

# Residential Sector Special Report

March 25, 2011

DJIA: 12,221 | RMZ: 785 | 10-Year T-Note: 3.44%



## Capital Expenditures – Taking a Bite out of Returns

### Overview

- Inflationary-like NOI growth requires significant capital investment
- Without this investment, organic long-term NOI growth lags inflation
- Market conventions about cap-ex are misleading and too low
- Underestimating cap-ex can dramatically inflate expected IRRs
- **New!** This report includes cap-ex analyses for the Student and Manufactured Housing REITs



# Recommendations & Authors

Recommendations	Buy	Hold	Sell
<p><i>At current share prices, Our investment recommendations are:</i></p> <p>(directional arrows reflect a recommendation change)</p>	/	/	<p><b>For Client Access Only</b> To become a client, please contact a member of our sales team at 949-640-8780 or e-mail inquiry@greenstreetadvisors.com.</p>

## Authors

Andrew McCulloch, CFA, *Senior Analyst*

Chris Van Ens, CFA, *Analyst*

Ray Huang, CFA, *Senior Associate*

Stephen Bakke, *Associate*

# Table of Contents

## Sections

---

I.	Executive Summary	4
II.	Apartment Cap-Ex 101	5
III.	Historical Cap-Ex Spend in the Public and Private Markets	6
IV.	Cap-Ex Components and Expected Returns	7
V.	Capital Expenditures - Apartment REITs	8
VI.	Capital Expenditures - Student and Manufactured Housing	9

---

## Appendices

---

A.	Green Street's Cap-Ex Calculation Methodology	11
B.	Cap Rate Definitions	12

---

# I. Executive Summary

## Overview

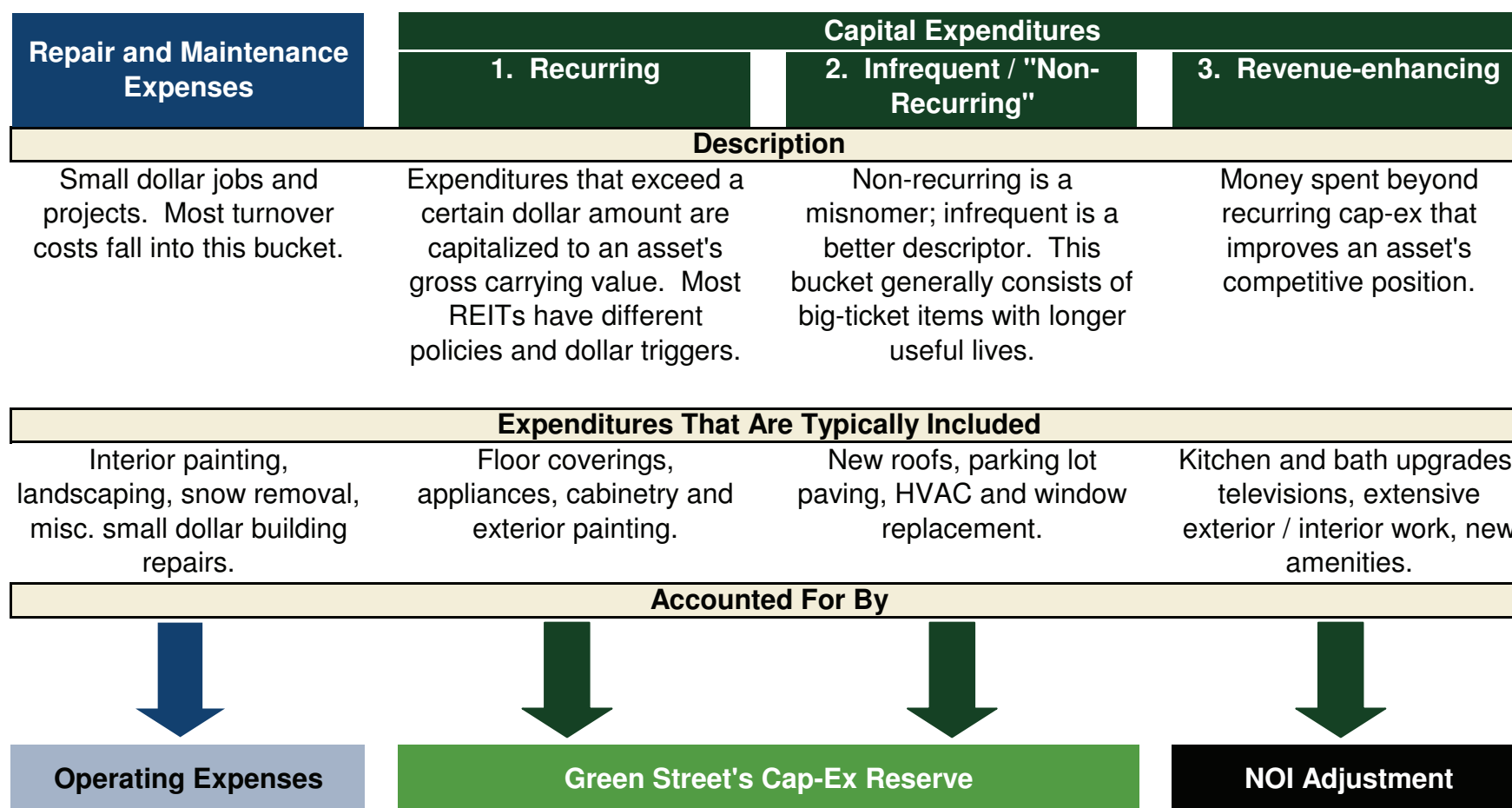
- **Inflationary-Like NOI Growth Does Not Come Cheap:** The public apartment REITs have spent, on average, 16% of NOI annually on *total* cap-ex over the past 15 years to generate NOI growth of 2.5%-3%. Private market findings based on NCREIF data are similar. These two data sets together represent nearly 800,000 apartment units.
- **True “Organic” NOI Growth Lags Inflation:** Apartment assets become physically and functionally obsolete over time as technology, consumer tastes, and consumer demands change. Without periodic and meaningful renovations and enhancements (i.e., *revenue-enhancing cap-ex*) – such as kitchen and bath upgrades – organic, long-term NOI growth will lag inflation.
- **Suitable Cap-Ex Reserves are Big:** An appropriate annual *maintenance cap-ex reserve* for the average public apartment REIT is \$940 / unit or 10-12% of NOI. Incorporating such a reserve generates long-term NOI growth of 1.75% (assuming long-term inflation = 2.5%).

## Why Cap-Ex Is Important

- **The Market Convention Can Be Misleading:** The market tends to quote cap rates that incorporate a \$300-\$500 / unit cap-ex reserve. This convention helps to normalize pricing, but is unrealistically low for a long-term holder.
- **Cap-Ex Can Have a Dramatic Impact on Returns:** Underwriting inflationary long-term NOI growth and only maintenance cap-ex (i.e., excluding *revenue-enhancing cap-ex*) can artificially inflate total unlevered return expectations by 50-100bps.
- **“Bought” Growth Complicates Results:** REITs sometimes invest material *revenue-enhancing* dollars in their properties, but do not remove these properties from same-store pools. Therefore, some reported NOI growth is “bought” via these *extra* capital infusions, making reported NOI growth not directly comparable across companies.
- **What about the “Greater Fool”?:** Because cap-ex is routinely misunderstood and its impact underappreciated, buyers and sellers may benefit from the existence of “greater fools” in the market. That said, investors will be better served in the long-run to fully account for cap-ex in cash flow estimates and / or residual values if they expect to hit their return targets.

## II. Apartment Cap-Ex 101

**Different Flavors:** The upkeep and improvement of apartment assets can be expensed on the income statement or capitalized to the balance sheet. Items that are capitalized generally come in three varieties: (1) recurring, (2) infrequent or "non-recurring", and (3) revenue-enhancing. As defined in this report, Green Street's *maintenance cap-ex reserve* incorporates both recurring and infrequent costs; *total cap-ex* includes all three components.



### III. Historical Cap-Ex Spend in the Public and Private Markets

**Inflationary Growth at a Price:** From 1995 to 2010, the public apartment REITs reported average NOI growth of 2.6% and spent an average of 16% of NOI annually on *total* cap-ex. Data imbedded in the NCREIF property indices over the same time period shows private operators spent similar amounts of cap-ex for comparable NOI growth. Taken together, this historical data casts substantial doubt on the cap-ex figures commonly cited by many market participants.

**Public Apartment REIT Capital Expenditures and NOI Growth**

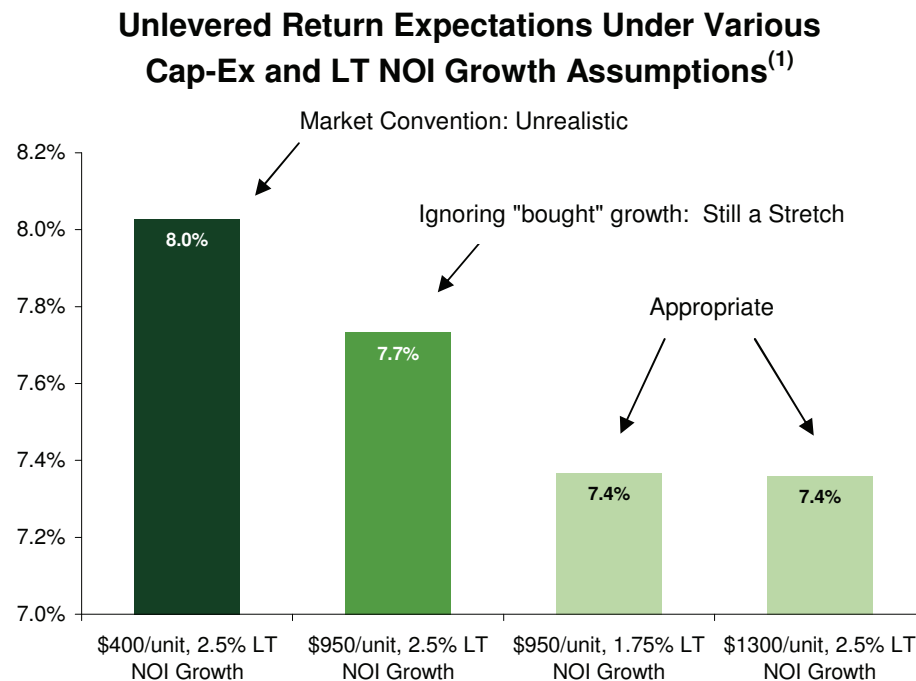
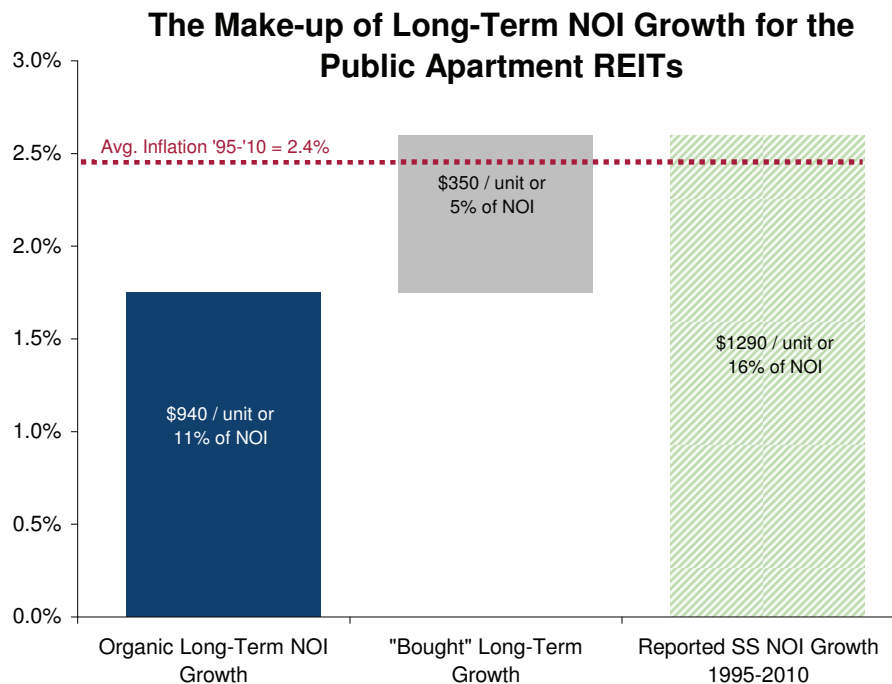


**NCREIF Multifamily Capital Expenditures and NOI Growth**



## IV. Cap-Ex Components and Expected Returns

**Proper Underwriting Matters:** Most apartment REITs need to spend maintenance / recurring cap-ex dollars *and* revenue-enhancing dollars to maintain inflationary-like long-term NOI growth. If NOI growth is augmented by incremental investment, the cost of that investment should be fully matched against that growth. Failing to do so, while still underwriting inflationary-like long-term NOI growth, can dramatically inflate total return expectations.



(1) Based on Green Street's published NOI growth estimates from '12-'16 and an average apartment asset with an initial economic yield of 5.3%.

---

Green Street's methodology and additional appendices  
with charts and tables of cap-ex results by company are for client view only.

# Green Street Advisors' Disclosure Statement

**Analyst Certification** – The research analysts listed below hereby certify that all of the views expressed in this research report accurately reflect their personal views about any and all of the subject companies or securities. They also certify that no part of their compensation was, is, or will be directly or indirectly related to the specific recommendation(s) or view(s) in this report. Research Analysts: Andrew McCulloch, Chris Van Ens, Ray Huang and Stephen Bakke.

**Issues of this Report: U.S. and EEA:** This report has been prepared by analysts working for Green Street Advisors (GSA (U.S.)) and/or Green Street Advisors (U.K.) Limited (GSA (UK)), both of which are subsidiaries of Green Street Holdings, Inc.

**This report is issued in the U.S.A by GSA (U.S.). GSA (UK) accepts no responsibility for this report to the extent that it is relied upon by persons based in the U.S.A.** GSA (U.S.) is regulated by FINRA and the United States Securities and Exchange Commission, and its headquarters is located at 660 Newport Center Drive, Suite 800, Newport Beach, CA 92660.

**This report is issued in the European Economic Area (EEA) by GSA (UK). GSA (U.S.) accepts no responsibility for this report to the extent that it is relied upon by persons based in the EEA.** GSA (UK) is registered in England, (Company number. 6471304), and its registered office is 22 Grosvenor Square, 3rd Floor, London, W1K 6LF. GSA (UK) is authorized and regulated by the Financial Services Authority in the United Kingdom and is entered on the FSA's register (no. 482269J).

**References to "Green Street" in Disclosures in this section and in the Other Important Information section apply to:**

- **GSA (U.S.) to the extent that this report has been disseminated in the U.S.A; or**
- **GSA (UK) to the extent that this report has been disseminated in the EEA.**

Green Street Advisors U.S. is exempt from the requirement to hold an Australian financial services license under the Act in respect of the financial services; and is regulated by the SEC under U.S. laws, which differ from Australian laws.

Green Street Advisors UK Ltd. is exempt from the requirement to hold an Australian financial services license under the Act in respect of the financial services; and is regulated by the FSA under UK laws, which differ from Australian laws.

Green Street reserves the right to update the disclosures and policies set out in this document at any time. We encourage a careful comparison of these disclosures and policies with those of other research providers, and welcome the opportunity to discuss them.

**Affiliate Disclosures:** Green Street does not directly engage in investment banking, underwriting or advisory work with any of the companies in our coverage universe. However, the following are potential conflicts regarding our affiliates that should be considered:

- Green Street is affiliated with, and at times assists, Eastdil Secured, a real estate brokerage and investment bank, when Eastdil Secured provides investment banking services to companies in Green Street's coverage universe. Green Street is never part of the underwriting syndicate, selling group or marketing effort but Green Street may receive compensation from Eastdil Secured for consulting services that Green Street provides to Eastdil Secured related to Eastdil Secured's investment banking services. Green Street does not control, have ownership in, or make any business or investment decisions for, Eastdil Secured.
- Green Street has an advisory practice servicing investors seeking to acquire interests in publicly-traded companies. Green Street may provide such valuation services to prospective acquirers of companies which are the subject(s) of Green Street's research reports. Green Street may receive fees that are contingent upon the successful completion of a transaction or other fees for its work on behalf of prospective acquirers.
- An affiliate of Green Street is the investment manager of an equity securities portfolio on behalf of a single client. The portfolio contains securities of issuers covered by Green Street's research department. The affiliate is located in a separate office, employs an investment strategy based on Green Street's published research, and does not trade with Green Street's trading desk.

## Other Important Information

**Management of Conflicts of Interest:** Conflicts of interest can seriously impinge the ability of analysts to do their job, and investors should demand unbiased research. In that spirit, Green Street adheres to the following policies regarding conflicts of interest:

- Green Street employees are prohibited from owning the shares of any company in our coverage universe.
- Green Street employees do not serve as officers or directors of any of our subject companies.
- Green Street does not commit capital or make markets in any securities.
- Neither Green Street nor its employees/analysts receives any compensation from subject companies for inclusion in our research.
- Green Street does not directly engage in investment banking or underwriting work with any subject companies.

Please also have regard to the Affiliate Disclosures listed above when considering the extent to which you place reliance on this research presentation and any research recommendations made herein.

A number of companies covered by Green Street research reports pay an annual fee to receive Green Street's research reports. Green Street may periodically solicit this business from the subject companies. In the aggregate, annual fees for GSA (U.S.) and GSA (UK) research reports received from subject companies represent approximately 3% of each of GSA (U.S.)'s and GSA (UK)'s respective total revenues.

Green Street publishes research reports covering issuers that may offer and sell securities in an initial or secondary offering. Broker-dealers involved with selling the issuer's securities or their affiliates may pay compensation to GSA upon their own initiative, or at the request of Green Street's clients in the form of "soft dollars," for receiving research reports published by Green Street.

The information contained in this presentation is based on data obtained from sources we deem to be reliable; it is not guaranteed as to accuracy and does not purport to be complete. This presentation is produced solely for informational purposes and is not intended to be used as the primary basis of investment decisions. Because of individual client requirements, it is not, and it should not be construed as, advice designed to meet the particular investment needs of any investor. This presentation is not an offer or the solicitation of an offer to sell or buy any security.

Green Street Advisors is an accredited member of the Investorside Research Association, whose mission is to increase investor and pensioner trust in the U.S. capital markets system through the promotion and use of investment research that is financially aligned with investor interests.

Green Street generally prohibits research analysts from sending draft research reports to subject companies. However, it should be presumed that the analyst(s) who authored this presentation has/(have) had discussions with the subject company to ensure factual accuracy prior to publication, and has/(have) had assistance from the company in conducting due diligence, including visits to company sites and meetings with company management and other representatives.

# Green Street Advisors' Disclosure Statement

## Terms of Use

**Protection of Proprietary Rights:** To the extent that this presentation is issued by GSA (U.S.), this material is the proprietary and confidential information of Green Street Advisors, Inc., and is protected by copyright. To the extent that this presentation is issued by GSA (UK), this material is the proprietary and confidential information of Green Street Advisors (U.K.) Limited, and is protected by copyright.

This presentation may be used solely for reference for internal business purposes. This presentation may not be reproduced, re-distributed, sold, lent, licensed or otherwise transferred without the prior consent of Green Street. All other rights with respect to this presentation are reserved by Green Street.

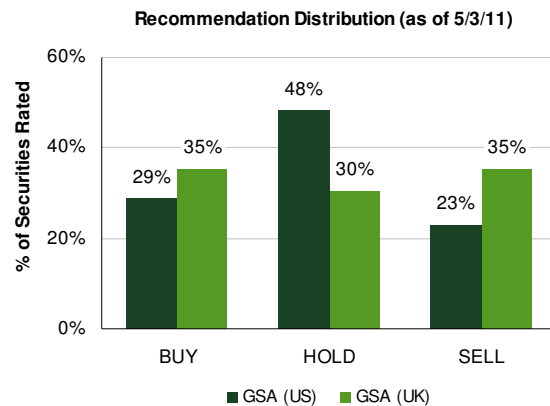
**EEA Recipients: For use only by Professional Clients and Eligible Counterparties:** GSA (UK) is authorized by the Financial Services Authority of the United Kingdom to issue this presentation to "Professional Clients" and "Eligible Counterparties" only and is not authorized to issue this presentation to "Retail Clients", as defined by the rules of the Financial Services Authority. This presentation is provided in the United Kingdom for the use of the addressees only and is intended for use only by a person or entity that qualifies as a "Professional Client" or an "Eligible Counterparty". **Consequently, this presentation is intended for use only by persons having professional experience in matters relating to investments. This presentation is not intended for use by any other person. In particular, this presentation is intended only for use by persons who have received written notice from GSA (UK) that he/she/it has been classified, for the purpose of receiving services from GSA (UK), as either a "Professional Client" or an "Eligible Counterparty". Any other person who receives this presentation should not act on the contents of this presentation.**

## Review of Recommendations:

- Unless otherwise indicated, Green Street reviews all investment recommendations on at least a monthly basis.
- The research recommendation contained in this report was first released for distribution on the date identified on the cover of this report.
- Green Street will furnish upon request available investment information supporting the recommendation(s) contained in this report.

At any given time, Green Street publishes roughly the same number of "BUY" recommendations that it does "SELL" recommendations.

Green Street's "BUYs" have historically achieved far higher total returns than its "HOLDs", which, in turn, have outperformed its "SELLs".



**Total Return of Green Street's Recommendations<sup>1,2</sup>**

Year	Buy	Hold	Sell	Universe <sup>3</sup>
2011 YTD	15.5%	11.0%	6.7%	11.2%
2010	43.3%	32.7%	26.5%	33.8%
2009	59.0%	47.7%	6.0%	37.9%
2008	-28.1%	-30.9%	-52.6%	-37.3%
2007	-6.9%	-22.4%	-27.8%	-19.7%
2006	45.8%	29.6%	19.5%	31.6%
2005	26.3%	18.5%	-1.8%	15.9%
2004	42.8%	28.7%	16.4%	29.4%
2003	43.3%	37.4%	21.8%	34.8%
2002	17.3%	2.8%	2.6%	5.4%
2001	34.9%	19.1%	13.0%	21.1%
2000	53.4%	28.9%	5.9%	29.6%
1999	12.3%	-9.0%	-20.5%	-6.9%
1998	-1.6%	-15.1%	-15.5%	-12.1%
1997	36.7%	14.8%	7.2%	18.3%
1996	47.6%	30.7%	18.9%	32.1%
1995	22.9%	13.9%	0.5%	13.5%
1994	20.8%	-0.8%	-8.7%	3.1%
1993	27.3%	4.7%	8.1%	12.1%
<b>Total Return</b>	<b>6695.2%</b>	<b>586.0%</b>	<b>-15.1%</b>	<b>662.9%</b>
<b>Annualized</b>	<b>26.0%</b>	<b>11.1%</b>	<b>-0.9%</b>	<b>11.8%</b>

The results shown in the table in the upper right corner are hypothetical; they do not represent the actual trading of securities. Actual performance will vary from this hypothetical performance due to, but not limited to 1) advisory fees and other expenses that one would pay; 2) transaction costs; 3) the inability to execute trades at the last published price (the hypothetical returns assume execution at the last closing price); 4) the inability to maintain an equally-weighted portfolio in size (the hypothetical returns assume an equal weighting); and 5) market and economic factors will almost certainly cause one to invest differently than projected by the model that simulated the above returns. All returns include the reinvestment of dividends. Past performance, particularly hypothetical performance, can not be used to predict future performance.

- (1) Results are for recommendations made by Green Street's North American Research Team only (includes securities in the US, Canada, and Australia). Uses recommendations given in Green Street's "Real Estate Securities Monthly" from January 28, 1993 through May 2, 2011. Historical results from January 28, 1993 through September 1, 2010 were independently verified by an international "Big 4" accounting firm. The accounting firm did not verify the stated results subsequent to September 1, 2010. As of September 1, 2010, the annualized total return of Green Street recommendations since January 28, 1993 was: Buy +25.1%, Hold +10.2%, Sell -1.9%, Universe +10.8%.
- (2) Company inclusion in the calculation of total return has been based on whether the companies were listed in the primary exhibit of Green Street's "Real Estate Securities Monthly". Beginning April 28, 2000, Gaming C-Corps and Hotel C-Corps, with the exception of Starwood Hotels and Homestead Village, are not included in the primary exhibit and therefore not included in the calculation of total return. Beginning March 3, 2003, all Hotel companies are excluded.
- (3) All securities covered by Green Street with a published rating that were included in the calculation of total return. Excludes "not rated" securities.

Per NASD rule 2711, "Buy" = Most attractively valued stocks. We recommend overweight position; "Hold" = Fairly valued stocks. We recommend market-weighting; "Sell" = Least attractively valued stocks. We recommend underweight position.

Green Street will furnish upon request available investment information regarding the recommendation

# Green Street Advisors' North American Team

<b>Research</b> 660 Newport Center Drive, Suite 800 Newport Beach, CA 92660 +1.949.640.8780		
<b>Macro</b>	Mike Kirby, Director of Research Craig Leupold, President	mkirby@greenst.com cleupold@greenst.com
<b>Company Specific</b>	Jim Sullivan, Managing Director, REIT Research	jsullivan@greenst.com
• <b>Health Care</b>	Jeff Theiler, Analyst	jtheiler@greenst.com
• <b>Industrial</b>	Steven Frankel, CFA, Analyst John Hornbeak, Associate Eric Frankel, Associate*	sfrankel@greenst.com jhornbeak@greenst.com efrankel@greenst.com
• <b>Lodging</b>	Enrique Torres, Analyst Nicholas Nickerson, Associate Brian Nudd, Associate*	etorres@greenst.com nnickerson@greenst.com bnudd@greenst.com
• <b>Office</b>	Michael Knott, CFA, Managing Director John Stewart, CFA, Analyst Lukas Hartwich, CFA, Senior Associate David Anderson, Associate Jed Reagan, Associate	mknott@greenst.com jstewart@greenst.com lhartwich@greenst.com danderson@greenst.com jreagan@greenst.com
• <b>Residential</b>	Andrew McCulloch, CFA, Senior Analyst Chris Van Ens, CFA, Analyst Ray Huang, CFA, Senior Associate	amcculloch@greenst.com cvanens@greenst.com rhuang@greenst.com
• <b>Retail</b>	Cedrik Lachance, Managing Director Laura Clark, CFA, Senior Associate Andrew Johns, CFA, Senior Associate Jason White, Associate Daniel Busch, Associate	clachance@greenst.com lclark@greenst.com ajohns@greenst.com jwhite@greenst.com dbusch@greenst.com*
<b>Quantitative Analytics</b>	Peter Rothemund, CFA, Analyst Kawika Tarayao, Senior Associate Matthew Wokasch, CFA, Senior Associate Jason Moore, CFA, Associate	prothemund@greenst.com ktarayao@greenst.com mwokasch@greenst.com jmoore@greenst.com
<b>Administration</b> 660 Newport Center Drive, Suite 800 Newport Beach, CA 92660 +1.949.640.8780		
<b>Administration</b>	Warner Griswold, CFA, Chief Operating Officer Michael Kao, Director, Technology Robyn Francis, Manager, Compliance Jimmy Meek, Controller, Accounting Kathy Chamberlain, Human Resources	wgriswold@greenst.com mkao@greenst.com rfrancis@greenst.com jmeek@greenst.com kchamberlain@greenst.com

<b>Trading &amp; Institutional Sales</b> 600 North Pearl Street, Suite 2310 Dallas, TX 75201 1.800.263.1388 (Trading) +1.214.855.5905 (Sales)		
<b>Trading</b>	Lynn Lewis, Managing Director of Sales & Trading Laurie Hauck, Vice President, Trading Carol Parker, Vice President, Trading David Alexander, Vice President, Trading David Auerbach, Vice President, Trading	llewis@greenst.com lhauck@greenst.com cparker@greenst.com dalexander@greenst.com dauerbach@greenst.com
<b>Institutional Sales</b>	Anthony Scalia, Director, Institutional Sales Tim Joy, Vice President, Institutional Sales (London) Scott Bell, Vice President, Institutional Sales Murrie Holland, Institutional Sales Eric Lovett, Institutional Sales	ascaliam@greenst.com tjoy@greenst.eu.com sbell@greenst.com mholland@greenst.com elovett@greenst.com
<b>Subscription Sales &amp; Marketing</b> 660 Newport Center Drive, Suite 800 Newport Beach, CA 92660 +1.949.640.8780		
<b>Subscription Sales</b>	Damon Scott, Director, Subscription Sales Kevin Johnson, Manager, Subscription Sales	dscott@greenst.com kjohnson@greenst.com
<b>Marketing</b>	Rosemary Pugh, Manager, Marketing	rpugh@greenst.com
<b>Consulting</b> 660 Newport Center Drive, Suite 800 Newport Beach, CA 92660 +1.949.640.8780		
<b>Consulting</b>	Adam Markman, Managing Director Paul Harmeling, Senior Associate Phil Owens, Senior Associate	amarkman@greenst.com pharmeling@greenst.com powens@greenst.com

\*These research employees operate in a support capacity and are not yet registered representatives/research analysts. All employees listed in the "Research" section without an asterisk (\*) are registered representatives/research analysts.