
**(as of September 30, 2017)**




The value-add and high-return investments have significantly under-performed their benchmarks over a ten-year period. See the discussion section below for additional commentary.

## REAL ESTATE PORTFOLIO STRUCTURE

The real estate program has been structured primarily using separate accounts. Core investments have been the main focus of the program since they have offered reasonably attractive returns at relatively low risk. **TABLE 4** illustrates the composition of the portfolio as of September 2017.

**TABLE 4**
**LACERA REAL ESTATE PORTFOLIO COMPOSITION**
**(as of September 30, 2017, $ in millions)**

| Investment Style | Separate Accounts | % of Style | Commingled Funds | % of Style | Net Market Value | % of Total Style |
|---|---|---|---|---|---|---|
| Core | $4,225 | 91% | $398 | 9% | $4,623 | 74% |
| Value Added | $621 | 99% | $5 | 1% | $626 | 10% |
| High Return | $528 | 54% | $458 | 46% | $986 | 16% |
| **Total** | **$5,374** | **86%** | **$860** | **14%** | **$6,234** | **100%** |

The OPP requires that ≥60% of the real estate allocation be invested in core assets. Value-add investing is limited to ≤40% and high Return investing is limited to ≤20% of the allocation. Real estate debt, limited to ≤20% of the allocation, may be moved to a discreet Credit allocation following the conclusion of the current asset allocation study.

The program structure relies heavily on separate account vehicles, which account for 86% of the value of the portfolio. These vehicles have allowed LACERA to retain control over when, where and on what terms capital is invested. The vast majority of the 96 assets held via separate accounts are wholly-owned, providing maximum flexibility to the Fund (i.e. LACERA does not need a partner to concur on any business plan or decision, including, for example, a decision to sell a property). The separate account agreements may be terminated without cause with little notice. Capital has been made available for new investments annually based on a Board-approved Investment Plan. Once authorized, the separate account managers have discretion to make investments that comply with LACERA-approved investment criteria. Staff estimates that fees paid to separate account managers for core investing are approximately 30% lower than if open-end commingled funds were used.

Using separate account vehicles also introduces some risk and challenges for the Fund. Owning assets directly, or even via special purpose entities (SPE), causes the Fund or SPE to take all of the risk and liability of ownership. It also requires a substantial effort to establish and maintain the legal entities used to limit liability related to ownership. The Fund's ability to diversify, especially in the mega-deal size range, is less than it would be if large commingled fund vehicles were used for investment.

Commingled fund structures have been utilized for some select strategies within the U.S. and for all non-U.S. real estate investments. Both open and closed-end commingled funds have been utilized. Each commingled fund investment is approved by the Board.

## DISCUSSION

LACERA's current real estate program has evolved over time to its current state. Initially investing via open- and closed-end commingled funds in 1985, the Fund retained its first separate account managers in 1992. Investments were limited to the U.S. core and value-add sectors until

1995, when the first high-return strategy was funded (the single-family housing program). Since that time the program has included core, value-added and high-return strategies.

Core Investing

The large allocation to core investing (74%) has served the Fund well. Core investing has controlled risk while meeting most of the program objectives. Five-year returns of 9.3% and seven-year returns of 9.5% were quite respectable.

Core returns over the ten-year period of 5.2% under-performed relative to the NCREIF-ODCE benchmark. Significant factors contributing to the under-performance include: (i.) property types included in the benchmark that LACERA does not own have performed well, like CBD office and regional malls; (ii.) LACERA's large retail assets have under-performed; (iii.) most of LACERA's office properties have under-performed; and (iv.) LACERA has been under-weight industrial properties, which have been the strongest performing property type in the benchmark. (refer to **CHART 3** above)

LACERA's performance, albeit below the benchmark, has benefited from several factors as well. These include: (i.) strong performance from industrial investments (notwithstanding an under-weight position); (ii.) strong performance from apartment investments; (iii.) strong performance by smaller retail assets; and (iv.) LACERA's relative over-weighting to out-performing regions of the Pacific and Mountain areas.

Another factor contributing to benchmark under-performance is the off-benchmark allocation to real estate debt. The debt investments are intended to be a lower risk alternative to core investing, generating higher income but sacrificing any return from appreciation. Approximately 6.5% of the allocation was invested in real estate debt at the end of September 2017. The debt portion of the program has exceeded its sub-benchmark of ≥NPI Income returns. The five-year returns from debt of 8.0% from Barings and 6.7% from Quadrant are impressive given the relatively low level of risk being taken by the managers.[7] The benchmark mismatch created by real estate debt may be eliminated if a discreet Credit allocation is established at the Fund.

LACERA's core portfolio includes $269 million of non-U.S. holdings (in Europe and Asia), while the benchmark is limited to U.S. assets. This off-benchmark geographic exposure is contributing to variance.

LACERA's headquarters building also impacts performance relative to the benchmark. Gateway Plaza, a 282,000 square foot, 13-story office building located in Pasadena, CA is valued at $109 million. The property was acquired in 1990 with the dual purpose of housing LACERA and for investment. The property has generated a negative 1.1% return over the last ten years and positive 6.3% since-inception return. Hence, it has contributed to benchmark under-performance. Selling this asset for investment reasons, even during periods when it is expected to under-perform the benchmark, is not seriously contemplated due to its role serving as the Fund's headquarters.

[7] The real estate debt program was initiated in 2011.

Consequently, the property should be separated from the investment portfolio for performance measurement purposes.

***Conclusion: LACERA should monitor its off-benchmark investments and measure their relative contribution to performance.***

***Conclusion: Gateway Plaza should be separated from the real estate investment portfolio for future performance reporting purposes.***

The size of LACERA's core portfolio, which consists of 77 properties located throughout the U.S. and valued at $4.2 billion, allows it to be somewhat diversified with an average investment per asset of $54.9 million. However, this portfolio is not nearly as diversified as the benchmark, ODCE. In September 2017 the ODCE index consisted of 2,510 properties and was valued at $181 billion, which is an average of $73 million per asset. Thus, the benchmark is much more diversified and has larger properties than the LACERA portfolio.

***Conclusion: LACERA could improve diversification and gain access to larger assets by investing via one or more ODCE commingled funds.***

LACERA's separate account managers, responsible for 91% of the core investments, can be segmented into four groups, longest-term, medium-term, shorter-term and debt.

The longest-term managers, RREEF, TA Associates and Invesco, were retained in 1992-1994 and have the most assets under management. They collectively manage $2.4 billion or 52% of the core assets.

The medium-term managers include Barings (formerly Cornerstone Real Estate Advisers), Capri Capital and Vanbarton (formerly Emmes). Barings was retained in 2004. They currently manage a single asset, a hotel property for LACERA. Capri Capital, was initially retained as an emerging manager, in 2011, and was graduated in 2016. Capri manages a portfolio of apartment assets. Vanbarton was retained in 2003. They currently manage a portfolio of retail properties in the Midwest.

The shorter-term or newest managers are Clarion, Heitman and Stockbridge. They were retained in 2013. Consequently, they have not yet generated five-year returns.

The debt managers are Barings and Quadrant. They were retained in 2011 to execute real estate debt investments exclusively.

Long-term Manager performance relative to the benchmark has been disappointing. As illustrated on **CHART 2** above, only RREEF has exceeded the benchmark over a five-, seven- or ten-year period.

Notably, none of the individual engagement agreements contain a performance target. Rather, each agreement references the OPP, which includes the LACERA benchmark for the program. Managers have been considered contributors to the total portfolio and none of the managers have been held individually accountable for total portfolio performance. Total portfolio composition was managed by LACERA. For example, when initially hired, RREEF was directed to invest primarily in the west and TA was directed to invest primarily in the east so that the resulting portfolio was diversified. Neither manager was expected to be geographically diversified across the entire U.S.

Similarly, the recently hired managers, Clarion, Heitman and Stockbridge, were expected to supplement the existing total portfolio, not individually meet the benchmark composition.

***Conclusion: Individual manager performance targets should be developed and put in place in order to better assess performance.***

***Conclusion: Manager performance should be reviewed and mandate modifications considered as appropriate.***

Non-Core Investing

Non-core investments consist of value-added (medium risk) and high-return (high risk). LACERA has utilized both separate accounts and commingled funds for non-core investing since 1995. Non-core investing is done in pursuit of higher-than-core returns.

While some value-add investments have performed well, overall they have failed to achieve a premium over core investments. Notably, the separate account value-add investments have been extremely concentrated. Just three investments account for over 80% of the market value of the value-add portfolio as of September 2017. The largest single investment is a hotel that represents nearly 34% of the value-added portfolio.

***Conclusion: LACERA should consider using commingled funds for future value-added investments so that greater diversification can be achieved. However, vintage year diversification should also be considered.***

***Conclusion: Non-core investing by separate account managers should be restricted to ≤20% of the gross assets under manager by each manager. Value-added investments should only be permitted on an exception basis.***

High-return investing has largely consisted of ground-up development, higher-risk international investments and the single-family housing program. LACERA has utilized separate accounts and commingled funds for high-return investments.

Long-term performance of high-return investments have been very disappointing, under-performing the benchmark by 2,510 basis points over a ten-year period. More recent performance has been encouraging. The three-year return of 15.2% exceeded the benchmark by 210 basis points. This has largely been the result of “build-to-core” investment successes. Build-to-core refers to the practice of constructing new properties and, upon completion and stabilization, either selling or transferring to the Fund’s core holdings. Recently completed projects have generated internal rates of return ranging from 14.5% to 29.1%.

LACERA's single-family housing program has dramatically impacted long-term, high-return performance. The program generated exceptionally strong returns for over ten years and was consistently the highest performing investment in the entire Fund portfolio. However, it realized substantial losses during the Global Financial Crisis. The program ceased making new investments in 2008 and an orderly liquidation of remaining assets was completed in 2017. Nonetheless, its negative impact on ten-year returns for the high-return portfolio remains, accounting for 59%, or 1,470 basis points of the under-performance.

High-return investments frequently generate cash flow streams that cause significant differences between time-weighted and dollar-weighted (aka Internal Rate of Return) returns. For example, the Cityview LA Urban fund, to which LACERA committed $50 million in 2007, is considered a top-quartile performer by The Townsend Group for its vintage year. The since-inception time-weighted return was -14.0% and the internal rate of return was +11.9%. The internal rate of return is a more appropriate method for assessing performance when negative and positive cash flows and significant variances in the amount of capital invested occur over time.

***Conclusion: Diversification of investments and vintage year helps mitigate the high risk associated with high-return investing.***

## RECOMMENDATIONS

The current positive real estate cycle is now nine-years old. Returns have moderated as cap-rate compression has ceased and spreads to other asset types have narrowed. The 20-year average spread between real estate and U.S. treasuries is 3.0%, which is higher than the current 2.2% spread.[8] Similarly, pricing of public versus private real estate as measured by REIT share prices compared to the net asset value of company holdings is -12%. This indicates that the share prices for REITS are priced 12% less than the underlying value of the real estate owned by the REIT. The 20-year average for this ratio is +3%, suggesting that either REIT prices are likely to rise OR real estate values are likely to decline.

An additional indication of concern that the current positive real estate cycle may be nearing an end is the recent Consensus Forecast Survey published by the Pension Real Estate Association. The forecast returns from real estate as of Q1 2018 were 6.0% for 2018, 5.3% for 2019 and 4.8% for 2020. The forecast appreciation component of return for 2020 is -0.1%, indicating an expectation that property values will decline.

These matrixes and forecast suggest that now may not be the appropriate time to add more risk to the real estate program. However, as a long-term investor, the Fund should continue to prudently invest through cycles.

Regardless of the state of the real estate market, LACERA's real estate program could be modified to improve the chances of meeting or exceeding the benchmark return in the future without significantly changing the risk profile of the allocation. Recommended modifications would not

[8] Deutsche Asset Management Alternatives, U.S. Real Estate Indicators Dashboard, March 2018.

alter the role of real estate in the portfolio or the philosophy for the allocation. Staff suggests that several modifications should be implemented immediately and that several additional tasks should be undertaken over the next six- to twelve-month period.

Immediate modifications

- Cease allowing the separate account managers to make value-added investments on a discretionary basis. The managers have not demonstrated the ability to execute value-added strategies successfully.
- Manager-specific performance hurdles should be developed. Individual performance hurdles will provide for mutual understanding of what is expected for continued investment by the Fund.
- Identify benchmark variances and calculate relative contribution to performance on an on-going basis. Intentionally varying from the benchmark should require rationale that is regularly revisited. This can be done as part of the annual Real Estate Investment Plan.

Tasks to implement over the next six- to 12-month period

- Critically evaluate manager performance and mandates. Modify or terminate as needed to take advantage of demonstrated competencies. Continued retention should be predicated on performance. Some separate account managers have generated strong performance while others have not. Under-performing managers should be terminated or have mandates restricted to only areas of proven expertise.
- Increase exposure to industrial investments to better match the benchmark.
- Reduce exposure to apartments to better match the benchmark.
- Evaluate office and retail holdings and evaluate whether capital would be more effectively deployed by a property-type specialist owner/operator in a fund format.

Tasks to initiate or continue on an on-going basis

- Justify benchmark variances on an annual basis. Variance bands can be established around the property type and geographic composition of the benchmark. The annual Real Estate Investment Plan should include rationale for variances that exceed established limits.
- Domestic value-added and high-return commingled funds should be evaluated for possible commitments. Any commitments should be staggered across multiple vintage years.
- Open-end commingled core funds should be evaluated for possible commitments. Such investments would reduce the current benchmark mismatch by gaining exposure to CBD office and regional mall properties. It would also increase diversification. Such investments may be made by contributing asset for shares, thereby avoiding any entry queues.
- Cull the portfolio of under-performing assets. Annual business plans for each property include a hold-sell analysis. Extra emphasis should be placed on selling assets that are expected to under-perform. This is particularly true of the large, historically under-performing, retail assets.

## CONCLUSION

Allocating funds to real estate has benefited the Fund from an asset allocation perspective. The real estate investment program has met several of its asset class goals, including diversifying the Fund and generating cash flow. However, it has failed to meet its ten-year return objective. This structure review has tried to identify and suggest modifications to the program that should enhance prospects for improved performance in the future.

Should the real estate Committee approve the proposed recommendations, they will be forwarded to the Board for adoption. Staff would then immediately implement the identified actions. Additionally, staff suggests that the role of real estate be revisited during the next update to the Real Estate Objectives, Policies and Procedures and Investment Policy Statement.

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer

JDM/dr

March 27, 2018

TO: Each Member
Real Estate Committee

FROM: John McClelland
Principal Investment Officer-Real Estate

FOR: April 11, 2018 Real Estate Committee Meeting

SUBJECT: **PERFORMANCE ATTRIBUTION ANALYSIS**

The Board's real estate consultant, The Townsend Group (Townsend or the Consultant), has completed an attribution analysis of LACERA's real estate performance and developed several conclusions and recommendations.

Phase One of the analysis was presented to the Committee in September 2017. Phase One addressed performance by property type, geography and vehicle type. Phase Two of the analysis was presented to the Committee in February 2018. Phase Two addressed individual manager performance by risk sector: core, value-add and high-return.

The Consultant's Final Conclusions report is attached herewith (**ATTACHMENT**). The report addresses LACERA separate account portfolio key findings, conclusions and recommendations on how LACERA might modify the existing program in ways that may improve prospects for improved performance in the future.

Staff has completed a Real Estate Investment Structure Review coincident with the consultant's report. The Structure Review contains staff's proposed actions as a result of the consultant's recommendations. The Structure Review is being presented to the Committee as a separate agenda item from the consultant's report.

Jennifer Stevens, Principal; Robert Miranda, Vice President; and Felix Fels, Associate of The Townsend Group will be presenting at the April 2018 Committee meeting to discuss the results of their analysis.

Attachment

Noted and Reviewed:

Jonathan Grabel
Chief Investment Officer

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# Los Angeles County Employees' Retirement Association
# Real Estate IMA Attribution Project – Final Conclusions

LACERA Los Angeles County Employees Retirement Association

PROPRIETARY & CONFIDENTIAL

April 11, 2018

# Table of Contents

## Project Description

# Introduction: LACERA Real Estate Attribution Project

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## Attribution Analysis – Part 1

*Presented to the Real Estate Committee on September 11, 2017*

This presentation provided LACERA with an assessment if its existing positions and how they've performed over time.

- Examine LACERA past performance:
  - By Property Type
  - By Geography
  - By Vehicle Type
- Highlight future considerations to be addressed by appropriate parties (Staff, Managers and Consultant).

## Attribution Analysis – Part 2

Assess Individually Managed Account ("IMA") performance by manager and highlight future LACERA program considerations.

- Assess Manager Performance [1].:
  - Core IMA Manager Performance compared to Benchmarks
  - Value IMA Manager Performance compared to Benchmarks
  - High Return IMA Manager Performance compared to Benchmarks
- Portfolio Attribution by Manager:
  - History of each IMA mandate
  - Performance by IMA mandates
  - Asset by Asset Performance



1. LACERA IMA Managers are aware of LACERA Benchmarks.

# Introduction: LACERA Real Estate Attribution Project

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## Attribution Analysis – Final Conclusions

*Presented to the Real Estate Committee on April 11, 2018*

This presentation is intended to provide LACERA with a high level summary of key takeaways and program recommendations

- Review scope of LACERA IMA Attribution Project
- Summarize Key Findings & Communicate Feedback
- Answer LACERA Real Estate Committee Questions
- Propose Solutions to Improve Performance of the Program

## Real Estate Objectives - Refresh

Defined in Current LACERA OPP (annual review underway by Staff & Townsend)

*Project Mission: Has the IMA program helped LACERA to achieve its overall objectives or is the approach limiting opportunity?*

LACERA Role of Real Estate

1. Enhance the diversification of the LACERA Total Fund Portfolio
2. Provide competitive risk adjusted returns relative to other asset classes

LACERA Investment Philosophy

1. Maximize long term total cash returns
2. Achieving a total return competitive with other asset classes
3. Maintain a broad diversification of assets, ***while controlling risk.***

***Other than the OPP reference to "control" and prior Staff/Board preferences for execution, the OPP is not prohibiting the use of funds in LACERA's US Program.***

## Phase II Summary

Key Findings, Conclusions and Recommendations

# Separate Account Attribution Project
## *Overall Program Findings*

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**Conclusions**

1. **Overall IMA Program - Key Findings:**
   - Despite generating positive income returns, LACERA's IMA Portfolio lags the Benchmark with respect to appreciation and total return.
   - Greater diversification could be achieved by including a mix of commingled funds and IMAs.
     - 102 properties are currently housed in the IMA Portfolio (as of 2Q17).
   - Vintage is a key factor in determining performance of Non-Core IMAs.
   - Setting performance targets may help to hold IMA managers accountable in the future.

2. **Core IMA Key Findings:**
   - The LACERA Core Separate Account program has met the three primary objectives of the LACERA OPP:
     - Generates strong income returns,
     - Achieves a total net return that is competitive with other asset classes (8.14% since inception),
     - Provides a level of diversification to the Plan.

3. **Value IMA Key Findings:**
   - As a whole, Value Separate Accounts have not performed well.
   - The LACERA Value Separate Account program has consistently lagged its benchmark to-date:
     - Significant J-curve effect may be dragging near-term performance losses which have yet to materialize into stabilized performance.
     - It's worth noting that the Value Separate Account Composite lags the LACERA actuarial target for the Plan (6.47% since inception).

4. **High Return IMA Key Findings:**
   - The LACERA High Return Separate Account program has achieved strong performance post Global Financial Crisis.
   - Over the fifteen and since inception time intervals, the program inured losses (-3.46% since inception).

# Separate Account Attribution Project
## *Overall Program Recommendations*

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**Recommendations**

**Townsend Program Recommendations**

1. **Terminate Underperforming IMA Managers**
   - Consider direct asset sales and/or portfolio sales
     - *Note: Sales of Industrial and Apartment IMA assets were recently executed by DB and CityView via disposition of a 50% stake.*
   - Consider transfer to Open-End Commingled Funds

2. **Retain Outperforming IMA Managers**
   - Restructure IMA Contracts
     - Hold IMA Managers Accountable for Performance
     - Set IMA Performance Target
       - Primary Benchmark Example: Meet or achieve the LACERA Custom benchmark, net of fees
       - Secondary Benchmark Example: Meet or achieve the Manager IMA Custom Weight Benchmark , net of fees
         - Custom –weighted benchmark according to property type exposure in each IMA (NPI or ODCE TBD)
     - Recommend managers sell assets that will not meet future performance targets
     - Continue approving dollars available for deployment of capital on an annual basis, while limiting Non-Core exposure. Note: ODCE allows for Non-Core of up to 20%.

3. **Establish Mix of Open-End Commingled Funds & Separate Accounts for US Core Investment Portfolio**
   - Compliment IMA Exposure with Commingled Fund Exposure (based on historical findings in next section)
   - Allow for periodic rebalancing of positions to achieve competitive risk adjusted returns and take advantage of market opportunity

4. **Introduce US Closed-End Commingled Funds**
   - Target specific Non-Core strategies that cannot be replicated in IMAs (see Appendix A)

# Phase I Summary

Key Findings, Conclusions and Recommendations

# Separate Account Attribution Project
## *Findings & Recommendations for Retained IMAs*

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| Geographic & Property Type Conclusions | Townsend Recommendation |
|---|---|
| 1. Geographic selection appears to be accretive to LACERA. | Continue broad geographic diversification, while taking selective off benchmark overweighting to regions that offer attractive investment fundamentals. |
| 2. Sector selection is highly critical to IMA performance.<br>• Industrial accretive; missed opportunity to equal/over weight to NPI benchmark.<br>• Apartment overweight accretive, but at an opportunity cost.<br>• Superior selection of small Retail assets, but large assets lag benchmark.<br>• Office consistently drags down performance. | Rebalance portfolio:<br>• Increase allocation to Industrial,<br>• Decrease allocation to Apartment,<br>• Rethink investment format for both Retail and Office.<br><br>Retain exposure to outperforming small Retail assets; hold or selectively divest large underperforming assets, such as malls.<br><br>Consider divesting underperforming assets in the IMA Office portfolio and in Non-Core, redeploying capital into specialist Office owner/operator funds which can provide diversification and operating expertise. |
| 3. It has not been proven that developing to core is accretive to IMA performance over the long term, but near-term investments have been more accretive. | Continue to consider select developments in markets that are difficult to access at current pricing. Monitor performance of built-to-core assets. |

# Separate Account Attribution Project
## *Findings & Recommendations for Retained IMAs*

| Geographic & Property Type Conclusions | Townsend Recommendation |
|---|---|
| 1. The Core Separate Account program has been accretive to the Total Plan, and has advanced LACERA's objectives for real estate.<br>2. The Value Separate Account program has lagged returns in the Core Separate Account program (to-date) while also incurring higher risk.<br>3. The High Return Separate Account program has detracted from LACERA's Total Plan over the long-term, but near-term gains may offset losses over time. | • Identify which specific managers have detracted from performance, and reevaluate the future of such relationships.<br>• Refocus specific managers on their strengths: strategy (core, value and/or high return), asset classes and geographies.<br>• Reconsider the pros/cons of ongoing separate account exposure, and whether reallocation to commingled funds could advance LACERA's objectives for certain strategies and points in the market cycle.<br><br>LACERA Staff and Consultant will evaluate each Manager's performance and present recommendations based on findings at a future date |

# Appendix

# Appendix A: Investment Vehicles – Pros/Cons

| Vehicle | Suitability | Pros | Cons |
|---|---|---|---|
| Separate Accounts | • Core Real Estate Investments<br>• Enhanced Return Real Estate Investments | • Control over strategy, investments, terms and conditions<br>• Liquidity, subject to market conditions<br>• Transparency<br>• Lower fees may be structured<br>• Alignment of interests | • Less diversification<br>• Manager concentration<br>• Administrative resources<br>• Less immediate access<br>• Investment rotations |
| Open-End Pooled Funds | • Core Real Estate Investments<br>• Value Add/Enhanced Return Real Estate Investments | • Immediate exposure<br>• Superior diversification<br>• Liquidity, subject to investor governance and market conditions<br>• Transparency<br>• Access to broad array of property types | • Limited to few investment strategies<br>• Little control over terms and strategy<br>• Fees often higher than separate accounts<br>• Less alignment of interests |
| Closed-End Pooled Funds | • Value Add/Enhanced Return Real Estate Investments<br>• Opportunistic/High Return Real Estate Investments | • Greatest number of investment strategies<br>• Improved diversification<br>• Diversification by strategy and manager<br>• Alignment of interests<br>• Often exclusivity | • Least control<br>• Least liquidity<br>• Reduced transparency<br>• Higher fees<br>• Little control over terms and strategy |
| Alternatives (e.g., joint ventures, portfolio acquisitions, entity investments, co-investments) | • Core Real Estate Investments<br>• Value Add/Enhanced Return Real Estate Investments<br>• Opportunistic/High Return Real Estate Investments | • Ability to be tactical<br>• Access to unique opportunities<br>• Capitalize on competitive advantages<br>• Ability to drive terms | • Require structuring expertise<br>• Management oversight<br>• Concentrated risk |

# Appendix B: Accessibly of Strategies in Funds vs. IMA

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| **Investments** Difficult to Acquire in IMA Format | **Townsend View of the World Comments** | **Examples of Fund Execution** | **Strategy Explanation** |
|---|---|---|---|
| Ex-US Investments | Selectively Pursuing Europe and Asia. Cautious on Latin America. TTG completing visits to Brazil and Colombia by April 2018 for View of the World refresh. | Exeter Europe<br>CapMan Nordics<br>Heitman Asia | • Operator - European Industrial (LACERA partners with ProLogis)<br>• Pan-Nordic Investment (LACERA Approved)<br>• Asia Value Add Fund Traditional / Niche Property Type Strategy (LACERA Approved) |
| Portfolio Level Transactions (Equity / Debt) | Blind pool funds with larger global allocators generally out of favor today. Core OECFs with particular specialty or intrinsic value worth considering. | Fortress Japan<br>Blackstone Global<br>Lone Star Global<br>ProLogis / Goodman | • Japan NPLs, office, hotel, other sectors<br>• Global allocator; portfolio level transactions<br>• Global allocator; portfolio level transactions<br>• Industrial Core Open-End Funds - capacity for larger deals |
| Entity Level Transactions / Public-to-Private Recaps | Favorable view on entity level transactions due to increased return potential in a low yield environment. Must select strong partner with considerable experience. | Almanac Fund VIII<br>Berkshire Realty Ventures | • Value Add Real Estate Operating Company Acquirer (currently approved as Townsend "best idea" funds). Entity-level investments in growing real estate operating companies through debt or equity. |
| Debt Strategies (excluding construction lending) | Debt for transitional assets offers attractive returns given that CMBS issuance is scaling back amid very high levels of expiries and banks are unwilling or unable to increase real estate exposure; however, poor asset selection could result in downside in the event of an unexpected slowdown. Preferred equity with kickers is a good way to enhance returns without full equity risk, but such options are typically only possible on transitional assets or assets that require major renovations. Opportunistic debt strategies could have a wide range of outcomes; execution options could be very limited. See Apartment field below. | Pramerica<br>Wolffe Credit Partners | • Pan European Preferred Equity (fund closed in 2017)<br>• US Preferred equity financing of new apartment development (fund closed in 2017) |
| CBD Office | Cautious about blind pool funds investing in office at this point in cycle. Select markets offer good rent growth, while energy and even tech-based markets be peaking. Partner with strong specialist operators. | Savanna<br>Unico<br>DivcoWest<br>OECF Universe | • NYC Office Operator (fund closed year-end 2017)<br>• Portland, Seattle, Denver Operator Office Core Plus Fund (open through 2018)<br>• National Office Operator (fund closed 2017)<br>• High quality office held through cycle, exposure to larger assets in 24/7 CBDs |
| Apartment - Equity Alternatives or Operator Funds | In 2017, Multifamily K Series Offer Attractive Returns with Downside Protection. Opportunity waning as yields decline in debt. Rent affordability stretched in higher-end apartments; Supply at inflection point in key markets. Refurbishing Class B attractive, prefer debt oriented entry point. | Berkshire<br>Greystar | • Closed-End Commingled Fund - K Series Borrower (closed in 2017)<br>• National Multifamily Operator - Closed-End and Open-End Products |
| Regional Mall Retail / Retail Aggregation Strategies | ECommerce risks in retail are rising. Higher quality malls, once in favor, are likely to witness a deceleration of retail sales growth and further recapitalization. Grocery-anchored retail (accessible through IMAs) is not immune. | Asana Fund II<br>Gerrity | • Retail Operator - High Street Retail Aggregation Strategy (launching 2018)<br>• Retail Operator - CA Grocery-Anchored (launching 2019) |
| Hotels (Single Asset Concentration/CF Volatility) | Peak ADR, Occupancy and RevPAR cause concern. Selectively pursue with operators, or avoid sector entirely. | Noble | • Select Service Hotel Operator / Value-Add |
| Global Niche Property Types | U.S. Alternative sectors continue to offer Yield Premium to investors. US Self-Storage: Strongest price growth since GFC but price weakness now emerging and supply forecasts are higher than expected. US Student Housing offers yield premium relative to traditional apartments, but prices are rising and supply is a risk. US Senior Housing has strong demographic trend. US Medical Office presents some policy risk. Data centers emerging as new asset class. Contemplating strategies in Australian Student Housing and Asia Storage and Senior Housing. | Kayne Anderson<br>Harrison Street<br>Hammes II<br>CA Ventures<br>Heitman Asia<br>Heitman HART | • Niche Property Type Allocator (New Core OECF)<br>• Niche Property Type Allocator (Core OECF and Non-Core Closed-End Fund)<br>• Operator - Pure Play Medical Office Closed-End Fund<br>• Operator - Trying to become Closed-End Fund Manager<br>• Asia Value Add Fund Traditional / Niche Property Type Strategy (LACERA Approved)<br>• Open-End Fund with Self-Storage Component |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

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| Property Details | | | | | | | | Asset Since Inception Net IRR vs. LACERA Custom Benchmark | | | Other Benchmarks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMA Manager | Property Location | Property State | 3Q17 NAV (or Purchase Price) | Investment Style as of 3Q17 | Property Type | Acquired/Developed | Asset Acquisition Date/Quarter | Life of Asset Since Inception Net IRR as of 3Q17 | LACERA Custom Benchmark for Applicable Style Sector (Core/VA/HR) - Since Inception TWR (Match Period) | Spread to Applicable LACERA Custom Benchmark | TTG Vintage Year IRR for Non-Core Indices (Style Sector Match) * | NPI - Since Inception (Match Period) | NPI Property Type - Since Inception (Match Period) | ODCE net - Since Inception (Match Period) |
| Barings | Kauai | HI | $211,955,199 | Value-Add | Hotel | Acquired | 3/18/2005 | 0.3% | 9.2% | -8.9% | 0.3% | 8.6% | 7.2% | 6.9% |
| Barings-Debt | Fort Worth | TX | $14,200,000 | Core | Apartment | Debt | 5/19/2017 | N/A | N/A | 2017 acq | N/A | N/A | N/A | N/A |
| | | | | | | | | | | | | | | |
| Capri | Dallas | TX | $48,724,094 | Core | Apartment | Developed to Core | 6/30/2005 | 4.7% | 8.2% | -3.5% | 2.2% | 8.5% | 8.1% | 6.6% |
| Capri | Houston | TX | $57,894,181 | Core | Apartment | Acquired | 8/30/2007 | 2.3% | 6.2% | -3.9% | N/A | 6.4% | 6.2% | 4.3% |
| Capri | San Jose | CA | $2,396,193 | Core | Apartment | Acquired | 4/16/2012 | 6.0% | 10.4% | -4.5% | N/A | 10.4% | 9.6% | 10.5% |
| Capri | Seattle | WA | $44,602,357 | Core | Apartment | Acquired | 10/30/2012 | 9.0% | 10.5% | -1.5% | N/A | 10.3% | 9.5% | 10.6% |
| Capri | Marina Del Rey | CA | $159,198,162 | Core | Apartment | Acquired | 6/28/2013 | 10.4% | 10.5% | -0.2% | N/A | 10.3% | 9.3% | 10.7% |
| Capri [9] | Los Angeles | CA | $55,422,055 | High Return | Apartment | Developed; Hold/Sell Analysis | 2/23/2015 | 16.4% | 12.8% | 3.6% | 11.6% | 9.6% | 8.6% | 9.6% |
| | | | | | | | | | | | | | | |
| CityView [4] [8] | San Francisco | CA | $26,165,771 | Core | Apartment | Acquired/Stablilize (used Custom Core Bench) | 12/31/2012 | 9.6% | 10.5% | -0.9% | N/A | 10.4% | 9.5% | 10.6% |
| CityView [8] | Berkeley | CA | $52,658,426 | Core | Apartment | Developed to Core | 6/30/2012 | 11.6% | 13.6% | -2.0% | 10.9% | 10.4% | 9.6% | 10.5% |
| CityView [8] | San Francisco | CA | $64,396,756 | Core | Apartment | Developed to Core | 12/30/2011 | 9.2% | 13.7% | -4.5% | 12.8% | 10.5% | 9.9% | 10.6% |
| CityView | San Jose | CA | $18,052,177 | Core | Student Housing | Developed to Core 12/31/17 transfer | 9/30/2014 | 45.4% | 13.3% | 32.1% | 13.2% | 9.9% | 9.0% | 10.1% |
| CityView | Menlo Park | CA | $17,028,505 | Core | Apartment | Developed to Core 12/31/17 transfer | 12/31/2014 | 32.5% | 13.0% | 19.5% | 13.2% | 9.8% | 8.9% | 9.8% |
| CityView | Foster City | CA | $1,720,339 | Core | Apartment | Developed to Core 12/31/17 transfer | 6/30/2014 | 11.8% | 13.3% | -1.5% | 13.2% | 10.1% | 9.1% | 10.1% |
| | | | | | | | | | | | | | | |
| Clarion | Austin | TX | $26,957,390 | Core | Office | Acquired | 2/18/2014 | 13.6% | 10.1% | 3.5% | N/A | 10.2% | 9.2% | 10.1% |
| Clarion | Los Angeles | CA | $180,509,220 | Core | Apartment | Acquired | 7/1/2014 | 7.3% | 10.0% | -2.8% | N/A | 9.9% | 9.0% | 10.0% |
| Clarion | Compton | CA | $227,562,253 | High Return | Industrial | Under Construction | 12/15/2015 | 29.1% | 11.1% | 18.0% | 11.6% | 8.1% | 12.6% | 7.9% |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

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| Property Details | | | | | | | | Asset Since Inception Net IRR vs. LACERA Custom Benchmark | | | Other Benchmarks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMA Manager | Property Location | Property State | 3Q17 NAV (or Purchase Price) | Investment Style as of 3Q17 | Property Type | Acquired/Developed | Asset Acquisition Date/Quarter | Life of Asset Since Inception Net IRR as of 3Q17 | LACERA Custom Benchmark for Applicable Style Sector (Core/VA/HR) - Since Inception TWR (Match Period) | Spread to Applicable LACERA Custom Benchmark | TTG Vintage Year IRR for Non-Core Indices (Style Sector Match) * | NPI - Since Inception (Match Period) | NPI Property Type - Since Inception (Match Period) | ODCE net - Since Inception (Match Period) |
| Heitman | Wilmington | NC | $7,124,898 | Value-Add | Student Housing | Acquired | 12/6/2013 | **9.3%** | **11.3%** | *-2.0%* | 12.7% | 10.2% | 9.2% | 10.2% |
| Heitman | Wilmington | NC | $5,824,405 | Value-Add | Student Housing | Acquired | 12/6/2013 | **9.3%** | **11.3%** | *-2.0%* | 12.7% | 10.2% | 9.2% | 10.2% |
| Heitman | Orlando | FL | $43,377,701 | Core | Apartment | Acquired | 7/30/2014 | **21.0%** | **10.0%** | *10.9%* | N/A | 9.9% | 9.0% | 10.0% |
| Heitman | Sandy Springs | GA | $40,454,641 | Core | Apartment | Acquired | 12/16/2014 | **1.5%** | **9.8%** | *-8.3%* | N/A | 9.8% | 8.9% | 9.8% |
| Heitman | St. Louis Park | MN | $62,747,165 | Core | Retail | Acquired | 1/13/2015 | **7.0%** | **9.6%** | *-2.6%* | N/A | 9.6% | 10.4% | 9.6% |
| Heitman | Austin | TX | $35,529,444 | Core | Apartment | Acquired | 5/11/2015 | **7.9%** | **9.2%** | *-1.3%* | N/A | 9.0% | 8.3% | 9.2% |
| Heitman | Raleigh | NC | $49,884,038 | Core | Apartment | Acquired | 12/30/2015 | **5.0%** | **7.9%** | *-2.9%* | N/A | 8.1% | 7.3% | 7.9% |
| Heitman | San Diego | CA | $50,188,779 | Core | Student Housing | Acquired | 12/8/2016 | **-0.9%** | **6.7%** | *-7.6%* | N/A | 6.9% | 6.2% | 6.7% |
| Heitman | Washington | DC | $126,155,000 | Core | Student Housing | Acquired | 10/19/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| Heitman | College Park | MD | $219,000,000 | Core | Student Housing | Acquired | 11/1/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| | | | | | | | | | | | | | | |
| Invesco | Arlington | VA | $76,676,081 | Core | Office | Acquired | 5/24/2000 | **8.8%** | **8.6%** | *0.2%* | N/A | 9.0% | 8.1% | 7.3% |
| Invesco | Sunrise | FL | $52,057,862 | Core | Apartment | Acquired | 3/22/1999 | **10.4%** | **8.8%** | *1.6%* | N/A | 9.1% | 9.1% | 7.6% |
| Invesco | Newark | CA | $51,264,471 | Core | Industrial | Acquired | 3/14/2001 | **8.7%** | **8.5%** | *0.2%* | N/A | 8.8% | 9.3% | 7.0% |
| Invesco | Dallas | TX | $68,126,335 | Value-Add | Office | Acquired | 12/22/2011 | **10.2%** | **11.5%** | *-1.3%* | 17.0% | 10.5% | 9.4% | 10.6% |
| Invesco | Collegeville | PA | $105,947,317 | Core | Retail | Developed to Core | 6/28/2007 | **8.3%** | **6.5%** | *1.8%* | 2.8% | 6.7% | 8.0% | 4.7% |
| Invesco | New York | NY | $131,540,853 | Value-Add | Retail | Acquired | 12/11/2012 | **7.6%** | **11.5%** | *-3.9%* | 12.6% | 10.3% | 11.5% | 10.6% |
| Invesco | Denver | CO | $66,435,210 | Core | Apartment | Developed to Core | 12/17/2012 | **17.2%** | **10.5%** | *6.7%* | 10.9% | 10.3% | 9.5% | 10.6% |
| Invesco | Arlington | TX | $31,816,664 | High Return | Industrial | Under Construction | 3/10/2016 | **-3.7%** | **10.4%** | *-14.1%* | 11.7% | 7.5% | 12.5% | 7.2% |
| Invesco | New York | NY | $263,481,338 | Core | Apartment | Acquired | 12/4/2012 | **8.5%** | **10.5%** | *-1.9%* | N/A | 10.3% | 9.5% | 10.6% |
| Invesco | Miami | FL | $82,332,775 | High Return | Apartment | Developed; In Lease Up | 12/18/2013 | **16.2%** | **13.5%** | *2.8%* | 14.1% | 10.2% | 9.2% | 10.2% |
| Invesco | Riverside | CA | $80,100,000 | Value Add | Industrial | Acquired | 11/8/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| Invesco | Houston | TX | $86,000,000 | Core | Office | Acquired | 12/19/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| | | | | | | | | | | | | | | |
| Quadrant-Debt | Camp Springs | MD | $26,250,000 | Core | Apartment | Debt | 3/23/2017 | **9.6%** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| Quadrant-Debt | Norwalk | CT | $31,500,000 | Core | Apartment | Debt | 12/4/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

| Property Details | | | | | | | | Asset Since Inception Net IRR vs. LACERA Custom Benchmark | | | Other Benchmarks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMA Manager | Property Location | Property State | 3Q17 NAV (or Purchase Price) | Investment Style as of 3Q17 | Property Type | Acquired/Developed | Asset Acquisition Date/Quarter | Life of Asset Since Inception Net IRR as of 3Q17 | LACERA Custom Benchmark for Applicable Style Sector (Core/VA/HR) - Since Inception TWR (Match Period) | Spread to Applicable LACERA Custom Benchmark | TTG Vintage Year IRR for Non-Core Indices (Style Sector Match) * | NPI - Since Inception (Match Period) | NPI Property Type - Since Inception (Match Period) | ODCE net - Since Inception (Match Period) |
| RREEF [5] | Santa Fe Springs | CA | $33,426 | Core | Industrial | Acquired | 2/26/1991 | **9.2%** | **7.6%** | *1.6%* | N/A | 8.0% | 8.8% | 6.6% |
| RREEF [5] | Buena Park | CA | $41,883 | Core | Industrial | Acquired | 7/12/1991 | **9.7%** | **7.8%** | *1.9%* | N/A | 8.2% | 8.9% | 6.8% |
| RREEF | San Diego | CA | $29,362,718 | Core | Industrial | Acquired | 12/31/1991 | **12.6%** | **7.9%** | *4.8%* | N/A | 8.3% | 9.0% | 6.9% |
| RREEF [5] | Costa Mesa | CA | $63,090 | Core | Industrial | Acquired | 12/31/1991 | **12.9%** | **7.9%** | *5.1%* | N/A | 8.3% | 9.0% | 6.9% |
| RREEF | Mission Viejo | CA | $14,885,371 | Core | Industrial | Acquired | 12/31/1991 | **10.8%** | **7.9%** | *3.0%* | N/A | 8.3% | 9.0% | 6.9% |
| RREEF | Bellevue | WA | $39,874,357 | Core | Retail | Acquired | 8/16/1994 | **13.2%** | **9.2%** | *4.1%* | N/A | 9.6% | 9.9% | 8.2% |
| RREEF | San Leandro | CA | $80,158,876 | Core | Retail | Acquired | 2/8/1995 | **12.4%** | **9.2%** | *3.2%* | N/A | 9.6% | 10.0% | 8.2% |
| RREEF | Long Beach | CA | $31,298,932 | Core | Industrial | Acquired | 1/16/1997 | **15.3%** | **9.3%** | *6.0%* | N/A | 9.7% | 10.2% | 8.2% |
| RREEF [5] | City of Industry | CA | $51,824 | Core | Industrial | Acquired | 1/16/1997 | **12.7%** | **9.3%** | *3.4%* | N/A | 9.7% | 10.2% | 8.2% |
| RREEF | McLean | VA | $62,487,485 | Core | Office | Acquired | 4/22/1997 | **7.4%** | **9.3%** | *-1.9%* | N/A | 9.7% | 9.3% | 8.2% |
| RREEF[6] | Kent | WA | $14,202 | Core | Industrial | Acquired | 9/30/1997 | **10.2%** | **9.3%** | *0.9%* | N/A | 9.7% | 10.1% | 8.1% |
| RREEF | Tempe | AZ | $65,852,012 | Core | Office | Acquired | 11/19/1998 | **7.4%** | **8.8%** | *-1.4%* | N/A | 9.2% | 8.5% | 7.6% |
| RREEF | Philadelphia | PA | $73,290,048 | Core | Apartment | Acquired | 3/23/1999 | **9.9%** | **8.8%** | *1.2%* | N/A | 9.1% | 9.1% | 7.6% |
| RREEF [5] | San Diego | CA | $74,048 | Core | Industrial | Acquired | 3/26/1999 | **8.2%** | **8.8%** | *-0.5%* | N/A | 9.1% | 9.7% | 7.6% |
| RREEF [6] | Plantation | FL | $606,589 | Core | Apartment | Acquired | 6/15/1999 | **11.5%** | **8.7%** | *2.7%* | N/A | 9.1% | 9.0% | 7.5% |
| RREEF [5] | Naperville | IL | $ (39,757) | Core | Industrial | Acquired | 10/1/1999 | **13.9%** | **8.7%** | *5.2%* | N/A | 9.0% | 9.6% | 7.4% |
| RREEF | Chicago | IL | $55,566,288 | Core | Apartment | Acquired | 7/1/2003 | **7.1%** | **8.8%** | *-1.7%* | N/A | 9.1% | 8.6% | 7.3% |
| RREEF | Deerfield | IL | $68,652,732 | Core | Retail | Acquired | 7/1/2003 | **5.6%** | **8.8%** | *-3.1%* | N/A | 9.1% | 10.7% | 7.3% |
| RREEF [5] | Kent | WA | $15,879 | Core | Industrial | Developed to Core | 12/22/2004 | **10.4%** | **8.6%** | *1.8%* | 5.8% | 8.8% | 9.5% | 7.0% |
| RREEF | Aliso Viejo | CA | $56,087,304 | Core | Office | Developed to Core | 11/18/2005 | **2.5%** | **7.8%** | *-5.2%* | 2.2% | 8.0% | 7.6% | 6.1% |
| RREEF | Carlsbad | CA | $16,859,901 | Core | Office | Acquired | 1/4/2007 | **-0.4%** | **6.7%** | *-7.0%* | N/A | 6.9% | 6.3% | 4.9% |
| RREEF | San Diego | CA | $17,366,134 | Core | Industrial | Acquired | 10/1/2012 | **12.9%** | **10.5%** | *2.5%* | N/A | 10.3% | 13.0% | 10.6% |
| RREEF | New York | NY | $69,971,914 | Core | Other | Acquired | 3/8/2013 | **10.2%** | **10.5%** | *-0.3%* | N/A | 10.3% | 8.5% | 10.7% |
| RREEF | Seattle | WA | $144,610,913 | Core | Office | Acquired | 3/27/2013 | **14.8%** | **10.5%** | *4.3%* | N/A | 10.3% | 9.3% | 10.7% |
| RREEF [5] | Carol Stream | IL | $49,326 | Core | Industrial | Acquired | 6/12/2014 | **11.4%** | **10.1%** | *1.3%* | N/A | 10.1% | 13.5% | 10.1% |
| RREEF | Washington | DC | $87,752,702 | High Return | Apartment | Under Construction | 6/10/2015 | **-1.3%** | **12.5%** | *-13.8%* | 11.6% | 9.0% | 8.3% | 9.2% |
| RREEF | Chicago | IL | $43,301,693 | Core | Apartment | Acquired | 10/30/2015 | **5.9%** | **7.9%** | *-2.0%* | N/A | 8.1% | 7.3% | 7.9% |
| RREEF [5] | East Windsor | NJ | $197 | High Return | Industrial | Under Construction | 1/19/2016 | **16.7%** | **10.4%** | *6.3%* | 11.7% | 7.5% | 12.5% | 7.2% |
| RREEF [5] | Franklin Park | IL | $190 | High Return | Industrial | Under Construction | 3/24/2016 | **24.6%** | **10.4%** | *14.2%* | 11.7% | 7.5% | 12.5% | 7.2% |
| RREEF | City of Industry | CA | $13,305 | High Return | Industrial | Under Construction | 2/23/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| RREEF | Carlsbad | CA | $22,900,000 | High Return | Industrial | Under Construction | 8/16/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| RREEF | Chicago | IL | $85,693,400 | High Return | Apartment | Under Construction | 12/27/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

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| Property Details | | | | | | | | Asset Since Inception Net IRR vs. LACERA Custom Benchmark | | | Other Benchmarks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMA Manager | Property Location | Property State | 3Q17 NAV (or Purchase Price) | Investment Style as of 3Q17 | Property Type | Acquired/Developed | Asset Acquisition Date/Quarter | Life of Asset Since Inception Net IRR as of 3Q17 | LACERA Custom Benchmark for Applicable Style Sector (Core/VA/HR) - Since Inception TWR (Match Period) | Spread to Applicable LACERA Custom Benchmark | TTG Vintage Year IRR for Non-Core Indices (Style Sector Match) * | NPI - Since Inception (Match Period) | NPI Property Type - Since Inception (Match Period) | ODCE net - Since Inception (Match Period) |
| Stockbridge | Kannapolis | NC | $31,332,839 | Core | Retail | Acquired | 12/11/2013 | **14.0%** | **10.2%** | *3.8%* | N/A | 10.2% | 11.1% | 10.2% |
| Stockbridge | San Diego | CA | $22,960,409 | Core | Office | Acquired | 1/24/2014 | **-5.5%** | **10.1%** | *-15.6%* | N/A | 10.2% | 9.2% | 10.1% |
| Stockbridge | Pinole | CA | $45,002,390 | Core | Retail | Acquired | 5/22/2014 | **13.5%** | **10.1%** | *3.4%* | N/A | 10.1% | 10.6% | 10.1% |
| Stockbridge | Phoenix | AZ | $38,357,531 | Core | Industrial | Acquired | 11/21/2014 | **4.9%** | **9.8%** | *-4.9%* | N/A | 9.8% | 13.6% | 9.8% |
| Stockbridge | Alpharetta | GA | $36,095,056 | Value-Add | Retail | Acquired | 9/24/2015 | **6.0%** | **9.7%** | *-3.7%* | 11.8% | 8.6% | 9.0% | 8.6% |
| Stockbridge | Decatur | GA | $22,979,022 | Core | Office | Acquired | 12/30/2015 | **6.2%** | **7.9%** | *-1.7%* | N/A | 8.1% | 6.6% | 7.9% |
| Stockbridge | Kendall | FL | $29,319,620 | Core | Apartment | Acquired | 3/11/2016 | **12.1%** | **7.2%** | *5.0%* | N/A | 7.5% | 6.8% | 7.2% |
| Stockbridge | Denver | CO | $30,017,310 | Core | Industrial | Acquired | 9/23/2016 | **8.4%** | **6.9%** | *1.6%* | N/A | 7.0% | 12.7% | 6.9% |
| Stockbridge [7] | Tustin | CA | $15,310,762 | High Return | Office | Acquired | 10/7/2016 | **13.7%** | **9.9%** | *3.8%* | 11.7% | 6.9% | 5.7% | 6.7% |
| Stockbridge [7] | Nashville | TN | $13,716,139 | High Return | Apartment | Under Const. | 11/22/2016 | **8.7%** | **9.9%** | *-1.2%* | 11.7% | 6.9% | 6.2% | 6.7% |
| Stockbridge | Kent | WA | $12,474,581 | Core | Industrial | Acquired | 12/16/2016 | **6.5%** | **6.7%** | *-0.2%* | N/A | 6.9% | 12.8% | 6.7% |
| Stockbridge | Dallas | TX | $46,840,461 | Core | Apartment | Acquired | 12/20/2013 | **8.3%** | **10.2%** | *-2.0%* | N/A | 10.2% | 9.2% | 10.2% |
| Stockbridge | San Jose | CA | $23,801,890 | Core | Industrial | Acquired | 2/24/2014 | **15.5%** | **10.1%** | *5.5%* | N/A | 10.2% | 13.4% | 10.1% |
| Stockbridge | Pleasanton | CA | $58,134,551 | Core | Office | Acquired | 3/16/2016 | **7.5%** | **7.2%** | *0.3%* | N/A | 7.5% | 6.0% | 7.2% |
| Stockbridge | Franklin | TN | $13,940,094 | High Return | Apartment Dvlpmt | Under Construction | 6/5/2017 | **-4.2%** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| Stockbridge | Framingham | MA | $19,935,562 | High Return | Apartment | Under Const | 1/23/2018 | **N/A** | **N/A** | *2018 acq* | N/A | N/A | N/A | N/A |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

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| Property Details | | | | | | | | Asset Since Inception Net IRR vs. LACERA Custom Benchmark | | | Other Benchmarks | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IMA Manager | Property Location | Property State | 3Q17 NAV (or Purchase Price) | Investment Style as of 3Q17 | Property Type | Acquired/Developed | Asset Acquisition Date/Quarter | Life of Asset Since Inception Net IRR as of 3Q17 | LACERA Custom Benchmark for Applicable Style Sector (Core/VA/HR) - Since Inception TWR (Match Period) | Spread to Applicable LACERA Custom Benchmark | TTG Vintage Year IRR for Non-Core Indices (Style Sector Match) * | NPI - Since Inception (Match Period) | NPI Property Type - Since Inception (Match Period) | ODCE net - Since Inception (Match Period) |
| TA Associates | Reston | VA | $25,690,266 | Core | Office | Acquired | 5/7/1992 | **14.7%** | **8.3%** | *6.4%* | N/A | 8.7% | 8.0% | 7.3% |
| TA Associates | Aurora | IL | $14,049,622 | Core | Retail | Acquired | 3/22/1995 | **8.8%** | **9.2%** | *-0.4%* | N/A | 9.6% | 10.0% | 8.2% |
| TA Associates | Montgomeryville | PA | $46,881,491 | Core | Retail | Acquired | 3/29/1995 | **10.6%** | **9.2%** | *1.3%* | N/A | 9.6% | 10.0% | 8.2% |
| TA Associates | Clayton | MO | $18,789,779 | Core | Office | Acquired | 7/20/1995 | **8.7%** | **9.2%** | *-0.6%* | N/A | 9.6% | 9.5% | 8.2% |
| TA Associates | Medley | FL | $69,726,674 | Core | Industrial | Acquired | 6/20/1996 | **10.6%** | **9.3%** | *1.3%* | N/A | 9.7% | 10.4% | 8.3% |
| TA Associates | Columbia | MD | $18,663,943 | Core | Office | Acquired | 9/20/1996 | **8.4%** | **9.3%** | *-0.9%* | N/A | 9.7% | 9.5% | 8.3% |
| TA Associates | Brentwood | TN | $76,566,714 | Core | Office | Acquired/Dev. [3] | 10/15/1996 | **8.7%** | **9.3%** | *-0.6%* | N/A | 9.7% | 9.5% | 8.2% |
| TA Associates | Atlanta | GA | $841,848 | Core | Office | Acquired | 12/22/1997 | **0.4%** | **9.2%** | *-8.8%* | N/A | 9.6% | 9.2% | 8.0% |
| TA Associates | Mansfield | MA | $16,779,525 | Core | Office | Acquired | 6/25/1998 | **6.0%** | **9.0%** | *-3.0%* | N/A | 9.4% | 8.7% | 7.8% |
| TA Associates | Cranston | RI | $144,054,035 | Core | Retail | Acquired | 9/29/1998 | **13.2%** | **8.9%** | *4.3%* | N/A | 9.3% | 10.6% | 7.7% |
| TA Associates | Seattle | WA | $28,295,674 | Core | Office | Acquired | 12/15/1998 | **11.7%** | **8.8%** | *2.9%* | N/A | 9.2% | 8.5% | 7.6% |
| TA Associates | Brentwood | TN | $27,828,543 | Core | Retail | Acquired | 3/25/1999 | **10.4%** | **8.8%** | *1.6%* | N/A | 9.1% | 10.5% | 7.6% |
| TA Associates | Clearwater | FL | $44,983,371 | Core | Apartment | Acquired/Dev.[3] | 7/1/2003 | **11.2%** | **8.8%** | *2.4%* | N/A | 9.1% | 8.6% | 7.3% |
| TA Associates | Atlanta | GA | $39,442,020 | Core | Apartment | Acquired | 7/1/2003 | **14.2%** | **8.8%** | *5.5%* | N/A | 9.1% | 8.6% | 7.3% |
| TA Associates | Orlando | FL | $65,257,953 | Core | Apartment | Acquired | 7/1/2003 | **11.3%** | **8.8%** | *2.6%* | N/A | 9.1% | 8.6% | 7.3% |
| TA Associates | Boston | MA | $65,489,078 | Core | Office | Acquired | 7/1/2003 | **14.3%** | **8.8%** | *5.5%* | N/A | 9.1% | 8.4% | 7.3% |
| TA Associates | Frederick | MD | $62,486,629 | Core | Office | Acquired | 6/21/2007 | **-3.4%** | **6.5%** | *-9.9%* | N/A | 6.7% | 6.0% | 4.7% |
| TA Associates | Dallas | TX | $17,470,701 | Core | Industrial | Acquired | 6/12/2008 | **13.9%** | **5.8%** | *8.1%* | N/A | 6.0% | 7.0% | 4.0% |
| TA Associates | Quincy | MA | $35,034,072 | Core | Apartment | Acquired | 4/10/2017 | **N/A** | **N/A** | *2017 acq* | N/A | N/A | N/A | N/A |
| TA Associates | Doral | FL | $96,100,000 | Core | Office | Acquired | 9/26/2017 | **N/A** | **N/A** | *2018 acq* | N/A | N/A | N/A | N/A |
| | | | | | | | | | | | | | | |
| Vanbarton | Various | Various | $5,912,105 | Value-Add | Retail | Acquired | 5/24/2006 | **0.8%** | **8.2%** | *-7.4%* | -3.9% | 7.6% | 8.5% | 5.6% |
| Vanbarton | Various | Various | $154,587,488 | Value-Add | Retail | Acquired | 2/23/2007 | **0.8%** | **7.6%** | *-6.8%* | 5.6% | 6.9% | 8.1% | 4.9% |

# Appendix C: LACERA IMA Asset Performance Summary Updated for 9/30/17

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## Footnotes:

*Vintage Year median IRRs reflect median performance of the Non-Core Fund Universe tracked by Townsend, separated out by Value-Add and Opportunistic. Vintage years are based on the time of the first capital call.

*For 2017 vintage investments, IRRs are excluded as they are not yet meaningful.

[1] Gateway Empire was acquired for $80.1M and a loan for approx. 50% will be added 1Q18. Helios was acquired for $172M with a loan of $86.4M.

[2] Brentwood Commons I & II was acquired October, 1996 and Brentwood Commons III was developed and added to the investment in 2017.

[3] Bayside Arbor Apts was originally constructed in 1995 as 360 units. In 2010, an additional 76 units were constructed.

[4] CityView's hardcoded numbers are used to reflect the entire hold period of the asset (instead of just the transfer period after the asset left the commingled fund of one).

[5] These assets were sold to the DB Industrial Fund and residual cash remains.

[6] This asset was sold and residual cash remains.

[7] Valuation differences are due to large valuation increases in Q3 2017.

[8] Net IRR as of Q3 2017 provided my manager due to historical data being captured by the CityView Fund-of-One structures during development.

[9] Difference in IRR is due to the reallocation of capital based on appreciation gains triggering the JV waterfall.

[10] Net IRR as of Q3 2017 provided by manager due to incomplete historical data in TIPS.

# Attachment 1

ATTACHMENT 1

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# Los Angeles County Employees' Retirement Association

## Revised Phase 2 Attribution Analysis

*Data Reported as of 6/30/2017*

**April 11, 2018**

LACERA Los Angeles County Employees Retirement Association

## Introduction

# Introduction: LACERA Real Estate Attribution Project

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## Attribution Analysis – Part 1
*Presented to the Real Estate Committee on September 11, 2017*

This presentation provided LACERA with an assessment if its existing positions and how they've performed over time.

- Examine LACERA past performance:
  - By Property Type
  - By Geography
  - By Vehicle Type
- Highlight future considerations to be addressed by appropriate parties (Staff, Managers and Consultant).

## Attribution Analysis – Part 2
Assess Individually Managed Account ("IMA") performance by manager and highlight future LACERA program considerations.

- Assess Manager Performance [1].:
  - Core IMA Manager Performance compared to Benchmarks
  - Value IMA Manager Performance compared to Benchmarks
  - High Return IMA Manager Performance compared to Benchmarks
- Portfolio Attribution by Manager:
  - History of each IMA mandate
  - Performance by IMA mandates
  - Asset by Asset Performance



1. LACERA IMA Managers are aware of LACERA Benchmarks.

# Executive Summary

# LACERA Real Estate Portfolio Objectives

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## Role of Real Estate – LACERA OPP

Real estate investments such as debt, public equities and non-traditional property types or strategies may be used on a limited basis in order to enhance returns and/or defensively position the program against market cycle shifts.

“The role of real estate is primarily to enhance the diversification of the total Fund Portfolio, due to the historically low or negative correlation between real estate and other financial asset classes; and provide competitive risk adjusted returns relative to other asset classes. Real estate may also serve as a hedge against inflation when market conditions allow such a hedge (primarily in supply/demand balanced market cycles in times of greater than expected inflation).” (LACERA OPP)

## Investment Philosophy – LACERA OPP

Income, competitive returns and diversification.

“Investment decisions regarding the real estate portfolio should be primarily guided by the following objectives: (i) maximizing long term total cash returns; (ii) achieving a total return competitive with other asset classes; and (iii) maintain a broad diversification of assets. Controlling risk in the real estate portfolio is equally important as seeking higher returns. LACERA should adhere to prudent risk management policies that will seek to manage risk through control over investment process and investment vehicles and insure prudent diversification of assets and investment managers.” (LACERA OPP)

## Condensed LACERA Real Estate Program History

LACERA has a history of investing in both Individually Managed Accounts (“IMAs”) and commingled funds.

- Limited universe of open-end commingled funds in 1980’s.
- Major market correction in 1990’s turned Institutional Investors towards IMAs.
- LACERA launches first Core IMA program in 1991.
- Today, the LACERA Portfolio is valued at approximately $6 billion, consisting of 75% Core and 25% Non-Core investments. Commingled funds and IMAs co-exist in the Portfolio.

# LACERA Real Estate Portfolio Objectives

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## Investment Universe

Like the LACERA Portfolio, the investment universe has evolved over time.

- The universe of investment opportunities has evolved over the last 30 years.
- Today, there are 37 Core, Value and Specialty Open-End Commingled Funds (“OECFs”) available for investment.
- Though lacking control, the OECFs often offer diversification, exposure to dominant assets and an element of liquidity.
- The Non-Core Closed-End Fund Universe has also evolved and contains between 400 and 500 available investable vehicles globally at any given time.

## Benchmarking Disclaimer

There are key differences between the benchmarks referenced throughout this report and the LACERA Portfolio.

- The LACERA Portfolio contains leverage and reports both gross and net returns.
- The NPI is a de-levered Core property level index that reports gross returns. The index is comprised exclusively of operating Apartment, Hotel, Industrial, Office and Retail properties.
- The NFI-ODCE is a levered Core fund level index that reports both gross and net returns. According to NCREIF, the term Diversified Core Equity style typically reflects lower risk investment strategies utilizing low leverage and generally represented by equity ownership positions in stable US operating properties
- The NPI allowed for attribution by property type and geographic location at the time of publication.

# Key Findings

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## SUMMARY

- Despite generating positive income returns, LACERA’s IMA Portfolio lags the Benchmark with respect to appreciation and total return.
- Greater diversification could be achieved by including a mix of commingled funds and IMAs.
  - As of June 30, 2017 there were 97 properties in the LACERA IMA Portfolio.
- Vintage is a key factor in determining performance of Non-Core IMAs.
- Setting performance targets may help to hold IMA managers accountable in the future.

## CORE IMA KEY FINDINGS

- The LACERA Core Separate Account program has met the three primary objectives of the LACERA OPP:
  - Generates strong income returns,
  - Achieves a total net return that is competitive with other asset classes (8.14% since inception),
  - Provides a level of diversification to the Plan.

## VALUE IMA KEY FINDINGS

- As a whole, Value Separate Accounts have not performed well.
- The LACERA Value Separate Account program has consistently lagged its benchmark to-date:
- Significant J-curve effect may be dragging near-term performance losses which have yet to materialize into stabilized performance.
- It’s worth noting that the Value Separate Account Composite lags the LACERA actuarial target for the Plan (6.47% since inception).

## HIGH RETURN IMA KEY FINDINGS

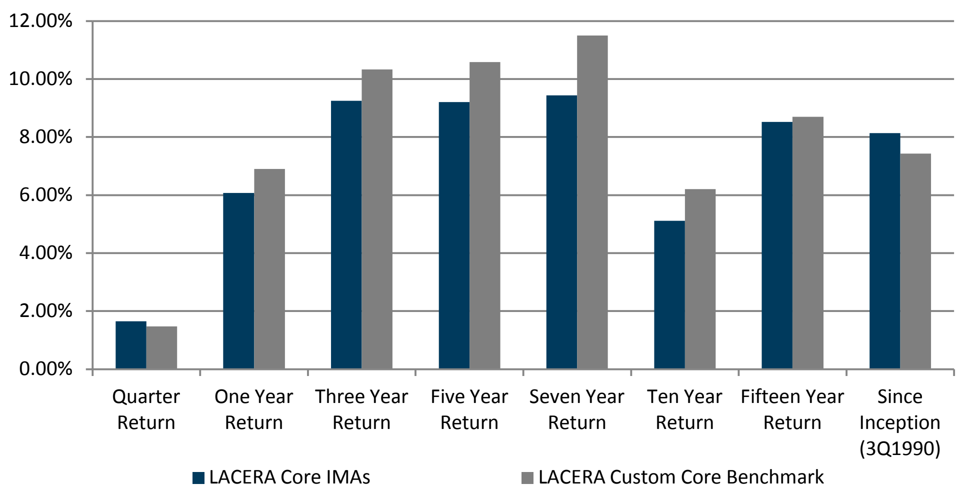
- The LACERA High Return Separate Account program has achieved strong performance post Global Financial Crisis.
- Over the fifteen and since inception time intervals, the program inured losses (-3.46% since inception).

# LACERA Separate Account Portfolio Key Findings

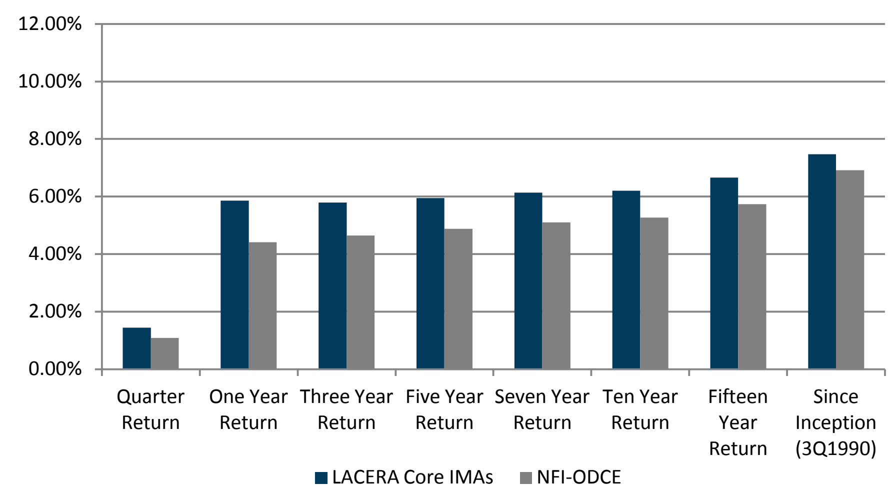
# Summary of Performance: Core IMA Composite v. Benchmarks

- LACERA's Core Separate Accounts have outperformed the LACERA Custom Core Benchmark since inception and over the most recent quarter, but have underperformed across all other time periods.
- LACERA's Core Income Returns have significantly outperformed the NFI-ODCE over all time periods.
- The following managers currently manage Core assets on behalf of LACERA:
  - Barings Debt (Since 2011), Capri Capital (Since 2011), Cityview (Since 2014), Clarion (Since 2014), Heitman (Since 2014), Invesco (Since 1994), Quadrant (Since 2011), RREEF (Since 1991), Stockbridge (Since 2014), TA Associates (Since 1992).
- The following additional managers have managed Core assets on behalf of LACERA in the past:
  - AMB (1997 - 1998), Barings Equity (2007-2015), Henderson (2000 - 2006), Lend Lease (1997 - 2003).

**LACERA Core Separate Account vs. Custom Core Benchmark - Total Net Returns**

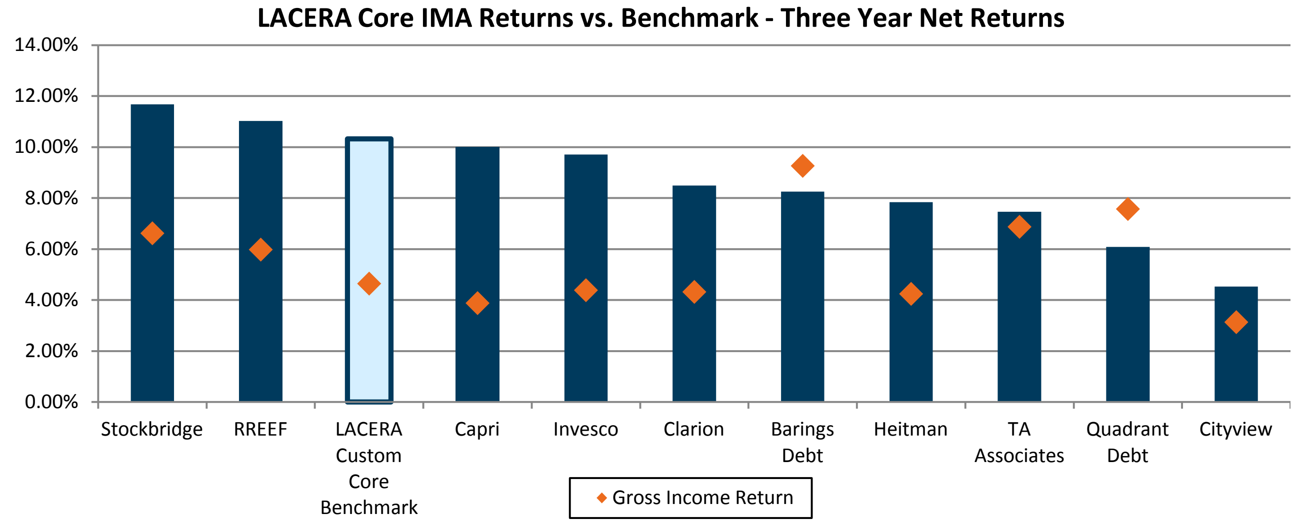


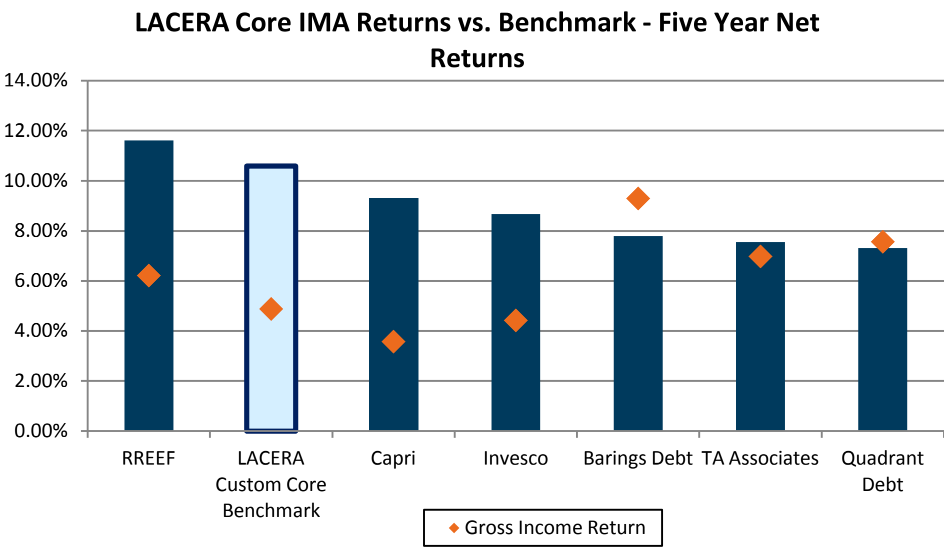

**LACERA Core Separate Account vs. Custom Core Benchmark - Income Returns**

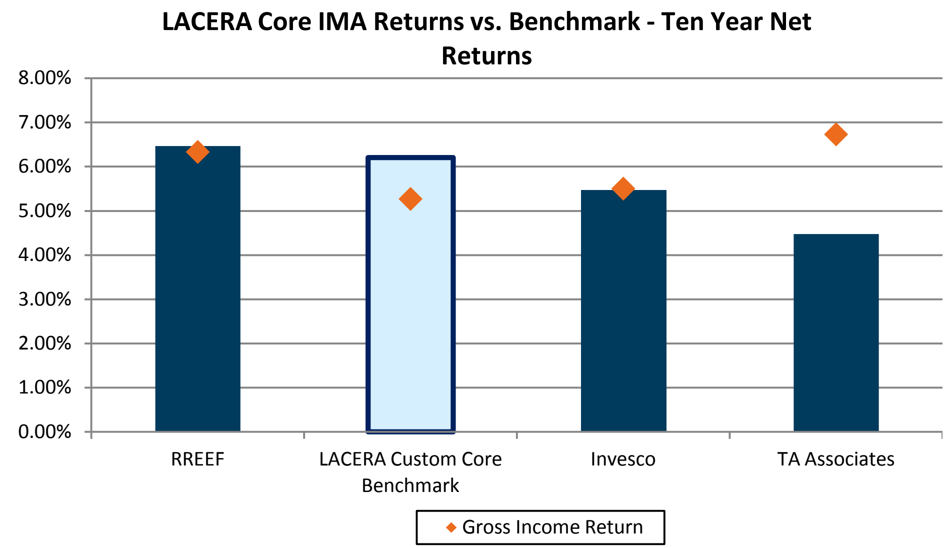


# Summary of Performance: Core IMA Managers v. Benchmarks

- Over the past ten years, RREEF is the only Core Separate Account that has consistently outperformed the Custom Core Benchmark.
  - Stockbridge has outperformed since added as a LACERA Core Separate Account manager in 2014.
- On an income basis, RREEF, Barings Debt, TA Associates and Quadrant have consistently outperformed.



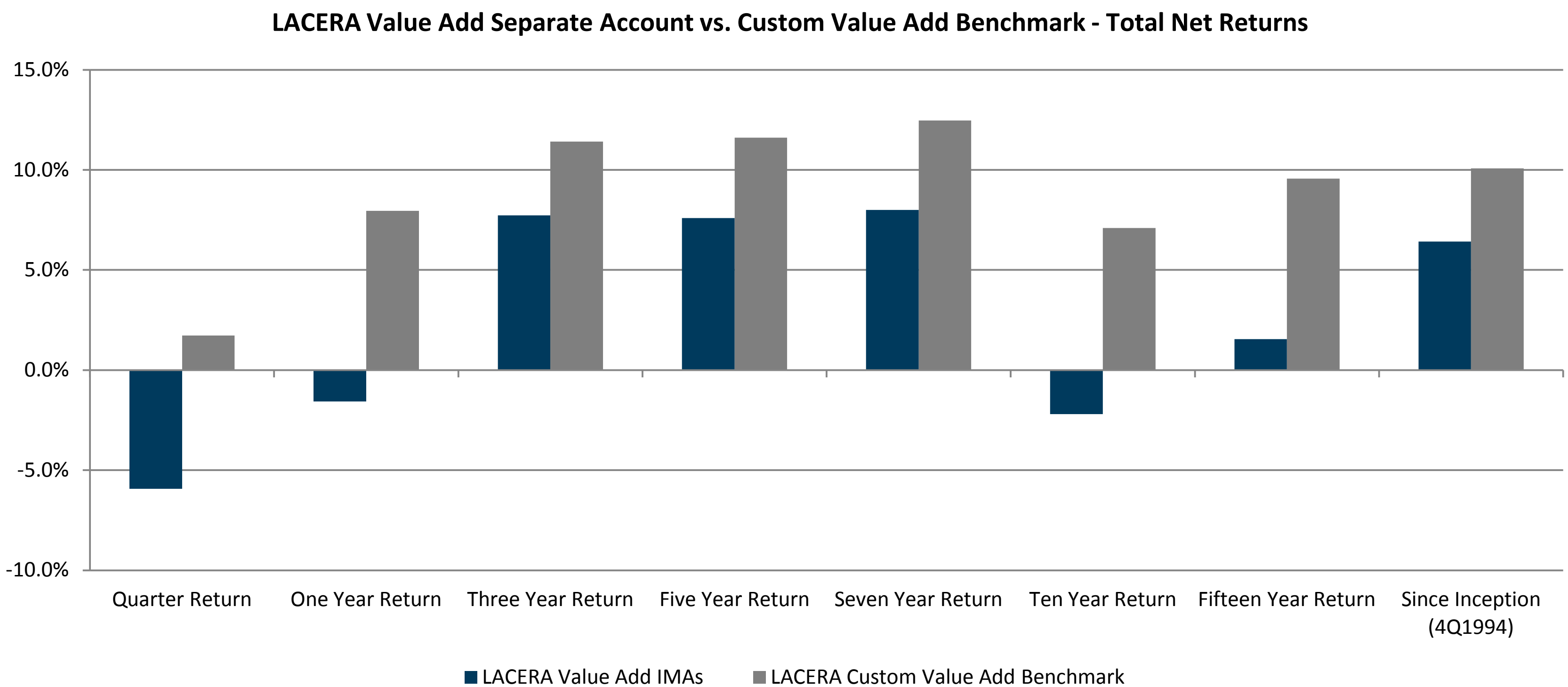




Note: Barings Equity was not included in this analysis due to the final three core assets having been sold in 2015

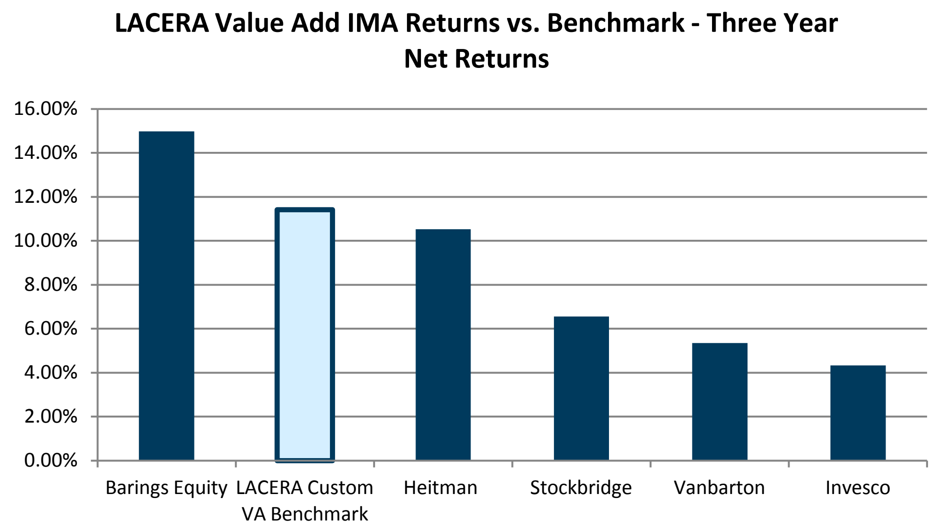
# Summary of Performance: Value IMA Composite v. Benchmarks

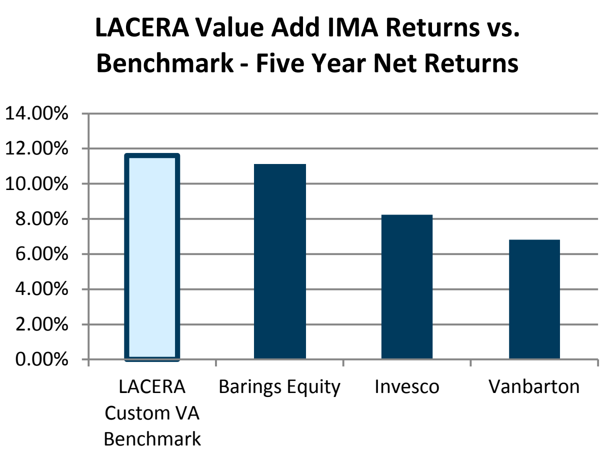
- LACERA's Value Add Separate Accounts have consistently underperformed the LACERA Custom Value Add Benchmark on a total net basis since inception.
- The following managers currently manage Value Add assets on behalf of LACERA:
  - Barings Equity (Since 2004), Heitman (Since 2014), Invesco (Since 1998), Stockbridge (Since 2014), Vanbarton (Since 2003).
- The following additional managers have managed Value Add assets on behalf of LACERA in the past:
  - Capri (2003 – 2011), LaSalle (2003 – 2003), Lend Lease (1998 – 2003), Lowe (1994 – 1998), RREEF (2001 – 2014), TA Associates (2005 – 2014).

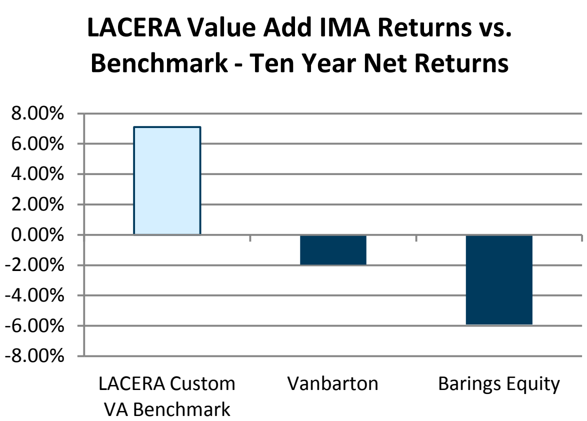


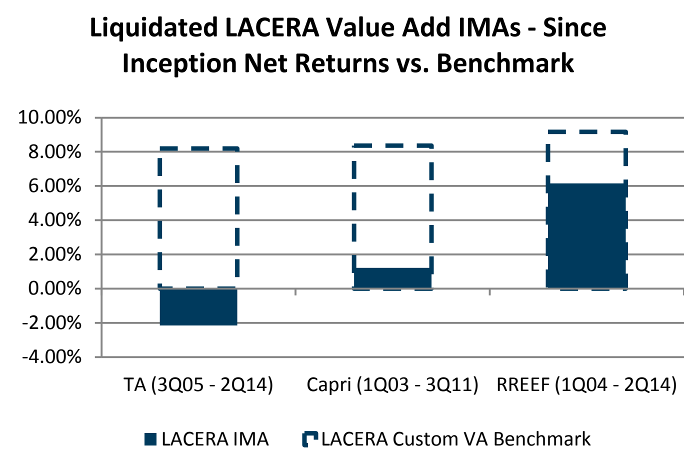
# Summary of Performance: Value IMA Managers v. Benchmarks

- Over the three-year period ending June 30, 2017, Barings is the only manager outperforming the LACERA Custom Value Add Benchmark. However, the Barings Value Add portfolio consists of only one remaining asset, which has a since inception net return of 0.66%.
- Over the long-term, no manager outperformed the LACERA Custom Value Add Benchmark.
- Of the liquidated Value Add Separate Accounts, historic performance underperformed the Custom Value Add Benchmark over their respective since inception periods.



# Summary of Performance:
# High Return IMA Composite* v. Benchmarks

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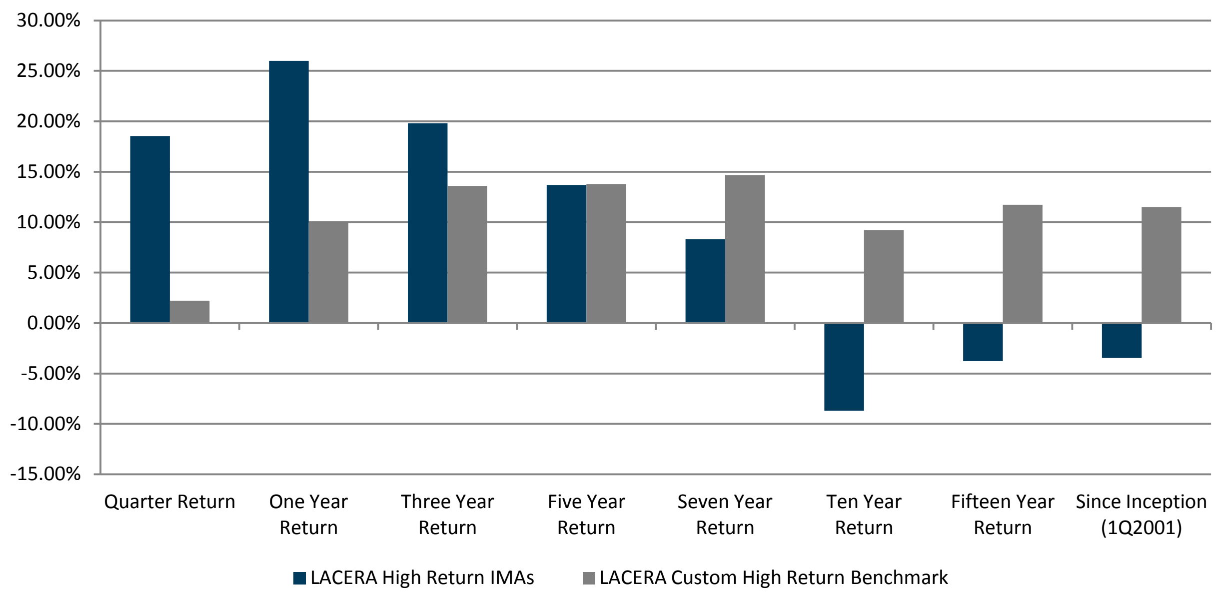
- LACERA's High Return Separate Accounts have outperformed the LACERA Custom High Return Benchmark on a total net basis over the Quarter, one-year and three-year periods ending 6/30/17. However, LACERA High Return Separate Accounts have underperformed over the long-term and since inception.
- Recent performance has been skewed by an exceptional quarterly return of 18.5% in 2Q17, mostly driven by a valuation increase of one asset (Clarion's The Brickyard).
- The following managers currently manage High Return assets on behalf of LACERA:
  - Capri Capital (Since 2006), Clarion (Since 2016), Invesco (Since 2002), RREEF (Since 2001), Stockbridge (Since 2014).
- Barings Equity has also managed High Return assets for LACERA in the past (2007-2016).

**LACERA High Return Separate Account vs. Custom High Return Benchmark - Total Net Returns**

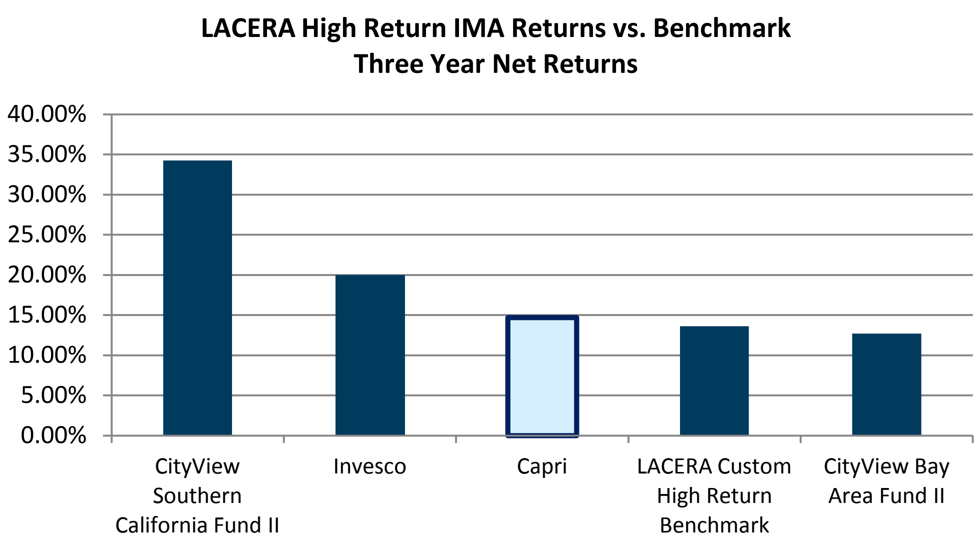


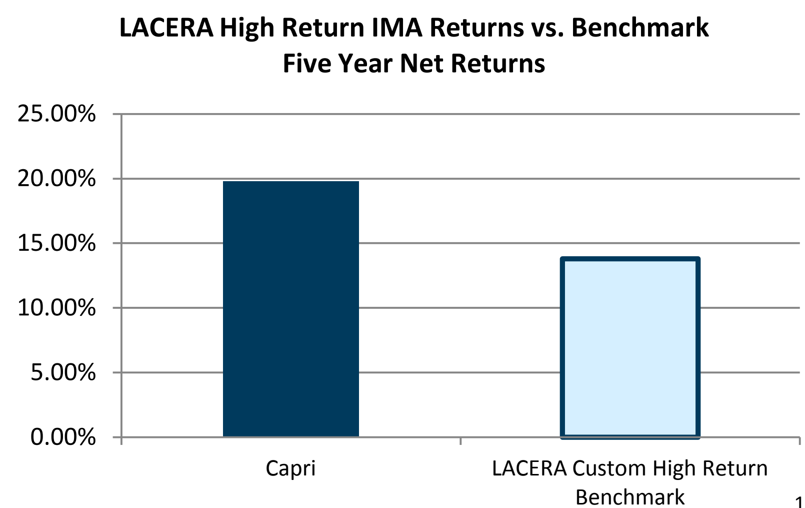



* The High Return IMA Composite excludes the Single Family Housing Program

# Summary of Performance: High Return IMA Managers v. Benchmarks

- Over the three-year period ending June 30, 2017, Invesco and Capri both outperformed the LACERA Custom High Return Benchmark. Capri also outperformed over the five-year period.
- Longer-term time-weighted returns are not calculable for LACERA's High Return managers due to gaps in performance.
- Barings Equity (not displayed) sold its last High Return asset during the first quarter of 2016, but had outperformed the Benchmark over the medium-term and underperformed over the long-term at that time.
- LACERA is currently a single investor in several "Fund of One" strategies managed by CityView. Asset-by-asset performance in these vehicles is provided on the detailed back-pages and the strategy has been successful to date.
  - Through June 30, 2017 CityView reported fund level returns for LACERA for its "Fund of One" products. LACERA's mandate with CityView consists of "build-to-core" or "build-to-sell" apartment assets in different geographic regions. Due to the fact that the CityView products are classified as "Fund of One" vehicles, asset level performance is only provided to Townsend once the asset reaches stabilization and if it transfers to the CityView Core IMA holding bucket. CityView Fund of One's include the following four vehicles: CityView Bay Area Fund I is not shown because the fund position is now liquidated. At the time of transfer (2014), the Net IRR to LACERA for Bay Area Fund I was approximately 15%. CityView Bay Area Fund II and CityView Southern California Residential Fund II contained assets as of 6/30/17 and performance is shown below. Finally, CityView Western Fund I is early in its fund life and as such, returns are not meaningful at this time.



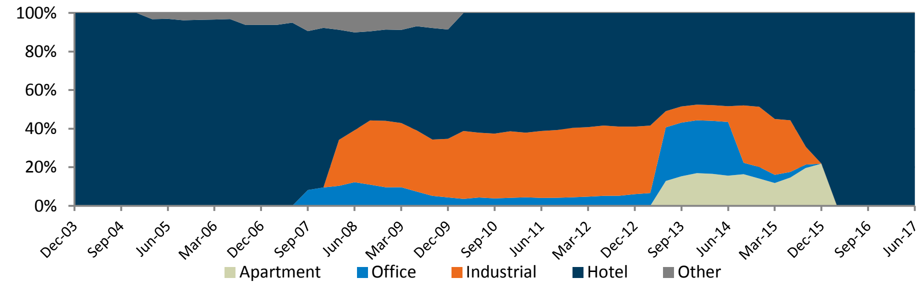



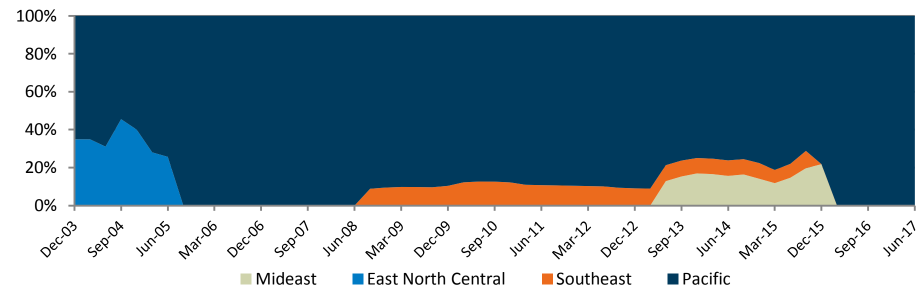
## Performance Attribution by Separate Account Manager

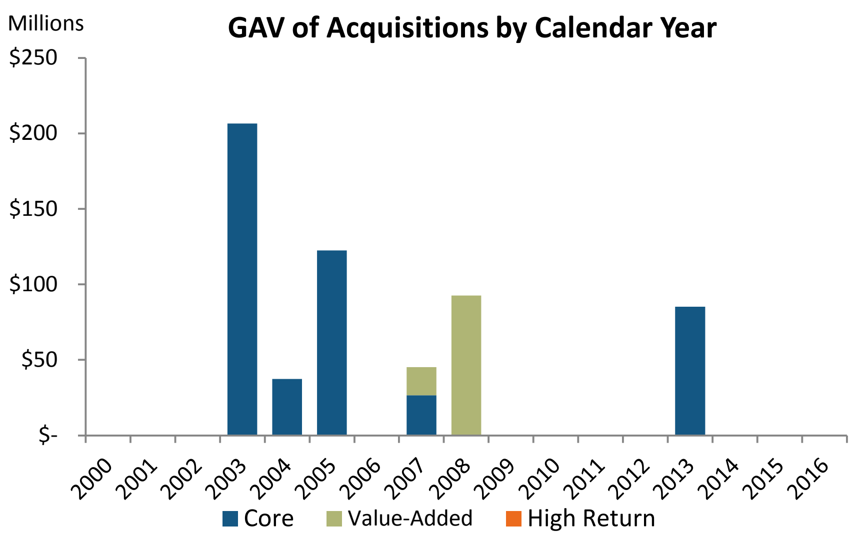
# Performance Attribution: Barings Equity

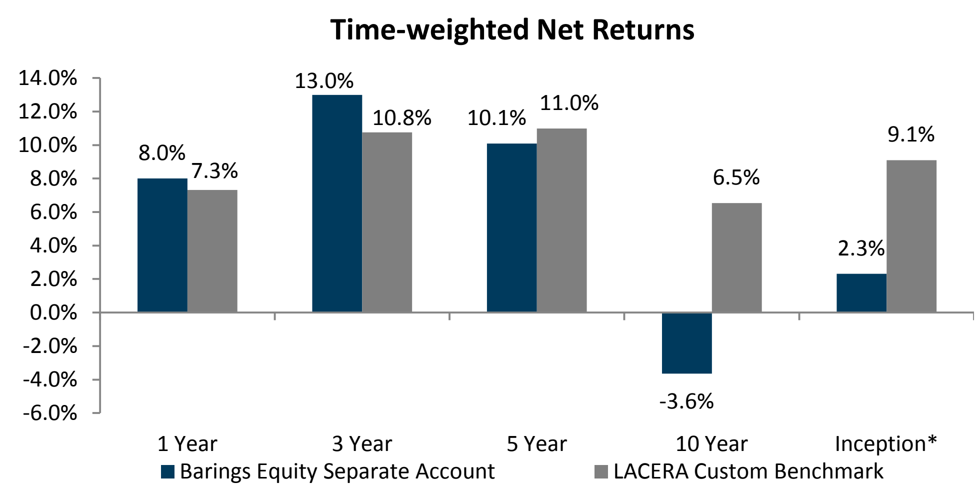
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $207,190,178 |
| Number of Properties as of June 30, 2017: | 1 |
| Account LTV (%) | 0.0% |

| Background | |
|---|---|
| Relationship Inception: | 4Q 2003 |
| Capital Funded Since Inception: | $733,182,036 |
| Number of Properties acquired since inception: | 10 |
| Capital Returned Since Inception: | $618,405,180 |
| Number of Properties sold since inception | 10 |
| Since Inception IRR: | 3.2% |
| Core Strategy: | -2.9% |
| Value Strategy: | 5.4% |
| High Return Strategy: | 4.7% |



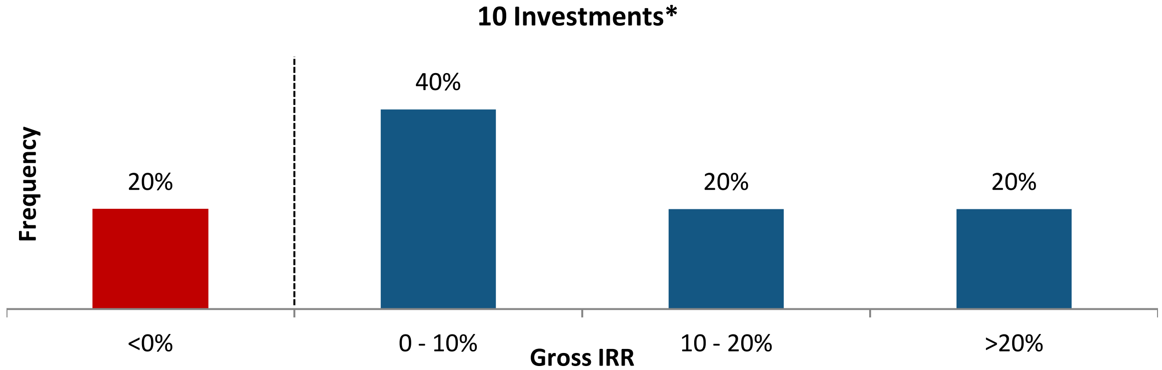



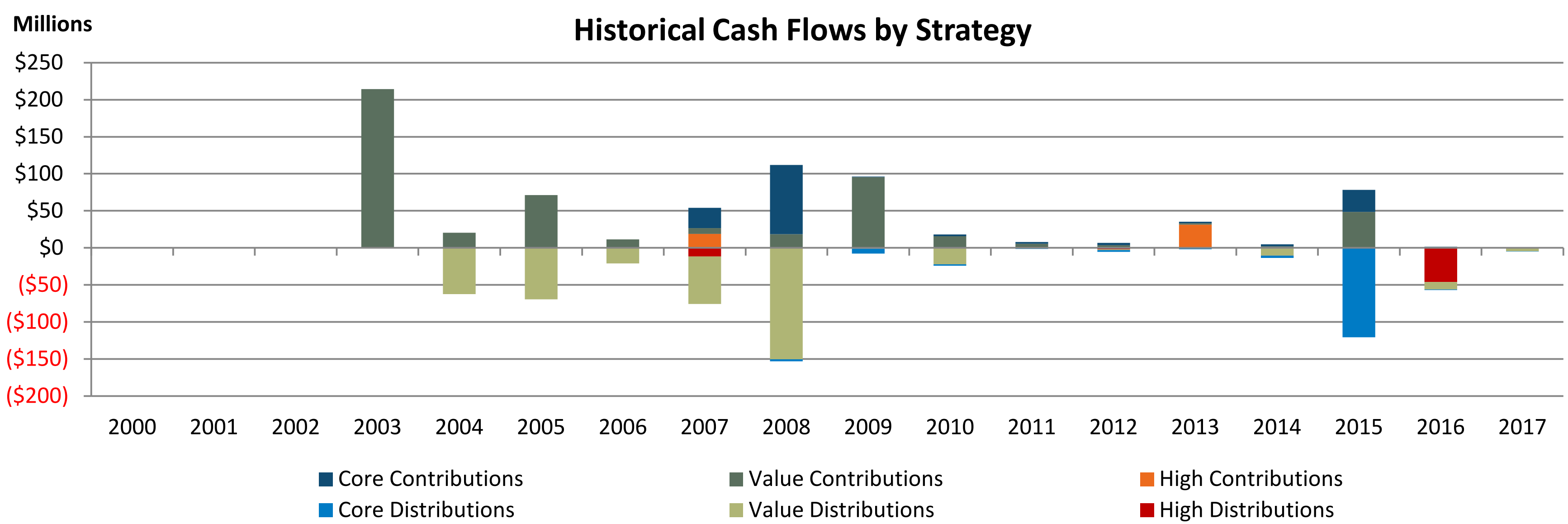



*Inception Date is Q1 2004

# Performance Attribution: Barings Equity




Underperforming Investments:
The Lakes at West Covina, -26.3% IRR (Peak Market Value: $30.9million). Core asset sold in 2015.
Ocean Ranch, -24.1% IRR (Peak Market Value: $21.2 million). High Return asset sold in 2010.



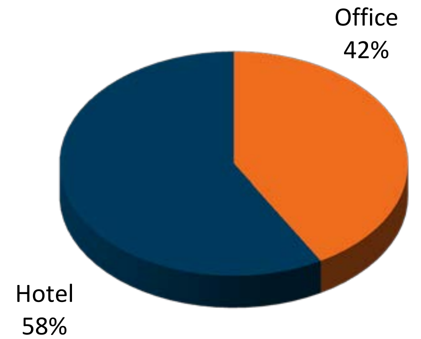

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

# Performance Attribution: Barings Debt

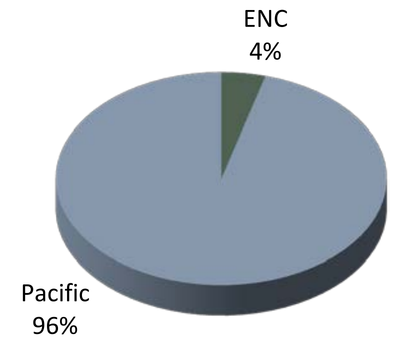
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $370,857,081 |
| Number of Properties as of June 30, 2017: | 9 |
| Account LTV (%) | 54.0% |

| Background | |
|---|---|
| Relationship Inception: | 2Q 2011 |
| Capital Funded Since Inception: | $920,420,642 |
| Number of Properties acquired since inception: | 16 |
| Capital Returned Since Inception: | $652,925,483 |
| Number of Properties sold since inception | 7 |
| Since Inception IRR: | 8.5% |
| Core Strategy: | n/a |
| Value Strategy: | n/a |
| High Return Strategy: | n/a |

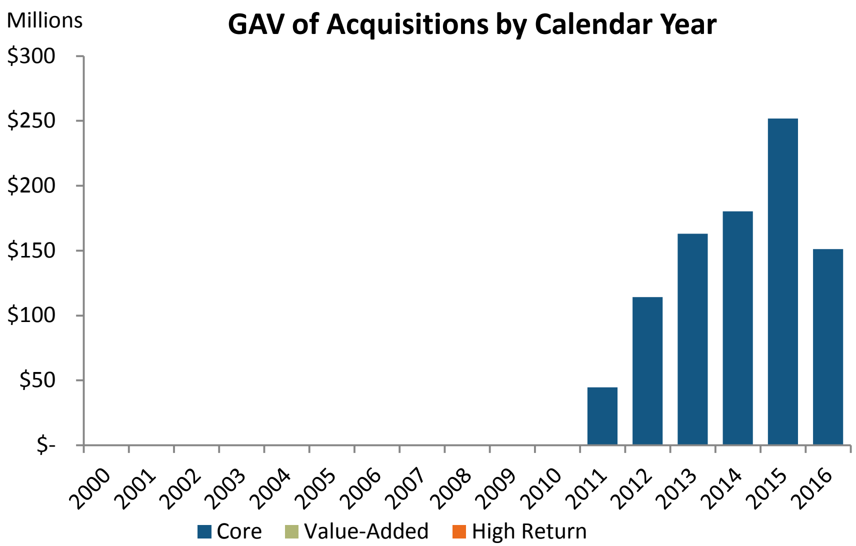
**Property Type Diversification**
As of 6/30/17



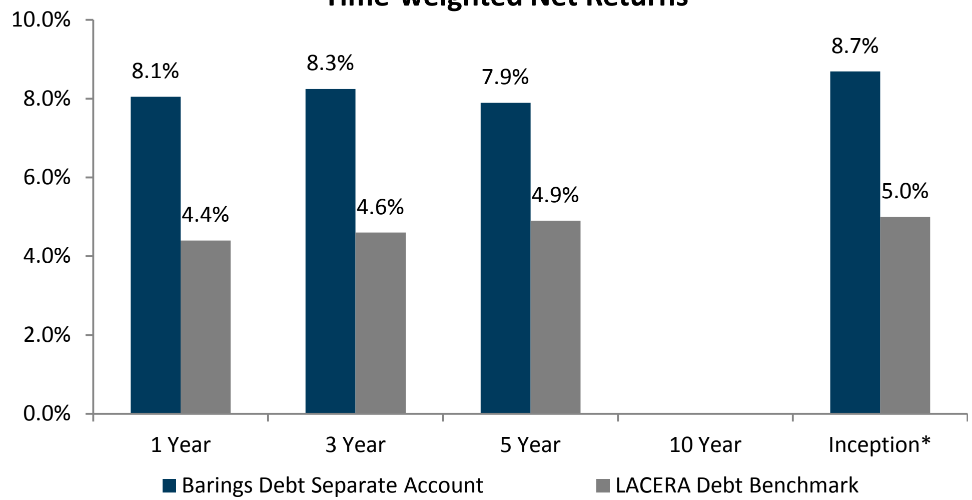

**Geographic Diversification**
As of 6/30/17




**GAV of Acquisitions by Calendar Year**




**Time-weighted Net Returns**




*Inception Date is Q4 2011

# Performance Attribution: Capri Capital

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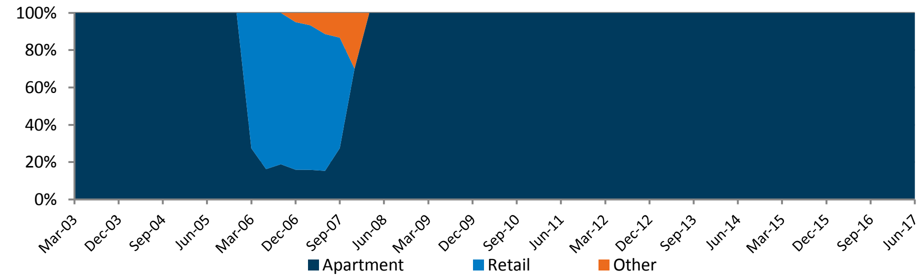
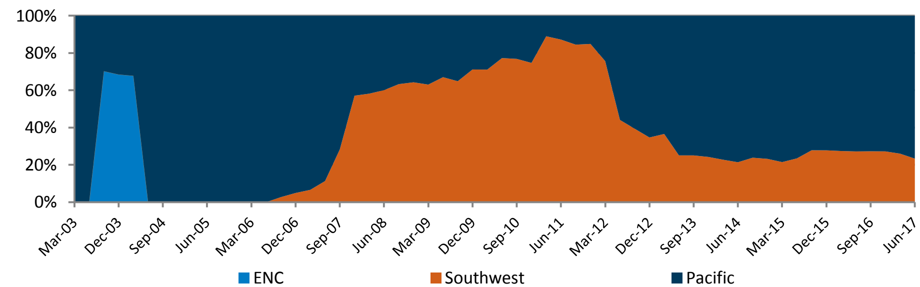
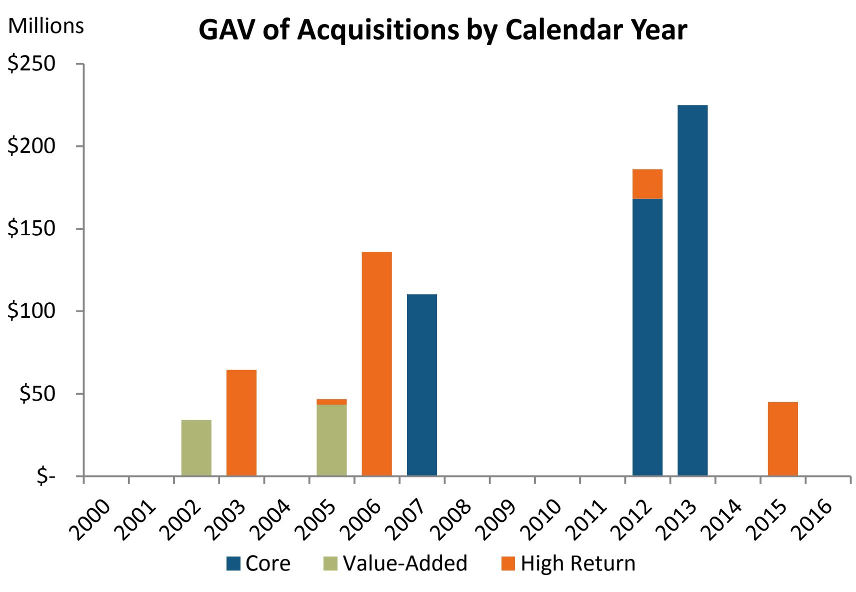
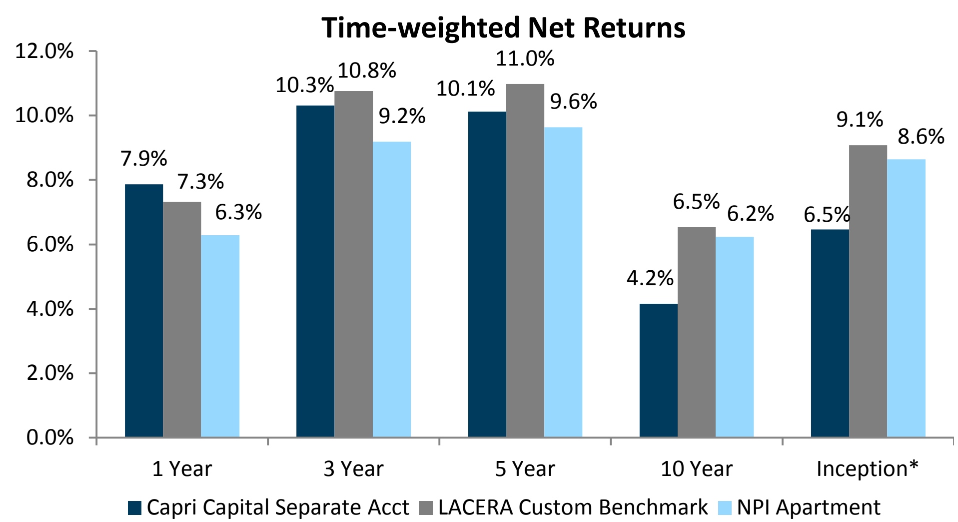
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $440,140,404 |
| Number of Properties as of June 30, 2017: | 5 |
| Account LTV (%) | 40.9% |

| Background | |
|---|---|
| Relationship Inception: | 4Q 2002 |
| Capital Funded Since Inception: | $664,494,856 |
| Number of Properties acquired since inception: | 13 |
| Capital Returned Since Inception: | $412,837,066 |
| Number of Properties sold since inception | 8 |
| Since Inception IRR: | 7.5% |
| Core Strategy: | 9.4% |
| Value Strategy: | -1.1% |
| High Return Strategy: | 9.5% |



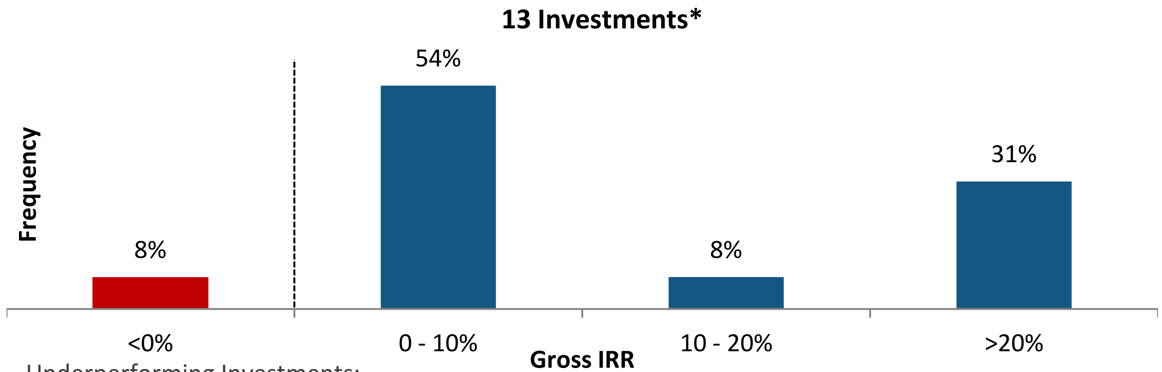



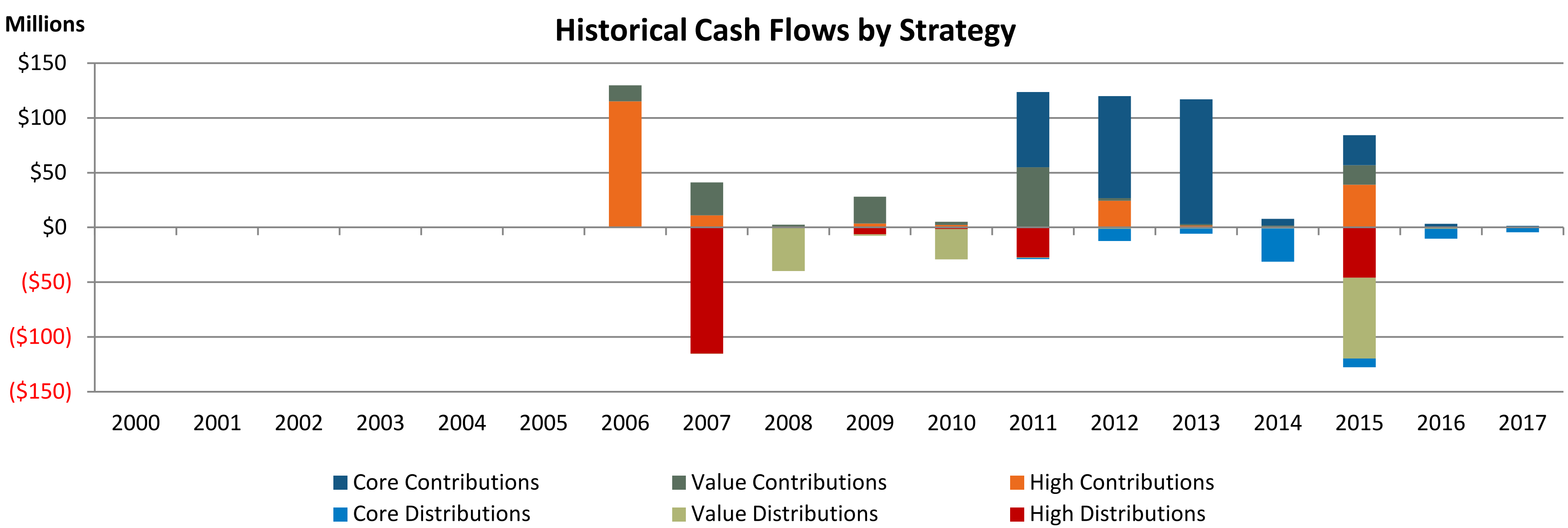




*Inception Date is Q1 2003
Baldwin Hills Crenshaw Plaza was sold 10/2/2007

# Performance Attribution: Capri Capital




Underperforming Investments:
Gateway Royal Burbank, -5.7% IRR (Peak Market Value: $50.1 million). Value Add asset sold in 2011.




* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

# Performance Attribution: CityView

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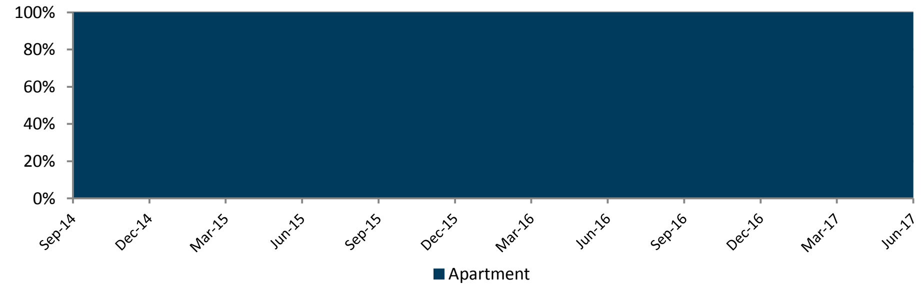
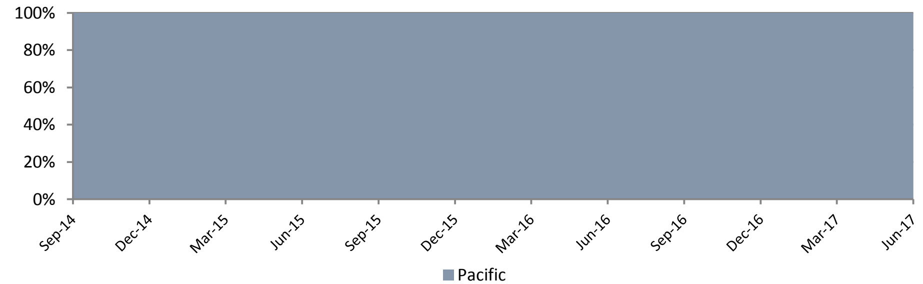
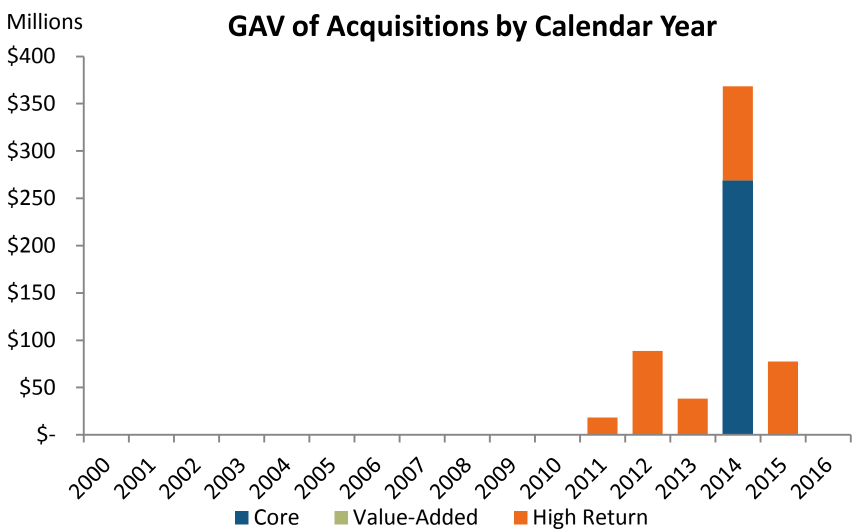
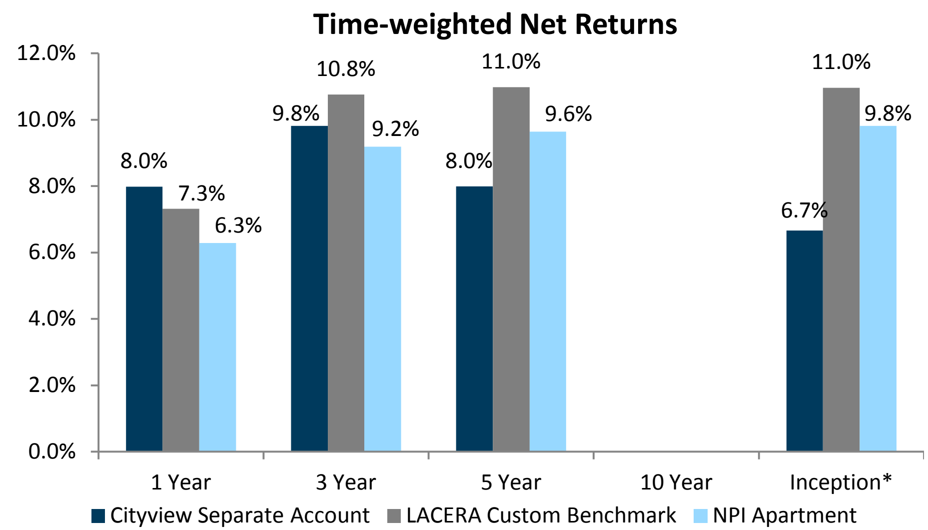
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $446,586,385 |
| Number of Properties as of June 30, 2017: | 14 |
| Account LTV (%) | 49.0% |

| Background | |
|---|---|
| Relationship Inception: | 1Q 2012 |
| Capital Funded Since Inception: | $532,893,932 |
| Number of Properties acquired since inception: | 14 |
| Capital Returned Since Inception: | $194,919,159 |
| Number of Properties sold since inception | 0 |
| Since Inception IRR: | 10.7% |
| Core Strategy: | 4.7% |
| Value Strategy: | n/a |
| High Return Strategy*: | 14.4% |



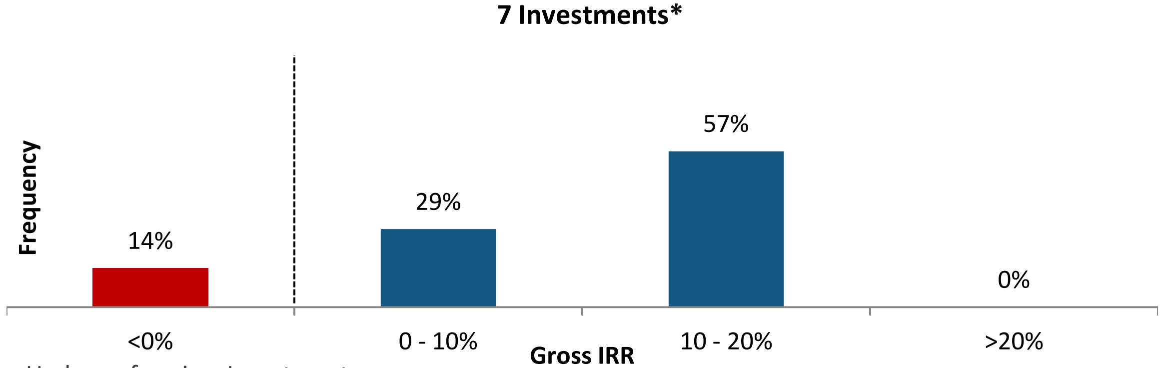



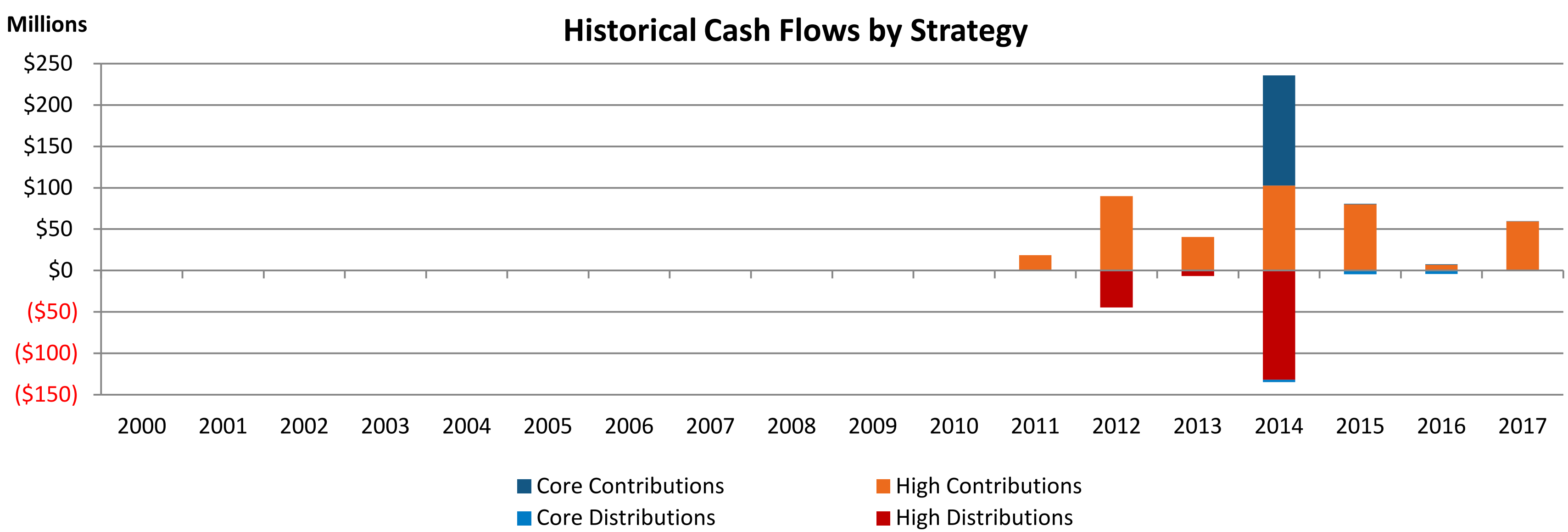

*Inception Date is Q1 2012

*CityView High Return Strategy is a composite consisting of the following High Return fund-of-one vehicles: CityView Bay Area, CityView Bay Area Fund II, CityView Southern California Fund, CityView Western Fund

# Performance Attribution: CityView




Underperforming Investments:
CityView Western Fund I, -83.8% IRR (Peak Market Value: $20.0 million). High Return vehicle currently experiencing J-curve.

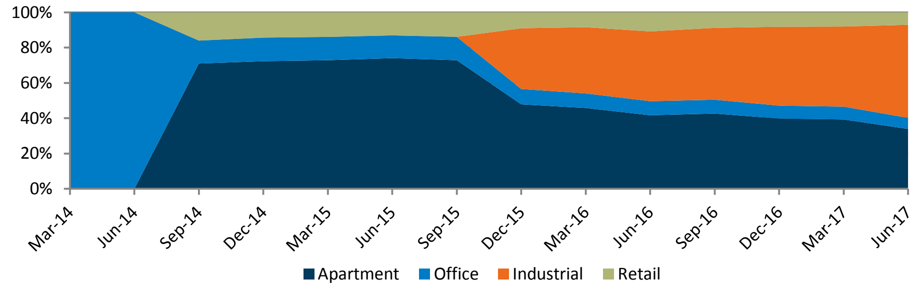


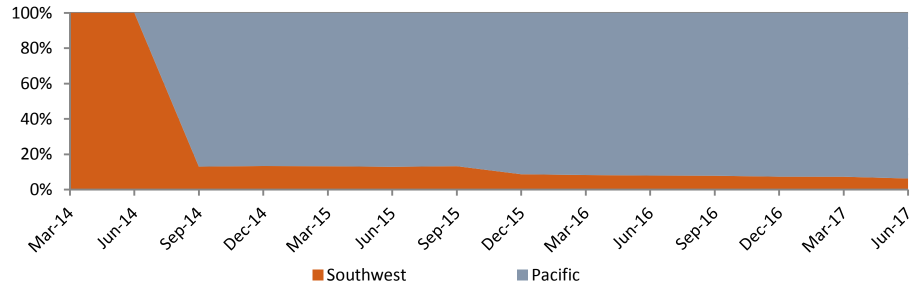

* Fund-of-one vehicles are counted as one investment, even if several properties are held. The three individual properties included in this chart are ArcLight, Berkeley Center and Potrero Launch.

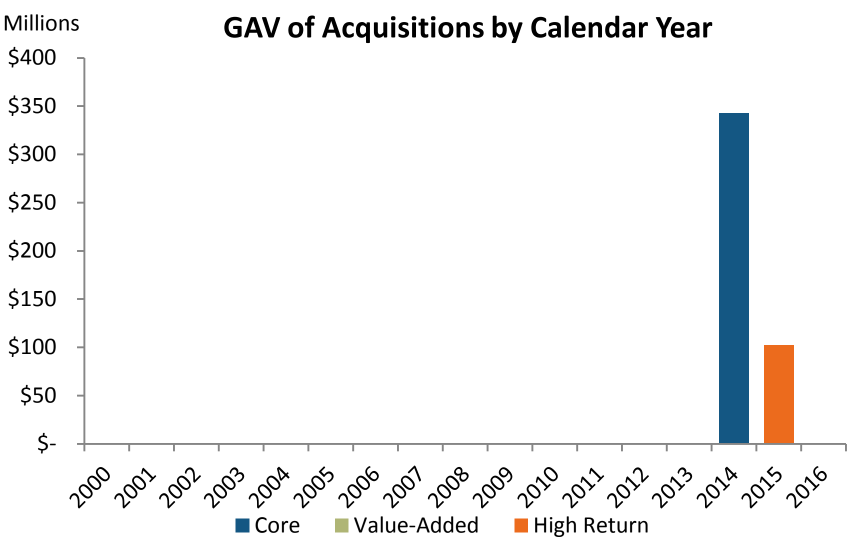
# Performance Attribution: Clarion

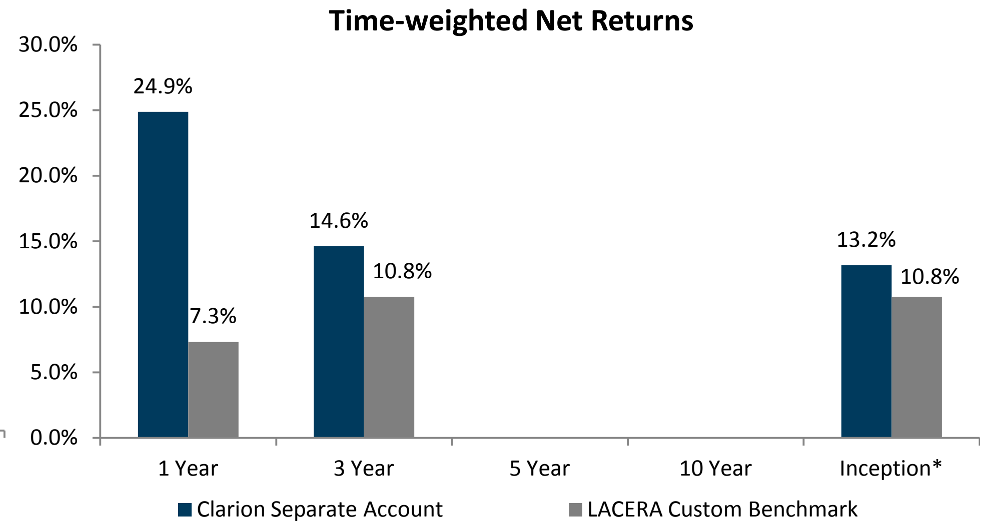
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $430,659,907 |
| Number of Properties as of June 30, 2017: | 3 |
| Account LTV (%) | 28.3% |

| Background | |
|---|---|
| Relationship Inception: | 3Q 2013 |
| Capital Funded Since Inception: | $346,875,374 |
| Number of Properties acquired since inception: | 3 |
| Capital Returned Since Inception: | $40,824,096 |
| Number of Properties sold since inception | 0 |
| Since Inception IRR: | 15.4% |
| Core Strategy: | 8.4% |
| Value Strategy: | n/a |
| High Return Strategy: | 35.4% |



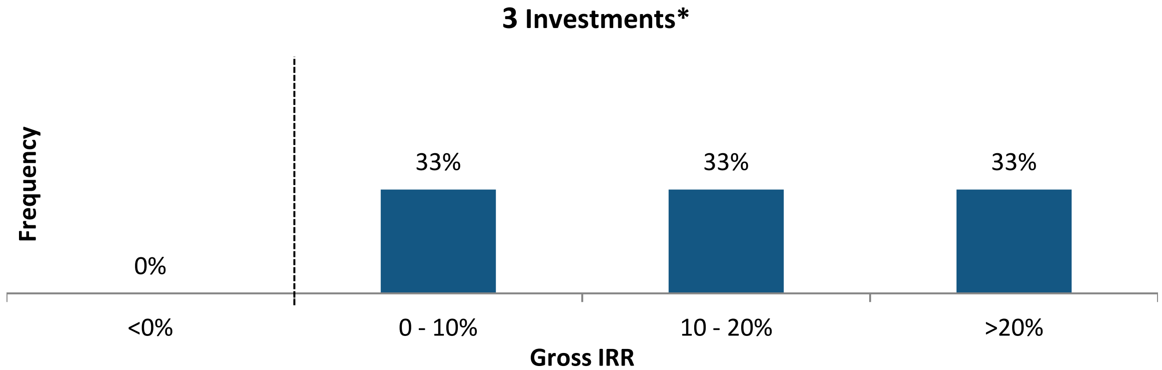



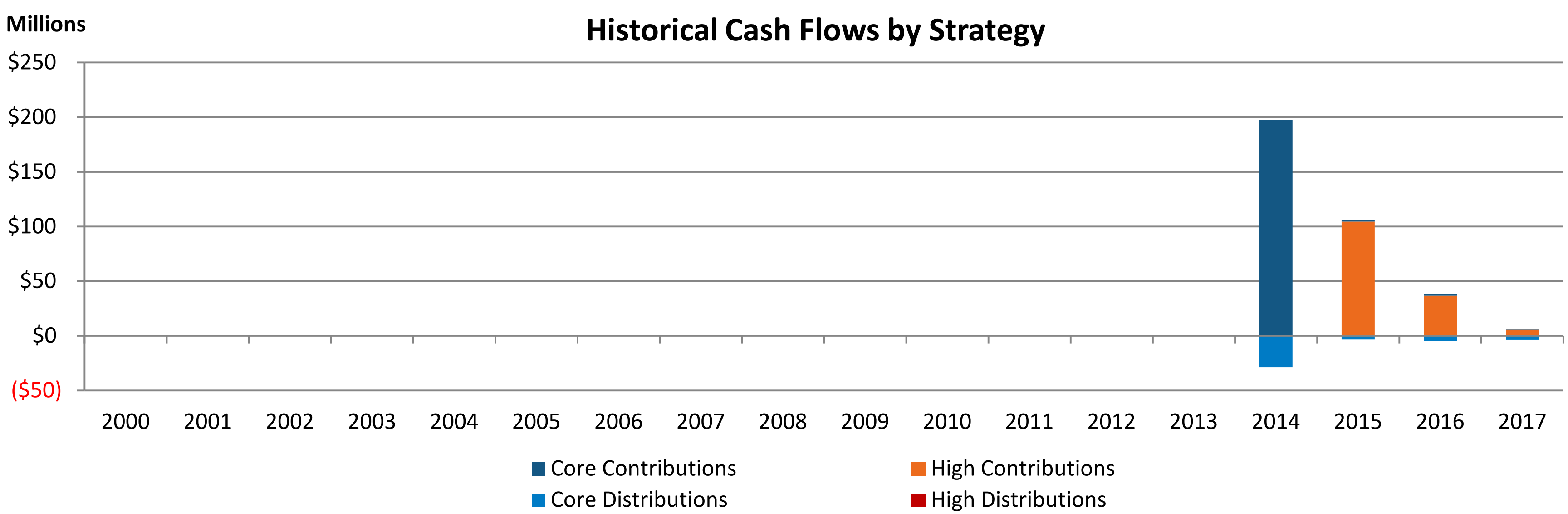




*Inception Date is Q1 2014

# Performance Attribution: Clarion



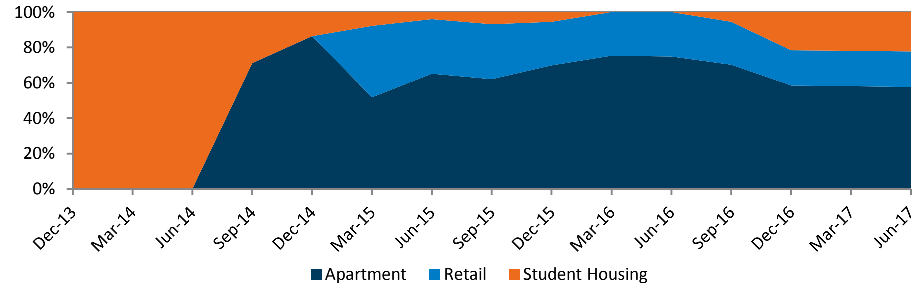



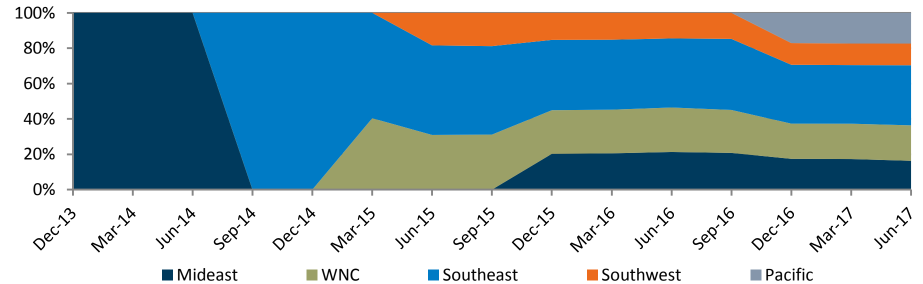

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

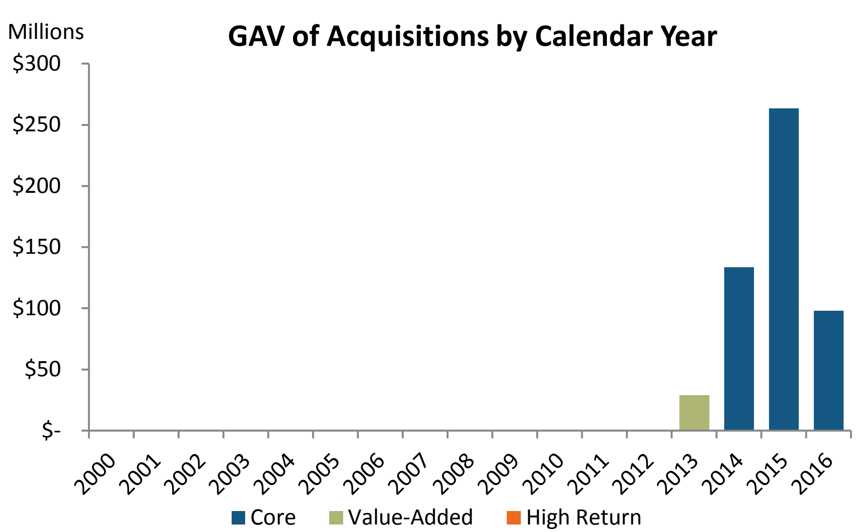
# Performance Attribution: Heitman

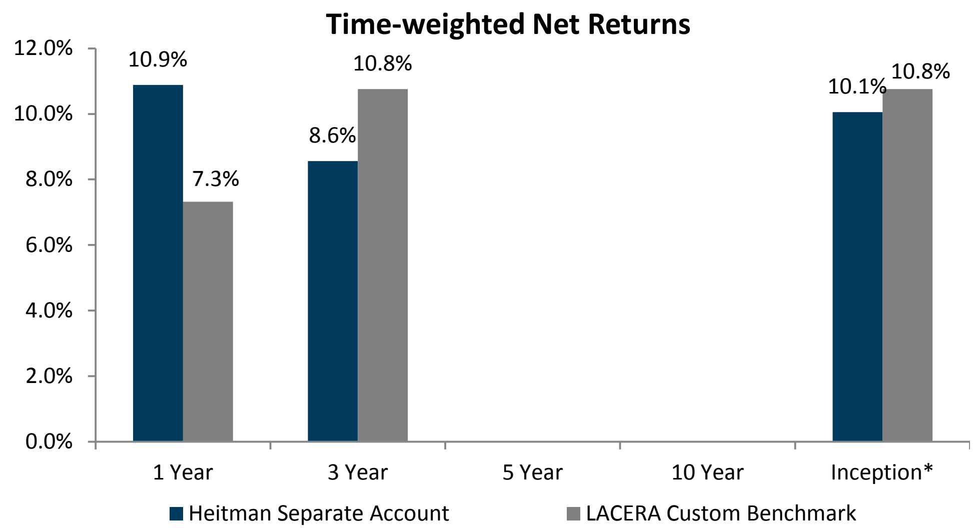
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $292,832,097 |
| Number of Properties as of June 30, 2017: | 8 |
| Account LTV (%) | 48.1% |

| Background | |
|---|---|
| Relationship Inception: | 1Q 2014 |
| Capital Funded Since Inception: | $269,650,348 |
| Number of Properties acquired since inception: | 8 |
| Capital Returned Since Inception: | $21,075,100 |
| Number of Properties sold since inception | 0 |
| Since Inception IRR: | 8.2% |
| Core Strategy: | 8.0% |
| Value Strategy: | 9.7% |
| High Return Strategy: | n/a |



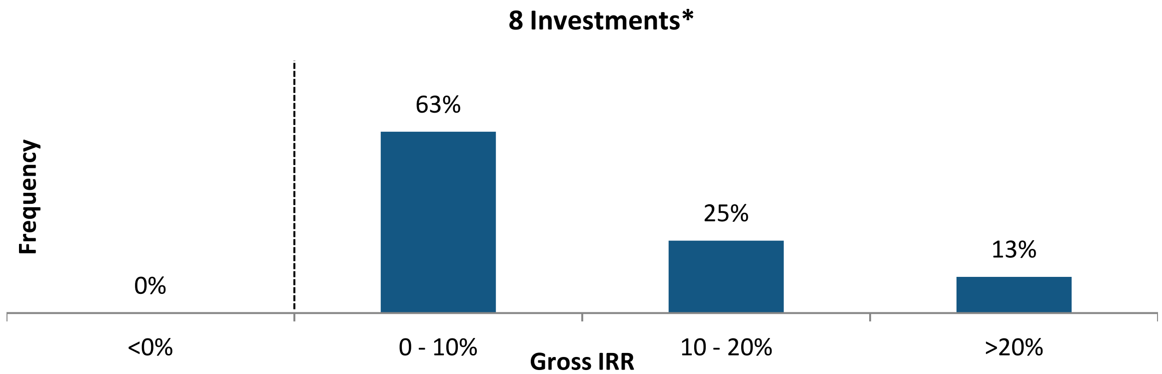



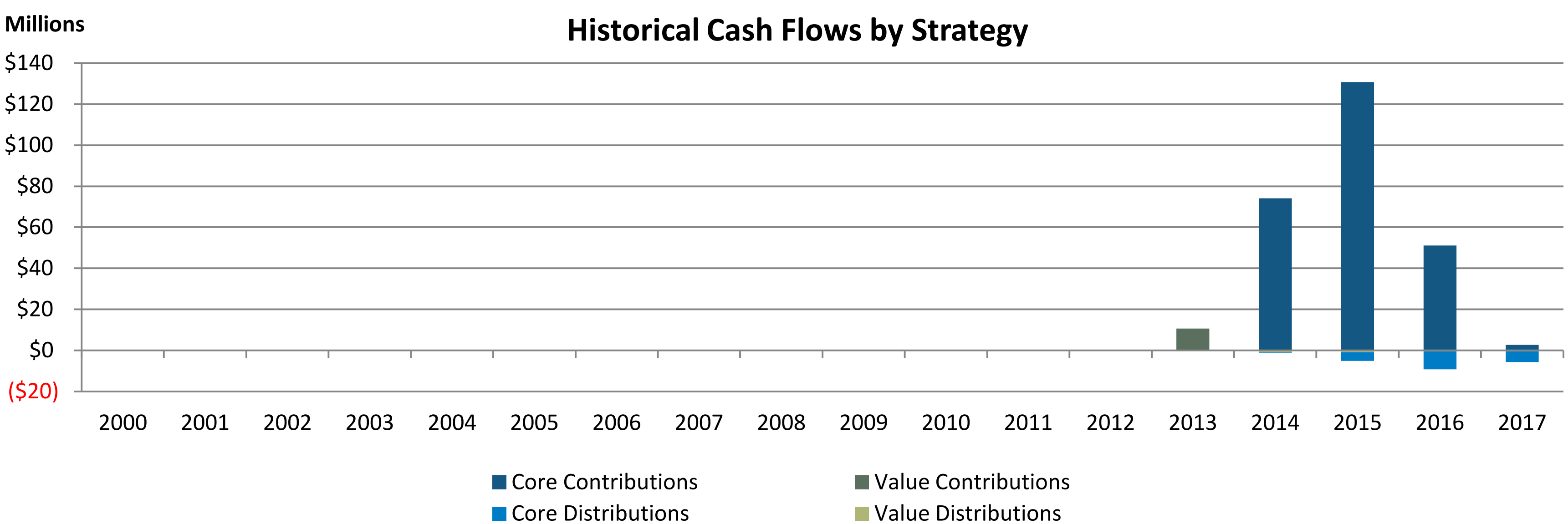




*Inception Date is Q1 2014

# Performance Attribution: Heitman



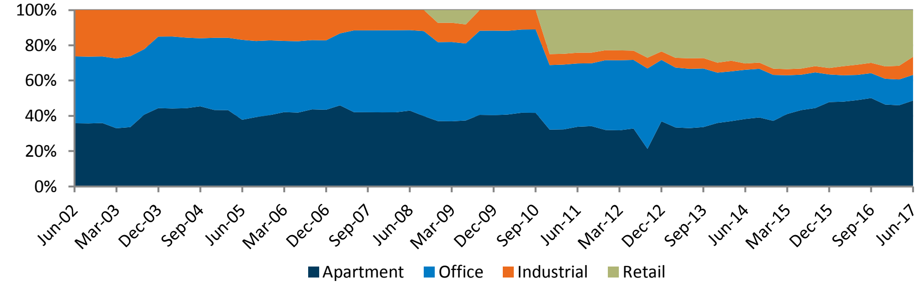



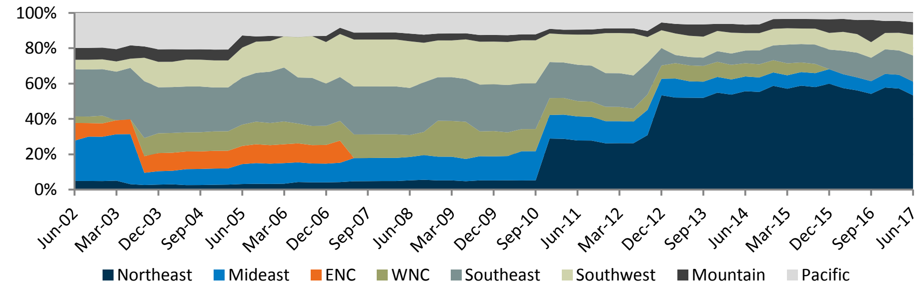

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

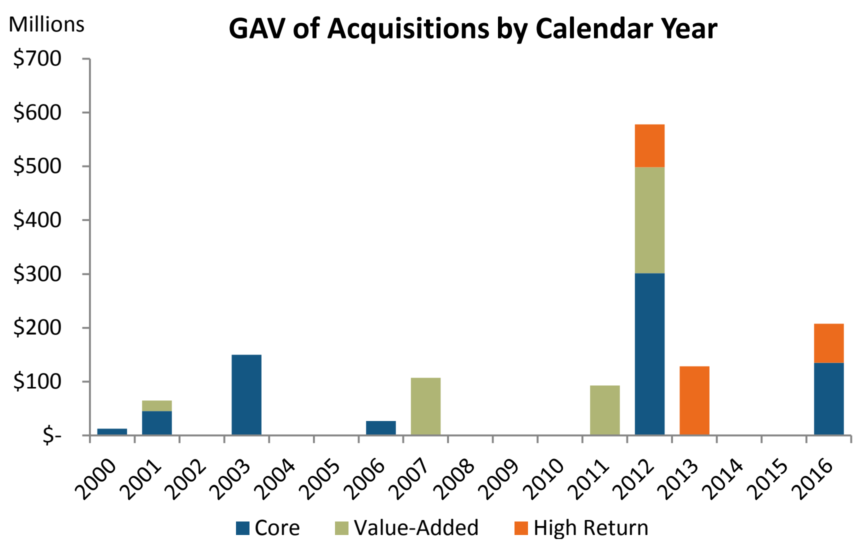
# Performance Attribution: Invesco

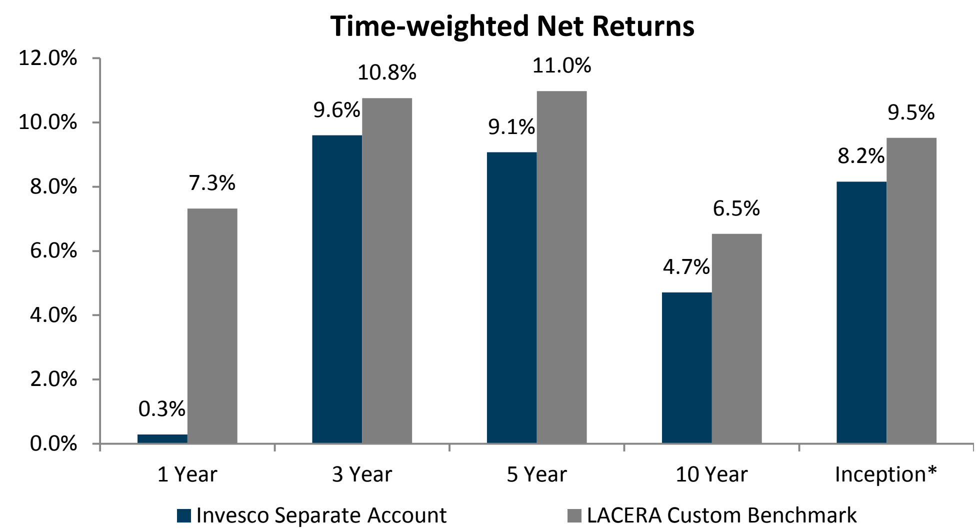
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $924,631,929 |
| Number of Properties as of June 30, 2017: | 10 |
| Account LTV (%) | 36.7% |

| Background | |
|---|---|
| Relationship Inception: | 2Q 1994 |
| Capital Funded Since Inception: | $2,118,863,168 |
| Number of Properties acquired since inception: | 39 |
| Capital Returned Since Inception: | $2,199,182,998 |
| Number of Properties sold since inception | 29 |
| Since Inception IRR: | 8.5% |
| Core Strategy: | 8.7% |
| Value Strategy: | 8.0% |
| High Return Strategy: | 2.6% |



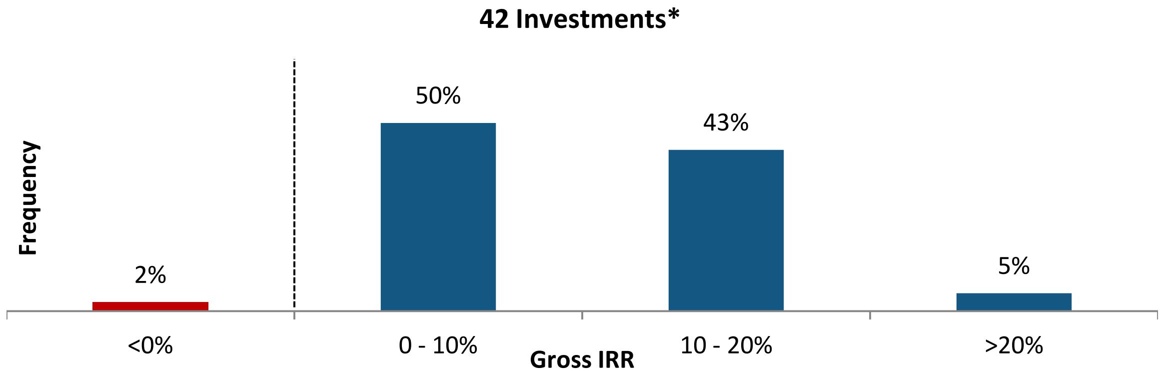



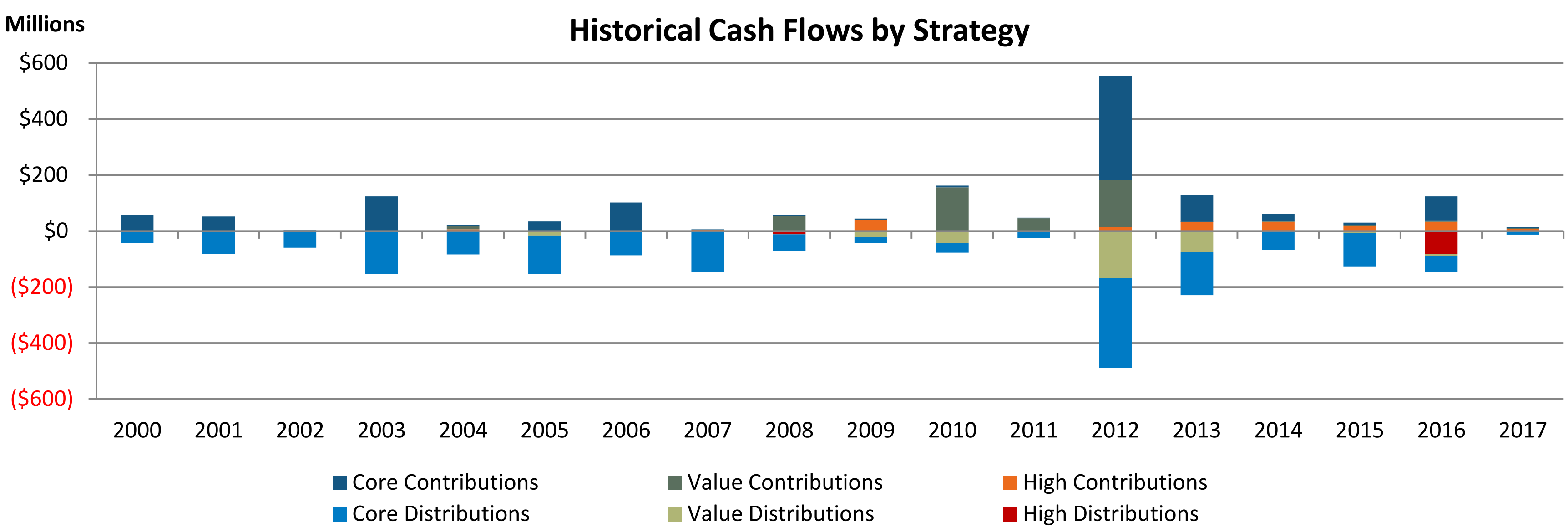




*Inception Date is Q1 1995

# Performance Attribution: Invesco




Underperforming Investments:
Park 20-360 (Development), -4.3% IRR (Peak Market Value: $51.9 million). High Return asset currently experiencing J-curve.




* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs. Please note that Union Station only reported asset level performance post Core transfer and as such, the development component is not reflected in "life of asset" figures for Union Station.

# Performance Attribution: Quadrant Debt

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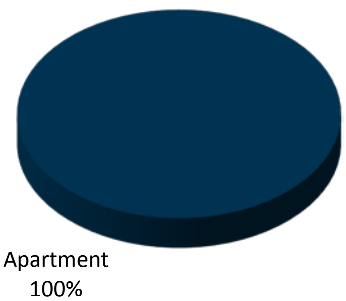
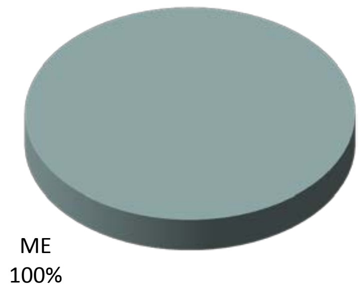
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $26,390,463 |
| Number of Properties as of June 30, 2017: | 1 |
| Account LTV (%) | 0.0% |

| Background | |
|---|---|
| Relationship Inception: | 3Q 2011 |
| Capital Funded Since Inception: | $56,686,858 |
| Number of Properties acquired since inception: | 4 |
| Capital Returned Since Inception: | $40,329,306 |
| Number of Properties sold since inception | 3 |
| Since Inception IRR: | 7.4% |
| Core Strategy: | n/a |
| Value Strategy: | n/a |
| High Return Strategy: | n/a |

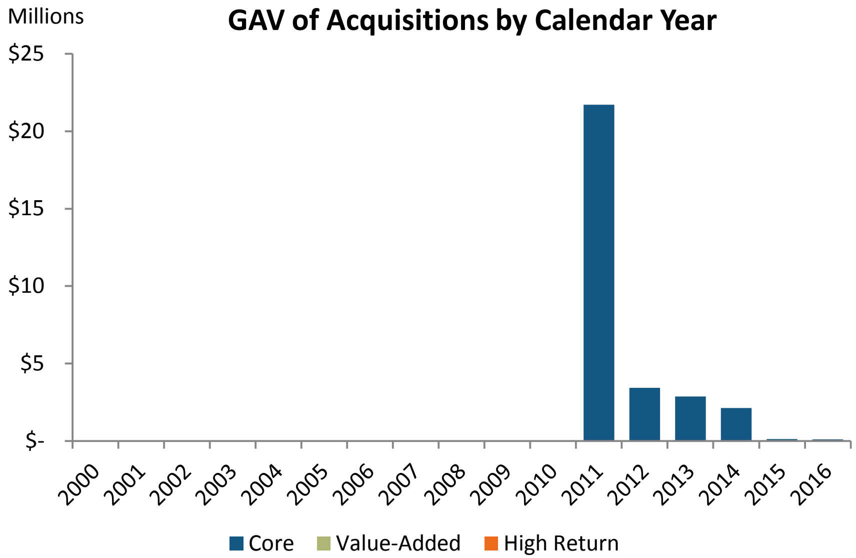
## Property Type Diversification



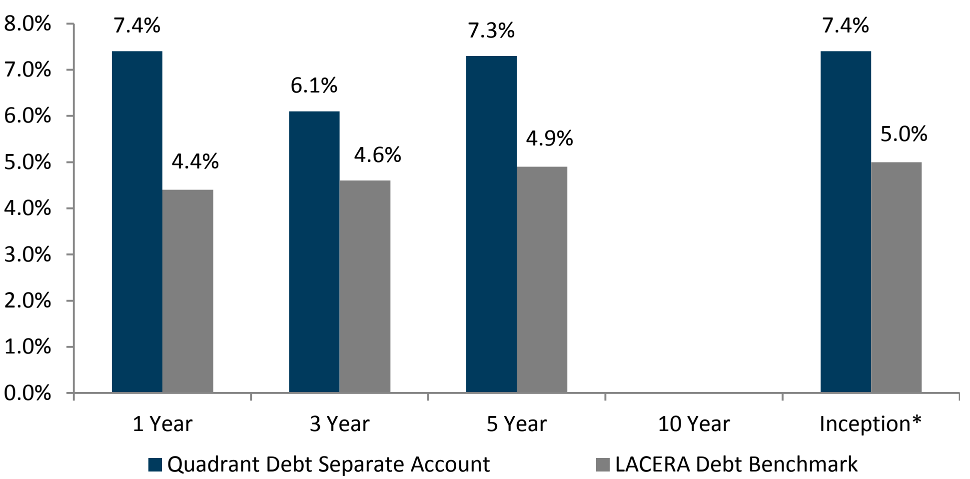

## Geographic Diversification




## GAV of Acquisitions by Calendar Year




## Time-weighted Net Returns

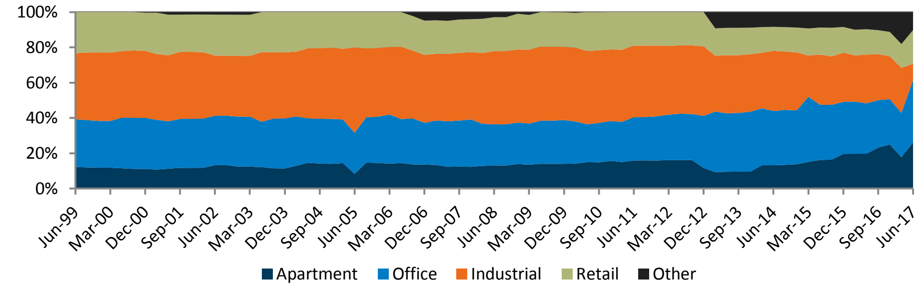


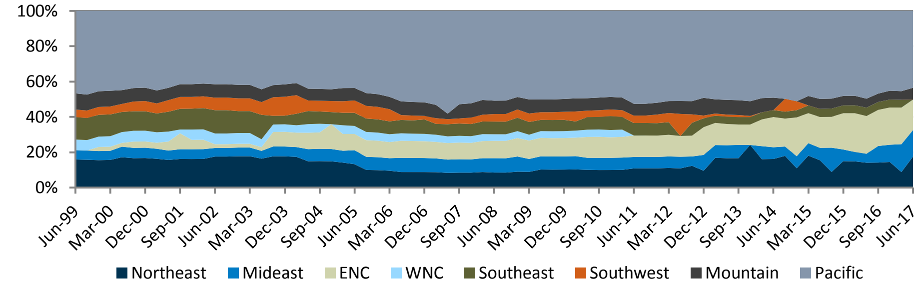

*Inception Date is Q4 2011

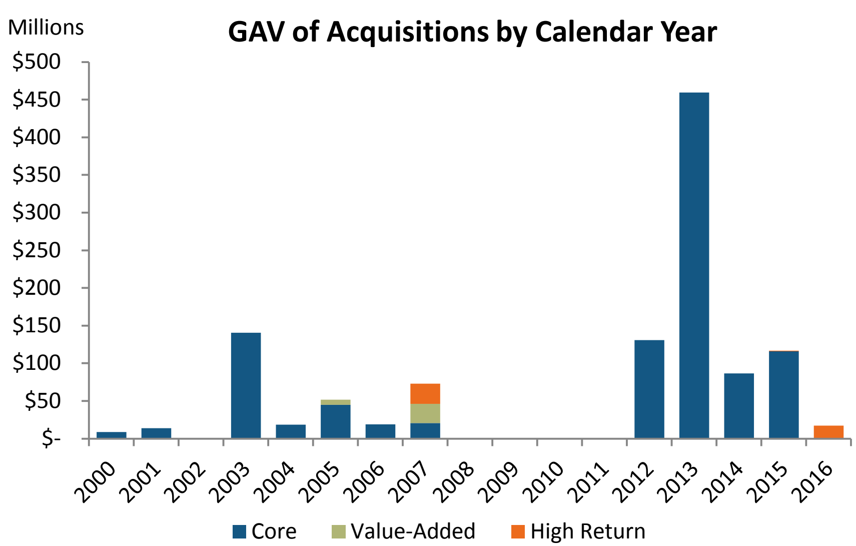
# Performance Attribution: RREEF

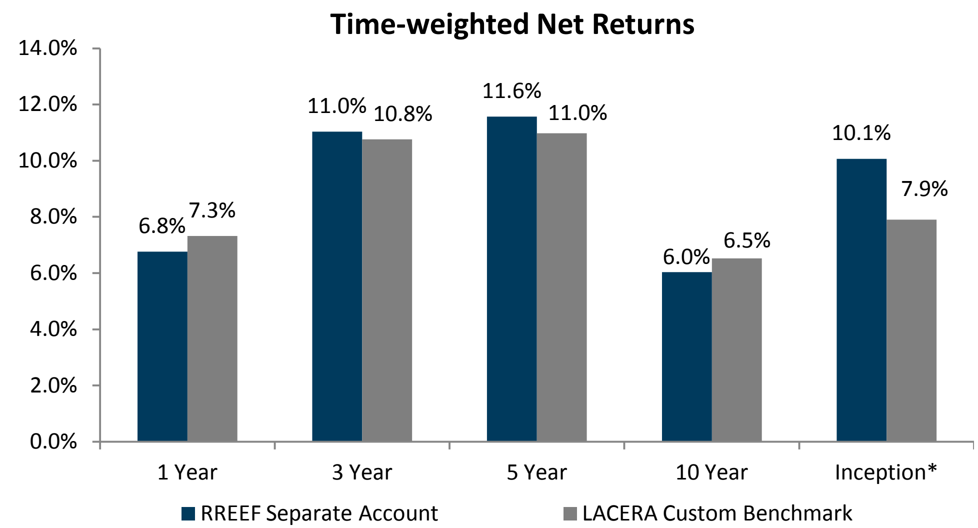
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $944,518,262 |
| Number of Properties as of June 30, 2017: | 18 |
| Account LTV (%) | 30.8% |

| Background | |
|---|---|
| Relationship Inception: | 1Q 1991 |
| Capital Funded Since Inception | $2,205,526,314 |
| Number of Properties acquired since inception: | 71 |
| Capital Returned Since Inception: | $3,078,797,874 |
| Number of Properties sold since inception: | 53 |
| Since Inception IRR: | 10.2% |
| Core Strategy: | 10.6% |
| Value Strategy: | 6.4% |
| High Return Strategy: | -7.9% |



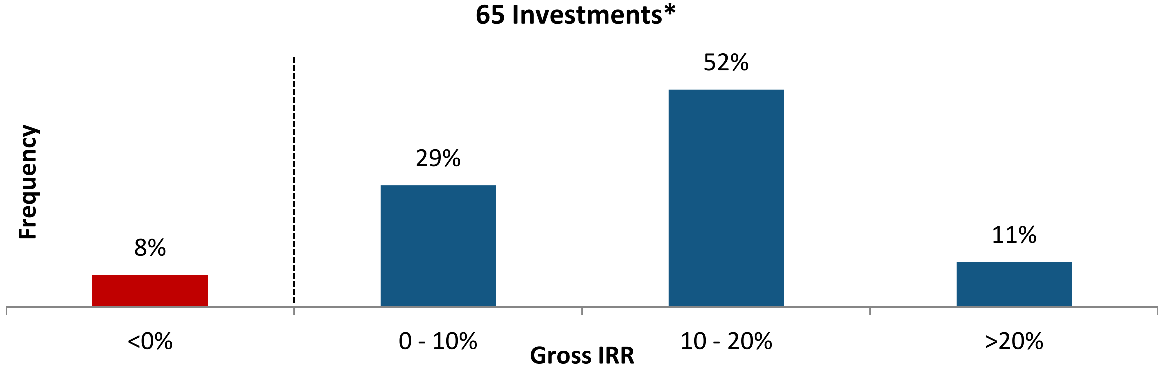



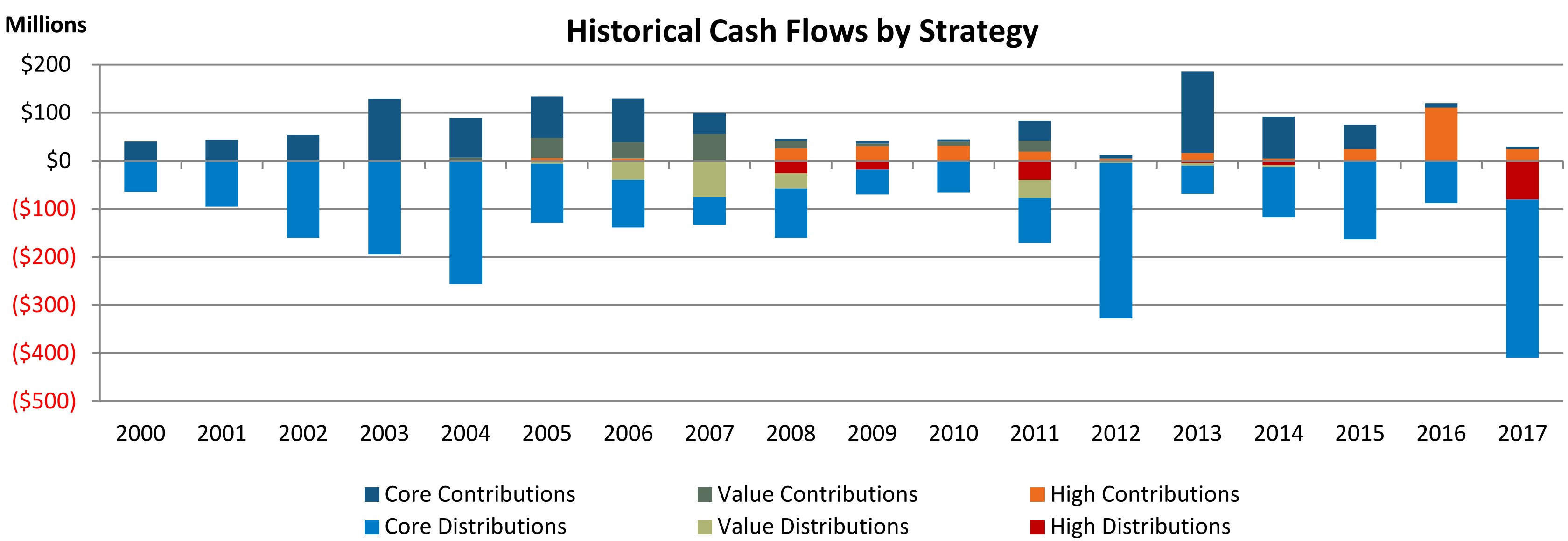




*Inception Date is Q1 1991

# Performance Attribution: RREEF




<u>Underperforming Investments</u>:
Centerview Marketplace, -8.1% IRR (Peak Market Value: $8.5 million). Value Add asset sold in 2013.
Kendall Creek Apts, -3.7% IRR (Peak Market Value: $17.3 million). Core Asset sold in 2011.
West Valley @ 212-Retail, -3.1% IRR (Peak Market Value: $6.7 million). Value Add asset sold in 2014.
Woodcreek Plaza, -0.5% IRR (Peak Market Value: $9.0 million). Core Asset sold in 2014.
Palomar Crest Corporate Center, -0.1 % IRR (Peak Market Value: $20.9 million). Core Asset currently held in the IMA.

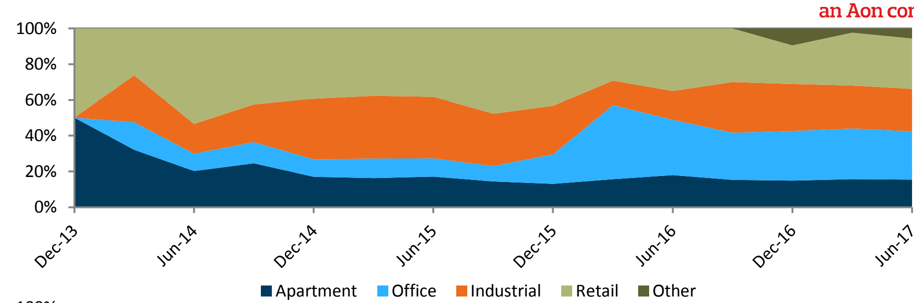


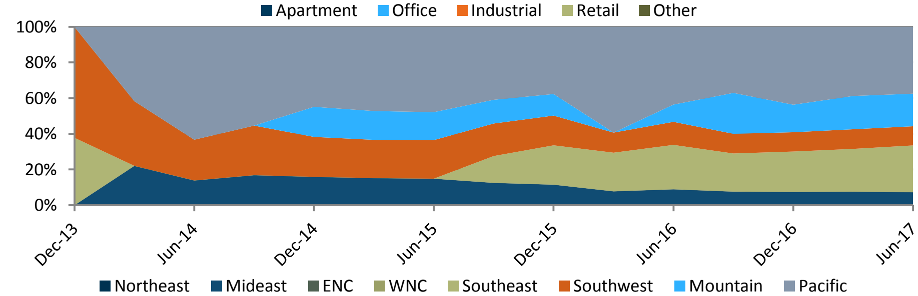

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

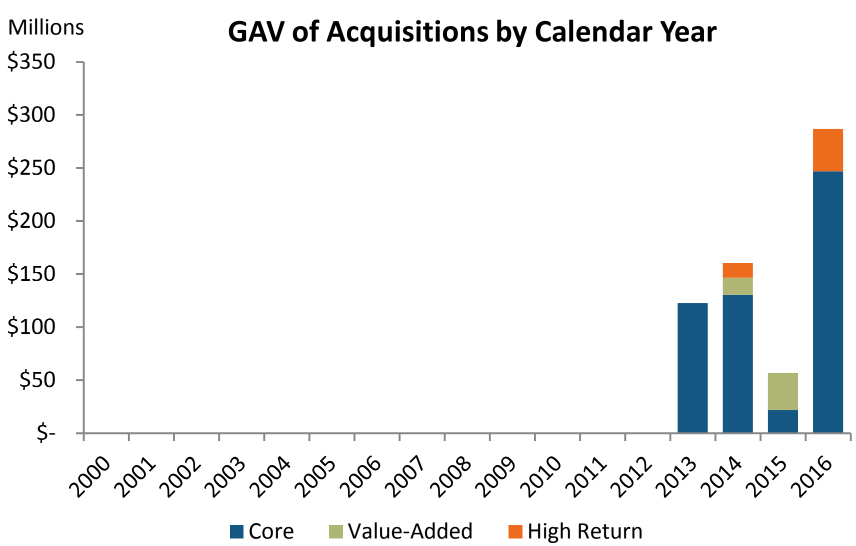
# Performance Attribution: Stockbridge

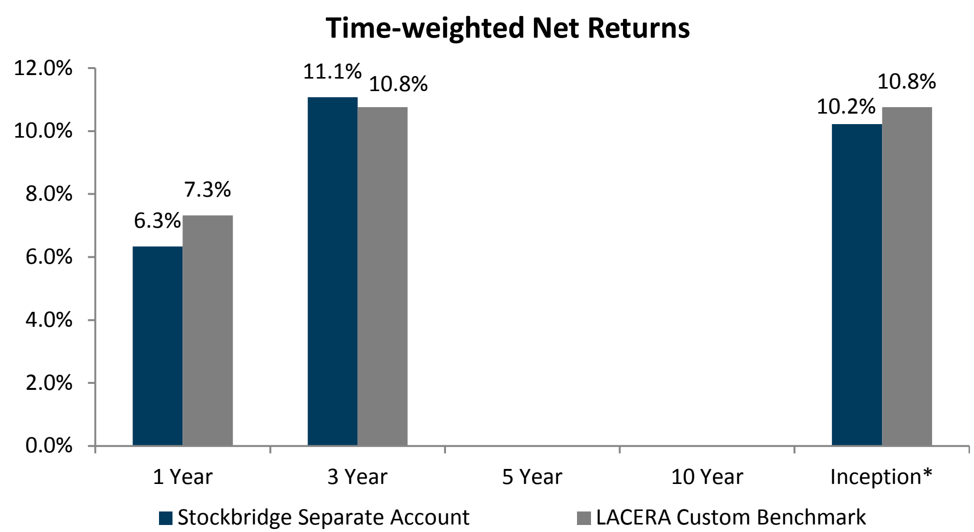
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $426,748,598 |
| Number of Properties as of June 30, 2017: | 15 |
| Account LTV (%) | 38.0% |

| Background | |
|---|---|
| Relationship Inception: | 4Q 2013 |
| Capital Funded Since Inception: | $636,290,440 |
| Number of Properties acquired since inception: | 16 |
| Capital Returned Since Inception: | $293,933,088 |
| Number of Properties sold since inception | 1 |
| Since Inception IRR: | 9.8% |
| Core Strategy: | 10.2% |
| Value Strategy: | 7.5% |
| High Return Strategy: | 8.3% |



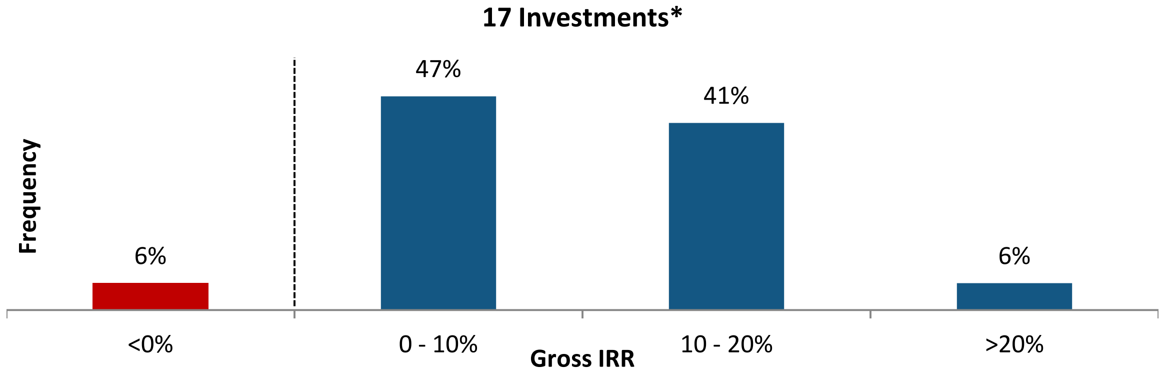



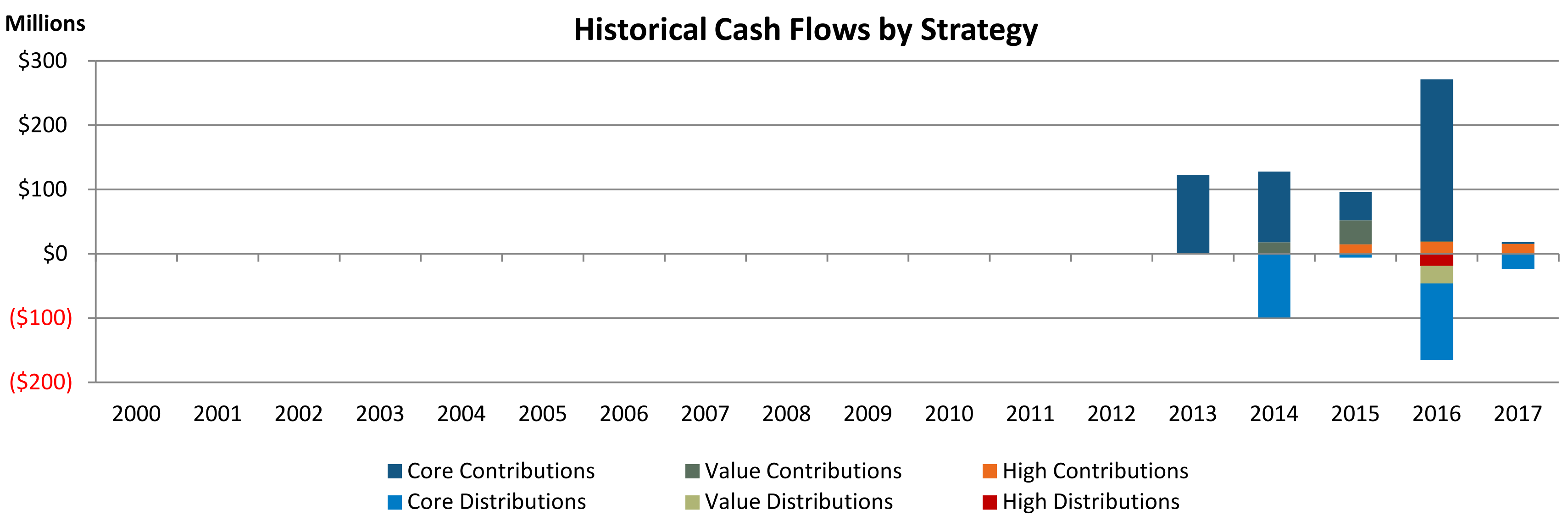




*Inception Date is Q1 2014

# Performance Attribution: Stockbridge




Underperforming Investments:
Scripps Northridge (Core), -5.5% IRR (Peak Market Value: $25.7 million). Core Asset currently held in the IMA.

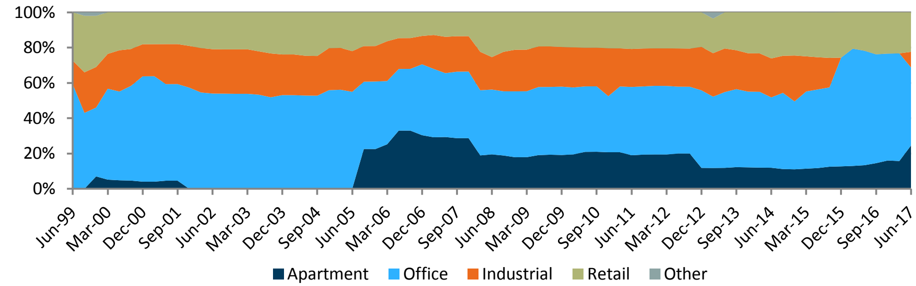


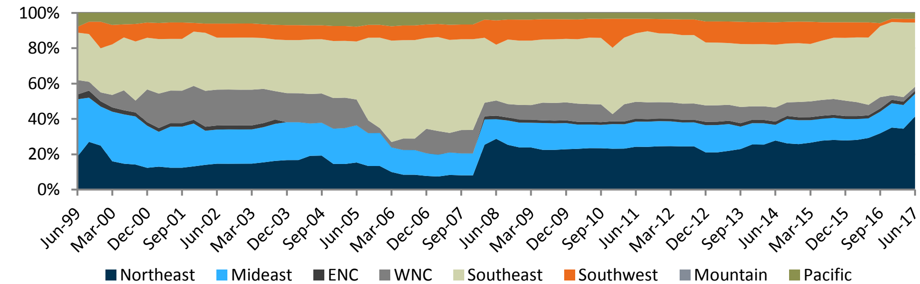

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

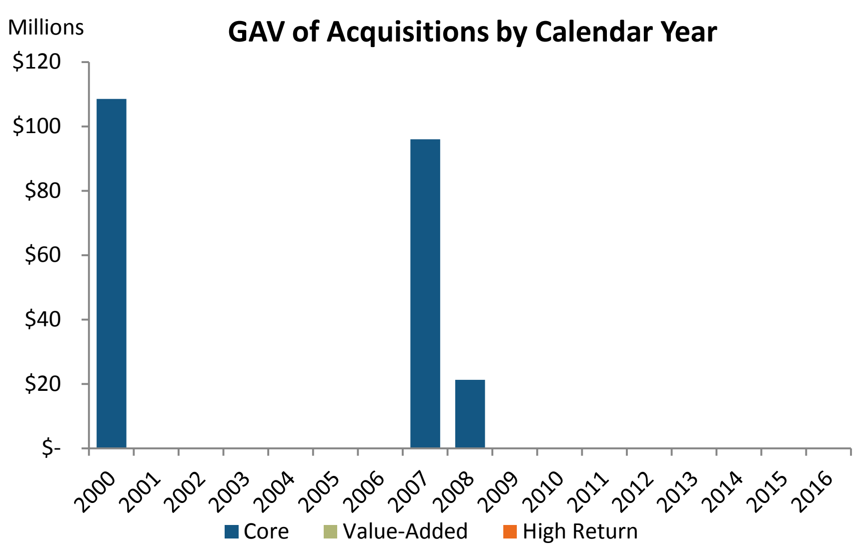
# Performance Attribution: TA Realty

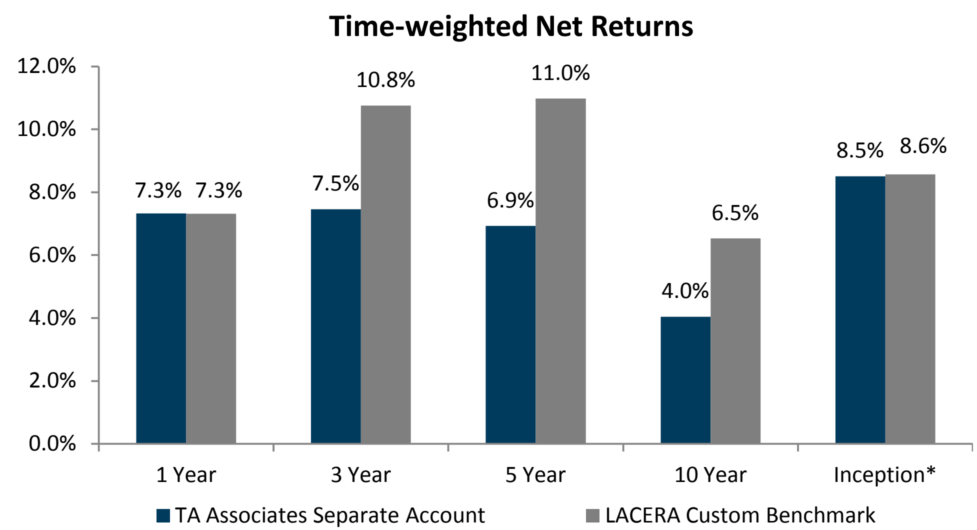
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $831,453,202 |
| Number of Properties as of June 30, 2017: | 19 |
| Account LTV (%) | 26.1% |

| Background | |
|---|---|
| Relationship Inception: | 2Q 1992 |
| Capital Funded Since Inception: | $2,113,284,459 |
| Number of Properties acquired since inception: | 40 |
| Capital Returned Since Inception: | $2,603,465,712 |
| Number of Properties sold since inception | 21 |
| Since Inception IRR: | 8.5% |
| Core Strategy: | 8.8% |
| Value Strategy: | 0.3% |
| High Return Strategy: | n/a |



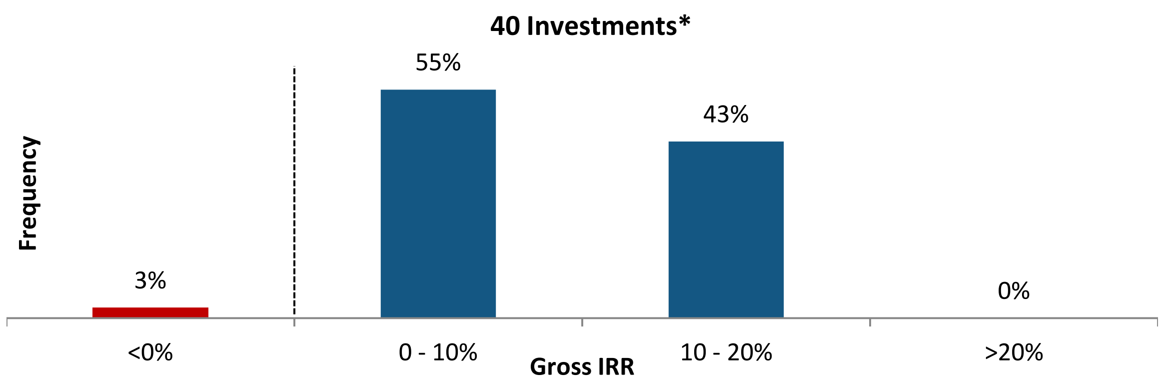



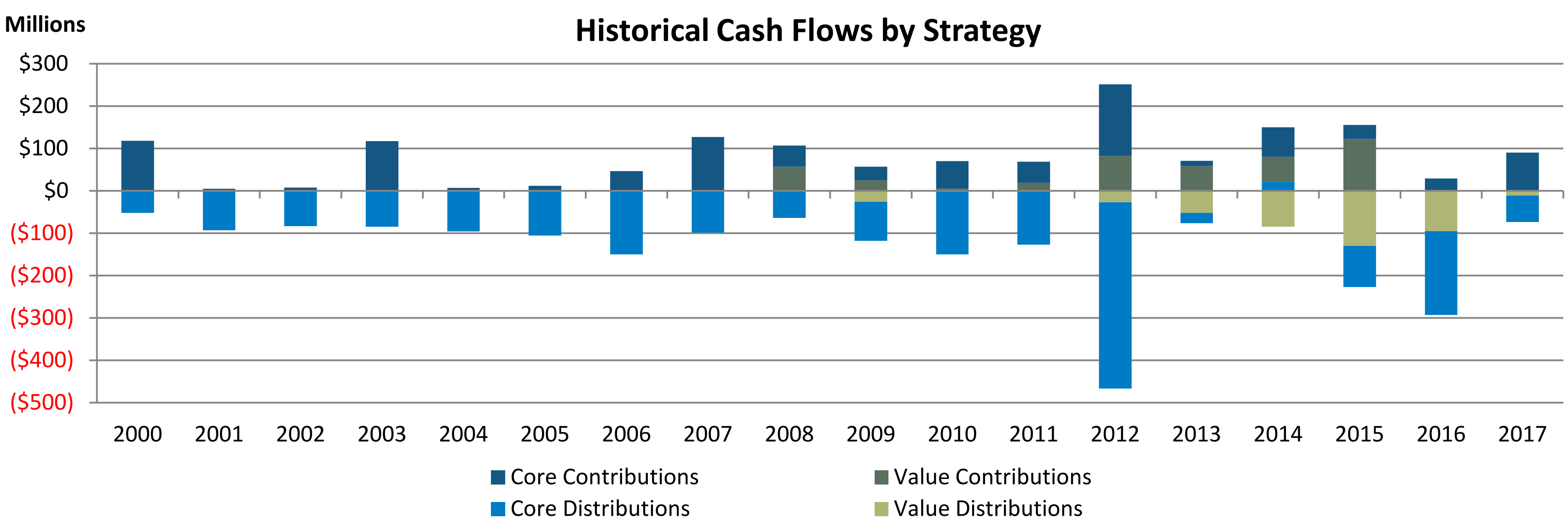




*Inception Date is Q2 1992

# Performance Attribution: TA Realty




Underperforming Investments:
Two Pershing Square, -1.8% IRR (Peak Market Value: $71.7 million). Core Asset sold in 2016.

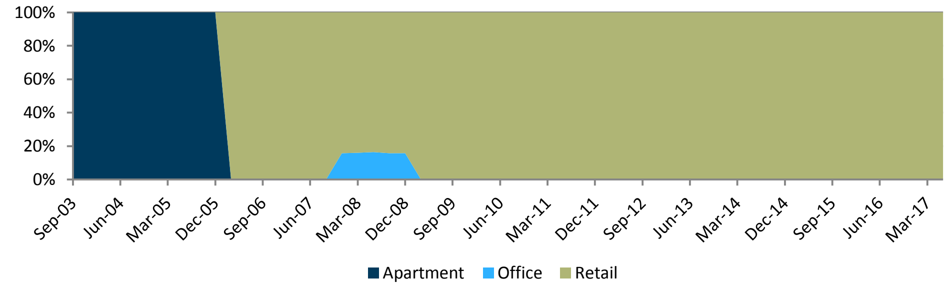


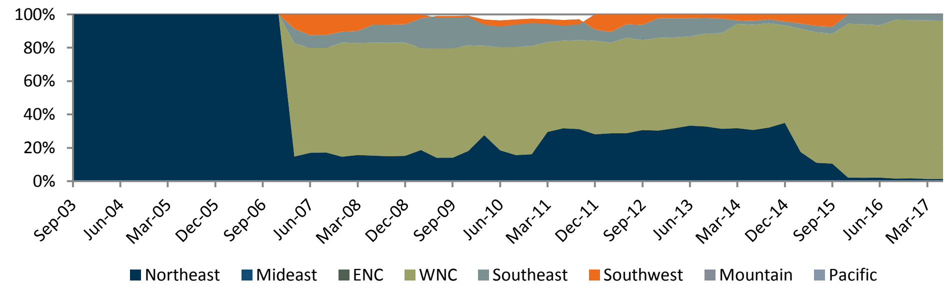

* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

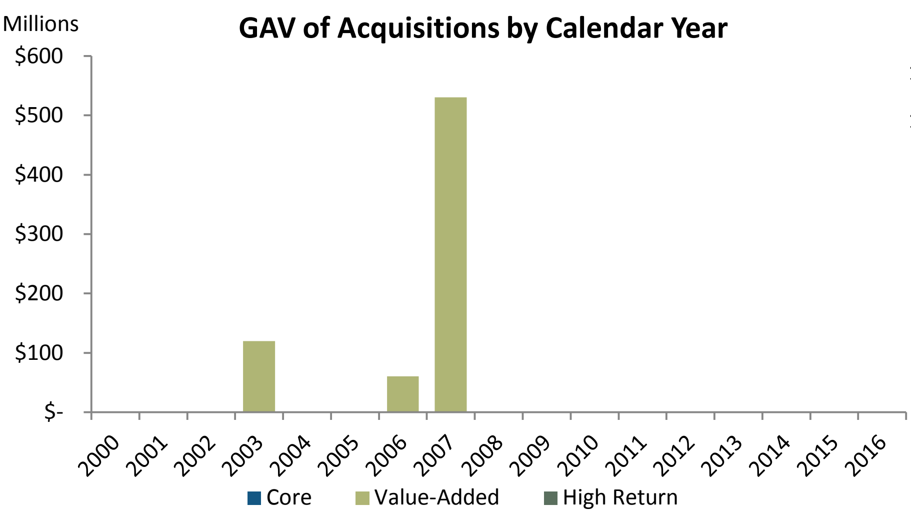
# Performance Attribution: Vanbarton

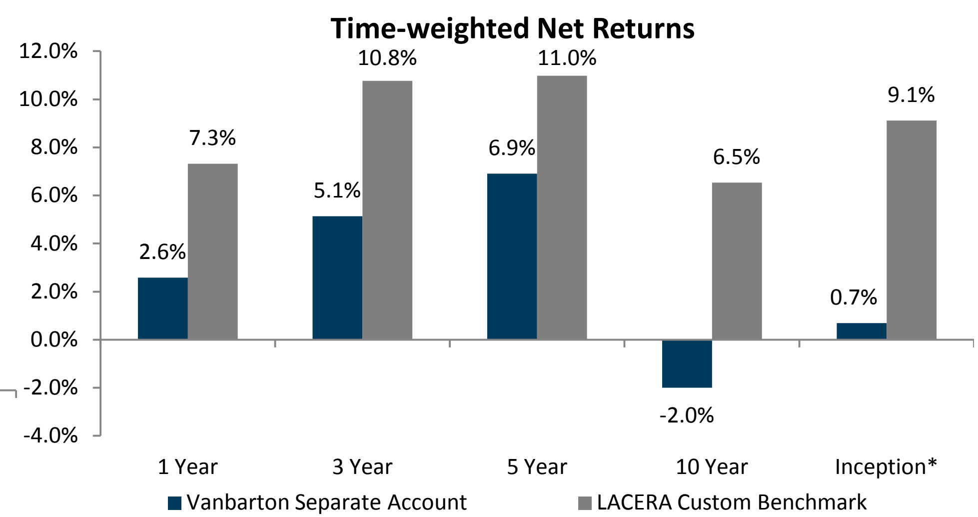
| Key Values | |
|---|---|
| Market Value as of 6/30/17 | $160,905,322 |
| Number of Properties as of June 30, 2017: | 1 |
| Account LTV (%) | 0.0% |

| Background | |
|---|---|
| Relationship Inception: | 3Q 2003 |
| Capital Funded Since Inception: | $450,120,451 |
| Number of Properties acquired since inception: | 4 |
| Capital Returned Since Inception: | $281,480,087 |
| Number of Properties sold since inception | 3 |
| <u>Since Inception IRR:</u> | <u>-0.3%</u> |
| Core Strategy: | N/A |
| Value Strategy: | -0.3% |
| High Return Strategy: | N/A |



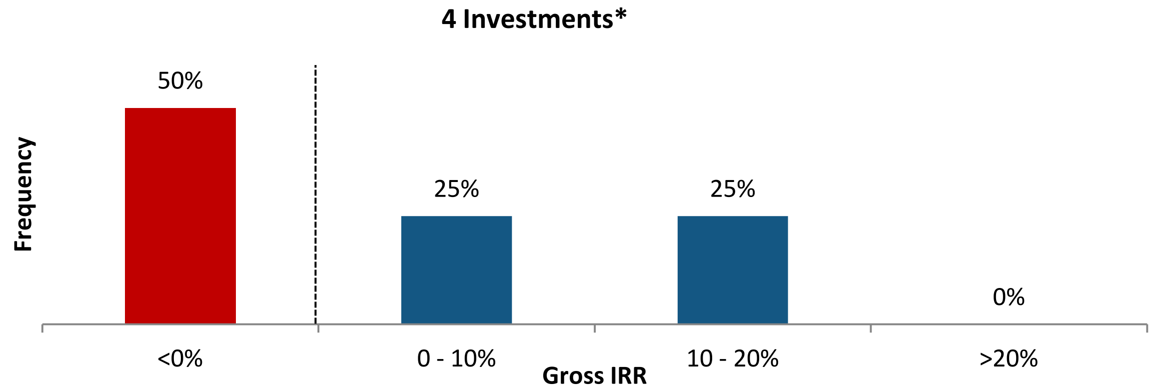



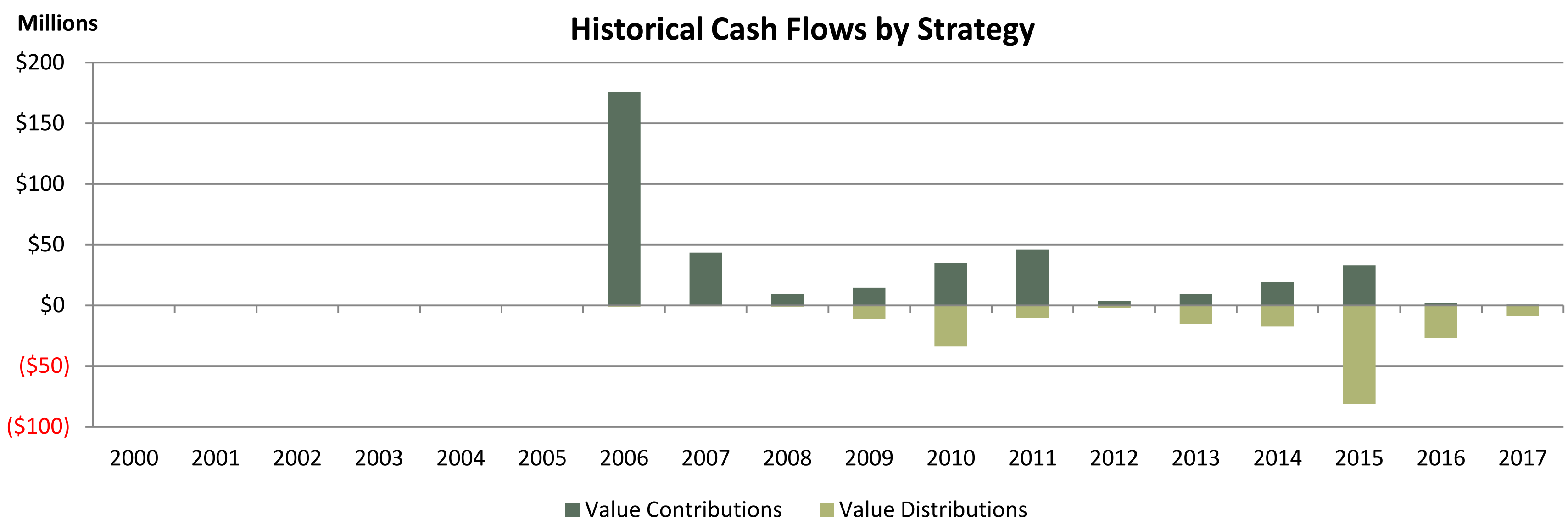




*Inception Date is Q4 2003

# Performance Attribution: Vanbarton




Underperforming Investments:
Midwest/Southeast Retail Portfolio, -1.9% IRR (Peak Market Value: $189.6 million). Still held in the account as of June 30, 2017.
Troy Portfolio, -74.8% (Peak Market Value: $37.4 million). Sold in 2010.




* Number of Investments may not equal the number of properties listed on the previous page. If a property was moved between risk categories, this will count as two separate investments with individual IRRs.

# Conclusions and Future Considerations

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## CONCLUSIONS

- The Core Separate Account program has been accretive to the Total Plan, and has advanced LACERA's objectives for real estate.
- The Value Separate Account program has lagged returns in the Core Separate Account program (to-date) while also incurring higher risk.
- The High Return Separate Account program has detracted from LACERA's Total Plan over the long-term, but near-term gains may offset losses over time.

## FUTURE CONSIDERATIONS

- Identify which specific managers have detracted from performance, and reevaluate the future of such relationships.
- Refocus specific managers on their strengths: strategy (core, value and/or high return), asset classes and geographies.
- Reconsider the pros/cons of ongoing separate account exposure, and whether reallocation to commingled funds could advance LACERA's objectives for certain strategies and points in the market cycle.

## NEXT STEPS

- LACERA Staff and Consultant will evaluate each Manager's performance and present recommendations based on findings at a future date

# Appendix

## Disclosures

# Disclosures

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