PROSPER

NATIONAL STORAGE AFFILIATES

REITWeek 2018

June 5, 2018

Information in this presentation is as of March 31, 2018, except as otherwise noted.

Forward-Looking Statements and Non-GAAP Financial Measures

FORWARD-LOOKING STATEMENTS: We make forward-looking statements in this presentation that are subject to risks and uncertainties. These forward-looking statements include information about possible or assumed future results of our business, financial condition, liquidity, results of operations, plans and objectives. When we use the words “believe,” “expect,” “anticipate,” “estimate,” “plan,” “continue,” “intend,” “should,” “may” or similar expressions, we intend to identify forward-looking statements. The forward-looking statements contained in this presentation reflect our current views about future events and are subject to numerous known and unknown risks, uncertainties, assumptions and changes in circumstances that may cause our actual results to differ significantly from those expressed in any forward-looking statement.

The forward-looking statements are based on our beliefs, assumptions and expectations of our future performance, taking into account all information currently available to us. Forward-looking statements are not predictions of future events. These beliefs, assumptions and expectations can change as a result of many possible events or factors, not all of which are known to us. Some of these factors are described in the quarterly report on Form 10-Q filed with the SEC on May 4, 2018 and the annual report on Form 10-K filed with the SEC on February 27, 2018 under the headings “business,” “risk factors,” “properties,” and “management’s discussion and analysis of financial condition and results of operations,” as applicable. You may get these documents for free by visiting EDGAR on the SEC website at www.sec.gov. If a change occurs, our business, financial condition, liquidity and results of operations may vary materially from those expressed in our forward-looking statements. Any forward-looking statement speaks only as of the date on which it is made. New risks and uncertainties arise over time, and it is not possible for us to predict those events or how they may affect us. Except as required by law, we are not obligated to, and do not intend to, update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.

This presentation and the information contained herein are for informational purposes only and may not be relied upon for any purpose, including in connection with the purchase or sale of any of our securities. Such information does not constitute an offer to sell or a solicitation of an offer to buy any security described herein.

Non-GAAP Financial Measures: This presentation contains certain non-GAAP financial measures, such as funds from operations ("FFO"), Core FFO, net operating income ("NOI"), EBITDA, and Adjusted EBITDA, which are each defined in NSA’s Annual Report on Form 10-K for the period ended December 31, 2017 filed with the SEC. These non-GAAP financial measures are presented because NSA's management believes these measures help investors understand NSA's business, performance and ability to earn and distribute cash to its shareholders by providing perspectives not immediately apparent from net income (loss). These measures are also frequently used by securities analysts, investors and other interested parties. The presentation of FFO, Core FFO, NOI, EBITDA, and Adjusted EBITDA herein are not intended to be considered in isolation or as a substitute for, or superior to, the financial information prepared and presented in accordance with GAAP and should not be considered as alternative measures of liquidity. In addition, NSA's definitions and method of calculating these measures may be different from those used by other companies, and, accordingly, may not be comparable to similar measures as defined and calculated by other companies that do not use the same methodology as NSA. Reconciliations of these non-GAAP financial measures to their most directly comparable GAAP measures for the three months ended March 31, 2018 and 2017 are set forth in the Appendix attached hereto. In addition, reconciliations of these non-GAAP financial measures to their most directly comparable GAAP measures for the three months ended March 31, 2018, 2017 and 2016, December 31, 2017, 2016 and 2015, September 30, 2017, 2016 and 2015 and June 30, 2017, 2016 and 2015 are available in NSA’s earnings releases for such period ends, which are furnished to the SEC quarterly as Exhibit 99.1 on Current Reports on Form 8-K pursuant to Item 2.02.

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Investment Highlights: “NYSE:NSA”

4	Large Institutional Quality, Highly Diversified Portfolio
5	Differentiated “PRO” Structure
8	Internal and External Growth Drivers
10	Track Record of Transformational Growth
11	Markets Less Impacted by Excess Supply
12	Flexible Capital Structure
14	Exceeding Peer Results Since IPO

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National Storage Affiliates Overview

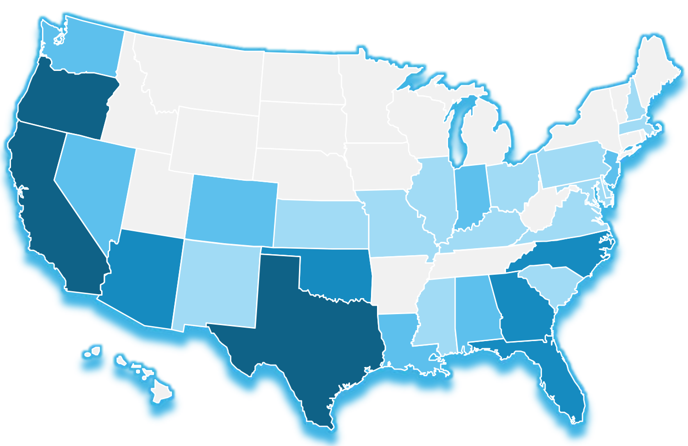
(1) As of May 31, 2018.

NSA'S Guiding Vision Unites Top Operator "PROs"

NSA's unique strategy has successfully attracted eight of the most prominent storage operators with the common goal to drive significant organic and external growth

% of NSA Properties, by State(1)

>10% | 5 - 10% | 2 - 5% | <2%



National Footprint(1)

551 Properties	479 Wholly-Owned	72 Joint Venture
NORTHWEST SELF STORAGE	SecurCare Self Storage	OPTIVEST PROPERTIES
GUARDIAN STORAGE CENTERS	MOVE IT SELF STORAGE	STORAGE SOLUTIONS
Hide-Away Storage Made Easy!	Personal Mini Storage	iStorage(2)

(1) As of May 31, 2018.
(2) The iStorage brand is owned by NSA and is not a Participating Regional Operator.

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NSA's Tools and Decentralized Structure Deliver Results

Since IPO NSA has an Average Year-over-Year Same Store
Total Revenue Growth of 6.8% and Same Store NOI Growth of 9.3%(1)

NSA Corporate Headquarters Provides Platform Tools

- Executive Leadership
- Corporate Accounting
- Corporate Marketing
- Legal & Finance Support
- Technology & Innovation

Regional and Local Operations Implement Best Practices

- Underwriting & Sourcing
- Property Acquisition & Management
- Property Level Accounting
- Local Branding & Marketing

(1) Based on publicly available numbers through March 31, 2018.

Structure Attracts Disciplined, Growth-Oriented Operators

Successful regional operators join NSA as PROs rather than third-party JV or sale options, giving NSA access to top properties not otherwise available

Criteria	NSA	JV	Sale / Exit
Liquidity / Monetization	✔	●	●
Ability to Maintain Property Management	✔	●	
Participate in Upside	✔	●	
Enhance NOI Through Best Practices	✔		
Opportunity and Incentives to Grow Portfolio	✔		

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Structure Promotes Internal and External Growth

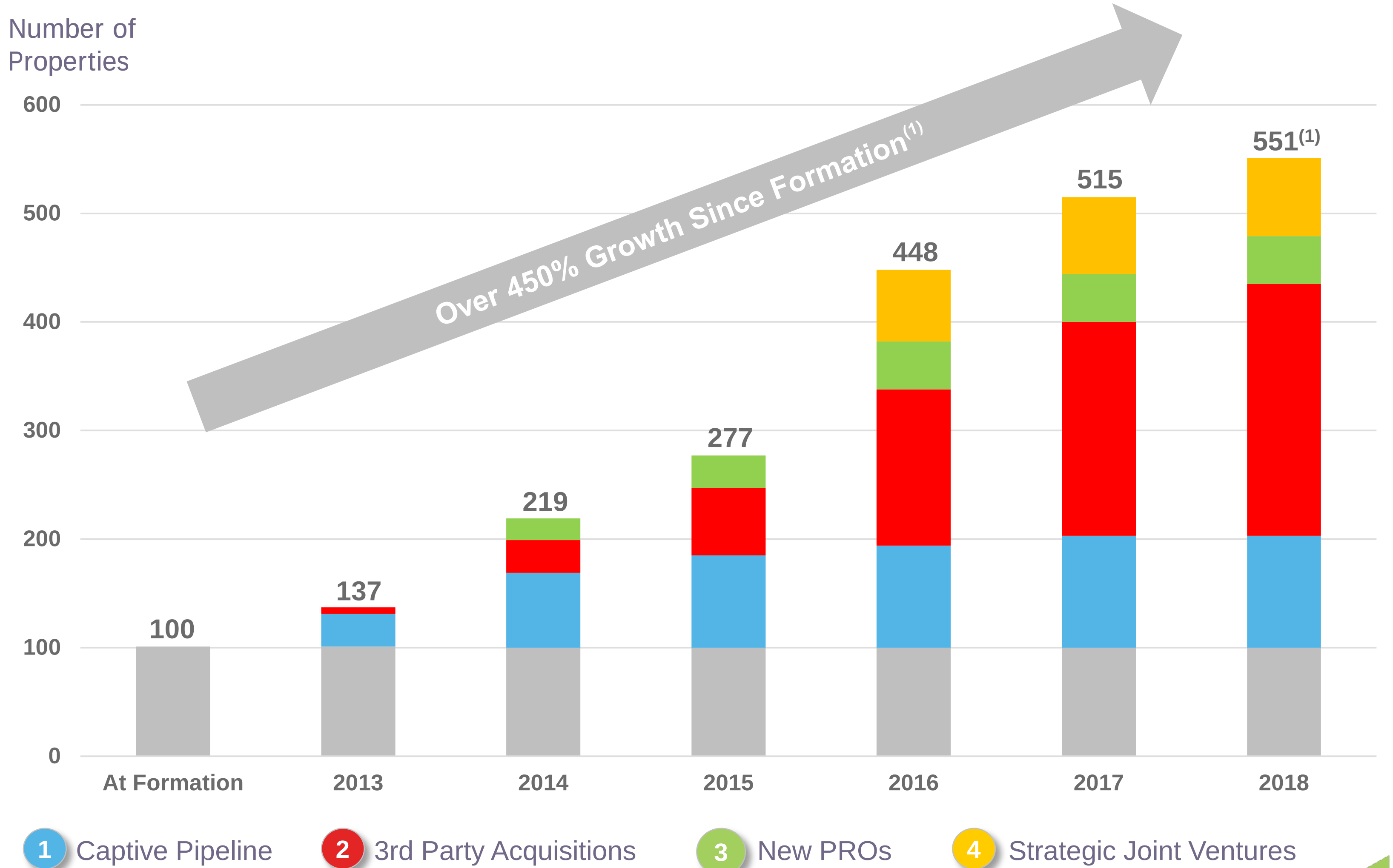
Sophisticated Platform Tools
Drive Organic Growth

- Operational "Best Practices"
- Revenue Management / Analytics
- Economies of Scale and Lower Cost of Capital
- Internet Marketing

PROs
Drive External Growth

- Acquisition of Captive Pipeline Properties
- Recruitment of New PROs
- Strategic Joint Ventures
- Relationship Driven Third Party Acquisitions

Exceptional Track Record of Portfolio Growth

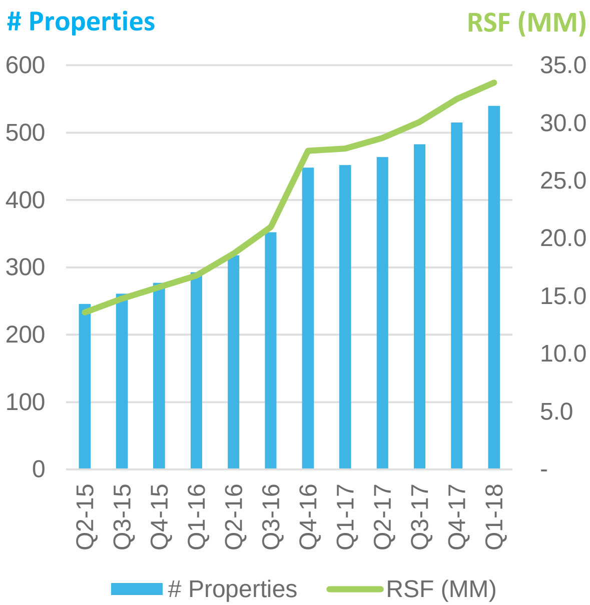


(1) As of May 31, 2018, the portfolio consisted of 479 wholly-owned properties and 72 JV-owned properties.

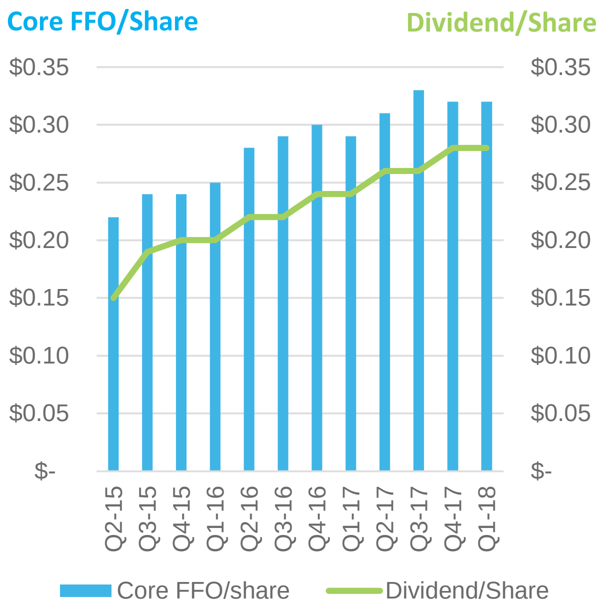
NSA's Transformational Growth Since IPO

NSA's PRO Model Drives All Aspects of Growth

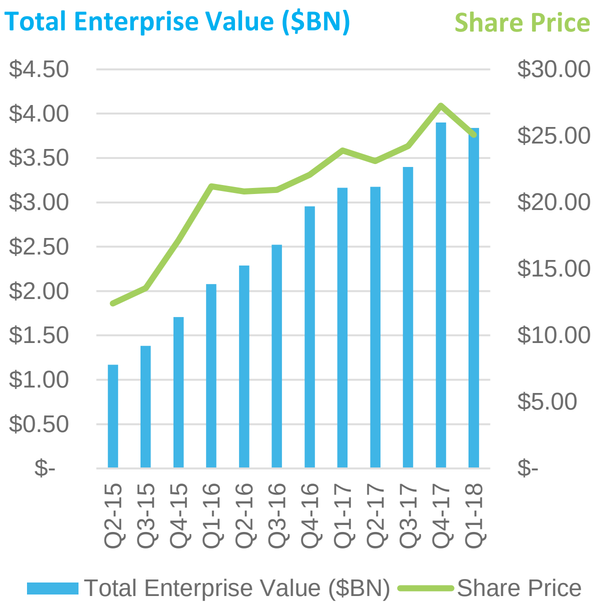
Growth in Total Properties and Rentable Square Feet



Growth in Core FFO/Share and Dividend/Share



Growth in Total Enterprise Value and Share Price



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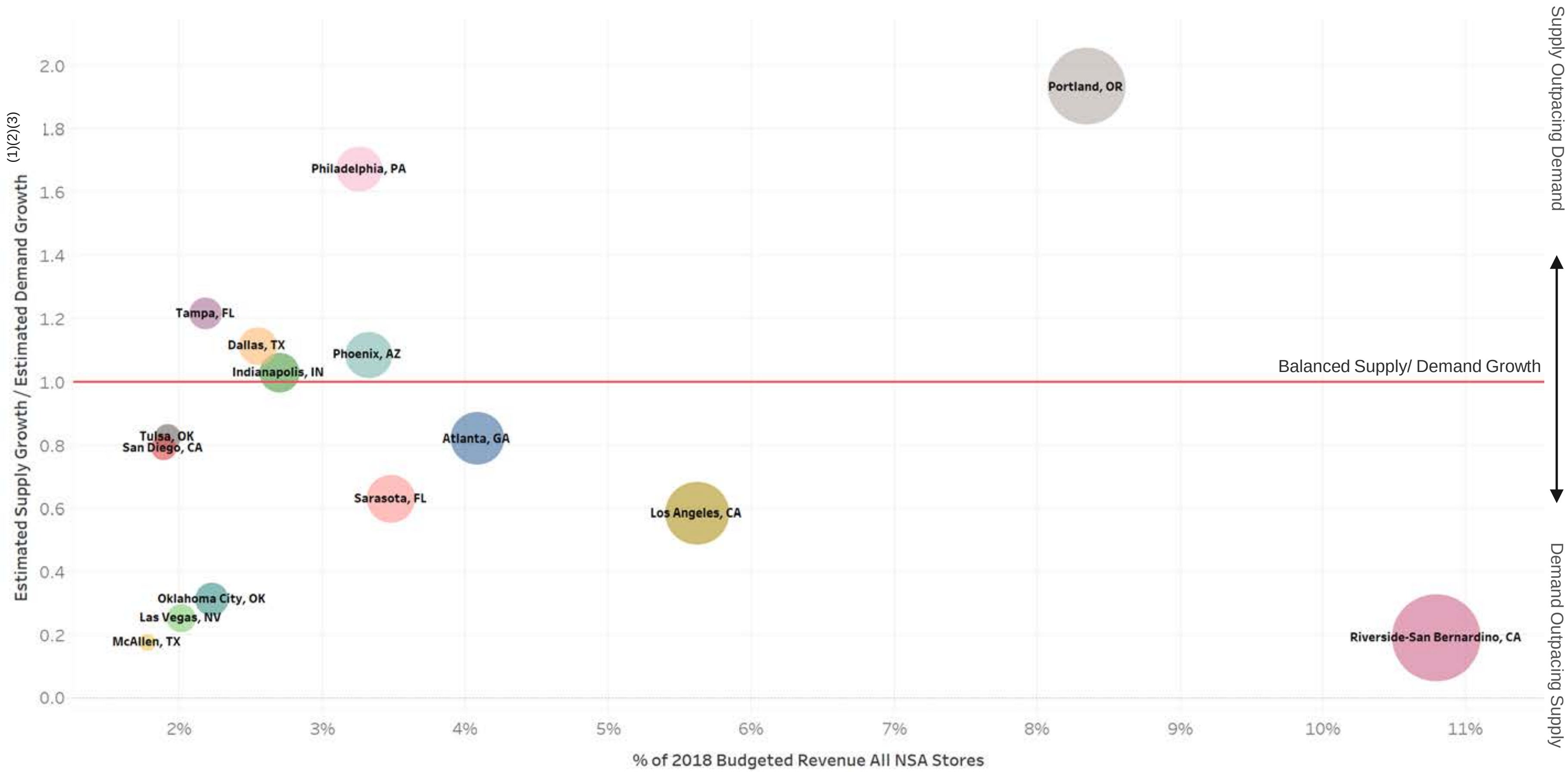
NSA's Top 15 Markets are Less Impacted by Supply



1) *We estimate supply growth for each market as follows: first, we add together the total net rentable square footage attributable to (i) all Fill-Up and Under Construction Properties and (ii) 50% of all Planned and Prospective Properties. Properties refers to non-NSA self storage properties in each market. Fill-Up are stores that have opened in the 24-month period prior to May 1, 2018. Under Construction are those currently under construction. Planned and Prospective are those with a permit in place or an approval pending to build. We divide this number by the total net rentable square footage of all properties (including NSA's) in each market.*
2) *We estimate demand growth in each market by adding together (i) Experian's 5-year projections for the percentage increase in household growth in each market plus (ii) 5%, which represents our assumptions with respect to increased demand in each market irrespective of population growth.*
3) *The ratio of supply growth to demand growth in the table above is calculated based upon NSA's estimates and assumptions as set forth in footnotes 1 and 2 above. There can be no assurance that supply growth and demand growth in any market will correspond to such estimates. Some or all of our competitor's properties in these markets may not fill up, reach completion or be built at all or on the schedule currently contemplated and increases in population and non-population related demand may differ from our estimates and assumptions.*

Note: Circle sizes correspond to each MSA's % share of NSA"s 2018 budgeted revenue.

Source: Yardi Matrix and Experian.

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NSA's Flexible Capital Structure is Positioned for Growth

Total Principal Debt Outstanding(1)
$1.07 B

Conservative Balance Sheet

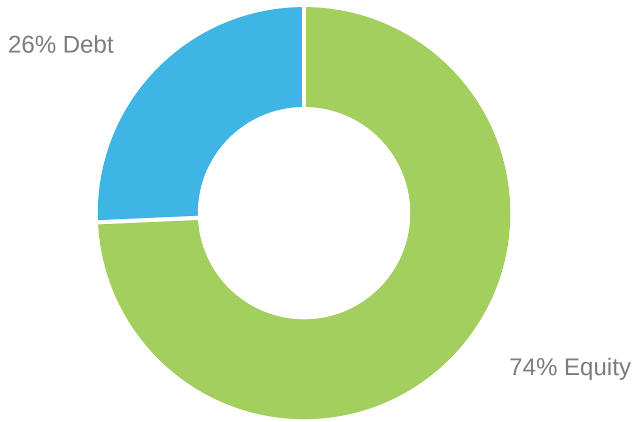
26%	5.8x	4.7x
Principal Debt /Total Enterprise Value(2)	Net Debt/ Adjusted EBITDA(3)	Interest Coverage Ratio(4)

Capital for Growth

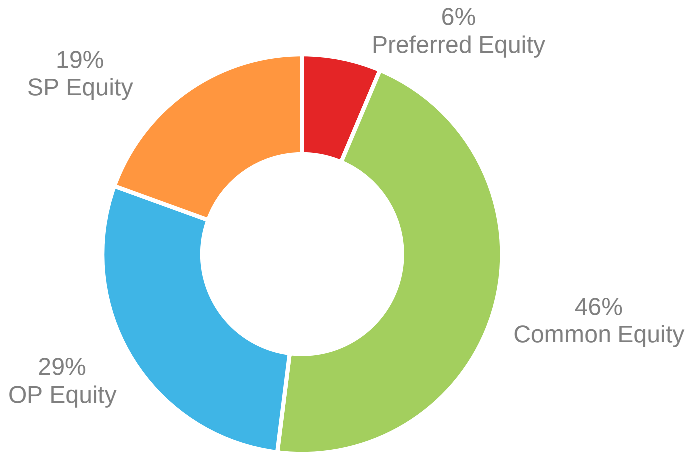
$400MM	OP & SP Units
Unsecured Revolving Line of Credit	

Attractive Dividend
4.1%
Yield(5)

Total Enterprise Value $4.2 Billion



Significant Investment by Management and PROs



(1) Principal debt outstanding as of March 31, 2018; excludes $2.4 million in unamortized debt issuance costs and debt premium, net.
(2) Total Enterprise Value is defined as the sum of the Company's debt principal plus the perpetual preferred and common equity valued at $24.33 and $28.10 per share, respectively, as of May 30, 2018. SP equity is assumed converted using the hypothetical conversion ratio of 1.43x as of March 31, 2018.
(3) Net debt means our outstanding debt financing less cash and cash equivalents as of March 31, 2018. Adjusted EBITDA is based on annualized current quarter for Q1 2018.
(4) Interest coverage is computed by dividing Q1 2018 adjusted EBITDA by Q1 2018 interest expense. Does not include loss on early extinguishment of debt.
(5) Yield is calculated based on current quarterly annualized dividend of $1.16 divided by market closing price of NSA's common shares on May 30, 2018 of $28.10.

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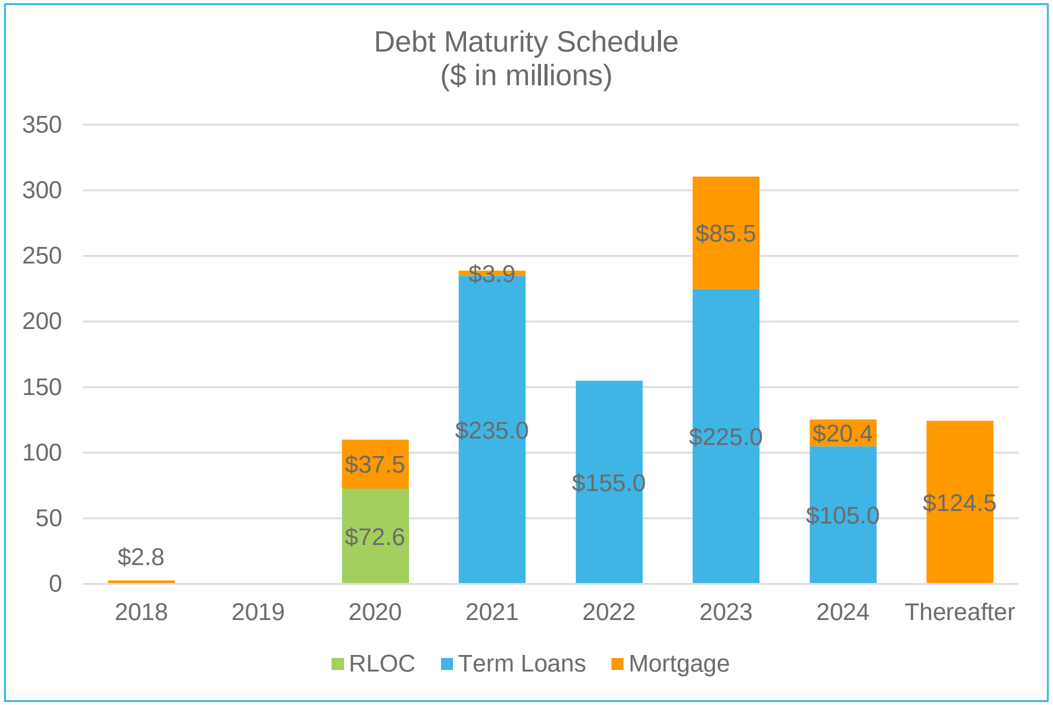
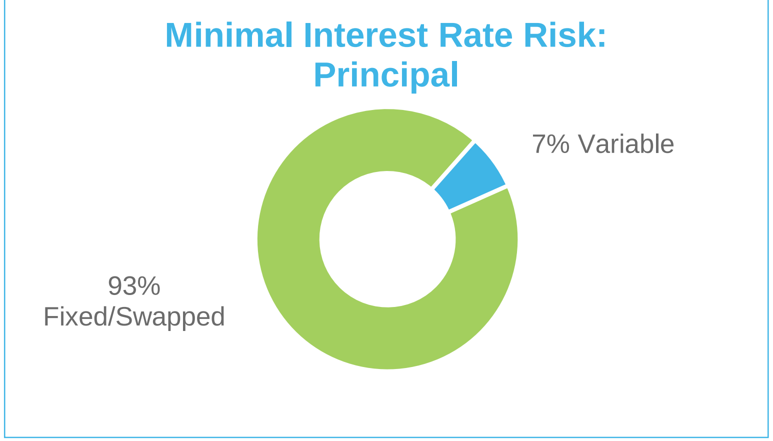
NSA's Conservative Debt Profile Leaves Room for Growth

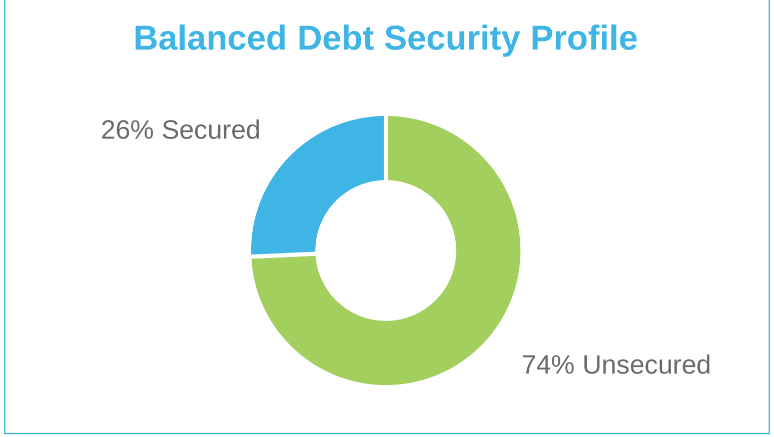
Total Principal Debt Outstanding[(1)]
$1.07 B

Weighted Average Maturity
5.0 Years

Effective Interest Rate[(2)]
3.5%







(1) Principal debt outstanding as of March 31, 2018; excludes $2.4 million in unamortized debt issuance costs and debt premium, net.
(2) Effective interest rate incorporates the stated rate plus the impact of interest rate cash flow hedges and discount and premium amortization, if applicable. For the revolving line of credit, the effective interest rate excludes fees which range from 0.15% to 0.25% for unused borrowings.

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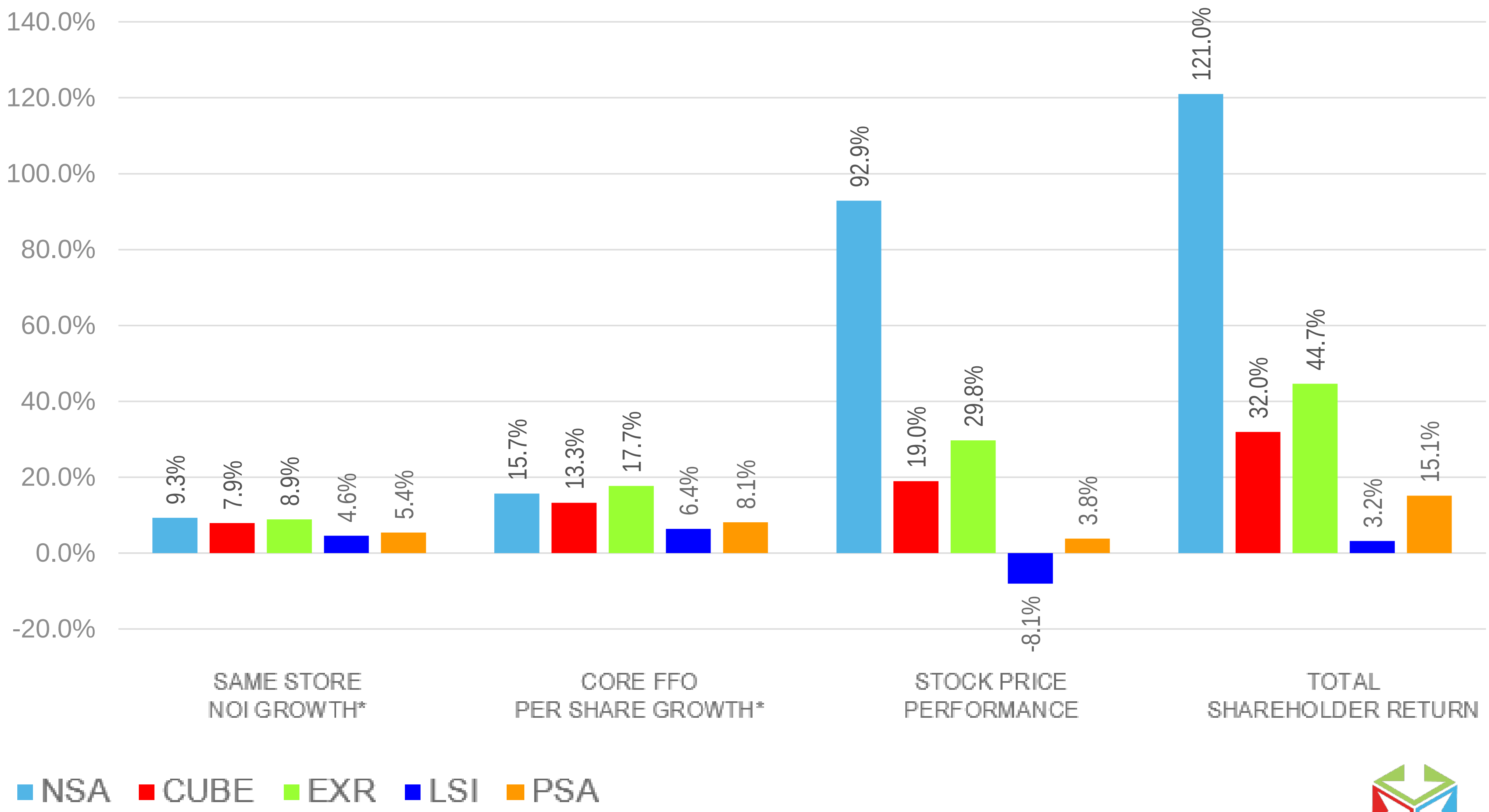
NSA Delivers Top Results Versus Peers

Twelve Quarters of Performance Since IPO: 4/23/15 through 3/31/18



Source: 2015, 2016, 2017 and 2018 public reporting and SNL Financial.
* Quarterly averages are computed using a simple average of year-over-year quarterly growth rates from second quarter 2015 through first quarter 2018.

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National Storage Affiliates

NYSE: NSA

Appendix

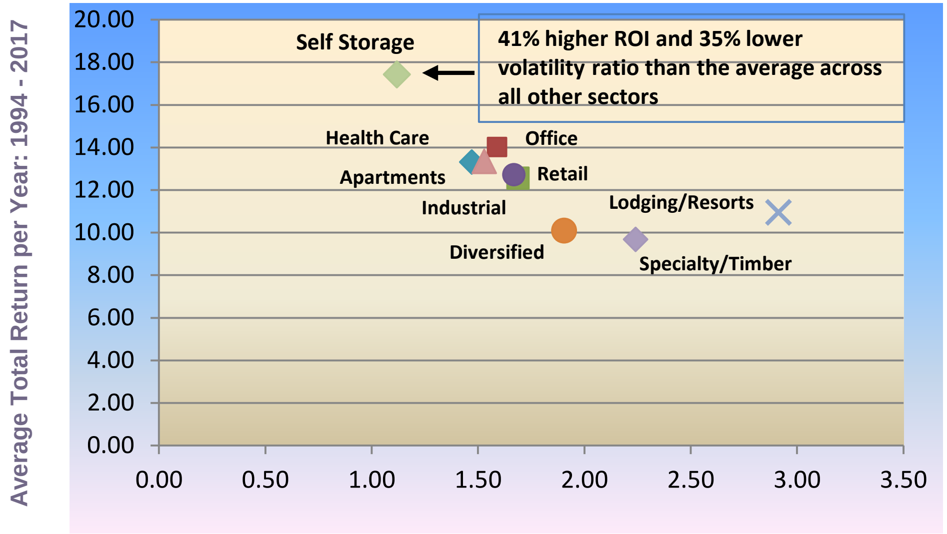
Self Storage Has Consistently Outperformed

Self Storage has delivered the highest ROI and lowest volatility of any REIT Sector

– Since 1994, total returns for self storage have outperformed all other equity REIT sectors while experiencing the least volatility

- The industry is expected to continue to generate substantial NOI growth

- Savings expected through improved scale, new technology and centralized infrastructure



Volatility: Standard Deviation Divided by Average Return: 1994 - 2017

Five Forces Driving Self Storage	Impact
Competitive Rivalry	Very Favorable – geographically limited
Customer Bargaining Power	Very Favorable – not price driven
Threat of Substitute Products	Favorable - Very few cost effective options
Supplier Bargaining Power	Neutral – Limited, but increasing
Threat of New Entrants	Neutral - Limited, but increasing entry barriers

Note: Data sourced from NAREIT 2017 published data. Volatility ratio defined as the standard deviation of return divided by return.

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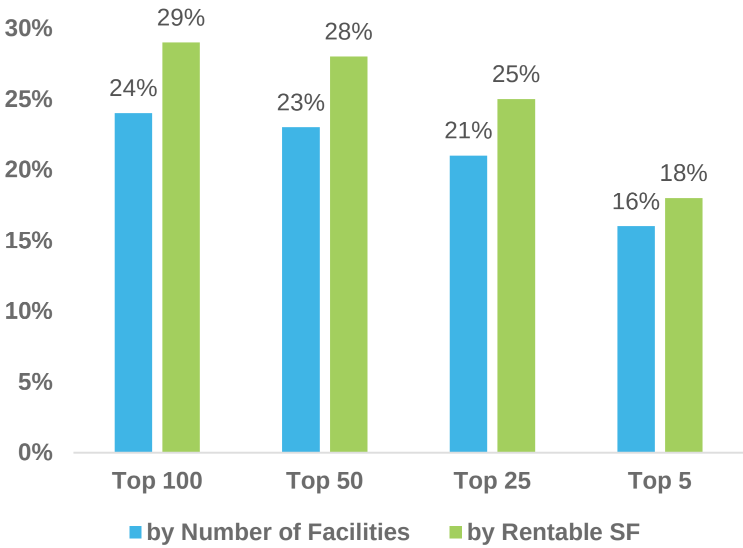
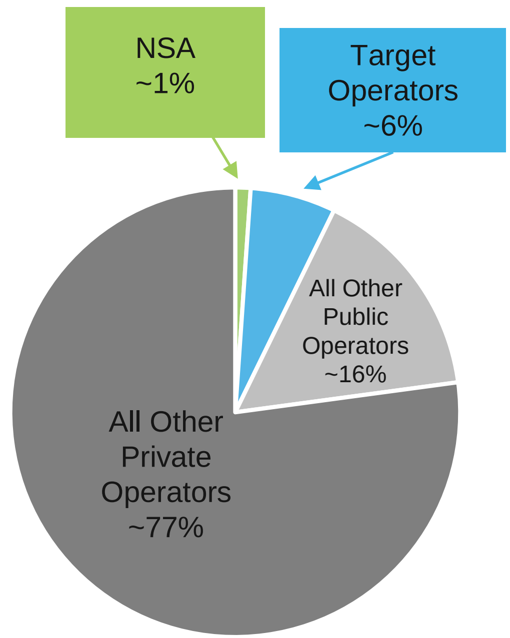
Meaningful Opportunity To Consolidate

- Highly fragmented sector
  - ~42,000[1] self-storage properties with over 30,000 operators
  - ~$30 billion in annual revenue with over $250 billion in private market value
- NSA primarily targets top private operators with 20 or more institutional quality properties in the top 100 MSAs
  - Target operators own and/or manage over 2,500 self-storage properties[2]





Top 40 Operators

1 Public Storage[3]
2 Extra Space Storage
3 CubeSmart
4 U-Haul International
5 Life Storage, Inc. (formerly Sovran/Uncle Bob's)
6 National Storage Affiliates Trust
7 StorageMart**
8 W. P. Carey, Inc.
9 Metro Storage, LLC
10 The William Warren Group dba StorQuest Self Storage
11 Westport Properties, Inc.
12 Devon Self Storage Holdings, (US) LLC
13 World Class Capital Group, LC
14 Absolute Storage Management, Inc.
15 All Storage
16 TnT Self Storage Management
17 Compass Self Storage
18 Morningstar Properties
19 Brundage Management Co., Inc.
20 Safeguard Self Storage
21 The Jenkins Organization, Inc.
22 Storage Asset Management
23 Platinum Storage Group
24 A-1 Self Storage
25 Universal Storage Group
26 Argus Professional Storage Management
27 Security Public Storage
27 Metro Mini Storage
28 Strat Property Management, Inc.
29 StoragePRO Management Co.
30 Brookwood Properties, LLC
31 SHS Development/Lock Up Self Storage
32 West Coast Self-Storage
33 RHW Capital Management Group, LLC
34 Pogoda Companies
35 Dahn Corporation
36 Rosewood Property Company
37 Self-Storage Consulting Group
38 Shader Brothers Corp dba Personal Mini Storage[4]
39 Elite Stor Capital Partners
40 Sentry Self Storage

Source: 2017 Self-Storage Almanac and Self-Storage Association 2017.
Note: Rankings are based on net rentable square footage under management.
(1) 2017 Self-Storage Almanac survey excludes small, rural facilities included in previous year's Almanacs.
(2) Represents the number of facilities owned and/or managed by top operators, excluding NSA and other publicly traded entities.
(3) Includes facilities owned internationally.
(4) New NSA PRO, effective February 2017.

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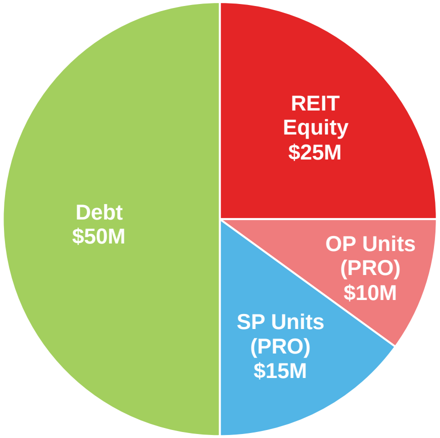
Structure Incentivizes PROs To Perform

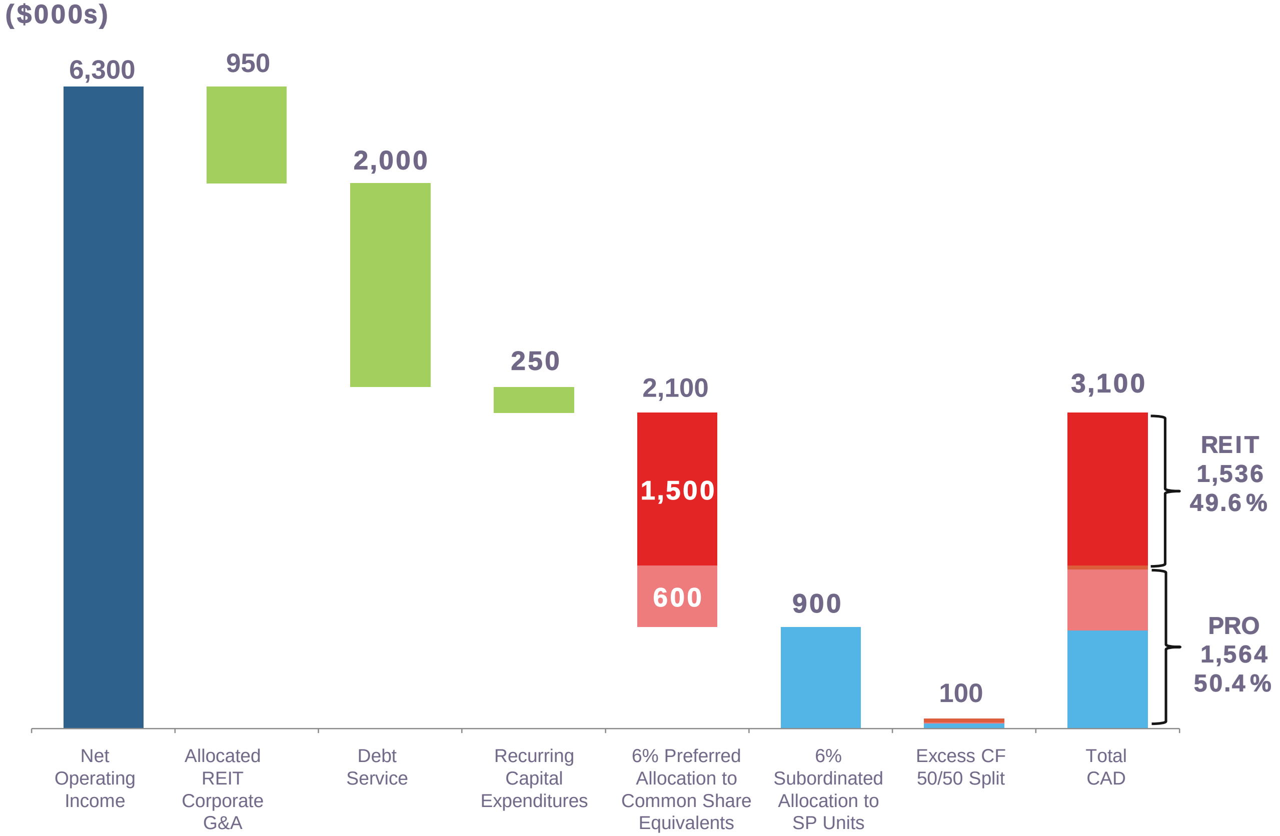
KEY ASSUMPTIONS

– $100MM Purchase Price
– 6.3% Cap Rate
– 50% Funded with Debt
– 50% of Equity from PRO

Illustrative Capitalization



Illustrative Operating Cash Flow Allocation for Single Acquisition



Note: Proportion of SP units and OP units in each acquisition will vary. In general, the number of OP units issued will be capped at a level intended to provide a minimal level of operating cash flow ("CF") allocation on unreturned capital attributable to the OP units. Debt Service is reflective of interest expense and scheduled principal amortization. Post-contribution capital structure is reflective of cost and does not reflect market value. This hypothetical capital structure and cash flow allocation is for illustrative purposes only and reflects the terms of the partnership agreement: SP unit holders receive a 6% allocation of operating CF on their unreturned capital contributions after a 6% allocation on unreturned capital attributable to OP unit holders, and then share in the allocation of any excess cash flow 50/50 with OP unit holders. The REIT is allocated $36K of the operating CF allocated to OP units related to the 50/50 split of excess operating CF. The allocation of operating CF between the SP units and OP units is for purposes of determining distributions on SP units and does not represent the operating CF that will be distributed on OP units (or paid as dividends on NSA's common shares). Any distribution of operating CF allocated to OP units will be made at the discretion of NSA (and paid as dividends on our common shares at the discretion of our board of trustees).

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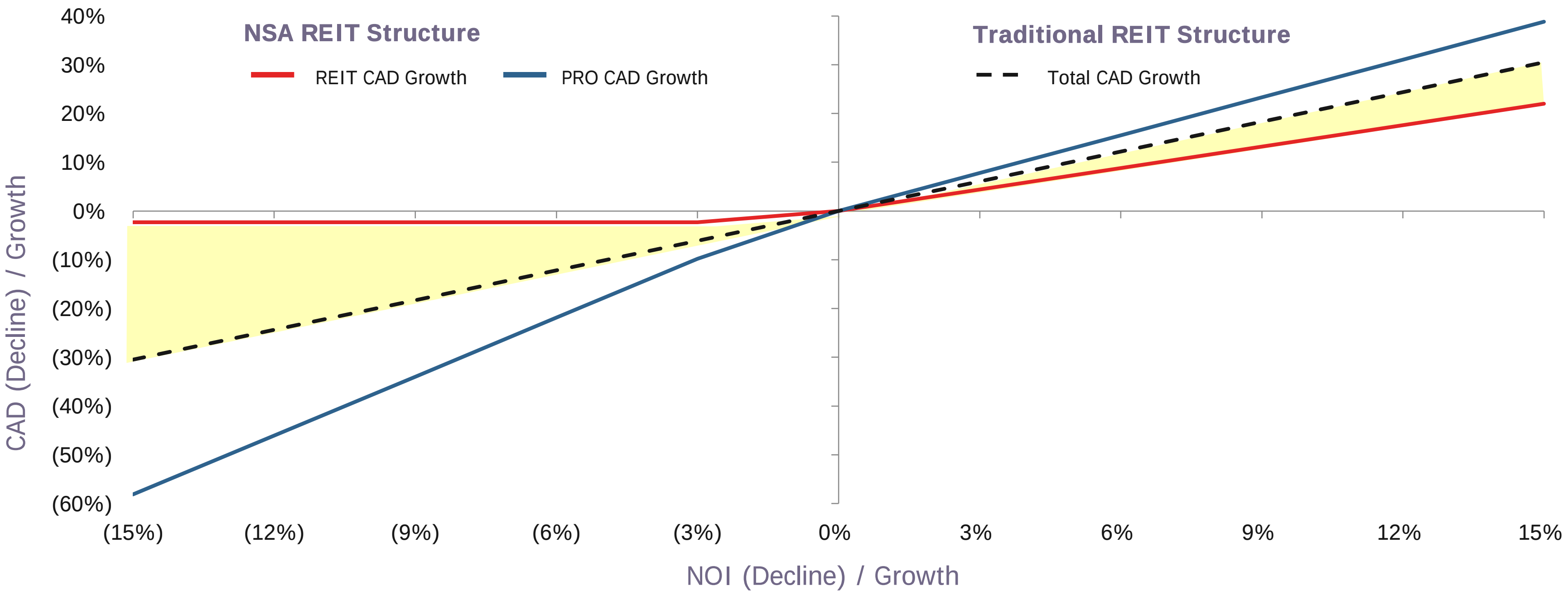
Structure Offers Cash Flow Stability and Downside Protection

Shareholders benefit from less volatile cash flow and downside protection

Illustrative Impact on Operating Cash Flow Allocation for Single Acquisition[1]



Note: PRO CAD Growth is comprised of cash available to PROs through their ownership interests in both OP and SP units. REIT CAD Growth is comprised of cash available to all other equity stakeholders.

(1) This illustrative sensitivity graph reflects the capital structure of a single acquisition and operating CF allocation assumptions reflected on page 21. This hypothetical capital structure and cash flow allocation is for illustrative purposes only and reflects the terms of the partnership agreement: SP unit holders receive a 6% allocation of operating CF on their unreturned capital contributions after a 6% allocation on unreturned capital attributable to OP unit holders, and then share in the allocation of any excess cash flow 50/50 with OP unit holders. This allocation of operating CF between the SP units and OP units is for purposes of determining distributions on SP units and does not represent the operating CF that will be distributed on OP units (or paid as dividends on NSA's common shares). Any distribution of operating CF allocated to OP units will be made at the discretion of NSA (and paid as dividends on NSA's common shares at the discretion of our board of trustees).

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Earnings Per Share – Diluted to Funds From Operations (“FFO”) and Core FFO Per Share and Unit Reconciliation

	Three Months Ended March 31,			
	2018		2017	
Earnings (loss) per share – diluted	**$**	**0.09**	**$**	**0.01**
Impact of the difference in weighted average number of shares(1)		0.02		(0.01)
Impact of GAAP accounting for noncontrolling interests, two-class method and treasury stock method(2)		—		0.09
Add real estate depreciation and amortization		0.26		0.25
Add Company’s share of unconsolidated real estate venture real estate depreciation and amortization		0.02		0.03
Subtract gain on sale of self storage properties		(0.01)		—
FFO attributable to subordinated performance unitholders		(0.07)		(0.08)
FFO per share and unit	**$**	**0.31**	**$**	**0.29**
Add acquisition costs and Company’s share of unconsolidated real estate venture acquisition costs		0.01		—
Core FFO per share and unit	**$**	**0.32**	**$**	**0.29**

Source: Q1 2018 Company financials.

(1) Adjustment accounts for the difference between the weighted average number of shares used to calculate diluted earnings per share and the weighted average number of shares used to calculate FFO and Core FFO per share and unit. Diluted earnings per share is calculated using the two-class method for the company's restricted common shares and the treasury stock method for certain unvested LTIP units, and assumes the conversion of vested LTIP units into OP units on a one-for-one basis and the hypothetical conversion of subordinated performance units, and DownREIT subordinated performance units into OP units, even though such units may only be convertible into OP units (i) after a lock-out period and (ii) upon certain events or conditions. For additional information about the conversion of subordinated performance units and DownREIT subordinated performance units into OP units, see Note 9 to the Company’s most recent Quarterly Report on Form 10-Q, filed with the Securities and Exchange Commission. The computation of weighted average shares and units for FFO and Core FFO per share and unit includes all restricted common shares and LTIP units that participate in distributions and excludes all subordinated performance units and DownREIT subordinated performance units because their effect has been accounted for through the allocation of FFO to the related unitholders based on distributions declared.

(2) Represents the effect of adjusting the numerator to consolidated net income (loss) prior to GAAP allocations for noncontrolling interests, after deducting preferred share and unit distributions, and before the application of the two-class method and treasury stock method, as described above in footnote (1).

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Net Income to Net Operating Income Reconciliation

	Three Months Ended March 31,			
		2018		2017
Net income	**$**	**11,973**	**$**	**7,181**
(Subtract) add:				
Management fees and other revenue		(2,161)		(1,838)
General and administrative expenses		8,306		7,181
Depreciation and amortization		21,368		18,683
Interest expense		9,635		7,471
Equity in losses of unconsolidated real estate venture		52		785
Acquisition costs		180		144
Income tax expense		143		317
Gain on sale of self storage properties		(474)		—
Non-operating expense		84		52
Net Operating Income	**$**	**49,106**	**$**	**39,976**

Source: Q1 2018 Company financials.

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Net Income to EBITDA & Adjusted EBITDA Reconciliation

	Three Months Ended March 31,	
	2018	**2017**
Net income	**$ 11,973**	**$ 7,181**
Add:		
Depreciation and amortization	21,368	18,683
Company's share of unconsolidated real estate venture depreciation and amortization	1,377	1,872
Interest expense	9,635	7,471
Income tax expense	143	317
EBITDA	**$ 44,496**	**$ 35,524**
Add:		
Acquisition costs	180	144
Company's share of unconsolidated real estate venture acquisition costs	—	19
Gain on sale of self storage properties	(474)	—
Equity-based compensation expense[(1)]	867	983
Adjusted EBITDA	**$ 45,069**	**$ 36,670**

Source: Q1 2018 Company financials.

(1) Equity-based compensation expense is a non-cash item that is included in general and administrative expenses in NSA's consolidated statements of operations.

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