

ALEXANDRIA REAL ESTATE EQUITIES INC
Form 10-K
February 05, 2019
UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

(Mark One)

ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934
For the fiscal year ended December 31, 2018

Commission file number 1-12993

ALEXANDRIA REAL ESTATE EQUITIES, INC.

(Exact name of registrant as specified in its charter)

Maryland

95-4502084

(State or other jurisdiction of incorporation or organization) (I.R.S. Employer Identification Number)

385 East Colorado Boulevard, Suite 299, Pasadena, California 91101

(Address of principal executive offices) (Zip code)

(626) 578-0777

(Registrant's telephone number, including area code)

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	Name of Each Exchange on Which Registered
Common Stock, \$.01 par value per share	New York Stock Exchange
7.00% Series D Cumulative Convertible Preferred Stock	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes No

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes No

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports) and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files).
Yes No

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K is not contained herein, and will not be contained, to the best of registrant's knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K, or any amendment to this Form 10-K.

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Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or emerging growth company. See the definitions of “large accelerated filer,” “accelerated filer,” “smaller reporting company,” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Large accelerated filer

Accelerated filer

Non-accelerated filer (Do not check if a smaller reporting company)

Smaller reporting company

Emerging growth company

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act).

Yes No

The aggregate market value of the shares of Common Stock held by non-affiliates of registrant was approximately \$13.0 billion based on the closing price for such shares on the New York Stock Exchange on June 29, 2018.

As of January 15, 2019, 112,728,422 shares of common stock were outstanding.

Documents Incorporated by Reference

Part III of this annual report on Form 10-K incorporates certain information by reference from the registrant’s definitive proxy statement to be filed within 120 days of the end of the fiscal year covered by this annual report on Form 10-K in connection with the registrant’s annual meeting of stockholders to be held on or about May 9, 2019.

INDEX TO FORM 10-K

ALEXANDRIA REAL ESTATE EQUITIES, INC.

	Page
PART I	
<u>ITEM 1. BUSINESS</u>	<u>1</u>
<u>ITEM 1A. RISK FACTORS</u>	<u>6</u>
<u>ITEM 1B. UNRESOLVED STAFF COMMENTS</u>	<u>41</u>
<u>ITEM 2. PROPERTIES</u>	<u>42</u>
<u>ITEM 3. LEGAL PROCEEDINGS</u>	<u>70</u>
<u>ITEM 4. MINE SAFETY DISCLOSURES</u>	<u>70</u>
PART II	
<u>ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES</u>	<u>70</u>
<u>ITEM 6. SELECTED FINANCIAL DATA</u>	<u>71</u>
<u>ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS</u>	<u>73</u>
<u>ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK</u>	<u>127</u>
<u>ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA</u>	<u>129</u>
<u>ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE</u>	<u>129</u>
<u>ITEM 9A. CONTROLS AND PROCEDURES</u>	<u>129</u>
<u>ITEM 9B. OTHER INFORMATION</u>	<u>131</u>
PART III	
<u>ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE</u>	<u>131</u>
<u>ITEM 11. EXECUTIVE COMPENSATION</u>	<u>131</u>
<u>ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS</u>	<u>131</u>
<u>ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE</u>	<u>131</u>
<u>ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES</u>	<u>131</u>
PART IV	
<u>ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES</u>	<u>132</u>

GLOSSARY

The following abbreviations or acronyms that may be used in this document shall have the adjacent meanings set forth below:

ASU	Accounting Standards Update
ATM	At the Market
BBA	British Bankers' Association
BPS	Basis Points
CIP	Construction in Progress
EPS	Earnings per Share
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
FFO	Funds From Operations
GAAP	U.S. Generally Accepted Accounting Principles
GRESB	Global Real Estate Sustainability Benchmark
HVAC	Heating, Ventilation, and Air Conditioning
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standards
IRS	Internal Revenue Service
JV	Joint Venture
LEED®	Leadership in Energy and Environmental Design
LIBOR	London Interbank Offered Rate
Nareit	National Association of Real Estate Investment Trusts
NAV	Net Asset Value
NYSE	New York Stock Exchange
REIT	Real Estate Investment Trust
RSF	Rentable Square Feet/Foot
SEC	Securities and Exchange Commission
SF	Square Feet/Foot
SoMa	South of Market submarket of San Francisco
U.S.	United States
VIE	Variable Interest Entity

PART I

Certain information and statements included in this annual report on Form 10-K, including, without limitation, statements containing the words “forecast,” “guidance,” “goals,” “projects,” “estimates,” “anticipates,” “believes,” “expects,” “may,” “plans,” “seeks,” “should,” or “will,” or the negative of these words or similar words, constitute “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended. Forward-looking statements involve inherent risks and uncertainties regarding events, conditions, and financial trends that may affect our future plans of operations, business strategy, results of operations, and financial position. A number of important factors could cause actual results to differ materially from those included within or contemplated by the forward-looking statements, including, but not limited to, the description of risks and uncertainties in “Item 1A. Risk Factors” in this annual report on Form 10-K. Additional information regarding risk factors that may affect us is included in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this annual report on Form 10-K. Readers of our annual report on Form 10-K should also read our SEC and other publicly filed documents for further discussion regarding such factors.

As used in this annual report on Form 10-K, references to the “Company,” “Alexandria,” “we,” “us,” and “our” refer to Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries. The following discussion should be read in conjunction with the consolidated financial statements and the accompanying notes under “Item 15. Exhibits and Financial Statement Schedules” in this annual report on Form 10-K.

ITEM 1. BUSINESS

Overview

We are a Maryland corporation, formed in October 1994, that has elected to be taxed as a REIT for federal income tax purposes. We are an S&P 500[®] company and an urban office REIT uniquely focused on collaborative life science and technology campuses in AAA innovation cluster locations. We consider AAA locations to be highly desirable for tenancy by life science and technology entities because of their close proximity to concentrations of specialized skills, knowledge, institutions, and related businesses. Such locations are generally characterized by high barriers to entry for new landlords, high barriers to exit for tenants, and a limited supply of available space. Founded in 1994, Alexandria pioneered this niche and has since established a significant market presence in key locations, including Greater Boston, San Francisco, New York City, San Diego, Seattle, Maryland, and Research Triangle Park.

Alexandria develops dynamic urban cluster campuses and vibrant ecosystems that enable and inspire the world’s most brilliant minds and innovative companies to create life-changing scientific and technological breakthroughs. We believe in the utmost professionalism, humility, and teamwork. Alexandria manages its properties through fully integrated regional teams with real estate, life science, and technology expertise. Our tenants include multinational pharmaceutical companies; public and private biotechnology companies; life science product, service, and medical device companies; digital health, and technology companies; academic and medical research institutions; U.S. government research agencies; non-profit companies; and venture capital firms. Alexandria has a longstanding and proven track record of developing Class A properties clustered in urban life science and technology campuses that provide its innovative tenants with highly dynamic and collaborative environments that enhance their ability to successfully recruit and retain world-class talent and inspire productivity, efficiency, creativity, and success. Alexandria also provides strategic risk capital to transformative life science and technology companies through its venture capital arm. We believe our unique business model and diligent underwriting ensure a high-quality and diverse tenant base that should result in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value.

As of December 31, 2018, Alexandria’s total market capitalization was \$18.4 billion and our asset base in North America consisted of 33.1 million SF. The asset base in North America includes 22.4 million RSF of operating

properties and 3.9 million RSF of development and redevelopment of new Class A properties currently undergoing construction and pre-construction activities with target delivery dates ranging from 2019 through 2020. Additionally, the asset base in North America includes 6.8 million SF of intermediate-term and future development projects. These operating properties and development projects include 11 properties that are held by consolidated real estate joint ventures and six properties that are held by unconsolidated real estate joint ventures. The occupancy percentage of our operating properties in North America was 97.3% as of December 31, 2018. Our 10-year average occupancy rate of operating properties as of December 31, 2018, was 96%. Investment-grade or publicly traded large cap tenants represented 52% of our annual rental revenue in effect as of December 31, 2018. Additional information regarding our consolidated and unconsolidated real estate joint ventures is included in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this annual report on Form 10-K. Additional information regarding risk factors that may affect us is

included in “Item 1A. Risk Factors” and “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this annual report on Form 10-K.

Business objective and strategies

Our primary business objective is to maximize long-term asset value and shareholder returns based on a multifaceted platform of internal and external growth. A key element of our strategy is our unique focus on Class A properties clustered in urban campuses located in AAA innovation cluster locations. These key urban campus locations are characterized by high barriers to entry for new landlords, high barriers to exit for tenants, and a limited supply of available space. They represent highly desirable locations for tenancy by life science and technology entities because of their close proximity to concentrations of specialized skills, knowledge, institutions, and related businesses. Our strategy also includes drawing upon our deep and broad real estate, life science, and technology relationships in order to identify and attract new and leading tenants and to source additional value-creation real estate.

Our tenant base is broad and diverse within the life science and technology industries and reflects our focus on regional, national, and international tenants with substantial financial and operational resources. For a more detailed description of our properties and tenants, refer to “Item 2. Properties” in this annual report on Form 10-K. We have an experienced Board of Directors and are led by an executive and senior management team with extensive experience in the real estate, life science, and technology industries.

Acquisitions

We seek to identify and acquire high-quality properties in our target cluster markets. Critical evaluation of prospective property acquisitions is an essential component of our acquisition strategy. When evaluating acquisition opportunities, we assess a full range of matters relating to the prospective property or properties, including:

- Proximity to centers of innovation and technological advances;
- Location of the property and our strategy in the relevant market;
- Quality of existing and prospective tenants;
- Condition and capacity of the building infrastructure;
- Physical condition of the structure and common area improvements;
- Quality and generic characteristics of the improvements;
- Opportunities available for leasing vacant space and for re-tenanting or renewing occupied space;
- Availability of and/or ability to add appropriate tenant amenities;
- Availability of land for future ground-up development of new space;
- Opportunities to generate higher rent through redevelopment of existing space;
- The property’s unlevered yields; and
- Our ability to increase the property’s long-term financial returns.

Development, pre-construction, and redevelopment

A key component of our business model is our value-creation development projects. Our development strategy is primarily to pursue selective projects with significant pre-leasing for which we expect to achieve appropriate investment returns and generally match a source of funds for this use. Our value-creation development projects focus on high-quality, generic, and reusable office/laboratory or tech office space to meet the real estate requirements of our diverse group of tenants.

We seek to meet growing demand from our stakeholders and continuously improve the efficiency of our buildings. We have committed to significant building goals to promote wellness and productivity for our buildings’ occupants, including targeting a minimum of LEED® Gold certification on all new ground-up construction projects.

Pre-construction activities include entitlements, permitting, design, site work, and other activities preceding commencement of construction of aboveground building improvements, which are focused on reducing the time required to deliver projects to prospective tenants. These critical activities add significant value to our future ground-up development and are required for the vertical construction of buildings. We normally do not commence vertical construction of new projects prior to achieving significant pre-leasing.

2

Another key component of our business model is our value-creation redevelopment of existing office, warehouse, or shell space, or newly acquired properties, into high-quality, generic, and reusable space that can be leased at higher rental rates. Our redevelopment strategy generally includes significant pre-leasing of projects prior to the commencement of redevelopment.

Non-real estate investments

We also hold equity investments in publicly traded companies, limited partnerships, and privately held entities primarily involved in the life science and technology industries. We invest in highly innovative entities whose focus on the development of therapeutic products that advance health and transform patients' lives is aligned with Alexandria's purpose of making a positive and meaningful impact on the health, safety, and well-being of the global community. Our status as a REIT limits our ability to make such non-real estate investments. Therefore, we conduct, and will continue to conduct, our non-real estate investment activities in a manner that complies with REIT requirements.

Balance sheet and financial strategy

We seek to maximize balance sheet liquidity and flexibility, cash flows, and cash available for distribution to our stockholders through the ownership, operation, management, and selective acquisition, development, and redevelopment of office/laboratory and tech office space, as well as the management of our balance sheet. In particular, we seek to maximize balance sheet liquidity and flexibility, cash flows, and cash available for distribution to our stockholders by:

- Maintaining access to diverse sources of capital, including operating cash flows after dividends, incremental debt, asset sales, and other capital such as the sale of equity or joint venture capital;
- Maintaining significant liquidity through borrowing capacity under our unsecured senior line of credit, available commitments under secured construction loans, marketable securities, and cash and cash equivalents;
- Continuing to improve our credit profile;
- Minimizing the amount of near-term debt maturities in a single year;
- Maintaining commitment to long-term capital to fund growth;
- Maintaining low to modest leverage;
- Minimizing variable interest rate risk;
- Generating high-quality, strong, and increasing operating cash flows;
- Selectively selling real estate assets, including land parcels and non-core/"core-like" operating assets, and reinvesting the proceeds into our highly leased value-creation development projects;
- Allocating capital to Class A properties located in collaborative life science and technology campuses in AAA urban innovation clusters;
- Maintaining geographic diversity in urban intellectual centers of innovation;
- Selectively acquiring high-quality office/laboratory and tech office space in our target urban innovation cluster submarkets at prices that enable us to realize attractive returns;
- Selectively developing properties in our target urban innovation cluster submarkets;
- Selectively redeveloping existing office, warehouse, or shell space, or newly acquired properties, into high-quality, generic, and reusable space that can be leased at higher rental rates in our target urban innovation cluster submarkets;
- Renewing existing tenant space at higher rental rates to the extent possible;
- Minimizing tenant improvement costs;
- Improving investment returns through the leasing of vacant space and the replacing of existing tenants with new tenants at higher rental rates;
- Executing leases with high-quality tenants and proactively monitoring tenant health;
- Maintaining solid occupancy while attaining high rental rates;

- Realizing contractual rental rate escalations; and
- Implementing effective cost control measures, including negotiating pass-through provisions in tenant leases for operating expenses and certain capital expenditures.

Competition

In general, other office/laboratory and tech office properties are located in close proximity to our properties. The amount of rentable space available in any market could have a material effect on our ability to rent space and on the rental rates we can attain for our properties. In addition, we compete for investment opportunities with other REITs, insurance companies, pension and investment funds, private equity entities, partnerships, developers, investment companies, owners/occupants, and foreign investors. Many of these entities have substantially greater financial resources than we do and may be able to invest more than we can or accept more risk than we are willing to accept. These entities may be less sensitive to risks with respect to the creditworthiness of a tenant or the overall expected returns from real estate investments. In addition, as a result of their financial resources, our competitors may offer more free rent concessions, lower rental rates, or higher tenant improvement allowances in order to attract tenants. These leasing incentives could hinder our ability to maintain or raise rents and attract or retain tenants. Competition may also reduce the number of suitable investment opportunities available to us or may increase the bargaining power of property owners seeking to sell. Competition in acquiring existing properties and land, both from institutional capital sources and from other REITs, has been very strong over the past several years; however, we believe we have differentiated ourselves from our competitors. As the first and only publicly traded urban office REIT to focus primarily on the office/laboratory real estate niche, we provide world-class collaborative life science and technology campuses in AAA innovation cluster locations and maintain and cultivate many of the most important and strategic relationships in the life science and technology industries.

Financial information about our reportable segment

Refer to Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for information about our one reportable segment.

Regulation

General

Properties in our markets are subject to various laws, ordinances, and regulations, including regulations relating to common areas. We believe we have the necessary permits and approvals to operate each of our properties.

Americans with Disabilities Act

Our properties must comply with Title III of the Americans with Disabilities Act of 1990 (the “ADA”) to the extent that such properties are “public accommodations” as defined by the ADA. The ADA may require removal of structural barriers to permit access by persons with disabilities in certain public areas of our properties where such removal is readily achievable. We believe that our properties are in substantial compliance with the ADA and that we will not be required to incur substantial capital expenditures to address the requirements of the ADA. However, noncompliance with the ADA could result in the imposition of fines or an award of damages to private litigants. The obligation to make readily achievable accommodations is an ongoing one, and we will continue to assess our properties and make alterations as appropriate in this respect.

Environmental matters

Under various environmental protection laws, a current or previous owner or operator of real estate may be liable for contamination resulting from the presence or discharge of hazardous or toxic substances at that property and may be required to investigate and clean up contamination located on or emanating from that property. Such laws often impose liability without regard to whether the owner or operator knew of, or was responsible for, the presence of the contaminants, and the liability may be joint and several. Previous owners may have used some of our properties for

industrial and other purposes, so those properties may contain some level of environmental contamination. The presence of contamination or the failure to remediate contamination at our properties may expose us to third-party liability or may materially adversely affect our ability to sell, lease, or develop the real estate or to borrow using the real estate as collateral.

Some of our properties may have asbestos-containing building materials. Environmental laws require that asbestos-containing building materials be properly managed and maintained and may impose fines and penalties on building owners or operators for failure to comply with these requirements. These laws may also allow third parties to seek recovery from owners or operators for personal injury associated with exposure to asbestos-containing building materials.

In addition, some of our tenants handle hazardous substances and wastes as part of their routine operations at our properties. Environmental laws and regulations subject our tenants, and potentially us, to liability resulting from such activities. Environmental liabilities could also affect a tenant's ability to make rental payments to us. We require our tenants to comply with these environmental laws and regulations and to indemnify us against any related liabilities.

Independent environmental consultants have conducted Phase I or similar environmental site assessments on the properties in our portfolio. Site assessments are intended to discover and evaluate information regarding the environmental condition of the surveyed property and surrounding properties and do not generally include soil samplings, subsurface investigations, or an asbestos survey. To date, these assessments have not revealed any material environmental liability that we believe would have a material adverse effect on our business, assets, or results of operations. Nevertheless, it is possible that the assessments on our properties have not revealed all environmental conditions, liabilities, or compliance concerns that may have arisen after the review was completed or may arise in the future; and future laws, ordinances, or regulations may also impose additional material environmental liabilities.

Insurance

With respect to our properties, we carry commercial general liability, all-risk property, and business interruption insurance, including loss of rental income coverage. We select policy specifications and insured limits that we believe to be appropriate given the relative risk of loss, the cost of the coverage, and industry practice. In our opinion, the properties in our portfolio are currently adequately insured. In addition, we have obtained earthquake insurance for certain properties located in the vicinity of known active earthquake zones in an amount and with deductibles we believe are commercially reasonable. We also carry environmental insurance and title insurance policies on our properties. We generally obtain our title insurance policies when we acquire the property, with each policy covering an amount equal to the initial purchase price of each property. Accordingly, any of our title insurance policies may be in an amount less than the current value of the related property. Additional information regarding risk factors that may affect us is included in "Item 1A. Risk Factors" in this annual report on Form 10-K.

Available information

Copies of our annual reports on Form 10-K, quarterly reports on Form 10-Q, and current reports on Form 8-K, including any amendments to the foregoing reports, are available, free of charge, through our corporate website at www.are.com as soon as is reasonably practicable after such material is electronically filed with, or furnished to, the SEC. The current charters of our Board of Directors' Audit, Compensation, and Nominating & Governance Committees, along with our corporate governance guidelines and Business Integrity Policy and Procedures for Reporting Non-Compliance (the "Business Integrity Policy"), are also available on our corporate website. Additionally, any amendments to, and waivers of, our Business Integrity Policy that apply to our Co-Chief Executive Officers or our Chief Financial Officer will be available free of charge on our corporate website in accordance with applicable SEC and NYSE requirements. Written requests should be sent to Alexandria Real Estate Equities, Inc., 385 East Colorado Boulevard, Suite 299, Pasadena, California 91101, Attention: Investor Relations. Further, the public may also download these materials from the SEC's website at www.sec.gov.

Employees

As of December 31, 2018, we had 386 employees. We believe that we have good relations with our employees. We have adopted a Business Integrity Policy that applies to all of our employees. Its receipt and review by each employee is documented and verified annually.

ITEM 1A. RISK FACTORS

Forward-looking statements

The following risk factors may adversely affect our overall business, financial condition, results of operations, and cash flows; our ability to make distributions to our stockholders; our access to capital; or the market price of our common stock, as further described in each risk factor below. In addition to the information set forth in this annual report on Form 10-K, one should carefully review and consider the information contained in our other reports and periodic filings that we make with the SEC. Those risk factors could materially affect our overall business, financial condition, results of operations, and cash flows; our ability to make distributions to our stockholders; our access to capital; or the market price of our common stock. The risks that we describe in our public filings are not the only risks that we face. Additional risks and uncertainties not presently known to us, or that we currently consider immaterial, also may materially adversely affect our business, financial condition, and results of operations.

Operating factors

We may be unable to identify and complete acquisitions and successfully operate acquired properties.

We continually evaluate the market of available properties and may acquire properties when opportunities exist. Our ability to acquire properties on favorable terms and successfully operate them may be exposed to the following significant risks:

- We may be unable to acquire a desired property because of competition from other real estate investors with significant capital, including both publicly traded REITs and institutional funds;
 - Even if we are able to acquire a desired property, competition from other potential acquirers may significantly increase the purchase price or result in other less favorable terms;
- Even if we enter into agreements for the acquisition of properties, these agreements are subject to customary conditions to closing, including completion of due diligence investigations to our satisfaction;
- We may be unable to complete an acquisition because we cannot obtain debt and/or equity financing on favorable terms or at all;
- We may spend more than budgeted amounts to make necessary improvements or renovations to acquired properties;
- We may be unable to quickly and efficiently integrate new acquisitions, particularly acquisitions of operating properties or portfolios of properties, into our existing operations;
- Acquired properties may be subject to reassessment, which may result in higher-than-expected property tax payments;
- Market conditions may result in higher-than-expected vacancy rates and lower-than-expected rental rates; and
- We may acquire properties subject to liabilities and without any recourse, or with only limited recourse, with respect to unknown liabilities, such as liabilities for the cleanup of undisclosed environmental contamination; claims by tenants, vendors, or other persons dealing with the former owners of the properties; and claims for indemnification by general partners, directors, officers, and others indemnified by the former owners of the properties.

The realization of any of the above risks could significantly and adversely affect our ability to meet our financial expectations, our financial condition, results of operations, and cash flows, our ability to make distributions to our stockholders, the market price of our common stock, and our ability to satisfy our debt service obligations.

We may suffer economic harm as a result of making unsuccessful acquisitions in new markets.

We may pursue selective acquisitions of properties in markets where we have not previously owned properties. These acquisitions may entail risks in addition to those we face in other acquisitions where we are familiar with the markets, such as the risk of not correctly anticipating conditions or trends in a new market and therefore not being able to generate profit from the acquired property. If this occurs, it could adversely affect our financial condition, results of operations, cash flows, ability to make distributions to our stockholders, ability to satisfy our debt service obligations, and the market price of our common stock.

The acquisition of new properties or the development of new properties may give rise to difficulties in predicting revenue potential.

We may continue to acquire additional properties and/or land and may seek to develop our existing land holdings strategically as warranted by market conditions. These acquisitions and developments could fail to perform in accordance with expectations. If we fail to accurately estimate occupancy levels, rental rates, lease commencement dates, operating costs, or costs of improvements to bring an acquired property or a development property up to the standards established for our intended market position, the performance of the property may be below expectations. Acquired properties may have characteristics or deficiencies affecting their valuation or revenue potential that we have not yet discovered. We cannot assure our stockholders that the performance of properties acquired or developed by us will increase or be maintained under our management.

We may fail to obtain the financial results expected from development or redevelopment projects.

There are significant risks associated with development and redevelopment projects, including the possibility that:

- We may not complete development or redevelopment projects on schedule or within budgeted amounts;
- We may be unable to lease development or redevelopment projects on schedule or within budgeted amounts;
- We may encounter project delays or cancellations due to unavailability of necessary labor and construction materials;
- We may expend funds on, and devote management's time to, development and redevelopment projects that we may not complete;
- We may abandon development or redevelopment projects after we begin to explore them, and as a result, we may lose deposits or fail to recover costs already incurred;
- Market and economic conditions may deteriorate, which can result in lower-than-expected rental rates;
- We may face higher operating costs than we anticipated for development or redevelopment projects, including insurance premiums, utilities, real estate taxes, and costs of complying with changes in government regulations or increases in tariffs;
- We may face higher requirements for capital improvements than we anticipated for development or redevelopment projects, particularly in older structures;
- We may be unable to proceed with development or redevelopment projects because we cannot obtain debt and/or equity financing on favorable terms or at all;
- We may fail to retain tenants that have pre-leased our development or redevelopment projects if we do not complete the construction of these properties in a timely manner or to the tenants' specifications;
- Tenants that have pre-leased our development or redevelopment projects may file for bankruptcy or become insolvent, which may adversely affect the income produced by, and the value of, our properties or require us to change the scope of the project, which may potentially result in higher construction costs and lower financial returns;
- We may encounter delays, refusals, unforeseen cost increases, and other impairments resulting from third-party litigation or severe weather conditions;
- We may encounter delays or refusals in obtaining all necessary zoning, land use, building, occupancy, and other required government permits and authorizations; and
- Development or redevelopment projects may have defects we do not discover through our inspection processes, including latent defects that may not reveal themselves until many years after we put a property in service.

The realization of any of the above risks could significantly and adversely affect our ability to meet our financial expectations, our financial condition, results of operations, and cash flows, our ability to make distributions to our stockholders, the market price of our common stock, and our ability to satisfy our debt service obligations.

We could default on leases for land on which some of our properties are located or held for future development.

If we default under the terms of a ground lease obligation, we may lose the ownership rights to the property subject to the lease. Upon expiration of a ground lease and all of its options, we may not be able to renegotiate a new lease on favorable terms, if at all. The loss of the ownership rights to these properties or an increase in rental expense could

have a material adverse effect on our financial condition, results of operations, and cash flows, and our ability to satisfy our debt service obligations and pay distributions to our stockholders, as well as the market price of our common stock. Refer to “Ground Lease Obligations” in the “Sources and Uses of Capital” section under “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this annual report on Form 10-K for additional information on our ground lease obligations.

7

We may not be able to operate properties successfully and profitably.

Our success depends in large part upon our ability to operate our properties successfully. If we are unable to do so, our business could be adversely affected. The ownership and operation of real estate is subject to many risks that may adversely affect our business and our ability to make payments to our stockholders, including the risks that:

• Our properties may not perform as we expect;

• We may have to lease space at rates below our expectations;

• We may not be able to obtain financing on acceptable terms; and

• We may underestimate the cost of improvements required to maintain or improve space to meet standards established for the market position intended for that property.

The realization of any of the above risks could significantly and adversely affect our ability to meet our financial expectations, our financial condition, results of operations, and cash flows, our ability to make distributions to our stockholders, the market price of our common stock, and our ability to satisfy our debt service obligations.

We may not be able to attain the expected return on our investments in real estate joint ventures.

As of December 31, 2018, we had several consolidated and unconsolidated real estate joint ventures in which we shared ownership and decision-making power with one or more parties. Our joint venture partners must agree in order for the applicable joint venture to take specific major actions, including budget approvals, acquisitions, sales of assets, debt financing, execution of lease agreements, and vendor approvals. Under these joint venture arrangements, any disagreements between us and our partners may result in delayed decisions. Our inability to take unilateral actions that we believe are in our best interests may result in missed opportunities and an ineffective allocation of resources and could have an adverse effect on the financial performance of the joint venture and our operating results.

We may experience increased operating costs, which may reduce profitability to the extent that we are unable to pass those costs through to our tenants.

Our properties are subject to increases in operating expenses, including insurance, property taxes, utilities, administrative costs, and other costs associated with security, landscaping, and repairs and maintenance of our properties. As of December 31, 2018, approximately 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate and other rent-related taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent.

Our operating expenses may increase as a result of tax reassessments that our properties are subject to on a regular basis (e.g., annually, triennially, etc.), which normally result in increases in property taxes over time as property values increase. In California, however, pursuant to the existing state law commonly referred to as Proposition 13, properties are reassessed to market value only at the time of change in ownership or completion of construction, and thereafter, annual property reassessments are limited to 2% of previously assessed values. As a result, Proposition 13 generally results in significant below-market assessed values over time. From time to time, including recently, lawmakers and political coalitions have initiated efforts to repeal or amend Proposition 13 to eliminate its application to commercial and industrial properties. If successful, a repeal of Proposition 13 could substantially increase the assessed values and property taxes for some of our properties in California.

In addition, in June 2018, San Francisco voters approved a commercial rent tax measure, which establishes a new 3.5% gross receipts tax rate on rental revenues received by landlords of commercial properties within the city of San Francisco effective January 1, 2019. Following the election, business organizations challenged this measure in the California Superior Court in San Francisco, asserting that the new tax, which passed by a simple majority, required a two thirds majority to pass under state law. This dispute had not been resolved as of the scheduled effective date of the

new 3.5% gross receipts tax, and the measure went into effect on January 1, 2019. The new gross receipts tax results in an incremental tax liability imposed on our commercial properties in the city of San Francisco, specifically in our Mission Bay/SoMa submarket of San Francisco. Unless the court rules in favor of the plaintiff (the dispute was still ongoing as of the date of this report), we expect an increase in the range from \$3.7 million to \$4.6 million in our rental operating expenses associated with the operations of our commercial properties in the City of San Francisco. Approximately 90% of the incremental tax expense is expected to be recoverable from our tenants and will be included in our rental revenues.

Our triple net leases allow us to pass through, among other costs, substantially all real estate and rent-related taxes to our tenants in the form of additional rent. We cannot be certain that we will be able to continue to negotiate pass-through provisions

related to taxes in tenant leases in the future, which could lead to a decrease in our tenant recovery revenue. If our operating expenses increase without a corresponding increase in revenues, our profitability could diminish. In addition, we cannot be certain that increased costs will not lead our current or prospective tenants to seek space outside of the city of San Francisco and the state of California, which could significantly hinder our ability to increase our rents or to maintain existing occupancy levels. A repeal of Proposition 13 in California and a new 3.5% gross receipts tax rate in the city of San Francisco may significantly increase occupancy costs for some of our tenants and may adversely impact their financial condition, ability to make rental payments and ability to renew lease agreements, which in turn could adversely affect our financial condition, results of operations, cash flows, and our ability to make distributions to our stockholders.

The cost of maintaining the quality of our properties may be higher than anticipated, which can result in reduced cash flows and profitability.

If our properties are not as attractive to current and prospective tenants in terms of rent, services, condition, or location as properties owned by our competitors, we could lose tenants or suffer lower rental rates. As a result, we may, from time to time, be required to make significant capital expenditures to maintain the competitiveness of our properties. However, there can be no assurances that any such expenditures would result in higher occupancy or higher rental rates or deter existing tenants from relocating to properties owned by our competitors.

Our inability to renew leases or re-lease space on favorable terms as leases expire may significantly affect our business.

Our revenues are derived primarily from rental payments and reimbursement of operating expenses under our leases. If our tenants experience a downturn in their business or other types of financial distress, they may be unable to make timely payments under their leases. Also, if our tenants terminate early or decide not to renew their leases, we may not be able to re-lease the space. Even if tenants decide to renew or lease space, the terms of renewals or new leases, including the cost of any tenant improvements, concessions, and lease commissions, may be less favorable to us than current lease terms. Consequently, we could generate less cash flows from the affected properties than expected, which could negatively impact our business. We may have to divert cash flows generated by other properties to meet our debt service payments, if any, or to pay other expenses related to owning the affected properties.

The inability of a tenant to pay us rent could adversely affect our business.

Our revenues are derived primarily from rental payments and reimbursement of operating expenses under our leases. If our tenants, especially significant tenants, fail to make rental payments under their leases, our financial condition, cash flows, and ability to make distributions to our stockholders could be adversely affected. Additionally, the inability of the U.S. Congress to enact a budget for a fiscal year or the occurrence of partial or complete U.S. government shutdowns may result in financial difficulties for tenants that are dependent on federal funding, which could adversely affect the ability of those tenants to pay us rent.

The bankruptcy or insolvency of a major tenant may also adversely affect the income produced by a property. If any of our tenants becomes a debtor in a case under the U.S. Bankruptcy Code, as amended, we cannot evict that tenant solely because of its bankruptcy. The bankruptcy court may authorize the tenant to reject and terminate its lease with us. Our claim against such a tenant for uncollectible future rent would be subject to a statutory limitation that might be substantially less than the remaining rent actually owed to us under the tenant's lease. Any shortfall in rent payments could adversely affect our cash flows and our ability to make distributions to our stockholders.

We could be held liable for damages resulting from our tenants' use of hazardous materials.

Many of our tenants engage in research and development activities that involve controlled use of hazardous materials, chemicals, and biological and radioactive compounds. In the event of contamination or injury from the use of these hazardous materials, we could be held liable for damages that result. This liability could exceed our resources and any recovery available through any applicable insurance coverage, which could adversely affect our ability to make distributions to our stockholders.

Together with our tenants, we must comply with federal, state, and local laws and regulations governing the use, manufacture, storage, handling, and disposal of hazardous materials and waste products. Failure to comply with these laws and regulations, or changes thereto, could adversely affect our business or our tenants' businesses and their ability to make rental payments to us.

Our properties may have defects that are unknown to us.

Although we thoroughly review the physical condition of our properties before they are acquired, and as they are developed and redeveloped, any of our properties may have characteristics or deficiencies unknown to us that could adversely affect the property's value or revenue potential.

Our properties may contain or develop harmful mold or suffer from other air quality issues, which could lead to liability for adverse health effects and costs to remedy the problem.

When excessive moisture accumulates in buildings or on building materials, mold may grow, particularly if the moisture problem remains undiscovered or is not addressed over a period of time. Some molds may produce airborne toxins or irritants. Indoor air quality issues can also stem from inadequate ventilation, chemical contamination from indoor or outdoor sources, and other biological contaminants such as pollen, viruses, and bacteria. Indoor exposure to airborne toxins or irritants above certain levels may cause a variety of adverse health effects and symptoms, including allergic or other reactions. As a result, the presence of significant mold or other airborne contaminants at any of our properties could require us to undertake a costly remediation program to contain or remove the mold or other airborne contaminants from the affected property or increase indoor ventilation. In addition, the presence of significant mold or other airborne contaminants could expose us to liability from our tenants, employees of our tenants, and others if property damage or health concerns arise.

We may not be able to obtain additional capital to further our business objectives.

Our ability to acquire, develop, or redevelop properties depends upon our ability to obtain capital. The real estate industry has historically experienced periods of volatile debt and equity capital markets and/or periods of extreme illiquidity. A prolonged period in which we cannot effectively access the public debt or equity markets may result in heavier reliance on alternative financing sources to undertake new investments. An inability to obtain debt or equity capital on acceptable terms could delay or prevent us from acquiring, financing, and completing desirable investments and could otherwise adversely affect our business. Also, the issuance of additional shares of capital stock or interests in subsidiaries to fund future operations could dilute the ownership of our then-existing stockholders. Even as liquidity returns to the market, debt and equity capital may be more expensive than in prior years.

We may not be able to sell our properties quickly to raise money.

Investments in real estate are relatively illiquid compared to other investments. Accordingly, we may not be able to sell our properties when we desire or at prices acceptable to us in response to changes in economic or other conditions. In addition, the Internal Revenue Code of 1986, as amended (the "Internal Revenue Code"), limits our ability to sell properties held for less than two years. These limitations on our ability to sell our properties may adversely affect our cash flows, our ability to repay debt, and our ability to make distributions to our stockholders.

Adverse changes in our credit ratings could negatively affect our financing ability.

Our credit ratings may affect the amount of capital we can access, as well as the terms and pricing of any debt we may incur. There can be no assurance that we will be able to maintain our current credit ratings. In the event that our current credit ratings are downgraded or removed, we would most likely incur higher borrowing costs and experience greater difficulty in obtaining additional financing, which in turn would have a material adverse impact on our financial condition, results of operations, cash flows, and liquidity.

We may not be able to refinance our debt, and/or our debt may not be assumable.

Due to the high volume of real estate debt financing in recent years, the real estate industry may require more funds to refinance debt maturities than are available from lenders. This potential shortage of available funds from lenders and stricter credit underwriting guidelines may limit our ability to refinance our debt as it matures or may adversely affect our financial condition, results of operations, cash flows, our ability to make distributions to our stockholders, and the market price of our common stock.

We may not be able to borrow additional amounts through the issuance of unsecured bonds, under our unsecured senior line of credit, or through unsecured senior bank term loans.

There is no assurance that we will be able to continue to access the unsecured bond market on favorable terms. Our ability to borrow additional amounts through the issuance of unsecured bonds may be negatively impacted by periods of illiquidity in the bond market.

Aggregate borrowings under our unsecured senior line of credit and unsecured senior bank term loan require compliance with certain financial and non-financial covenants. Borrowings under our unsecured senior line of credit and unsecured senior bank term loan are funded by a group of banks. Our ability to borrow additional amounts under our unsecured senior line of credit and unsecured senior bank term loan may be negatively impacted by a decrease in cash flows from our properties, a default or cross-default under our unsecured senior line of credit and unsecured senior bank term loan, non-compliance with one or more loan covenants, and non-performance or failure of one or more lenders under our unsecured senior line of credit and unsecured senior bank term loan. In addition, we may not be able to refinance or repay outstanding borrowings on our unsecured senior line of credit or unsecured senior bank term loan.

Our inability to borrow additional amounts on an unsecured basis could delay us in or prevent us from acquiring, financing, and completing desirable investments, which could adversely affect our business; and our inability to refinance or repay amounts under our unsecured senior line of credit or unsecured senior bank term loan may adversely affect our cash flows, ability to make distributions to our stockholders, financial condition, and results of operations.

If interest rates rise, our debt service costs will increase and the value of our properties may decrease.

Our unsecured senior line of credit, unsecured senior bank term loan, and certain other borrowings bear interest at variable rates, and we may incur additional variable-rate debt in the future. Increases in market interest rates would increase our interest expense under these debt instruments and would increase the costs of refinancing existing indebtedness or obtaining new debt. Additionally, increases in market interest rates may result in a decrease in the value of our real estate and a decrease in the market price of our common stock. Accordingly, these increases could adversely affect our financial condition and our ability to make distributions to our stockholders.

Failure to hedge effectively against interest rate changes may adversely affect our results of operations.

The interest rate hedge agreements we use to manage some of our exposure to interest rate volatility involve risks, such as the risk that counterparties may fail to honor their obligations under these arrangements. In addition, these arrangements may not be effective in reducing our exposure to changes in interest rates. These risk factors may lead to failure to hedge effectively against changes in interest rates and therefore could adversely affect our results of operations.

Our unsecured senior line of credit and unsecured senior bank term loan restrict our ability to engage in some business activities.

Our unsecured senior line of credit and unsecured senior bank term loan contain customary negative covenants and other financial and operating covenants that, among other things:

- Restrict our ability to incur additional indebtedness;
- Restrict our ability to make certain investments;
- Restrict our ability to merge with another company;
- Restrict our ability to make distributions to our stockholders;

Require us to maintain financial coverage ratios; and
Require us to maintain a pool of qualified unencumbered assets.

Complying with these restrictions may prevent us from engaging in certain profitable activities and constrain our ability to effectively allocate capital. Failure to comply with these restrictions may result in our defaulting on these and other loans, which would likely have a negative impact on our operations, financial condition, and ability to make distributions to our stockholders.

Our debt service obligations may have adverse consequences on our business operations.

We use debt to finance our operations, including the acquisition, development, and redevelopment of properties. Our use of debt may have adverse consequences, including the following:

- Our cash flows from operations may not be sufficient to meet required payments of principal and interest;
- We may be forced to dispose of one or more of our properties, possibly on disadvantageous terms, to make payments on our debt;
- If we default on our debt obligations, the lenders or mortgagees may foreclose on our properties that secure those loans;
- A foreclosure on one of our properties could create taxable income without any accompanying cash proceeds to pay the tax;
- A default under a loan that has cross-default provisions may cause us to automatically default on another loan or interest rate hedge agreement;
- We may not be able to refinance or extend our existing debt;
- The terms of any refinancing or extension may not be as favorable as the terms of our existing debt;
- We may be subject to a significant increase in the variable interest rates on our unsecured senior line of credit, unsecured senior bank term loan, and certain other borrowings, which could adversely impact our cash flows and operations; and
- The terms of our debt obligations may require a reduction in our distributions to stockholders.

If our revenues are less than our expenses, we may have to borrow additional funds, and we may not be able to make distributions to our stockholders.

If our properties do not generate revenues sufficient to cover our operating expenses, including our debt service obligations and capital expenditures, we may have to borrow additional amounts to cover fixed costs and cash flow needs. This could adversely affect our ability to make distributions to our stockholders. Factors that could adversely affect the revenues we generate from, and the values of, our properties include:

- National, local, and worldwide economic conditions;
- Competition from other properties;
- Changes in the life science and technology industries;
- Real estate conditions in our target markets;
- Our ability to collect rent payments;
- The availability of financing;
- Changes to the financial and banking industries;
- Changes in interest rate levels;
- Vacancies at our properties and our ability to re-lease space;
- Changes in tax or other regulatory laws;
- The costs of compliance with government regulation;
- The lack of liquidity of real estate investments; and
- Increases in operating costs.

In addition, if a lease at a property is not a triple net lease, we will have greater exposure to increases in expenses associated with operating that property. Certain significant expenditures, such as mortgage payments, real estate taxes, insurance, and maintenance costs, are generally fixed and do not decrease when revenues at the related property decrease.

If we fail to effectively manage our debt obligations, we could become highly leveraged, and our debt service obligations could increase to unsustainable levels.

Our organizational documents do not limit the amount of debt that we may incur. Therefore, if we fail to prudently manage our capital structure, we could become highly leveraged. This would result in an increase in our debt service obligations that could adversely affect our cash flows and our ability to make distributions to our stockholders. Higher leverage could also increase the risk of default on our debt obligations or may result in downgrades to our credit ratings.

Market volatility may negatively affect our business.

From time to time, the capital and credit markets experience volatility. In some cases, the markets have produced downward pressure on stock prices and credit capacity for certain issuers without regard to those issuers' underlying financial and/or operating strength. If market disruption and volatility occur, there can be no assurance that we will not experience an adverse effect, which may be material, on our business, financial condition, and results of operations. Market disruption and volatility may adversely affect the value of the companies in which we hold equity investments, and we may be required to recognize losses in our earnings. Disruptions, uncertainty, or volatility in the capital markets may also limit our access to capital from financial institutions on favorable terms, or altogether, and our ability to raise capital through the issuance of equity securities could be adversely affected by causes beyond our control through extraordinary disruptions in the global economy and financial systems or through other events.

Failure to meet market expectations for our financial performance would likely adversely affect the market price and volatility of our stock.

Our expected financial results may not be achieved, and actual results may differ materially from our expectations. This may be a result of various factors, including, but not limited to:

- The status of the economy;
- The status of capital markets, including availability and cost of capital;
- Changes in financing terms available to us;
- Negative developments in the operating results or financial condition of tenants, including, but not limited to, their ability to pay rent;
- Our ability to re-lease space at similar rates as vacancies occur;
- Our ability to reinvest sale proceeds in a timely manner at rates similar to the rate at which assets are sold;
- Regulatory approval and market acceptance of the products and technologies of tenants;
- Liability or contract claims by or against tenants;
- Unanticipated difficulties and/or expenditures relating to future acquisitions;
- Environmental laws affecting our properties;
- Changes in rules or practices governing our financial reporting; and
- Other legal and operational matters, including REIT qualification and key management personnel recruitment and retention.

Failure to meet market expectations, particularly with respect to earnings estimates, funds from operations per share, operating cash flows, and revenues, would likely result in a decline and/or increased volatility in the market price of our common stock or other outstanding securities.

The price per share of our stock may fluctuate significantly.

The market price per share of our common stock may fluctuate significantly in response to many factors, including, but not limited to:

- The availability and cost of debt and/or equity capital;
- The condition of our balance sheet;
- Actual or anticipated capital requirements;
- The condition of the financial and banking industries;
- Actual or anticipated variations in our quarterly operating results or dividends;
- The amount and timing of debt maturities and other contractual obligations;
- Changes in our net income, funds from operations, or projections;
-

The publication of research reports and articles about us, our tenants, the real estate industry, or the life science and technology industries;

• The general reputation of REITs and the attractiveness of their equity securities in comparison to other debt or equity securities (including securities issued by other real estate-based companies);

• General stock and bond market conditions, including changes in interest rates on fixed-income securities, that may lead prospective stockholders to demand a higher annual yield from future dividends;

• Fluctuations from general market volatility;

• Changes in our analyst ratings;

• Changes in our corporate credit rating or credit ratings of our debt or other securities;

- Changes in market valuations of similar companies;
- Adverse market reaction to any additional debt we incur in the future;
- Additions, departures, or other announcements regarding our key management personnel;
- Actions by institutional stockholders;
- Speculation in the press or investment community;
- Terrorist activity adversely affecting the markets in which our securities trade, possibly increasing market volatility and causing the further erosion of business and consumer confidence and spending;
- Government regulatory action and changes in tax laws;
- Fiscal policies or inaction at the U.S. federal government level which may lead to federal government shutdowns or negative impacts on the U.S. economy;
- The realization of any of the other risk factors included in this annual report on Form 10-K; and
- General market and economic conditions.

Many of the factors listed above are beyond our control. These factors may cause the market price of shares of our common stock to decline, regardless of our financial condition, results of operations, business, or prospects.

Possible future sales of shares of our common stock could adversely affect its market price.

We cannot predict the effect, if any, of future sales of shares of our common stock or the market price of our common stock. Sales of substantial amounts of capital stock (including the conversion or redemption of preferred stock), or the perception that such sales may occur, could adversely affect prevailing market prices for our common stock. Refer to “Other Sources” in the “Sources and Uses of Capital” subsection of the “Capital Resources” section under “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” in this annual report on Form 10-K.

We have reserved a number of shares of common stock for issuance to our directors, officers, and employees pursuant to our Amended and Restated 1997 Stock Award and Incentive Plan (sometimes referred to herein as our “equity incentive plan”). We have filed a registration statement with respect to the issuance of shares of our common stock pursuant to grants under our equity incentive plan. In addition, any shares issued under our equity incentive plan will be available for sale in the public market from time to time without restriction by persons who are not our “affiliates” (as defined in Rule 144 adopted under the Securities Act of 1933, as amended). Affiliates will be able to sell shares of our common stock subject to restrictions under Rule 144.

The conversion rights of our convertible preferred stock may be detrimental to holders of common stock.

Subject to certain conditions, we may, at our option, be able to cause some or all of our 7.00% Series D cumulative convertible preferred stock (“Series D Convertible Preferred Stock”) to automatically convert to common stock. Holders of our Series D Convertible Preferred Stock, at their option, may, at any time and from time to time, convert some or all of their outstanding shares to common stock.

The conversion of our Series D Convertible Preferred Stock into our common stock would dilute the ownership of our then-existing common stockholders and could adversely affect the market price of our common stock or impair our ability to raise capital through the sale of additional equity securities. Any adjustments that increase the conversion rate of our Series D Convertible Preferred Stock would increase its dilutive effect. Furthermore, the conversion rights by the holders of our Series D Convertible Preferred Stock might be triggered in situations in which we need to conserve our cash reserves, in which event, our election, under certain conditions, to repurchase such Series D Convertible Preferred Stock in lieu of converting it into common stock might adversely affect us and our stockholders.

Our distributions to stockholders may decline at any time.

We may not continue our current level of distributions to our stockholders. Our Board of Directors will determine future distributions based on a number of factors, including:

- The amount of net cash provided by operating activities available for distribution;
- Our financial condition and capital requirements;
- Any decision to reinvest funds rather than to distribute such funds;
- Our capital expenditures;
- The annual distribution requirements under the REIT provisions of the Internal Revenue Code;
- Restrictions under Maryland law; and
- Other factors our Board of Directors deems relevant.

A reduction in distributions to stockholders may negatively impact our stock price.

Distributions on our common stock may be made in the form of cash, stock, or a combination of both.

As a REIT, we are required to distribute at least 90% of our taxable income to our stockholders. Typically, we generate cash for distributions through our operations, the disposition of assets, including partial interest sales, or the incurrence of additional debt. Our Board of Directors may determine in the future to pay dividends on our common stock in cash, in shares of our common stock, or in a combination of cash and shares of our common stock. For example, we may declare dividends payable in cash or stock at the election of each stockholder, subject to a limit on the aggregate cash that could be paid. Any such dividends would be distributed in a manner intended to count in full toward the satisfaction of our annual distribution requirements and to qualify for the dividends paid deduction. While the IRS privately has ruled that such a dividend would so qualify if certain requirements are met, no assurances can be provided that the IRS would not assert a contrary position in the future. Moreover, a reduction in the cash yield on our common stock may negatively impact our stock price.

We have certain ownership interests outside the U.S. that may subject us to risks different from or greater than those associated with our domestic operations.

We have three operating properties in Canada and one operating property in China. Acquisition, development, redevelopment, ownership, and operating activities outside the U.S. involve risks that are different from those we face with respect to our domestic properties and operations. These risks include, but are not limited to:

- Adverse effects of changes in exchange rates for foreign currencies;
- Challenges and/or taxation with respect to the repatriation of foreign earnings or repatriation of proceeds from the sale of one or more of our foreign investments;
- Changes in foreign political, regulatory, and economic conditions, including nationally, regionally, and locally;
- Challenges in managing international operations;
- Challenges in hiring or retaining key management personnel;
- Challenges of complying with a wide variety of foreign laws and regulations, including those relating to real estate, corporate governance, operations, taxes, employment, and legal proceedings;
- Differences in lending practices;
- Differences in languages, cultures, and time zones;
- Changes in applicable laws and regulations in the U.S. that affect foreign operations;
- Future partial or complete U.S. federal government shutdowns, trade disagreements with other countries, or uncertainties that could affect business transactions within the U.S. and with foreign entities;
- Changes in tax and local regulations with potentially adverse tax consequences and penalties; and
- Foreign ownership and transfer restrictions.

In addition, our foreign investments are subject to taxation in foreign jurisdictions based on local tax laws and regulations and on existing international tax treaties. We have invested in foreign markets under the assumption that our future earnings in each of those countries will be taxed at the current prevailing income tax rates. There are no guarantees that foreign governments will continue to honor existing tax treaties we have relied upon for our foreign investments or that the current income tax rates in those countries will not increase significantly, thus impacting our ability to repatriate our foreign investments and related earnings.

Investments in international markets may also subject us to risks associated with establishing effective controls and procedures to regulate the operations of new offices and to monitor compliance with U.S. laws and regulations, including the Foreign Corrupt Practices Act and similar foreign laws and regulations. The Foreign Corrupt Practices Act and similar applicable anti-corruption laws prohibit individuals and entities from offering, promising, authorizing, or providing payments or anything of value, directly or indirectly, to government officials in order to obtain, retain, or direct business. Failure to comply with these laws could subject us to civil and criminal penalties that could materially adversely affect our results of operations or the value of our international investments. In addition, if we fail to effectively manage our international operations, our overall financial condition, results of operations, cash flows, and the market price of our common stock could be adversely affected.

Furthermore, we may in the future enter into agreements with non-U.S. entities that are governed by the laws of, and are subject to dispute resolution rules of, another country or region. In some cases, such a country or region might not have a forum that provides us an effective or efficient means for resolving disputes that may arise under these agreements.

We are subject to risks and liabilities in connection with properties owned through partnerships, limited liability companies, and joint ventures.

Our organizational documents do not limit the amount of funds that we may invest in non-wholly owned partnerships, limited liability companies, or joint ventures. Partnership, limited liability company, or joint venture investments involve certain risks, including, but not limited to, the following:

- Upon bankruptcy of non-wholly owned partnerships, limited liability companies, or joint venture entities, we may become liable for the liabilities of the partnership, limited liability company, or joint venture;

- We may share certain approval rights over major decisions with third parties;

- We may be required to contribute additional capital if our partners fail to fund their share of any required capital contributions;

- Our partners, co-members, or joint venture partners might have economic or other business interests or goals that are inconsistent with our business interests or goals and that could affect our ability to lease or re-lease the property, operate the property, or maintain our qualification as a REIT;

- Our ability to sell the interest on advantageous terms when we so desire may be limited or restricted under the terms of our agreements with our partners; and

- We may not continue to own or operate the interests or assets underlying such relationships or may need to purchase such interests or assets at an above-market price to continue ownership.

We generally seek to maintain control of our partnerships, limited liability companies, and joint venture investments in a manner sufficient to permit us to achieve our business objectives. However, we may not be able to do so, and the occurrence of one or more of the events described above could adversely affect our financial condition, results of operations, cash flows, our ability to make distributions to our stockholders, or the market price of our common stock.

Market and other external factors may adversely impact the valuation of our equity investments.

We hold equity investments in certain publicly traded companies, limited partnerships, and privately held entities primarily involved in the life science and technology industries. The valuation of these investments is affected by many external factors beyond our control, including, but not limited to, market prices, market conditions, the effect of healthcare reform legislation, prospects for favorable or unfavorable clinical trial results, new product initiatives, the manufacturing and distribution of new products, product safety and efficacy issues, and new collaborative agreements. In addition, partial or complete future government shutdowns that may result in temporary closures of agencies such as the FDA and SEC may adversely affect the processing of initial public offerings, business operations, financial results, and funding for projects of the companies in which we hold equity investments. Unfavorable developments

with respect to any of these factors may have an adverse impact on the valuation of our equity investments.

Market and other external factors may negatively impact the liquidity of our equity investments.

We make and hold investments in privately held life science and technology companies. These investments may be illiquid, which could impede our ability to realize the value at which these investments are carried if we are required to dispose of them. The lack of liquidity of these investments may make it difficult for us to sell these investments on a timely basis and may impair the value of these investments. If we are required to liquidate all or a portion of these investments quickly, we may realize significantly less than the amounts at which we had previously valued these investments.

We face risks associated with short-term liquid investments.

From time to time, we may have significant cash balances that we invested in a variety of short-term investments that are intended to preserve principal value and maintain a high degree of liquidity while providing current income. These investments may include (either directly or indirectly) obligations (including certificates of deposit) of banks, money market funds, treasury bank securities, and other short-term securities. Investments in these securities and funds are not insured against loss of principal. Under certain circumstances, we may be required to redeem all or part of these securities or funds at less than par value. A decline in the value of our investments, or a delay or suspension of our right to redeem them, may have a material adverse effect on our results of operations or financial condition and our ability to pay our obligations as they become due.

We could incur significant costs due to the financial condition of our insurance carriers.

We insure our properties with insurance companies we believe have good ratings at the time our policies are put into effect. The financial condition of one or more of the insurance companies we hold policies with may be negatively impacted, which can result in their inability to pay on future insurance claims. Their inability to pay future claims may have a negative impact on our financial results. In addition, the failure of one or more insurance companies may increase the cost of renewing our insurance policies or increase the cost of insuring additional properties and recently developed or redeveloped properties.

Our insurance may not adequately cover all potential losses.

If we experience a loss at any of our properties that is not covered by insurance, that exceeds our insurance policy limits, or that is subject to a policy deductible, we could lose the capital invested in the affected property and, possibly, future revenues from that property. In addition, we could continue to be obligated on any mortgage indebtedness or other obligations related to the affected properties. All properties carry comprehensive liability, fire, extended coverage, and rental loss insurance with respect to our properties, including properties partially owned through joint ventures that are managed by our joint venture partners.

We have obtained earthquake insurance for our properties that are located in the vicinity of active earthquake zones in an amount and with deductibles we believe are commercially reasonable. However, a significant portion of our real estate portfolio is located in seismically active regions, such as San Francisco, San Diego, and Seattle, and a damaging earthquake in any of these regions could significantly impact multiple properties. As a result, the amount of our earthquake insurance coverage may be insufficient to cover our losses, and aggregate deductible amounts may be material, which could adversely affect our business, financial condition, results of operations, and cash flows. We also carry environmental insurance and title insurance policies for our properties. We generally obtain our title insurance policies when we acquire a property, with each policy covering an amount equal to the initial purchase price of each property. Accordingly, any of our title insurance policies may be in an amount less than the current value of the related property.

Our tenants are also required to maintain comprehensive insurance, including liability and casualty insurance that is customarily obtained for similar properties. There are, however, certain types of losses that we and our tenants do not generally insure against because they are uninsurable or because it is not economical to insure against them. The availability of coverage against certain types of losses, such as from terrorism or toxic mold, has become more limited and, when available, carries a significantly higher cost. We cannot predict whether insurance coverage against terrorism or toxic mold will remain available for our properties because insurance companies may no longer offer coverage against such losses, or such coverage, if offered, may become prohibitively expensive. We have not had material losses from terrorism or toxic mold at any of our properties.

The loss of services of any of our senior officers could adversely affect us.

We depend upon the services and contributions of relatively few senior officers. The loss of services or contributions of any one of them may adversely affect our business, financial condition, and prospects. We use the extensive personal and business relationships that members of our management have developed over time with owners of office/laboratory and tech office properties and with major tenants in the life science and technology industries. We cannot assure our stockholders that our senior officers will remain employed with us.

Competition for skilled personnel could increase labor costs.

We compete with various other companies in attracting and retaining qualified and skilled personnel. We depend on our ability to attract and retain skilled management personnel who are responsible for the day-to-day operations of our company. Competitive pressures may require that we enhance our pay and benefits package to compete effectively for such personnel. We may not be able to offset such additional costs by increasing the rates we charge tenants. If there is an increase in these costs or if we fail to attract and retain qualified and skilled personnel, our business and operating results could be adversely affected.

Failure to maintain effective internal control over financial reporting could have a material adverse effect on our business, results of operations, financial condition, and stock price.

Pursuant to the Sarbanes-Oxley Act of 2002, we are required to provide a report by management on internal control over financial reporting, including management's assessment of the effectiveness of internal control. Changes to our business will necessitate ongoing changes to our internal control systems and processes. Internal control over financial reporting may not prevent or detect misstatement because of its inherent limitations, including the possibility of human error, the circumvention or overriding of controls, or fraud. Therefore, even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, including any failure to implement required new or improved controls, or if we experience difficulties in their implementation, our business, results of operations, and financial condition could be materially harmed, we could fail to meet our reporting obligations, and there could be a material adverse effect on the market price of our common stock.

If we failed to qualify as a REIT, we would be taxed at corporate rates and would not be able to take certain deductions when computing our taxable income.

If, in any taxable year, we failed to qualify as a REIT:

- We would be subject to federal and state income taxes on our taxable income at regular corporate rates;
- We would not be allowed a deduction for distributions to our stockholders in computing taxable income;
- We would be disqualified from treatment as a REIT for the four taxable years following the year during which we lost qualification, unless we were entitled to relief under the Internal Revenue Code; and
- We would no longer be required by the Internal Revenue Code to make distributions to our stockholders.

As a result of any additional tax liability, we might need to borrow funds or liquidate certain investments in order to pay the applicable tax. Accordingly, funds available for investment or distribution to our stockholders would be reduced for each of the years involved.

Qualification as a REIT involves the application of highly technical and complex provisions of the Internal Revenue Code to our operations and financial results, and the determination of various factual matters and circumstances not entirely within our control. There are only limited judicial or administrative interpretations of these provisions. Although we believe that we have operated in a manner so as to qualify as a REIT, we cannot assure our stockholders that we are or will remain so qualified.

From time to time, we dispose of properties in transactions qualified as Section 1031 Exchanges. If a transaction intended to qualify as a Section 1031 Exchange is later determined by the IRS to be taxable or if we are unable to identify and complete the acquisition of a suitable replacement property to effect a Section 1031 Exchange or if the laws surrounding Section 1031 Exchanges are amended or repealed, we may not be able to dispose of properties on a tax deferred basis. In such a case, our earnings and profits and our taxable income would increase, which could increase the dividend income and reduce the return of capital to our stockholders. As a result, we may be required to

pay additional dividends to stockholders, or if we do not pay additional dividends, our corporate income tax liability could increase and we may be subject to interest and penalties.

We may not be able to participate in certain sales that the IRS characterizes as “prohibited transactions”. The tax imposed on REITs engaging in prohibited transactions is a 100% tax on net income from the transaction. Generally, “prohibited transactions” are sales or other dispositions of property, other than foreclosures, characterized as held primarily for sale to customers in the ordinary course of business. A sale will not be considered a prohibited transaction if it meets certain safe harbor requirements. Otherwise, whether or not the transaction is characterized as a prohibited transaction is a factual matter. Although we do not intend to participate in prohibited transactions, there is no guarantee that the IRS would agree with our characterization of our properties or that we will meet the safe harbor requirements.

Federal income tax rules are constantly under review by Congress and the IRS. Changes to tax laws could adversely affect our investors or our tenants, and we cannot predict how those changes may affect us in the future. New legislation, U.S. Treasury Department regulations, administrative interpretations, or court decisions could significantly and negatively affect our ability to qualify as a REIT, the federal income tax consequences of such qualification, or an investment in our stock. Also, laws relating to the tax treatment of investment in other types of business entities could change, making an investment in such other entities more attractive relative to an investment in a REIT.

We are dependent on third parties to manage the amenities at our properties.

We retain third-party managers to manage certain amenities at our properties, such as restaurants, conference centers, exercise facilities, and parking garages. Our income from our properties may be adversely affected if these parties fail to provide quality services and amenities with respect to our properties. While we monitor the performance of these third parties, we may have limited recourse if we believe they are not performing adequately. In addition, these third-party managers may operate, and in some cases may own or invest in, properties that compete with our properties, which may result in conflicts of interest. As a result, these third-party managers may have made, and may in the future make, decisions that are not in our best interests.

We rely on a limited number of vendors to provide utilities and certain other services at our properties, and disruption in these services may have a significant adverse effect on our business operations, financial condition, and cash flows.

We rely on a limited number of vendors to provide key services, including, but not limited to, utilities and construction services at certain of our properties. Our business and property operations may be adversely affected if key vendors fail to adequately provide key services at our properties, as a result of natural disasters (such as fires, floods, earthquakes, etc.), power interruptions, bankruptcies, war, acts of terrorism, public health emergencies, cyber-attacks or other unanticipated catastrophic events. If a vendor encounters financial difficulty such as bankruptcy or other events beyond our control that causes it to fail to adequately provide utilities, construction, or other important services, we may experience significant interruptions in service and disruptions to business operations at our properties, incur remediation costs, and become subject to claims and damages to our reputation.

In addition, difficulties encountered by key vendors in providing necessary services at our properties could result in a significant market rate increases for such services. Our triple net leases allow us to pass through substantially all operating expenses and certain capital expenditures to our tenants in the form of additional rent. However, we cannot be certain that we will be able to continue to negotiate pass-through provisions in tenant leases in the future, which could lead to a decrease in our recovery of operating expenses. If our operating expenses increase without a corresponding increase in revenues, our profitability could diminish. In addition, we cannot be certain that increased costs will not lead our current or prospective tenants to seek space elsewhere, which could significantly hinder our ability to increase our rents or to maintain existing occupancy levels. Additionally, this may significantly increase occupancy costs for some of our tenants and may adversely impact their financial condition, ability to make rental payments, and ability to renew their lease agreements.

On January 29, 2019, in response to potential liabilities arising from a series of catastrophic wildfires that occurred in Northern California in 2017 and 2018, PG&E Corporation and its regulated utility subsidiary, Pacific Gas and Electric Company (together, "PG&E"), initiated voluntary reorganization proceedings under Chapter 11 of the U.S. Bankruptcy Code. PG&E is the primary public utility company providing electrical and gas service to residential and commercial customers in northern California, including the San Francisco Bay Area. Most of our properties located in our San Francisco market depend on PG&E for the delivery of these essential services. PG&E has stated that it does not expect any impact to electric or natural gas service for its customers as a result of the Chapter 11 proceedings. While bankruptcies of utilities as large and complex as PG&E are relatively infrequent, based on the experience in other large utility bankruptcy proceedings (including PG&E's own previous Chapter 11 proceedings in 2001-2004) and the course of Chapter 11 practice generally, we currently consider it highly unlikely that utility service disruptions will

occur as a result of the PG&E bankruptcy proceedings. However, in the unexpected event that such service disruptions were to occur at our properties in connection with the bankruptcy proceedings and continue for an extended period, they could result in adverse consequences to us similar to those described earlier in this risk factor.

The realization of any of the above risks could significantly and adversely affect our ability to meet our financial expectations, our financial condition, results of operations, and cash flows, our ability to make distributions to our stockholders, the market price of our common stock, and our ability to satisfy our debt service obligations.

We may change our business policies without stockholder approval.

Our Board of Directors determines all of our material business policies, with management's input, including those related to our:

- Status as a REIT;
- Incurrence of debt and debt management activities;
- Selective acquisition, disposition, development, and redevelopment activities;
- Stockholder distributions; and
- Other policies, as appropriate.

Our Board of Directors may amend or revise these policies at any time without a vote of our stockholders. A change in these policies could adversely affect our business and our ability to make distributions to our stockholders.

There are limits on the ownership of our capital stock under which a stockholder may lose beneficial ownership of its shares and that may delay or prevent transactions that might otherwise be desired by our stockholders.

In order for a company to qualify as a REIT under the Internal Revenue Code, not more than 50% of the value of its outstanding stock may be owned, directly or constructively, by five or fewer individuals or entities (as set forth in the Internal Revenue Code) during the last half of a taxable year. Furthermore, shares of our company's outstanding stock must be beneficially owned by 100 or more persons during at least 335 days of a taxable year of 12 months or during a proportionate part of a shorter taxable year.

In order for us to maintain our qualification as a REIT, among other things, our charter provides for an ownership limit, which prohibits, with certain exceptions, direct or constructive ownership of shares of stock representing more than 9.8% of the combined total value of our outstanding shares of stock by any person, as defined in our charter. Our Board of Directors, in its sole discretion, may waive the ownership limit for any person. However, our Board of Directors may not grant such waiver if, after giving effect to such waiver, we would be "closely held" under Section 856(h) of the Internal Revenue Code. As a condition to waiving the ownership limit, our Board of Directors may require a ruling from the IRS or an opinion of counsel in order to determine our status as a REIT. Notwithstanding the receipt of any such ruling or opinion, our Board of Directors may impose such conditions or restrictions as it deems appropriate in connection with granting a waiver.

Our charter further prohibits transferring shares of our stock if such transfer would result in our being "closely held" under Section 856(h) of the Internal Revenue Code or would result in shares of our stock being owned by fewer than 100 persons.

The constructive ownership rules are complex and may cause shares of our common stock owned directly or constructively by a group of related individuals or entities to be constructively owned by one individual or entity. A transfer of shares to a person who, as a result of the transfer, violates these limits shall be void or these shares shall be exchanged for shares of excess stock and transferred to a trust for the benefit of one or more qualified charitable organizations designated by us. In that case, the intended transferee will have only a right to share, to the extent of the transferee's original purchase price for such shares, in proceeds from the trust's sale of those shares and will effectively forfeit its beneficial ownership of the shares. These ownership limits could delay, defer, or prevent a transaction or a change in control that might involve a premium price for the holders of our common stock or that might otherwise be desired by such holders.

In addition to the ownership limit, certain provisions of our charter and bylaws may delay or prevent transactions that may be deemed to be desirable to our stockholders.

As authorized by Maryland law, our charter allows our Board of Directors to cause us to issue additional authorized but unissued shares of our common stock or preferred stock and to classify or reclassify unissued shares of common or preferred stock without any stockholder approval. Our Board of Directors could establish a series of preferred stock that could delay, defer, or prevent a transaction that might involve a premium price for our common stock or that might, for other reasons, be desired by our common stockholders, or a series of preferred stock that has a dividend preference that may adversely affect our ability to pay dividends on our common stock.

Our charter permits the removal of a director only upon a two-thirds majority of the votes entitled to be cast generally in the election of directors, and our bylaws require advance notice of a stockholder's intention to nominate directors or to present business for consideration by stockholders at an annual meeting of our stockholders. Our charter and bylaws also contain other provisions that may delay, defer, or prevent a transaction or change in control that involves a premium price for our common stock or that, for other reasons, may be desired by our stockholders.

Market and industry factors

We face substantial competition in our target markets.

The significant competition for business in our target markets could have an adverse effect on our operations. We compete for investment opportunities with:

Other REITs;
Insurance companies;
Pension and investment funds;
Private equity entities;
Partnerships;
Developers;
Investment companies;
Owners/occupants; and
Foreign investors, including sovereign wealth funds.

Many of these entities have substantially greater financial resources than we do and may be able to pay more than we can or accept more risk than we are willing to accept. These entities may be less sensitive to risks with respect to the creditworthiness of a tenant or the geographic concentration of their investments. Competition may also reduce the number of suitable investment opportunities available to us or may increase the bargaining power of property owners seeking to sell.

Poor economic conditions in our markets could adversely affect our business.

Our properties are primarily located in the following markets:

Greater Boston;
San Francisco;
New York City;
San Diego;
Seattle;
Maryland; and
• Research Triangle
Park.

As a result of our geographic concentration, we depend upon the local economic and real estate conditions in these markets. We are, therefore, subject to increased exposure (positive or negative) to economic, tax, and other competitive factors specific to markets in confined geographic areas. Our operations may also be affected if too many competing properties are built in any of these markets. An economic downturn in any of these markets could adversely affect our operations and our ability to make distributions to our stockholders. We cannot assure our stockholders that these markets will continue to grow or remain favorable to the life science and technology industries.

Improvements to our properties are significantly more costly than improvements to traditional office space.

Many of our properties generally contain infrastructure improvements that are significantly more costly than improvements to other property types. Although we have historically been able to recover the additional investment in infrastructure improvements through higher rental rates, there is the risk that we will not be able to continue to do so in the future. Typical improvements include:

- Reinforced concrete floors;
- Upgraded roof loading capacity;
- Increased floor-to-ceiling heights;
- Heavy-duty HVAC systems;
- Enhanced environmental control technology;
- Significantly upgraded electrical, gas, and plumbing infrastructure; and
- Laboratory benches.

We are dependent on the life science and technology industries, and changes within these industries may adversely impact our revenues from lease payments and our results of operations.

In general, our business strategy is to invest primarily in properties used by tenants in the life science and technology industries. Our business could be adversely affected if the life science and technology industries are impacted by an economic, financial, or banking crisis, or if the life science and technology industries migrate from the U.S. to other countries. Because of our industry focus, events within these industries may have a more pronounced effect on our results of operations and ability to make distributions to our stockholders than if we had more diversified investments. Also, some of our properties may be better suited for a particular life science or technology tenant and could require significant modification before we are able to re-lease space to another tenant. Generally, our properties may not be suitable for lease to traditional office tenants without significant expenditures on renovations.

Our ability to negotiate contractual rent escalations on future leases and to achieve increases in rental rates will depend upon market conditions and the demand for office/laboratory and tech office space at the time the leases are negotiated and the increases are proposed.

It is common for businesses in the life science and technology industries to undergo mergers or consolidations. Mergers or consolidations of life science and technology entities in the future could reduce the RSF requirements of our tenants and prospective tenants, which may adversely impact the demand for office/laboratory and tech office space and our future revenue from lease payments and our results of operations.

Some of our current or future tenants may include high-tech companies in their startup or growth phases of their life cycle. Fluctuations in market confidence vested in these companies or adverse changes in economic conditions may have a disproportionate effect on operations of such companies. Deteriorations in the financial conditions of our tenants may result in our inability to collect rental payments from them and therefore may negatively impact our results of operations.

Our results of operations depend on our tenants' research and development efforts and their ability to obtain funding for these efforts.

Our tenant base includes entities in the pharmaceutical, biotechnology, medical device, life science, technology, and related industries; academic institutions; government institutions; and private foundations. Our tenants base their research and development budgets on several factors, including the need to develop new products, the availability of government and other funding, competition, and the general availability of resources.

Research and development budgets fluctuate due to changes in available resources, research priorities, general economic conditions, institutional and government budgetary limitations, and mergers and consolidations of entities. Our business could be adversely impacted by a significant decrease in research and development expenditures by either our tenants or the life science and technology industries.

Our tenants also include research institutions whose funding is largely dependent on grants from government agencies, such as the NIH, the National Science Foundation, and similar agencies or organizations. U.S. government funding of research and development is subject to the political process, which is often unpredictable. Other programs, such as Homeland Security or defense, could be viewed by the government as higher priorities. Additionally, proposals to reduce or eliminate budgetary deficits have

sometimes included reduced allocations to the NIH and other U.S. government agencies that fund research and development activities. Additionally, the inability of the U.S. Congress to enact a budget for a fiscal year or the occurrence of partial or complete U.S. federal government shutdowns may result in temporary closures of agencies such as the Food and Drug Administration (the “FDA”) or National Institutes of Health (the “NIH”), which could adversely affect business operations of our tenants who are dependent on government approvals and appropriations. Any shift away from funding of research and development or delays surrounding the approval of government budget proposals may adversely impact our tenants’ operations, which in turn may impact their demand for office/laboratory and tech office space and their ability to make lease payments to us and thus adversely impact our results of operations.

Our life science tenants are subject to a number of risks unique to their industry, including (i) high levels of regulation, (ii) failures in the safety and efficacy of their products, (iii) significant funding requirements for product research and development, and (iv) changes in technology, patent expiration, and intellectual property protection. These risks may adversely affect their ability to make rental payments to us or satisfy their other lease obligations and consequently may materially adversely affect our business, results of operations, financial condition, and stock price.

High levels of regulation

Some of our tenants develop and manufacture drugs that require regulatory approval, including approval from the FDA, prior to being made, marketed, sold, and used. The regulatory approval process to manufacture and market drugs is costly, typically takes several years, requires validation through clinical trials and the use of substantial resources, and is often unpredictable. A tenant may fail to obtain or may experience significant delays in obtaining these approvals. Even if the tenant obtains regulatory approvals, marketed products will be subject to ongoing regulatory review and potential loss of approvals.

The ability of some of our tenants to commercialize any future products successfully will depend in part on the coverage and reimbursement levels set by government authorities, private health insurers, and other third-party payers. Additionally, reimbursements may decrease in the future.

Failures in the safety and efficacy of their products

Some of our tenants developing potential products may find that their products are not effective, or even are harmful, when tested in humans.

Some of our tenants depend upon the commercial success of certain products. Even if a product made by a tenant is successfully developed and proven safe and effective in human clinical trials, and the requisite regulatory approvals are obtained, subsequent discovery of safety issues with these products could cause product liability events, additional regulatory scrutiny and requirements for additional labeling, loss of approval, withdrawal of products from the market, and the imposition of fines or criminal penalties.

A drug made by a tenant may not be well accepted by doctors and patients, or may be less effective or accepted than a competitor’s drug, even if it is successfully developed.

The negative results of safety signals arising from the clinical trials of the competitors of our tenants may prompt regulatory agencies to take actions that may adversely affect the clinical trials or products of our tenants.

Significant funding requirements for product research and development

Some of our tenants require significant funding to develop and commercialize their products and technologies, which funding must be obtained from venture capital firms; private investors; the public markets; companies in the life science industry; or federal, state, and local governments. Such funding may become unavailable or difficult to obtain. The ability of each tenant to raise capital will depend on its financial and operating condition, viability of their products, and the overall condition of the financial, banking, and economic environment, as well as government budget policies.

Even with sufficient funding, some of our tenants may not be able to discover or identify potential drug targets in humans, or potential drugs for use in humans, or to create tools or technologies that are commercially useful in the discovery or identification of potential drug targets or drugs.

Some of our tenants may not be able to successfully manufacture their drugs economically, even if such drugs are proven through human clinical trials to be safe and effective in humans.

Marketed products also face commercialization risk, and tenants may never realize projected levels of product utilization or revenues.

Negative news regarding the products, the clinical trials, or other business developments of our tenants may cause their stock price or credit profile to deteriorate.

Changes in technology, patent expiration, and intellectual property protection

Our tenants sell products and services in an industry that is characterized by rapid and significant technological changes, frequent new product and service introductions and enhancements, evolving industry standards, and uncertainty over the implementation of new healthcare reform legislation, which may cause them to lose competitive positions and adversely affect their operations.

Some of our tenants and their licensors require patent, copyright, or trade secret protection to develop, make, market, and sell their products and technologies. A tenant may be unable to commercialize its products or technologies if patents covering such products or technologies are not issued or are successfully challenged, narrowed, invalidated, or circumvented by third parties, or if the tenant fails to obtain licenses to the discoveries of third parties necessary to commercialize its products or technologies.

Many of our tenants depend upon patents to provide exclusive marketing rights for their products. As their product patents expire, competitors of these tenants may be able to legally produce and market products similar to those products of our tenants, which could have a material adverse effect on their sales and results of operations.

We cannot assure our stockholders that our life science industry tenants will be able to develop, make, market, or sell their products and technologies due to the risks inherent in the life science industry. Any life science industry tenant that is unable to avoid, or sufficiently mitigate, the risks described above may have difficulty making rental payments to us or satisfying their other lease obligations to us. Such risks may also decrease the credit quality of our life science industry tenants or cause us to expend more funds and resources on the space leased by these tenants than we originally anticipated. The increased burden on our resources due to adverse developments relating to our life science industry tenants may cause us to achieve lower-than-expected yields on the space leased by these tenants. Negative news relating to our more significant life science industry tenants may also adversely impact our stock price.

Our technology industry tenants are subject to a number of risks unique to their industry, including (i) an uncertain regulatory environment, (ii) rapid technological changes, (iii) a dependency on the maintenance and security of the Internet infrastructure, (iv) significant funding requirements for product research and development, and (v) inadequate intellectual property protections. These risks may adversely affect their ability to make rental payments to us or satisfy their other lease obligations, which in turn may materially adversely affect our business, results of operations, financial condition, and stock price.

Uncertain regulatory environment

Laws and regulations governing the Internet, e-commerce, electronic devices, and other services are evolving. Existing and future laws and regulations and the halting of operations at certain agencies resulting from partial or complete U.S. federal government shutdowns may impede the growth of our technology industry tenants. These laws and regulations may cover, among other areas, taxation, privacy, data protection, pricing, content, copyrights, distribution, mobile communications, business licensing, and consumer protection.

Rapid technological changes

The technology industry is characterized by rapid changes in customer requirements and preferences, frequent new product and service introductions, and the emergence of new industry standards and practices. A failure to respond in a timely manner to these market conditions could materially impair the operations of our technology industry tenants.

Dependency on the maintenance and security of the Internet infrastructure

Some of our tenants depend on continued and unimpeded access to the Internet by users of their products and services, as well as access to mobile networks. Internet service providers and mobile network operators may be able to block, degrade, or charge additional fees to these tenants or users.

The Internet has experienced, and is likely to continue to experience, outages and other delays. These outages and delays, as well as problems caused by cyber attacks and computer malware, viruses, worms, and similar programs, may materially affect the ability of our technology industry tenants to conduct business.

Security breaches or network attacks may delay or interrupt the services provided by our tenants and could harm their reputations or subject them to significant liability.

Significant funding requirements for product research and development

Some of our tenants require significant funding to develop and commercialize their products and technologies, which funding must be obtained from venture capital firms; private investors; the public markets; companies in the technology industry; or federal, state, and local governments. Such funding may become unavailable or difficult to obtain. The ability of each tenant to raise capital will depend on its financial and operating condition, viability of their products, and the overall condition of the financial, banking, governmental budget policies, and economic environment.

Even with sufficient funding, some of our tenants may not be able to discover or identify potential customers or may not be able to create tools or technologies that are commercially useful.

Some of our tenants may not be able to successfully manufacture their products economically.

Marketed products also face commercialization risk, and some of our tenants may never realize projected levels of product utilization or revenues.

Unfavorable news regarding the products or other business developments of our tenants may cause their stock price or credit profile to deteriorate.

Inadequate intellectual property protections

The products and services provided by some of our tenants are subject to the threat of piracy and unauthorized copying, and inadequate intellectual property laws and other inadequate protections could prevent them from enforcing or defending their proprietary technologies. These tenants may also face legal risks arising out of user-generated content.

Trademark, copyright, patent, domain name, trade dress, and trade secret protection is very expensive to maintain and may require our technology industry tenants to incur significant costs to protect their intellectual property rights.

We cannot assure our stockholders that our technology industry tenants will be able to develop, make, market, or sell their products and services due to the risks inherent in the technology industry. Any technology industry tenant that is unable to avoid, or sufficiently mitigate, the risks described above may have difficulty making rental payments to us or satisfying their other lease obligations to us. Such risks may also decrease the credit quality of our technology industry tenants or cause us to expend more funds and resources on the space leased by these tenants than we originally anticipated. The increased burden on our resources due to adverse developments relating to our technology industry tenants may cause us to achieve lower-than-expected yields on the space leased by these tenants. Unfavorable news relating to our more significant technology industry tenants may also adversely impact our stock price.

Government factors

Negative impact on economic growth resulting from the combination of federal income tax policy, debt policy, and government spending may adversely affect our results of operations.

Global macroeconomic conditions affect our tenants' businesses. Instability in the banking and government sectors of the U.S. and/or the negative impact on economic growth resulting from the combination of government tax policy, debt policy, and government spending, may have an adverse effect on the overall economic growth and our future revenue growth and profitability. Volatile, negative, or uncertain economic conditions could undermine business confidence in our significant markets or in other markets and cause our tenants to reduce or defer their spending, which would negatively affect our business. Growth in the markets we serve could be at a slow rate or could stagnate or contract in each case for an extended period of time. Differing economic conditions and patterns of economic growth and contraction in the geographic regions in which we operate and the industries we serve may in the future affect demand for our services. Our revenues and profitability are derived from our tenants in North America, some of which derive significant revenues from their international operations. Ongoing economic volatility and uncertainty affects our business in a number of other ways, including making it more difficult to accurately forecast client demand beyond the short term and to effectively build our revenue and spending plans. Economic volatility and uncertainty are particularly challenging because it may take some time for the effects and resulting changes in demand patterns to

manifest themselves in our business and results of operations. Changing demand patterns from economic volatility and uncertainty could have a significant negative impact on our results of operations. These risks may impact our overall liquidity, our borrowing costs, or the market price of our common stock.

Failure of the U.S. federal government to manage its fiscal matters or to raise or further suspend the debt ceiling, and changes in the amount of federal debt, may negatively impact the economic environment and adversely impact our results of operations.

The Budget Control Act of 2011 provided for a reduction of \$1.1 trillion of U.S. federal government discretionary spending over the succeeding decade (later extended through 2023) through a series of automatic, across-the-board spending cuts known as sequestration. Sequestration went into effect on March 1, 2013, and will remain in effect in the absence of further legislative action.

The U.S. federal government has established a limit on the level of federal debt that the U.S. federal government can have outstanding, often referred to as the debt ceiling. The U.S. Congress has authority to raise or suspend the debt ceiling and to approve the funding of U.S. federal government operations within the debt ceiling, and has done both frequently in the past, often on a relatively short-term basis. Following a three-day partial shutdown of the U.S. federal government in January 2018, the U.S. Congress extended the government funding deadline to February 8, 2018. On February 9, 2018, the U.S. President signed the Bipartisan Budget Act of 2018, which temporarily suspended the statutory debt limit through March 1, 2019. Absent an increase in, or further suspensions to, the debt ceiling subsequent to March 1, 2019, the U.S. federal government may partially or completely shut down and/or default on its existing loans as a result of reaching the debt ceiling. If legislation to increase the debt ceiling is not enacted and the debt ceiling is reached, the federal government may stop or delay making payments on its obligations. A failure by the U.S. Congress to raise the debt limit to the extent necessary would increase the risk of default by the U.S. on its obligations, the risk of a lowering of the credit rating of the U.S. federal government, and the risk of other economic dislocations. If the U.S. government fails to complete its budget process, another federal government shutdown may result. Such a failure, or the perceived risk of such a failure could consequently have a material adverse effect on the financial markets and economic conditions in the U.S. and throughout the world.

An inability of the U.S. federal government to manage its fiscal matters, reduce the duration and scope of sequestration, or manage its debt may result in the loss of economic confidence domestically and globally, reduce investment spending, increase borrowing costs, impact availability and cost of capital, and significantly hinder or reduce economic activity. Furthermore, a failure by the U.S. federal government to enact appropriate fiscal legislation may significantly impact the national and global economic and financial environment and affect our business and the businesses of our tenants. In December 2018, the U.S. Congress failed to enact a budget for the upcoming fiscal year's government operations and the President rejected a stopgap funding bill to fund the government into early 2019, which resulted in a partial government shutdown that began on December 22, 2018. The shutdown affected certain key agencies at the federal government level, resulting in partial closures of operations. The shutdown ended on January 25, 2019, when the President signed a bill to temporarily reopen the government through February 15, 2019, during which further negotiations are expected. If a resolution is not agreed upon, it is possible a second partial government shutdown may occur. If economic conditions severely deteriorate as a result of government fiscal gridlock, our tenants' operations could be adversely affected, which may adversely impact our financial condition and results of operations. These risks may also impact our overall liquidity, our borrowing costs, or the market price of our common stock.

Monetary policy actions by the U.S. Federal Reserve could adversely impact our financial condition and our ability to make distributions to our stockholders.

The U.S. Federal Reserve has been gradually increasing the target range for the federal funds rate. In December 2017, the U.S. Federal Reserve increased the federal funds rate to a range from 1.25% to 1.50%. During each quarter of 2018, the U.S. Federal Reserve increased the federal funds rate by 25 bps per quarter. As of December 31, 2018, the federal funds rate was set at a range from 2.25% to 2.50% and the U.S. Federal Reserve reiterated its intention to continue to raise the federal funds rate over time. The continuing increase in targeted federal funds rate will likely result in an increase in market interest rates, which may increase our interest expense under our unhedged

variable-rate borrowings and the costs of refinancing existing indebtedness or obtaining new debt. In addition, increases in market interest rates may result in a decrease in the value of our real estate and a decrease in the market price of our common stock. Increases in market interest rates may also adversely affect the securities markets generally, which could reduce the market price of our common stock without regard to our operating performance. Any such unfavorable changes to our borrowing costs and stock price could significantly impact our ability to raise new debt and equity capital going forward.

Changes to the U.S. tax laws could have a significant negative impact on the overall economy, our tenants, and our business.

On December 20, 2017, the House of Representatives and the Senate passed a tax reform bill, which the U.S. President signed into law on December 22, 2017 (the “Tax Reform Legislation”). Among other things, the Tax Reform Legislation:

- Restricted the deductibility of interest expense by businesses (generally, to 30% of the business’ adjusted taxable income) except, among others, real property businesses electing out of such restriction; generally, we expect our business to qualify as a real property business, but businesses conducted by our taxable REIT subsidiaries may not qualify;
- Required real property businesses to use the less favorable alternative depreciation system to depreciate real property in the event businesses elect to avoid the interest deduction restriction above;
- Restricted the benefits of like-kind exchanges that defer capital gains for tax purposes to exchanges of real property;
- Required accrual method taxpayers to take certain amounts in income no later than the taxable year in which such income is taken into account as revenue in an applicable financial statement prepared under GAAP, which, with respect to certain leases, could accelerate the inclusion of rental income; and
- Generally allowed a deduction for individuals equal to 20% of certain income from pass-through entities, including ordinary dividends distributed by a REIT (excluding capital gain dividends and qualified dividend income).

Many of the provisions in the Tax Reform Legislation expire at the end of 2025.

The Tax Reform Legislation was a far-reaching and complex revision to the existing U.S. federal income tax laws with disparate and, in some cases, countervailing impacts on different categories of taxpayers and industries and will require subsequent rulemaking and interpretation in a number of areas. As a result, the long-term impact of the Tax Reform Legislation on the overall economy, government revenues, our tenants, us, and the real estate industry cannot be reliably predicted. Furthermore, the Tax Reform Legislation may negatively impact certain of our tenants’ operating results, financial condition, and future business plans. The Tax Reform Legislation may also result in reduced government revenues, and therefore reduced government spending, which may negatively impact some of our tenants that rely on government funding. There can be no assurance that the Tax Reform Legislation will not negatively impact our operating results, financial condition, and future business operations.

Actual and anticipated changes to the regulations of the healthcare system may have a negative impact on the pricing of drugs, the cost of healthcare coverage, and the reimbursement of healthcare services and products.

The FDA and comparable agencies in other jurisdictions directly regulate many critical activities of life science, technology, and healthcare industries, including the conduct of preclinical and clinical studies, product manufacturing, advertising and promotion, product distribution, adverse event reporting, and product risk management. In both domestic and foreign markets, sales of products depend in part on the availability and amount of reimbursement by third-party payers, including governments and private health plans. Governments may regulate coverage, reimbursement, and pricing of products to control cost or affect utilization of products. Private health plans may also seek to manage cost and utilization by implementing coverage and reimbursement limitations. Substantial uncertainty exists regarding the reimbursement by third-party payers of newly approved healthcare products. The U.S. and foreign governments regularly consider reform measures that affect healthcare coverage and costs. Such reforms may include changes to the coverage and reimbursement of healthcare services and products. In particular, there have been recent judicial and Congressional challenges to the Patient Protection and Affordable Care Act of 2010, as amended by the Health Care and Education Reconciliation Act (collectively, the “ACA”), which could have an impact on coverage and reimbursement for healthcare terms and services covered by plans authorized by the ACA. During 2017 several attempts were made to amend the ACA; however, no amendment proposal gained the 50-vote support from the U.S. Senate needed to pass a repeal bill. As a result, in October 2017, The U.S. President issued an Executive Order

“Promoting Healthcare Choice and Competition Across the United States.” We do not know how our tenants will be affected (if at all) by this new executive order. Government and other regulatory oversight and future regulatory and government interference with the healthcare systems may adversely impact our tenants’ businesses and our business.

U.S. government tenants may not receive anticipated appropriations, which could hinder their ability to pay us.

U.S. government tenants are subject to government funding. If one or more of our U.S. government tenants fail to receive anticipated appropriations, we may not be able to collect rental amounts due to us. A significant reduction in federal government spending, particularly a sudden decrease due to the recent tax reform or to a sequestration process, which has occurred in recent years, could also adversely affect the ability of these tenants to fulfill lease obligations or decrease the likelihood that they will renew their leases with us. In addition, recent budgetary pressures have resulted in, and may continue to result in, reduced allocations to government agencies that fund research and development activities, such as the National Institutes of Health (“NIH”). For example, the NIH budget has been, and may continue to be, significantly impacted by the sequestration provisions of the Budget Control Act of 2011, which became effective on March 1, 2013. Past proposals to reduce budget deficits have included reduced NIH and other research and development budgets. Any shift away from the funding of research and development or delays surrounding the approval of government budget proposals may cause our tenants to default on rental payments or delay or forgo leasing our rental space, which could adversely affect our business, financial condition, or results of operations. Additionally, the inability of the U.S. Congress to enact a budget for a fiscal year or the occurrence of partial or complete U.S. federal government shutdowns could adversely impact demand for our services by limiting federal funding available to our tenants and their customers. In addition, defaults under leases with U.S. government tenants are governed by federal statute and not by state eviction or rent deficiency laws. As of December 31, 2018, leases with U.S. government tenants at our properties accounted for approximately 1.5% of our aggregate annual rental revenue in effect as of December 31, 2018.

Some of our tenants may be subject to increasing government price controls and other healthcare cost-containment measures.

Government healthcare cost-containment measures can significantly affect our tenants’ revenue and profitability. In many countries outside the U.S., government agencies strictly control, directly or indirectly, the prices at which our pharmaceutical industry tenants’ products are sold. In a number of European Union (“EU”) Member States, the pricing and/or reimbursement of prescription pharmaceuticals are subject to governmental control, and legislators, policymakers, and healthcare insurance funds continue to propose and implement cost-containing measures to keep healthcare costs down, due in part to the attention being paid to healthcare cost containment and other austerity measures in the EU. In the U.S., our pharmaceutical industry tenants are subject to substantial pricing pressures from state Medicaid programs, private insurance programs, and pharmacy benefit managers. In addition, many state legislative proposals could further negatively affect pricing and/or reimbursement for our pharmaceutical industry tenants’ products. Also, the pricing environment for pharmaceuticals continues to be in the political spotlight in the U.S. Pharmaceutical and medical device product pricing is subject to enhanced government and public scrutiny and calls for reform. Some states have implemented, and other states are considering, pharmaceutical price controls or patient access constraints under the Medicaid program, and some states are considering price-control regimes that would apply to broader segments of their populations who are not Medicaid eligible. We anticipate that pricing pressures from both governments and private payers inside and outside the U.S. will become more severe over time.

Changes in U.S. federal government funding for the FDA, NIH, and other government agencies could hinder their ability to hire and retain key leadership and other personnel, properly administer drug innovation, or prevent new products and services from being developed or commercialized by our life science tenants, which could negatively impact our business.

The ability of the FDA to review and approve new products can be affected by a variety of factors, including budget and funding levels, the ability to hire and retain key personnel, and statutory, regulatory, and policy changes. Average review times at the agency have fluctuated in recent years as a result. In addition, government funding of the NIH and other government agencies that fund research and development activities is subject to the political process, which is inherently fluid and unpredictable.

The ability of the FDA, the NIH, and other government agencies to properly administer their functions is highly dependent on the levels of government funding and the ability to fill key leadership appointments, among various factors. Delays in filling or replacing key positions could significantly impact the ability of the FDA, the NIH, and other agencies to fulfill their functions and could greatly impact healthcare and the drug industry.

In December 2016, the 21st Century Cures Act was signed into law. This legislation is designed to advance medical innovation and empower the FDA with the authority to directly hire positions related to drug and device development and review. In the past, the FDA was often unable to offer key leadership candidates (including scientists) competitive compensation packages as compared to those offered by private industry. The 21st Century Cures Act is designed to streamline the agency's hiring process and enable the FDA to compete for leadership talent by expanding the narrow ranges that are provided in prior compensation structures.

However, any future government proposals to reduce or eliminate budgetary deficits may include reduced allocations to the FDA, the NIH, and other related government agencies. These budgetary pressures may result in a reduced ability by the FDA and the NIH to perform their respective roles and may have a related impact on academic institutions and research laboratories whose funding is fully or partially dependent on both the level and the timing of funding from government sources.

In December 2018, the U.S. Congress failed to enact a budget for the upcoming fiscal year's government operations and the U.S. President rejected a stopgap funding bill to fund the government into early 2019, which resulted in a partial government shutdown that took place from December 22, 2018 through January 25, 2019. During this period, the FDA and certain other science agencies temporarily shut down select non-essential operations. The FDA maintained only operations deemed to be essential public health-related functions and halted the acceptance of new medical product applications and routine regulatory and compliance work for medical products and certain drugs and foods during the shutdown. The shutdown ended on January 25, 2019, when the President signed a bill to temporarily reopen the government through February 15, 2019, during which further negotiations are expected. If a resolution is not agreed upon, it is possible a second partial government shutdown may occur.

Disruptions at the FDA and other agencies, including those caused by the government shutdown, may slow the time necessary for new drugs and devices to be reviewed and/or approved by necessary government agencies and the healthcare and drug industries' ability to deliver new products to the market in a timely manner, which would adversely affect our tenants' operating results and business. Interruptions to the function of the FDA and other government agencies could adversely affect the demand for office/laboratory space and significantly impact our operating results and our business.

Changes in laws and regulations that control drug pricing for government programs may adversely impact our operating results and our business.

The Centers for Medicare & Medicaid Services ("CMS") is the federal agency within the U.S. Department of Health and Human Services that administers the Medicare program and works in partnership with state governments to administer Medicaid. The Medicare Modernization Act of 2003 that went into effect on January 1, 2006 (which also made changes to the public Part C Medicare health plan program), explicitly prohibits government entities from directly negotiating drug prices with manufacturers. Recently, there has been significant public outcry against price increases viewed to be unfair and unwarranted. President Trump has endorsed having government programs such as Medicare bid and negotiate the price of drugs directly with drug companies.

Currently, the outcome of potential reforms and changes to government negotiation/regulation to drug pricing is unknown. Changes in policy that limit prices may reduce the financial incentives for the research and development efforts that lead to discovery and production of new therapies and solutions to life-threatening conditions. Negative impacts of new policies could adversely affect our tenants' businesses, including life science and technology companies, which may reduce the demand for office/laboratory space and negatively impact our operating results and our business.

The provisions of the Dodd-Frank Wall Street Reform and Consumer Protection Act (the "Dodd-Frank Act") may subject us to substantial additional federal regulation and may adversely affect our business, results of operations, cash flows, or financial condition.

There are significant corporate governance- and executive compensation-related provisions in the Dodd-Frank Act that required the SEC to adopt additional rules and regulations in these areas. For example, the Dodd-Frank Act requires publicly traded companies to give stockholders a non-binding vote on executive compensation and so-called "golden parachute" payments. Our efforts to comply with these requirements have resulted in, and are likely to continue to result in, an increase in expenses and a diversion of management's time from other business activities. In addition,

provisions of the Dodd-Frank Act that directly affect other participants in the real estate and capital markets, such as banks, investment funds, and interest rate hedge providers, could have indirect, but material, impacts on our business. The U.S. President has also proposed to repeal certain provisions of the Dodd-Frank Act. Given the uncertainty associated with the Dodd-Frank Act itself and the manner in which its provisions are implemented by various regulatory agencies and through regulations, the full extent of the impact such requirements will have on our future operations is unclear. The provisions of the Dodd-Frank Act may impact the profitability of business activities, require changes to certain business practices, or otherwise adversely affect our business in general.

The ongoing implementation of derivatives regulations could have an adverse impact on our ability to hedge risks associated with our business.

Title VII of the Dodd-Frank Act regulates derivatives transactions, which include certain instruments that we use in our risk management activities. It remains impossible at this time to predict the full effects on our hedging activities of the derivatives-related provisions of the Dodd-Frank Act and rules of the Commodity Futures Trading Commission (“CFTC”) and SEC thereunder, or the timing of such effects. While the CFTC has implemented most of its derivatives-related regulations under the Dodd-Frank Act, it has not yet adopted certain of those regulations. In addition, CFTC Chairman J. Christopher Giancarlo has stated his view that certain existing CFTC regulations for swaps should be revised, including, without limitation, certain CFTC rules pertaining to swaps that are traded on swap execution facilities. The impact of any future new or revised CFTC derivatives regulations, or new or revised CFTC interpretations of existing regulations, is unknown, but they could result in, among other things, increases in the costs to us of swaps and other derivatives contracts, and decreases in the number and/or creditworthiness of available hedge counterparties. Furthermore, at this time the SEC’s regulations for security-based swaps have generally not yet been implemented and their potential impact on our ability to hedge risks cannot yet be known.

In addition, we may enter into hedging transactions with counterparties based in the EU, Canada, or other jurisdictions which, like the U.S., are in the process of implementing regulations for derivatives. Non-U.S. regulations may apply to such derivatives transactions. The potential impact of such non-U.S. regulations is not fully known and may include, among other things, increased costs for our hedging transactions.

Global factors

A global financial crisis, high structural unemployment levels, and other events or circumstances beyond our control may adversely affect our industry, business, results of operations, contractual commitments, and access to capital.

What began initially in 2007 and 2008 as a “subprime” mortgage crisis turned into an extraordinary U.S. and worldwide structural economic and financial crisis, coupled with the rapid decline of the consumer economy. From 2008 through 2010, significant concerns over energy costs, geopolitical issues, the availability and cost of credit, the U.S. mortgage market, and a declining real estate market in the U.S. contributed to increased volatility, diminished expectations for the economy and the markets, and high levels of structural unemployment by historical standards. These factors, combined with volatile oil prices and fluctuating business and consumer confidence, precipitated a steep economic decline. From 2011 through 2018, the U.S. economy showed significant signs of improvement, but other economies around the world, including Latin America, continue to demonstrate sluggish, stagnant, or slowing growth. Further, severe financial and structural strains on the banking and financial systems have led to significant lack of trust and confidence in the global credit and financial system. Consumers and money managers have liquidated and may liquidate equity investments, and consumers and banks have held and may hold cash and other lower-risk investments, which has resulted in significant and, in some cases, catastrophic declines in the equity capitalization of companies and failures of financial institutions. Although U.S. bank earnings and liquidity are on the rebound, the potential of significant future bank credit losses creates uncertainty for the lending outlook.

Further downgrades of the U.S. government’s sovereign credit rating and an economic crisis in Europe could negatively impact our liquidity, financial condition, and earnings.

Previous U.S. debt ceiling and budget deficit concerns, together with sovereign debt conditions in Europe, have increased the possibility of additional downgrades of sovereign credit ratings and economic slowdowns. There is no guarantee that future debt ceiling or federal spending legislation will not fail.

Standard & Poor’s Ratings Services lowered its long-term sovereign credit rating on the U.S. from “AAA” to “AA+” in August 2011. Although Standard & Poor’s Ratings Services maintains a stable outlook on the U.S. credit rating, further

fiscal impasses within the federal government may result in future downgrades. The impact of any further downgrades to the U.S. government's sovereign credit rating, or its perceived creditworthiness, is inherently unpredictable and could adversely affect the U.S. and global financial markets and economic conditions.

In addition, certain European nations experienced in the recent past varying degrees of financial stress, including Greece, Ireland, Italy, Portugal, and Spain. Although these economies are continuing to recover or have already gone through a gradual recovery, we do not know whether the economic growth will be slowed by the prospect of Brexit or whether the prior sovereign financial difficulties within the EU governments will reemerge with a higher degree of negative impact to the financial markets. Market concerns over the direct and indirect exposure of European banks and insurers to these EU peripheral nations have resulted in a widening of credit spreads and increased costs of funding for some EU financial institutions. There can be no assurance that government or other measures to aid economic recovery will be effective.

These developments, and concerns over the U.S. government's fiscal policies in general, could cause interest rates and borrowing costs to rise, which may negatively impact our ability to access the debt markets on favorable terms. In addition, the lowered credit rating could create broader financial turmoil and uncertainty, which may exert downward pressure on the market price of our common stock. Continued adverse economic conditions could have a material adverse effect on our business, financial condition, and results of operations.

Financial volatility and geopolitical instability outside of the U.S. may adversely impact the U.S. and global economies.

During 2018, global growth weakened, trade tensions heightened, and several developing economies, most notably Argentina and Turkey, experienced financial trouble, soaring inflation and interest rates, and a significant depreciation of local currencies. Economies of developing countries like Venezuela remain in a long-term crisis with current political turmoil exacerbating their economic problems and rendering a bleak near-term outlook. Policies of advanced economies have a profound effect on emerging markets and ramifications of any trade war involving an advanced economy, like of that between the U.S. and China, could further contribute to the adverse economic and political conditions of emerging and other developed economies. In addition, there are ongoing security concerns about North Korea's nuclear weapons and ballistic missile capabilities, uncertainty regarding North Korea's actions, its relations with the U.S. and the international community in general, which have created a global security issue that may adversely affect international business and economic conditions.

It is not possible to predict to what extent regional economic and political instability of emerging economies or trade conflicts may negatively impact other developing or developed economies around the world, including the U.S. If these macroeconomic and political issues are not managed appropriately, they could lead to currency devaluation, sovereign debt increases, banking crises, and other financial and political turmoil and uncertainty. Continued adverse economic conditions could have a material adverse effect on our business, financial condition, and results of operations.

We are subject to risks from potential fluctuations in exchange rates between the U.S. dollar and foreign currencies.

We have properties and operations in countries where the U.S. dollar is not the local currency, and we thus are subject to international currency risk from the potential fluctuations in exchange rates between the U.S. dollar and the local currency. In particular, a significant decrease or volatility in the value of the Canadian dollar or other currencies in countries where we may have an investment could materially affect our results of operations. We may attempt to mitigate such effects by borrowing in the local foreign currency in which we invest. Any international currency gain recognized with respect to changes in exchange rates may not qualify under gross income tests that we must satisfy annually in order to qualify and maintain our status as a REIT.

Changes in the method of determining LIBOR, or the replacement of LIBOR with an alternative reference rate, may adversely affect interest expense related to outstanding debt.

We hold certain instruments in our debt profile in which interest rates move in direct relation to LIBOR, depending on our selection of borrowing options. Beginning in 2008, concerns have been raised that some of the member banks surveyed by the BBA in connection with the calculation of daily LIBOR across a range of maturities and currencies may have underreported, overreported, or otherwise manipulated the interbank lending rate applicable to them in order to profit on their derivatives positions or to avoid an appearance of capital insufficiency or adverse reputational or other consequences that might have resulted from reporting interbank lending rates higher than those they actually submitted. A number of BBA member banks have entered into settlements with their regulators and law enforcement agencies with respect to alleged manipulation of LIBOR, and investigations have been instigated by regulators and government authorities in various jurisdictions. Other member banks may also enter into such settlements with, or

have proceedings brought by, their regulators or law enforcement agencies in the future. If manipulation of LIBOR occurred, it may have resulted in LIBOR having been artificially lower (or higher) than it would otherwise have been. Any such manipulation could have occurred over a substantial period of time.

On September 28, 2012, British regulators published a report on the review of LIBOR. The report concluded that LIBOR should be retained as a benchmark but recommended a comprehensive reform of LIBOR, including replacing the BBA with a new independent administrator of LIBOR. Based on this report, final rules for the regulation and supervision of LIBOR by the Financial Conduct Authority (“FCA”) were published and came into effect on April 2, 2013 (the “FCA Rules”). In particular, the FCA Rules include requirements that (i) an independent LIBOR administrator monitor and survey LIBOR submissions to identify breaches of practice standards and/or potentially manipulative behavior and (ii) firms submitting data to LIBOR establish and maintain a clear conflict-of-interest policy and appropriate systems and controls. In response, ICE Benchmark Administration Limited (“IBA”) was appointed as the independent LIBOR administrator, effective in early 2014. It is not possible to predict the effect of the FCA Rules,

any changes in the methods pursuant to which LIBOR is determined, the administration of LIBOR by IBA, and any other reforms to LIBOR that will be enacted in the United Kingdom and elsewhere. In addition, any changes announced by the FCA, the BBA, IBA, or any other successor governance or oversight body, or future changes adopted by such body, in the method pursuant to which LIBOR is determined, as well as manipulative practices or the cessation thereof, may result in a sudden or prolonged increase or decrease in reported LIBOR, which could have an adverse impact on the level of the index. Fluctuation or discontinuation of LIBOR would affect our interest expense and earnings and the fair value of certain of our financial instruments. We rely on interest rate hedge agreements to mitigate our exposure to such interest rate risk on a portion of our debt obligations. However, there is no assurance these arrangements will be effective in reducing our exposure to changes in interest rates.

In addition, in November 2014, the U.S. Federal Reserve established a working group composed of large U.S. financial institutions, the Alternative Reference Rates Committee (“ARRC”), to identify a set of alternative interest reference rates to LIBOR. In a May 2016 interim report, the ARRC narrowed its choice to two LIBOR alternatives. The first choice was the Overnight Bank Funding Rate (“OBFR”), which consists of domestic and foreign unsecured borrowing in U.S. dollars. The U.S. Federal Reserve has been calculating and publishing the OBFR since March 2016. The second alternative rate to LIBOR was the Treasury General Collateral Rate, which is composed of repo transactions secured by treasuries or other assets accepted as collateral by the majority of intermediaries in the repo market.

In June 2017, the ARRC selected the Secured Overnight Financing Rate (“SOFR”), a new index calculated by reference to short-term repurchase agreements backed by Treasury securities, as its preferred replacement for U.S. dollar LIBOR. SOFR is observed and backward looking, which stands in contrast to LIBOR under the current methodology, which is an estimated forward-looking rate and relies, to some degree, on the expert judgment of submitting panel members. Given that SOFR is a secured rate backed by government securities, it does not take into account bank credit risk (as is the case with LIBOR). SOFR is therefore likely to be lower than LIBOR and is less likely to correlate with the funding costs of financial institutions. The first publication of SOFR was released by the Federal Reserve Bank of New York in April 2018. Although daily pricing resets for SOFR have been noted to be more volatile than that of LIBOR, especially at month end, there is no sufficient evidence to establish how SOFR volatility compares to that of LIBOR. Whether or not SOFR attains market acceptance as a LIBOR replacement tool remains in question. As such, the future of LIBOR and potential alternatives at this time remains uncertain.

On July 27, 2017, the FCA announced that it would phase out LIBOR as a benchmark by the end of 2021. It is unclear whether new methods of calculating LIBOR will be established such that it continues to exist after 2021. When LIBOR ceases to exist, we may need to amend the credit and loan agreements with our lenders that utilize LIBOR as a factor in determining the interest rate based on a new standard that is established, if any. The transition to an alternative rate will require careful and deliberate consideration and implementation so as to not disrupt the stability of financial markets. There is no guarantee that a transition from LIBOR to an alternative will not result in financial market disruptions, significant increases in benchmark rates, or borrowing costs to borrowers, any of which could have an adverse effect on our business, results of operations, financial condition, and stock price.

New rules from the SEC that govern money market funds may significantly impact the volatility of LIBOR interest rates.

On July 23, 2014, the SEC adopted rules to make structural and operational reforms to address risks of investor runs in money market funds. These changes affect prime money market funds, which invest in corporate debt securities, differently than they do government money market funds, which invest in securities that are collateralized solely by government securities. The rules require a floating net asset value for institutional prime money market funds and also allow the funds to impose liquidity fees and redemption gates to further prevent large-scale investor runs. The rules provided for a two-year transition period that expired on October 15, 2016. In anticipation of this change, a substantial amount of assets across the broader market previously invested in prime money market funds had been moved to

government money market funds, causing a reduction in the availability of bank unsecured funding for European and non-U.S. banks. Government money market funds are not available to foreign banks for their dollar-funding needs. As the transition deadline neared and passed, a supply-and-demand mismatch for dollar funds emerged from foreign banks, causing LIBOR to increase significantly. There can be no assurance that LIBOR will stabilize subsequent to the transition period for these new regulations or whether there will be continued pressure on LIBOR or significant volatility in LIBOR. Any volatility in LIBOR would affect our interest expense and earnings and the fair value of certain of our financial instruments. We rely on interest rate hedge agreements to mitigate our exposure to such interest rate risk on a portion of our debt obligations. However, there is no assurance these arrangements will be effective in reducing our exposure to fluctuations in interest rates.

Adoption of the Basel III standards and other regulatory standards affecting financial institutions may negatively impact our access to financing or affect the terms of our future financing arrangements.

In response to various financial crises and the volatility of financial markets, the Basel Committee on Banking Supervision (the “Basel Committee”) adopted the Basel III regulatory capital framework (“Basel III” or the “Basel III Standards”). The final package of Basel III reforms was approved by the G20 leaders in November 2010. In January 2013, the Basel Committee agreed to delay implementation of the Basel III Standards and expanded the scope of assets permitted to be included in certain banks’ liquidity measurements. U.S. banking regulators have elected to implement substantially all of the Basel III Standards, with implementation of Basel III commencing in 2014 and scheduled to be incrementally implemented through 2019.

Since approving the Basel III Standards, U.S. regulators have also issued rules that impose upon the most systemically significant banking organizations in the U.S. supplementary leverage ratio standards (the “SLR Standards”) more stringent than those of the Basel III Standards. In addition, the Federal Reserve Board has adopted a final rule that establishes a methodology to identify whether a U.S. bank holding company is a global systemically important banking organization (“GSIB”). Any firm identified as a GSIB would be subject to a risk-based capital surcharge that is calibrated based on its systemic risk profile. Under the final rule, the capital surcharge began phasing in on January 1, 2016, and will become fully effective on January 1, 2019.

On September 3, 2014, U.S. banking regulators issued a final rule to implement the Basel Committee’s liquidity coverage ratio (the “LCR”) in the U.S. (the “LCR Final Rule”). The LCR is intended to promote the short-term resilience of internationally active banking organizations to improve the banking industry’s ability to absorb shocks arising from idiosyncratic or market stress, and to improve the measurement and management of liquidity risk. The LCR Final Rule contains requirements that are in certain respects more stringent than the Basel Committee’s LCR. The LCR measures an institution’s high-quality liquid assets against its net cash outflows. Under the LCR Final Rule, the LCR began phasing in on January 1, 2015, at 80%, with full implementation beginning on January 1, 2017.

U.S. regulators have also issued and proposed rules that impose additional restrictions on the business activities of financial institutions, including their trading and investment activities. For example, in December 2013, U.S. regulators adopted a final rule implementing a section of the Dodd-Frank Act that has become known as the “Volcker Rule.” The Volcker Rule generally prohibits certain U.S. and foreign financial institutions from investing in or sponsoring “covered funds,” which include private equity funds or hedge funds and certain other proprietary activities. The effects of the Volcker Rule are uncertain, but it is in any event likely to curtail various banking activities, which in turn could result in uncertainties in the financial markets.

The implementation of the Basel III Standards, the SLR Standards, the GSIB capital surcharge, the LCR Final Rule, the Volcker Rule, and other similar rules and regulations could cause an increase in capital requirements for, and place other financial constraints on, both U.S. and foreign financial institutions from which we borrow, which may negatively impact our access to financing or affect the terms of our future financing arrangements.

Significant developments stemming from the recent U.S. presidential election or the U.K.’s referendum on membership in the EU could have a material adverse effect on us.

On January 20, 2017, Donald J. Trump was inaugurated as the president of the U.S. As a presidential candidate, Mr. Trump expressed apprehension toward existing trade agreements, such as the North American Free Trade Agreement, and has imposed significant increases on tariffs on goods imported into the U.S., particularly from China, Mexico, and Canada. Mr. Trump has also spearheaded significant efforts to repeal and replace the ACA, and government negotiation/regulation of drug prices paid by government programs. Any changes in U.S. social, political, regulatory and economic conditions or laws and policies governing the health care system and drug prices, foreign trade, manufacturing, and development and investment in the territories and countries where we or our tenants operate could

adversely affect our operating results and our business.

According to a consensus of all U.S. government intelligence agencies, state-sponsored Russian operatives interfered with the recent U.S. presidential election of 2016. In May 2017, a special counsel was appointed to investigate this matter and to determine whether the Trump campaign or any individuals associated with such campaign colluded with the Russians. The mandate of the special counsel allows this investigation to scrutinize other areas that may be related to the Russian interference. At least four Congressional committees are also investigating this matter and have interviewed witnesses in both open and closed sessions in order to determine the extent of the Russian meddling in the U.S. election, the vulnerability of the U.S. election system to future attacks by Russian or other state operatives, and the extent, if any, to which Mr. Trump and his campaign colluded with the Russian government in order to mislead the American electorate. As these investigations proceed and the facts become clearer to the American people and the capital markets, it is uncertain the extent to which this will affect economic conditions or distract Congress from other endeavors.

Additionally, on June 23, 2016, the U.K. held a referendum and voted in favor of leaving the EU (known as “Brexit”). The U.K. government initiated the official EU withdrawal process on March 29, 2017, and the exit from the EU is expected to occur by the end of March 2019. However, the Prime Minister has had difficulty negotiating and passing a withdrawal agreement through the members of Parliament. If an agreement can be passed by March 29, 2019, there will be a transition period through December 2020 to allow for businesses and individuals to adjust to its changes. Otherwise, the U.K. must leave the EU without an agreement or transition period in place. This Brexit decision has created political and economic uncertainty, particularly in the U.K. and the EU, and this uncertainty may last for years. Our business could be affected during this period of uncertainty, and perhaps longer, by the impact of the U.K. referendum. In addition, our business could be negatively affected by new trade agreements between the U.K. and other countries, including the U.S., and by the possible imposition of trade or other regulatory barriers in the U.K. These possible negative impacts, and others resulting from the U.K.’s actual or threatened withdrawal from the EU, may adversely affect our operating results and our tenants’ businesses.

Other factors

Changes in laws, regulations, and financial accounting standards may adversely affect our reported results of operations.

As a response, in large part, to perceived abuses and deficiencies in current regulations believed to have caused or exacerbated the recent global financial crisis, legislative, regulatory, and accounting standard-setting bodies around the world are engaged in an intensive, wide-ranging examination and rewriting of the laws, regulations, and accounting standards that have constituted the basic playing field of global and domestic business for several decades. In many jurisdictions, including the U.S., the legislative and regulatory response has included the extensive reorganization of existing regulatory and rule-making agencies and organizations, and the establishment of new agencies with broad powers. This reorganization has disturbed longstanding regulatory and industry relationships and established procedures.

The rule-making and administrative efforts have focused principally on the areas perceived as having contributed to the financial crisis, including banking, investment banking, securities regulation, and real estate finance, with spillover impacts on many other areas. These initiatives have created a degree of uncertainty regarding the basic rules governing the real estate industry, and many other businesses, that is unprecedented in the U.S. at least since the wave of lawmaking, regulatory reform, and government reorganization that followed the Great Depression.

The global financial crisis and the aggressive reaction of the government and accounting profession thereto have occurred against a backdrop of increasing globalization and internationalization of financial and securities regulation that began prior to the recent financial crisis. As a result of this ongoing trend, financial and investment activities previously regulated almost exclusively at a local or national level are increasingly being regulated, or at least coordinated, on an international basis, with national rule-making and standard-setting groups relinquishing varying degrees of local and national control to achieve more uniform regulation and reduce the ability of market participants to engage in regulatory arbitrage between jurisdictions. This globalization trend has continued, arguably with an increased sense of urgency and importance, since the financial crisis.

This high degree of regulatory uncertainty, coupled with considerable additional uncertainty regarding the underlying condition and prospects of global, domestic, and local economies, has created a business environment that makes business planning and projections even more uncertain than is ordinarily the case for businesses in the financial and real estate sectors.

In the commercial real estate sector in which we operate, the uncertainties posed by various initiatives of accounting standard-setting authorities to fundamentally rewrite major bodies of accounting literature constitute a significant

source of uncertainty as to the basic rules of business engagement. Changes in accounting standards and requirements, including the potential requirement that U.S. public companies prepare financial statements in accordance with international accounting standards, proposed lease standards, and the adoption of accounting standards likely to require the increased use of “fair value” measures, may have a significant effect on our financial results and on the results of our tenants, which would in turn have a secondary impact on us. New accounting pronouncements and interpretations of existing pronouncements are likely to continue to occur at an accelerated pace as a result of recent Congressional and regulatory actions and continuing efforts by the accounting profession itself to reform and modernize its principles and procedures.

Although we have not been as directly affected by the wave of new legislation and regulation as banks and investment banks, we may also be adversely affected by new or amended laws or regulations; by changes in federal, state, or foreign tax laws and regulations; and by changes in the interpretation or enforcement of existing laws and regulations. In the U.S., the financial crisis and continuing economic slowdown prompted a variety of legislative, regulatory, and accounting profession responses.

The federal legislative response culminated in the enactment on July 21, 2010, of the Dodd-Frank Act. The Dodd-Frank Act contains far-reaching provisions that substantially revise, or provide for the revision of, longstanding, fundamental rules governing the banking and investment banking industries and provide for the broad restructuring of the regulatory authorities in these areas. The Dodd-Frank Act has resulted in, and is expected to continue to result in, profound changes in the ground rules for financial business activities in the U.S.

To a large degree, the impacts of the legislative, regulatory, and accounting reforms to date are still not clear. Many of the provisions of the Dodd-Frank Act have extended implementation periods and delayed effective dates and will require extensive rule making by regulatory authorities. While we do not currently expect the Dodd-Frank Act to have a significant impact on our business activities, the Dodd-Frank Act's impact on us may not be known for an extended period of time. The Dodd-Frank Act, including current and future rules implementing its provisions and the interpretation of those rules, along with other legislative and regulatory proposals directed at the financial or real estate industry or affecting taxation that are proposed or pending in the U.S. Congress, may limit our revenues, impose fees or taxes on us, and/or intensify the regulatory framework within which we operate in ways that are not currently identifiable. The Dodd-Frank Act also has resulted in, and is expected to continue to result in, substantial changes and dislocations in the banking industry and the financial services sector in ways that could have significant effects on, for example, the availability and pricing of unsecured credit, commercial mortgage credit, and derivatives, such as interest rate swaps, which are important aspects of our business. Accordingly, new laws, regulations, and accounting standards, as well as changes to, or new interpretations of, currently accepted accounting practices in the real estate industry, may adversely affect our results of operations.

We may incur significant costs if we fail to comply with laws or if laws change.

Our properties are subject to many federal, state, and local regulatory requirements and to state and local fire, life-safety, and other requirements. If we do not comply with all of these requirements, we may have to pay fines to government authorities or damage awards to private litigants. We do not know whether these requirements will change or whether new requirements will be imposed. Changes in these regulatory requirements could require us to make significant unanticipated expenditures. These expenditures could have an adverse effect on us and our ability to make distributions to our stockholders.

For example, the California Safe Drinking Water and Toxic Enforcement Act, also referred to as Proposition 65, requires "clear and reasonable" warnings be given to persons who are exposed to chemicals known to the State of California to cause cancer or reproductive toxicity. We believe that we comply with Proposition 65 requirements; however, there can be no assurance that we will not be adversely affected by litigation or regulatory enforcement relating to Proposition 65. In addition, there can be no assurance that the costs of compliance with new environmental laws and regulations will not be significant or will not adversely affect our ability to meet our financial expectations, our financial condition, results of operations, and cash flows.

We may incur significant costs in complying with the Americans with Disabilities Act and similar laws.

Under the ADA, places of public accommodation and/or commercial facilities must meet federal requirements related to access and use by disabled persons. We may be required to make substantial capital expenditures at our properties to comply with this law. In addition, non-compliance could result in the imposition of fines or an award of damages to private litigants.

A number of additional federal, state, and local laws and regulations exist regarding access by disabled persons. These regulations may require modifications to our properties or may affect future renovations. These expenditures may have an adverse impact on overall returns on our investments.

We face possible risks associated with the physical effects of climate change.

We cannot predict the rate at which climate change will progress. However, the physical effects of climate change could have a material adverse effect on our properties, operations, and business. For example, most of our properties are located along the east and west coasts of the U.S. To the extent that climate change impacts changes in weather patterns, our markets could experience increases in storm intensity and rising sea levels. Over time, these conditions could result in declining demand for space at our properties or in our inability to operate the buildings at all. Climate change may also have indirect effects on our business by increasing the cost of, or decreasing the availability of, property insurance on terms we find acceptable, by increasing the cost of energy, and by increasing the cost of snow removal at our properties. There can be no assurance that climate change will not have a material adverse effect on our properties, operations, or business.

We may incur significant costs in complying with environmental laws.

Federal, state, and local environmental laws and regulations may require us, as a current or prior owner or operator of real estate, to investigate and clean up hazardous or toxic substances or petroleum products released at or from any of our properties. The cost of investigating and cleaning up contamination could be substantial and could exceed the amount of any insurance coverage available to us. In addition, the presence of contamination, or the failure to properly clean it up, may adversely affect our ability to lease or sell an affected property, or to borrow funds using that property as collateral.

Under environmental laws and regulations, we may have to pay government entities or third parties for property damage and for investigation and cleanup costs incurred by those parties relating to contaminated properties regardless of whether we knew of or caused the contamination. Even if more than one party was responsible for the contamination, we may be held responsible for all of the cleanup costs. In addition, third parties may sue us for damages and costs resulting from environmental contamination, or jointly responsible parties may contest their responsibility or be financially unable to pay their share of such costs.

Environmental laws also govern the presence, maintenance, and removal of asbestos-containing building materials. These laws may impose fines and penalties on us for the release of asbestos-containing building materials and may allow third parties to seek recovery from us for personal injury from exposure to asbestos fibers. We have detected asbestos-containing building materials at some of our properties, but we do not expect that they will result in material environmental costs or liabilities for us.

Environmental laws and regulations also require the removal or upgrading of certain underground storage tanks and regulate:

- The discharge of stormwater, wastewater, and any water pollutants;
- The emission of air pollutants;
- The generation, management, and disposal of hazardous or toxic chemicals, substances, or wastes; and
- Workplace health and safety.

Many of our tenants routinely handle hazardous substances and wastes as part of their operations at our properties. Environmental laws and regulations subject our tenants, and potentially us, to liability resulting from these activities. Environmental liabilities could also affect a tenant's ability to make rental payments to us. We require our tenants to comply with these environmental laws and regulations and to indemnify us against any related liabilities.

Independent environmental consultants have conducted Phase I or similar environmental assessments at our properties. We intend to use consultants to conduct similar environmental assessments on our future acquisitions. This type of assessment generally includes a site inspection, interviews, and a public records review, but no subsurface sampling. These assessments and certain additional investigations of our properties have not to date revealed any environmental liability that we believe would have a material adverse effect on our business, assets, or results of operations.

Additional investigations have included, as appropriate:

- Asbestos surveys;
- Radon surveys;
- Lead-based paint surveys;
- Mold surveys;
- Additional public records review;

Subsurface sampling; and
Other testing.

Nevertheless, it is possible that the assessments on our current properties have not revealed, and that assessments on future acquisitions will not reveal, all environmental liabilities. Consequently, there may be material environmental liabilities of which we are unaware that may result in substantial costs to us or our tenants and that could have a material adverse effect on our business.

Environmental, health or safety matters are subject to evolving regulatory requirements. Costs and capital expenditures relating to the evolving requirements depend on the timing of the promulgation and enforcement of new standards. Due to concern over the risks of climate change, a more restrictive regulatory framework to reduce greenhouse gas pollution might be implemented, including the adoption of carbon taxes, restrictive permitting, and increased efficiency standards. These requirements could make our operations more expensive and lengthen our project times. The costs of complying with evolving regulatory requirements, including greenhouse gas regulations and policies, could negatively impact our financial results. Moreover, changes in environmental

regulations could inhibit or interrupt our operations, or require modifications to our facilities. Accordingly, environmental, health or safety regulatory matters could result in significant unanticipated costs or liabilities and could have a material adverse effect on our business, financial condition, results of operations, cash flows, and the market price of our common stock.

We may be unable to meet our sustainability goals.

We seek to make a positive and meaningful impact on the health, safety, and well-being of our tenants, stockholders, employees, and the communities in which we live and work. In support of these efforts, we set specific sustainability goals to reduce the environmental impact of buildings in operation and for new ground-up construction projects. There are significant risks that may prevent us from achieving these goals, including the possibility that:

• Change in market conditions may affect our ability to deploy capital for projects that reduce energy consumption, greenhouse gas pollution and potable water consumption, and provide waste savings.

• Our tenants might be unwilling or unable to accept potential incremental expenses associated with our sustainability programs, including expenses to comply with requirements stipulated under building certification standards such as LEED, WELL, and Fitwel.

The realization of any of the above risks could significantly impact our reputation, our ability to continue developing properties in markets where high levels of LEED certification contribute to our efforts to obtain building permits and entitlements, and our ability to attract tenants who include LEED certification among their priorities when selecting a location to lease.

We may invest or spend the net proceeds from the offering of our unsecured senior notes payable due in 2024 in ways with which investors may not agree and in ways that may not earn a profit.

The net proceeds from the offering of our unsecured senior notes payable due in 2024 (“the 2024 notes”) will be used to fund, in whole or in part, Eligible Green Projects (as defined below), including the development and redevelopment of such projects. The net proceeds from this offering were initially used to reduce the outstanding balance on our unsecured senior line of credit. We then allocated the funds to recently completed and future Eligible Green Projects.

There can be no assurance that the projects funded with the proceeds from the 2024 notes will meet investor criteria and expectations regarding environmental impact and sustainability performance. In particular, no assurance is given that the use of such proceeds for any Eligible Green Projects will satisfy, whether in whole or in part, any present or future investor expectations or requirements as regards any investment criteria or guidelines with which such investor or its investments are required to comply, whether by any present or future applicable law or regulations or by its own bylaws or other governing rules or investment portfolio mandates (in particular with regard to any direct or indirect environmental, sustainability or social impact of any projects or uses, the subject of or related to, the relevant Eligible Green Projects). Adverse environmental or social impacts may occur during the design, construction and operation of the projects or the projects may become controversial or criticized by activist groups or other stakeholders. In addition, although we will limit the use of proceeds from the 2024 notes to Eligible Green Projects, there can be no assurance that one or more development, redevelopment and tenant improvement projects that we expect will receive a LEED certification will actually receive such certification.

“Eligible Green Projects” are defined as:

• New class A development properties that have received or are expected to receive Gold or Platinum LEED certification;

• Existing class A redevelopment properties that have received or are expected to receive Gold or Platinum LEED certification; and

• Tenant improvements that have received or are expected to receive Gold or Platinum LEED certification.

Eligible Green Projects include projects with disbursements made in the three years preceding the issue date of the 2024 notes. We intend to spend the remaining net proceeds from the sale of the 2024 notes within two years following issuance of the 2024 notes. LEED is a voluntary, third party building certification process developed by the U.S. Green Building Council (“USGBC”), a non-profit organization. The USGBC developed the LEED certification process to (i) evaluate the environmental performance from a whole-building perspective over a building’s life cycle, (ii) provide a definitive standard for what constitutes a “green building,” (iii) enhance environmental awareness among architects and building contractors, and (iv) encourage the design and construction of energy-efficient, water-conserving buildings that use sustainable or green resources and materials.

Changes in U.S. accounting standards may adversely impact us.

The regulatory boards and government agencies that determine financial accounting standards and disclosures in the U.S., which include the FASB and the IASB (collectively, the “Boards”) and the SEC, continually change and update the financial accounting standards we must follow.

In February 2016, the Boards issued an ASU that changes certain aspects of accounting for leases for both lessees and lessors. Since then, several additional ASUs have been issued to clarify implementation issues, which became effective for us on January 1, 2019. These ASUs could have a material effect on our financial condition or results of operations, which in turn could also significantly impact the market price of our common stock. Such potential impacts include, without limitation:

- Significant changes to our balance sheet relating to the recognition of operating leases as assets or liabilities based on existing lease terms and whether we are the lessor or lessee;

- Significant changes in the timing of revenue recognition (related to lease arrangements in which we are the lessor) or expense recognition (related to the lease arrangements in which we are the lessee) stemming from the potential classification of financing or sales-type leases under the new ASU, for leases that are classified as operating leases under the current accounting standards;

- Significant fluctuations in our reported results of operations, including an increase in our expenses related to amortization of new lease-related assets and/or liabilities and assumed interest costs with leases;

- Significant fluctuations in our reported results of operations, including an increase in our general and administrative expenses related to payroll costs, legal costs, and other out-of-pocket costs incurred as part of the leasing process prior to the execution of a lease that no longer qualifies for capitalization as initial direct costs and instead are expensed as incurred; and

- Significant fluctuations in our reported results of operations that may result from the classification of future ground leases as finance leases rather than operating leases. Prior to January 1, 2019, the effective date of the new lease ASUs, all ground leases were accounted for as operating leases, with ground lease payments straight-lined over the term of the ground lease. Under the new lease accounting, ground leases can qualify for classification as finance leases, which are recognized in operating results using an effective interest method. The classification of ground leases as operating leases or finance leases may result in different timing of expense recognition over the term of the ground leases.

In addition, the new accounting updates could make leasing/re-leasing of our space less attractive to our potential and current tenants, which could reduce overall occupancy of our properties. Under the lease guidance effective prior to January 1, 2019, our tenants did not reflect operating leases with us as a liability on their balance sheets, but only provided a disclosure of future minimum payments associated with the operating lease in the footnotes to their financial statements. The new lease standard will require that lessees record on their balance sheets their rights and obligations pertaining to operating leases with a term of over 12 months. Changes in lease accounting standards could potentially impact the structure and terms of future leases since our tenants may seek to limit lease terms to avoid recognizing lease obligations in their financial statements. The new rules may also make lease renewal options less attractive because, under certain circumstances, the rules will require a tenant to assume that a renewal right will be exercised and accrue a liability relating to the longer lease term. Shorter lease terms and a reduction in RSF leased may lead to reduction in occupancy rates and decline in rental revenue, which would have an adverse effect on our results of operations.

Furthermore, in January 2016, the FASB issued an ASU that amended the accounting for certain equity investments. The update became effective for us on January 1, 2018. The core principle of the ASU involves the measurement of equity investments at fair value and the recognition of changes in fair value of those investments during each reporting period in net income. This ASU increased the volatility of our earnings during the year ended December 31, 2018, and is expected to continue introducing volatility to our results of operations, as a result of new guidance requiring us to

immediately recognize in net income (i) unrealized gains and losses on our equity investments and (ii) impairments deemed not to be other than temporary under the previous guidance. The increased volatility of our earnings could adversely affect investors and analysts' ability to form reliable expectations of our future performance, which could negatively impact analysts' "buy," "sell," or "hold" recommendations for our common stock. Therefore, our share price could be negatively affected by causes beyond our control.

Any difficulties in the implementation of changes in accounting principles, particularly for the new leases ASUs, including the ability to modify our accounting systems and to update our policies, procedures, information systems, and internal controls over financial reporting, could result in materially inaccurate financial statements, which in turn could harm our operating results or cause us to fail to meet our reporting obligations. Significant changes in the new lease ASUs could cause fluctuations in revenue and expense recognition and materially affect our results of operations. We also anticipate an increase to our general and administrative

expenses resulting from the expensing of initial direct costs that no longer qualify for capitalization. This could adversely affect our reported results of operations, profitability, and financial statements. Additionally, the adoption of new accounting standards could also affect the calculation of our debt covenants. It cannot be assured that we will be able to work with our lenders to successfully amend our debt covenants in response to changes in accounting standards.

Changes in the system for establishing U.S. accounting standards may result in adverse fluctuations in our reported asset and liability values and earnings and may materially and adversely affect our reported results of operations.

In December 2018, the U.S. Congress failed to enact a budget for the upcoming fiscal year's government operations and the President rejected a stopgap funding bill to fund the government into early 2019, which resulted in a partial government shutdown that took place from December 22, 2018 to January 25, 2019. The shutdown ended on January 25, 2019, when the President signed a bill to temporarily reopen the government through February 15, 2019, during which further negotiations are expected. If a resolution is not agreed upon, it is possible a second partial government shutdown may occur. The shutdown had affected certain key agencies at the federal government level, including the SEC, which closed partial non-essential operations. The SEC operated limited functions to address emergency situations involving market integrity and investor protection. However, it suspended key functions, such as those related to enforcement actions and review of applications for initial public offerings. The closure, and future closures, of the SEC could result in uncertainty regarding regulatory actions, issuance of new or clarifications of existing rules and regulations, disruptions in the initial public offerings of companies, including those of our tenants and companies in which we hold equity investments, and investigations and enforcement actions by the SEC. The long term impacts resulting from a prolonged closure of the SEC and other similar agencies are uncertain and may adversely affect our business operations or our tenants and companies in which we hold equity investments.

Accounting for public companies in the U.S. has historically been conducted in accordance with GAAP as established by the FASB, an independent body whose standards are recognized by the SEC as authoritative for U.S. publicly held companies. The IASB is a London-based independent board established in 2001 and charged with the development of IFRS. IFRS generally reflects accounting practices that prevail in Europe and in developed nations in other parts of the world.

IFRS differs in material respects from GAAP. Among other things, IFRS has historically relied more on "fair value" models of accounting for assets and liabilities than GAAP. "Fair value" models are based on periodic revaluation of assets and liabilities, often resulting in fluctuations in such values as compared to GAAP, which relies more frequently on historical cost as the basis for asset and liability valuation.

The SEC released a final report on its IFRS work plan, which indicates the SEC still needs to analyze and consider whether IFRS should be incorporated into the U.S. financial reporting system. It is unclear at this time how and when the SEC will propose that GAAP and IFRS be harmonized if the decision to incorporate is adopted. In addition, incorporating a new method of accounting and adopting IFRS will be a complex undertaking. We may need to develop new systems and controls based on the principles of IFRS. Since these are new endeavors, and the precise requirements of the pronouncements ultimately adopted are not now known, the magnitude of costs associated with this conversion is uncertain.

We are currently evaluating the impact of the adoption of IFRS on our financial condition and results of operations. Such evaluation cannot be completed, however, without more clarity regarding the specific proposed standards that will be adopted. Until there is more certainty with respect to the standards to be adopted, prospective investors should consider that our conversion to IFRS could have a material adverse impact on our reported results of operations.

Changes in financial accounting standards may adversely impact our compliance with financial debt covenants.

Our unsecured senior notes payable contain financial covenants that are calculated based on GAAP at the date the instruments were issued. However, certain debt agreements, including those related to our unsecured senior line of credit and unsecured senior bank term loan, contain financial covenants whose calculations are based on current GAAP, which is subject to future changes. Our unsecured senior line of credit and unsecured senior bank term loan agreements provide that our financial debt covenants be renegotiated in good faith to preserve the original intent of the existing financial covenant when such covenant is affected by an accounting standard change. For those debt agreements that require the renegotiation of financial covenants upon changes in accounting standards, there is no assurance that we will be successful in such negotiations or that the renegotiated covenants will not be more restrictive to us.

Extreme weather or natural disasters may cause property damage or disrupt business, which could harm our business and operating results.

We have properties located in areas that may be subject to extreme weather and natural disasters, including, but not limited to, earthquakes, winds, floods, hurricanes, and fires. Such conditions may damage our properties, disrupt our operations, and adversely impact our tenants' operations. There can be no assurance that such conditions will not have a material adverse effect on our properties, operations, or business.

Terrorist attacks may have an adverse impact on our business and operating results and could decrease the value of our assets.

Terrorist attacks such as those that took place on September 11, 2001, could have a material adverse impact on our business, our operating results, and the market price of our common stock. Future terrorist attacks may result in declining economic activity, which could reduce the demand for, and the value of, our properties. To the extent that future terrorist attacks impact our tenants, their businesses similarly could be adversely affected, including their ability to continue to honor their lease obligations.

Our business and operations would suffer in the event of information technology system failures.

Despite system redundancy, the implementation of security measures, and the existence of a disaster recovery plan for our internal information technology systems, our systems are vulnerable to damages from any number of sources, including computer viruses, unauthorized access, energy blackouts, natural disasters, terrorism, war, and telecommunications failures. Any system failure or accident that causes interruptions in our operations could result in a material disruption to our business. We may also incur additional significant costs to remedy damages caused by such disruptions.

Security incidents through cyber attacks, cyber intrusions, or other methods could disrupt our information technology networks and related systems, cause a loss of assets or loss of data, give rise to remediation or other expenses, expose us to liability under federal and state laws, and subject us to litigation and investigations, which could result in substantial reputational damage and materially and adversely affect our business, financial condition, results of operations, cash flows, and the market price of our common stock.

Information technology, communication networks, and related systems are essential to the operation of our business. We use these systems to manage our tenant and vendor relationships, internal communications, accounting and record-keeping systems, and many other key aspects of our business. Our operations rely on the secure processing, storage, and transmission of confidential and other information in our computer systems and networks, which also depend on the strength of our procedures and the effectiveness of our internal controls.

A security incident may occur through physical break-ins, breaches of our secure network by an unauthorized party, software vulnerabilities, malware, computer viruses, attachments to emails, employee theft or misuse, social engineering, or inadequate use of security controls. Outside parties may attempt to fraudulently induce our employees to disclose sensitive information or transfer funds via illegal electronic spamming, phishing, spoofing or other tactics. Additionally, cyber attackers can develop and deploy malware, credential theft or guessing tools, and other malicious software programs to gain access to sensitive data or fraudulently obtain assets we hold.

We have implemented security measures to safeguard our systems and data and to manage cyber security risk. We monitor and develop our information technology networks and infrastructure, and invest in the development and enhancement of our controls designed to prevent, detect, address, and mitigate the risk of unauthorized access, misuse, computer viruses, and other events that could have a security impact. We conduct periodic security awareness trainings of our employees to educate on how to identify and alert the management to phishing emails, spoofed or

manipulated electronic communications, and other critical security threats. We've implemented internal controls around our treasury function including enhanced payment authorization procedures, verification requirements for new vendor set-up and vendor information changes, and bolstered outgoing payment notification process and account reconciliation procedures.

While, to date, we are not aware of having experienced a significant security incident or cyber attack, there can be no assurance that our actions, security measures, and controls designed to prevent, detect, or respond to intrusion; to limit access to data; to prevent loss, destruction, alteration, or exfiltration of business information; or to limit the negative impact from such attacks can provide absolute security against a security incident. A significant security incident involving our information systems or those of our tenants, vendors, software creators, cloud providers, or other third parties with whom we do business could lead to:

40

- Theft of our cash, cash equivalents, or other liquid assets, including publicly traded securities;
- Interruption in the operation of our systems, which may result in operational inefficiencies and a loss of profits;
- Unauthorized access to, and destruction, loss, theft, misappropriation, or release of, proprietary, confidential, sensitive, or otherwise valuable information of ours or our tenants, and other business partners, which could be used to compete against us or for disruptive, destructive, or otherwise harmful purposes and outcomes;
- Inability to produce financial and operational data necessary to comply with rules and regulations from the Securities and Exchange Commission, the Internal Revenue Service, or other state and federal regulatory agencies;
- Our inability to properly monitor our compliance with the rules and regulations regarding our qualification as a REIT;
- Significant management attention and resources required to remedy any damages that result;
- Significant exposure to litigation and regulatory fines, penalties or other sanctions;
- Violation of our lease agreements or other agreements;
- Damage to our reputation among our tenants, business partners, and investors;
- Loss of business opportunities; and
- Difficulties in employee retention and recruitment.

A principal reason that we cannot provide absolute protection from security incidents is that it may not always be possible to anticipate, detect, or recognize threats to our systems, or to implement effective preventive measures against all security incidents due to, among other things, the frequent change in techniques used in cyber attacks, which may not be recognized until launched, and the wide variety of sources from which a cyber attack can originate. We may not be able to immediately address the consequences of a security incident due to a cyber attack. A successful breach of our computer systems, software, networks, or other technology assets due to a cyber attack could occur and persist for an extended period of time before being detected due to, among other things:

- The breadth of our operations and the high volume of transactions that our systems process;
- The large number of our business partners; and
- The proliferation and increasing sophistication of cyber attacks.

The extent of a particular cyber attack and the steps that we may need to take to investigate the attack may not be immediately clear. Therefore, in the event of an attack, it may take a significant amount of time before such an investigation can be completed. During an investigation, we may not necessarily know the extent of the damage incurred or how best to remediate it, and certain errors or actions could be repeated or compounded before they are discovered and remediated, which could further increase the costs and consequences of a cyber attack.

Even if we are not targeted directly, cyber attacks on the U.S. government, financial markets, financial institutions, or other businesses, including our tenants, vendors, software creators, cloud providers, and other third parties with whom we do business, could disrupt our normal business operations and networks.

We maintain insurance to protect ourselves against certain losses incurred in the event of a security incident or disruption of our information systems. However, we cannot be certain that the coverage is adequate to compensate for all damages that may arise. In addition, we cannot be certain that such insurance options will remain available to us in the future on commercially reasonable terms, or at all.

Any or all of the foregoing could have a material adverse effect on our financial condition, results of operations, cash flows, or the market price of our common stock.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

General

As of December 31, 2018, we had 237 properties in North America containing approximately 26.3 million RSF of operating properties and development and redevelopment of new Class A properties (under construction or pre-construction), including 11 properties that are held by consolidated real estate joint ventures and six properties that are held by unconsolidated real estate joint ventures. See our definitions of annual rental revenue and operating statistics in the “Non-GAAP Measures and Definitions” section under “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this annual report on Form 10-K for a description of the basis used to compute the aforementioned measures. The occupancy percentage of our operating properties in North America was 97.3% as of December 31, 2018. The exteriors of our properties typically resemble traditional office properties, but the interior infrastructures are designed to accommodate the needs of life science and technology tenants. These improvements typically are generic rather than specific to a particular tenant. As a result, we believe that the improvements have long-term value and utility and are usable by a wide range of tenants. Improvements to our properties typically include:

- Reinforced concrete floors;
- Upgraded roof loading capacity;
- Increased floor-to-ceiling heights;
- Heavy-duty HVAC systems;
- Enhanced environmental control technology;
- Significantly upgraded electrical, gas, and plumbing infrastructure; and
- Laboratory benches.

As of December 31, 2018, we held a fee simple interest in each of our properties, with the exception of 29 properties in North America that accounted for approximately 12% of our total number of properties. Of these 29 properties, we held 16 properties in the Greater Boston market, six properties in the San Francisco market, two properties in the New York City market, two properties in the Seattle market, one property in the Maryland market, and two properties in the Research Triangle Park market pursuant to ground leasehold interests. During the year ended December 31, 2018, our ground lease rental expense aggregated 1.5% as a percentage of net operating income. Refer to further discussion in our consolidated financial statements and notes thereto in “Item 15. Exhibits and Financial Statement Schedules” in this annual report on Form 10-K.

As of December 31, 2018, we had 708 leases with a total of 537 tenants, and 116, or 49%, of our 237 properties were single-tenant properties. Leases in our multi-tenant buildings typically have initial terms of four to 11 years, while leases in our single-tenant buildings typically have initial terms of 10 to 20 years. As of December 31, 2018:

- Investment-grade or publicly traded large cap tenants represented 52% of our total annual rental revenue;
- Approximately 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent;
- Approximately 95% of our leases (on an RSF basis) contained effective annual rent escalations that were either fixed (generally ranging from 3% to 3.5%) or indexed based on a consumer price index or other index; and
- Approximately 96% of our leases (on an RSF basis) provided for the recapture of capital expenditures (such as HVAC systems maintenance and/or replacement, roof replacement, and parking lot resurfacing) that we believe would typically be borne by the landlord in traditional office leases.

Our leases also typically give us the right to review and approve tenant alterations to the property. Generally, tenant-installed improvements to the properties are reusable generic improvements and remain our property after termination of the lease at our election. However, we are permitted under the terms of most of our leases to require that the tenant, at its expense, remove certain non-generic improvements and restore the premises to their original condition.

Locations of properties

The locations of our properties are diversified among a number of life science and technology cluster markets. The following table sets forth the total RSF, number of properties, and annual rental revenue in effect as of December 31, 2018, in North America of our properties by market (dollars in thousands, except per RSF amounts):

Market	RSF			Total	% of Total	Number of Properties	Annual Rental Revenue		
	Operating	Development	Redevelopment				Total	% of Total	per RSF
Greater Boston	6,236,036	164,000	31,858	6,431,894	26 %	55	\$383,817	37 %	\$62.36
San Francisco	4,818,806	1,326,158	190,947	6,335,911	26	44	241,111	23	51.71
New York City	1,114,282	—	140,098	1,254,380	5	4	78,430	7	71.58
San Diego	4,776,849	—	—	4,776,849	20	58	172,025	16	38.05
Seattle	1,235,055	198,000	—	1,433,055	6	13	60,477	6	50.13
Maryland	2,509,994	—	55,347	2,565,341	10	37	67,820	6	28.04
Research Triangle Park	1,097,249	—	121,477	1,218,726	5	16	27,830	3	26.58
Canada	256,967	—	—	256,967	1	3	7,284	1	29.77
Non-cluster markets	314,315	—	—	314,315	1	7	7,158	1	28.82
North America	22,359,553	1,688,158	539,727	24,587,438	100%	237	\$1,045,952	100%	\$48.42
		2,227,885							

Summary of occupancy percentages in North America

The following table sets forth the occupancy percentages for our operating properties and our properties under redevelopment in each of our North America markets as of the following dates:

Market	Operating Properties			Operating and Redevelopment Properties		
	12/31/18	12/31/17	12/31/16	12/31/18	12/31/17	12/31/16
Greater Boston	98.7 %	96.6 %	96.2 %	98.2 %	95.7 %	96.2 %
San Francisco	100.0	99.6	99.9	96.2	99.6	99.9
New York City	98.3	99.8	97.3	87.3	99.8	97.3
San Diego	94.7	94.5	94.3	94.7	90.9	90.4
Seattle	97.7	97.7	97.6	97.7	97.7	97.6
Maryland	96.8	95.2	95.8	94.7	93.2	95.8
Research Triangle Park	95.4	98.1	99.0	85.9	84.0	99.0
Subtotal	97.6	97.0	96.7	95.3	94.9	95.8
Canada	95.2	99.6	99.2	95.2	99.6	99.2
Non-cluster markets	79.0	78.4	87.7	79.0	78.4	87.7
North America	97.3 %	96.8 %	96.6 %	95.1 %	94.7 %	95.7 %

Refer to the “Non-GAAP Measures and Definitions” section under Item 7 of this annual report on Form 10-K for additional information.

Top 20 tenants

79% of Top 20 Annual Rental Revenue From Investment-Grade or Publicly Traded Large Cap Tenants⁽¹⁾

Our properties are leased to a high-quality and diverse group of tenants, with no individual tenant accounting for more than 3.6% of our annual rental revenue in effect as of December 31, 2018. The following table sets forth information regarding leases with our 20 largest tenants in North America based upon annual rental revenue in effect as of December 31, 2018 (dollars in thousands, except average market cap):

Tenant	Remaining Lease Term in Years ⁽¹⁾	Aggregate RSF	Annual Rental Revenue ⁽¹⁾	Percentage of Aggregate Annual Rental Revenue ⁽¹⁾	Investment-Grade Average Credit Ratings		Market Cap ⁽²⁾ (in billions)
					Moody's	S&P	
1 Takeda Pharmaceutical Company Ltd.	11.0	549,759	\$ 37,142	3.6%	Baa2	A-	\$ 35.3
2 Illumina, Inc.	11.6	891,495	34,830	3.3	—	BBB	\$ 42.1
3 Sanofi	9.2	494,693	30,324	2.9	A1	AA	\$ 105.2
4 Eli Lilly and Company	10.9	467,521	29,203	2.8	A2	AA-	\$ 101.2
5 Celgene Corporation ⁽³⁾	7.4	614,082	29,201	2.8	Baa2	BBB+	\$ 62.2
6 Novartis AG	8.1	361,180	27,724	2.7	A1	AA-	\$ 213.3
7 Bristol-Myers Squibb Company ⁽³⁾	10.4	378,295	26,746	2.6	A2	A+	\$ 94.4
8 Merck & Co., Inc.	12.1	454,752	25,439	2.4	A1	AA	\$ 171.3
9 Uber Technologies, Inc.	73.9 ⁽⁴⁾	422,980	22,197	2.1	—	—	\$ —
10 bluebird bio, Inc.	8.1	262,261	20,100	1.9	—	—	\$ 8.3
11 Moderna Therapeutics, Inc.	9.9	356,975	19,857	1.9	—	—	\$ 5.4
12 New York University	12.4	203,666	19,544	1.9	Aa2	AA-	\$ —
13 Roche	4.9	366,996	19,524	1.9	Aa3	AA	\$ 204.9
14 Stripe, Inc.	8.8	295,333	17,736	1.7	—	—	\$ —
15 Pfizer Inc.	5.8	416,226	17,410	1.7	A1	AA	\$ 230.0
16 Amgen Inc.	5.3	407,369	16,838	1.6	Baa1	A	\$ 125.9
17 Massachusetts Institute of Technology	6.5	256,126	16,729	1.6	Aaa	AAA	\$ —
18 Facebook, Inc.	11.4	382,883	16,262	1.6	—	—	\$ 495.6
19 United States Government	9.2	264,358	15,428	1.5	Aaa	AA+	\$ —
20 FibroGen, Inc.	4.9	234,249	14,198	1.4	—	—	\$ 4.4
Total/weighted average	12.3 ⁽⁴⁾	8,081,199	\$ 456,432	43.9%			

Annual rental revenue and RSF include 100% of each property managed by us in North America.

Based on aggregate annual rental revenue in effect as of December 31, 2018. Refer to the “Non-GAAP Measures (1) and Definitions” section under Item 7 of this annual report on Form 10-K for our methodology on annual rental revenue for unconsolidated properties.

- (2) Average daily market capitalization for the 12 months ended December 31, 2018. Refer to the “Non-GAAP Measures and Definitions” section under Item 7 of this annual report on Form 10-K for additional information. In January 2019, Bristol-Myers Squibb Company entered into a definitive agreement to acquire Celgene Corporation. The transaction is expected to close in the third quarter of 2019, subject to the approval of Bristol-Myers Squibb Company and Celgene Corporation shareholders. Our lease to Bristol-Myers Squibb Company at 1208 Eastlake Avenue East in our Lake Union submarket expired on December 31, 2018, and we have
- (3) re-leased 78% of the expired 97,366 RSF to a life science pharmaceutical company. Bristol-Myers Squibb Company also currently leases 106,003 RSF at 1201 Eastlake Avenue East in our Lake Union submarket that expires during the first half of 2019 and we have re-leased 100% of this RSF to an investment-grade institutional research center. Subsequent to the close of the transaction, our future remaining annual rental revenue from Bristol-Myers Squibb Company is expected to be approximately 4.7%.
- (4) Represents a ground lease with Uber Technologies, Inc. at 1455 and 1515 Third Street in our Mission Bay/SoMa submarket. Excluding the ground lease, the weighted-average remaining lease term for our top 20 tenants was 9.2 years as of December 31, 2018.

Cash Flows From
High-Quality,
Diverse, and
Innovative
Tenants

Annual Rental
Revenue⁽¹⁾ From
Investment-Grade
or Publicly Traded
Large Cap
Tenants

A REIT Industry-Leading
Tenant Roster

52%

Tenant Mix

Percentage of
ARE's Annual
Rental Revenue⁽¹⁾

(1) Represents annual rental revenue in effect as of December 31, 2018. Refer to the "Non-GAAP Measures and Definitions" section under Item 7 of this annual report on Form 10-K for additional information.

(2) Our annual rental revenue from technology tenants consists of:

39% from investment-grade credit rated or publicly traded large cap tenants

49% from Uber Technologies, Inc., Stripe, Inc., and Pinterest, Inc.

12% from all other technology tenants

High-Quality Cash Flows From Class A Properties in AAA Locations

Class A Properties in
AAA Locations AAA Locations

77%
of ARE's
Annual Rental Revenue⁽¹⁾
Percentage of ARE's Annual Rental Revenue⁽¹⁾

Solid Demand for Class A Properties
in AAA Locations Drives Solid Occupancy

Solid Historical
Occupancy⁽²⁾ Occupancy Across Key Locations

96%
Over 10 Years

⁽¹⁾ Represents annual rental revenue in effect as of December 31, 2018. Refer to the "Non-GAAP Measures and Definitions" section under Item 7 of this annual report on Form 10-K for additional information.

⁽²⁾ Average occupancy of operating properties in North America as of each December 31 for the last 10 years.

Property listing

The following table provides certain information about our properties as of December 31, 2018 (dollars in thousands):

Market / Submarket / Address	RSF			Total	Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment				Operating	Operating and Redevelopment
Greater Boston								
Cambridge/Inner Suburbs								
Alexandria Center® at Kendall Square 50, 60, 75/125, and 100 Binney Street, 225 Binney Street ⁽¹⁾ , 161 First Street, 215 First Street, 150 Second Street, 300 Third Street, and 11 Hurley Street Alexandria Technology Square® 100, 200, 300, 400, 500, 600, and 700	2,365,487	—	—	2,365,487	10	\$162,570	98.8 %	98.8 %
Technology Square Alexandria Center® at One Kendall Square One Kendall Square – Buildings 100, 200, 300, 400, 500, 600/700, 1400, 1800, 2000, and 399	1,181,635	—	—	1,181,635	7	88,137	99.8	99.8
Binney Street 480 and 500 Arsenal Street	649,705	164,000	—	813,705	10	49,606	95.2	95.2
640 Memorial Drive	234,260	—	—	234,260	2	10,647	100.0	100.0
780 and 790 Memorial Drive	225,504	—	—	225,504	1	13,771	100.0	100.0
167 Sidney Street and 99 Erie Street	99,658	—	—	99,658	2	7,779	100.0	100.0
79/96 13th Street (Charlestown Navy Yard)	54,549	—	—	54,549	2	4,014	100.0	100.0
25,309	—	—	25,309	1	620	100.0	100.0	
Cambridge/Inner Suburbs	4,836,107	164,000	—	5,000,107	35	337,144	98.7	98.7
Seaport Innovation District								
99 A Street	8,715	—	—	8,715	1	850	100.0	100.0
Route 128								
Alexandria Park at 128	343,882	—	—	343,882	8	10,503	95.6	95.6

3 and 6/8 Preston Court, 29, 35, and 44 Hartwell Avenue, 35 and 45/47 Wiggins Avenue, and 60 Westview Street 225, 266, and 275 Second Avenue	285,759	—	31,858	317,617	3	12,328	100.0	90.0
100 Tech Drive	200,431	—	—	200,431	1	8,455	100.0	100.0
19 Presidential Way	144,892	—	—	144,892	1	5,134	96.8	96.8
100 Beaver Street	82,330	—	—	82,330	1	3,279	100.0	100.0
285 Bear Hill Road Route 128	26,270	—	—	26,270	1	1,167	100.0	100.0
Route 495	1,083,564	—	31,858	1,115,422	15	40,866	98.2	95.4
111 and 130 Forbes Boulevard	155,846	—	—	155,846	2	1,543	100.0	100.0
20 Walkup Drive	91,045	—	—	91,045	1	649	100.0	100.0
30 Bearfoot Road	60,759	—	—	60,759	1	2,765	100.0	100.0
Route 495	307,650	—	—	307,650	4	4,957	100.0	100.0
Greater Boston	6,236,036	164,000	31,858	6,431,894	55	\$383,817	98.7 %	98.2 %

(1) We own a partial interest in this property through a real estate joint venture. Refer to the “Joint Venture Financial Information” section under Item 7 of this annual report in Form 10-K for additional information.

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Property listing (continued)

Market / Submarket / Address	RSF			Total	Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment				Operating	Operating and Redevelopment
San Francisco								
Mission Bay/SoMa								
1655 and 1725 Third Street ⁽¹⁾	—	593,765	—	593,765	2	\$—	N/A	N/A
409 and 499 Illinois Street ⁽¹⁾	455,069	—	—	455,069	2	28,698	100.0%	100.0 %
1455 and 1515 Third Street	422,980	—	—	422,980	2	22,197	100.0	100.0
510 Townsend Street	295,333	—	—	295,333	1	17,736	100.0	100.0
88 Bluxome Street	232,470	—	—	232,470	1	3,813	100.0	100.0
455 Mission Bay Boulevard South	210,398	—	—	210,398	1	13,192	100.0	100.0
1500 Owens Street ⁽¹⁾	158,267	—	—	158,267	1	7,681	100.0	100.0
1700 Owens Street	157,340	—	—	157,340	1	11,097	99.9	99.9
505 Brannan Street	148,146	—	—	148,146	1	12,093	100.0	100.0
Mission Bay/SoMa	2,080,003	593,765	—	2,673,768	12	116,507	100.0	100.0
South San Francisco								
213, 249, 259, 269, and 279 East Grand Avenue	708,299	211,405	—	919,704	5	35,751	100.0	100.0
Alexandria Technology Center® – Gateway 600, 630, 650, 681, 701, 901, and 951 Gateway Boulevard	492,066	—	142,400	634,466	7	23,251	100.0	77.6
400 and 450 East Jamie Court	163,035	—	—	163,035	2	6,519	100.0	100.0
500 Forbes Boulevard	155,685	—	—	155,685	1	6,619	100.0	100.0
7000 Shoreline Court	136,395	—	—	136,395	1	5,692	100.0	100.0
341 and 343 Oyster Point Boulevard	107,960	—	—	107,960	2	4,479	100.0	100.0
849/863 Mitten Road/866 Malcolm Road	103,857	—	—	103,857	1	3,979	100.0	100.0
South San Francisco	1,867,297	211,405	142,400	2,221,102	19	86,290	100.0	92.9
Greater Stanford								
Menlo Gateway ⁽¹⁾ 100 Independence Drive and 125 and 135 Constitution Drive	251,995	520,988	—	772,983	3	7,153	100.0	100.0
Alexandria PARC 2100, 2200, 2300, and 2400 Geng Road	148,951	—	48,547	197,498	4	8,297	100.0	75.4

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960 Industrial Road 2425 Garcia Avenue/2400/2450 Bayshore Parkway	110,000	—	—	110,000	1	2,749	100.0	100.0
3165 Porter Drive	91,644	—	—	91,644	1	3,885	100.0	100.0
1450 Page Mill Road	77,634	—	—	77,634	1	8,009	100.0	100.0
3350 West Bayshore Road	60,000	—	—	60,000	1	2,211	100.0	100.0
2625/2627/2631 Hanover Street	32,074	—	—	32,074	1	1,753	100.0	100.0
Greater Stanford San Francisco	871,506	520,988	48,547	1,441,041	13	38,314	100.0	94.7
	4,818,806	1,326,158	190,947	6,335,911	44	241,111	100.0	96.2
New York City New York City Alexandria Center® for Life Science – New York City 430 and 450 East 29th Street	727,674	—	—	727,674	2	63,407	97.4	97.4
219 East 42nd Street	349,947	—	—	349,947	1	14,006	100.0	100.0
Alexandria Life Science Factory at Long Island City 30-02 48th Avenue New York City	36,661	—	140,098	176,759	1	1,017	100.0	20.7
	1,114,282	—	140,098	1,254,380	4	\$78,430	98.3 %	87.3 %

(1) We own a partial interest in this property through a real estate joint venture. Refer to the “Joint Venture Financial Information” section under Item 7 of this annual report in Form 10-K for additional information.

Property listing (continued)

Market / Submarket / Address	RSF			Total	Number of Properties	Annual Rental Revenue	Occupancy Percentage		
	Operating	Development	Redevelopment				Operating	Operating and Redevelopment	
San Diego									
Torrey Pines									
ARE Spectrum 3215 Merryfield Row and 3013 and 3033 Science Park Road	336,461	—	—	336,461	3	\$17,173	100.0%	100.0	%
ARE Torrey Ridge 10578, 10614, and 10628 Science Center Drive	294,993	—	—	294,993	3	13,271	89.6	89.6	
ARE Sunrise 10931/10933 and 10975 North Torrey Pines Road, 3010 Science Park Road, and 10996 Torreyana Road	236,635	—	—	236,635	3	8,834	100.0	100.0	
ARE Nautilus 3530 and 3550 John Hopkins Court and 3535 and 3565 General Atomics Court	223,751	—	—	223,751	4	10,599	100.0	100.0	
ARE Esplanade 3545 Cray Court 11119 North Torrey Pines Road	116,556	—	—	116,556	1	4,827	100.0	100.0	
ARE Esplanade 4755, 4757, and 4767 Nexus Center Drive and 4796 Executive Drive	72,506	—	—	72,506	1	3,409	100.0	100.0	
ARE Towne Centre 9363, 9373, and 9393 Towne Centre Drive and 9625 Towne Centre Drive ⁽¹⁾	1,280,902	—	—	1,280,902	15	58,113	97.6	97.6	
University Town Center Campus Pointe by Alexandria 10260 Campus Point Drive, 10290 and 10300 Campus Point Drive ⁽¹⁾ , 4110 Campus Point Court ⁽¹⁾ , and 4161 Campus Point Court	1,067,847	—	—	1,067,847	5	36,539	92.6	92.6	
ARE Esplanade 4755, 4757, and 4767 Nexus Center Drive and 4796 Executive Drive	792,687	—	—	792,687	6	28,901	100.0	100.0	
ARE Esplanade 4755, 4757, and 4767 Nexus Center Drive and 4796 Executive Drive	241,963	—	—	241,963	4	10,036	100.0	100.0	
ARE Towne Centre 9363, 9373, and 9393 Towne Centre Drive and 9625 Towne Centre Drive ⁽¹⁾	304,046	—	—	304,046	4	8,249	85.9	85.9	
University Town Center	2,406,543	—	—	2,406,543	19	83,725	94.9	94.9	
Sorrento Mesa									
Summers Ridge Science Park	316,531	—	—	316,531	4	10,843	100.0	100.0	

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9965, 9975, 9985, and 9995 Summers Ridge Road 5810/5820 and 6138/6150	138,970	—	—	138,970	2	2,364	59.2	59.2
Nancy Ridge Drive 10121 and 10151 Barnes Canyon Road	102,392	—	—	102,392	2	2,689	100.0	100.0
ARE Portola 6175, 6225, and 6275 Nancy Ridge Drive	101,857	—	—	101,857	3	3,234	100.0	100.0
7330 Carroll Road	66,244	—	—	66,244	1	2,431	100.0	100.0
5871 Oberlin Drive	33,817	—	—	33,817	1	832	86.8	86.8
Sorrento Mesa	759,811	—	—	759,811	13	22,393	92.0	92.0
Sorrento Valley 11025, 11035, 11045, 11055, 11065, and 11075 Roselle Street	121,655	—	—	121,655	6	2,262	74.6	74.6
3985, 4025, 4031, and 4045 Sorrento Valley Boulevard	98,158	—	—	98,158	4	2,560	88.9	88.9
Sorrento Valley I-15 Corridor	219,813	—	—	219,813	10	4,822	81.0	81.0
13112 Evening Creek Drive San Diego	109,780	—	—	109,780	1	2,972	100.0	100.0
	4,776,849	—	—	4,776,849	58	\$172,025	94.7 %	94.7 %

(1) We own a partial interest in this property through a real estate joint venture. Refer to the “Joint Venture Financial Information” section under Item 7 of this annual report in Form 10-K for additional information.

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Property listing (continued)

Market / Submarket / Address	RSF			Total	Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment				Operating	Operating and Redevelopment
Seattle								
Lake Union								
400 Dexter Avenue North	290,111	—	—	290,111	1	\$ 15,068	100.0%	100.0 %
1201 and 1208 Eastlake Avenue East	203,369	—	—	203,369	2	10,193	100.0	100.0
188 East Blaine Street ⁽¹⁾	—	198,000	—	198,000	1	—	N/A	N/A
2301 5th Avenue	197,135	—	—	197,135	1	10,015	97.4	97.4
1616 Eastlake Avenue East	168,708	—	—	168,708	1	8,287	93.8	93.8
1551 Eastlake Avenue East	117,482	—	—	117,482	1	4,837	100.0	100.0
199 East Blaine Street	115,084	—	—	115,084	1	6,186	100.0	100.0
219 Terry Avenue North	30,705	—	—	30,705	1	1,837	100.0	100.0
1600 Fairview Avenue East	27,991	—	—	27,991	1	1,245	100.0	100.0
Lake Union	1,150,585	198,000	—	1,348,585	10	57,668	98.7	98.7
Elliott Bay								
3000/3018 Western Avenue	47,746	—	—	47,746	1	1,839	100.0	100.0
410 West Harrison Street and 410 Elliott Avenue West	36,724	—	—	36,724	2	970	63.9	63.9
Elliott Bay	84,470	—	—	84,470	3	2,809	84.3	84.3
Seattle	1,235,055	198,000	—	1,433,055	13	60,477	97.7	97.7
Maryland								
Rockville								
9800, 9900, and 9920 Medical Center Drive	386,208	—	—	386,208	6	14,105	95.1	95.1
9704, 9708, 9712, and 9714 Medical Center Drive	214,725	—	—	214,725	4	7,862	100.0	100.0
1330 Piccard Drive	131,511	—	—	131,511	1	3,562	100.0	100.0
1500 and 1550 East Gude Drive	90,489	—	—	90,489	2	1,681	100.0	100.0
14920 and 15010 Broschart Road	86,703	—	—	86,703	2	2,260	100.0	100.0
1405 Research Boulevard	71,669	—	—	71,669	1	2,334	100.0	100.0
5 Research Place	63,852	—	—	63,852	1	2,734	100.0	100.0

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9920 Belward Campus Drive	51,181	—	—	51,181	1	1,568	100.0	100.0		
12301 Parklawn Drive	49,185	—	—	49,185	1	1,329	100.0	100.0		
5 Research Court	49,160	—	—	49,160	1	—	—	—		
Rockville	1,194,683	—	—	1,194,683	20	37,435	94.3	94.3		
Gaithersburg										
Alexandria Technology Center® – Gaithersburg I	377,585	—	—	377,585	4	9,411	100.0	100.0		
9 West Watkins Mill Road and 910, 930, and 940 Clopper Road										
Alexandria Technology Center® – Gaithersburg II	259,637	—	55,347	314,984	6	6,894	97.7	80.6		
704 Quince Orchard Road ⁽²⁾ , 708 Quince Orchard Road, and 19, 20, 21, and 22 Firstfield Road										
50 and 55 West Watkins Mill Road	96,915	—	—	96,915	2	2,706	100.0	100.0		
401 Professional Drive	63,154	—	—	63,154	1	1,602	100.0	100.0		
950 Wind River Lane	50,000	—	—	50,000	1	1,004	100.0	100.0		
620 Professional Drive	27,950	—	—	27,950	1	1,191	100.0	100.0		
Gaithersburg	875,241	—	55,347	930,588	15	\$22,808	99.3 %	93.4 %		

(1) Formerly 1818 Fairview Avenue East.

(2) We own a partial interest in this property through a real estate joint venture. Refer to the “Joint Venture Financial Information” section under Item 7 of this annual report in Form 10-K for additional information.

Property listing (continued)

Market / Submarket / Address	RSF				Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment	Total			Operating	Operating and Redevelopment
Maryland (continued)								
Beltsville 8000/9000/10000 Virginia Manor Road	191,884	—	—	191,884	1	\$2,439	96.6 %	96.6 %
Northern Virginia 14225 Newbrook Drive	248,186	—	—	248,186	1	5,138	100.0	100.0
Maryland	2,509,994	—	55,347	2,565,341	37	67,820	96.8	94.7
Research Triangle Park								
Research Triangle Park Alexandria Technology Center® – Alston 100, 800, and 801 Capitola Drive	186,870	—	—	186,870	3	3,559	92.3	92.3
Alexandria Center® for AgTech – RTP 5 Laboratory Drive	53,523	—	121,477	175,000	1	1,499	100.0	30.6
108/110/112/114 TW Alexander Drive	158,417	—	—	158,417	1	4,682	100.0	100.0
Alexandria Innovation Center® – Research Triangle Park 7010, 7020, and 7030 Kit Creek Road	135,677	—	—	135,677	3	3,566	97.8	97.8
6 Davis Drive	100,000	—	—	100,000	1	1,498	81.9	81.9
7 Triangle Drive	96,626	—	—	96,626	1	3,156	100.0	100.0
2525 East NC Highway 54	82,996	—	—	82,996	1	3,680	100.0	100.0
407 Davis Drive	81,956	—	—	81,956	1	1,644	100.0	100.0
601 Keystone Park Drive	77,395	—	—	77,395	1	1,379	100.0	100.0
6040 George Watts Hill Drive	61,547	—	—	61,547	1	2,148	100.0	100.0

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5 Triangle Drive	32,120	—	—	32,120	1	479	54.2	54.2
6101 Quadrangle Drive	30,122	—	—	30,122	1	540	100.0	100.0
Research Triangle Park	1,097,249	—	121,477	1,218,726	16	27,830	95.4	85.9
Canada	256,967	—	—	256,967	3	7,284	95.2	95.2
Non-cluster markets	314,315	—	—	314,315	7	7,158	79.0	79.0
Total – North America	22,359,553	1,688,158	539,727	24,587,438	237	\$1,045,952	97.3 %	95.1 %

Leasing activity

- Executed a total of 207 leases, with a weighted-average lease term of 9.1 years, for 4.7 million RSF, including 1.7 million RSF related to our development and redevelopment projects during the year ended December 31, 2018; leasing activity of 4.7 million RSF represents the second highest annual leasing activity in Alexandria's history; and
- Solid rental rate increases of 24.1% and 14.1% (cash basis). Rental rate increase of 14.1% (cash basis) represents the highest increase during the past 10 years.

Approximately 58% of the 207 leases executed during the year ended December 31, 2018, did not include concessions for free rent. During the year ended December 31, 2018, we granted tenant concessions/free rent averaging 2.2 months with respect to the 4.7 million RSF leased.

The following chart presents renewed/re-leased space and development/redevelopment/previously vacant space leased for the years ended December 31, 2018, 2017, and 2016:

Lease structure

Our Same Properties total revenue growth of 17.7% for the year ended December 31, 2018, and our Same Properties net operating income and Same Properties net operating income (cash basis) increases for the year ended December 31, 2018, of 3.7% and 9.2%, respectively, benefited significantly from strong market fundamentals. The limited supply of Class A space in AAA locations and strong demand from innovative tenants drove rental rate increases of 24.1% and 14.1% (cash basis) on 2.1 million renewed/re-leased RSF, while a favorable triple net lease structure with contractual annual rent escalations resulted in both a consistent Same Properties operating margin of 71% and occupancy of 96.6% across our 185 Same Properties aggregating 17.2 million RSF. As of December 31, 2018, approximately 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent. Additionally, approximately 95% of our leases (on an RSF basis) contained contractual annual rent escalations that were either fixed or based on a consumer price index or another index, and approximately 96% of our leases (on an RSF basis) provided for the recapture of certain capital expenditures.

The following table summarizes our leasing activity at our properties for the years ended December 31, 2018 and 2017:

	Year Ended December 31,			
	2018		2017	
	Including Straight-Line Rent	Cash Basis	Including Straight-Line Rent	Cash Basis
(Dollars are per RSF)				
Leasing activity:				
Renewed/re-leased space ⁽¹⁾				
Rental rate changes	24.1%	14.1%	25.1%	12.7%
New rates	\$55.05	\$52.79	\$51.05	\$47.99
Expiring rates	\$44.35	\$46.25	\$40.80	\$42.60
Rentable square footage	2,088,216		2,525,099	
Tenant improvements/leasing commissions	\$20.61		\$18.74	
Weighted-average lease term	6.1 years		6.2 years	
Developed/redeveloped/previously vacant space leased				
New rates	\$58.45	\$48.73	\$47.56	\$42.93
Rentable square footage	2,633,476		2,044,083	
Tenant improvements/leasing commissions	\$12.57		\$9.83	
Weighted-average lease term	11.5 years		10.1 years	
Leasing activity summary (totals):				
New rates	\$56.94	\$50.52	\$49.49	\$45.72
Rentable square footage	4,721,692		4,569,182	
Tenant improvements/leasing commissions	\$16.13		\$14.75	
Weighted-average lease term	9.1 years		7.9 years	
Lease expirations ⁽¹⁾				
Expiring rates	\$42.98	\$45.33	\$39.99	\$41.71
Rentable square footage	2,811,021		2,919,259	

Leasing activity includes 100% of results for properties in which we have an investment in North America. Refer to the “Non-GAAP Measures and Definitions” section in “Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations” of this annual report on Form 10-K for a description of the basis used to compute the measures above.

(1) Excludes month-to-month leases aggregating 50,548 RSF and 37,006 RSF as of December 31, 2018, and 2017, respectively.

(2) During the year ended December 31, 2018, we granted tenant concessions/free rent averaging 2.2 months with respect to the 4.7 million RSF leased. Approximately 58% of the leases executed during the year ended December 31, 2018, did not include concessions for free rent.

Summary of contractual lease expirations

The following table summarizes information with respect to the contractual lease expirations at our properties as of December 31, 2018:

Year	Number of Leases	RSF	Percentage of Occupied RSF	Annual Rental Revenue (per RSF) ⁽¹⁾	Percentage of Total Annual Rental Revenue
2019 ⁽²⁾	94	1,232,553	5.7 %	\$43.36	5.2 %
2020	116	1,766,578	8.1 %	\$37.43	6.4 %
2021	92	1,492,897	6.9 %	\$39.47	5.7 %
2022	89	1,733,458	8.0 %	\$42.15	7.1 %
2023	84	2,279,590	10.5 %	\$43.23	9.5 %
2024	59	1,868,399	8.6 %	\$47.69	8.6 %
2025	36	1,500,433	6.9 %	\$47.52	6.9 %
2026	27	933,745	4.3 %	\$42.40	3.8 %
2027	24	1,928,376	8.9 %	\$43.85	8.2 %
2028	25	1,530,627	7.0 %	\$59.94	8.9 %
Thereafter	37	5,449,007	25.1 %	\$56.58	29.7 %

(1) Represents amounts in effect as of December 31, 2018.

(2) Excludes month-to-month leases aggregating 50,548 RSF as of December 31, 2018.

The following tables present information by market with respect to our 2019 and 2020 contractual lease expirations in North America as of December 31, 2018:

Market	2019 Contractual Lease Expirations (in RSF)					Annual Rental Revenue (per RSF) ⁽³⁾
	Leased	Negotiating/ Anticipating	Targeted for Redevelopment	Remaining Expiring Leases ⁽¹⁾	Total ⁽²⁾	
Greater Boston	129,890	18,507	—	199,689	348,086	\$ 55.41
San Francisco	83,817	60,605	—	115,790	260,212	41.80
New York City	—	—	—	8,931	8,931	N/A
San Diego	114,952	—	—	165,969	280,921	32.32
Seattle	106,003	—	—	56,179	162,182	45.82
Maryland	14,933	14,075	—	46,621	75,629	26.82
Research Triangle Park	—	7,685	—	25,787	33,472	23.25
Canada	—	—	—	—	—	—
Non-cluster markets	3,508	11,247	—	48,365	63,120	26.15
Total	453,103	112,119	—	667,331	1,232,553	\$ 43.36
Percentage of expiring leases	37 %	9 %	— %	54 %	100 %	

2020 Contractual Lease Expirations (in RSF)

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Market	Leased	Negotiating/ Anticipating	Targeted for Redevelopment	Remaining Expiring Leases	Total	Annual Rental Revenue (per RSF) ⁽³⁾
Greater Boston	69,673	—	—	444,742	⁽⁴⁾ 514,415	\$ 45.84
San Francisco	16,759	—	—	280,176	296,935	41.67
New York City	—	—	—	46,461	46,461	88.91
San Diego	679	—	—	252,678	253,357	28.09
Seattle	—	—	—	143,068	143,068	50.53
Maryland	—	18,468	—	267,856	286,324	23.17
Research Triangle Park	—	—	—	119,503	119,503	16.48
Canada	54,941	—	—	43,976	98,917	28.78
Non-cluster markets	—	—	—	7,598	7,598	25.37
Total	142,052	18,468	—	1,606,058	1,766,578	\$ 37.43
Percentage of expiring leases	8	% 1	% —	91	% 100	%

(1) Includes 116,556 RSF expiring in June 2019 at 3545 Cray Court in our Torrey Pines submarket, which is under evaluation for options to renovate as a Class A office/laboratory building. Any renovation we may undertake at this property will not be classified as a redevelopment, and as such the property will remain in our same properties. The next largest contractual lease expiration in 2019 is 50,400 RSF, which is under evaluation for renewal.

(2) Excludes month-to-month leases aggregating 50,548 RSF as of December 31, 2018.

(3) Represents amounts in effect as of December 31, 2018.

(4) Includes 223,007 RSF, or 50%, of 444,742 RSF of remaining expiring leases in 2020 that are located in our Cambridge submarket. The largest contractual remaining expiring lease in 2020 is 36,309 RSF at 215 First Street.

Investments in real estate

A key component of our business model is our disciplined allocation of capital to the development and redevelopment of new Class A properties located in collaborative life science and technology campuses in AAA urban innovation clusters. These projects are focused on providing high-quality, generic, and reusable spaces that meet the real estate requirements of, and are reusable by, a wide range of tenants. Upon completion, each value-creation project is expected to generate a significant increase in rental income, net operating income, and cash flows. Our development and redevelopment projects are generally in locations that are highly desirable to high-quality entities, which we believe results in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset values. Our pre-construction activities are undertaken in order to get the property ready for its intended use and include entitlements, permitting, design, site work, and other activities preceding commencement of construction of aboveground building improvements.

Investment in real estate (continued)

Our investments in real estate consisted of the following as of December 31, 2018 (dollars in thousands):

	Investments in Real Estate	Square Footage			Intermediate-Term and Future Projects	Total
		Operating	Construction	Pre-Construction		
Investments in real estate:						
Rental properties:						
Consolidated	\$ 12,588,611	22,082,974	—	—	—	22,082,974
Unconsolidated ⁽¹⁾	N/A	276,579	—	—	—	276,579
	12,588,611	22,359,553	—	—	—	22,359,553
New Class A development and redevelopment properties:						
2019 deliveries						
Consolidated	558,675	—	1,057,785	—	—	1,057,785
Unconsolidated ⁽¹⁾	N/A	—	1,170,100	—	—	1,170,100
2019 deliveries	558,675	—	2,227,885	—	—	2,227,885
2020 deliveries	317,388	—	—	1,658,777	—	1,658,777
New Class A development and redevelopment properties undergoing construction and pre-construction	876,063	—	2,227,885	1,658,777	—	3,886,662
Intermediate-term and future development and redevelopment projects:						
2021-2022 deliveries	584,751	—	—	—	4,737,389	4,737,389
Future	98,802	—	—	—	3,083,786	3,083,786
Portion of development and redevelopment square footage that will replace existing RSF included in rental properties ⁽²⁾	N/A	—	—	—	(970,180)	(970,180)
Intermediate-term and future development and redevelopment projects, excluding RSF related to rental properties	683,553	—	—	—	6,850,995	6,850,995
Gross investments in real estate	14,148,227	22,359,553	2,227,885	1,658,777	6,850,995	33,097,210
		24,587,438				
Less: accumulated depreciation	(2,263,797)					
Net investments in real estate – North America	11,884,430					
Net investments in real estate – Asia	29,263					
Investments in real estate	\$ 11,913,693					

(1) Our share of the cost basis associated with square footage of our unconsolidated properties is classified in investments in unconsolidated real estate joint ventures in our consolidated

balance sheets.

Represents RSF of buildings currently in operation that will be
(2)redeveloped or replaced with new development RSF upon
commencement of future construction, as follows:

Property/Submarket	RSF
99 A Street/Seaport Innovation District	8,715
219 East 42nd Street/New York City	349,947
88 Bluxome Street/Mission Bay/SoMa	232,470
960 Industrial Road/Greater Stanford	110,000
10260 Campus Point Drive/University Town Center	109,164
4161 Campus Point Court/University Town Center	159,884
	970,180

56

Acquisitions

Our real estate asset acquisitions for the year ended December 31, 2018, consisted of the following (dollars in thousands):

Property	Submarket/Market	Date of Purchase	Number of Properties	Operating Occupancy	Square Footage		Operating With Value-Creation	Operating/Redevelopment	Open Development
					Future Development	Active Development			
Value-creation Alexandria Life Science Factory at Long Island City ⁽²⁾	New York City/ New York City	10/9/18	1	100%	—	140,098	36,661	—	—
701 Dexter Avenue North 1655 and 1725 Third Street (10% interest in unconsolidated JV)	Lake Union/Seattle Mission Bay/SoMa/ San Francisco	7/20/18 3/2/18	— 2	N/A N/A	217,000 —	— 593,765	— —	— —	— —
Other	Various	Various	1 4	N/A	493,000 710,000	— 733,863	8,715 45,376	— —	— —
Operating with value-creation 219 East 42nd Street ⁽²⁾	New York City/New York City	7/10/18	1	100%	230,000	—	349,947	—	—
Alexandria PARC 2301 5th Avenue	Greater Stanford/ San Francisco Lake Union/Seattle	1/25/18 6/1/18	4 1	100% 97%	— —	48,547 —	148,951 197,136	— —	— —
100 Tech Drive 10260 Campus Point Drive and 4161 Campus Point Court 704 Quince Orchard Road (56.8% interest in unconsolidated JV)	Route 128/ Greater Boston University Town Center/San Diego	4/13/18 12/28/18	1 2	100% 100%	300,000 378,355	— (3) —	200,431 269,048	— (3) —	— —
Operating Summers Ridge Science Park	Gaithersburg/Maryland Sorrento Mesa/ San Diego	3/16/18 1/5/18	1 4	100% 100%	— 50,000	58,186 —	21,745 —	— —	— 316,
			10		908,355	106,733	1,187,258	—	—

Maryland Life Science Portfolio	Rockville/Gaithersburg/Maryland	5/8/18	8	100%	—	—	39,505	376,
Other	Various	Various	1	100%	—	—	—	45,6
			13		50,000	—	39,505	738,
Total 2018 acquisitions			27		1,668,355	840,596	1,272,139	738,

(1) We expect to provide total estimated costs and related yields in the future upon the commencement of development and redevelopment.

(2) Refer to the “New Class A Development and Redevelopment Properties: Summary of Pipeline” section within this Item 2 of this annual report on Form 10-K for additional information.

(3) We acquired two buildings adjacent to our Campus Pointe by Alexandria campus aggregating 269,048 RSF, comprising 109,164 RSF at 10260 Campus Point Drive and 159,884 RSF at 4161 Campus Point Court which are 100% leased through 2022. At lease expiration, 10260 Campus Point Drive will be redeveloped and expanded into a 176,455 RSF Class A building which is pre-leased 100% for 15 years with the target delivery in 2021. 4161 Campus Point Court will support future development aggregating 201,900 RSF through one or more Class A buildings at our Campus Pointe by Alexandria campus.

(4) Total purchase price of \$80.0 million was paid in two installments, \$15.0 million in December 2018 and \$65.0 million in January 2019.

(5) Includes, among others, the last two installment payments related to our November 2016 acquisition of 1455 and 1515 Third Street of \$18.9 million per installment, which were paid during the three months ended March 31, 2018 and June 30, 2018, respectively.

Real estate asset sales

Our real estate asset sales completed during the year ended December 31, 2018, or subsequently under contract, consisted of the following (dollars in thousands):

Property	Submarket/Market	Date of Sale	At 100%				Sales Price per RSF	Capitalization Rate	Our Share	
			RSF	Sales Price	Debt Repaid	Capitalization Rate (Cash Basis)			Sales Price	Net of Debt
2018 dispositions:										
360 Longwood Avenue	Longwood Medical Area/Greater Boston ⁽¹⁾	9/26/18	210,709	\$349,500	\$95,000	\$1,659	5.1%	4.7%	\$96,113	\$69,9
1300 Quince Orchard Boulevard	Gaithersburg/Maryland	12/13/18	54,874	\$14,441	N/A	\$263	(2)	(2)	14,441	14,44
Land Parcel	Northern Virginia/Maryland	7/2/18	N/A	N/A	N/A	N/A	N/A	N/A	6,000	6,000
Completed 2018									\$116,554	\$90,4
2019 Sale of Partial Joint Venture Interest:										
75/125 Binney Street	Cambridge/Greater Boston	1Q19	388,270	\$730,000	N/A	\$1,880	4.2%	4.3%	\$438,000	\$438,
(sale of 60% noncontrolling interest)										
Targeted dispositions									312,000	
2019 guidance midpoint									\$750,000	

(1) During the three months ended September 30, 2018, we sold our remaining 27.5% ownership interest in this unconsolidated real estate joint venture.

(2) In April 2018, our tenant exercised its option to purchase this Class B property at fair market value. The capitalization rates for this sale were 6.6% and 7.0% (cash basis).

(3) During the three months ended June 30, 2018, we entered into an agreement to sell this land parcel and recognized an impairment of \$6.3 million to lower its carrying amount to estimated fair value less selling costs.

In February 2019, we executed a purchase and sale agreement to sell a 60% interest in 75/125 Binney Street, a Class A property in our Cambridge submarket, for a sales price of \$438 million, or \$1,880 per RSF, representing a 4.3% capitalization rate on net operating income (cash basis), annualized, for the three months ended December 31, 2018. The sale of a 60% ownership interest in this joint venture is expected to be accounted for as an equity transaction, with no gain to be recognized in earnings. Closing is expected to occur in the first quarter of 2019.

Upon completion of the sale, we expect to retain control over the joint venture. We expect to reinvest the proceeds from the sale into our value-creation pipeline.

Disciplined management of ground-up developments

- (1) Represents developments commenced since January 1, 2008, comprising 28 projects aggregating 7.1 million RSF.
(2) Represents developments commenced and delivered since January 1, 2008, comprising 23 projects aggregating 5.5 million RSF.

- (1) For the years ended December 31, 2016 and 2017. We expect to disclose data for the year ended December 31, 2018, in 2019.
- (2) Upon completion of 15 projects in process targeting LEED certification.
- (3) Upon completion of three projects in process targeting WELL certification.
- (4) Upon completion of 12 projects in process targeting Fitwel certification.

New Class A development and redevelopment properties: Deliveries

399 Binney Street Greater Boston/Cambridge 123,403 RSF Rubius Therapeutics, Inc. Relay Therapeutics, Inc. Celsius Therapeutics, Inc.	213 East Grand Avenue San Francisco/South San Francisco 300,930 RSF Merck & Co., Inc.	9625 Towne Centre Drive San Diego/University Town Center 163,648 RSF Takeda Pharmaceutical Company Ltd.	9900 Medical Center Drive Maryland/Rockville 45,039 RSF Lonza Walkersville, Inc.	5 Laboratory Drive Research Triangle Park/RTP 53,523 RSF Boragen, Inc. Elo Life Systems, Inc. Indigo Ag, Inc.
---	--	--	---	--

The following table presents value-creation development and redevelopment of new Class A properties placed into service (dollars in thousands):

Property/Market/Submarket	Our Ownership Interest	Date Delivered	RSF Placed Into Service				Operating Property Leased Percentage	Total Project RSF	Investment	Units
			Prior to 10/1/18	4Q18	1Q19	Total				
Fourth quarter of 2018 deliveries:										
Consolidated development projects										
213 East Grand Avenue/San Francisco/South San Francisco	100%	12/31/18	—	300,930	—	300,930	100%	300,930	\$256,600	7
Consolidated redevelopment project										
9625 Towne Centre Drive/San Diego/University Town Center	50.1%	11/1/18	—	163,648	—	163,648	100%	163,648	\$89,000	7
9900 Medical Center Drive/Maryland/Rockville	100%	11/19/18	—	45,039	—	45,039	58%	45,039	\$16,800	8
5 Laboratory Drive/Research Triangle Park/RTP	100%	Various	45,143	8,380	—	53,523	100%	175,000	\$62,500	7
Unconsolidated joint venture redevelopment project										
704 Quince Orchard Road/Maryland/Gaithersburg	56.8%	12/31/18	—	4,762	—	4,762	100%	79,931	\$13,300	8
			45,143	522,759	—	567,902				
January 2019 delivery:										
Consolidated development projects										
399 Binney Street/Greater Boston/Cambridge	100%	1/25/19	—	—	123,403	123,403	100%	164,000	\$174,000	7

Total

45,143 522,759 123,403 691,305

7

61

New Class A development and redevelopment properties: 2019 deliveries

399 Binney Street Greater Boston/Cambridge 164,000 RSF Rubius Therapeutics, Inc. Relay Therapeutics, Inc. Celsius Therapeutics, Inc.	266 and 275 Second Avenue Greater Boston/Route 128 31,858 RSF Blossom Innovations, LLC Multi-Tenant/Marketing	1655 and 1725 Third Street San Francisco/Mission Bay/SoMa 593,765 RSF Uber Technologies, Inc.
279 East Grand Avenue San Francisco/South San Francisco 211,405 RSF Verily Life Sciences, LLC insitro, Inc.	681 Gateway Boulevard San Francisco/South San Francisco 142,400 RSF Eli Lilly and Company Twist Bioscience Corporation Multi-Tenant/Marketing	Menlo Gateway San Francisco/Greater Stanford 520,988 RSF Facebook, Inc.

New Class A development and redevelopment properties: 2019 deliveries (continued)

Alexandria PARC	Alexandria Life Science Factory at Long Island City	188 East Blaine Street
San Francisco/Greater Stanford 48,547 RSF	New York City/New York City 140,098 RSF	Seattle/Lake Union 198,000 RSF
Adaptive Insights, Inc.	Multi-Tenant/Marketing	bluebird bio, Inc. Seattle Cancer Care Alliance Sana Biotechnology, Inc. Multi-Tenant/Marketing
704 Quince Orchard Road Maryland/Gaithersburg 55,347 RSF	5 Laboratory Drive Research Triangle Park/RTP 121,477 RSF	
Multi-Tenant/Marketing	Arysta LifeScience Inc. StrideBio, Inc. GreenLight Biosciences, Inc.	

New Class A development and redevelopment properties: 2019 deliveries (continued)

The following table sets forth a summary of our new Class A development and redevelopment properties projected to be delivered in 2019, as of December 31, 2018 (dollars in thousands):

Property/Market/Submarket	Dev/Redev	Square Footage			Percentage		Project Start	Occupancy ⁽¹⁾	
		In Service	Construction	Total	Leased	Leased/Not Negotiating		Initial	Stabilized
Consolidated projects									
266 and 275 Second Avenue/Greater Boston/Route 128	Redev	171,899	31,858	203,757	90 %	90 %	3Q17	1Q18	2019
5 Laboratory Drive/Research Triangle Park/RTP	Redev	53,523	121,477	175,000	93	100	2Q17	2Q18	2019
399 Binney Street/Greater Boston/Cambridge	Dev	—	164,000	(2) 164,000	98	98	4Q17	1Q19	2019
279 East Grand Avenue/San Francisco/South San Francisco	Dev	—	211,405	211,405	100	100	4Q17	1Q19	2020
Alexandria PARC/San Francisco/Greater Stanford	Redev	148,951	48,547	197,498	100	100	1Q18	2Q19	2Q19
188 East Blaine Street/Seattle/Lake Union	Dev	—	198,000	198,000	49	68	2Q18	2Q19	2020
681 Gateway Boulevard/San Francisco/South San Francisco ⁽³⁾	Redev	—	142,400	142,400	89	97	3Q18	2Q19	2020
Alexandria Life Science Factory at Long Island City/New York City/New York City	Redev	36,661	140,098	176,759	21	21	4Q18	4Q19	2020
		411,034	1,057,785	1,468,819					
Unconsolidated joint venture projects ⁽⁴⁾ (amounts represent 100%)									
704 Quince Orchard Road/Maryland/Gaithersburg	Redev	24,584	55,347	79,931	44	48	1Q18	4Q18	2020
Menlo Gateway/San Francisco/Greater Stanford	Dev	251,995	520,988	772,983	100	100	4Q17	4Q19	4Q19
1655 and 1725 Third Street/San Francisco/Mission Bay/SoMa	Dev	—	593,765	593,765	100	100	1Q18	4Q19	4Q19
		276,579	1,170,100	1,446,679					
2019 deliveries		687,613	2,227,885	2,915,498	88 %	91 %			

Property/Market/Submarket	Our Ownership Interest	In Service	CIP	Cost to Complete		Total at Completion	Unlevered Yields	
				Construction Loan	ARE Funding		Initial Stabilized	Initial Stabilized (Cash)
Consolidated projects								

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266 and 275 Second Avenue/Greater Boston/Route 128	100 %	\$72,991	\$10,568	\$—	\$5,441	\$89,000	8.4%	7.1 %
5 Laboratory Drive/Research Triangle Park/RTP	100 %	17,155	37,151	—	8,194	62,500	7.7	7.6
399 Binney Street/Greater Boston/Cambridge	100 %	—	160,705	—	13,295	174,000	7.3	6.7
279 East Grand Avenue/San Francisco/South San Francisco	100 %	—	98,277	—	52,723	151,000	7.8	8.1
Alexandria PARC/San Francisco/Greater Stanford	100 %	95,545	36,764	—	17,691	150,000	7.3	6.1
188 East Blaine Street/Seattle/Lake Union	100 %	—	97,855	—	92,145	190,000	6.7	6.7
681 Gateway Boulevard/San Francisco/South San Francisco	100 %	—	55,812	—	52,188	108,000	8.5	7.9
Alexandria Life Science Factory at Long Island City/New York City/New York City	100 %	16,986	61,543	—	105,771	184,300	5.5	5.6
		202,677	558,675	—	347,448	1,108,800		
Unconsolidated joint venture projects ⁽⁴⁾ (amounts represent our share)								
704 Quince Orchard Road/Maryland/Gaithersburg	56.8 %	1,827	5,800	4,809	864	13,300	8.9	8.8
Menlo Gateway/San Francisco/Greater Stanford	38.5 %	100,196	138,452	92,205	99,147	430,000	6.9	6.3
1655 and 1725 Third Street/San Francisco/Mission Bay/SoMa	10.0 %	—	55,542	20,097	2,361	78,000	7.8	6.0
		102,023	199,794	117,111	102,372	521,300		
2019 deliveries		\$304,700	\$758,469	\$117,111	\$449,820	\$1,630,100	7.2%	6.7 %

(1) Initial occupancy dates are subject to leasing and/or market conditions. Stabilized occupancy may vary depending on single tenancy versus multi-tenancy.

(2) We delivered 123,403 RSF during January 2019 to three life science entities.

(3) Conversion of single-tenant office space to multi-tenant office/laboratory space through redevelopment.

(4) Refer to the “Consolidated and Unconsolidated Real Estate Joint Ventures” section under Item 7 of this annual report on Form 10-K for additional information.

New Class A development and redevelopment properties: Projected 2020 deliveries

201 Haskins Way San Francisco/South San Francisco 280,000 RSF	825 and 835 Industrial Road San Francisco/Greater Stanford 530,000 RSF	ARE Spectrum San Diego/Torrey Pines 87,000 RSF	Campus Pointe by Alexandria San Diego/University Town Center 98,000 RSF	
1165 Eastlake Avenue East Seattle/Lake Union 106,000 RSF	9800 Medical Center Drive Maryland/Rockville 174,640 RSF	9950 Medical Center Drive Maryland/Rockville 83,137 RSF	6 Davis Drive Research Triangle Park/RTP 200,000 RSF	9 Laboratory Drive Research Triangle Park/RTP 100,000 RSF

New Class A development and redevelopment properties: Projected 2020 deliveries (continued)

The following table sets forth a summary of our new Class A development and redevelopment properties projected to be delivered in 2020, as of December 31, 2018:

Property/Market/Submarket	Dev/ Redev	Square Footage In Service	CIP	Total
2020 deliveries: consolidated projects				
201 Haskins Way/San Francisco/South San Francisco	Dev	—	280,000	280,000
825 and 835 Industrial Road/Greater Stanford/San Francisco	Dev	—	530,000	530,000
ARE Spectrum/San Diego/Torrey Pines	Dev	336,461	87,000	423,461
Campus Pointe by Alexandria/San Diego/University Town Center	Dev	1,067,847	98,000	1,165,847
1165 Eastlake Avenue East/Lake Union/Seattle	Dev	—	106,000	106,000
9800 Medical Center Drive/Maryland/Rockville	Dev	—	174,640	174,640
9950 Medical Center Drive/Maryland/Rockville	Dev	—	83,137	83,137
6 Davis Drive/Research Triangle Park/RTP	Dev	—	200,000	200,000
9 Laboratory Drive/Research Triangle Park/RTP	Dev	—	100,000	100,000
2020 deliveries		1,404,308	1,658,777	3,063,085

New Class A development and redevelopment properties: summary of pipeline

The following table summarizes the key information for all our development and redevelopment projects in North America as of December 31, 2018 (dollars in thousands):

Property/Submarket	Our Ownership Book Value Interest		Square Footage Projected Deliveries			Future	Total			
			2019	2020	2021–2022					
Greater Boston										
Undergoing construction or pre-construction										
399 Binney (Alexandria Center® at One Kendall Square)/Cambridge	100	%	\$ 160,705	164,000	—	—	—	164,000		
266 and 275 Second Avenue/Route 128	100	%	10,568	31,858	—	—	—	31,858		
325 Binney Street/Cambridge	100	%	99,977	—	—	208,965	(1)	—	208,965	
99 A Street/Seaport Innovation District	97.4	%	35,747	—	—	235,000	(2)	—	235,000	
215 Presidential Way/Route 128	100	%	5,373	—	—	130,000	—	—	130,000	
231 Second Avenue/Route 128	100	%	1,251	—	—	32,000	—	—	32,000	
Future development										
Alexandria Technology Square®/Cambridge	100	%	7,787	—	—	—	—	100,000	100,000	
100 Tech Drive/Route 128	100	%	—	—	—	—	—	300,000	300,000	
Other value-creation projects	100	%	7,280	—	—	—	—	225,599	225,599	
			328,688	195,858	—	605,965	—	625,599	1,427,422	
San Francisco										
Undergoing construction or pre-construction										
1655 and 1725 Third Street/Mission Bay/SoMa	10.0	%	—	(3)	593,765	—	—	—	593,765	
279 East Grand Avenue/South San Francisco	100	%	98,277	—	211,405	—	—	—	211,405	
681 Gateway Boulevard/South San Francisco	100	%	55,812	—	142,400	—	—	—	142,400	
Menlo Gateway/Greater Stanford	38.5	%	—	(3)	520,988	—	—	—	520,988	
Alexandria PARC/Greater Stanford	100	%	36,764	—	48,547	—	—	—	48,547	
201 Haskins Way/South San Francisco	100	%	51,782	—	—	280,000	—	—	280,000	
825 and 835 Industrial Road/Greater Stanford	100	%	137,856	—	—	530,000	—	—	530,000	
88 Bluxome Street/Mission Bay/SoMa	100	%	177,530	—	—	—	—	1,070,925	(2)	1,070,925
505 Brannan Street, Phase II/Mission Bay/SoMa	99.7	%	16,459	—	—	165,000	—	—	165,000	

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960 Industrial Road/Greater Stanford	100	%	82,830	—	—	533,000	(2)(4)	—	533,000
Future development									
East Grand Avenue/South San Francisco	100	%	5,988	—	—	—		90,000	90,000
Other value-creation projects	100	%	34,266	—	—	418,000		25,000	443,000
			697,564	1,517,105	810,000	2,186,925		115,000	4,629,030
New York City									
Undergoing construction or pre-construction									
Alexandria Life Science									
Factory at Long Island City – New York City/	100	%	61,543	140,098	—	—		—	140,098
New York City									
Alexandria Center® for Life									
Science – New York City/New York City	100	%	15,194	—	—	550,000		—	550,000
Future redevelopment									
219 East 42nd Street/New York City	100	%	—	—	—	—		579,947 ⁽⁵⁾	579,947
			\$76,737	140,098	—	550,000		579,947	1,270,045

(1) We are seeking additional entitlements to at least double the density on the site from its current 208,965 RSF.

(2) Represents total square footage upon completion of development of a new Class A property. RSF presented includes RSF of a building currently in operation that will be demolished upon commencement of construction.

(3) This property is held by an unconsolidated real estate joint venture. Refer to the “Consolidated and Unconsolidated Real Estate Joint Ventures” section under Item 7 of this annual report on Form 10-K for additional information on our ownership interest.

(4) Represents total RSF available for future development in either (i) one phase aggregating 533,000 RSF or (ii) two phases consisting of 423,000 RSF and 110,000 RSF, upon receiving entitlements.

(5) Includes 349,947 RSF in operation with an opportunity to either convert the existing office space into office/laboratory space through future redevelopment or to expand the building by an additional 230,000 RSF through ground-up development. The building is currently occupied by Pfizer Inc. with a remaining lease term of six years.

New Class A development and redevelopment properties: summary of pipeline (continued)

Property/Submarket	Our Ownership Interest		Book Value	Square Footage Projected Deliveries			Future	Total
				2019	2020	2021–2022		
San Diego								
Undergoing construction or pre-construction								
ARE Spectrum/Torrey Pines	100 %		\$29,698	—	87,000	—	—	87,000
Campus Pointe by Alexandria/University Town Center	(1)		82,147	—	98,000	406,455 ⁽²⁾	—	504,455
5200 Illumina Way/University Town Center	100 %		11,716	—	—	386,044	—	386,044
Townsgate by Alexandria/Del Mar Heights	100 %		17,858	—	—	125,000	—	125,000
Future development								
Campus Pointe by Alexandria/University Town Center	(1)		43,389	—	—	—	290,283 ⁽³⁾	290,283
Vista Wateridge/Sorrento Mesa	100 %		4,022	—	—	—	163,000	163,000
Other value-creation projects	100 %		5,931	—	—	—	222,895	222,895
			194,761	—	185,000	917,499	676,178	1,778,677
Seattle								
Undergoing construction or pre-construction								
188 East Blaine Street/Lake Union	100 %		97,855	198,000	—	—	—	198,000
1165 Eastlake Avenue East/Lake Union	100 %		18,010	—	106,000	—	—	106,000
1150 Eastlake Avenue East/Lake Union	100 %		23,313	—	—	260,000	—	260,000
701 Dexter Avenue North/Lake Union	100 %		37,701	—	—	217,000	—	217,000
			176,879	198,000	106,000	477,000	—	781,000
Maryland								
Undergoing construction or pre-construction								
704 Quince Orchard Road/Gaithersburg	56.8 %		— ⁽⁴⁾	55,347	—	—	—	55,347
9800 Medical Center Drive/Rockville	100 %		14,116	—	174,640	—	—	174,640

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9950 Medical Center Drive/Rockville	100	%	5,375	—	83,137	—	—	83,137
Future development								
9800 Medical Center Drive/Rockville	100	%	1,214	—	—	—	64,000	64,000
			20,705	55,347	257,777	—	64,000	377,124
Research Triangle Park Undergoing construction or pre-construction								
5 Laboratory Drive/Research Triangle Park	100	%	37,151	121,477	—	—	—	121,477
6 Davis Drive/Research Triangle Park	100	%	2,306	—	200,000	—	—	200,000
9 Laboratory Drive/Research Triangle Park	100	%	1,634	—	100,000	—	—	100,000
Future development								
6 Davis Drive/Research Triangle Park	100	%	15,317	—	—	—	800,000	800,000
Other value-creation projects	100	%	4,149	—	—	—	76,262	76,262
			60,557	121,477	300,000	—	876,262	1,297,739
Other value-creation projects	100	%	3,725	—	—	—	146,800	146,800
			\$1,559,616	2,227,885	1,658,777	4,737,389	3,083,786	11,707,837(5)

Includes current and future development projects at 9880 Campus Point Drive, 10260 Campus Point Drive, and (1)4161 Campus Point Court, for which our ownership interest is 100%, and land parcels adjacent to Campus Pointe by Alexandria, for which our ownership interest is 55%.

Includes RSF of our future redevelopment and expansion opportunities at our newly acquired 10260 Campus Point Drive property. RSF presented includes 109,164 RSF of the building currently in operation that will be (2)redeveloped and expanded into a 176,455 RSF Class A building, which is pre-leased 100% for 15 years with target delivery in 2021.

Includes RSF of our newly acquired building at 4161 Campus Point Court. Upon expiration of the existing lease, (3)4161 Campus Point Court will support future development aggregating 201,900 RSF through one or more Class A buildings at our Campus Pointe by Alexandria campus.

This property is held by an unconsolidated real estate joint venture. Refer to the “Consolidated and Unconsolidated (4)Real Estate Joint Ventures” section under Item 7 of this annual report on Form 10-K for additional information on our ownership interest.

Total RSF includes 970,180 RSF of buildings currently in operation that will be redeveloped or replaced with new (5)development RSF upon commencement of future construction. Refer to footnote 2 in the “Investments in Real Estate” section within this Item 2 for additional information.

Non-revenue-enhancing
 capital
 expenditures
 and
 tenant
 improvements
 Total
 projected
 construction
 spending
 Guidance
 range

\$1,300,000
 \$1,250,000-1,350,000

Includes \$45 million to \$50 million of projected construction spending related to the replacement of an existing (1) property at 9880 Campus Point Drive, in our University Town Center submarket, with a new Class A office/laboratory property aggregating 98,000 RSF.

Non-revenue-enhancing capital expenditures, tenant improvements, and leasing costs

The table below presents the average per RSF of property-related non-revenue-enhancing capital expenditures, tenant improvements, and leasing costs, excluding capital expenditures and tenant improvements that are recoverable from tenants, revenue enhancing, or related to properties that have undergone redevelopment (dollars in thousands, except per RSF amounts):

Non-Revenue-Enhancing Capital Expenditures, Tenant Improvements, and Leasing Costs ⁽¹⁾	Year Ended December 31, 2018		Recent Average per RSF ⁽²⁾
	Amount	Per RSF	
Non-revenue-enhancing capital expenditures	\$11,740	\$0.54	\$ 0.51
Tenant improvements and leasing costs:			
Re-tenanted space	\$25,244	\$25.82	\$ 20.81
Renewal space	17,784	16.02	12.59
Total tenant improvements and leasing costs/weighted average	\$43,028	\$20.61	\$ 15.49

(1) Excludes amounts that are recoverable from tenants, related to revenue-enhancing capital expenditures, or related to properties that have undergone redevelopment.

(2) Represents the average for a five-year period from 2014 to 2018.

ITEM 3. LEGAL PROCEEDINGS

To our knowledge, no legal proceedings are pending against us, other than routine actions and administrative proceedings, and other actions not deemed material, substantially all of which are expected to be covered by liability insurance and which, in the aggregate, are not expected to have a material adverse effect on our financial condition, results of operations, or cash flows.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

PART II

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS, AND ISSUER PURCHASES OF EQUITY SECURITIES

Our common stock is traded on the NYSE under the symbol "ARE." On January 15, 2019, the last reported sales price per share of our common stock was \$120.93, and there were 398 holders of record of our common stock (excluding beneficial owners whose shares are held in the name of Cede & Co.).

To maintain our qualification as a REIT, we must make annual distributions to stockholders of at least 90% of our taxable income for the current taxable year, determined without regard to deductions for dividends paid and excluding any net capital gains. Under certain circumstances, we may be required to make distributions in excess of cash flows available for distributions to meet these distribution requirements. In such a case, we may borrow funds or may raise funds through the issuance of additional debt or equity capital. No dividends can be paid on our common stock unless we have paid full cumulative dividends on our preferred stock. From the date of issuance of our preferred stock through December 31, 2018, we have paid full cumulative dividends on our preferred stock. Future distributions on our common stock will be determined by, and made at the discretion of, our Board of Directors and will depend on a number of factors, including actual cash available for distribution to our stockholders, our financial condition and capital requirements, the annual distribution requirements under the REIT provisions of the Internal Revenue Code, restrictions under Maryland law, and such other factors as our Board of Directors deems relevant. We cannot assure our stockholders that we will make any future distributions.

Refer to "Item 12. Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters" of this annual report on Form 10-K for information on securities authorized for issuance under equity compensation plans.

ITEM 6. SELECTED FINANCIAL DATA

The following table should be read in conjunction with our consolidated financial statements and notes thereto appearing elsewhere in this annual report on Form 10-K. Refer to “Item 15. Exhibits and Financial Statement Schedules.”

(In thousands, except per share amounts)	Year Ended December 31,				
	2018	2017	2016	2015	2014
Operating Data:					
Revenues:					
Rental	\$1,010,718	\$863,181	\$673,820	\$608,824	\$544,153
Tenant recoveries	304,063	259,144	223,655	209,063	173,480
Other income	12,678	5,772	24,231	25,587	9,244
Total revenues	1,327,459	1,128,097	921,706	843,474	726,877
Expenses:					
Rental operations	381,120	325,609	278,408	261,232	219,164
General and administrative	90,405	75,009	63,884	59,621	53,530
Interest	157,495	128,645	106,953	105,813	79,299
Depreciation and amortization	477,661	416,783	313,390	261,289	224,096
Impairment of real estate	6,311	203	209,261	23,250	51,675
Loss on early extinguishment of debt	1,122	3,451	3,230	189	525
Total expenses	1,114,114	949,700	975,126	711,394	628,289
Equity in earnings (losses) of unconsolidated real estate JVs	43,981	15,426	(184)	1,651	554
Investment income	136,763	—	—	—	—
Gain on sales of real estate – rental properties	8,704	270	3,715	12,426	—
Income (loss) from continuing operations	402,793	194,093	(49,889)	146,157	99,142
(Loss) income from discontinued operations ⁽¹⁾	—	—	—	(43)	1,233
Gain on sales of real estate – land parcels	—	111	90	—	6,403
Net income (loss)	402,793	194,204	(49,799)	146,114	106,778
Net income attributable to noncontrolling interests	(23,481)	(25,111)	(16,102)	(1,897)	(5,204)
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s stockholders	379,312	169,093	(65,901)	144,217	101,574
Dividends on preferred stock	(5,060)	(7,666)	(20,223)	(24,986)	(25,698)
Preferred stock redemption charge	(4,240)	(11,279)	(61,267)	—	(1,989)
Net income attributable to unvested restricted stock awards	(6,029)	(4,753)	(3,750)	(2,364)	(1,774)
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s common stockholders	\$363,983	\$145,395	\$(151,141)	\$116,867	\$72,113
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.’s common stockholders – basic					
Continuing operations	\$3.53	\$1.59	\$(1.99)	\$1.63	\$0.99
Discontinued operations ⁽¹⁾	—	—	—	—	0.02
Net income (loss) per share	\$3.53	\$1.59	\$(1.99)	\$1.63	\$1.01
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.’s common stockholders – diluted					
Continuing operations	\$3.52	\$1.58	\$(1.99)	\$1.63	\$1.01
Discontinued operations ⁽¹⁾	—	—	—	—	—

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Net income (loss) per share	\$3.52	\$1.58	\$(1.99)	\$1.63	\$1.01
Weighted-average shares of common stock outstanding – basic	103,009,710	91,546,495	76,102,617	71,528,843	71,169,694
Weighted-average shares of common stock outstanding – diluted	103,321,208	92,063,276	76,102,617	71,528,843	71,169,694
Dividends declared per share of common stock	\$3.73	\$3.45	\$3.23	\$3.05	\$2.88
Balance Sheet Data (at year end):					
Investments in real estate	\$11,913,693	\$10,298,019	\$9,077,972	\$7,629,922	\$7,108,610
Total assets	\$14,464,956	\$12,103,953	\$10,354,888	\$8,881,017	\$8,109,038
Total debt	\$5,478,255	\$4,764,807	\$4,164,025	\$3,935,692	\$3,651,581
Total liabilities	\$6,570,242	\$5,620,784	\$4,972,610	\$4,587,053	\$4,199,480
Redeemable noncontrolling interests	\$10,786	\$11,509	\$11,307	\$14,218	\$14,315
Total equity	\$7,883,928	\$6,471,660	\$5,370,971	\$4,279,746	\$3,895,243

(1) Refer to Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information on discontinued operations.

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(Dollars in thousands, except per occupied RSF amounts)	Year Ended December 31,				
	2018	2017	2016	2015	2014
Other Data:					
Net cash provided by operating activities	\$570,339	\$450,882	\$393,487	\$342,551	\$330,184
Net cash used in investing activities	\$2,161,760	\$1,737,126	\$1,498,406	\$716,505	\$632,922
Net cash provided by financing activities	\$1,588,433	\$1,420,341	\$1,093,775	\$415,284	\$332,721
Number of properties – North America	237	213	199	191	184
RSF – North America (including development and redevelopment projects under construction)	24,587,438	21,981,133	19,869,729	18,874,070	17,356,818
Occupancy of operating properties – North America	97.3%	96.8%	96.6%	97.2%	97.0%
Occupancy of operating and redevelopment properties – North America	95.1%	94.7%	95.7%	93.7%	96.1%
Annual rental revenue per occupied RSF – North America	\$48.42	\$48.01	\$45.15	\$41.17	\$38.68
Reconciliation of net income (loss) attributable to Alexandria’s common stockholders to funds from operations attributable to Alexandria’s common stockholders – diluted:					
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s common stockholders	\$363,983	\$145,395	\$(151,141)	\$116,867	\$72,113
Depreciation and amortization ⁽¹⁾	477,661	416,783	313,390	261,289	224,096
Noncontrolling share of depreciation and amortization from consolidated real estate JVs	(16,077)	(14,762)	(9,349)	(372)	—
Our share of depreciation and amortization from unconsolidated real estate JVs ⁽³⁾	3,181	1,551	2,707	1,734	329
Gain on sales of real estate – rental properties	(8,704)	(270)	(3,715)	(12,426)	(1,838)
Our share of gain on sales of real estate from unconsolidated real estate JVs ⁽³⁾	(35,678)	(14,106)	—	—	—
Gain on sales of real estate – land parcels	—	(111)	(90)	—	(6,403)
Impairment of real estate – rental properties	—	203	98,194	23,250	26,975
Assumed conversion of 7.00% Series D cumulative convertible preferred stock ⁽⁴⁾	5,060	—	—	—	—
Allocation to unvested restricted stock awards	(5,961)	(2,920)	—	(1,758)	(690)
Funds from operations attributable to Alexandria’s common stockholders – diluted	783,465	531,763	249,996	388,584	314,582
Unrealized gains on non-real estate investments	(99,634)	—	—	—	—
Realized gains on non-real estate investments	(14,680)	—	(4,361)	(13,109)	—
Impairment of real estate – land parcels	6,311	—	110,474	—	24,700
Impairment of non-real estate investments	5,483	8,296	3,065	—	—
Loss on early extinguishment of debt	1,122	3,451	3,230	189	525
Our share of gain on early extinguishment of debt from unconsolidated real estate JVs ⁽³⁾	(761)	—	—	—	—
Preferred stock redemption charge	4,240	11,279	61,267	—	1,989
Removal of assumed conversion of 7.00% Series D cumulative convertible preferred stock ⁽⁴⁾	(5,060)	—	—	—	—

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Allocation to unvested restricted stock awards	1,517	(321)	(2,356)	110	(226)
Funds from operations attributable to Alexandria's common stockholders – diluted, as \$682,003 adjusted ⁽⁵⁾		\$554,468		\$421,315		\$375,774		\$341,570

(1) Includes depreciation and amortization classified in discontinued operations related to assets held for sale (for the periods prior to when such assets were designated as held for sale).

(2) Gain on sales of real estate – rental properties recognized prior to the fourth quarter of 2014 is classified in (loss) income from discontinued operations in our consolidated statements of operations.

(3) Classified in equity in earnings of unconsolidated real estate joint ventures in our consolidated statements of operations under Item 15 of this annual report on Form 10-K.

(4) Refer to “Weighted-Average Share of Common Stock Outstanding – Diluted” in the “Non-GAAP Measures and Definitions” section under Item 7 in this annual report on Form 10-K for additional information regarding our 7.00% Series D cumulative convertible preferred stock.

(5) Refer to “Funds From Operations and Funds From Operations, as Adjusted, Attributable to Alexandria Real Estate Equities, Inc.’s Common Stockholders” in the “Non-GAAP Measures and Definitions” section under Item 7 in this annual report on Form 10-K.

(6) Related to two publicly traded non-real estate investments in life science entities.

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion should be read in conjunction with our consolidated financial statements and notes thereto under "Item 15. Exhibits and Financial Statement Schedules" in this annual report on Form 10-K. Forward-looking statements involve inherent risks and uncertainties regarding events, conditions, and financial trends that may affect our future plans of operations, business strategy, results of operations, and financial position. A number of important factors could cause actual results to differ materially from those included within or contemplated by such forward-looking statements, including, but not limited to, those described under "Item 1A. Risk Factors" in this annual report on Form 10-K. We do not undertake any responsibility to update any of these factors or to announce publicly any revisions to any of the forward-looking statements contained in this or any other document, whether as a result of new information, future events, or otherwise.

As used in this annual report on Form 10-K, references to the "Company," "Alexandria," "we," "us," and "our" refer to Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries.

Executive summary

Operating results

	Year Ended December 31,	
	2018	2017
Net income attributable to Alexandria's common stockholders – diluted:		
In millions	\$364.0	\$145.4
Per share	\$3.52	\$1.58
Funds from operations attributable to Alexandria's common stockholders – diluted, as adjusted:		
In millions	\$682.0	\$554.5
Per share	\$6.60	\$6.02

The operating results shown above include certain items related to corporate-level investing and financing decisions. Refer to the tabular presentation of these items in the "Results of Operations" section within this Item 7 for additional information.

A REIT industry-leading, high-quality tenant roster

52% of annual rental revenue from investment-grade or publicly traded large cap tenants.

Continuation of strong rental rate growth and leasing activity

Strong rental rate increases of 24.1% and 14.1% (cash basis) for the year ended December 31, 2018. The rental rate increase of 14.1% (cash basis) represents our highest annual increase during the past 10 years. Our leasing activity aggregating 4.7 million RSF for 2018 represents the second highest annual leasing activity in our history.

Sale of partial interest in core Class A property

In February 2019, we executed a purchase and sale agreement to sell a 60% interest in 75/125 Binney Street, a Class A property in our Cambridge submarket, for a sales price of \$438 million, or \$1,880 per RSF, representing a 4.3%

capitalization rate on net operating income (cash basis), annualized for the three months ended December 31, 2018. We expect to complete this partial interest sale during the first quarter of 2019 and to reinvest these proceeds into our value-creation pipeline.

Key sale of unconsolidated real estate joint venture interest

In September 2018, we sold our remaining 27.5% ownership interest in the unconsolidated real estate joint venture that owned 360 Longwood Avenue, located in the Longwood Medical Area submarket at a gross sales price of \$1,659 per RSF, with capitalization rates of 5.1% and 4.7% (cash basis). Our share of the contractual sales price, net of debt repaid, was \$70.0 million, and our gain on sale was \$35.7 million.

2018 credit rating improvement

During 2018, Moody's Investors Service upgraded our corporate issuer credit rating to Baa1/Stable from Baa2/Stable and S&P Global Ratings raised its credit outlook for our corporate credit rating to BBB/Positive from BBB/Stable.

Increased common stock dividend

Common stock dividend declared for the year ended December 31, 2018, of \$3.73 per common share, up 28 cents, or 8%, over the year ended December 31, 2017; continuation of our strategy to share growth in cash flows from operating activities with our stockholders while also retaining a significant portion for reinvestment.

Investments

We carry our investments in publicly traded companies and certain privately held entities at fair value. As of December 31, 2018, cumulative unrealized gains related to changes in fair value aggregated \$240.2 million.

Investment income included the following:

- Unrealized losses of \$94.9 million and unrealized gains of \$99.6 million recognized during the three months and year ended December 31, 2018, respectively; and

- Realized gains of \$11.3 million and \$37.1 million recognized during the three months and year ended December 31, 2018, respectively.

Strong internal growth

- Total revenues of \$1.3 billion, up 17.7%, for the year ended December 31, 2018, compared to \$1.1 billion for the year ended December 31, 2017.

- Net operating income (cash basis) of \$830.5 million for the year ended December 31, 2018, increased by \$154.7 million, or 22.9%, compared to the year ended December 31, 2017.

Same property net operating income growth of 3.7% and 9.2% (cash basis) for the year ended December 31, 2018, compared to the year ended December 31, 2017. Growth of 9.2% (cash basis) represents the highest annual increase during the past 10 years.

- Continued strong leasing activity and rental rate growth in light of modest contractual lease expirations at the beginning of 2018 and a highly leased value-creation pipeline:

	2018
Total leasing activity – RSF	4,721,692
Lease renewals and re-leasing of space:	
RSF (included in total leasing activity above)	2,088,216
Rental rate increases	24.1%
Rental rate increases (cash basis)	14.1%

Executed key leases during the year ended December 31, 2018 (included in total leasing activity above):

Property	Submarket	RSF	Tenant
1655 and 1725 Third Street	Mission Bay/SoMa	593,765	Uber Technologies, Inc.
Summers Ridge Science Park	Sorrento Mesa	192,070	Quidel Corporation
10260 Campus Point Drive	University Town Center	176,455	Leidos, Inc.
399 Binney Street	Cambridge	161,145	Three life science entities
215 First Street	Cambridge	163,842	Sarepta Therapeutics, Inc.
9800 Medical Center Drive	Rockville	132,487	Regenxbio, Inc.
300 Third Street	Cambridge	129,424	Alnylam Pharmaceuticals, Inc.
681 Gateway Boulevard	South San Francisco	126,963	Twist Bioscience Corp., Eli Lilly and Company
Alexandria Center® at One Kendall Square	Cambridge	125,191	Ipsen Bioscience, Inc., Bill & Melinda Gates Foundation
960 Industrial Road	Greater Stanford	110,000	Joby Aero, Inc.
1201 Eastlake Avenue East	Lake Union	106,106	Fred Hutchinson Cancer Research Center
279 East Grand Avenue	South San Francisco	104,013	Verily Life Sciences, LLC
950 Wind River Lane	Gaithersburg	50,000	AstraZeneca PLC

Strong external growth; disciplined allocation of capital to visible, highly leased value-creation pipeline

Significant development and redevelopment projects placed into service during, and subsequent to, the year ended December 31, 2018:

Property	Submarket	RSF	Leased	Tenant
213 East Grand Avenue	South San Francisco	300,930	100%	Merck & Co., Inc.
9625 Towne Centre Drive	University Town Center	163,648	100%	Takeda Pharmaceutical Company Ltd.
100 Binney Street	Cambridge	91,155	100%	Four biotechnology entities
5 Laboratory Drive	Research Triangle Park	53,523	100%	Boragen, Inc., Elo Life Systems, Inc., Indigo Ag, Inc.
9900 Medical Center Drive	Rockville	45,039	58%	Lonza Walkersville, Inc.
266 and 275 Second Avenue	Cambridge	27,315	100%	Visterra, Inc.
January 2019:				
399 Binney Street	Cambridge	123,403	100%	Three life science entities

Future growth of net operating income (cash basis) driven by recently delivered projects

Significant near-term growth of net operating income (cash basis) of \$42 million upon the burn-off of initial free rent on recently delivered projects.

Completed acquisitions

Refer to the “Acquisitions” subsection of the “Investments in Real Estate” section under “Item 2. Properties” of this annual report on Form 10-K for information on our opportunistic acquisitions.

Core operating metrics as of and for the year ended December 31, 2018

Percentage of annual rental revenue in effect from:

Investment-grade or publicly traded large cap tenants	52 %
Class A properties in AAA locations	77 %
Occupancy of operating properties in North America	97.3%
Operating margin	71 %
Adjusted EBITDA margin	69 %
Weighted-average remaining lease term:	
All tenants	8.6 years
Top 20 tenants	12.3 years

See “Strong Internal Growth” in the above section for information on our leasing activity, net operating income, rental rate growth, total revenue, and same property net operating income growth.

Balance sheet management

Refer to the “Execution of Capital Strategy” section below within this Item 7 of this annual report on Form 10-K.

Corporate responsibility and industry leadership

- Two of our properties received LEED certifications, demonstrating our commitment to sustainability:
 - In March 2018, 505 Brannan Street in our Mission Bay/SoMa submarket received LEED Platinum certification; and
 - In April 2018, 100 Binney Street in our Cambridge submarket received LEED Gold certification.
- In January 2018, we were awarded a 2017 Governor’s Environmental and Economic Leadership Award, California’s highest environmental honor recognizing entities that have demonstrated exceptional leadership and made notable contributions to conserving precious natural resources while promoting economic growth.
- In January 2018, we launched the Alexandria Seed Capital Platform, an innovative seed-stage life science funding model and extension of Alexandria LaunchLabs®, which provides seed-stage financing to transformative life science companies. Alexandria Seed Capital Platform drives the growth of seed- and early-stage companies in New York City and across the country.
- In February 2018, Menlo Gateway in our Greater Stanford submarket was awarded “Development of the Year” by NAIOP San Francisco at its “Best of the Bay” awards event.
- Nareit CARE Gold Award winner:
 - 2018 recipient of the Nareit Gold Investor CARE (Communications and Reporting Excellence) Award in the Large Cap Equity REIT category as the best-in-class REIT that delivers transparency, quality, and efficient communications and reporting to the investment community, which is our third Nareit Gold Investor CARE Award (2015, 2016, and 2018).
- In May 2018, Joel S. Marcus, executive chairman and founder, served as a keynote speaker at the Research Triangle Regional Partnership’s 2018 State of the Region. The event highlighted how the region can facilitate economic growth and infrastructural improvements to prepare for more diversified expansion in the future.
- In June 2018, Circulate San Diego awarded 9880 Campus Point Drive in our University Town Center submarket the Circulate Mobility Certification, formerly known as the MOVE Alliance Certification. The certification is awarded for transit-oriented, smart growth projects in the San Diego region.
- In June 2018, we released our inaugural 2017 Corporate Responsibility Report that highlights our continual efforts to make a positive, meaningful and purposeful impact on the health, safety and well-being of our tenants, stockholders and employees, as well as on the communities in which we live and work.
- During the three months ended September 30, 2018, we received the following awards and recognitions:
 - Second consecutive “Green Star” designation and first “A” disclosure score by GRESB, and were recognized as the #1 real estate company in the world in GRESB’s Health & Well-being Module;

Two design awards related to our interior build-out at 505 Brannan Street in our Mission Bay/SoMa submarket:

Architizer A+ Award for Commercial Office Interiors greater than 25,000 SF; and

Award of Merit for Best Projects 2018 from ENR California.

First place in the High-Rise category of the City of Seattle's 2017 People's Choice Urban Design Awards for our 400 Dexter Avenue North building;

Sustainable Design Awards winner in the Sustainable Private Organization category from the San Diego Green Building Council; and

Silver Tier recognition in SANDAG's Diamond Awards program for our commuting programs that encourage alternative transportation.

Our philanthropy and volunteerism efforts focus on providing mission-critical support to non-profit organizations doing impactful work in the areas of medical research, STEM education, military support services, and local communities. In 2018, our team members volunteered more than 2,600 hours to support over 250 non-profit organizations across the country.

We value both the health and wellness of our team members as well as supporting organizations on the leading edge of medical innovation. We were honored to support 49 team members in the November 2018 New York City Marathon in order to benefit Memorial Sloan Kettering Cancer Center.

In November 2018, Robin Hood, New York City's largest poverty-fighting organization, held its annual investor conference, at which Joel S. Marcus, our executive chairman and founder, curated and moderated the "Go Long on Ag" panel that focused on the critical need for agricultural innovation to provide more nutritious food in order to feed a rapidly growing population.

In November 2018, Ari Frankel, our assistant vice president of sustainability and high performance buildings, was elected 2019 Chair of Nareit's Real Estate Sustainability Council.

In January 2019, we were recognized as the most active biopharma investor by new deal volume in 2017-2018 by Silicon Valley Bank in its "Trends in Healthcare Investments and Exits 2019" report and ranked by Forbes as the top venture capital investor in the healthcare sector by U.S.-based deal volume in 2018.

Operating summary

Favorable Same Property Net
 Lease Operating Income
 Structure⁽¹⁾ Growth

Stable
 cash
 flows
 Percentage
 of ~~97%~~
 of
 triple
 net
 leases

Increasing
 cash
 flows
 Percentage
 of ~~95%~~
 leases
 containing
 annual
 rent
 escalations

Lower
 capex
 burden
 Percentage
 of
 leases
 provided ~~06%~~
 for
 the
 recapture
 of
 capital
 expenditures

Margins⁽²⁾ Rental Rate Growth:
 Renewed/Re-Leased
 Space

Adjusted
 Operating
 EBITDA
 71%~~69%~~

(1) Percentages calculated based on RSF as of December 31, 2018.

(2) For the year ended December 31, 2018.

78

Execution of capital strategy

During 2018, we continued to execute on many of the long-term components of our capital strategy. Some of our key accomplishments include the following:

2018 capital strategy

Key metrics

\$18.4 billion of total market capitalization as of December 31, 2018

\$2.4 billion of liquidity as of December 31, 2018

3% unhedged variable-rate debt as a percentage of total debt

	As of December 31, 2018		Goal for Fourth Quarter of 2019
	Quarter Annualized	Trailing 12 Months	
Net debt to Adjusted EBITDA	5.4x	5.6x	Less than or equal to 5.3x
Fixed-charge coverage ratio	4.1x	4.2x	Greater than 4.0x
Current and future value-creation pipeline as a percentage of gross investments in real estate in North America	11%	N/A	8% to 12%

Key capital events in 2018

		Amended Agreement		Change	
		Line of Credit	Term Loan	Line of Credit	Term Loan
Amendment of unsecured senior line of credit and unsecured senior bank term loan	Aggregate commitments	\$2.2 billion	\$350.0 million	Up \$550 million	No change
	Maturity date	January 2024	January 2024	Extended by 27 months	Extended by 36 months
	Interest rate	L+0.825%	L+0.90%	Down 17.5 bps ⁽¹⁾	Down 20 bps ⁽¹⁾

Includes interest rate reduction of 10 bps and 15 bps on our unsecured senior line of credit and unsecured senior (1) bank term loan, respectively, associated with the upgrade of our corporate issuer credit rating from Moody's Investors Service.

Issuances of unsecured senior notes in June (dollars in millions)	Maturity Date	Interest Rate	Face Amount	Net Proceeds
	1/15/2024	4.00%	\$450.0	\$445.9
	7/1/2030	4.70%	450.0	445.5
			\$900.0	\$891.4

Debt repayments (dollars in millions)	Date	Debt	Stated Rate	Amount	(Loss) Gain on
					Debt Early Extinguishment
	July	Secured construction loan	L+1.50%	\$ 150.0	\$ (0.3)
	August	Menlo Gateway, Phase I ⁽¹⁾	L+2.50%	133.1	\$ 0.8 ⁽¹⁾
	September	2019 unsecured senior bank term loan	L+1.20%	200.0	\$ (0.2)
				\$483.1	

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(1) This loan for our unconsolidated real estate joint venture was refinanced with a new loan for \$145.0 million that bears an interest rate of 4.15%. The gain on early extinguishment of debt is included in equity in earnings of unconsolidated real estate joint ventures in our consolidated statements of operations under Item 15 of this annual report on Form 10-K.

Secured construction loan extension	Debt	Effective Date	Maturity Date	
			Original	Extended
	50/60 Binney Street secured construction loan	January 2019	1/28/19	1/28/20

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Real estate asset sales Date (dollars in millions)	Property/Market/Submarket	Proceeds
July	Land parcel/Northern Virginia/Maryland	\$ 6.0
September	360 Longwood Avenue/Greater Boston/Longwood Medical Area ⁽¹⁾	70.0
December	1300 Quince Orchard Boulevard/Maryland/Gaithersburg	14.4
		\$ 90.4

(1) See the “Real Estate Asset Sales” section under Item 2 of this annual report on Form 10-K for additional information.

Issuances of equity (dollars in millions)	Program	Number of Shares Sold	Net Proceeds
	Forward Equity Sales Agreements	6,900,000	\$808.3
	ATM Common Stock Offering Program	4,015,120	496.3
		10,915,120	\$1,304.6

Repurchase of equity (dollars in millions)	Stock Redeemed	Shares Repurchased	Total Payment	Preferred Stock Redemption Charge
	Series D Convertible Preferred Stock	402,000	\$ 14.0	\$ 4.2

Executed interest rate hedge agreements (dollars in millions)	Date	Effective Date	Maturity Date	Interest Pay Rate	Notional Amount
	November	March 29, 2019	March 31, 2020	2.877%	\$75.0
	November	March 29, 2019	March 31, 2020	2.881%	75.0
	December	March 29, 2019	March 31, 2020	2.786%	100.0
					\$250.0

2019 Capital strategy

During 2019, we intend to continue to execute our capital strategy to achieve further improvements to our credit rating, which will allow us to further improve our cost of capital and continue our disciplined approach to capital allocation. For further information, refer to the “Projected Results” section below within this Item 7 of this annual report on Form 10-K.

Consistent with 2018, our capital strategy for 2019 includes the following elements:

- Allocate capital to Class A properties located in collaborative life science and technology campuses in AAA urban innovation clusters;
- Continue to improve our credit profile;
- Maintain prudent access to diverse sources of capital, which include cash flows from operating activities after dividends, incremental debt supported by our growth in EBITDA, real estate asset sales, non-real estate investment sales, joint venture capital, and other capital such as sales of equity;
- Maintain commitment to long-term capital to fund growth;
- Prudently ladder debt maturities;

- Reduce short-term variable-rate debt;
- Prudently manage equity investments to support corporate-level investment strategies;
- Maintain significant balance sheet liquidity; and
 - Maintain a stable and flexible balance sheet.

Given the anticipated delivery of significant incremental EBITDA from our development and redevelopment of new Class A properties, we expect to be able to debt fund a significant portion of construction on a leverage-neutral basis. We expect to continue to maintain access to a diverse source of debt, including unsecured senior notes payable, as well as secured construction loans for our development and redevelopment projects from time to time. We expect to continue to maintain a significant proportion of our net operating income on an unencumbered basis to allow for future flexibility for accessing both unsecured and secured debt markets, although we expect traditional secured mortgage notes payable will remain a small component of our capital structure. In addition to debt funding on a leverage-neutral basis, we intend to supplement our remaining capital needs with net cash flows from operating activities, after dividends and proceeds from real estate asset sales, non-real estate investment sales, partial interest sales, and other debt and equity capital.

Improved cost of capital

As part of our capital strategy to continue strengthening our credit profile, we expect to complete and place into service development and redevelopment projects currently under construction, which we expect will deliver significant incremental EBITDA. As our EBITDA grows in 2019 and beyond, this growth in EBITDA should allow us to obtain debt funding on a leverage-neutral basis and provide significant capital to fund our development and redevelopment projects. Additionally, the resulting improvement in our balance sheet leverage ratio should allow us to access diverse sources of capital, strengthen our credit profile, and reduce our cost of capital. In addition, we expect to continue to maintain a significant proportion of unencumbered net operating income. For the year ended December 31, 2018, our unencumbered net operating income as a percentage of total net operating income was 88%.

Investments

On January 1, 2018, we adopted a new accounting standard that requires us, on a prospective basis, to present our equity investments at fair value whenever fair value (or NAV) is readily available. For investments without readily available fair values, we adjust the cost basis whenever such investments have an observable price change. Further adjustments are not made until another price change, if any, is observed. Refer to Note 7 – “Investments” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for additional information.

	December 31, 2018	
	Three Months Ended	Year Ended
Realized gains	\$11,319 ⁽¹⁾	\$37,129
Unrealized (losses) gains	(94,850)	99,634
Investment (loss) income	\$(83,531)	\$136,763

Investments	Cost	Adjustments	Carrying Amount
Fair value:			
Publicly traded companies	\$121,121	\$62,884	\$184,005
Entities that report NAV	204,646	113,159 ⁽²⁾	317,805
Entities that do not report NAV:			
Entities with observable price changes since 1/1/18	39,421	64,112	103,533
Entities without observable price changes	286,921	—	286,921
December 31, 2018	\$652,109	\$240,155 ⁽³⁾	\$892,264

Includes realized gain of \$6.4 million related to one publicly traded non-real estate investment in a biopharmaceutical entity and impairment of \$5.5 million primarily related to one privately held non-real estate (1) investment. Both line items are classified in investment income in our consolidated statements of operations.

Excluding these gains and impairments, our realized gains on non-real estate investments were \$10.4 million for the three months ended December 31, 2018.

(2) Represents adjustments using reported NAV as a practical expedient to estimate fair value of our limited partnership investments.

(3) Consists of unrealized gains recognized of (i) \$50 million on our investments in publicly traded companies prior to our adoption of the new accounting standard, (ii) \$91 million on our investments in privately held entities that report NAV upon our adoption of the new accounting standard, and (iii) \$99 million related to total equity investments subsequent to our adoption of the new accounting standard.

Public/Private Mix
(Cost)

Tenant/Non-Tenant
Mix (Cost)

307	\$2.1M
Holdings	Average Cost of Investment

82

Results of operations

We present a tabular comparison of items, whether gain or loss, that may facilitate a high-level understanding of our results and provide context for the disclosures included in our annual report on Form 10-K. We believe this tabular presentation promotes a better understanding for investors of the corporate-level decisions made and activities performed that significantly affect comparison of our operating results from period to period. We also believe this tabular presentation will supplement an understanding of our disclosures and real estate operating results. Gains or losses on sales of real estate and impairments of held for sale assets are related to corporate-level decisions to dispose of real estate. Gains or losses on early extinguishment of debt and preferred stock redemption charges are related to corporate-level financing decisions focused on our capital structure strategy. Significant realized and unrealized gains or losses on non-real estate investments and impairments of real estate and non-real estate investments are not related to the operating performance of our real estate assets as they result from strategic, corporate-level non-real estate investment decisions and external market conditions. Significant items, whether a gain or loss, included in the tabular disclosure, for current periods are described in further detail within this Item 7 of this annual report on Form 10-K. Items included in net income attributable to Alexandria's common stockholders are as follows:

(In millions, except per share amounts)	Year Ended December 31,			
	2018	2017	2018	2017
	Amount		Per Share – Diluted	
Unrealized gains on non-real estate investments ⁽¹⁾	\$99.6	\$—	\$0.96	\$—
Realized gains on non-real estate investments ⁽²⁾	14.7	—	0.14	—
Gain on sales of real estate	44.4	⁽³⁾ 14.5	⁽³⁾ 0.43	0.15
Impairment of:				
Real estate ⁽⁴⁾	(6.3)	(0.2)	(0.06)	—
Non-real estate investments	(5.5)	(8.3)	(0.05)	(0.09)
Early extinguishment of debt:				
Loss	(1.1)	(3.5)	(0.01)	(0.03)
Gain	0.8	⁽³⁾ —	0.01	—
Preferred stock redemption charge ⁽⁵⁾	(4.2)	(11.3)	(0.04)	(0.12)
Allocation to unvested restricted stock awards	(2.2)	0.1	(0.02)	—
Total	\$140.2	\$(8.7)	\$1.36	\$(0.09)
Weighted-average shares of common stock outstanding for calculation of EPS – diluted			103.3	92.1

(1) Refer to Note 7 – “Investments” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information.

(2) Related to two publicly traded non-real estate investments in life science entities.

(3) Includes our share of amounts attributable to our unconsolidated real estate joint ventures which is classified in equity in earnings in our consolidated statements of operations. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information.

(4) Refer to Note 3 – “Investments in Real Estate” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information.

(5) Refer to Note 16 – “Stockholders’ Equity” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information.

Same properties

We supplement an evaluation of our results of operations with an evaluation of operating performance of certain of our properties, referred to as “Same Properties.” For more information on the determination of our Same Properties portfolio, refer to “Same Property Comparisons” in the “Non-GAAP Measures and Definitions” section within this Item 7 of this annual report on Form 10-K. The following table presents information regarding our Same Properties as of December 31, 2018 and 2017:

	December 31,	
	2018	2017
Percentage change in net operating income over comparable period from prior year	3.7%	3.1 %
Percentage change in net operating income (cash basis) over comparable period from prior year	9.2%	6.8 %
Operating margin	71%	70%
Number of Same Properties	185	166
RSF	17,221,129	17,434,434
Occupancy – current-period average	96.6%	96.0 %
Occupancy – same-period prior-year average	96.1%	97.2 %

The following table reconciles the number of Same Properties to total properties for the year ended December 31, 2018:

Development – under construction	Properties
399 Binney Street	1
279 East Grand Avenue	1
188 East Blaine Street	1
	3
Development – placed into service after January 1, 2017	Properties
505 Brannan Street	1
510 Townsend Street	1
ARE Spectrum	3
400 Dexter Avenue North	1
100 Binney Street	1
213 East Grand Avenue	1
	8
Redevelopment – under construction	Properties
5 Laboratory Drive	1
266 and 275 Second Avenue	2
Alexandria PARC	4
681 Gateway Boulevard	1
Alexandria Life Science Factory at Long Island City	1
	9
Redevelopment – placed into service after January 1, 2017	Properties
9625 Towne Centre Drive	1
9900 Medical Center Drive	1
	2
Acquisitions after January 1, 2017	Properties
100 Tech Drive	1
88 Bluxome Street	1
701 Gateway Boulevard	1
960 Industrial Road	1
1450 Page Mill Road	1
219 East 42nd Street	1

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4110 Campus Point Court	1	
Summers Ridge Science Park	4	
2301 5th Avenue	1	
9704, 9708, 9712, and 9714 Medical Center Drive	4	
9920 Belward Campus Drive	1	
21 Firstfield Road	1	
50 and 55 West Watkins Mill Road	2	
10260 Campus Point Drive and 4161 Campus Point Court	2	
99 A Street	1	
Other	1	
	24	
Unconsolidated real estate JV	6	
Total properties excluded from Same Properties	52	
Same Properties	185	(1)
Total properties in North America as of December 31, 2018	237	

(1) Includes 9880 Campus Point Drive, a building we acquired in 2001. The building was occupied through January 2018 and subsequently demolished in anticipation of developing a 98,000 RSF Class A office/laboratory building.

Comparison of results for the year ended December 31, 2018, to the year ended December 31, 2017

The following table presents a comparison of the components of net operating income for our Same Properties and Non-Same Properties for the year ended December 31, 2018, compared to the year ended December 31, 2017. For a reconciliation of net operating income from net income, the most directly comparable financial measure presented in accordance with GAAP, refer to the “Non-GAAP Measures and Definitions” section within this Item 7 of this annual report on Form 10-K.

(Dollars in thousands)	Year Ended December 31,			
	2018	2017	\$ Change	% Change
Same Properties	\$818,706	\$788,169	\$30,537	3.9 %
Non-Same Properties	192,012	75,012	117,000	156.0
Total rental	1,010,718	863,181	147,537	17.1
Same Properties	266,378	247,502	18,876	7.6
Non-Same Properties	37,685	11,642	26,043	223.7
Total tenant recoveries	304,063	259,144	44,919	17.3
Same Properties	314	201	113	56.2
Non-Same Properties	12,364	5,571	6,793	121.9
Total other income	12,678	5,772	6,906	119.6
Same Properties	1,085,398	1,035,872	49,526	4.8
Non-Same Properties	242,061	92,225	149,836	162.5
Total revenues	1,327,459	1,128,097	199,362	17.7
Same Properties	314,121	292,178	21,943	7.5
Non-Same Properties	66,999	33,431	33,568	100.4
Total rental operations	381,120	325,609	55,511	17.0
Same Properties	771,277	743,694	27,583	3.7
Non-Same Properties	175,062	58,794	116,268	197.8
Net operating income	\$946,339	\$802,488	\$143,851	17.9 %
Net operating income – Same Properties	\$771,277	\$743,694	\$27,583	3.7 %
Straight-line rent revenue	(48,061)	(77,580)	29,519	(38.0)
Amortization of acquired below-market leases	(9,548)	(12,842)	3,294	(25.7)
Net operating income – Same Properties (cash basis)	\$713,668	\$653,272	\$60,396	9.2 %

Rental revenues

Total rental revenues for the year ended December 31, 2018, increased by \$147.5 million, or 17.1%, to \$1.0 billion, compared to \$863.2 million for the year ended December 31, 2017. The increase was primarily due to an increase in rental revenues from our Non-Same Properties aggregating \$117.0 million related to 2.0 million RSF of development and redevelopment projects placed into service subsequent to January 1, 2017, and 24 operating properties aggregating 2.4 million RSF acquired subsequent to January 1, 2017, including nine properties have future value-creation opportunities aggregating 3.4 million RSF.

Rental revenues from our Same Properties for the year ended December 31, 2018, increased by \$30.5 million, or 3.9%, to \$818.7 million, compared to \$788.2 million for the year ended December 31, 2017. The increase was primarily due to significant rental rate increases on lease renewals and re-leasing of space since January 1, 2017 and

occupancy increase. Refer to the “Leasing Activity” section of Item 2 of this annual report on Form 10-K for additional information.

Tenant recoveries

Tenant recoveries for the year ended December 31, 2018, increased by \$44.9 million, or 17.3%, to \$304.1 million, compared to \$259.1 million for the year ended December 31, 2017. This increase is consistent with the increase in our rental operating expenses of \$55.5 million, or 17.0%, as discussed under “Rental Operating Expenses” below. Same Properties’ tenant recoveries for the year ended December 31, 2018, increased by \$18.9 million, or 7.6%, primarily due to the increase in recoverable operating expenses for the year ended December 31, 2018, as discussed below. As of December 31, 2018, 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent.

Other income

Other income for the years ended December 31, 2018 and 2017, was \$12.7 million and \$5.8 million, respectively, primarily consisting of construction fees earned during each respective year.

Rental operating expenses

Total rental operating expenses for the year ended December 31, 2018, increased by \$55.5 million, or 17.0%, to \$381.1 million, compared to \$325.6 million for the year ended December 31, 2017. Approximately \$33.6 million of the increase was due to an increase in rental operating expenses from our Non-Same Properties, primarily related to 2.0 million RSF of development and redevelopment projects placed into service subsequent to January 1, 2017, and 24 operating properties aggregating 2.4 million RSF acquired subsequent to January 1, 2017, of which nine properties have future value-creation opportunities aggregating 3.4 million RSF.

Same Properties’ rental operating expenses increased by \$21.9 million, or 7.5%, to \$314.1 million during the year ended December 31, 2018, compared to the \$292.2 million for the year ended December 31, 2017, primarily due to higher property taxes as a result of incremental property value assessments on recently completed construction at certain properties in California, and increases in re-assessed values across various submarkets, including Cambridge, as well as higher payroll, contractual services, and repairs and maintenance due to higher occupancy in our same property portfolio during the year ended December 31, 2018.

General and administrative expenses

General and administrative expenses for the year ended December 31, 2018, increased by \$15.4 million, or 20.5%, to \$90.4 million, compared to \$75.0 million for the year ended December 31, 2017. General and administrative expenses increased primarily due to a 35.4% increase in employees since January 1, 2017, to accommodate the continued growth in the depth and breadth of our operations in multiple markets, including development and redevelopment projects placed into service and properties acquired subsequent to January 1, 2017, as discussed under “Rental Operating Expenses” above. As a percentage of net operating income, our general and administrative expenses for the years ended December 31, 2018 and 2017, were 9.6% and 9.3%, respectively.

Interest expense

Interest expense for the years ended December 31, 2018 and 2017, consisted of the following (dollars in thousands):

Component	Year Ended December 31,			
	2018	2017	Change	
Interest incurred	\$223,715	\$186,867	\$36,848	
Capitalized interest	(66,220)	(58,222)	(7,998)	
Interest expense	\$157,495	\$128,645	\$28,850	
Average debt balance outstanding ⁽¹⁾	\$5,513,958	\$4,740,081	\$773,877	
Weighted-average annual interest rate ⁽²⁾	4.1	% 3.9	% 0.2	%

(1) Represents the average debt balance outstanding during the respective periods.

(2) Represents total interest incurred divided by the average debt balance outstanding in the respective periods.

86

The net change in interest expense during the year ended December 31, 2018, compared to the year ended December 31, 2017, resulted from the following (dollars in thousands):

Component	Interest Rate ⁽¹⁾	Effective Date	Change
Increases in interest incurred due to:			
Issuances of debt:			
\$425 million unsecured senior notes payable	4.07%	March 2017	\$2,900
\$600 million unsecured senior notes payable	3.62%	November 2017	18,465
\$450 million unsecured senior notes payable	4.18%	June 2018	9,530
\$450 million unsecured senior notes payable	4.81%	June 2018	11,175
Fluctuations in interest rate and average balance:			
\$2.2 billion unsecured senior line of credit and senior bank term loans			10,415
Secured notes payable			1,215
Total increases			53,700
Decreases in interest incurred due to:			
Repayments of debt:			
Secured construction loans	Various	Various	(9,780)
Lower average notional amounts of and rates for interest rate hedge agreements in effect			(6,880)
Other decrease in interest			(192)
Total decreases			(16,852)
Change in interest incurred			36,848
Increase in capitalized interest ⁽²⁾			(7,998)
Total change in interest expense			\$28,850

(1) Represents the interest rate as of the end of the applicable period, plus the effect of debt premiums (discounts), interest rate hedge agreements, and deferred financing costs.

Increase in capitalized interest is primarily due to an increase in our highly leased development and redevelopment projects undergoing construction in our value-creation pipeline during the year ended December 31, 2018, compared to the year ended December 31, 2017. The increase was also partially due to the increase in the weighted-average interest rate used for capitalization of interest to 4.0% in effect during the year ended December 31, 2018, from 3.9% in effect during the year ended December 31, 2017, as a result of the increase in rates applicable to borrowings outstanding during each respective period.

Depreciation and amortization

Depreciation and amortization expense for the year ended December 31, 2018, increased by \$60.9 million, or 14.6%, to \$477.7 million, compared to \$416.8 million for the year ended December 31, 2017. The increase is primarily due to additional depreciation from 2.0 million RSF of development and redevelopment projects placed into service subsequent to January 1, 2017, and 24 operating properties aggregating 2.4 million RSF acquired subsequent to January 1, 2017, of which nine properties have future value-creation opportunities aggregating 3.4 million RSF.

Investment income

Effective January 1, 2018, we adopted a new accounting standard on financial instruments. Under the new standard, changes in fair value of investments in publicly traded companies and investments in privately held entities that report NAV, and observable price changes for investments in privately held entities that do not report NAV, are recognized in investment income in our consolidated statements of operations. For a detailed discussion related to this new standard, refer to the “Investments” section within Note 2 – “Summary of Significant Accounting Policies” and Note 7 –

“Investments” to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

During the year ended December 31, 2018, we recognized approximately \$136.7 million of investment income, which comprised \$37.1 million of realized gains and \$99.6 million of unrealized gains. Realized gains of \$37.1 million for the year ended December 31, 2018, primarily consisted of gains aggregating \$27.9 million recognized on our publicly traded non-real estate investments. Unrealized gains during the year ended December 31, 2018, primarily consisted of observable price increases in our equity investments in privately held entities that do not report NAV aggregating \$64.1 million, increases in fair values of our investments in privately held entities that report NAV aggregating \$22.4 million, and increases in fair values of our investments in publicly traded companies aggregating \$13.1 million. Refer to Note 7 – “Investments” to our consolidated financial statements under Item 15 of this annual report Form 10-K for more information.

Sales of real estate assets, gain on sales of real estate, and impairment charges

During the year ended December 31, 2018, we recognized an impairment of real estate of \$6.3 million related to one land parcel located in Northern Virginia that was classified as held for sale in the second quarter of 2018 and was sold in July 2018 for a sales price of \$6.0 million with no gain or loss. In addition, during the three months ended December 31, 2018, we completed the sale of a property at 1300 Quince Orchard Boulevard located in our Gaithersburg submarket of Maryland for a sale price of \$14.4 million and recognized a gain of \$8.7 million.

During the year ended December 31, 2017, we recognized an impairment of real estate of \$203 thousand related to our 20,580 RSF property located in a non-cluster market that was classified as held for sale in the second quarter of 2017, which was sold in July 2017 with no gain or loss.

In January 2017, we completed the sale of a vacant property at 6146 Nancy Ridge Drive located in our Sorrento Mesa submarket of San Diego for a sales price of \$3.0 million and recognized a gain of \$270 thousand. In May 2017, we recognized a gain of \$111 thousand upon the sale of a partial interest in our land parcels at 1401/1413 Research Boulevard, located in the Rockville submarket of Maryland.

Loss on early extinguishment of debt

During the year ended December 31, 2017, we completed a partial principal repayment of \$200.0 million of our 2019 unsecured senior bank term loan, which reduced the total outstanding balance from \$400.0 million to \$200.0 million, and recognized a loss on early extinguishment of debt of \$670 thousand related to the write-off of unamortized loan fees. In addition, we repaid two secured construction loans aggregating \$389.8 million and recognized a loss on early extinguishment of debt related to the write-off of unamortized loan fees of \$2.8 million.

During the year ended December 31, 2018, we repaid the remaining \$200.0 million balance under our 2019 unsecured senior bank term loan and recognized a loss on early extinguishment of debt of \$189 thousand related to the write-off of unamortized loan fees. In addition, we amended our unsecured senior line of credit and our 2021 unsecured senior bank term loan to, among other changes, extend the maturity dates of each to January 28, 2024, including extension options. We recognized a loss on early extinguishment of debt of approximately \$634 thousand related to the write-off of unamortized loan fees associated with these amendments.

Furthermore, during the year ended December 31, 2018, we repaid \$150.0 million of the outstanding balance of one secured construction loan and recognized a loss on early extinguishment of debt of \$299 thousand related to the write-off of unamortized loan fees.

Equity in earnings of unconsolidated real estate joint ventures

During the year ended December 31, 2018, we sold our remaining 27.5% ownership interest in the unconsolidated real estate joint venture that owned 360 Longwood Avenue, located in the Longwood Medical Area submarket and

recognized a gain of \$35.7 million. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for additional information.

During the year ended December 31, 2017, we recognized a gain of \$14.1 million upon the completion of the sale of a condominium interest in our unconsolidated real estate joint venture property at 360 Longwood Avenue, located in our Longwood Medical Area submarket. This gain is reflected in our equity in earning of unconsolidated real estate joint ventures in our consolidated statements of operations.

Preferred stock redemption charge

During the years ended December 31, 2018 and 2017, we repurchased 402,000 and 501,115 outstanding shares of our Series D Convertible Preferred Stock and recognized preferred stock redemption charges of \$4.2 million and \$5.8 million, respectively.

In March 2017, we announced the redemption of our Series E Redeemable Preferred Stock and recognized a preferred stock redemption charge of \$5.5 million related to the write-off of original issuance costs. On April 14, 2017, we completed the redemption of all 5.2 million outstanding shares of our Series E Redeemable Preferred Stock. Refer to Note 16 – “Stockholders’ Equity” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information.

Comparison of results for the year ended December 31, 2017, to the year ended December 31, 2016

The following table presents a comparison of the components of net operating income for our Same Properties and Non-Same Properties for the year ended December 31, 2017, compared to the year ended December 31, 2016. For a reconciliation of net operating income from net income (loss), the most directly comparable financial measure presented in accordance with GAAP, refer to the “Non-GAAP Measures and Definitions” within this Item 7 of this annual report on Form 10-K.

(Dollars in thousands)	Year Ended December 31,			
	2017	2016	\$ Change	% Change
Same Properties	\$613,866	\$596,898	\$16,968	2.8 %
Non-Same Properties	249,315	76,922	172,393	224.1
Total rental	863,181	673,820	189,361	28.1
Same Properties	209,273	202,565	6,708	3.3
Non-Same Properties	49,871	21,090	28,781	136.5
Total tenant recoveries	259,144	223,655	35,489	15.9
Same Properties	447	117	330	282.1
Non-Same Properties	5,325	24,114	(18,789)	(77.9)
Total other income	5,772	24,231	(18,459)	(76.2)
Same Properties	823,586	799,580	24,006	3.0
Non-Same Properties	304,511	122,126	182,385	149.3
Total revenues	1,128,097	921,706	206,391	22.4
Same Properties	244,819	237,960	6,859	2.9
Non-Same Properties	80,790	40,448	40,342	99.7
Total rental operations	325,609	278,408	47,201	17.0
Same Properties	578,767	561,620	17,147	3.1
Non-Same Properties	223,721	81,678	142,043	173.9
Net operating income	\$802,488	\$643,298	\$159,190	24.7 %
Net operating income – Same Properties	\$578,767	\$561,620	\$17,147	3.1 %
Straight-line rent revenue	(16,900)	(33,324)	16,424	(49.3)
Amortization of acquired below-market leases	(2,276)	(4,100)	1,824	(44.5)
Net operating income – Same Properties (cash basis)	\$559,591	\$524,196	\$35,395	6.8 %

Rental revenues

Total rental revenues for the year ended December 31, 2017, increased by \$189.4 million, or 28.1%, to \$863.2 million, compared to \$673.8 million for the year ended December 31, 2016. The increase was primarily due to an increase in rental revenues from our Non-Same Properties aggregating \$172.4 million related to 3.4 million RSF of development and redevelopment projects placed into service subsequent to January 1, 2016, and 18 operating properties aggregating 1.7 million RSF acquired subsequent to January 1, 2016.

Rental revenues from our Same Properties for the year ended December 31, 2017, increased by \$17.0 million, or 2.8%, to \$613.9 million, compared to \$596.9 million for the year ended December 31, 2016. The increase was

primarily due to significant rental rate increases on lease renewals and re-leasing of space since January 1, 2016. The increase was slightly offset by a decrease in rental revenue as a result of a decrease in Same Properties' occupancy to 96.0% for the year ended December 31, 2017, from 97.2% for the year ended December 31, 2016.

Tenant recoveries

Tenant recoveries for the year ended December 31, 2017, increased by \$35.5 million, or 15.9%, to \$259.1 million, compared to \$223.7 million for the year ended December 31, 2016. The increase is relatively consistent with the increase in our rental operating expenses of \$47.2 million, or 17.0%, as discussed under “Rental Operating Expenses” below. Same Properties’ tenant recoveries increased by \$6.7 million, or 3.3%, primarily due to the increase in recoverable operating expenses for the year ended December 31, 2017, as discussed below. As of December 31, 2017, 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent.

Other income

Other income for the years ended December 31, 2017 and 2016, consisted of the following (in thousands):

	Year Ended		Change
	2017	2016	
Management fee income	\$2,186	\$418	\$1,768
Interest and other income	2,257	6,680	(4,423)
Investment income	1,329	17,133	(15,804)
Total other income	\$5,772	\$24,231	\$(18,459)

Rental operating expenses

Total rental operating expenses for the year ended December 31, 2017, increased by \$47.2 million, or 17.0%, to \$325.6 million, compared to \$278.4 million for the year ended December 31, 2016. Approximately \$40.3 million of the increase was due to an increase in rental operating expenses from our Non-Same Properties, primarily related to development and redevelopment projects placed into service subsequent to January 1, 2016, and 18 operating properties acquired subsequent to January 1, 2016.

Same Properties rental operating expenses increased by \$6.9 million, or 2.9%, to \$244.8 million during the year ended December 31, 2017, compared to the \$238.0 million for the year ended December 31, 2016, primarily due to higher repair and maintenance expenses as well as higher utility expenses and snow removal services resulting from a comparably colder winter. The increase in Same Properties’ rental operating expense was partially offset by property tax refunds during the year ended December 31, 2017.

General and administrative expenses

General and administrative expenses for the year ended December 31, 2017, increased by \$11.1 million, or 17.4%, to \$75.0 million, compared to \$63.9 million for the year ended December 31, 2016. General and administrative expenses increased primarily due to the continued growth in depth and breadth of our operations in multiple markets, including a 28.1% increase in total rental revenue to \$863.2 million for the year ended December 31, 2017, compared to \$673.8 million for the same period in 2016, and a 5.1 million RSF, or 20.7%, increase in our North America asset base subsequent to January 1, 2017. Accordingly, total assets as of December 31, 2017, increased by \$1.7 billion, or 16.9%, to \$12.1 billion from \$10.4 billion as of December 31, 2016. As a percentage of total assets, our general and administrative expenses for the years ended December 31, 2017 and 2016, were consistent at 0.6% for both periods.

Interest expense

Interest expense for the years ended December 31, 2017 and 2016, consisted of the following (dollars in thousands):

Component	Year Ended December 31,		
	2017	2016	Change
Interest incurred	\$186,867	\$159,403	\$27,464
Capitalized interest	(58,222)	(52,450)	(5,772)
Interest expense	\$128,645	\$106,953	\$21,692
Average debt balance outstanding ⁽¹⁾	\$4,740,081	\$4,256,306	\$483,775
Weighted-average annual interest rate ⁽²⁾	3.9	% 3.7	% 0.2 %

(1) Represents the average debt balance outstanding during the respective periods.

(2) Represents total interest incurred divided by the average debt balance outstanding in the respective periods.

The net change in interest expense during the year ended December 31, 2017, compared to the year ended December 31, 2016, resulted from the following (dollars in thousands):

Component	Interest Rate ⁽¹⁾	Effective Date	Change
Increases in interest incurred due to:			
Issuances of debt:			
\$425 million unsecured senior note payable	4.08%	March 2017	\$13,940
Secured construction loans	Various	Various	8,355
\$350 million unsecured senior note payable	4.14%	June 2016	6,160
\$600 million unsecured senior note payable	3.56%	November 2017	2,375
Assumption of \$203 million secured note payable	3.41%	November 2016	6,255
Higher average balance and interest rate on unhedged secured construction loans			3,305
Total increases			40,390
Decreases in interest incurred due to:			
Repayments of debt:			
Secured notes payable ⁽²⁾	Various	Various	(5,710)
Unsecured senior bank term loan	Various	Various	(3,500)
Lower average notional amounts of interest rate hedge agreements in effect			(3,325)
Amortization of deferred financing fees			(215)
Other decrease in interest			(176)
Total decreases			(12,926)
Change in interest incurred			27,464
Increase in capitalized interest ⁽³⁾			(5,772)
Total change in interest expense			\$21,692

(1) Represents the interest rate as of the end of the applicable period, plus the impact of debt premiums/discounts, interest rate hedge agreements, and deferred financing costs.

(2) Decrease is primarily due to the repayment of four secured notes payable aggregating \$270.6 million during 2016. Increase in capitalized interest is primarily due to an increase in our highly leased development and redevelopment projects undergoing construction in our value-creation pipeline during the year ended December 31, 2017,

(3) compared to the year ended December 31, 2016. The increase was also partially due to the increase in the weighted-average interest rate used for capitalization of interest to 3.9% in effect during the year ended December 31, 2017, from 3.7% in effect during the year ended December 31, 2016, as a result of the increase in rates applicable to borrowings outstanding during each respective period.

Depreciation and amortization

Depreciation and amortization expense for the year ended December 31, 2017, increased by \$103.4 million, or 33.0%, to \$416.8 million, compared to \$313.4 million for the year ended December 31, 2016. The increase is primarily due to additional depreciation from development and redevelopment projects placed into service subsequent to January 1, 2016, and 18 operating properties acquired subsequent to January 1, 2016.

Sales of real estate assets, gain on sales of real estate, and impairment charges

During the year ended December 31, 2017, we recognized an impairment of real estate of \$203 thousand related to our 20,580 RSF property located in a non-cluster market that was classified as held for sale in the second quarter of 2017, which was sold in July 2017 at no gain or loss.

During the year ended December 31, 2016, we recognized an impairment of real estate of \$209.3 million primarily related to our decision to monetize our real estate investments in Asia.

In January 2017, we completed the sale of a vacant property at 6146 Nancy Ridge Drive located in our Sorrento Mesa submarket of San Diego for a sales price of \$3.0 million and recognized a gain of \$270 thousand. In May 2017, we recognized a gain of \$111 thousand upon the sale of a partial interest in our land parcels at 1401/1413 Research Boulevard, located in the Rockville submarket of Maryland.

Loss on early extinguishment of debt

During the year ended December 31, 2017, we completed a partial principal repayment of \$200.0 million of our 2019 unsecured senior bank term loan, which reduced the total outstanding balance from \$400.0 million to \$200.0 million, and recognized a loss on early extinguishment of debt of \$670 thousand related to the write-off of unamortized loan fees. In addition, we repaid two secured construction loans aggregating \$389.8 million and recognized a loss on early extinguishment of debt related to the write-off of unamortized loan fees of \$2.8 million.

During the year ended December 31, 2016, we recognized a loss on early extinguishment of debt related to the write-off of a portion of unamortized loan fees aggregating \$2.4 million upon the amendment of our unsecured senior line of credit in July 2016. In addition, we completed a partial principal repayment of \$200.0 million of our 2019 unsecured senior bank term loan and recognized a loss on early extinguishment of debt of \$869 thousand related to the write-off of unamortized loan fees.

Equity in earnings of unconsolidated real estate joint ventures

During the year ended December 31, 2017, we recognized a gain of \$14.1 million upon the completion of the sale of a condominium interest in our unconsolidated real estate joint venture property that owned 360 Longwood Avenue in our Longwood Medical Area submarket.

Preferred stock redemption charge

During the years ended December 31, 2017 and 2016, we repurchased, in privately negotiated transactions, 501,115 and 6.0 million outstanding shares, respectively, of our Series D Convertible Preferred Stock and recognized preferred stock redemption charges of \$5.8 million and \$61.3 million, respectively.

In March 2017, we announced the redemption of our Series E Redeemable Preferred Stock and recognized a preferred stock redemption charge of \$5.5 million related to the write-off of original issuance costs. On April 14, 2017, we completed the redemption of all 5.2 million outstanding shares of our Series E Redeemable Preferred Stock.

Projected results

Based on our current view of existing market conditions and certain current assumptions, we present guidance for EPS attributable to Alexandria’s common stockholders – diluted and funds from operations per share attributable to Alexandria’s common stockholders – diluted, as adjusted, each for the year ending December 31, 2019, as set forth in the table below. The tables below also provide a reconciliation of EPS attributable to Alexandria’s common stockholders – diluted, the most directly comparable GAAP measure, to funds from operations per share and funds from operations per share, as adjusted, non-GAAP measures, and other key assumptions included in our updated guidance for the year ending December 31, 2019. There can be no assurance that actual amounts will be materially higher or lower than these expectations. Refer to our discussion of “Forward-Looking Statements” within this Item 1A.

Summary of Key Changes in Guidance (Dollars in millions)	Guidance	
	As of 2/4/19	As of 11/28/18
EPS, FFO per share, and FFO per share, as adjusted	See updates below	
Capitalization of interest	\$72 to \$82	\$76 to \$86
Projected Earnings per Share and Funds From Operations per Share Attributable to Alexandria’s Common Stockholders – Diluted		
	As of 2/4/19	As of 11/28/18
Earnings per share ⁽¹⁾	\$1.95 to \$2.15	\$2.05 to \$2.25
Depreciation and amortization	4.85	4.77
Allocation of unvested restricted stock awards	(0.03)	(0.03)
Funds from operations per share ⁽¹⁾	\$6.77 to \$6.97	\$6.79 to \$6.99
Loss on early extinguishment of debt in January 2019	0.06	0.06
Preferred stock redemption charge in January 2019	0.02	—
Funds from operations per share, as adjusted ⁽²⁾	\$6.85 to \$7.05	\$6.85 to \$7.05
Midpoint	\$6.95	\$6.95

(1) Excludes future unrealized gains or losses after December 31, 2018 that are required to be recognized in earnings from changes in fair value of equity investments.

Calculated in accordance with standards established by the Advisory Board of Governors of the National Association of Real Estate Investment Trusts (the “Nareit Board of Governors”). Refer to the “Funds From Operations (2) and Funds From Operations, As Adjusted, Attributable to Alexandria’s Common Stockholders” section in “Non-GAAP Measures and Definitions” within this Item 7 of this annual report on Form 10-K for additional information.

Key Assumptions ⁽¹⁾ (Dollars in millions)	2019 Guidance	
	Low	High
Occupancy percentage for operating properties in North America as of December 31, 2019	97.7%	98.3%
Lease renewals and re-leasing of space:		
Rental rate increases	25.0%	28.0%
Rental rate increases (cash basis)	11.0%	14.0%

Same Properties performance:		
Net operating income increase	1.0%	3.0%
Net operating income increase (cash basis)	6.0%	8.0%
Straight-line rent revenue	\$95	\$105 ⁽²⁾
General and administrative expenses	\$108	\$113
Capitalization of interest	\$72	\$82
Interest expense	\$172	\$182

(1) The completion of our development and redevelopment projects will result in an increase in interest expense and other project costs, because these project costs will no longer qualify for capitalization and will, therefore, be expensed as incurred. Our key assumptions included in the tables above and are subject to a number of variables and uncertainties, including those discussed under Item 1A and within this Item 7 of this annual report on Form 10-K. To the extent our full-year earnings guidance is updated during the year, we will provide additional disclosure supporting reasons for any significant changes to such guidance.

(2) Approximately 45% of straight-line rent revenue represents initial free rent on recently delivered and expected 2019 deliveries of new Class A properties from our development and redevelopment pipeline.

Key Credit Metrics	2019 Guidance
Net debt to Adjusted EBITDA – fourth quarter of 2019, annualized	Less than or equal to 5.3x
Net debt and preferred stock to Adjusted EBITDA – fourth quarter of 2019, annualized	Less than or equal to 5.4x
Fixed-charge coverage ratio – fourth quarter of 2019, annualized	Greater than 4.0x
Value-creation pipeline as a percentage of gross investments in real estate as of December 31, 2019	8% to 12%

Consolidated and unconsolidated real estate joint ventures

We present components of balance sheet and operating results information for the noncontrolling interests' share of our consolidated real estate joint ventures and for our share of investments in unconsolidated real estate joint ventures to help investors estimate balance sheet and operating results information related to our partially owned entities. These amounts are estimated by computing, for each joint venture that we consolidate in our financial statements, the noncontrolling interest percentage of each financial item to arrive at the cumulative noncontrolling interest share of each component presented. In addition, for our real estate joint ventures that we do not control and do not consolidate, we apply our economic ownership percentage to the unconsolidated real estate joint ventures to arrive at our proportionate share of each component presented.

Consolidated Real Estate Joint Ventures

(controlled by us through contractual rights or majority voting rights)

Property/Market/Submarket	Noncontrolling Interest (1) Share
225 Binney Street/Greater Boston/Cambridge	70.0 %
1500 Owens Street/San Francisco/Mission Bay/SoMa	49.9 %
409 and 499 Illinois Street/San Francisco/Mission Bay/SoMa	40.0 %
Campus Pointe by Alexandria/San Diego/University Town Center ⁽²⁾	45.0 %
9625 Towne Centre Drive/San Diego/University Town Center	49.9 %

Unconsolidated Real Estate Joint Ventures

(controlled jointly or by our JV partners through contractual rights or majority voting rights)

Property/Market/Submarket	Our Ownership Share ⁽³⁾
1655 and 1725 Third Street/San Francisco/Mission Bay/SoMa	10.0 %
Menlo Gateway/San Francisco/Greater Stanford	38.5 % ⁽⁴⁾
1401/1413 Research Boulevard/Maryland/Rockville	65.0 % ⁽⁵⁾
704 Quince Orchard Road/Maryland/Gaithersburg	56.8 % ⁽⁵⁾

(1) In addition to the consolidated real estate joint ventures listed, various partners hold insignificant noncontrolling interests in four other joint ventures in North America.

(2) Includes only 10290 and 10300 Campus Point Drive and 4110 Campus Point Court in our University Town Center submarket. Excludes 10260 Campus Point Drive and 4161 Campus Point Court.

(3) In addition to the unconsolidated real estate joint ventures listed, we hold one other insignificant unconsolidated real estate joint venture in North America.

(4) As of December 31, 2018, we have an ownership interest in Menlo Gateway of 38.5% and expect our ownership to increase to 49% through future funding of construction costs in 2019.

(5) Represents our ownership interest; our voting interest is limited to 50%.

As of December 31, 2018, our unconsolidated real estate joint ventures have the following non-recourse secured loans that include the following key terms (dollars in thousands):

Unconsolidated Joint Venture	Our Share	Maturity Date	Stated Interest Rate	Interest Rate ⁽¹⁾	100% at Joint Venture Level Debt	Remaining Balance ⁽²⁾ Commitments
1401/1413 Research Boulevard	65.0%	5/17/20	L+2.50%	5.87%	\$20,181	\$ 7,435
1655 and 1725 Third Street	10.0%	6/29/21	L+3.70%	6.05%	168,366	206,634
704 Quince Orchard Road	56.8%	3/16/23	L+1.95%	4.66%	4,903	9,940

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Menlo Gateway, Phase II	38.5%	5/1/35	4.53%	N/A	—	157,270
Menlo Gateway, Phase I	38.5%	8/10/35	4.15%	4.18%	144,338	N/A
					\$337,788	\$ 381,279

(1) Includes interest expense, amortization of loan fees, and amortization of premiums (discounts) as of December 31, 2018.

(2) Represents outstanding principal, net of unamortized deferred financing costs and premiums (discounts) as of December 31, 2018.

The following tables present information related to the operating results and financial positions of our consolidated and unconsolidated real estate joint ventures (in thousands):

	Noncontrolling Interest Share of Consolidated Real Estate Joint Ventures		Our Share of Unconsolidated Real Estate Joint Ventures	
	December 31, 2018		December 31, 2018	
	Three Months Ended	Year Ended	Three Months Ended	Year Ended
Total revenues	\$ 14,556	\$ 55,914	\$ 2,380	\$ 16,681
Rental operations	(4,436)	(17,021)	(371)	(4,821)
	10,120	38,893	2,009	11,860
General and administrative	(36)	(208)	(56)	(127)
Interest	—	—	(205)	(1,010)
Depreciation and amortization	(4,252)	(16,077)	(719)	(3,181)
Gain on early extinguishment of debt	—	—	—	761
Gain on sale of real estate ⁽¹⁾	—	—	—	35,678
	\$ 5,832	\$ 22,608	\$ 1,029	\$ 43,981

(1) Related to the sale in September 2018 of our remaining 27.5% ownership interest in the unconsolidated real estate joint venture in 360 Longwood Avenue in our Longwood Medical Area submarket. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for additional information.

	December 31, 2018	
	Noncontrolling Interest Share of Consolidated Real Estate Joint Ventures	Our Share of Unconsolidated Real Estate Joint Ventures
Investments in real estate	\$ 524,523	\$ 322,994
Cash and cash equivalents	19,532	5,316
Restricted cash	—	79
Other assets	34,835	24,663
Secured notes payable	—	(87,677)
Other liabilities	(26,141)	(27,868)
Redeemable noncontrolling interests	(10,786)	—
	\$ 541,963	\$ 237,507

During the years ended December 31, 2018 and 2017, our consolidated joint ventures distributed an aggregate of \$30.7 million and \$22.4 million, respectively, to our joint venture partners. Refer to our consolidated statements of cash flows and Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial

statements under Item 15 of this annual report on Form 10-K for additional information.

Liquidity

Net Debt to Adjusted EBITDA⁽¹⁾ Net Debt and Preferred Stock to Adjusted EBITDA⁽¹⁾

Fixed-Charge Coverage Ratio⁽¹⁾ Liquidity⁽²⁾

\$2.4B

(In millions)

Availability under our \$2.2 billion unsecured senior line of credit	\$1,992
Cash, cash equivalents, and restricted cash	272
Investments in publicly traded companies	184
	\$2,448

(1) Quarter annualized.

(2) As of December 31, 2018.

We expect to meet certain long-term liquidity requirements, such as requirements for development, redevelopment, other construction projects, capital improvements, tenant improvements, property acquisitions, leasing costs, non-revenue-enhancing capital expenditures, scheduled debt maturities, distributions to noncontrolling interests, repurchases/redemptions of preferred stock, and payment of dividends through net cash provided by operating activities, periodic asset sales, strategic real estate joint venture capital, and long-term secured and unsecured indebtedness, including borrowings under our \$2.2 billion unsecured senior line of credit, unsecured senior bank term loan, and issuance of additional debt and/or equity securities.

We expect to continue meeting our short-term liquidity and capital requirements, as further detailed in this section, generally through our working capital and net cash provided by operating activities. We believe that the net cash provided by operating activities will continue to be sufficient to enable us to make the distributions necessary to continue qualifying as a REIT.

Over the next several years, our balance sheet, capital structure, and liquidity objectives are as follows:

- Retain positive cash flows from operating activities after payment of dividends and distributions to noncontrolling interests for investment in development and redevelopment projects and/or acquisitions;
- Improve credit profile and relative long-term cost of capital;
- Maintain diverse sources of capital, including sources from net cash provided by operating activities, unsecured debt, secured debt, selective real estate asset sales, partial interest sales, non-real estate investment sales, preferred stock, and common stock;
- Maintain commitment to long-term capital to fund growth;
- Maintain prudent laddering of debt maturities;
- Maintain solid credit metrics;
- Maintain significant balance sheet liquidity;
- Mitigate unhedged variable-rate debt exposure through the reduction of short-term and medium-term variable-rate bank debt;
- Maintain a large unencumbered asset pool to provide financial flexibility;
- Fund preferred stock and common stock dividends and distributions to noncontrolling interests from net cash provided by operating activities;
- Manage a disciplined level of value-creation projects as a percentage of our gross investments in real estate; and
- Maintain high levels of pre-leasing and percentage leased in value-creation projects.

The following table presents the availability under our \$2.2 billion unsecured senior line of credit; cash, cash equivalents, and restricted cash; and investments in publicly traded companies as of December 31, 2018 (dollars in thousands):

Description	Stated Rate	Aggregate Commitments	Outstanding Balance	Remaining Commitments/Liquidity
\$2.2 billion unsecured senior line of credit	L+0.825%	\$ 2,200,000	\$ 208,000	\$ 1,992,000
Cash, cash equivalents, and restricted cash				272,130
Investments in publicly traded companies				184,005
Total liquidity				\$ 2,448,135

Refer to Note 10 – “Secured and Unsecured Senior Debt” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for a discussion of our secured construction loans.

Cash, cash equivalents, and restricted cash

As of December 31, 2018 and 2017, we had \$272.1 million and \$277.2 million, respectively, of cash, cash equivalents, and restricted cash. We expect existing cash, cash equivalents, and restricted cash; cash flows from operating activities; proceeds from real estate asset sales; non-real estate investment sales; borrowings under our \$2.2 billion unsecured senior line of credit; issuances of unsecured notes payable; and issuances of common stock to continue to be sufficient to fund our operating activities and cash commitments for investing and financing activities, such as regular quarterly dividends, distributions to noncontrolling interests, scheduled debt repayments, acquisitions, and certain capital expenditures, including expenditures related to construction activities.

Cash flows

We report and analyze our cash flows based on operating activities, investing activities, and financing activities. The following table summarizes changes in our cash flows (in thousands):

	Year Ended December 31,		
	2018	2017	Change
Net cash provided by operating activities	\$570,339	\$450,882	\$119,457

Net cash used in investing activities	\$(2,161,760)	\$(1,737,126)	\$(424,634)
Net cash provided by financing activities	\$1,588,433	\$1,420,341	\$168,092

Operating activities

Cash flows provided by operating activities are primarily dependent upon the occupancy level of our asset base, the rental rates of our leases, the collectability of rent and recovery of operating expenses from our tenants, the timing of completion of development and redevelopment projects, and the timing of acquisitions and dispositions of operating properties. Net cash provided by operating activities for the year ended December 31, 2018, increased to \$570.3 million, compared to \$450.9 million for the year ended December 31, 2017. This increase was primarily attributable to (i) cash flows generated from our highly leased development and redevelopment projects recently placed into service, (ii) income-producing acquisitions since January 1, 2017, and (iii) increases in rental rates on lease renewals and re-leasing of space since January 1, 2017.

Investing activities

Cash used in investing activities for the years ended December 31, 2018 and 2017, consisted of the following (in thousands):

	Year Ended December 31,		
	2018	2017	Increase (Decrease)
Sources of cash from investing activities:			
Sales of investments	\$103,679	\$30,483	\$73,196
Return of capital from unconsolidated real estate joint ventures	68,592	38,576	30,016
Proceeds from sales of real estate	20,190	15,432	4,758
	192,461	84,491	107,970
Uses of cash for investing activities:			
Purchases of real estate	1,037,180	675,584	361,596
Additions to real estate	927,168	893,685	33,483
Investments in unconsolidated real estate joint ventures	116,008	17,876	98,132
Additions to investments	235,943	171,881	64,062
Acquisitions of interest in unconsolidated real estate joint ventures	35,922	60,291	(24,369)
Deposits for investing activities	2,000	2,300	(300)
	2,354,221	1,821,617	532,604
Net cash used in investing activities	\$2,161,760	\$1,737,126	\$424,634

The change in net cash used in investing activities for the year ended December 31, 2018, is primarily due to an increased use of cash for property acquisitions and for investments in unconsolidated real estate joint ventures, partially offset by proceeds from sale of investments and an increase in return of capital from our unconsolidated real estate joint venture. Refer to Note 3 – “Investments in Real Estate” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for further information.

Financing activities

Cash flows provided by financing activities for the years ended December 31, 2018 and 2017, consisted of the following (in thousands):

	Year Ended December		
	31, 2018	2017	Change
Borrowings from secured notes payable	\$17,784	\$153,405	\$(135,621)
Repayments of borrowings from secured notes payable	(156,888)	(396,240)	239,352
Proceeds from issuance of unsecured senior notes payable	899,321	1,023,262	(123,941)
Borrowings from unsecured senior line of credit	4,741,000	3,858,000	883,000
Repayments of borrowings from unsecured senior line of credit	(4,583,000)	(3,836,000)	(747,000)
Repayments of borrowings from unsecured senior bank term loan	(200,000)	(200,000)	—
Payments of loan fees	(19,292)	(10,019)	(9,273)
Total changes related to debt	698,925	592,408	106,517
Repurchases of 7.00% Series D cumulative convertible preferred stock	(13,976)	(17,934)	3,958
Redemption of 6.45% Series E cumulative redeemable preferred stock	—	(130,350)	130,350
Proceeds from the issuance of common stock	1,293,301	1,275,397	17,904
Dividend payments	(385,839)	(321,750)	(64,089)
Contributions from and sales of noncontrolling interests	28,275	44,931	(16,656)
Distributions to and purchases of noncontrolling interests	(32,253)	(22,361)	(9,892)
Net cash provided by financing activities	\$1,588,433	\$1,420,341	\$168,092

Inflation

As of December 31, 2018, approximately 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent. Approximately 95% of our leases (on an RSF basis) contained effective annual rent escalations that were either fixed (generally ranging from 3.0% to 3.5%) or indexed based on a consumer price index or other indices. Accordingly, we do not believe that our cash flows or earnings from real estate operations are subject to significant risks from inflation. An increase in inflation, however, could result in an increase in the cost of our variable-rate borrowings, including borrowings related to our \$2.2 billion unsecured senior line of credit, unsecured senior bank term loan, and secured construction loan.

Capital resources

We expect that our principal liquidity needs for the year ending December 31, 2019, will be satisfied by the following multiple sources of capital, as shown in the table below. There can be no assurance that our sources and uses of capital will not be materially higher or lower than these expectations.

Summary of Key Changes in Key Sources and Uses of Capital (In millions)	Guidance	
	Midpoint	
	As of 2/4/19	As of 11/28/18
Common equity	\$525	\$ 625
Construction	\$1,300	\$ 1,400

Sources and Uses of Capital (In millions)	2019 Guidance		
	Range	Midpoint	
Sources of capital:			
Net cash provided by operating activities after dividends	\$170	\$210	\$ 190
Incremental debt	485	445	465
Real estate dispositions and partial interest sales:			
Sale of partial interest in core class A property	438	438	438 (1)
Other	262	362	312 (1)
Common equity	475	575	525
Total sources of capital	\$1,830	\$2,030	\$ 1,930
Uses of capital:			
Construction	\$1,250	\$1,350	\$ 1,300
Acquisitions	580	680	630 (2)
Total uses of capital	\$1,830	\$2,030	\$ 1,930
Incremental debt (included above):			
Issuance of unsecured senior notes payable	\$600	\$700	\$ 650
Repayments of secured notes payable	(120)	(130)	(125)
\$2.2 billion unsecured senior line of credit/other	5	(125)	(60)
Incremental debt	\$485	\$445	\$ 465

(1) Refer to the “Real Estate Asset Sales” subsection of the “Investments in Real Estate” section under Item 2 of this annual report on Form 10-K for additional information.

Includes \$65.0 million paid in January 2019 for the two properties at 10260 Campus Point Drive and 4161 Campus Point Court we acquired in December 2018. Total purchase price was \$80.0 million, of which \$15.0 million was paid in December 2018. Refer to the “Acquisitions” subsection of the “Investments in Real Estate” section under Item 2 of this annual report on Form 10-K for additional information. Also includes \$196.5 million related to acquisitions completed in January 2019, as described in Note 2 - “Subsequent events” to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

The key assumptions behind the sources and uses of capital in the table above include a favorable capital market environment, performance of our core operating properties, lease-up and delivery of current and future development and redevelopment projects, and leasing activity. Our expected sources and uses of capital are subject to a number of variables and uncertainties, including those discussed under Item 1A and within this Item 7 of this annual report on Form 10-K. We expect to update our forecast of sources and uses of capital on a quarterly basis.

Sources of capital

Net cash provided by operating activities after dividends

We expect to retain \$170.0 million to \$210.0 million of net cash flows from operating activities after payment of common stock and preferred stock dividends, and distributions to noncontrolling interests. For purposes of this calculation, changes in operating assets and liabilities are excluded as they represent timing differences. For the year ending December 31, 2019, we expect our recently delivered projects, our highly pre-leased value-creation projects expected to be completed, along with contributions from Same Properties and recently acquired properties, to contribute significant increases in rental revenue, net operating income, and cash flows. We anticipate significant contractual near-term growth in annual cash rents of \$42 million related to the commencement of contractual rents on the projects recently placed into service that are near the end of their initial free rent period. Refer to the “Cash Flows” section within this Item 7 of this annual report on Form 10-K for a discussion of net cash provided by operating activities for the year ended December 31, 2018.

Debt

In February 2018, S&P Global Ratings raised its credit outlook for our corporate credit rating to BBB/Positive from BBB/Stable. The positive outlook reflects S&P’s belief that “there is further ratings upside over the next couple of years stemming from the company’s high quality operating portfolio and projects under development, combined with a prudent financial policy.”

In September 2018, Moody’s Investors Service upgraded our corporate issuer credit rating to Baa1/Stable from Baa2/Stable. The rating upgrade reflects the continued and significant improvement of our credit profile resulting from our diversified portfolio of life science properties in key markets with consistently high occupancy and high-quality tenants, many of which are less sensitive to economic cyclicity.

On September 28, 2018, we amended our unsecured senior line of credit and our unsecured senior bank term loan to extend the maturity date of each to January 28, 2024, including two six-month extension options related to our unsecured senior line of credit. We recognized a loss on early extinguishment of debt of approximately \$634 thousand related to the write-off of unamortized loan fees associated with these amendments. The table below reflects the total commitments, outstanding balances, applicable margins, maturity dates, and facility fees for each of the following facilities as of as of December 31, 2018 (dollars in thousands):

	Commitment	Balance ⁽¹⁾	Applicable Rate	Maturity Date	Facility Fee
Unsecured senior line of credit	\$2.2 billion	\$208 million	L+0.825%	January 2024 ⁽²⁾	0.15%
Unsecured senior bank term loan	\$350 million	\$350 million	L+0.90%	January 2024	N/A

(1)Excludes amortization of loan fees and amortization of premiums (discounts) as of December 31, 2018.

(2)Includes two six-month extension options that we control.

As of December 31, 2018, the outstanding balance on our \$2.2 billion unsecured senior line of credit and our unsecured senior bank term loan is \$208.0 million and \$347.4 million, respectively. Borrowings under the \$2.2 billion unsecured senior line of credit and our unsecured senior bank term loan bear interest at LIBOR or the base rate specified in the amended agreement plus, in either case, a specified margin (the “Applicable Margin”) based on our existing credit ratings as set by certain rating agencies.

We use our \$2.2 billion unsecured senior line of credit to fund working capital, construction activities, and, from time to time, acquisition of properties. Borrowings under the \$2.2 billion unsecured senior line of credit will bear interest at a “Eurocurrency Rate,” a “LIBOR Floating Rate,” or a “Base Rate” specified in the amended \$2.2 billion unsecured senior

line of credit agreement plus, in any case, the Applicable Margin. The Eurocurrency Rate specified in the amended \$2.2 billion unsecured senior line of credit agreement is, as applicable, the rate per annum equal to either (i) the LIBOR or a successor rate thereto as agreed to by the administrative agent and the Company for loans denominated in a LIBOR quoted currency (i.e., U.S. dollars, euro, sterling, or yen), (ii) the average annual yield rates applicable to Canadian dollar bankers' acceptances for loans denominated in Canadian dollars, (iii) the Bank Bill Swap Reference Bid rate for loans denominated in Australian dollars, or (iv) the rate designated with respect to the applicable alternative currency for loans denominated in a non-LIBOR quoted currency (other than Canadian or Australian dollars). The LIBOR Floating Rate means, for any day, one month LIBOR, or a successor rate thereto as agreed to by the administrative agent and the Company for loans denominated in U.S. dollars. The Base Rate means, for any day, a fluctuating rate per annum equal to the highest of (i) the federal funds rate plus 1/2 of 1.00%, (ii) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its "prime rate," and (iii) the Eurocurrency Rate plus 1.00%. Our \$2.2 billion unsecured senior line of credit contains a feature that allows lenders to competitively bid on the interest rate for borrowings under the facility. This may result

in an interest rate that is below the stated rate. In addition to the cost of borrowing, the unsecured senior line of credit is subject to an annual facility fee of 0.15% based on the aggregate commitments outstanding.

We expect to fund a portion of our capital needs in 2019 from the issuance of unsecured senior notes payable and from borrowings under our \$2.2 billion unsecured senior line of credit.

During the year ended December 31, 2018, we repaid the remaining \$200.0 million balance under our 2019 unsecured senior bank term loan and recognized a loss on early extinguishment of debt of \$189 thousand related to the write-off of unamortized loan fees.

In July 2018, we repaid \$150.0 million of the outstanding balance of our secured construction loan and reduced aggregate commitments to \$200.0 million. In connection with the partial repayment of the secured construction loan, we recognized a loss on early extinguishment of debt of \$299 thousand related to the write-off of unamortized loan fees.

In June 2018, we completed an offering of \$900.0 million of unsecured senior notes for net proceeds of \$891.4 million. The offering consisted of \$450.0 million of 4.00% Unsecured Senior Notes, payable on January 15, 2024, which will be used to fund certain eligible green development and redevelopment projects that have received or are expected to receive LEED® Gold or Platinum certification, and \$450.0 million of 4.70% Unsecured Senior Notes, payable on July 1, 2030.

Refer to Note 10 – “Secured and Unsecured Senior Debt” to our consolidated financial statements under Item 15 of this report for additional information regarding our unsecured senior notes payable.

Real estate dispositions and common equity

We expect to continue the disciplined execution of select sales of operating assets. Future sales will provide an important source of capital to fund a portion of our highly leased value-creation development and redevelopment projects. We may also consider additional sales of partial interests in core Class A properties and/or development projects. For 2019, we expect real estate dispositions and issuances of common equity ranging from \$1.2 billion to \$1.4 billion, which includes the sale of a 60% interest in 75/125 Binney Street, a Class A property located in our Cambridge submarket for a sales price of \$438.0 million. We expect to complete this partial interest sale during the first quarter of 2019. The amount of asset sales necessary to meet our forecasted sources of capital will vary depending upon the amount of EBITDA associated with the assets sold. In addition, the amount of common equity issued will be subject to market conditions.

For additional information, refer to “Sales of Real Estate Assets and Impairment Charges” in Note 3 – “Investments in Real Estate” to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

ATM common stock offering program

In August 2017, we established an ATM common stock offering program that allowed us to sell up to an aggregate of \$750.0 million of our common stock. The following table presents a detail of shares of common stock sold and the remaining aggregate amount available for future sales of common stock under this program since its inception (dollars in thousands, except per share amounts):

Shares Issued	Average Issue	Gross Proceeds	Net Proceeds
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		Price per Share		
Year ended December 31, 2017	2,773,318	\$ 121.37	\$ 336,603	\$ 331,160
Year ended December 31, 2018	3,159,662	\$ 125.23	395,675	389,385
Cumulative activity through December 31, 2018	5,932,980		732,278	\$ 720,545
Remaining availability as of December 31, 2018			17,722	
Total August 2017 ATM common stock offering program			\$ 750,000	

103

In August 2018, we established a new ATM common stock offering program that allows us to sell up to an aggregate of \$750.0 million of our common stock. The following table presents a detail of shares of common stock sold and the remaining aggregate amount available for future sales of common stock under our new ATM program (dollars in thousands, except per share amounts):

	Shares Issued	Average Issue Price per Share	Gross Proceeds	Net Proceeds
Year ended December 31, 2018	855,458	\$127.45	\$109,031	\$106,956
Remaining availability as of December 31, 2018			640,969	
Total August 2018 ATM common stock offering program			\$750,000	

Forward equity sales agreements

In January 2018, we entered into forward equity sales agreements to sell an aggregate of 6.9 million shares of our common stock (including the exercise of underwriters' option) at a public offering price of \$123.50 per share, before underwriting discounts of \$4.94 per share, and adjustments as provided in the sales agreements. The following table presents a summary of shares of common stock settled (dollars in thousands, except per share amounts):

	Number of Shares	Average Issue Price per Share	Net Proceeds
Forward equity sales agreements settled during the three months ended:			
March 31, 2018	843,600	\$118.74	\$100,169
June 30, 2018	—	—	—
September 30, 2018	857,700	\$116.62	100,022
December 31, 2018	5,198,700	\$116.97	608,108
Total under our forward equity sales agreements	6,900,000		\$808,299

Other sources

Under our current shelf registration statement filed with the SEC, we may offer common stock, preferred stock, debt, and other securities. These securities may be issued, from time to time, at our discretion based on our needs and market conditions, including, as necessary, to balance our use of incremental debt capital.

Additionally, we hold interests, together with joint venture partners, in joint ventures that we consolidate in our financial statements. These joint venture partners may contribute equity into these entities primarily related to their share of funds for construction and financing-related activities. During the year ended December 31, 2018, we received \$28.3 million in contributions from and sales of noncontrolling interests.

Uses of capital

Summary of capital expenditures

Our primary use of capital relates to the development, redevelopment, pre-construction, and construction of properties. We currently have projects in our growth pipeline aggregating 3.9 million RSF of new Class A office/laboratory and tech office space, and intermediate-term and future value-creation projects supporting an aggregate of 6.8 million SF of ground-up development in North America. We incur capitalized construction costs related to development, redevelopment, pre-construction, and other construction activities. We also incur additional capitalized project costs, including interest, property taxes, insurance, and other costs directly related and essential to the development, redevelopment, pre-construction, or construction of a project, during periods when activities necessary to prepare an asset for its intended use are in progress. Refer to the “New Class A Development and Redevelopment Properties: 2019 Deliveries” and “Summary of Capital Expenditures” sections under Item 2 of this annual report on Form 10-K for more information on our capital expenditures.

We capitalize interest cost as a cost of the project only during the period for which activities necessary to prepare an asset for its intended use are ongoing, provided that expenditures for the asset have been made and interest cost has been incurred. Capitalized interest for the years ended December 31, 2018 and 2017, of \$66.2 million and \$58.2 million, respectively, is classified in investments in real estate. Indirect project costs, including construction administration, legal fees, and office costs that clearly relate to projects under development or construction, are capitalized as incurred during the period an asset is undergoing activities to prepare it for its intended use. We capitalized payroll and other indirect project costs related to development, redevelopment, pre-construction, and construction projects which aggregated \$32.5 million and \$23.4 million for the years ended December 31, 2018 and 2017, respectively. The increase in capitalized payroll and other indirect project costs for the year ended December 31, 2018, compared to the same period in 2017 was primarily due to an increase in our value creation pipeline projects undergoing construction and pre-construction activities aggregating 11 projects with 2.6 million RSF in 2018 over 2017. Pre-construction activities include entitlements, permitting, design, site work, and other activities preceding commencement of construction of aboveground building improvements. The advancement of pre-construction efforts is focused on reducing the time required to deliver projects to prospective tenants. These critical activities add significant value for future ground-up development and are required for the vertical construction of buildings. Should we cease activities necessary to prepare an asset for its intended use, the interest, taxes, insurance, and certain other direct project costs related to this asset would be expensed as incurred. Expenditures for repairs and maintenance are expensed as incurred.

Fluctuations in our development, redevelopment, and construction activities could result in significant changes to total expenses and net income. For example, had we experienced a 10% reduction in development, redevelopment, and construction activities without a corresponding decrease in indirect project costs, including interest and payroll, total expenses would have increased by approximately \$9.9 million for the year ended December 31, 2018.

We also capitalize initial direct costs to originate leases with independent third parties related to evaluating a prospective lessee’s financial condition, negotiating lease terms, preparing the lease agreement, and closing the lease transaction. Costs that we capitalized relate to successful leasing transactions, result directly from and are essential to the lease transaction, and would not have been incurred had that lease transaction not occurred. The initial direct costs capitalized also include the portion of our employees’ total compensation and payroll-related benefits directly related to time spent performing the activities described above and related to the respective lease that would not have been performed but for that lease. During the years ended December 31, 2018 and 2017, our total leasing activity aggregated 4.7 million RSF with a weighted-average lease term of 9.1 years and 4.6 million RSF with a weighted-average lease term of 7.9 years, respectively. During the years ended December 31, 2018 and 2017, we capitalized total initial direct leasing costs of \$61.4 million, or \$1.43 per RSF leased per year of the lease term, and \$68.9 million, or \$1.91 per RSF leased per year of the lease term, respectively, primarily consisting of third-party

broker commissions.

The FASB has issued several lease ASUs that set out the principles for the recognition, measurement, presentation, and disclosure of leases, including the accounting for costs to execute leases effective January 1, 2019. As a result of changes in accounting rules, certain initial direct leasing costs will no longer be capitalizable. Refer to the “Lease Accounting” subsection of the “Recent Accounting Pronouncements” within Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for additional information.

105

Acquisitions

Refer to “Acquisitions” in Note 3 – “Investments in Real Estate” and Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for detailed information on our acquisitions.

7.00% Series D cumulative convertible preferred stock repurchases

As of December 31, 2018, we had 2.6 million shares of our Series D Convertible Preferred Stock outstanding. During the year ended December 31, 2018, we repurchased, in privately negotiated transactions, 402,000 shares of our Series D Convertible Preferred Stock at an aggregate price of \$14.0 million, or \$34.77 per share, and recognized a preferred stock redemption charge of \$4.2 million.

In January 2019, we repurchased, in privately negotiated transactions, 275,000 shares of our Series D Convertible Preferred Stock for \$9.2 million, or \$33.60 per share, and recognized a preferred stock redemption charge of \$2.6 million. As of January 2019, we have 2.3 million shares of our Series D Convertible Preferred Stock outstanding.

We may seek to repurchase additional shares of our Series D Convertible Preferred Stock in the future, subject to market conditions. To the extent that we repurchase shares of our Series D Convertible Preferred Stock, we expect to fund such amounts with the proceeds from issuances of our common stock, subject to market conditions.

6.45% Series E cumulative redeemable preferred stock redemption

In March 2017, we announced the redemption of our Series E Redeemable Preferred Stock. On April 14, 2017, we completed the redemption of all 5.2 million outstanding shares of our Series E Redeemable Preferred Stock at a redemption price of \$25.00 per share, or an aggregate \$130.0 million, plus accrued dividends.

Dividends

During the years ended December 31, 2018 and 2017, we paid the following dividends (in thousands):

	Year Ended		
	December 31,		
	2018	2017	Change
Common stock dividends	\$380,632	\$312,131	\$68,501
7.00% Series D cumulative convertible preferred stock dividends	5,207	5,426	(219)
6.45% Series E cumulative redeemable preferred stock dividends	—	4,193	(4,193)
	\$385,839	\$321,750	\$64,089

The increase in dividends paid on our common stock for the year ended December 31, 2018, compared to the year ended December 31, 2017, was primarily due to an increase in number of common shares outstanding subsequent to January 1, 2017, as a result of issuances of common stock under our ATM program and settlement of forward equity sales agreements, and partially due to the increase in the related dividends to \$3.66 per common share paid during the year ended December 31, 2018, from \$3.38 per common share paid during the year ended December 31, 2017.

Dividends paid on our Series D Convertible Preferred Stock for the year ended December 31, 2018, decreased slightly from the dividends paid for the year ended December 31, 2017, due to a decrease in number of shares outstanding as a result of the repurchase of 402,000 and 501,115 outstanding shares of our Series D Convertible Preferred Stock during the years ended December 31, 2018 and 2017, respectively. The decrease in dividends paid on our Series E Redeemable Preferred Stock was due to the redemption of all 5.2 million outstanding shares of our Series E Redeemable Preferred Stock on April 14, 2017.

Contractual obligations and commitments

Contractual obligations as of December 31, 2018, consisted of the following (in thousands):

	Total	Payments by Period			
		2019	2020-2021	2022-2023	Thereafter
Secured and unsecured debt ⁽¹⁾⁽²⁾	\$5,498,442	\$8,601	\$710,910	\$1,161,769	\$3,617,162
Estimated interest payments on fixed-rate and hedged variable-rate debt ⁽³⁾	1,334,695	215,011	380,841	322,912	415,931
Estimated interest payments on variable-rate debt ⁽⁴⁾	1,724	1,724	—	—	—
Ground lease obligations	587,900	12,804	24,829	24,723	525,544
Other obligations	2,372	1,777	595	—	—
Total	\$7,425,133	\$239,917	\$1,117,175	\$1,509,404	\$4,558,637

(1) Amounts represent principal amounts due and exclude unamortized premiums (discounts) and deferred financing costs reflected on the consolidated balance sheets under Item 15 of this of this annual report on Form 10-K.

(2) Payment dates reflect any extension options that we control.

(3) Amounts are based upon contractual interest rates, including expenses related to our interest rate hedge agreements, interest payment dates, and scheduled maturity dates.

(4) Interest payments on unhedged variable-rate debt are based on the interest rates in effect as of December 31, 2018.

Secured notes payable

Secured notes payable as of December 31, 2018, consisted of seven notes secured by 18 properties. Our secured notes payable typically require monthly payments of principal and interest and had a weighted-average interest rate of approximately 4.22%. As of December 31, 2018, the total book value of our investments in real estate securing debt were approximately \$1.7 billion. As of December 31, 2018, our secured notes payable, including unamortized discounts and deferred financing costs, were composed of approximately \$587.4 million and \$43.1 million of fixed-rate/hedged variable-rate debt and unhedged variable-rate debt, respectively.

Unsecured senior notes payable, unsecured senior bank term loan, and \$2.2 billion unsecured senior line of credit

The requirements of, and our actual performance with respect to, the key financial covenants under our unsecured senior notes payable as of December 31, 2018, were as follows:

Covenant Ratios ⁽¹⁾	Requirement	December 31, 2018
Total Debt to Total Assets	Less than or equal to 60%	34%
Secured Debt to Total Assets	Less than or equal to 40%	4%
Consolidated EBITDA ⁽²⁾ to Interest Expense	Greater than or equal to 1.5x	6.3x
Unencumbered Total Asset Value to Unsecured Debt	Greater than or equal to 150%	272%

For definitions of the ratios, refer to the indenture at Exhibits 4.3, 4.12, and 4.17 hereto and the related

(1) supplemental indentures at Exhibits 4.4, 4.6, 4.8, 4.10, 4.13, 4.15, 4.18, 4.20, 4.22, and 4.24 hereto, which are each listed under Item 15 of this annual report on Form 10-K.

(2) The calculation of consolidated EBITDA is based on the definitions contained in our loan agreements and is not directly comparable to the computation of EBITDA as described in Exchange Act Release No. 47226.

In addition, the terms of the indentures, among other things, limit the ability of the Company, Alexandria Real Estate Equities, L.P., and the Company's subsidiaries to (i) consummate a merger, or consolidate or sell all or substantially all of the Company's assets and (ii) incur certain secured or unsecured indebtedness.

107

The requirements of, and our actual performance with respect to, the key financial covenants under our unsecured senior bank term loan and our \$2.2 billion unsecured senior line of credit as of December 31, 2018, were as follows:

Covenant Ratios ⁽¹⁾	Requirement	December 31, 2018
Leverage Ratio	Less than or equal to 60.0%	28.1%
Secured Debt Ratio	Less than or equal to 45.0%	3.2%
Fixed-Charge Coverage Ratio	Greater than or equal to 1.50x	3.99x
Unsecured Interest Coverage Ratio	Greater than or equal to 1.75x	6.19x

For definitions of the ratios, refer to the amended \$2.2 billion unsecured senior line of credit and unsecured senior (1)bank term loan agreements filed as Exhibits 10.1 and 10.2, which are listed under Item 15 of this annual report on Form 10-K.

Estimated interest payments

Estimated interest payments on our fixed-rate and hedged variable-rate debt were calculated based upon contractual interest rates, including estimated interest expense related to interest rate hedge agreements, interest payment dates, and scheduled maturity dates. As of December 31, 2018, approximately 97% of our debt was fixed-rate debt or variable-rate debt subject to interest rate hedge agreements. Refer to our interest rate hedge agreements in “Contractual Obligations and Commitments” and “Interest Rate Hedge Agreements” in the “Uses of Capital” subsection of the “Sources and Uses of Capital” section within this Item 7 of this annual report on Form 10-K for additional information. The remaining 3% of our debt as of December 31, 2018, was unhedged variable-rate debt based primarily on LIBOR. Interest payments on our unhedged variable-rate debt have been calculated based on interest rates in effect as of December 31, 2018. For additional information regarding our debt, refer to Note 10 – “Secured and Unsecured Senior Debt” to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

Interest rate hedge agreements

We utilize interest rate derivatives to hedge a portion of our exposure to volatility in variable interest rates primarily associated with our \$2.2 billion unsecured senior line of credit, unsecured senior bank term loan, and variable-rate secured construction loan. Our derivative instruments consisted of interest rate hedges.

Our interest rate hedge agreements involve the receipt of variable-rate amounts from a counterparty in exchange for our payment of fixed-rate amounts to the counterparty over the life of the agreement without the exchange of the underlying notional amount. Interest received under all of our interest rate hedge agreements is based on one-month LIBOR. The net difference between the interest paid and the interest received is reflected as an adjustment to interest expense in our consolidated statements of operations.

We have entered into master derivative agreements with our counterparties. These master derivative agreements (all of which are adapted from the standard International Swaps and Derivatives Association, Inc. form) define certain terms between us and each of our respective counterparties to address and minimize certain risks associated with our interest rate hedge agreements. In order to limit our risk of non-performance by an individual counterparty under our interest rate hedge agreements, these agreements are spread among various counterparties. The largest aggregate notional amount in effect at any single point in time with an individual counterparty in our interest rate hedge agreements existing as of December 31, 2018, was \$150.0 million. If one or more of our counterparties fail to perform under our interest rate hedge agreements, we may incur higher costs associated with our variable-rate LIBOR-based debt than the interest costs we originally anticipated. We have not posted any collateral related to our interest rate hedge agreements.

Ground lease obligations

Ground lease obligations as of December 31, 2018, included leases for 29 of our properties, which accounted for approximately 12% of our total number of properties. Excluding one ground lease related to one operating property that expires in 2036 with a net book value of \$8.8 million as of December 31, 2018, our ground lease obligations have remaining lease terms ranging from approximately 35 to 96 years, including extension options. Refer to Note 15 – “Commitments and Contingencies” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for further information on our ground leases.

As of December 31, 2018, the remaining contractual payments under our ground and office lease agreements for which we are the lessee aggregated \$587.9 million and \$2.4 million, respectively. Under the new lease ASU effective on January 1, 2019, described in detail under the “Lease Accounting” subsection of the “Recent Accounting Pronouncements” within section Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements under Item 15 of this annual report on Form 10-K, we are required to recognize a right-of-use asset and a related liability to account for our future obligations under our ground and office lease arrangements for which we are the lessee. The lease liability will be measured based on the present value of the remaining lease payments. The right-of-use asset will be equal to the corresponding lease liability, adjusted for the initial direct leasing cost and any other consideration exchanged with the landlord prior to the commencement of the lease. On January 1, 2019, we recognized a lease liability of \$218.7 million measured based on the present value of the lease payments aggregating \$590.3 million remaining as of the initial application date of January 1, 2019, under our ground and office lease agreements for which we are the lessee.

Commitments

As of December 31, 2018, remaining aggregate costs under contract for the construction of properties undergoing development, redevelopment, and improvements under the terms of leases approximated \$829.9 million. We expect payments for these obligations to occur over one to three years, subject to capital planning adjustments from time to time. We may have the ability to cease the construction of certain properties, which would result in the reduction of our commitments. We have existing office space at 161 First Street/50 Rogers Street in our Alexandria Center® at Kendall Square (“ACKS”) campus that we are required to partially convert to multifamily residential space, pursuant to our entitlements for our ACKS campus. Pursuant to these requirements, we expect to begin construction of the conversion to multifamily residential in 2019. In addition, we have letters of credit and performance obligations aggregating \$9.2 million primarily related to construction projects.

In March 2018, we acquired a 10% interest in a real estate joint venture with Uber Technologies, Inc. and the Golden State Warriors that owns 1655 and 1725 Third Street, located in our Mission Bay/SoMa submarket of San Francisco. Our total equity contribution commitment is \$78.0 million, of which we have contributed \$32.0 million through December 31, 2018.

In November 2017, we entered into an agreement with a real estate developer in the San Francisco Bay Area to own a 49% interest in a real estate joint venture at Menlo Gateway in our Greater Stanford submarket of San Francisco. Our total equity contribution commitment is \$269.0 million, of which we have contributed \$177.7 million through December 31, 2018.

We are committed to funding approximately \$248.3 million for all investments, which primarily consist of \$247.8 million related to investments in limited partnerships. Our funding commitments expire at various dates over the next 11 years, with a weighted-average remaining period of 8.8 years.

Exposure to environmental liabilities

In connection with the acquisition of all of our properties, we have obtained Phase I environmental assessments to ascertain the existence of any environmental liabilities or other issues. The Phase I environmental assessments of our properties have not revealed any environmental liabilities that we believe would have a material adverse effect on our financial condition or results of operations taken as a whole, nor are we aware of any material environmental liabilities that have occurred since the Phase I environmental assessments were completed. In addition, we carry a policy of pollution legal liability insurance covering exposure to certain environmental losses at substantially all of our properties.

Accumulated other comprehensive income (loss)

Accumulated other comprehensive income (loss) attributable to Alexandria Real Estate Equities, Inc. consists of the following (in thousands):

	Net Unrealized Gain (Loss) on:			
	Available-for-Sale Equity Securities	Interest Rate Hedge Agreements	Foreign Currency Translation	Total
Balance as of December 31, 2017	\$49,771	\$ 5,157	\$ (4,904)	\$ 50,024
Amounts reclassified from other comprehensive income to retained earnings	(49,771) ⁽¹⁾	—	—	(49,771)
Other comprehensive income (loss) before reclassifications	—	1,622	(7,369)	(5,747)
Amounts reclassified from other comprehensive income to net income	—	(4,941)	—	(4,941)
Net other comprehensive loss	—	(3,319)	(7,369)	(10,688)
Balance as of December 31, 2018	\$—	\$ 1,838	\$ (12,273)	\$ (10,435)

⁽¹⁾ Refer to Note 7 – “Investments” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for additional information.

Interest rate hedge agreements

Changes in our accumulated other comprehensive income (loss) balance relate to the change in fair value of our interest rate hedge agreements. We reclassify amounts from accumulated other comprehensive income (loss) as we recognize interest expense related to the hedged variable-rate debt instrument.

Foreign currency translation

Changes in our accumulated other comprehensive income (loss) balance relate to changes in the foreign exchange rates for our real estate investments in Canada and Asia. Additionally, we reclassify unrealized foreign currency translation gains and losses into net income as we dispose of these holdings.

Critical accounting policies

Our consolidated financial statements have been prepared in accordance with GAAP. The preparation of these financial statements in conformity with GAAP requires us to make estimates, judgments, and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses. We base these estimates, judgments, and assumptions on historical experience and on various other factors that we believe to be reasonable under the circumstances.

We continually evaluate the policies and estimates we use to prepare our consolidated financial statements. Changes in estimates or policies applied could affect our financial position and specific items in our results of operations that are used by our stockholders, potential investors, industry analysts, and lenders in their evaluation of our performance. Our significant accounting policies are described in Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

REIT compliance

We have elected to be taxed as a REIT under the Internal Revenue Code. Qualification as a REIT involves the application of highly technical and complex provisions of the Internal Revenue Code to our operations and financial results, and the determination of various factual matters and circumstances not entirely within our control. We believe that our current organization and method of operation comply with the rules and regulations promulgated under the Internal Revenue Code to enable us to qualify, and continue to qualify, as a REIT. However, it is possible that we have been organized or have operated in a manner that would not allow us to qualify as a REIT, or that our future operations could cause us to fail to qualify.

If we fail to qualify as a REIT in any taxable year, then we will be required to pay federal and state income taxes on our taxable income at regular corporate rates. If we lose our REIT status, then our net earnings available for investment or distribution to our stockholders will be significantly reduced for each of the years involved and we will no longer be required to make distributions to our stockholders.

Investments in real estate

Recognition of real estate acquired

We evaluate each acquisition of real estate or in-substance real estate (including equity interests in entities that predominantly hold real estate assets) to determine whether the integrated set of assets and activities acquired meets the definition of a business and needs to be accounted for as a business combination. An acquisition of an integrated set of assets and activities that does not meet the definition of a business is accounted for as an asset acquisition.

For acquisitions of real estate or in-substance real estate that are accounted for as business combinations, we allocate the acquisition consideration (excluding acquisition costs) to the assets acquired (including the intangible value of acquired above-market leases, acquired in-place leases, tenant relationships, and other intangible assets), liabilities assumed (including the intangible value of acquired below-market leases and other intangible liabilities), noncontrolling interests, and previously existing ownership interests at fair value as of the acquisition date. Any excess (deficit) of the consideration transferred relative to the fair value of the net assets acquired is accounted for as goodwill (bargain purchase gain). Acquisition costs related to business combinations are expensed as incurred.

Generally, we expect that acquisitions of real estate or in-substance real estate will not meet the definition of a business because substantially all of the fair value is concentrated in a single identifiable asset or group of similar identifiable assets (i.e., land, buildings, and related intangible assets). The accounting model for asset acquisitions is similar to the accounting model for business combinations except that the acquisition consideration (including acquisition costs) is allocated to the individual assets acquired and liabilities assumed on a fair value basis. Any excess (deficit) of the consideration transferred relative to the sum of the fair value of the assets acquired and liabilities assumed is allocated to the individual assets and liabilities based on their relative fair values. As a result, asset acquisitions do not result in the recognition of goodwill or a bargain purchase gain. Incremental and external direct acquisition costs (such as legal and third party expenses) are capitalized.

We exercise judgment to determine the key assumptions used to allocate the purchase price of real estate acquired among its components. The allocation of the consideration to the various components of properties acquired during the year can have an effect on our net income due to the differing depreciable and amortizable lives of each component and the recognition of the related depreciation and amortization expense in our consolidated statements of operations. We apply judgment in utilizing available comparable market information to assess relative fair value. We assess the relative fair value of tangible and intangible assets based on numerous factors, including estimated cash flow projections that utilize appropriate discount and capitalization rates and available comparable market information. Estimates of future cash flows are based on a number of factors, including the historical operating results,

known and anticipated trends, and market/economic conditions that may affect the property.

The value of tangible assets acquired is based upon our estimation of value on an “as if vacant” basis. The value of acquired in-place leases includes the estimated costs during the hypothetical lease-up period and other costs that would have been incurred in the execution of similar leases under the market conditions at the acquisition date of the acquired in-place lease. The value of above-market lease assets and below-market lease liabilities reflects the difference between (i) the contractual rents to be paid over the remaining term for each in-place lease and (ii) the estimated current market lease rates using available comparable market information and tenant credit quality. If there is a bargain fixed-rate renewal option for the period beyond the non-cancelable lease term of an in-place lease, we evaluate intangible factors such as the business conditions in the industry in which the lessee operates, the economic conditions in the area in which the property is located, and the ability of the lessee to sublease the property during the renewal term, in

order to determine the likelihood that the lessee will renew. When we determine there is reasonable assurance that such bargain purchase option will be exercised, we consider the option in determining the intangible value of such lease and its related amortization period. We also recognize the relative fair values of assets acquired, the liabilities assumed, and any noncontrolling interest in acquisitions of less than a 100% interest when the acquisition constitutes a change in control of the acquired entity.

We completed the acquisition of 27 properties for a total purchase price of \$1.2 billion during the year ended December 31, 2018. These transactions were accounted for as asset acquisitions, and the purchase price was allocated based on the relative fair value of the asset acquired and liabilities assumed.

Depreciation and amortization

The values allocated to buildings and building improvements, land improvements, tenant improvements, and equipment are depreciated on a straight-line basis using the shorter of the term of the respective ground lease and up to 40 years for buildings and building improvements, an estimated life of up to 20 years for land improvements, the respective lease term for tenant improvements, and the estimated useful life for equipment. The values of acquired above- and below-market leases are amortized over the terms of the related leases and recognized as either an increase (for below-market leases) or a decrease (for above-market leases) to rental revenue. The values of acquired above- and below-market ground leases are amortized over the terms of the related ground leases and recognized as either an increase (for below-market ground leases) or a decrease (for above-market ground leases) to rental operating expense. The values of acquired in-place leases are classified in other assets in our consolidated balance sheets and amortized over the remaining terms of the related leases.

Capitalized project costs

We capitalize project costs, including interest, property taxes, insurance, and other costs directly related and essential to the development, redevelopment, pre-construction, or construction of a project. Capitalization of development, redevelopment, pre-construction, and construction costs is required while activities are ongoing to prepare an asset for its intended use. Fluctuations in our development, redevelopment, pre-construction, and construction activities could result in significant changes to total expenses and net income. Costs incurred after a project is substantially complete and ready for its intended use are expensed as incurred. Should development, redevelopment, pre-construction, or construction activity cease, interest, property taxes, insurance, and certain other costs would no longer be eligible for capitalization and would be expensed as incurred. Expenditures for repairs and maintenance are expensed as incurred.

Properties classified as held for sale

A property is classified as held for sale when all of the following criteria for a plan of sale have been met:

(i) management, having the authority to approve the action, commits to a plan to sell the property; (ii) the property is available for immediate sale in its present condition, subject only to terms that are usual and customary; (iii) an active program to locate a buyer and other actions required to complete the plan to sell have been initiated; (iv) the sale of the property is probable and is expected to be completed within one year; (v) the property is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and (vi) actions necessary to complete the plan of sale indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn. Depreciation of assets ceases upon designation of a property as held for sale.

If the disposal of the property represents a strategic shift that has (or will have) a major effect on our operations or financial results, such as (i) a major line of business, (ii) a major geographic area, (iii) a major equity method investment, or (iv) other major parts of an entity, then the operations of the property, including any interest expense directly attributable to it, are classified as discontinued operations in our consolidated statements of operations, and amounts for all prior periods presented are reclassified from continuing operations to discontinued operations. The

disposal of an individual property generally will not represent a strategic shift and therefore will typically not meet the criteria for classification as discontinued operations.

Impairment of long-lived assets

On a quarterly basis, we review current activities and changes in the business conditions of all of our properties prior to and subsequent to the end of each quarter to determine the existence of any triggering events or impairment indicators requiring an impairment analysis. If triggering events or impairment indicators are identified, we review an estimate of the future undiscounted cash flows for the properties, including, if necessary, a probability-weighted approach if multiple outcomes are under consideration.

Long-lived assets to be held and used, including our rental properties, CIP, land held for development, and intangibles, are individually evaluated for impairment when conditions exist that may indicate that the carrying amount of a long-lived asset may not be recoverable. The carrying amount of a long-lived asset to be held and used is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. Impairment indicators or triggering events for long-lived assets to be held and used, including our rental properties, CIP, land held for development, and intangibles, are assessed by project and include significant fluctuations in estimated net operating income, occupancy changes, significant near-term lease expirations, current and historical operating and/or cash flow losses, construction costs, estimated completion dates, rental rates, and other market factors. We assess the expected undiscounted cash flows based upon numerous factors, including, but not limited to, construction costs, available market information, current and historical operating results, known trends, current market/economic conditions that may affect the property, and our assumptions about the use of the asset, including, if necessary, a probability-weighted approach if multiple outcomes are under consideration. Upon determination that an impairment has occurred, a write-down is recognized to reduce the carrying amount to its estimated fair value. If an impairment loss is not required to be recognized, the recognition of depreciation is adjusted prospectively, as necessary, to reduce the carrying amount of the real estate to its estimated disposition value over the remaining period that the real estate is expected to be held and used. We may adjust depreciation of properties that are expected to be disposed of or redeveloped prior to the end of their useful lives.

We use the held for sale impairment model for our properties classified as held for sale. The held for sale impairment model is different from the held and used impairment model. Under the held for sale impairment model, an impairment loss is recognized if the carrying amount of the long-lived asset classified as held for sale exceeds its fair value less cost to sell. Because of these two different models, it is possible for a long-lived asset previously classified as held and used to require the recognition of an impairment charge upon classification as held for sale.

Equity investments

We hold investments in publicly traded companies and privately held entities primarily involved in the life science and technology industries. As a REIT, we generally limit our ownership percentage in the voting stock of each individual entity to less than 10%.

Our investments in publicly traded companies are classified as investments with readily determinable fair values and are carried at fair value, with changes in fair value recognized in net income. The fair values for our investments in publicly traded companies continue to be determined based on sales prices/quotes available on securities exchanges and therefore generally requires no judgment to determine fair value. Investments in privately held entities that report NAV per share, such as our privately held investments in limited partnerships, are carried at fair value using NAV as a practical expedient with changes in fair value recognized in net income. As a result, fair value estimation for these investments generally requires limited judgment. Investments in privately held entities that do not report NAV are measured at cost, adjusted for observable price changes and impairments, with changes recognized in net income. Observable price changes result from, among other things, equity transactions for the same issuer executed during the reporting period, including subsequent equity offerings or other reported equity transactions related to the same issuer. For these transactions to be considered observable price changes, we evaluate whether these transactions have similar rights and obligations, including voting rights, distribution preferences, conversion rights, and other factors, to the investments we hold.

Investments in privately held entities that do not report NAV continue to be evaluated on the basis of a qualitative assessment for indicators of impairment. We monitor each of our investments throughout the year for new developments, including operating results, results of clinical trials, prospects for favorable or unfavorable clinical trial results, new product initiatives, new collaborative agreements, capital-raising events, merger and acquisition activities, effect on an investee of changes in overall market conditions. If such indicators are present, we are required to

estimate the investment's fair value and immediately recognize an impairment loss, without consideration as to whether the impairment is other-than-temporary, in an amount equal to the investment's carrying value in excess of its estimated fair value. If there are no identified impairment indicators, we do not estimate the investment's fair value.

Interest rate hedge agreements

We do not use derivatives for trading or speculative purposes, and currently all of our derivatives are designated as hedges. We are exposed to certain risks arising from both our business operations and economic conditions. We principally manage our exposures to a wide variety of business and operational risks through management of our core business activities. We manage economic risks, including interest rate, liquidity, and credit risk, primarily by managing the amount, sources, and duration of our debt funding and by entering into interest rate hedge agreements. Specifically, we enter into interest rate hedge agreements to manage exposures that arise from business activities that result in the payment of future known and uncertain cash amounts, the values of which are determined by interest rates. Our interest rate hedge agreements are used to manage differences in the amount, timing, and duration of our known or expected cash payments principally related to our borrowings based on LIBOR. Our objectives in using interest rate hedge agreements are to add stability to interest expense and to manage our exposure to interest rate movements in accordance with our interest rate risk management strategy. All of our interest rate hedge agreements are designated as cash flow hedges. Interest rate hedge agreements designated as cash flow hedges involve the receipt of variable-rate amounts from a counterparty in exchange for the Company's making fixed-rate payments over the life of the interest rate hedge agreements without exchange of the underlying notional amount of interest rate hedge agreements.

We utilize interest rate hedge agreements to hedge a portion of our exposure to variable interest rates primarily associated with borrowings based on LIBOR. We classify our interest rate hedge agreements as either assets or liabilities on the balance sheet at fair value. The accounting for changes in fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the hedging instrument, based on the hedged exposure, as a fair value hedge, a cash flow hedge, or a hedge of a net investment in a foreign operation. Our interest rate hedge agreements are considered cash flow hedges because they are designated and qualify as hedges of the exposure to variability in expected future cash flows. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the earnings effect of the hedged transactions in a cash flow hedge.

All of our interest rate hedge agreements meet the criteria to be deemed "highly effective" in reducing our exposure to variable interest rates. We formally document all relationships between interest rate hedge agreements and hedged items, including the method for evaluating effectiveness and the risk strategy. We make a quantitative assessment at the inception of each interest rate hedge agreement, and qualitatively on an ongoing basis, to determine whether these instruments are "highly effective" in offsetting changes in cash flows associated with the hedged items. The entire change in the fair value of our highly effective interest rate hedge agreements that are designated and that qualify as cash flow hedges is recognized in accumulated other comprehensive income. Amounts classified in accumulated other comprehensive income will be reclassified into earnings in the period during which the hedged transactions affect earnings. While we intend to continue to meet the conditions for such hedge accounting, if our interest rate hedges did not qualify as "highly effective," the changes in the fair values of the derivatives used as hedges would be reflected in earnings.

The fair value of each interest rate hedge agreement is determined using widely accepted valuation techniques, including discounted cash flow analyses on the expected cash flows of each derivative. These analyses reflect the contractual terms of the derivatives, including the period to maturity, and use observable market-based inputs, including interest rate curves and implied volatilities. The fair values of our interest rate hedge agreements are determined using the market-standard methodology of netting the discounted future fixed-cash payments and the discounted expected variable-cash receipts. The variable-cash receipts are based on an expectation of future interest rates (forward curves) derived from observable market interest rate curves. The fair value calculation also includes an amount for risk of non-performance of our counterparties using "significant unobservable inputs," such as estimates of

current credit spreads, to evaluate the likelihood of default, which we have determined to be insignificant to the overall fair value of our interest rate hedge agreements.

Recognition of rental revenue and tenant recoveries

Rental revenue from operating leases is recognized on a straight-line basis over the respective lease terms. We classify amounts currently recognized as rental revenue in our consolidated statements of operations, and amounts expected to be received in later years as deferred rent in the accompanying consolidated balance sheets. Amounts received currently but recognized as revenue in future years are classified in accounts payable, accrued expenses, and tenant security deposits to our consolidated balance sheets. We commence recognition of rental revenue at the date the property is ready for its intended use and the tenant takes possession of, or controls the physical use, of the property.

Rental revenue from direct financing leases is recognized over the respective lease terms using the effective interest rate method. At lease inception, we record an asset within other assets in our consolidated balance sheets, which represents our net investment in the direct financing lease. This initial net investment is determined by aggregating the total future minimum lease payments attributable to the direct financing lease and the estimated residual value of the property less unearned income. Over the lease term, the investment in the direct financing lease is reduced and rental income is recognized as rental revenue in our consolidated statements of operations and produces a constant periodic rate of return on the net investment in the direct financing lease.

Tenant recoveries related to reimbursement of real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses are recognized as revenue in the period during which the applicable expenses are incurred and the tenant's obligation to reimburse us arises.

Tenant receivables consist primarily of amounts due for contractual lease payments and tenant recoveries. These tenant receivables are expected to be collected within one year. We may maintain an allowance for estimated losses that may result from the inability of our tenants to make payments required under the terms of the lease and for tenant recoveries due. If a tenant fails to make contractual payments beyond any allowance, we may recognize additional bad debt expense in future periods equal to the amount of uncollectible tenant receivables and deferred rent arising from the straight-lining of rent. As of December 31, 2018 and 2017, no allowance for uncollectible tenant receivables and deferred rent was deemed necessary. Refer to the "Revenue Recognition" section in Note 2 – "Summary of Significant Accounting Policies" to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

Monitoring of tenant credit quality

During the term of each lease, we monitor the credit quality and any related material changes of our tenants by (i) monitoring the credit rating of tenants that are rated by a nationally recognized credit rating agency, (ii) reviewing financial statements of the tenants that are publicly available or that are required to be delivered to us pursuant to the applicable lease, (iii) monitoring news reports regarding our tenants and their respective businesses, and (iv) monitoring the timeliness of lease payments.

Non-GAAP measures and definitions

This section contains additional information of certain non-GAAP financial measures and the reasons why we use these supplemental measures of performance and believe they provide useful information to investors, as well as the definitions of other terms used in this annual report on Form 10-K.

Funds from operations and funds from operations, as adjusted, attributable to Alexandria Real Estate Equities, Inc.'s common stockholders

GAAP-basis accounting for real estate assets utilizes historical cost accounting and assumes that real estate values diminish over time. In an effort to overcome the difference between real estate values and historical cost accounting for real estate assets, the Nareit Board of Governors established funds from operations as an improved measurement tool. Since its introduction, funds from operations has become a widely used non-GAAP financial measure among equity REITs. We believe that funds from operations is helpful to investors as an additional measure of the performance of an equity REIT. Moreover, we believe that funds from operations, as adjusted, allows investors to compare our performance to the performance of other real estate companies on a consistent basis, without having to account for differences recognized because of real estate investment and disposition decisions, financing decisions, capital structure, capital market transactions, and variances resulting from the volatility of market conditions outside of our control. We compute funds from operations in accordance with standards established by the Nareit Board of Governors in its April 2002 White Paper and related implementation guidance (the "Nareit White Paper"). The Nareit White Paper defines funds from operations as net income (computed in accordance with GAAP), excluding gains or losses on sales of depreciable real estate and land parcels, and impairments of depreciable real estate (excluding land parcels), plus real estate-related depreciation and amortization, and after adjustments for our share of consolidated and unconsolidated partnerships and real estate joint ventures. Impairments represent the write-down of assets when fair value over the recoverability period is less than the carrying value due to changes in general market conditions and do not necessarily reflect the operating performance of the properties during the corresponding period. The definition of funds from operations in the Nareit White Paper does not include adjustments related to unrealized gains and losses on non-real estate investments, which reflect market conditions outside of our control. Consequently, unrealized gains and losses on non-real estate investments recognized in earnings are included in reported funds from operations as computed in accordance with the Nareit White Paper.

We compute funds from operations, as adjusted, as funds from operations calculated in accordance with the Nareit White Paper excluding significant realized gains or losses on the sale of non-real estate investments, unrealized gains or losses on non-real estate investments, gains or losses on early extinguishment of debt, preferred stock redemption charges, impairments of non-depreciable real estate, impairments of non-real estate investments, deal costs, and the amount of such items that is allocable to our unvested restricted stock awards. Neither funds from operations nor funds from operations, as adjusted, should be considered as alternatives to net income (determined in accordance with GAAP) as indications of financial performance, or to cash flows from operating activities (determined in accordance with GAAP) as measures of liquidity, nor are they indicative of the availability of funds for our cash needs, including our ability to make distributions.

In November 2018, Nareit issued a restated white paper to incorporate its April 2002 White Paper and subsequent guidance into a single comprehensive guide. We adopted prospectively Nareit's restated white paper on January 1, 2019.

The following tables present a reconciliation of net income (loss) attributable to Alexandria Real Estate Equities, Inc.'s common stockholders, the most directly comparable financial measure calculated and presented in accordance with GAAP, including our share of amounts from consolidated and unconsolidated real estate joint ventures, to funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, and funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, as adjusted, and the related per share amounts. Per share amounts may not add due to rounding.

(in thousands)	Year Ended December 31,		
	2018	2017	2016
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$363,983	\$145,395	\$(151,141)
Depreciation and amortization	477,661	416,783	313,390
Noncontrolling share of depreciation and amortization from consolidated real estate JVs	(16,077)	(14,762)	(9,349)
Our share of depreciation and amortization from unconsolidated real estate JVs	3,181	1,551	2,707
Gain on sales of real estate – rental properties	(8,704)	(270)	(3,715)
Our share of gain on sales of real estate from unconsolidated real estate JVs ⁽¹⁾	(35,678)	(14,106)	—
Gain on sales of real estate – land parcels	—	(111)	(90)
Impairment of real estate – rental properties	—	203	98,194
Assumed conversion of 7.00% Series D cumulative convertible preferred stock ⁽²⁾	5,060	—	—
Allocation to unvested restricted stock awards	(5,961)	(2,920)	—
Funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted ⁽³⁾	783,465	531,763	249,996
Unrealized gains on non-real estate investments	(99,634)	—	—
Realized gains on non-real estate investments	(14,680) ⁽⁴⁾	—	(4,361)
Impairment of real estate – land parcels	6,311	—	110,474
Impairment of non-real estate investments	5,483	⁽⁴⁾ 8,296	3,065
Loss on early extinguishment of debt	1,122	3,451	3,230
Our share of gain on early extinguishment of debt from unconsolidated real estate JVs ⁽¹⁾	(761)	—	—
Preferred stock redemption charge	4,240	11,279	61,267
Removal of assumed conversion of 7.00% Series D cumulative convertible preferred stock ⁽²⁾	(5,060)	—	—
Allocation to unvested restricted stock awards	1,517	(321)	(2,356)
Funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, as adjusted	\$682,003	\$554,468	\$421,315

(1) Classified in equity in earnings (losses) of unconsolidated real estate joint ventures in our consolidated statements of operations under Item 15 of this annual report on Form 10-K.

The assumed conversion requires the add back of preferred dividends paid on our Series D cumulative convertible preferred stock, as shown here. However, there is no corresponding per share impact visible on the next page as the corresponding change in the denominator to reflect the assumed issuance of common shares results in a per share dilution of less than one half cent. Refer to “Weighted-Average Share of Common Stock Outstanding – Diluted” within this section of this Item 7 for additional information regarding our 7.00% Series D cumulative convertible preferred stock.

(2) Calculated in accordance with standards established by the Advisory Board of Governors of Nareit (the “Nareit Board of Governors”).

(3) Excluding these gains and impairments, our realized gains on non-real estate investments were \$27.9 million for

the year ended December 31, 2018.

117

	Year Ended December		
	31,		
(Dollars per share)	2018	2017	2016
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted	\$3.52	\$1.58	\$(1.99)
Depreciation and amortization	4.50	4.35	4.02
Gain on sales of real estate – rental properties	(0.08)	—	(0.05)
Our share of gain on sales of real estate from unconsolidated real estate JVs	(0.35)	(0.15)	—
Impairment of real estate – rental properties	—	—	1.29
Allocation to unvested restricted stock awards	(0.06)	—	—
Funds from operations per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – basic and diluted ⁽¹⁾	7.53	5.78	3.27
Unrealized gains on non-real estate investments	(0.96)	—	—
Realized gains on non-real estate investments	(0.14)	—	(0.06)
Impairment of real estate – land parcels	0.06	—	1.45
Impairment of non-real estate investments	0.05	0.09	0.02
Loss on early extinguishment of debt	0.01	0.03	0.04
Our share of gain on early extinguishment of debt from unconsolidated real estate JVs	(0.01)	—	—
Preferred stock redemption charge	0.04	0.12	0.79
Allocation to unvested restricted stock awards	0.02	—	—
Funds from operations per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, as adjusted	\$6.60	\$6.02	\$5.51

Weighted-average shares of common stock outstanding⁽²⁾ for calculations of:

EPS – diluted	103,321,920,663	76,103
Funds from operations – diluted, per share	104,048,920,663	76,412
Funds from operations – diluted, as adjusted, per share	103,321,920,663	76,412

(1) Calculated in accordance with standards established by the Nareit Board of Governors.

(2) Refer to “Weighted-Average Shares of Common Stock Outstanding – Diluted” within this section of this Item 7 for additional information.

Adjusted EBITDA and Adjusted EBITDA margin

We use Adjusted EBITDA as a supplemental performance measure of our operations, for financial and operational decision-making, and as a supplemental means of evaluating period-to-period comparisons on a consistent basis. Adjusted EBITDA is calculated as earnings before interest, taxes, depreciation, and amortization (“EBITDA”), excluding stock compensation expense, gains or losses on early extinguishment of debt, gains or losses on sales of real estate and land parcels, and impairments of real estate and land parcels. Adjusted EBITDA also excludes unrealized gains or losses, and significant realized gains and impairments, that result from our non-real estate investments. These non-real estate investment amounts are classified in our statement of operations outside of revenues.

We believe Adjusted EBITDA provides investors with relevant and useful information as it allows investors to evaluate the operating performance of our business activities without having to account for differences recognized because of real estate and non-real estate investment and disposition decisions, financing decisions, capital structure, capital market transactions, and variances resulting from the volatility of market conditions outside of our control. For example, we exclude gains or losses on the early extinguishment of debt to allow investors to measure our performance independent of our indebtedness and capital structure. We believe that adjusting for the effects of impairments and gains or losses on sales of real estate, and significant impairments and significant gains on the sale of non-real estate investments allows investors to evaluate performance from period to period on a consistent basis.

without having to account for differences recognized because of real estate and non-real estate investment and disposition decisions. We believe that excluding charges related to stock compensation and unrealized gains or losses facilitates for investors a comparison of our business activities across periods without the volatility resulting from market forces outside of our control. Adjusted EBITDA has limitations as a measure of our performance. Adjusted EBITDA does not reflect our historical expenditures or future requirements for capital expenditures or contractual commitments. While Adjusted EBITDA is a relevant measure of performance, it does not represent net (loss) income or cash flows from

118

operations calculated and presented in accordance with GAAP, and it should not be considered as an alternative to those indicators in evaluating performance or liquidity.

Our calculation of Adjusted EBITDA margin, divides Adjusted EBITDA by our revenues, as adjusted. We believe that revenues, as adjusted provides a denominator for Adjusted EBITDA margin which is calculated on a basis more consistent with that of the Adjusted EBITDA numerator. Specifically, revenues, as adjusted includes the same realized gains on, and impairments of, non-real estate investments that are included in the reconciliation of Adjusted EBITDA. We believe that the consistent application of results from our non-real estate investments to both the numerator and denominator of Adjusted EBITDA margins provide a more useful calculation for the comparison across periods.

The following table reconciles net (loss) income, the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted EBITDA (dollars in thousands):

	Three Months Ended December 31,		Year Ended December 31,	
	2018	2017	2018	2017
Net (loss) income	\$(18,631)	\$45,607	\$402,793	\$194,204
Interest expense	40,239	36,082	157,495	128,645
Income taxes	613	1,398	3,227	4,803
Depreciation and amortization	124,990	107,714	477,661	416,783
Stock compensation expense	9,810	6,961	35,019	25,610
Loss on early extinguishment of debt	—	2,781	1,122	3,451
Our share of gain on early extinguishment of debt from unconsolidated real estate JVs	—	—	(761)	—
Gain on sales of real estate – rental properties	(8,704)	—	(8,704)	(270)
Gain on sales of real estate – land parcels	—	—	—	(111)
Our share of gain on sales of real estate from unconsolidated real estate JVs	—	—	(35,678)	(14,106)
Realized gains on non-real estate investments	(6,428) ⁽¹⁾	—	(6,428)	—
Unrealized losses (gains) on non-real estate investments	94,850	—	(99,634)	—
Impairment of real estate	—	—	6,311	203
Impairment of non-real estate investments	5,483	⁽¹⁾ 3,805	5,483	8,296
Adjusted EBITDA	\$242,222	\$204,348	\$937,906	\$767,508
Revenues	\$340,463	\$298,791	\$1,327,459	\$1,128,097
Non-real estate investments – total realized gains	11,319	—	37,129	—
Realized gains on non-real estate investments	(6,428) ⁽¹⁾	—	(6,428)	—
Impairment of non-real estate investments	5,483	⁽¹⁾ 3,805	5,483	8,296
Revenues, as adjusted	\$350,837	\$302,596	\$1,363,643	\$1,136,393
Adjusted EBITDA margin	69%	68%	69%	68%

Realized gain of \$6.4 million relates to one publicly traded non-real estate investment in a biopharmaceutical entity and impairments of \$5.5 million primarily relates to one privately held non-real estate investment. Both line items (1) are classified in investment (loss) income in our consolidated statements of operations. Excluding these gains and impairments, our realized gains on non-real estate investments were \$10.4 million for the three months ended December 31, 2018.

Annual rental revenue

Annual rental revenue represents the annualized fixed base rental amount, in effect as of the end of the period, related to our operating RSF. Annual rental revenue is presented using 100% of the annual rental revenue of our consolidated properties and our share of annual rental revenue for our unconsolidated real estate joint ventures. Annual rental revenue per RSF is computed by dividing annual rental revenue by the sum of 100% of the RSF of our consolidated properties and our share of the RSF of properties held in unconsolidated real estate joint ventures. As of December 31, 2018, approximately 97% of our leases (on an RSF basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, common area expenses, and other operating expenses (including increases thereto) in addition to base rent. Annual rental revenue excludes these operating expenses recovered from our tenants. Amounts recovered from our tenants related to these operating expenses are classified in tenant recoveries in our consolidated statements of operations.

Cash interest

Cash interest is equal to interest expense calculated in accordance with GAAP plus capitalized interest, less amortization of loan fees and debt premiums (discounts). See definition of fixed-charge coverage ratio for a reconciliation of interest expense, the most directly comparable financial measure calculated and presented in accordance with GAAP, to cash interest.

Class A properties and AAA locations

Class A properties are properties clustered in AAA locations that provide innovative tenants with highly dynamic and collaborative environments that enhance their ability to successfully recruit and retain world-class talent and inspire productivity, efficiency, creativity, and success. Class A properties generally command higher annual rental rates than other classes of similar properties.

AAA locations are in close proximity to concentrations of specialized skills, knowledge, institutions, and related businesses. Such locations are generally characterized by high barriers to entry for new landlords, high barriers to exit for tenants, and a limited supply of available space.

Development, redevelopment, and pre-construction

A key component of our business model is our disciplined allocation of capital to the development and redevelopment of new Class A properties located in collaborative life science and technology campuses in AAA urban innovation clusters. These projects are generally focused on providing high-quality, generic, and reusable spaces that meet the real estate requirements of, and are reusable by, a wide range of tenants. Upon completion, each value-creation project is expected to generate a significant increase in rental income, net operating income, and cash flows. Our development and redevelopment projects are generally in locations that are highly desirable to high-quality entities, which we believe results in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value.

Development projects generally consist of the ground-up development of generic and reusable facilities. Redevelopment projects consist of the permanent change in use of office, warehouse, and shell space into office/laboratory or tech office space. We generally will not commence new development projects for aboveground construction of new Class A office/laboratory and tech office space without first securing significant pre-leasing for such space, except when there is solid market demand for high-quality Class A properties.

Pre-construction activities include entitlements, permitting, design, site work, and other activities preceding commencement of construction of aboveground building improvements. The advancement of pre-construction efforts

is focused on reducing the time required to deliver projects to prospective tenants. These critical activities add significant value for future ground-up development and are required for the vertical construction of buildings. Ultimately, these projects will provide high-quality facilities and are expected to generate significant revenue and cash flows.

120

Fixed-charge coverage ratio

Fixed-charge coverage ratio is a non-GAAP financial measure representing the ratio of Adjusted EBITDA to fixed charges. We believe this ratio is useful to investors as a supplemental measure of our ability to satisfy fixed financing obligations and preferred stock dividends. Cash interest is equal to interest expense calculated in accordance with GAAP plus capitalized interest, less amortization of loan fees and debt premiums (discounts).

The following table reconciles interest expense, the most directly comparable financial measure calculated and presented in accordance with GAAP, to cash interest and fixed charges (dollars in thousands):

	Three Months Ended	
	December 31,	
	2018	2017
Adjusted EBITDA	\$242,222	\$204,348
Interest expense	\$40,239	\$36,082
Capitalized interest	19,902	12,897
Amortization of loan fees	(2,401)	(2,571)
Amortization of debt premiums	611	639
Cash interest	58,351	47,047
Dividends on preferred stock	1,155	1,302
Fixed charges	\$59,506	\$48,349

Fixed-charge coverage ratio:

– period annualized	4.1x	4.2x
– trailing 12 months	4.2x	4.1x

Initial stabilized yield (unlevered)

Initial stabilized yield is calculated as the quotient of the estimated amounts of net operating income at stabilization and our investment in the property. Our initial stabilized yield excludes the benefit of leverage. Our cash rents related to our value-creation projects are generally expected to increase over time due to contractual annual rent escalations. Our estimates for initial stabilized yields, initial stabilized yields (cash basis), and total costs at completion represent our initial estimates at the commencement of the project. We expect to update this information upon completion of the project, or sooner if there are significant changes to the expected project yields or costs.

Initial stabilized yield reflects rental income, including contractual rent escalations and any rent concessions over the term(s) of the lease(s), calculated on a straight-line basis.

Initial stabilized yield (cash basis) reflects cash rents at the stabilization date after initial rental concessions, if any, have elapsed and our total cash investment in the property.

Investment-grade or publicly traded large cap tenants

Investment-grade or publicly traded large cap tenants represent tenants that are investment-grade rated or publicly traded companies with an average daily market capitalization greater than \$10 billion for the 12 months ended December 31, 2018, as reported by Bloomberg Professional Services. In addition, we monitor the credit quality and related material changes of our tenants. Material changes that cause a tenant's market capitalization to decline below \$10 billion, which are not immediately reflected in the 12-month average, may result in their exclusion from this measure.

Joint venture financial information

We present components of balance sheet and operating results information related to our joint ventures, which are not presented in accordance with, or intended to be presented in accordance with, GAAP. We present the proportionate share of certain financial line items as follows: (i) for each real estate joint venture that we consolidate in our financial statements, but of which we own less than 100%, we apply the noncontrolling interest economic ownership percentage to each financial item to arrive at the amount of such cumulative noncontrolling interest share of each component presented; and (ii) for each real estate joint venture that we do not control, and do not consolidate, we apply our economic ownership percentage to each financial item to arrive at our proportionate share of each component presented.

The components of balance sheet and operating results information related to joint ventures do not represent our legal claim to those items. For each entity that we do not wholly own, the joint venture agreement generally determines what equity holders can receive upon capital events, such as sales or refinancing, or in the event of a liquidation. Equity holders are normally entitled to their respective legal ownership of any residual cash from a joint venture only after all liabilities, priority distributions, and claims have been repaid or satisfied.

We believe this information can help investors estimate the balance sheet and operating results information related to our partially owned entities. Presenting this information provides a perspective not immediately available from consolidated financial statements and one that can supplement an understanding of the joint venture assets, liabilities, revenues, and expenses included in our consolidated results.

The components of balance sheet and operating results information related to joint ventures are limited as an analytical tool as the overall economic ownership interest does not represent our legal claim to each of our joint ventures' assets, liabilities, or results of operations. In addition, joint venture financial information may include financial information related to the unconsolidated real estate joint ventures that we do not control. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information on our unconsolidated real estate joint ventures.

We believe that in order to facilitate for investors a clear understanding of our operating results and our total assets and liabilities, joint venture financial information should be examined in conjunction with our consolidated statements of operations and balance sheets. Joint venture financial information should not be considered an alternative to our consolidated financial statements, which are prepared in accordance with GAAP.

Net cash provided by operating activities after dividends

Net cash provided by operating activities after dividends includes the deduction for distributions to noncontrolling interests. For purposes of this calculation, changes in operating assets and liabilities are excluded as they represent timing differences.

Net debt to Adjusted EBITDA and net debt and preferred stock to Adjusted EBITDA

Net debt to Adjusted EBITDA and net debt and preferred stock to Adjusted EBITDA are non-GAAP financial measures that we believe are useful to investors as supplemental measures in evaluating our balance sheet leverage. Net debt is equal to the sum of total consolidated debt less cash, cash equivalents, and restricted cash. Net debt and preferred stock is equal to the sum of net debt, as discussed above, plus preferred stock outstanding as of the end of the period. Refer to “Adjusted EBITDA and Adjusted EBITDA Margin” within this section of this Item 7 for further information on the calculation of Adjusted EBITDA.

The following table reconciles debt to net debt, and to net debt and preferred stock, and computes the ratio of each to Adjusted EBITDA as of December 31, 2018 and 2017 (dollars in thousands):

	December 31,		
	2018	2017	
Secured notes payable	\$630,547	\$771,061	
Unsecured senior notes payable	4,292,293	3,395,804	
Unsecured senior line of credit	208,000	50,000	
Unsecured senior bank term loans	347,415	547,942	
Unamortized deferred financing costs	31,413	29,051	
Cash and cash equivalents	(234,181)	(254,381)	
Restricted cash	(37,949)	(22,805)	
Net debt	\$5,237,538	\$4,516,672	
Net debt	\$5,237,538	\$4,516,672	
7.00% Series D cumulative convertible preferred stock	64,336	74,386	
Net debt and preferred stock	\$5,301,874	\$4,591,058	
Adjusted EBITDA:			
– quarter annualized	\$968,888	\$817,392	
– trailing 12 months	\$937,906	\$767,508	
Net debt to Adjusted EBITDA:			
– quarter annualized	5.4	x 5.5	x
– trailing 12 months	5.6	x 5.9	x
Net debt and preferred stock to Adjusted EBITDA:			
– quarter annualized	5.5	x 5.6	x
– trailing 12 months	5.7	x 6.0	x

Net operating income, net operating income (cash basis), and operating margin

The following table reconciles net income (loss) to net operating income and net operating income (cash basis) for the years ended December 31, 2018, 2017, and 2016 (dollars in thousands):

	Year Ended December 31,		
	2018	2017	2016
Net income (loss)	\$402,793	\$194,204	\$(49,799)
Equity in (earnings) losses of unconsolidated real estate joint ventures	(43,981)	(15,426)	184
General and administrative expenses	90,405	75,009	63,884
Interest expense	157,495	128,645	106,953
Depreciation and amortization	477,661	416,783	313,390
Impairment of real estate	6,311	203	209,261
Loss on early extinguishment of debt	1,122	3,451	3,230
Gain on sales of real estate – rental properties	(8,704)	(270)	(3,715)
Gain on sales of real estate – land parcels	—	(111)	(90)
Investment income	(136,763)	—	—
Net operating income	946,339	802,488	643,298
Straight-line rent revenue	(93,883)	(107,643)	(51,672)
Amortization of acquired below-market leases	(21,938)	(19,055)	(5,723)
Net operating income (cash basis)	\$830,518	\$675,790	\$585,903
Net operating income (from above)	\$946,339	\$802,488	\$643,298
Revenues	\$1,327,459	\$1,128,097	\$921,706
Operating margin	71%	71%	70%

Net operating income is a non-GAAP financial measure calculated as net income (loss), the most directly comparable financial measure calculated and presented in accordance with GAAP, excluding equity in the earnings of our unconsolidated real estate joint ventures, general and administrative expenses, interest expense, depreciation and amortization, impairment of real estate, gains or losses on early extinguishment of debt, gains or losses on sales of real estate, and investment income or loss. We believe net operating income provides useful information to investors regarding our financial condition and results of operations because it primarily reflects those income and expense items that are incurred at the property level. Therefore, we believe net operating income is a useful measure for investors to evaluate the operating performance of our consolidated real estate assets. Net operating income on a cash basis is net operating income adjusted to exclude the effect of straight-line rent and amortization of acquired above- and below-market lease revenue adjustments required by GAAP. We believe that net operating income on a cash basis is helpful to investors as an additional measure of operating performance because it eliminates straight-line rent revenue and the amortization of acquired above- and below-market leases.

Furthermore, we believe net operating income is useful to investors as a performance measure for our consolidated properties because, when compared across periods, net operating income reflects trends in occupancy rates, rental rates, and operating costs, which provide a perspective not immediately apparent from net income or loss. Net operating income can be used to measure the initial stabilized yields of our properties by calculating the quotient of net operating income generated by a property on a straight-line basis and our investment in the property. Net operating income excludes certain components from net income in order to provide results that are more closely related to the results of operations of our properties. For example, interest expense is not necessarily linked to the operating performance of a real estate asset and is often incurred at the corporate level rather than at the property level. In addition, depreciation and amortization, because of historical cost accounting and useful life estimates, may distort comparability of operating performance at the property level. Impairments of real estate have been excluded in deriving net operating income because we do not consider impairments of real estate to be property-level operating

expenses. Impairments of real estate relate to changes in the values of our assets and do not reflect the current operating performance with respect to related revenues or expenses. Our impairments of real estate represent the write-down in the value of the assets to the estimated fair value less cost to sell. These impairments result from investing decisions and deterioration in market conditions. We also exclude investment income or loss calculated under a new ASU effective January 1, 2018. Investment income or loss represent changes in fair values of our equity

124

investments resulting from volatility of market conditions outside of our control. Therefore, we do not consider investment income or loss to be an indication of operating performance of our real estate assets at the property level. Our calculation of net operating income also excludes charges incurred from changes in certain financing decisions, such as losses on early extinguishment of debt, as these charges often relate to corporate strategy. Property operating expenses included in determining net operating income primarily consist of costs that are related to our operating properties, such as utilities, repairs, and maintenance; rental expense related to ground leases; contracted services, such as janitorial, engineering, and landscaping; property taxes and insurance; and property-level salaries. General and administrative expenses consist primarily of accounting and corporate compensation, corporate insurance, professional fees, office rent, and office supplies that are incurred as part of corporate office management. We calculate operating margin as net operating income divided by total revenues.

We believe that in order to facilitate for investors a clear understanding of our operating results, net operating income should be examined in conjunction with net income or loss as presented in our consolidated statements of operations. Net operating income should not be considered as an alternative to net income or loss as an indication of our performance, nor as an alternative to cash flows as a measure of our liquidity or our ability to make distributions.

Operating statistics

We present certain operating statistics related to our properties, including number of properties, RSF, occupancy percentage, leasing activity, and contractual lease expirations as of the end of the period. We believe these measures are useful to investors because they facilitate an understanding of certain trends for our properties. We compute the number of properties, RSF, occupancy percentage, leasing activity, and contractual lease expirations at 100% for all properties in which we have an investment, including properties owned by our consolidated and unconsolidated real estate joint ventures. For operating metrics based on annual rental revenue, refer to “Annual Rental Revenue” herein.

Same property comparisons

As a result of changes within our total property portfolio during the comparative periods presented, including changes from assets acquired or sold, properties placed into development or redevelopment, and development or redevelopment properties recently placed into service, the consolidated total rental revenues, tenant recoveries, and rental operating expenses in our operating results can show significant changes from period to period. In order to supplement an evaluation of our results of operations over a given quarterly or annual period, we analyze the operating performance for all consolidated properties that were fully operating for the entirety of the comparative periods presented, referred to as same properties. We separately present quarterly and year-to-date same property results to align with the interim financial information required by the SEC in our management’s discussion and analysis of our financial condition and results of operations. These same properties are analyzed separately from properties acquired subsequent to the first day in the earliest comparable quarterly or year-to-date period presented, properties that underwent development or redevelopment at any time during the comparative periods, unconsolidated real estate joint ventures, properties classified as held for sale, and corporate entities (legal entities performing general and administrative functions), which are excluded from same property results. Additionally, lease termination fees, if any, are excluded from the results of same properties.

Stabilized occupancy date

The stabilized occupancy date represents the estimated date on which the project is expected to reach occupancy of 95% or greater.

Total market capitalization

Total market capitalization is equal to the sum of total equity market capitalization and total debt. Total equity market capitalization is equal to the sum of outstanding shares of Series D Convertible Preferred Stock and common stock multiplied by the related closing price of each class of security at the end of each period presented.

Unencumbered net operating income as a percentage of total net operating income

Unencumbered net operating income as a percentage of total net operating income is a non-GAAP financial measure that we believe is useful to investors as a performance measure of the results of operations of our unencumbered real estate assets, as it reflects those income and expense items that are incurred at the unencumbered property level. Unencumbered net operating income is derived from assets classified in continuing operations, which are not subject to any mortgage, deed of trust, lien, or other security interest, as of the period for which income is presented.

125

The following table summarizes unencumbered net operating income as a percentage of total net operating income for the years ended December 31, 2018 and 2017 (dollars in thousands):

	Year Ended	
	December 31,	
	2018	2017
Unencumbered net operating income	\$829,834	\$661,473
Encumbered net operating income	116,505	141,015
Total net operating income	\$946,339	\$802,488
Unencumbered net operating income as a percentage of total net operating income	88%	82%

Weighted-average shares of common stock outstanding – diluted

We enter into capital market transactions from time to time to fund acquisitions, fund construction of our highly leased development and redevelopment projects, and for general working capital purposes. In March 2017 and January 2018, we entered into forward equity sales agreements to sell shares of our common stock. We are required to consider the potential dilutive effect of our forward equity sales agreements under the treasury stock method while the forward equity sales agreements are outstanding. We also consider the effect of assumed conversion of our outstanding Series D Convertible Preferred Stock when determining potentially dilutive incremental shares to our common stock. When calculating the assumed conversion, we add back to net income or loss the dividends paid on our Series D Convertible Preferred Stock to the numerator and then include additional common shares assumed to have been issued (as displayed in the table below) to the denominator of the per share calculation. The effect of the assumed conversion is considered separately for our per share calculations of net income or loss; funds from operations, computed in accordance with the definition in the Nareit White Paper; and funds from operations, as adjusted. Our Series D Convertible Preferred Stock is dilutive and assumed to be converted when annual basic EPS, funds from operations, or funds from operations, as adjusted exceeds approximately \$7.00 per share, subject to conversion ratio adjustments and the impact of repurchases of our 7.00% Series D cumulative convertible preferred stock. The effect of the assumed conversion is included when it is dilutive on a per share basis. The dilutive effect to both numerator and denominator may result in a per share effect of less than a half cent, which would appear as zero in our per share calculation, even when the dilutive effect to the numerator alone appears in our reconciliation. Refer to Note 13 – “Earnings per Share” and Note 16 – “Stockholders’ Equity” to our consolidated financial statements under Item 15 of this annual report on Form 10-K for more information related to our forward equity sales agreements and our Series D Convertible Preferred Stock.

The weighted-average shares of common stock outstanding used in calculating EPS – diluted, funds from operations per share – diluted, and funds from operations per share – diluted, as adjusted, during each period is calculated as follows (in thousands):

	Year Ended	
	December 31,	
	2018	2017
Weighted-average shares of common stock outstanding:		
Basic shares for EPS	103,010	91,546
Outstanding forward equity sales agreements	311	517
Series D Convertible Preferred Stock	—	—
Diluted for EPS	103,321	92,063
Basic shares for EPS	103,010	91,546
Outstanding forward equity sales agreements	311	517
Series D Convertible Preferred Stock	727	—
Diluted for FFO	104,048	92,063

Basic shares for EPS	103,010	91,546
Outstanding forward equity sales agreements	311	517
Series D Convertible Preferred Stock	—	—
Diluted for FFO, as adjusted	103,321	92,063

126

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk

The primary market risk to which we believe we are exposed is interest rate risk, which may result from many factors, including government monetary and tax policies, domestic and international economic and political considerations, and other factors that are beyond our control.

In order to modify and manage the interest rate characteristics of our outstanding debt and to limit the effects of interest rate risks on our operations, we may utilize a variety of financial instruments, including interest rate swap agreements, caps, floors, and other interest rate exchange contracts. The use of these types of instruments to hedge a portion of our exposure to changes in interest rates carries additional risks, such as counterparty credit risk and the legal enforceability of hedging contracts.

Our future earnings and fair values relating to financial instruments are primarily dependent upon prevalent market rates of interest, such as LIBOR. However, our interest rate hedge agreements are intended to reduce the effects of interest rate fluctuations. The following table illustrates the effect of a 1% change in interest rates on our variable-rate debt, including our \$2.2 billion unsecured senior line of credit, unsecured senior bank term loan, and secured construction loan, after considering the effect of our interest rate hedge agreements, secured debt, and unsecured senior notes payable as of December 31, 2018 (in thousands):

Annualized effect on future earnings due to variable-rate debt:	
Rate increase of 1%	\$(2,524)
Rate decrease of 1%	\$2,524
Effect on fair value of total consolidated debt and interest rate hedge agreements:	
Rate increase of 1%	\$(237,413)
Rate decrease of 1%	\$254,960

These amounts are determined by considering the effect of the hypothetical interest rates on our borrowing cost and our interest rate hedge agreements in existence on December 31, 2018. These analyses do not consider the effects of the reduced level of overall economic activity that could exist in such an environment. Furthermore, in the event of a change of such magnitude, we would consider taking actions to further mitigate our exposure to the change. Because of the uncertainty of the specific actions that would be taken and their possible effects, the sensitivity analyses assume no changes in our capital structure.

Equity price risk

We have exposure to equity price market risk because of our equity investments in publicly traded companies and privately held entities. All of our investments in actively traded public companies are reflected in the consolidated balance sheets at fair value. Our investments in privately held entities that report NAV per share are measured at fair value using NAV as a practical expedient to fair value. Our equity investments in privately held entities that do not report NAV are measured at cost less impairments, adjusted for observable price changes during the period. Changes in fair value of public investments, changes in NAV reported by privately held entities, and observable price changes of privately held entities that do not report NAV are recognized as investment income in our consolidated statements of operations. There is no assurance that future declines in value will not have a material adverse effect on our future results of operations. The following table illustrates the effect that a 10% change in the value of our equity investments would have on earnings as of December 31, 2018 (in thousands):

Equity price risk:	
Fair value increase of 10%	\$89,226

Fair value decrease of 10% \$(89,226)

127

Foreign currency exchange rate risk

We have exposure to foreign currency exchange rate risk related to our subsidiaries operating in Canada and Asia. The functional currencies of our foreign subsidiaries are the local currencies in each respective country. Gains or losses resulting from the translation of our foreign subsidiaries' balance sheets and statements of operations are classified in accumulated other comprehensive income (loss) as a separate component of total equity and are excluded from net income (loss). Gains or losses will be reflected in our consolidated statements of operations when there is a sale or partial sale of our investment in these operations or upon a complete or substantially complete liquidation of the investment. The following table illustrates the effect that a 10% change in foreign currency rates relative to the U.S. dollar would have on our potential future earnings and on the fair value of our net investment in foreign subsidiaries based on our current operating assets outside the U.S. as of December 31, 2018 (in thousands):

Effect on potential future earnings due to foreign currency exchange rate:

Rate increase of 10%	\$82
Rate decrease of 10%	\$(82)

Effect on the fair value of net investment in foreign subsidiaries due to foreign currency exchange rate:

Rate increase of 10%	\$9,658
Rate decrease of 10%	\$(9,658)

This sensitivity analysis assumes a parallel shift of all foreign currency exchange rates with respect to the U.S. dollar; however, foreign currency exchange rates do not typically move in such a manner, and actual results may differ materially.

Our exposure to market risk elements for the year ended December 31, 2018, was consistent with the risk elements presented above, including the effects of changes in interest rates, equity prices, and foreign currency exchange rates.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

The information required by this Item is included as a separate section in this annual report on Form 10-K. Refer to “Item 15. Exhibits and Financial Statement Schedules.”

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Evaluation of disclosure controls and procedures

As of December 31, 2018, we had performed an evaluation, under the supervision of our Co-Chief Executive Officers (“CEOs”) and our Chief Financial Officer (“CFO”), of the effectiveness of the design and operation of our disclosure controls and procedures. These controls and procedures have been designed to ensure that information required for disclosure is recorded, processed, summarized, and reported within the requisite time periods. Based on our evaluation, the Co-CEOs and the CFO concluded that our disclosure controls and procedures were effective as of December 31, 2018.

Changes in internal control over financial reporting

There has not been any change in our internal control over financial reporting during the three months ended December 31, 2018, that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

Management’s annual report on internal control over financial reporting

The management of Alexandria Real Estate Equities, Inc. and its subsidiaries (the “Company”) is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rule 13a-15(f) and 15d-15(f) promulgated under the Securities Exchange Act of 1934, as amended, and is a process designed by, or under the supervision of, the Co-CEOs and the CFO and effected by the Company’s Board of Directors, management, and other personnel to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external reporting purposes in accordance with GAAP. The Company’s internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of assets; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with GAAP, and that receipts and expenditures are being made only in accordance with the authorizations of the Company’s management and directors; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Management has assessed the effectiveness of the Company’s internal control over financial reporting as of December 31, 2018 and 2017. In making its assessment, management has utilized the criteria set forth by the Committee of

Sponsoring Organizations (“COSO 2013”) of the Treadway Commission in Internal Control – Integrated Framework (2013 framework). Management concluded that based on its assessment, the Company’s internal control over financial reporting was effective as of December 31, 2018. The effectiveness of our internal control over financial reporting as of December 31, 2018, has been audited by Ernst & Young LLP, an independent registered accounting firm, as stated in its report, which is included herein.

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Alexandria Real Estate Equities, Inc.

Opinion on Internal Control over Financial Reporting

We have audited Alexandria Real Estate Equities, Inc.'s internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control-Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) (the COSO criteria). In our opinion, Alexandria Real Estate Equities, Inc. (the Company) maintained, in all material respects, effective internal control over financial reporting as of December 31, 2018, based on the COSO criteria.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated balance sheets of the Company as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and noncontrolling interests and cash flows for each of the three years in the period ended December 31, 2018 and the related notes and schedule, and our report dated February 5, 2019, expressed an unqualified opinion thereon.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting, and for its assessment of the effectiveness of internal control over financial reporting included in the accompanying management's annual report on internal control over financial reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects.

Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ Ernst & Young LLP

Los Angeles, California

February 5, 2019

130

ITEM 9B. OTHER INFORMATION

None.

PART III

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS, AND CORPORATE GOVERNANCE

The information required by this Item is incorporated herein by reference from our definitive proxy statement for our 2019 annual meeting of stockholders to be filed pursuant to Regulation 14A within 120 days after the end of our fiscal year (the “2019 Proxy Statement”) under the captions “Board of Directors and Executive Officers,” “Corporate Governance Guidelines and Code of Ethics,” and “Section 16(a) Beneficial Ownership Reporting Compliance.”

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference from our 2019 Proxy Statement under the caption “Executive Compensation.”

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The following table sets forth information on the Company’s equity compensation plan as of December 31, 2018:

Equity Compensation Plan Information

	Number of securities to be issued upon exercise of outstanding options, warrants, and rights	Weighted-average exercise price of outstanding options, warrants, and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a))
	(a)	(b)	(c)
Equity Compensation Plan Approved by Stockholders — Amended and Restated 1997 Stock Award and Incentive Plan	—	—	2,433,810

The other information required by this Item is incorporated herein by reference from our 2019 Proxy Statement under the caption “Security Ownership of Certain Beneficial Owners and Management.”

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by this Item is incorporated herein by reference from our 2019 Proxy Statement under the captions “Certain Relationships and Related Transactions,” “Policies and Procedures with Respect to Related-Person Transactions,” and “Director Independence.”

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required by this Item is incorporated herein by reference from our 2019 Proxy Statement under the caption "Fees Billed by Independent Registered Public Accountants."

131

PART IV

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

(a)(1) and (2) Financial Statements and Financial Statement Schedule

The financial statements and financial statement schedule required by this Item are included as a separate section in this annual report on Form 10-K beginning on page F-1.

	Page
<u>Report of Independent Registered Public Accounting Firm</u>	<u>F-1</u>
Audited Consolidated Financial Statements of Alexandria Real Estate Equities, Inc.:	
Consolidated Balance Sheets as of December 31, 2018 and 2017	<u>F-2</u>
Consolidated Statements of Operations for the Years Ended December 31, 2018, 2017, and 2016	<u>F-3</u>
Consolidated Statements of Comprehensive Income for the Years Ended December 31, 2018, 2017, and 2016	<u>F-4</u>
Consolidated Statements of Changes in Stockholders' Equity and Noncontrolling Interests for the Years Ended December 31, 2018, 2017, and 2016	<u>F-5</u>
Consolidated Statements of Cash Flows for the Years Ended December 31, 2018, 2017, and 2016	<u>F-7</u>
<u>Notes to Consolidated Financial Statements</u>	<u>F-9</u>
<u>Schedule III – Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation</u>	<u>F-69</u>

(a)(3) Exhibits

Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
3.1*	<u>Articles of Amendment and Restatement of the Company</u>	Form 10-Q	August 14, 1997
3.2*	<u>Certificate of Correction of the Company</u>	Form 10-Q	August 14, 1997
3.3*	<u>Articles of Amendment of the Company, dated May 10, 2017</u>	Form 8-K	May 12, 2017
3.4*	<u>Amended and Restated Bylaws of the Company (Amended July 27, 2018)</u>	Form 8-K	August 2, 2018
3.5*	<u>Articles Supplementary, dated June 9, 1999, relating to the 9.50% Series A Cumulative Redeemable Preferred Stock</u>	Form 10-Q	August 13, 1999
3.6*	<u>Articles Supplementary, dated February 10, 2000, relating to the election to be subject to Subtitle 8 of Title 3 of the Maryland General Corporation Law</u>	Form 8-K	February 10, 2000
3.7*	<u>Articles Supplementary, dated February 10, 2000, relating to the Series A Junior Participating Preferred Stock</u>	Form 8-K	February 10, 2000
3.8*	<u>Articles Supplementary, dated January 18, 2002, relating to the 9.10% Series B Cumulative Redeemable Preferred Stock</u>	Form 8-A	January 18, 2002
3.9*	<u>Articles Supplementary, dated June 22, 2004, relating to the 8.375% Series C Cumulative Redeemable Preferred Stock</u>	Form 8-A	June 28, 2004
3.10*	<u>Articles Supplementary, dated March 25, 2008, relating to the 7.00% Series D Cumulative Convertible Preferred Stock</u>	Form 8-K	March 25, 2008
3.11*	<u>Articles Supplementary, dated March 12, 2012, relating to the 6.45% Series E Cumulative Redeemable Preferred Stock</u>	Form 8-K	March 14, 2012
3.12*	<u>Articles Supplementary, dated May 10, 2017, relating to Reclassified Preferred Stock</u>	Form 8-K	May 12, 2017
4.1*	<u>Specimen certificate representing shares of common stock</u>	Form 10-Q	May 5, 2011

4.2*	<u>Specimen certificate representing shares of 7.00% Series D Cumulative Convertible Preferred Stock</u>	Form 8-K	March 25, 2008
4.3*	<u>Indenture, dated as of February 29, 2012, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and the Bank of New York Mellon Trust Company, N.A., as Trustee</u>	Form 8-K	February 29, 2012

132

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Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
4.4*	<u>Supplemental Indenture No. 1, dated as of February 29, 2012, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and the Bank of New York Mellon Trust Company, N.A., as Trustee</u>	Form 8-K	February 29, 2012
4.5*	<u>Form of 4.60% Senior Note due 2022 (included in Exhibit 4.4 above)</u>	Form 8-K	February 29, 2012
4.6*	<u>Supplemental Indenture No. 2, dated as of June 7, 2013, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and the Bank of New York Mellon Trust Company, N.A., as Trustee</u>	Form 8-K	June 7, 2013
4.7*	<u>Form of 3.90% Senior Note due 2023 (included in Exhibit 4.6 above)</u>	Form 8-K	June 7, 2013
4.8*	<u>Supplemental Indenture No. 3, dated as of July 18, 2014, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and the Bank of New York Mellon Trust Company, N.A., as Trustee</u>	Form 8-K	July 18, 2014
4.9*	<u>Form of 2.750% Senior Note due 2020 (included in Exhibit 4.8 above)</u>	Form 8-K	July 18, 2014
4.10*	<u>Supplemental Indenture No. 4, dated as of July 18, 2014, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and the Bank of New York Mellon Trust Company, N.A., as Trustee</u>	Form 8-K	July 18, 2014
4.11*	<u>Form of 4.500% Senior Note due 2029 (included in Exhibit 4.10 above)</u>	Form 8-K	July 18, 2014
4.12*	<u>Indenture, dated as of November 17, 2015, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Wilmington Trust, National Association, as Trustee</u>	Form 8-K	November 17, 2015
4.13*	<u>Supplemental Indenture No. 1, dated as of November 17, 2015, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Wilmington Trust, National Association, as Trustee</u>	Form 8-K	November 17, 2015
4.14*	<u>Form of 4.30% Senior Note due 2026 (included in Exhibit 4.13 above)</u>	Form 8-K	November 17, 2015
4.15*	<u>Supplemental Indenture No. 2, dated as of June 10, 2016, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Wilmington Trust, National Association, as Trustee</u>	Form 8-K	June 10, 2016
4.16*	<u>Form of 3.95% Senior Note due 2027 (included in Exhibit 4.15 above)</u>	Form 8-K	June 10, 2016
4.17*	<u>Indenture, dated as of March 3, 2017, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee</u>	Form 8-K	March 3, 2017
4.18*	<u>Supplemental Indenture No.1, dated as of March 3, 2017, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee</u>	Form 8-K	March 3, 2017
4.19*	<u>Form of 3.95% Senior Note due 2028 (included in Exhibit 4.18 above)</u>	Form 8-K	March 3, 2017
4.20*	<u>Supplemental Indenture No. 2, dated as of November 20, 2017, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee</u>	Form 8-K	November 20, 2017
4.21*	<u>Form of 3.45% Senior Note due 2025 (included in Exhibit 4.20 above)</u>	Form 8-K	November 20, 2017
4.22*	<u>Supplemental Indenture No.3, dated as of June 21, 2018, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee</u>	Form 8-K	June 21, 2018
4.23*	<u>Form of 4.000% Senior Note Due 2024 (included in Exhibit 4.22 above)</u>	Form 8-K	June 21, 2018
4.24*	<u>Supplemental Indenture No.4, dated as of June 21, 2018, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor,</u>	Form 8-K	June 21, 2018

4.25* and Branch Banking and Trust Company, as Trustee
Form of 4.700% Senior Note Due 2030 (included in Exhibit 4.24 above) Form 8-K June 21, 2018

133

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Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
10.1*	<u>Sixth Amended And Restated Credit Agreement, dated as of September 28, 2018, among the Company, as the Borrower, Alexandria Real Estate Equities, L.P., as a Guarantor, Bank of America, N.A., as Administrative Agent, and the Other Lenders Party thereto, Merrill Lynch, Pierce, Fenner & Smith Incorporated, JPMorgan Chase Bank, N.A., Citibank, N.A. and Goldman Sachs Bank USA, as Joint Lead Arrangers Merrill Lynch, Pierce, Fenner & Smith Incorporated, JPMorgan Chase Bank, N.A. and Citibank, N.A., as Joint Bookrunners, JPMorgan Chase Bank, N.A., Citibank, N.A. and Goldman Sachs Bank USA, as Co-Syndication Agents, and The Bank of Nova Scotia, Barclays Bank PLC, Capital One, National Association, BBVA Compass, Mizuho Bank, Ltd., Regions Bank, Royal Bank of Canada, Sumitomo Mitsui Banking Corporation, TD Bank, N.A., Wells Fargo Bank, National Association and U.S. Bank National Association, as Co-Documentation Agents</u>	Form 10-Q	October 30, 2018
10.2*	<u>Fourth Amended And Restated Term Loan Agreement, dated as of September 28, 2018, among the Company, as the Borrower, Alexandria Real Estate Equities, L.P., as a Guarantor, Citibank, N.A., as Administrative Agent, and the Lenders Party with Royal Bank of Canada and The Bank of Nova Scotia, as Co-Syndication Agents, and Bank of the West, Barclays Bank PLC, Banking Branch & Trust Company, Capital One, National Association, City National Bank, Compass Bank, Fifth Third Bank, Mizuho Bank (USA), PNC Bank, National Association, Regions Bank, Sumitomo Mitsui Banking Corporation, TD Bank, N.A., U.S. Bank National Association and Wells Fargo Bank, National Association, as Co-Documentation Agents, and Citibank, N.A., RBC Capital Markets and The Bank of Nova Scotia, as Joint Lead Arrangers and Joint Book Running Managers</u>	Form 10-Q	October 30, 2018
10.3*	(1) <u>Amended and Restated 1997 Stock Award and Incentive Plan of the Company, dated May 22, 2018</u>	Form 8-K	May 23, 2018
10.4*	(1) <u>Form of Non-Employee Director Stock Option Agreement for use in connection with options issued pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form S-11	May 5, 1997
10.5*	(1) <u>Form of Incentive Stock Option Agreement for use in connection with options issued pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form S-11	May 5, 1997
10.6*	(1) <u>Form of Nonqualified Stock Option Agreement for use in connection with options issued pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form S-11	May 5, 1997
10.7*	(1) <u>Form of Employee Restricted Stock Agreement for use in connection with shares of restricted stock issued to employees pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form 10-K	January 30, 2018
10.8*	(1) <u>Form of Employee Restricted Stock Agreement (U.S. Affiliate) for use in connection with shares of restricted stock issued to employees pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form 10-K	January 30, 2018
10.9*	(1) <u>Form of Independent Director Restricted Stock Agreement for use in connection with shares of restricted stock issued to directors pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>	Form 10-K	January 30, 2018
10.10*	(1)	Form 10-K	

		<u>Form of Independent Contractor Restricted Stock Agreement for use in connection with shares of restricted stock issued to independent contractors pursuant to the Amended and Restated 1997 Stock Award and Incentive Plan</u>		January 30, 2018
10.11*	(1)	<u>The Company's 2000 Deferred Compensation Plan, amended and restated effective as of January 1, 2010</u>	Form 10-K	March 1, 2011
10.12*	(1)	<u>The Company's 2000 Deferred Compensation Plan for Directors, amended and restated effective as of January 1, 2010</u>	Form 10-K	March 1, 2011
10.13*	(1)	<u>Amended and Restated Executive Employment Agreement, effective as of January 1, 2015, by and between the Company and Joel S. Marcus</u>	Form 8-K	April 7, 2015

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Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
10.14*	(1) <u>Letter Amendment to Amended and Restated Executive Employment Agreement, dated July 3, 2017, by and between the Company and Joel S. Marcus</u>	Form 8-K	July 3, 2017
10.15*	(1) <u>Letter Amendment to Amended and Restated Executive Employment Agreement, entered into on March 20, 2018, by and between the Company and Joel S. Marcus</u>	Form 10-Q	May 1, 2018
10.16*	(1) <u>Fifth Amended and Restated Executive Employment Agreement between the Company and Stephen A. Richardson, entered into on March 20, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.17*	(1) <u>Second Amended and Restated Executive Employment Agreement between the Company and Peter M. Moglia, entered into on March 20, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.18*	(1) <u>Fourth Amended and Restated Executive Employment Agreement between the Company and Dean A. Shigenaga, entered into on March 20, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.19*	(1) <u>Fourth Amended and Restated Executive Employment Agreement between the Company and Thomas J. Andrews, entered into on March 20, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.20*	(1) <u>Amended and Restated Executive Employment Agreement between the Company and Jennifer J. Banks, entered into on March 19, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.21*	(1) <u>Executive Employment Agreement between the Company and Lawrence J. Diamond, entered into on March 19, 2018 and effective as of April 23, 2018</u>	Form 10-Q	May 1, 2018
10.22*	(1) <u>Executive Employment Agreement between the Company and Daniel J. Ryan, entered into on May 22, 2018 and effective as of May 22, 2018</u>	Form 10-Q	July 31, 2018
10.23*	(1) <u>Third Amended and Restated Executive Employment Agreement between the Company and Peter M. Moglia, entered into on May 22, 2018 and effective as of May 22, 2018</u>	Form 10-Q	July 31, 2018
10.24	(1) <u>Summary of Director Compensation Arrangements</u>		Filed herewith
10.25*	(1) <u>Anniversary Bonus Plan of the Company</u>	Form 8-K	June 17, 2010
10.26*	(1) <u>Amended and Restated Consulting Agreement, dated as of September 30, 2011, between the Company and James H. Richardson</u>	Form 10-Q	November 9, 2011
10.27*	(1) <u>Form of Indemnification Agreement between the Company and each of its directors and officers</u>	Form 10-K	March 1, 2011
10.28*	(1) <u>Letter Amendment to Amended and Restated Executive Employment Agreement, dated January 15, 2019, by and between the Company and Joel S. Marcus</u>	Form 8-K	January 18, 2019
14.1	<u>The Company's Business Integrity Policy and Procedures for Reporting Non-Compliance (code of ethics pursuant to Item 406 of Regulation S-K)</u>		Filed herewith
21.1	<u>List of Subsidiaries of the Company</u>		Filed herewith
23.1	<u>Consent of Ernst & Young LLP</u>		Filed herewith
31.1			

	<u>Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith
31.2	<u>Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith
31.3	<u>Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith
31.4	<u>Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith
32.0	<u>Certification of Principal Executive Officers and Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002</u>	Filed herewith

Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
101	<p>The following materials from the Company’s annual report on Form 10-K for the year ended December 31, 2018, formatted in XBRL (eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2018 and 2017, (ii) Consolidated Statements of Operations for the years ended December 31, 2018, 2017, and 2016, (iii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2018, 2017, and 2016, (iv) Consolidated Statements of Changes in Stockholders’ Equity and Noncontrolling Interests for the years ended December 31, 2018, 2017, and 2016, (v) Consolidated Statements of Cash Flows for the years ended December 31, 2018, 2017, and 2016, (vi) Notes to Consolidated Financial Statements, and (vii) Schedule III - Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation of the Company.</p>		Filed herewith

(*) Incorporated by reference.

(1) Management contract or compensatory arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the registrant has duly caused this annual report on Form 10-K to be signed on its behalf by the undersigned, thereunto duly authorized.

ALEXANDRIA REAL ESTATE EQUITIES, INC.

Dated: February 5, 2019 By: /s/ Joel S. Marcus

Joel S. Marcus
Executive Chairman
(Principal Executive Officer)

/s/ Stephen A. Richardson
Stephen A. Richardson
Co-Chief Executive Officer
(Principal Executive Officer)

/s/ Peter M. Moglia
Co-Chief Executive Officer and Co-Chief Investment Officer
(Principal Executive Officer)

S-1

KNOW ALL THOSE BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Joel S. Marcus, as his true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him and in his name, place, and stead, in any and all capacities, to sign any and all amendments to this annual report on Form 10-K, and to file the same, with exhibits thereto and other documents in connection therewith, if any, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done, as fully to all intents and purposes as he might or could do in person, hereby ratifying and confirming all that said attorney-in-fact and agent of their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this annual report on Form 10-K has been signed below by the following persons on behalf of the Registrant and in the capacities and on the dates indicated.

Signature	Title	Date
/s/ Joel S. Marcus Joel S. Marcus	Executive Chairman (Principal Executive Officer)	February 5, 2019
/s/ Stephen A. Richardson Stephen A. Richardson	Co-Chief Executive Officer (Principal Executive Officer)	February 5, 2019
/s/ Peter M. Moglia Peter M. Moglia	Co-Chief Executive Officer and Co-Chief Investment Officer (Principal Executive Officer)	February 5, 2019
/s/ Dean A. Shigenaga Dean A. Shigenaga	Co-President and Chief Financial Officer (Principal Financial Officer and Principal Accounting Officer)	February 5, 2019
/s/ Steven R. Hash Steven R. Hash	Lead Director	February 5, 2019
/s/ John L. Atkins, III John L. Atkins, III	Director	February 5, 2019
/s/ James P. Cain James P. Cain	Director	February 5, 2019
/s/ Maria C. Freire Maria C. Freire	Director	February 5, 2019
/s/ Richard H. Klein Richard H. Klein	Director	February 5, 2019
/s/ James H. Richardson James H. Richardson	Director	February 5, 2019
/s/ Michael A. Woronoff Michael A. Woronoff	Director	February 5, 2019

Report of Independent Registered Public Accounting Firm

To the Stockholders and Board of Directors of Alexandria Real Estate Equities, Inc.

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Alexandria Real Estate Equities, Inc. (the Company), as of December 31, 2018 and 2017, and the related consolidated statements of operations, comprehensive income, changes in stockholders' equity and noncontrolling interests and cash flows for each of the three years in the period ended December 31, 2018, and the related notes and financial statement schedule listed in the Index at Item 15 (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company at December 31, 2018 and 2017, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2018, in conformity with U.S. generally accepted accounting principles.

We also have audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company's internal control over financial reporting as of December 31, 2018, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (2013 framework) and our report dated February 5, 2019 expressed an unqualified opinion thereon.

Adoption of New Accounting Standard

As discussed in Notes 2 and 7 to the consolidated financial statements, the Company changed its method of accounting for certain equity investments in the year ended December 31, 2018 due to the adoption of ASU No. 2016-01, Recognition and Measurement of Financial Assets and Financial Liabilities.

Basis for Opinion

These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on the Company's financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. We believe that our audits provide a reasonable basis for our opinion.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1994.

Los Angeles, California

February 5, 2019

F-1

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Alexandria Real Estate Equities, Inc.

Consolidated Balance Sheets

(In thousands, except share and per share amounts)

	December 31,	
	2018	2017
Assets		
Investments in real estate	\$11,913,693	\$10,298,019
Investments in unconsolidated real estate joint ventures	237,507	110,618
Cash and cash equivalents	234,181	254,381
Restricted cash	37,949	22,805
Tenant receivables	9,798	10,262
Deferred rent	530,237	434,731
Deferred leasing costs	239,070	221,430
Investments	892,264	523,254
Other assets	370,257	228,453
Total assets	\$14,464,956	\$12,103,953
Liabilities, Noncontrolling Interests, and Equity		
Secured notes payable	\$630,547	\$771,061
Unsecured senior notes payable	4,292,293	3,395,804
Unsecured senior line of credit	208,000	50,000
Unsecured senior bank term loans	347,415	547,942
Accounts payable, accrued expenses, and tenant security deposits	981,707	763,832
Dividends payable	110,280	92,145
Total liabilities	6,570,242	5,620,784
Commitments and contingencies		
Redeemable noncontrolling interests	10,786	11,509
Alexandria Real Estate Equities, Inc.'s stockholders' equity:		
7.00% Series D cumulative convertible preferred stock, \$0.01 par value per share, 10,000,000 shares authorized; 2,573,432 and 2,975,432 shares issued and outstanding as of December 31, 2018 and 2017, respectively; \$25 liquidation value per share	64,336	74,386
Common stock, \$0.01 par value per share, 200,000,000 shares authorized as of December 31, 2018 and 2017; 111,011,816 and 99,783,686 shares issued and outstanding as of December 31, 2018 and 2017, respectively	1,110	998
Additional paid-in capital	7,286,954	5,824,258
Accumulated other comprehensive (loss) income	(10,435	) 50,024
Alexandria Real Estate Equities, Inc.'s stockholders' equity	7,341,965	5,949,666
Noncontrolling interests	541,963	521,994
Total equity	7,883,928	6,471,660
Total liabilities, noncontrolling interests, and equity	\$14,464,956	\$12,103,953

The accompanying notes are an integral part of these consolidated financial statements.

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Alexandria Real Estate Equities, Inc.
 Consolidated Statements of Operations
 (In thousands, except per share amounts)

	Year Ended December 31,		
	2018	2017	2016
Revenues:			
Rental	\$1,010,718	\$863,181	\$673,820
Tenant recoveries	304,063	259,144	223,655
Other income	12,678	5,772	24,231
Total revenues	1,327,459	1,128,097	921,706
Expenses:			
Rental operations	381,120	325,609	278,408
General and administrative	90,405	75,009	63,884
Interest	157,495	128,645	106,953
Depreciation and amortization	477,661	416,783	313,390
Impairment of real estate	6,311	203	209,261
Loss on early extinguishment of debt	1,122	3,451	3,230
Total expenses	1,114,114	949,700	975,126
Equity in earnings (losses) of unconsolidated real estate joint ventures	43,981	15,426	(184)
Investment income	136,763	—	—
Gain on sales of real estate – rental properties	8,704	270	3,715
Gain on sales of real estate – land parcels	—	111	90
Net income (loss)	402,793	194,204	(49,799)
Net income attributable to noncontrolling interests	(23,481)	(25,111)	(16,102)
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s stockholders	379,312	169,093	(65,901)
Dividends on preferred stock	(5,060)	(7,666)	(20,223)
Preferred stock redemption charge	(4,240)	(11,279)	(61,267)
Net income attributable to unvested restricted stock awards	(6,029)	(4,753)	(3,750)
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s common stockholders	\$363,983	\$145,395	\$(151,141)
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.’s common stockholders:			
Basic	\$3.53	\$1.59	\$(1.99)
Diluted	\$3.52	\$1.58	\$(1.99)

The accompanying notes are an integral part of these consolidated financial statements.

Alexandria Real Estate Equities, Inc.
 Consolidated Statements of Comprehensive Income
 (In thousands)

	Year Ended December 31,		
	2018	2017	2016
Net income (loss)	\$402,793	\$194,204	\$(49,799)
Other comprehensive (loss) income			
Unrealized gains (losses) on available-for-sale equity securities:			
Unrealized holding gains (losses) arising during the period	—	24,360	(79,833)
Reclassification adjustment for losses (gains) included in net income (loss)	—	6,118	(18,473)
Unrealized gains (losses) on available-for-sale equity securities, net	—	30,478	(98,306)
Unrealized (losses) gains on interest rate hedge agreements:			
Unrealized interest rate hedge gains (losses) arising during the period	1,622	2,837	(1,150)
Reclassification adjustment for amortization to interest expense included in net income (loss)	(4,941)	)1,915	5,273
Unrealized (losses) gains on interest rate hedge agreements, net	(3,319)	)4,752	4,123
Unrealized (losses) gains on foreign currency translation:			
Unrealized foreign currency translation (losses) gains arising during the period	(7,369)	)7,774	(2,579)
Reclassification adjustment for cumulative foreign currency translation losses included in net income (loss) upon sale or liquidation	—	1,599	52,926
Unrealized (losses) gains on foreign currency translation, net	(7,369)	)9,373	50,347
Total other comprehensive (loss) income	(10,688)	)44,603	(43,836)
Comprehensive income (loss)	392,105	238,807	(93,635)
Less: comprehensive income attributable to noncontrolling interests	(23,481)	)25,045	(16,102)
Comprehensive income (loss) attributable to Alexandria Real Estate Equities, Inc.'s stockholders	\$368,624	\$213,762	\$(109,737)

The accompanying notes are an integral part of these consolidated financial statements.

Alexandria Real Estate Equities, Inc.

Consolidated Statements of Changes in Stockholders' Equity and Noncontrolling Interests

(Dollars in thousands)

	Alexandria Real Estate Equities, Inc.'s Stockholders' Equity									
	7.00% Series D Cumulative Convertible Preferred Stock	6.45% Series E Cumulative Redeemable Preferred Stock	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Other Comprehensive Income	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
Balance as of December 31, 2015	\$237,163	\$130,000	72,548,693	\$725	\$3,558,008	\$—	\$49,191	\$304,659	\$4,279,746	\$14,218
Net (loss) income	—	—	—	—	—	(65,901)	15,086	(50,815)	(1,016)	1,016
Total other comprehensive loss	—	—	—	—	—	(43,836)	—	(43,836)	—	—
Redemption of redeemable noncontrolling interests	—	—	—	—	—	—	—	—	—	(5,206)
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(17,241)	(17,241)	(985)
Contributions from and sales of noncontrolling interests	—	—	—	—	44,512	—	—	172,671	217,183	2,264
Issuance of common stock	—	—	14,773,593	148	1,432,029	—	—	—	1,432,177	—
Issuance pursuant to stock plan	—	—	343,594	4	38,365	—	—	—	38,369	—
Repurchase of 7.00% Series D preferred stock	(150,249)	—	—	—	4,690	(61,267)	—	—	(206,826)	—
Dividends declared on common stock	—	—	—	—	—	(257,563)	—	—	(257,563)	—
Dividends declared on preferred stock	—	—	—	—	—	(20,223)	—	—	(20,223)	—
Distributions in excess of earnings	—	—	—	—	(404,954)	404,954	—	—	—	—
Balance as of December 31, 2016	86,914	130,000	87,665,880	877	4,672,650	—	5,355	475,175	5,370,971	11,307

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Net income	—	—	—	—	—	169,093	24,053	193,146	1,058	
Total other comprehensive income (loss)	—	—	—	—	—	44,669	(66)	44,603	—	
Redemption of noncontrolling interests	—	—	—	—	—	—	(541)	(541)	—	
Distributions to noncontrolling interests	—	—	—	—	—	—	(21,505)	(21,505)	(856)	
Contributions from and sales of noncontrolling interests	—	—	—	—	7,747	—	44,878	52,625	—	
Issuance of common stock	—	—	11,694,101	117	1,275,280	—	—	1,275,397	—	
Issuance pursuant to stock plan	—	—	423,705	4	42,395	—	—	42,399	—	
Repurchases of 7.00% Series D preferred stock	(12,528)	—	—	—	391	(5,797)	—	(17,934)	—	
Redemption of 6.45% Series E preferred stock	—	(130,000)	—	—	5,132	(5,482)	—	(130,350)	—	
Dividends declared on common stock	—	—	—	—	—	(329,485)	—	(329,485)	—	
Dividends declared on preferred stock	—	—	—	—	—	(7,666)	—	(7,666)	—	
Distributions in excess of earnings	—	—	—	—	(179,337)	179,337	—	—	—	
Balance as of December 31, 2017	\$74,386	\$—	99,783,686	\$998	\$5,824,258	\$—	\$50,024	\$521,994	\$6,471,660	\$11,509

Alexandria Real Estate Equities, Inc.

Consolidated Statements of Changes in Stockholders' Equity and Noncontrolling Interests (continued)

(Dollars in thousands)

	Alexandria Real Estate Equities, Inc.'s Stockholders' Equity									
	7.00% Series D Cumulative Convertible Preferred Stock	6.45% Series E Cumulative Redeemable Preferred Stock	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Income (Loss)	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
Balance as of December 31, 2017	\$74,386	\$ 99,783,686		\$998	\$5,824,258	\$ —	\$50,024	\$521,994	\$6,471,660	\$11,509
Net income	—	—	—	—	—	379,342	—	22,618	401,930	863
Total other comprehensive loss	—	—	—	—	—	(10,688)	—	—	(10,688)	—
Reclassification of net unrealized gains on non-real estate investments upon adoption of new ASU on financial instruments on January 1, 2018	—	—	—	—	—	140,621	(21,771)	—	90,750	—
Redemption of noncontrolling interests	—	—	—	—	—	—	—	—	—	(1,597)
Distributions to noncontrolling interests	—	—	—	—	—	—	—	(29,810)	(29,810)	(846)
Contributions from noncontrolling interests	—	—	—	—	257	—	—	27,161	27,418	857
Issuance of common stock	—	—	10,915,120	109	1,304,531	—	—	—	1,304,640	—
Issuance pursuant to stock plan	—	—	313,010	3	45,975	—	—	—	45,978	—
Repurchases of 7.00% Series D preferred stock	(10,050)	—	—	—	314	(4,240)	—	—	(13,976)	—
Dividends declared on common stock	—	—	—	—	—	(398,914)	—	—	(398,914)	—
	—	—	—	—	—	(5,060)	—	—	(5,060)	—

Dividends declared on preferred stock									
Reclassification of distributions in excess of earnings	—	—	—	111,619	(111,619)	—	—	—	
Balance as of December 31, 2018	\$64,336	\$ -11,011,816	\$ 1,110	\$7,286,954	\$ -\$(10,435)	\$ 541,963	\$7,883,928	\$ 10,786	

The accompanying notes are an integral part of these consolidated financial statements.

F-6

Alexandria Real Estate Equities, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2018	2017	2016
Operating Activities			
Net income (loss)	\$402,793	\$194,204	\$(49,799)
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization	477,661	416,783	313,390
Loss on early extinguishment of debt	1,122	3,451	3,230
Impairment of real estate	6,311	203	209,261
Gain on sales of real estate – rental properties	(8,704)	(270)	(3,715)
Gain on sales of real estate – land parcels	—	(111)	(90)
Equity in (earnings) losses of unconsolidated real estate joint ventures	(43,981)	(15,426)	184
Distributions of earnings from unconsolidated real estate joint ventures	430	1,618	406
Amortization of loan fees	10,271	11,149	11,872
Amortization of debt premiums	(2,406)	(2,512)	(500)
Amortization of acquired below-market leases	(21,938)	(19,055)	(5,723)
Deferred rent	(93,883)	(107,643)	(51,673)
Stock compensation expense	35,019	25,610	25,433
Investment income	(136,763)	(1,329)	(17,133)
Changes in operating assets and liabilities:			
Tenant receivables	435	(502)	(285)
Deferred leasing costs	(57,088)	(62,639)	(35,273)
Other assets	(20,849)	(18,222)	(11,420)
Accounts payable, accrued expenses, and tenant security deposits	21,909	25,573	5,322
Net cash provided by operating activities	570,339	450,882	393,487
Investing Activities			
Proceeds from sales of real estate	20,190	15,432	123,081
Additions to real estate	(927,168)	(893,685)	(821,690)
Purchases of real estate	(1,037,180)	(675,584)	(739,678)
Deposits for investing activities	(2,000)	(2,300)	(450)
Acquisitions of interest in unconsolidated real estate joint ventures	(35,922)	(60,291)	—
Investments in unconsolidated real estate joint ventures	(116,008)	(17,876)	(11,529)
Return of capital from unconsolidated real estate joint ventures	68,592	38,576	—
Additions to investments	(235,943)	(171,881)	(102,284)
Sales of investments	103,679	30,483	38,946
Repayment of notes receivable	—	—	15,198
Net cash used in investing activities	\$(2,161,760)	\$(1,737,126)	\$(1,498,406)

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Alexandria Real Estate Equities, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2018	2017	2016
Financing Activities			
Borrowings from secured notes payable	\$17,784	\$153,405	\$291,400
Repayments of borrowings from secured notes payable	(156,888)	(396,240)	(310,903)
Proceeds from issuance of unsecured senior notes payable	899,321	1,023,262	348,604
Borrowings from unsecured senior line of credit	4,741,000	3,858,000	4,117,000
Repayments of borrowings from unsecured senior line of credit	(4,583,000)	(3,836,000)	(4,240,000)
Repayments of borrowings from unsecured senior bank term loan	(200,000)	(200,000)	(200,000)
Payments of loan fees	(19,292)	(10,019)	(16,681)
Repurchases of 7.00% Series D cumulative convertible preferred stock	(13,976)	(17,934)	(206,826)
Redemption of 6.45% Series E cumulative redeemable preferred stock	—	(130,350)	—
Proceeds from the issuance of common stock	1,293,301	1,275,397	1,432,177
Dividends on common stock	(380,632)	(312,131)	(240,347)
Dividends on preferred stock	(5,207)	(9,619)	(22,414)
Financing costs paid for sales of noncontrolling interests	—	—	(10,044)
Contributions from and sales of noncontrolling interests	28,275	44,931	221,487
Distributions to and purchases of noncontrolling interests	(32,253)	(22,361)	(69,678)
Net cash provided by financing activities	1,588,433	1,420,341	1,093,775
Effect of foreign exchange rate changes on cash and cash equivalents	(2,068)	1,723	(1,460)
Net (decrease) increase in cash, cash equivalents, and restricted cash	(5,056)	135,820	(12,604)
Cash, cash equivalents, and restricted cash as of the beginning of period	277,186	141,366	153,970
Cash, cash equivalents, and restricted cash as of the end of period	\$272,130	\$277,186	\$141,366
Supplemental Disclosure of Cash Flow Information:			
Cash paid during the period for interest, net of interest capitalized	\$127,093	\$112,113	\$84,907
Non-Cash Investing Activities:			
Assumption of secured notes payable in connection with purchase of real estate	\$—	\$—	\$(203,000)
Change in accrued construction	\$81,177	\$(11,034)	\$76,848
Payable for purchase of real estate	\$(65,000)	\$—	\$(56,800)
Distribution of real estate in connection with purchase of remaining 49% interest in real estate joint venture with Uber Technologies, Inc.	\$—	\$—	\$(25,546)
Contribution of real estate to an unconsolidated real estate joint venture	\$—	\$6,998	\$—
Consolidation of previously unconsolidated real estate joint venture	\$—	\$—	\$87,930
Net investment in direct financing lease	\$—	\$—	\$36,975
Contribution of real estate from noncontrolling interests	\$—	\$8,597	\$—
Non-Cash Financing Activities:			
Redemption of redeemable noncontrolling interest	\$—	\$—	\$(5,000)
Contribution from redeemable noncontrolling interest	\$—	\$—	\$2,264
The accompanying notes are an integral part of these consolidated financial statements.			

Alexandria Real Estate Equities, Inc.
Notes to Consolidated Financial Statements

1. Organization and basis of presentation

Alexandria Real Estate Equities, Inc. (NYSE:ARE), an S&P 500[®] company, is an urban office REIT uniquely focused on collaborative life science and technology campuses in AAA innovation cluster locations. As used in this annual report on Form 10-K, references to the “Company,” “Alexandria,” “ARE,” “we,” “us,” and “our” refer to Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries. The accompanying consolidated financial statements include the accounts of Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries. All significant intercompany balances and transactions have been eliminated. Certain prior-period amounts have been reclassified to conform to the current-period presentation. Refer to the discussion on “Restricted Cash” under the “Recent Accounting Pronouncements” section of Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements.

Any references to our market capitalization, number or quality of buildings or tenants, quality of location, square footage, number of leases, or occupancy percentage, and any amounts derived from these values in these notes to consolidated financial statements are unaudited.

2. Summary of significant accounting policies

Consolidation

On an ongoing basis, as circumstances indicate the need for reconsideration, we evaluate each legal entity that is not wholly owned by us in accordance with the consolidation guidance. Our evaluation considers all of our variable interests, including equity ownership, as well as fees paid to us for our involvement in the management of each partially owned entity. To fall within the scope of the consolidation guidance, an entity must meet both of the following criteria:

- The entity has a legal structure that has been established to conduct business activities and to hold assets; such entity can be in the form of a partnership, limited liability company, or corporation, among others; and
- We have a variable interest in the legal entity – i.e., variable interests that are contractual, such as equity ownership, or other financial interests that change with changes in the fair value of the entity’s net assets.

If an entity does not meet both criteria above, we apply other accounting literature, such as the cost or equity method of accounting. If an entity does meet both criteria above, we evaluate such entity for consolidation under either the variable interest model if the legal entity meets any of the following characteristics to qualify as a VIE, or under the voting model for all other legal entities that are not VIEs.

A legal entity is determined to be a VIE if it has any of the following three characteristics:

- 1) The entity does not have sufficient equity to finance its activities without additional subordinated financial support;
- 2) The entity is established with non-substantive voting rights (i.e., where the entity deprives the majority economic interest holder(s) of voting rights); or
- 3) The equity holders, as a group, lack the characteristics of a controlling financial interest. Equity holders meet this criterion if they lack any of the following:
 - The power, through voting rights or similar rights, to direct the activities of the entity that most significantly influence the entity’s economic performance, as evidenced by:
 - Substantive participating rights in day-to-day management of the entity’s activities; or
 - Substantive kick-out rights over the party responsible for significant decisions;
 - The obligation to absorb the entity’s expected losses; or

The right to receive the entity's expected residual returns.

F-9

2. Summary of significant accounting policies (continued)

Once we consider the sufficiency of equity and voting rights of each legal entity, we then evaluate the characteristics of the equity holders' interests, as a group, to see if they qualify as controlling financial interests. Our real estate joint ventures consist of limited partnerships or limited liability companies. For an entity structured as a limited partnership or a limited liability company, our evaluation of whether the equity holders (equity partners other than us in each of our joint ventures) lack the characteristics of a controlling financial interest includes the evaluation of whether the limited partners or non-managing members (the noncontrolling equity holders) lack both substantive participating rights and substantive kick-out rights, defined as follows:

Participating rights provide the noncontrolling equity holders the ability to direct significant financial and operating decisions made in the ordinary course of business that most significantly influence the entity's economic performance. Kick-out rights allow the noncontrolling equity holders to remove the general partner or managing member without cause.

If we conclude that any of the three characteristics of a VIE are met, including that the equity holders lack the characteristics of a controlling financial interest because they lack both substantive participating rights and substantive kick-out rights, we conclude that the entity is a VIE and evaluate it for consolidation under the variable interest model.

Variable interest model

If an entity is determined to be a VIE, we evaluate whether we are the primary beneficiary. The primary beneficiary analysis is a qualitative analysis based on power and benefits. We consolidate a VIE if we have both power and benefits – that is, (i) we have the power to direct the activities of a VIE that most significantly influence the VIE's economic performance (power), and (ii) we have the obligation to absorb losses of, or the right to receive benefits from, the VIE that could potentially be significant to the VIE (benefits). We consolidate VIEs whenever we determine that we are the primary beneficiary. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements for information on specific joint ventures that qualify as VIEs. If we have a variable interest in a VIE but are not the primary beneficiary, we account for our investment using the equity method of accounting.

Voting model

If a legal entity fails to meet any of the three characteristics of a VIE (due to insufficiency of equity, existence of non-substantive voting rights, or lack of a controlling financial interest), we then evaluate such entity under the voting model. Under the voting model, we consolidate the entity if we determine that we, directly or indirectly, have greater than 50% of the voting shares and that other equity holders do not have substantive participating rights. Refer to Note 4 – “Consolidated and Unconsolidated Real Estate Joint Ventures” to our consolidated financial statements for further information on one of our unconsolidated real estate joint ventures that qualify for evaluation under the voting model.

Use of estimates

The preparation of consolidated financial statements in conformity with GAAP requires us to make estimates and assumptions that affect the reported amounts of assets, liabilities, and equity; the disclosure of contingent assets and liabilities as of the date of the consolidated financial statements; and the amounts of revenues and expenses during the reporting period. Actual results could materially differ from those estimates.

Reportable segment

We are engaged in the business of providing space for lease to the life science and technology industries. Our properties are similar in that they provide space for lease to the life science and technology industries, consist of improvements that are generic and reusable for the life science and technology industries, are primarily located in AAA urban innovation cluster locations, and have similar economic characteristics. Our chief operating decision makers review financial information for our entire consolidated operations when making decisions related to assessing our operating performance, and reviews financial information for our individual properties when determining how to allocate resources related to capital expenditures. We have aggregated the properties into one reportable segment as the properties share similar long-term economic characteristics and have other similarities, including the fact that they are operated using consistent business strategies, are typically located in major metropolitan areas, and have similar tenant mixes. The financial information disclosed herein represents all of the financial information related to our one reportable segment.

F-10

2. Summary of significant accounting policies (continued)

Investments in real estate

Evaluation of business combination or asset acquisition

We evaluate each acquisition of real estate or in-substance real estate (including equity interests in entities that predominantly hold real estate assets) to determine whether the integrated set of assets and activities acquired meets the definition of a business and needs to be accounted for as a business combination. An acquisition of an integrated set of assets and activities that does not meet the definition of a business is accounted for as an asset acquisition. If either of the following criteria is met, the integrated set of assets and activities acquired would not qualify as a business:

- Substantially all of the fair value of the gross assets acquired is concentrated in either a single identifiable asset or a group of similar identifiable assets; or
- The integrated set of assets and activities is lacking, at a minimum, an input and a substantive process that together significantly contribute to the ability to create outputs (i.e., revenue generated before and after the transaction).

An acquired process is considered substantive if:

- The process includes an organized workforce (or includes an acquired contract that provides access to an organized workforce) that is skilled, knowledgeable, and experienced in performing the process;
 - The process cannot be replaced without significant cost, effort, or delay; or
- The process is considered unique or scarce.

Generally, we expect that acquisitions of real estate or in-substance real estate will not meet the definition of a business because substantially all of the fair value is concentrated in a single identifiable asset or group of similar identifiable assets (i.e., land, buildings, and related intangible assets) or because the acquisition does not include a substantive process in the form of an acquired workforce or an acquired contract that cannot be replaced without significant cost, effort, or delay. When evaluating acquired service or management contracts, we consider the nature of the services performed, the terms of the contract relative to similar arm's-length contracts, and the availability of comparable vendors in evaluating whether the acquired contract constitutes a substantive process.

Recognition of real estate acquired

For acquisitions of real estate or in-substance real estate that are accounted for as business combinations, we recognize the assets acquired (including the intangible value of acquired above- or below-market leases, acquired in-place leases, tenant relationships, and other intangible assets or liabilities), liabilities assumed, noncontrolling interests, and previously existing ownership interests at fair value as of the acquisition date. Any excess (deficit) of the consideration transferred relative to the fair value of the net assets acquired is accounted for as goodwill (bargain purchase gain). Acquisition costs related to business combinations are expensed as incurred.

Acquisitions of real estate and in-substance real estate that do not meet the definition of a business are accounted for as asset acquisitions. The accounting model for asset acquisitions is similar to the accounting model for business combinations except that the acquisition consideration (including acquisition costs) is allocated to the individual assets acquired and liabilities assumed on a relative fair value basis. Any excess (deficit) of the consideration transferred relative to the fair value of the assets acquired or liabilities assumed is allocated to the individual assets or liabilities based on their relative fair value. As a result, asset acquisitions do not result in the recognition of goodwill or a

bargain purchase gain. Additionally, because the accounting model for asset acquisitions is a cost accumulation model, preexisting interests in the acquired assets, if any, are not remeasured to fair value but continue to be accounted for at their historical cost. Incremental and external direct acquisition costs (such as legal and third party expenses) are capitalized if an asset acquisition is probable. If we determine that an asset acquisition is no longer probable, no new costs are capitalized and all capitalized costs that are not recoverable are expensed.

The relative fair values used to allocate the cost of an asset acquisition are determined by the same methodologies and assumptions we utilize to determine fair value in a business combination.

F-11

2. Summary of significant accounting policies (continued)

If a real estate property is acquired with an in-place lease that contains a bargain fixed-rate renewal option for the period beyond the non-cancelable lease term, we evaluate factors, such as the business conditions in the industry in which the lessee operates, the economic conditions in the area in which the property is located, and the ability of the lessee to sublease its space during the renewal term, in order to determine the likelihood that the lessee will renew. When we determine there is reasonable assurance that such bargain renewal option will be exercised, we consider the option in determining the intangible value of such lease and its related amortization period. The value of tangible assets acquired is based upon our estimation of fair value on an “as if vacant” basis. The value of acquired in-place leases includes the estimated costs during the hypothetical lease-up period and other costs that would have been incurred in the execution of similar leases under the market conditions at the acquisition date of the acquired in-place lease. We assess the fair value of tangible and intangible assets based on numerous factors, including estimated cash flow projections that utilize appropriate discount and capitalization rates and available market information. Estimates of future cash flows are based on a number of factors, including the historical operating results, known trends, and market/economic conditions, that may affect the property.

The values allocated to buildings and building improvements, land improvements, tenant improvements, and equipment are depreciated on a straight-line basis using the shorter of the term of the respective ground lease, estimated useful life or up to 40 years for buildings and building improvements, an estimated life of up to 20 years for land improvements, the respective lease term or estimated useful life for tenant improvements, and the shorter of the lease term or estimated useful life for equipment. The values of acquired above- and below-market leases are amortized over the terms of the related leases and recognized as either increases (for below-market leases) or decreases (for above-market leases) to rental revenue. The values of acquired above- and below-market ground leases are amortized over the terms of the related ground leases and recognized as either increases (for below-market ground leases) or decreases (for above-market ground leases) to rental operating expense. The values of acquired in-place leases are classified in other assets in our consolidated balance sheets and amortized over the remaining terms of the related leases.

Capitalized project costs

We capitalize project costs, including pre-construction costs, interest, property taxes, insurance, and other costs directly related and essential to the development, redevelopment, pre-construction, or construction of a project. Capitalization of development, redevelopment, pre-construction, and construction costs is required while activities are ongoing to prepare an asset for its intended use. Fluctuations in our development, redevelopment, pre-construction, and construction activities could result in significant changes to total expenses and net income. Costs incurred after a project is substantially complete and ready for its intended use are expensed as incurred. Should development, redevelopment, pre-construction, or construction activity cease, interest, property taxes, insurance, and certain other costs would no longer be eligible for capitalization and would be expensed as incurred. Expenditures for repairs and maintenance are expensed as incurred.

Real estate sales

A property is classified as held for sale when all of the following criteria for a plan of sale have been met: (i) management, having the authority to approve the action, commits to a plan to sell the property; (ii) the property is available for immediate sale in its present condition, subject only to terms that are usual and customary; (iii) an active program to locate a buyer and other actions required to complete the plan to sell have been initiated; (iv) the sale of the property is probable and is expected to be completed within one year; (v) the property is being actively marketed for sale at a price that is reasonable in relation to its current fair value; and (vi) actions necessary to complete the plan of sale indicate that it is unlikely that significant changes to the plan will be made or that the plan will be withdrawn.

Depreciation of assets ceases upon designation of a property as held for sale.

If the disposal of a property represents a strategic shift that has (or will have) a major effect on our operations or financial results, such as (i) a major line of business, (ii) a major geographic area, (iii) a major equity method investment, or (iv) other major parts of an entity, then the operations of the property, including any interest expense directly attributable to it, are classified as discontinued operations in our consolidated statements of operations, and amounts for all prior periods presented are reclassified from continuing operations to discontinued operations. The disposal of an individual property generally will not represent a strategic shift and therefore will typically not meet the criteria for classification as a discontinued operation.

Impairment of long-lived assets

On a quarterly basis, we review current activities and changes in the business conditions of all of our properties prior to and subsequent to the end of each quarter to determine the existence of any triggering events or impairment indicators requiring an impairment analysis. If triggering events or impairment indicators are identified, we review an estimate of the future undiscounted cash flows for the properties, including, if necessary, a probability-weighted approach if multiple outcomes are under consideration.

2. Summary of significant accounting policies (continued)

Long-lived assets to be held and used, including our rental properties, CIP, land held for development, and intangibles, are individually evaluated for impairment when conditions exist that may indicate that the carrying amount of a long-lived asset may not be recoverable. The carrying amount of a long-lived asset to be held and used is not recoverable if it exceeds the sum of the undiscounted cash flows expected to result from the use and eventual disposition of the asset. Impairment indicators or triggering events for long-lived assets to be held and used, including our rental properties, CIP, land held for development, and intangibles, are assessed by project and include significant fluctuations in estimated net operating income, occupancy changes, significant near-term lease expirations, current and historical operating and/or cash flow losses, construction costs, estimated completion dates, rental rates, and other market factors. We assess the expected undiscounted cash flows based upon numerous factors, including, but not limited to, construction costs, available market information, current and historical operating results, known trends, current market/economic conditions that may affect the property, and our assumptions about the use of the asset, including, if necessary, a probability-weighted approach if multiple outcomes are under consideration. Upon determination that an impairment has occurred, a write-down is recognized to reduce the carrying amount to its estimated fair value. If an impairment loss is not required to be recognized, the recognition of depreciation is adjusted prospectively, as necessary, to reduce the carrying amount of the real estate to its estimated disposition value over the remaining period that the real estate is expected to be held and used. We may adjust depreciation of properties that are expected to be disposed of or redeveloped prior to the end of their useful lives.

We use the held for sale impairment model for our properties classified as held for sale. The held for sale impairment model is different from the held and used impairment model. Under the held for sale impairment model, an impairment loss is recognized if the carrying amount of the long-lived asset classified as held for sale exceeds its fair value less cost to sell. Because of these two different models, it is possible for a long-lived asset previously classified as held and used to require the recognition of an impairment charge upon classification as held for sale.

Cash and cash equivalents

We consider all highly liquid investments with original maturities of three months or less when purchased to be cash and cash equivalents. The majority of our cash and cash equivalents are held at major commercial banks in accounts that may at times exceed the FDIC-insured limit of \$250,000. We have not experienced any losses to date on our invested cash.

International operations

In addition to operating properties in the U.S., we have three operating properties in Canada and one operating property in China. The functional currency for our subsidiaries operating in the U.S. is the U.S. dollar. The functional currencies for our foreign subsidiaries are the local currencies in each respective country. The assets and liabilities of our foreign subsidiaries are translated into U.S. dollars at the exchange rate in effect as of the financial statement date. Income statement accounts of our foreign subsidiaries are translated using the weighted-average exchange rate for the periods presented. Gains or losses resulting from the translation are classified in accumulated other comprehensive income as a separate component of total equity and are excluded from net income.

Whenever a foreign investment meets the criteria for classification as held for sale, we evaluate the recoverability of the investment under the held for sale impairment model. We may recognize an impairment charge if the carrying amount of the investment exceeds its fair value less cost to sell. In determining an investment's carrying amount, we consider its net book value and any cumulative unrealized foreign currency translation adjustment related to the investment.

The appropriate amounts of foreign exchange rate gains or losses classified in accumulated other comprehensive income are reclassified to net income when realized upon the sale of our investment or upon the complete or substantially complete liquidation of our investment.

Investments

We hold investments in publicly traded companies and privately held entities primarily involved in the life science and technology industries. As a REIT, we generally limit our ownership percentage in the voting stock of each individual entity to less than 10%.

F-13

2. Summary of significant accounting policies (continued)

Prior to January 1, 2018

Prior to the adoption of a new ASU on financial instruments effective January 1, 2018, all of our equity investments in actively traded public companies were considered available-for-sale and were presented in our consolidated balance sheets at fair value. Fair value was determined based upon the closing price as of each balance sheet date, with unrealized gains and losses shown as a separate component of accumulated other comprehensive income within total equity (excluded from net income). The classification of each investment was determined at the time each investment was made, and such determination was reevaluated at each balance sheet date. The cost of each investment sold was determined by the specific identification method, with realized gains or losses classified in other income in our consolidated statements of operations. Investments in privately held entities were generally accounted for under the cost method when our interest in the entity was so minor that we had virtually no influence over the entity's operating and financial policies, otherwise investment in privately held entities were accounted for under the equity method of accounting. Under the equity method of accounting, we recognized our investment initially at cost and adjusted the carrying amount of the investment to recognize our share of the earnings or losses of the investee subsequent to the date of our investment.

We periodically assessed our investments in available-for-sale equity securities and privately held companies accounted for under the cost method for other-than-temporary impairment. We monitored each of our investments throughout the year for new developments, including operating results, results of clinical trials, capital-raising events, and merger and acquisition activities. Individual investments were evaluated for impairment when changes in conditions indicated an impairment may exist. The factors that we considered in making these assessments included, but were not limited to, market prices, market conditions, available financing, prospects for favorable or unfavorable clinical trial results, new product initiatives, and new collaborative agreements. If an unrealized loss related to an available-for-sale equity security was determined to be other-than-temporary, such unrealized loss was reclassified from accumulated other comprehensive income within total equity into earnings. For a cost method investment, if a decline in the fair value of an investment below its carrying value was determined to be other-than-temporary, such investment was written down to its estimated fair value with a charge to earnings. If there were no identified events or changes in circumstances that might have had an adverse effect on our cost method investments, we did not estimate the investment's fair value.

Effective January 1, 2018

Beginning on January 1, 2018, under the new ASU, equity investments (except those accounted for under the equity method and those that result in consolidation of the investee) are measured at fair value, with changes in fair value recognized in net income, as follows:

Investments in publicly traded companies are classified as investments with readily determinable fair values. These investments are carried at fair value, with changes in fair value recognized in net income, rather than in accumulated other comprehensive income within total equity. The fair values for our investments in publicly traded companies continue to be determined based on sales prices/quotes available on securities exchanges.

Investments in privately held entities without readily determinable fair values fall into two categories:

Investments in privately held entities that report NAV per share, such as our privately held investments in limited partnerships, are carried at fair value using NAV as a practical expedient with changes in fair value recognized in net income. We use NAV reported by limited partnerships without adjustment, unless we are aware of information indicating that the NAV reported by a limited partnership does not accurately reflect the fair value of the investment at our reporting date.

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Investments in privately held entities that do not report NAV are accounted for using a measurement alternative that measure these investments at cost, adjusted for observable price changes and impairments, with changes recognized in net income.

For investments in privately held entities that do not report NAV, an observable price is a price observed in an orderly transaction for an identical or similar investment of the same issuer. Observable price changes result from, among other things, equity transactions for the same issuer executed during the reporting period, including subsequent equity offerings or other reported equity transactions related to the same issuer. For these transactions to be considered observable price changes of the same issuer, we evaluate whether these transactions have similar rights and obligations, including voting rights, distribution preferences, conversion rights, and other factors, to the investments we hold.

F-14

2. Summary of significant accounting policies (continued)

Investments in privately held entities that do not report NAV continue to be evaluated on the basis of a qualitative assessment for indicators of impairment by utilizing the same monitoring criteria described above and monitoring the presence of the following impairment indicators: (i) a significant deterioration in the earnings performance, asset quality, or business prospects of the investee; (ii) a significant adverse change in the regulatory, economic, or technological environment of the investee, (iii) a significant adverse change in the general market condition, including the research and development of technology and products, which the investee is bringing or attempting to bring to the market, or (iv) significant concerns about the investee's ability to continue as a going concern. If such indicators are present, we are required to estimate the investment's fair value and immediately recognize an impairment loss, without consideration as to whether the impairment is other-than-temporary, in an amount equal to the investment's carrying value in excess of its estimated fair value.

Investments in privately held entities continue to be accounted for under the equity method unless our interest in the entity is deemed to be so minor that we have virtually no influence over the entity's operating and financial policies. Under the equity method of accounting, we initially recognize our investment at cost and adjust the carrying amount of the investment to recognize our share of the earnings or losses of the investee subsequent to the date of our investment.

Initial adoption of new ASU

On January 1, 2018, we recognized the following adjustments upon adoption of the new ASU:

For investments in publicly traded companies, reclassification of cumulative unrealized gains as of December 31, 2017, aggregating \$49.8 million, from accumulated other comprehensive income to retained earnings.

For investments in privately held entities without readily determinable fair values that were previously accounted for under the cost method:

Adjustment to investments for unrealized gains aggregating \$90.8 million related to investments in privately held entities that report NAV, representing the difference between fair value as of December 31, 2017, using NAV as a practical expedient and the carrying value of the investments as of December 31, 2017, with a corresponding adjustment to retained earnings.

No required adjustment for investments in privately held entities that do not report NAV. The ASU requires a prospective transition approach for investments in privately held entities that do not report NAV. The FASB clarified that it would be difficult for entities to determine the last observable transaction price existing prior to the adoption of this ASU. Therefore, unlike our investments in privately held entities that report NAV that were adjusted to reflect fair values upon adoption of the new ASU, our investments in privately held entities that do not report NAV were not included in the cumulative adjustment recorded on January 1, 2018 to adjust fair values upon adoption. As such, any initial valuation adjustments made for investments in privately held entities that do not report NAV subsequent to January 1, 2018, as a result of future observable price changes include recognition of unrealized gains or losses equal to the difference between the carrying basis of the investment and the observable price at the date of remeasurement.

Beginning January 1, 2018, we recognize unrealized gains and losses and realized gains and losses within investment income in our consolidated statements of operations. Unrealized gains and losses represent changes in fair value for investments in publicly traded companies, changes in NAV, as a practical expedient to estimate fair value, for investments in privately held entities that report NAV, and observable price changes on our investments in privately held entities that do not report NAV. Impairments are realized losses, which result in an adjusted cost, and represent charges to reduce the carrying values of investments in privately held entities that do not report NAV to their estimated fair value. Realized gains and losses represent the difference between proceeds received upon disposition of investments and their historical or adjusted cost.

Revenue recognition

Recognition of revenue arising from contracts with customers

On January 1, 2018, we adopted an ASU on revenue recognition that requires a new model for recognition of revenue arising from contracts with customers, as well as recognition of gains and losses from the transfer of nonfinancial assets arising from contracts with noncustomers. A customer is distinguished from a noncustomer by the nature of the goods or services that are transferred. Customers are provided with goods or services that are generated by a company's ordinary output activities, whereas noncustomers are provided with nonfinancial assets that are outside of a company's ordinary output activities.

F-15

2. Summary of significant accounting policies (continued)

The core principle underlying the ASU on recognition of revenue arising from contracts with customers is that an entity must recognize revenue to represent the transfer of goods and services to customers in an amount that reflects the consideration to which the entity expects to be entitled in such exchange. This requires entities to identify contractual performance obligations and determine whether revenue should be recognized at a point in time or over time, based on when control of goods and services transfers to a customer. The ASU requires the use of a new five-step model to recognize revenue from customer contracts. The five-step model requires that we (i) identify the contract with the customer, (ii) identify the performance obligations in the contract, (iii) determine the transaction price, including variable consideration to the extent that it is probable that a significant future reversal will not occur, (iv) allocate the transaction price to the performance obligations in the contract, and (v) recognize revenue when (or as) we satisfy the performance obligation.

An entity is also required to determine if it controls the goods or services prior to the transfer to the customer in order to determine whether it should account for the arrangement as a principal or an agent. Principal arrangements, where the entity controls the goods or services provided, result in the recognition of the gross amount of consideration expected in the exchange. Agent arrangements, where the entity simply arranges but does not control the goods or services being transferred to the customer, result in the recognition of the net amount the entity is entitled to retain in the exchange.

Entities had the option to transition to the ASU on recognition of revenue arising from contracts with customers using either the full retrospective or the modified retrospective method. We adopted this ASU using the modified retrospective method, which required a cumulative adjustment for the effects of applying the new standard to periods prior to 2018 to be recorded in retained earnings as of January 1, 2018. We also elected to apply this ASU only to contracts not completed as of January 1, 2018. For all contracts within the scope of this ASU that were not completed as of January 1, 2018, we evaluated the revenue recognition under accounting standards in effect prior to January 1, 2018, and under the new ASU, and determined that amounts recognized and the pattern of revenue recognition were consistent. Therefore, the adoption of the ASU on recognition of revenue arising from contracts with customers did not result in an cumulative adjustment to retained earnings on January 1, 2018.

The table below provides the detail of our consolidated revenues for the year ended December 31, 2018, by (i) revenues that are subject to the ASU on recognition of revenue arising from contracts with customers, and (ii) revenues subject to lease accounting and other accounting standards (in thousands):

	Date of ASU Adoption	Year Ended December 31, 2018
Revenues subject to the lease ASU:		
Rental revenues	1/1/19	\$963,554
Tenant recoveries	1/1/19	304,063
		1,267,617
Revenues subject to the revenue recognition ASU:		
Parking and other revenues	1/1/18	47,164
Other income	1/1/18	9,914
		57,078
Interest and other income within the scope of other existing accounting standards	N/A	2,764
Total revenues		\$1,327,459

Parking revenues subject to the new revenue recognition ASU aggregating \$47.2 million for the year ended December 31, 2018, and classified in rental revenues in our consolidated statements of operations, consist primarily of short-term rental revenues that are not considered lease revenue under the new ASU. Under accounting standards that were in effect prior to January 1, 2018, we recognized parking and other revenue when the amounts were fixed or determinable, collectibility was reasonably assured, and services were rendered. Under the new ASU, the recognition of such revenue occurs when the services are provided and the performance obligations are satisfied. Parking services are normally provided at a point in time; therefore, revenue recognition under the new ASU is substantially similar to the recognition pattern under accounting standards that were in effect prior to January 1, 2018.

F-16

2. Summary of significant accounting policies (continued)

Other income, subject to the new revenue recognition ASU aggregating \$9.9 million for the year ended December 31, 2018, consists primarily of construction management fees. We earn construction management fees for the day-to-day management of third-party construction projects. Construction management services represent a series of services that are substantially the same and that can be combined into a single performance obligation. Under accounting standards in effect prior to January 1, 2018, we recognized construction management fees using the percentage of completion method. Under the new ASU, we recognize construction management fees using the output method, which is substantially similar to the percentage of completion method used under the accounting standards in effect prior to January 1, 2018.

In addition to the analysis above, we evaluated the following qualitative and quantitative disclosure requirements outlined in this ASU during the year ended December 31, 2018, as follows:

- We reviewed our contracts prior to the adoption of this ASU and noted that we did not have material contract assets or contract liabilities related to contracts with customers subject to the new revenue recognition ASU.

Consequently, upon adoption of this ASU, we did not recognize any such assets or liabilities.

During the year ended December 31, 2018, we had no contract assets or contract liabilities related to contracts with customers subject to the new revenue recognition ASU that would require the recognition in our consolidated balance sheets.

Parking and construction management services subject to the new revenue recognition ASU do not normally create obligations for returns, refunds, warranties, and other similar obligations. Therefore, no corresponding disclosures were necessary.

Recognition of revenue arising from contracts with noncustomers

On January 1, 2018, we also adopted a new ASU on the derecognition of nonfinancial assets in transactions, including real estate sales, with noncustomers. Our ordinary output activities consist of the leasing of space to our tenants in our operating properties, not the sales of real estate. Therefore, sales of real estate qualify as contracts with noncustomers and are subject to this new ASU.

The new ASU on the derecognition of nonfinancial assets requires entities to apply certain recognition and measurement principles consistent with the new ASU on recognition of revenue arising from contracts with customers. The derecognition model is based on the transfer of control. If a real estate sales contract includes ongoing involvement by the seller with the property, the seller must evaluate each promised good or service under the contract to determine whether it represents a separate performance obligation, constitutes a guarantee, or prevents the transfer of control. If a good or service is considered a separate performance obligation, an allocated portion of the transaction price should be recognized as revenue as the entity transfers the related good or service to the buyer.

The recognition of gain or loss on the sale of a partial interest also depends on whether the seller retains a controlling or noncontrolling interest. Under the new standards, a partial sale of real estate in which the seller retains a controlling interest results in the seller's continuing to reflect the asset at its current book value, recording a noncontrolling interest for the book value of the partial interest sold, and recognizing additional paid-in capital for the difference between the consideration received and the partial interest at book value, consistent with the prior accounting standards. Conversely, a partial sale of real estate in which a seller retains a noncontrolling interest results in the recognition by the seller of a gain or loss as if 100% of the real estate were sold.

We adopted the new ASU on the derecognition of nonfinancial assets using the modified retrospective method, the same transition method used to adopt the ASU on recognition of revenue arising from contracts with customers. We

also elected to apply this ASU on the derecognition of nonfinancial assets only to contracts not completed as of January 1, 2018. We had no contracts with noncustomers that were not completed as of January 1, 2018; therefore, the adoption of the ASU on the derecognition of nonfinancial assets had no effect on our consolidated financial statements on the date of adoption.

Recognition of rental revenue and tenant recoveries

Rental revenue from operating leases is recognized on a straight-line basis over the respective lease terms. We classify amounts currently recognized as rental revenue in our consolidated statements of operations, and amounts expected to be received in later years as deferred rent in our consolidated balance sheets. Amounts received currently but recognized as revenue in future years are classified in accounts payable, accrued expenses, and tenant security deposits in our consolidated balance sheets. We commence recognition of rental revenue at the date the property is ready for its intended use and the tenant takes possession of, or controls the physical use, of the property.

F-17

2. Summary of significant accounting policies (continued)

Rental revenue from direct financing leases is recognized over the respective lease terms using the effective interest rate method. At lease inception, we record an asset within other assets in our consolidated balance sheets, which represents our net investment in the direct financing lease. This initial net investment is determined by aggregating the total future minimum lease payments attributable to the direct financing lease and the estimated residual value of the property less unearned income. Over the lease term, the investment in the direct financing lease is reduced and rental income is recognized as rental revenue in our consolidated statements of operations and produces a constant periodic rate of return on the net investment in the direct financing lease. Refer to Note 8 – “Other Assets” to our consolidated financial statements for more information about our direct financing lease.

Tenant recoveries related to reimbursement of real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses are recognized as revenue in the period during which the applicable expenses are incurred and the tenant’s obligation to reimburse us arises. Refer to the “Lease Accounting” subsection within the “Recent Accounting Pronouncements” section in Note 2 – “Summary of Significant Accounting Policies” for additional information.

Tenant receivables consist primarily of amounts due for contractual lease payments and tenant recoveries. These tenant receivables are expected to be collected within one year. We may maintain an allowance for estimated losses that may result from the inability of our tenants to make payments required under the terms of the lease and for tenant recoveries due. If a tenant fails to make contractual payments beyond any allowance, we may recognize additional bad debt expense in future periods equal to the amount of uncollectible tenant receivables and deferred rent arising from the straight-lining of rent. As of December 31, 2018 and 2017, no allowance for uncollectible tenant receivables and deferred rent was deemed necessary.

Monitoring of tenant credit quality

During the term of each lease, we monitor the credit quality and any related material changes of our tenants by (i) monitoring the credit rating of tenants that are rated by a nationally recognized credit rating agency, (ii) reviewing financial statements of the tenants that are publicly available or that are required to be delivered to us pursuant to the applicable lease, (iii) monitoring news reports regarding our tenants and their respective businesses, and (iv) monitoring the timeliness of lease payments.

Income taxes

We are organized and operate as a REIT pursuant to the Internal Revenue Code (the “Code”). Under the Code, a REIT that distributes at least 90% of its REIT taxable income to its stockholders annually (excluding net capital gains) and meets certain other conditions is not subject to federal income tax on its distributed taxable income, but could be subject to certain federal, foreign, state, and local taxes. We distribute 100% of our taxable income annually; therefore, a provision for federal income taxes is not required. In addition to our REIT returns, we file federal, foreign, state, and local tax returns for our subsidiaries. We file with jurisdictions located in the U.S., Canada, India, China, and other international locations. Our tax returns are subject to routine examination in various jurisdictions for the 2013 through 2017 calendar years.

On December 22, 2017, the U.S. President signed a tax reform bill commonly referred to as the Tax Cuts and Jobs Act into law. The tax reform legislation is a far-reaching and complex revision to the U.S. federal income tax laws with disparate and, in some cases, countervailing effects on different categories of taxpayers and industries. The legislation is unclear in many respects and will require clarification and interpretation by the U.S. Treasury Department and the IRS in the form of amendments, technical corrections, regulations, or other forms of guidance, any of which could

either lessen or increase the effect of the legislation on us or our stockholders. The outcome of this legislation on state and local tax authorities, and the response by such authorities, is also unclear. We continue to monitor changes made to, or as a result of, the federal tax law and its potential effect on us.

Loan fees

Fees incurred in obtaining long-term financing are capitalized and classified with the corresponding debt instrument appearing on our consolidated balance sheet. Loan fees related to our unsecured senior line of credit are classified within other assets. Capitalized amounts are amortized over the term of the related loan, and the amortization is classified in interest expense in our consolidated statements of operations.

F-18

2. Summary of significant accounting policies (continued)

Interest rate hedge agreements

We do not use derivatives for trading or speculative purposes, and currently all of our derivatives are designated as hedges. We are exposed to certain risks arising from both our business operations and economic conditions. We principally manage our exposures to a wide variety of business and operational risks through management of our core business activities. We manage economic risks, including interest rate, liquidity, and credit risk, primarily by managing the amount, sources, and duration of our debt funding and by entering into interest rate hedge agreements. Specifically, we enter into interest rate hedge agreements to manage exposures that arise from business activities that result in the payment of future known and uncertain cash amounts, the values of which are determined by interest rates. Our interest rate hedge agreements are used to manage differences in the amount, timing, and duration of our known or expected cash payments principally related to our borrowings based on LIBOR. Our objectives in using interest rate hedge agreements are to add stability to interest expense and to manage our exposure to interest rate movements in accordance with our interest rate risk management strategy. All of our interest rate hedge agreements are designated as cash flow hedges. Interest rate hedge agreements designated as cash flow hedges involve the receipt of variable-rate amounts from a counterparty in exchange for the Company's making fixed-rate payments over the life of the interest rate hedge agreements without exchange of the underlying notional amount of interest rate hedge agreements.

We utilize interest rate hedge agreements to hedge a portion of our exposure to variable interest rates primarily associated with borrowings based on LIBOR. We classify our interest rate hedge agreements as either assets or liabilities on the balance sheet at fair value. The accounting for changes in fair value (i.e., gains or losses) of a derivative instrument depends on whether it has been designated and qualifies as part of a hedging relationship and, further, on the type of hedging relationship. For those derivative instruments that are designated and qualify as hedging instruments, a company must designate the hedging instrument, based on the hedged exposure, as a fair value hedge, a cash flow hedge, or a hedge of a net investment in a foreign operation. Our interest rate hedge agreements are considered cash flow hedges because they are designated and qualify as hedges of the exposure to variability in expected future cash flows. Hedge accounting generally provides for the matching of the timing of gain or loss recognition on the hedging instrument with the recognition of the changes in the earnings effect of the hedged transactions in a cash flow hedge.

All of our interest rate hedge agreements meet the criteria to be deemed "highly effective" in reducing our exposure to variable interest rates. We formally document all relationships between interest rate hedge agreements and hedged items, including the method for evaluating effectiveness and the risk strategy. We make a quantitative assessment at the inception of each interest rate hedge agreement, and qualitatively on an ongoing basis, to determine whether these instruments are "highly effective" in offsetting changes in cash flows associated with the hedged items. The entire change in the fair value of our highly effective interest rate hedge agreements that are designated and that qualify as cash flow hedges is recognized in accumulated other comprehensive income. Amounts classified in accumulated other comprehensive income will be reclassified into earnings in the period during which the hedged transactions affect earnings. While we intend to continue to meet the conditions for such hedge accounting, if our interest rate hedges did not qualify as "highly effective," the changes in the fair values of the derivatives used as hedges would be reflected in earnings.

The fair value of each interest rate hedge agreement is determined using widely accepted valuation techniques, including discounted cash flow analyses on the expected cash flows of each derivative. These analyses reflect the contractual terms of the derivatives, including the period to maturity, and use observable market-based inputs, including interest rate curves and implied volatilities. The fair values of our interest rate hedge agreements are determined using the market-standard methodology of netting the discounted future fixed-cash payments and the

discounted expected variable-cash receipts. The variable-cash receipts are based on an expectation of future interest rates (forward curves) derived from observable market interest rate curves. The fair value calculation also includes an amount for risk of non-performance of our counterparties using “significant unobservable inputs,” such as estimates of current credit spreads, to evaluate the likelihood of default, which we have determined to be insignificant to the overall fair value of our interest rate hedge agreements.

Employee and non-employee share-based payments

We have implemented an entity-wide accounting policy to account for forfeitures of share-based awards granted to employees and non-employees when they occur. As a result of this policy, we recognize expense on share-based awards with time-based vesting conditions without reductions for an estimate of forfeitures. This accounting policy only applies to service condition awards. For performance condition awards, we continue to assess the probability that such conditions will be achieved. Expenses related to forfeited awards are reversed as forfeitures occur. In addition, all nonforfeitable dividends paid on share-based payment awards are initially recognized in retained earnings and reclassified to compensation cost only if forfeitures of the underlying awards occur.

2. Summary of significant accounting policies (continued)

On July 1, 2018, we early adopted an ASU on share-based payments to non-employees. Under the new ASU, our non-employee share-based awards are measured on the grant date and recognized over the required service period of the recipient, in the same way as are share-based awards granted to employees. Under the previous accounting standards, non-employee share-based awards were remeasured to their fair value quarterly. The adoption of this ASU did not have a material effect on our consolidated financial statements.

Recent accounting pronouncements

Lease accounting

In February 2016, the FASB issued an ASU that sets out the principles for the recognition, measurement, presentation, and disclosure of leases for both parties to a lease agreement (i.e., lessees and lessors). Subsequently, the FASB issued additional ASUs that further clarified the original ASU. The ASUs became effective for us on January 1, 2019. Upon adoption of the lease ASUs on January 1, 2019, we elected the following practical expedients provided by these ASUs and discussed in greater detail within this “Lease Accounting” section of the “Recent Accounting Pronouncements.” The summary of the elected practical expedients is provided below:

- Package of practical expedients – requires us not to reevaluate our existing or expired leases as of January 1, 2019, under the new lease accounting ASUs.

- Optional transition method practical expedient – requires us to apply the new lease ASUs prospectively from the adoption date of January 1, 2019.

- Land easements practical expedient – requires us to account for land easements existing as of January 1, 2019, under the accounting standards applied to them prior to January 1, 2019.

- Single component practical expedient – requires us to account for lease and nonlease components associated with that lease under the new lease ASUs, if certain criteria are met.

- Short-term leases practical expedient – for our operating leases with a term of 12 months or less in which we are the lessee, this expedient requires us not to record on our balance sheets related lease liabilities and right-of-use assets.

Overview related to both lessee and lessor accounting

The lease ASUs set new criteria for determining the classification of finance leases for lessees and sales-type leases for lessors. The criteria to determine whether a lease should be accounted for as a finance (sales-type) lease include the following: (i) ownership is transferred from lessor to lessee by the end of the lease term, (ii) an option to purchase is reasonably certain to be exercised, (iii) the lease term is for the major part of the underlying asset’s remaining economic life, (iv) the present value of lease payments equals or exceeds substantially all of the fair value of the underlying asset, and (v) the underlying asset is specialized and is expected to have no alternative use at the end of the lease term. If any of these criteria is met, a lease is classified as a finance lease by the lessee and as a sales-type lease by the lessor. If none of the criteria are met, a lease is classified as an operating lease by the lessee, but may still qualify as a direct financing lease or an operating lease for the lessor. The existence of a residual value guarantee from an unrelated third party other than the lessee may qualify the lease as a direct financing lease by the lessor. Otherwise, the lease is classified as an operating lease by the lessor.

The new lease ASUs require the use of the modified retrospective transition method. On January 1, 2019, we adopted the new lease ASUs electing the package of practical expedients and the optional transition method permitting January 1, 2019, to be our initial application date. Our election of the package of practical expedients and the optional transition method allowed us not to reassess:

Whether any expired or existing contracts as of January 1, 2019, were leases or contained leases.

This practical expedient is primarily applicable to entities that have contracts containing embedded leases. As of December 31, 2018, we had no such contracts, therefore this practical expedient had no effect on us.

The lease classification for any leases expired or existing as of January 1, 2019.

Our election of the package of practical expedients required us not to revisit the classification of our leases existing as of January 1, 2019. For example, all of our leases that were classified as operating leases in

- accordance with the lease accounting standards in effect prior to January 1, 2019, continue to be classified as operating leases after adoption of the new lease ASUs.

2. Summary of significant accounting policies (continued)

Recent accounting pronouncements (continued)

Lease accounting (continued)

Previously capitalized initial direct costs for any leases existing as of January 1, 2019.

Our election of the package of practical expedients required us not to reassess whether initial direct leasing costs capitalized prior to the adoption of the new lease ASUs in connection with the leases that commenced prior to January 1, 2019, qualify for capitalization under the new lease ASUs. We will continue to amortize these costs as we did under the lease accounting standards in effect prior to January 1, 2019.

We applied the package of practical expedients consistently to all leases (i.e., in which we are a lessee or a lessor) that commenced before January 1, 2019. The election of this package permits us to “run off” our leases that commenced before January 1, 2019, for the remainder of their lease terms and to apply the new lease ASUs to leases commencing or modified after January 1, 2019. On January 1, 2019, we recognized a cumulative adjustment, as required by the new lease ASU, to retained earnings aggregating \$3.5 million to write off lease origination costs that were capitalized in connection with leases that were executed but had not commenced before January 1, 2019. These costs were capitalized in accordance with the lease accounting standards existing prior to January 1, 2019, and would not qualify for capitalization under the new lease ASUs.

On January 1, 2019, we recognized a lease liability aggregating \$218.7 million for all operating leases in which we are a lessee based on the present value of the minimum rental payments remaining as of the initial application date of January 1, 2019. On January 1, 2019, we also recognized a right-of-use asset primarily corresponding to the lease liability. See detailed discussion in the “Lessee Accounting” subsection below.

In addition, we had certain land easement contracts in effect as of January 1, 2019. Pursuant to our election of the package of practical expedients described above, no reassessment of these contracts was required. Consequently, the adoption of the new lease ASUs had no effect on our accounting of land easements existing on January 1, 2019.

Lessor accounting

We recognized revenue from our lease agreements aggregating \$1.3 billion for the year ended December 31, 2018. This revenue consisted primarily of rental revenues and tenant recoveries for the year ended December 31, 2018, aggregating \$963.6 million and \$304.1 million, respectively.

Prior to January 1, 2019, we recognized rental revenue from our operating leases on a straight-line basis over the respective lease terms. We commenced recognition of rental revenue at the date the property is ready for its intended use and the tenant takes possession of, or controls the physical use of, the property. We recognized rental revenue from direct financing leases over the lease term by using the effective interest rate method. Refer to Note 8 – “Other assets” to these consolidated financial statements for further details on our direct financing leases.

Prior to January 1, 2019, we considered tenant recoveries related to payments of real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses as lease components. We recognized these tenant recoveries as revenue when services were rendered in an amount equal to the related operating expenses incurred that were recoverable under the terms of the applicable lease.

Effective January 1, 2019

Under the new lease ASUs, each lease agreement is evaluated to identify the lease and nonlease components at lease inception. The total consideration in the lease agreement is allocated to the lease and nonlease components based on their relative stand-alone selling prices. The new lease ASUs govern the recognition of revenue for lease components, and revenue related to nonlease components is subject to the revenue recognition ASU. Tenant recoveries for utilities, repairs and maintenance, and common area expenses are considered nonlease components. If a lessee makes payments for taxes and insurance directly to a third party on behalf of a lessor, lessors are required to exclude them from variable payments and from recognition in the lessors' income statements. Otherwise, tenant recoveries for taxes and insurance are classified as additional lease revenue recognized by the lessor on a gross basis in their income statements.

F-21

2. Summary of significant accounting policies (continued)

Recent accounting pronouncements (continued)

Lease accounting (continued)

On January 1, 2019, we elected the single component practical expedient, which requires us, by class of underlying asset, not to allocate the total consideration to the lease and nonlease components based on their relative stand-alone selling prices. This single component practical expedient requires us to account for the lease component and nonlease component(s) associated with that lease as a single component if (i) the timing and pattern of transfer of the lease component and the nonlease component(s) associated with it are the same and (ii) the lease component would be classified as an operating lease if it were accounted for separately. If we determine that the lease component is the predominant component, we account for the single component as an operating lease in accordance with the new lease ASUs. Conversely, we are required to account for the combined component under the new revenue recognition ASU if we determine that the nonlease component is the predominant component. As a result of this assessment, rental revenues and tenant recoveries from the lease of real estate assets that qualify for this expedient are accounted for as a single component under the new lease ASUs, with tenant recoveries primarily as variable consideration. Tenant recoveries that do not qualify for the single component practical expedient and are considered nonlease components are accounted for under the revenue recognition ASUs. Our operating leases commencing or modified after January 1, 2019, for which we are the lessor are expected to qualify for the single component practical expedient accounting under the new lease ASUs. Refer to “Recognition of Revenue Arising from Contracts with Customers” subsection within the “Revenue Recognition” section in Note 2 – “Summary of Significant Accounting Policies,” for the detail of our consolidated revenues for the year ended December 31, 2018, by lease revenues that would meet the single component practical expedient criteria and qualify to be accounted for under the new lease ASUs, and revenues subject to other accounting standards, including the ASU on recognition of revenue arising from contracts with customers.

Costs to execute leases

The new lease ASUs require that lessors and lessees capitalize, as initial direct costs, only incremental costs of a lease that would not have been incurred if the lease had not been obtained. Effective January 1, 2019, costs that we incur to negotiate or arrange a lease regardless of its outcome, such as fixed employee compensation, tax, or legal advice to negotiate lease terms, and costs related to advertising or soliciting potential tenants will be expensed as incurred.

We estimate that approximately \$5 million to \$9 million of initial direct costs that were capitalized in 2018 would have been expensed if the new lease ASUs that are effective on January 1, 2019 had been in effect during 2018. Future expenses as a result of the change in the accounting for initial direct costs will depend on the future events that are not yet known; therefore, the ultimate impact on initial direct leasing costs from the adoption of the lease ASUs might differ from our estimate.

Under the package of practical expedients that we elected on January 1, 2019, we were not required to reassess whether initial direct leasing costs capitalized prior to the adoption of the new lease ASUs in connection with the leases that commenced prior to January 1, 2019, qualify for capitalization under the new lease ASUs. Therefore, we continue to amortize these initial direct leasing costs.

Lessee accounting

Under the new lease ASUs, lessees are required to apply a dual approach by classifying leases as either finance or operating leases based on the principle of whether the lease is effectively a financed purchase of the leased asset by

the lessee. This classification will determine whether the lease expense is recognized based on an effective interest method or on a straight-line basis over the term of the lease, which corresponds to a similar evaluation performed by lessors. In addition to this classification, a lessee is also required to recognize a right-of-use asset and a lease liability for all leases regardless of their classification, whereas a lessor is not required to recognize a right-of-use asset and a lease liability for any operating leases.

On January 1, 2019, we recognized a lease liability and a corresponding right-of-use asset aggregating \$218.7 million representing our obligation for remaining future rental payments related to our operating leases existing as of January 1, 2019, for which we are the lessee. This liability was calculated as the present value of the lease payments aggregating \$590.3 million remaining as of the initial application date of January 1, 2019, under our ground and office lease agreements for which we are the lessee. The present value of the remaining lease payments was calculated for each operating lease using each respective remaining lease term and a corresponding estimated incremental borrowing rate, which is the interest rate that we estimate we would have to pay to borrow on a collateralized basis over a similar term for an amount equal to the lease payments.

2. Summary of significant accounting policies (continued)

Recent accounting pronouncements (continued)

Lease accounting (continued)

Under the package of practical expedients that we elected upon adoption of the new lease ASUs, all of our operating leases existing as of January 1, 2019, for which we are the lessee, continue to be classified as operating leases subsequent to the adoption of the new lease ASUs. We have also evaluated the effect of the new lease ASUs on the calculation of our debt covenants as of December 31, 2018, and noted no significant effect on our calculation of our debt covenants.

Allowance for credit losses

In June 2016, the FASB issued an ASU (further clarified with subsequently issued updates) that changes the impairment model for most financial instruments by requiring companies to recognize an allowance for expected losses, rather than incurred losses as required currently by the other-than-temporary impairment model. The ASU will apply to most financial assets measured at amortized cost and certain other instruments, including trade and other receivables, loans, held-to-maturity debt securities, net investments in leases arising from sales-type and direct financing leases, and off-balance-sheet credit exposures (i.e., loan commitments). The ASU is effective for reporting periods beginning after December 15, 2019, with early adoption permitted, and will be applied as a cumulative adjustment to retained earnings as of the effective date. We are currently assessing the potential effect the adoption of this ASU will have on our consolidated financial statements.

Fair value measurement disclosures

In August 2018, the FASB issued an ASU that modifies certain fair value disclosure requirements, including those related to investments measured at NAV as a practical expedient to estimate their fair value. Entities that use this practical expedient will be required to disclose the timing of liquidation of an investee's assets and the date when redemption restrictions will lapse, but only if the investee has communicated this information to the entity or announced it publicly. If the timing is unknown, entities will be required to disclose that fact. We early adopted this guidance effective on July 1, 2018. The adoption of this ASU had no effect on our consolidated financial statements.

Joint venture distributions

On January 1, 2018, we adopted an ASU that provides guidance on the classification in the statement of cash flows of cash distributions received from equity method investments, including unconsolidated joint ventures. The ASU provides two approaches to determine the classification of cash distributions received from equity method investees: (i) the "cumulative earnings" approach, under which distributions up to the amount of cumulative equity in earnings recognized are classified as cash inflows from operating activities, and those in excess of that amount are classified as cash inflows from investing activities, and (ii) the "nature of the distribution" approach, under which distributions are classified based on the nature of the underlying activity that generated cash distributions. An entity could elect either the "cumulative earnings" or the "nature of the distribution" approach. If the "nature of the distribution" approach is elected and the entity lacks the information necessary to apply it in the future, that entity will have to apply the "cumulative earnings" approach as an accounting change on a retrospective basis. We adopted this ASU using the "nature of the distribution" approach and applied it retrospectively, as required by the ASU. We previously presented distributions from our equity method investees by utilizing the "nature of the distribution" approach; therefore, the adoption of this ASU had no effect on our consolidated financial statements.

Restricted cash

On January 1, 2018, we adopted an ASU that requires entities to include restricted cash with cash and cash equivalents when reconciling the beginning of period and end of period total amounts shown in the statement of cash flows. The ASU requires disclosure of a reconciliation between the balance sheet and the statement of cash flows when the balance sheet includes more than one line item for cash, cash equivalents, restricted cash, and restricted cash equivalents. An entity with material restricted cash and restricted cash equivalents balances is required to disclose the nature of the restrictions. The ASU required a retrospective application to all periods presented. Subsequent to the adoption of this ASU, prior-period amounts have been reclassified to conform to the current-period presentation, resulting in restricted cash balances that are included with cash and cash equivalents balances as of the beginning and ending of each period presented in our consolidated statements of cash flows. Separate line items reconciling changes in restricted cash balances to the changes in cash and cash equivalents are no longer presented within the operating, investing, and financing sections of our consolidated statements of cash flows.

F-23

2. Summary of significant accounting policies (continued)

Recent accounting pronouncements (continued)

Hedge accounting

On January 1, 2018, we adopted an ASU that simplifies hedge accounting. The ASU requires prospective adoption for hedges in effect at the date of adoption and is effective for reporting periods beginning after December 15, 2018, with early adoption permitted. The purpose of this ASU is to better align a company's financial reporting for hedging activities with the economic objectives of those activities. For cash flow hedges that are highly effective, the new standard requires all changes (effective and ineffective components) in the fair value of the hedging instrument to be recorded in accumulated other comprehensive income within total equity and to be reclassified into earnings only when the hedged item affects earnings.

Prior to the adoption of this ASU, a quantitative assessment was made on an ongoing basis to determine whether a hedge is highly effective in offsetting changes in cash flows associated with the hedged item. Previously applied hedge accounting guidance required hedge ineffectiveness to be recognized in earnings. Under the new ASU, an entity is still required to perform an initial quantitative test. However, the new standard allows an entity to elect to subsequently perform only a qualitative assessment, unless facts and circumstances change. We made this election upon adoption of the new ASU on January 1, 2018.

We utilize interest rate hedge agreements to hedge a portion of our exposure to variable interest rates primarily associated with borrowings based on LIBOR. As a result, all of our interest rate hedge agreements are designated as cash flow hedges. For cash flow hedges in existence at the date of adoption, an entity is required to apply a cumulative-effect adjustment for previously recognized ineffectiveness from retained earnings to accumulated other comprehensive income as of the beginning of the fiscal year when an entity adopts the amendments in this ASU.

We performed an analysis of all our cash flow hedges existing on January 1, 2018, and determined that all hedges had been highly effective since their inception; therefore, no cumulative-effect adjustment of previously recognized ineffectiveness from retained earnings to accumulated other comprehensive income was needed. The adoption of this ASU had no effect on our consolidated financial statements.

Additionally, in October 2018, the FASB issued an ASU that expands the list of U.S. benchmark interest rates permitted in the application of hedge accounting to include the overnight index swap rate based on the Secured Overnight Financing Rate ("SOFR"). The ASU became effective for us and was adopted on January 1, 2019. We have no hedges involving SOFR, therefore, the adoption of this ASU had no effect on our consolidated financial statements.

3. Investments in real estate

Our consolidated investments in real estate, including real estate assets held for sale as described in Note 19, consisted of the following as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Land (related to rental properties)	\$ 1,625,349	\$ 1,312,072
Buildings and building improvements	9,986,635	9,000,626
Other improvements	976,627	780,117
Rental properties	12,588,611	11,092,815
Development and redevelopment of new Class A properties:		
Development and redevelopment projects (under construction, marketing, or pre-construction)	1,460,814	955,218
Future development projects	98,802	96,112
Gross investments in real estate	14,148,227	12,144,145
Less: accumulated depreciation	(2,263,797)	(1,875,810)
Net investments in real estate – North America	11,884,430	10,268,335
Net investments in real estate – Asia	29,263	29,684
Investments in real estate	\$ 11,913,693	\$ 10,298,019

F-25

3. Investments in real estate (continued)

Acquisitions

Our real estate asset acquisitions during the year ended December 31, 2018, consisted of the following (dollars in thousands):

Three Months Ended	Number of Properties	Square Footage		Operating With Value-Creation	Operating	Purchase Price
		Active Development	Future Development			
San Francisco	6	642,312	—	148,951	—	\$ 167,950
San Diego	4	—	50,000	—	316,531	148,650
Other	1	58,186	—	21,745	—	22,800
Three months ended March 31, 2018	11	700,498	50,000	170,696	316,531	339,400
Greater Boston	1	—	300,000	200,431	—	87,250
Seattle	1	—	—	197,136	—	95,000
Maryland	8	—	—	39,505	376,106	146,500
Other	1	—	493,000	8,715	—	77,105
Three months ended June 30, 2018	11	—	793,000	445,787	376,106	405,855
New York City	1	—	230,000	349,947	—	203,000
Seattle	—	—	217,000	—	—	33,500
Other	1	—	—	—	45,626	20,500
Three months ended September 30, 2018	2	—	447,000	349,947	45,626	257,000
New York City	1	140,098	—	36,661	—	75,000
San Diego	2	—	378,355	269,048	—	80,000
Three months ended December 31, 2018	3	140,098	378,355	305,709	—	155,000
Total acquisitions	27	840,596	1,668,355	1,272,139	738,263	\$ 1,157,255

We evaluated each acquisition to determine whether the integrated set of assets and activities acquired met the definition of a business. Acquisitions that do not meet the definition of a business are accounted for as asset acquisitions. An integrated set of assets and activities does not qualify as a business if substantially all of the fair value of the gross assets is concentrated in either a single identifiable asset or a group of similar identifiable assets, or if the acquired assets do not include a substantive process.

We evaluated each of the completed acquisitions and determined that substantially all of the fair value related to each acquisition is concentrated in a single identifiable asset or a group of similar identifiable assets, or is a land parcel with no operations. Accordingly, each transaction did not meet the definition of a business and consequently was accounted for as an asset acquisition. In each of these transactions, we allocated the total consideration for each acquisition to the individual assets and liabilities acquired on a relative fair value basis.

3. Investments in real estate (continued)

Acquired below-market leases

The balances of acquired below-market tenant leases, and related accumulated amortization, classified in accounts payable, accrued expenses, and tenant security deposits in our consolidated balance sheets as of December 31, 2018 and 2017, were as follows (in thousands):

	December 31,	
	2018	2017
Acquired below-market leases	\$236,026	\$167,146
Accumulated amortization	(101,218)	(78,962)
	\$134,808	\$88,184

For the years ended December 31, 2018, 2017, and 2016, we recognized approximately \$22.3 million, \$19.3 million, and \$6.0 million, respectively, related to the amortization of acquired below-market leases in rental revenues.

The amounts in the table above excludes the balances of acquired below-market ground leases, and related accumulated amortization, classified in other assets in our consolidated balance sheets as of December 31, 2018 and 2017. Refer to Note 8 – “Other assets” to our consolidated financial statements.

The weighted-average amortization period of the value of acquired below-market leases was approximately 4.3 years, and the estimated annual amortization of the value of acquired below-market leases as of December 31, 2018, is as follows (in thousands):

Year	Amount
2019	\$24,079
2020	21,516
2021	18,133
2022	15,070
2023	14,044
Thereafter	41,966
Total	\$134,808

Acquired in-place leases

The balances of acquired in-place leases, and related accumulated amortization, are classified in other assets in our consolidated balance sheets. As of December 31, 2018 and 2017, these amounts were as follows (in thousands):

	December 31,	
	2018	2017
Acquired in-place leases	\$229,095	\$126,859
Accumulated amortization	(96,189)	(61,880)
	\$132,906	\$64,979

Amortization for these intangible assets, classified in depreciation and amortization expense in our consolidated statements of operations, was approximately \$34.3 million, \$19.6 million, and \$6.8 million for the years ended December 31, 2018, 2017, and 2016, respectively. The weighted-average amortization period of the value of acquired in-place leases was approximately 6.9 years, and the estimated annual amortization of the value of acquired in-place leases as of December 31, 2018, is as follows (in thousands):

Year	Amount
2019	\$30,218

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2020	22,878
2021	19,408
2022	15,970
2023	12,329
Thereafter	32,103
Total	\$132,906

F-27

3. Investments in real estate (continued)

Minimum lease payments

Minimum lease payments to be received under the terms of the operating lease agreements, excluding expense reimbursements, in effect as of December 31, 2018, are outlined in the table below (in thousands):

Year	Amount
2019	\$906,201
2020	929,087
2021	905,005
2022	864,100
2023	801,190
Thereafter	5,378,805
Total	\$9,784,388

Minimum lease payments to be received under our direct financing lease agreement are outlined in Note 8 – “Other assets” to our consolidated financial statements.

Sales of real estate assets and impairment charges

During the three months ended December 31, 2018, we completed the sale of a property at 1300 Quince Orchard Boulevard located in our Gaithersburg submarket of Maryland for a sale price of \$14.4 million and recognized a gain of \$8.7 million.

During the three months ended June 30, 2018, we classified a land parcel located in Northern Virginia as held for sale. As a result, we recognized an impairment charge of \$6.3 million to lower the carrying amount to the estimated fair value less selling costs during the three months ended June 30, 2018. We completed the sale of the land parcel in July 2018 for a sales price of \$6.0 million with no gain or loss.

In January 2017, we completed the sale of a vacant property at 6146 Nancy Ridge Drive located in our Sorrento Mesa submarket of San Diego for a sale price of \$3.0 million and recognized a gain of \$270 thousand.

In June 2017, we recognized an impairment charge of \$203 thousand on a 20,580 RSF property located in a non-cluster market. We completed the sale of this property in July 2017 for a gross sales price of \$800 thousand with no gain or loss.

4. Consolidated and unconsolidated real estate joint ventures

From time to time, we enter into joint venture agreements through which we own a partial interest in real estate entities that own, develop, and operate real estate properties. As of December 31, 2018, we had the following properties that were held by our real estate joint ventures:

Property	Market	Submarket	Our Ownership Interest	RSF
Consolidated joint ventures: ⁽¹⁾				
225 Binney Street	Greater Boston	Cambridge	30.0 %	305,212
409 and 499 Illinois Street	San Francisco	Mission Bay/SoMa	60.0 %	455,069
1500 Owens Street	San Francisco	Mission Bay/SoMa	50.1 %	158,267
Campus Pointe by Alexandria ⁽²⁾	San Diego	University Town Center	55.0 %	798,799
9625 Towne Centre Drive	San Diego	University Town Center	50.1 %	163,648
Unconsolidated joint ventures: ⁽¹⁾				
Menlo Gateway	San Francisco	Greater Stanford	38.5 % ⁽³⁾	772,983
1401/1413 Research Boulevard	Maryland	Rockville	65.0 % ⁽⁴⁾	(5)
704 Quince Orchard Road	Maryland	Gaithersburg	56.8 % ⁽⁴⁾	79,931
1655 and 1725 Third Street	San Francisco	Mission Bay/SoMa	10.0 %	593,765

In addition to the consolidated real estate joint ventures listed, various partners hold insignificant noncontrolling (1) interests in four other joint ventures in North America, and we hold an insignificant noncontrolling interest in one unconsolidated real estate joint venture in North America.

(2) Includes only 10290 and 10300 Campus Point Drive and 4110 Campus Point Court in our University Town Center submarket. Excludes 10260 Campus Point Drive and 4161 Campus Point Court.

(3) As of December 31, 2018, we have an ownership interest in Menlo Gateway of 38.5% and expect our ownership to increase to 49% through future funding of construction costs in 2019.

(4) Represents our ownership interest; our voting interest is limited to 50%.

(5) Joint venture with a distinguished retail real estate developer for the development of an approximate 90,000 RSF retail shopping center.

Our consolidation policy is fully described under the “Consolidation” section within Note 2 – “Summary of Significant Accounting Policies” to our consolidated financial statements. Consolidation accounting is highly technical, but its framework is primarily based on the controlling financial interests and benefits of the joint ventures. We generally consolidate a joint venture that is a legal entity that we control (i.e., we have the power to direct the activities of the joint venture that most significantly affect its economic performance) through contractual rights, regardless of our ownership interest, and where we determine that we have benefits through the allocation of earnings or losses and fees paid to us that could be significant to the joint venture (the “VIE model”). We also generally consolidate joint ventures when we have a controlling financial interest through voting rights and where our voting interest is greater than 50% (the “voting model”). Voting interest differs from ownership interest for some joint ventures. We account for joint ventures that do not meet the consolidation criteria under the equity method of accounting by recognizing our share of income and losses. The table below shows our categorization of our existing significant joint ventures under the consolidation framework:

Property	Consolidation Model	Voting Interest	Consolidation Analysis	Conclusion
225 Binney Street 409 and 499 Illinois Street	VIE model	Not applicable under VIE model	We have control and benefits that can be significant to the joint venture; therefore, we are the primary beneficiary of each VIE	Consolidated

1500 Owens
Street
Campus Pointe
by Alexandria
9625 Towne
Centre Drive
Menlo Gateway
1401/1413
Research
Boulevard
704 Quince
Orchard Road
1655 and 1725
Third Street

Voting model

Does not exceed
50%

We do not control the joint venture and are
therefore not the primary beneficiary

Our voting interest is 50% or less

Equity
method of
accounting

4. Consolidated and unconsolidated real estate joint ventures (continued)

Consolidated VIEs' balance sheet information

The table below aggregates the balance sheet information of our consolidated VIEs as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Investments in real estate	\$1,108,385	\$1,047,472
Cash and cash equivalents	42,178	41,112
Other assets	74,901	68,754
Total assets	\$1,225,464	\$1,157,338
Secured notes payable	\$—	\$—
Other liabilities	59,336	52,201
Total liabilities	59,336	52,201
Redeemable noncontrolling interests	874	—
Alexandria Real Estate Equities, Inc.'s share of equity	624,349	584,160
Noncontrolling interests' share of equity	540,905	520,977
Total liabilities and equity	\$1,225,464	\$1,157,338

In determining whether to aggregate the balance sheet information of our consolidated VIEs, we considered the similarity of each VIE, including the primary purpose of these entities to own, manage, operate, and lease real estate properties owned by the VIEs, and the similar nature of our involvement in each VIE as a managing member. Due to the similarity of the characteristics, we present the balance sheet information of these entities on an aggregated basis. For each of our consolidated VIEs, none of its assets have restrictions that limit their use to settle specific obligations of the VIE. There are no creditors or other partners of our consolidated VIEs that have recourse to our general credit. Our maximum exposure to our consolidated VIEs is limited to our variable interests in each VIE.

Unconsolidated real estate joint ventures

As of December 31, 2018 and 2017, our investments in unconsolidated real estate joint ventures accounted for under the equity method of accounting presented in our consolidated balance sheet consist of the following (in thousands):

Property	December	
	31, 2018	31, 2017
Menlo Gateway	\$186,504	\$78,070
1401/1413 Research Boulevard	8,197	7,308
360 Longwood Avenue	—	25,240
704 Quince Orchard Road	4,547	—
1655 and 1725 Third Street	34,917	—
Other	3,342	—
	\$237,507	\$110,618

Our maximum exposure to our unconsolidated VIEs is limited to our investment in each VIE.

4. Consolidated and unconsolidated real estate joint ventures (continued)

We had a 27.5% ownership interest in an unconsolidated real estate joint venture that owned a building aggregating 210,709 RSF, located in the Longwood Medical Area submarket of Greater Boston. In September 2018, we sold our partial interest in this unconsolidated real estate joint venture for a contractual sales price, net of debt repaid, of \$70.0 million, which represents a gross sales price of \$1,659 per RSF. We received proceeds of \$68.6 million, net of closing costs. We have elected as an accounting policy to reflect unconsolidated joint venture distributions in our consolidated statements of cash flows using the nature of the distribution approach. Accordingly, the net proceeds were classified as return of capital from unconsolidated real estate joint ventures within the investing activities section of our consolidated statements of cash flows for the year ended December 31, 2018. For the year ended December 31, 2018, in connection with the sale, we recognized a gain of \$35.7 million, net of closing costs and other liabilities of the joint venture, which is reflected in equity in earnings of unconsolidated real estate joint ventures.

In August 2018, our unconsolidated real estate joint venture at Menlo Gateway, located in our Greater Stanford submarket of San Francisco, refinanced the secured note payable related to Phase I of the project. The new \$145.0 million loan bears interest at a fixed rate of 4.15%, and the net proceeds were used to repay the outstanding balance of \$133.1 million of the previous secured note payable. For the year ended December 31, 2018, in connection with the refinancing, we recognized a gain on early extinguishment of debt of \$761 thousand related to our share of the write-off of unamortized premiums, which is reflected in equity in earnings of unconsolidated real estate joint ventures.

As of December 31, 2018, our unconsolidated real estate joint ventures have the following non-recourse secured loans that include the following key terms (dollars in thousands):

Unconsolidated Joint Venture	Our Share	Maturity Date	Stated Interest Rate	Interest Rate ⁽¹⁾	100% at Joint Venture Level	
					Debt Balance ⁽²⁾	Remaining Commitments
1401/1413 Research Boulevard	65.0%	5/17/20	L+2.50%	5.87%	\$20,181	\$ 7,435
1655 and 1725 Third Street	10.0%	6/29/21	L+3.70%	6.05%	168,366	206,634
704 Quince Orchard Road	56.8%	3/16/23	L+1.95%	4.66%	4,903	9,940
Menlo Gateway, Phase II	38.5%	5/1/35	4.53%	N/A	—	157,270
Menlo Gateway, Phase I	38.5%	8/10/35	4.15%	4.18%	144,338	N/A
					\$337,788	\$ 381,279

(1) Includes interest expense, amortization of loan fees, and amortization of premiums (discounts) as of December 31, 2018.

(2) Represents outstanding principal, net of unamortized deferred financing costs and premiums (discounts) as of December 31, 2018.

5. Deferred leasing costs

The following table summarizes our deferred leasing costs as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Deferred leasing costs	\$557,791	\$496,387
Accumulated amortization	(318,721)	(274,957)
Deferred leasing costs, net	\$239,070	\$221,430

6. Cash, cash equivalents, and restricted cash

Cash, cash equivalents, and restricted cash consisted of the following as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Cash and cash equivalents	\$234,181	\$254,381
Restricted cash:		
Funds held in trust under the terms of certain secured notes payable	22,681	12,301
Funds held in escrow related to construction projects and investing activities	10,558	4,546
Other	4,710	5,958
	37,949	22,805
Total	\$272,130	\$277,186

7. Investments

We hold investments in publicly traded companies and privately held entities primarily involved in the life science and technology industries. On January 1, 2018, we adopted a new ASU on financial instruments that prospectively changed how we recognize, measure, present, and disclose these investments.

Key differences between prior accounting standards and the new ASU

Prior to January 1, 2018:

Investments in publicly traded companies were presented at fair value in our consolidated balance sheet, with changes in fair value recognized in other comprehensive income classified in accumulated other comprehensive income within total equity.

Investments in privately held entities were generally accounted for under the cost method of accounting.

Gains or losses were recognized in net income upon the disposition of an investment.

Investments in privately held entities required accounting under the equity method unless our interest in the entity was deemed to be so minor that we had virtually no influence over the entity's operating and financial policies. Under the equity method of accounting, we recognized our investment initially at cost and adjusted the carrying amount of the investment to recognize our share of the earnings or losses of the investee subsequent to the date of our investment.

We had no investments accounted for under the equity method as of December 31, 2017.

Investments were evaluated for impairment, with other-than-temporary impairments recognized in net income.

Effective January 1, 2018:

Investments in publicly traded companies are presented at fair value in our consolidated balance sheet, with changes in fair value recognized in net income.

Investments in privately held entities without readily determinable fair values previously accounted for under the cost method are accounted for as follows:

Investments in privately held entities that report NAV are presented at fair value using NAV as a practical expedient, with changes in fair value recognized in net income. We use NAV reported by limited partnerships without adjustment, unless we are aware of information indicating that the NAV reported by a limited partnership does not accurately reflect the fair value of the investment at our reporting date.

Investments in privately held entities that do not report NAV are carried at cost, adjusted for observable price changes and impairments, with changes recognized in net income. These investments continue to be evaluated on the basis of a qualitative assessment for indicators of impairment by utilizing the same monitoring criteria described above and monitoring the presence of the following impairment indicators: (i) a significant deterioration in the earnings

performance, credit rating, asset quality, or business prospects of the investee; (ii) a significant adverse change in the regulatory, economic, or technological environment of the investee, (iii) a significant adverse change in the general market condition of either the geographical area or the industry in which the investee operates, (iv) significant concerns about the investee's ability to continue as a going concern. If such indicators are present, we are required to estimate the investment's fair value and immediately recognize an impairment loss, without consideration as to whether the impairment is other-than-temporary, in an amount equal to the investment's carrying value in excess of its estimated fair value.

F-32

7. Investments (continued)

On January 1, 2018, we recognized the following adjustments upon adoption of the new ASU:

For investments in publicly traded companies, reclassification of cumulative unrealized gains as of December 31, 2017, aggregating \$49.8 million, from accumulated other comprehensive income to retained earnings.

For investments in privately held entities without readily determinable fair values that were previously accounted for under the cost method:

Adjustment to investments for unrealized gains aggregating \$90.8 million related to investments in privately held entities that report NAV, representing the difference between fair value as of December 31, 2017, using NAV as a practical expedient and the carrying value of the investments as of December 31, 2017, with a corresponding adjustment to retained earnings.

No adjustment was required for investments in privately held entities that do not report NAV. The ASU requires a prospective transition approach for investments in privately held entities that do not report NAV. The FASB clarified that it would be difficult for entities to determine the last observable transaction price existing prior to the adoption of this ASU. Therefore, unlike our investments in privately held entities that report NAV that were adjusted to reflect fair values upon adoption of the new ASU, our investments in privately held entities that do not report NAV were not included in the cumulative adjustment recorded on January 1, 2018 to adjust fair values upon adoption. As such, any initial valuation adjustments made for investments in privately held entities that do not report NAV subsequent to January 1, 2018, as a result of future observable price changes will include recognition of unrealized gains or losses equal to the difference between the carrying basis of the investment and the observable price at the date of remeasurement.

Investments in privately held entities continue to require accounting under the equity method unless our interest in the entity is deemed to be so minor that we have virtually no influence over the entity's operating and financial policies.

Under the equity method of accounting, we initially recognize our investment at cost and adjust the carrying amount of the investment to recognize our share of the earnings or losses of the investee subsequent to the date of our investment. We had no investments accounted for under the equity method as of December 31, 2018.

We recognize unrealized gains and losses and realized gains and losses within investment income in our consolidated statements of operations. Unrealized gains and losses represent changes in fair value for investments in publicly traded companies, changes in NAV, as a practical expedient to estimate fair value, for investments in privately held entities that report NAV, and observable price changes on our investments in privately held entities that do not report NAV. Impairments are realized losses, which result in an adjusted cost, and represent charges to reduce the carrying values of investments in privately held entities that do not report NAV to their estimated fair value. Realized gains and losses represent the difference between proceeds received upon disposition of investments and their historical or adjusted cost.

The following tables summarize our investments as of December 31, 2018, and 2017 (in thousands):

	December 31, 2018		
	Cost	Adjustments	Carrying Amount
Investments at fair value:			
Publicly traded companies	\$121,121	\$ 62,884	\$184,005
Entities that report NAV	204,646	113,159	317,805
Entities that do not report NAV:			
Entities with observable price changes since January 1, 2018	39,421	64,112	103,533
Entities without observable price changes since January 1, 2018	286,921	—	286,921
Total investments	\$652,109	\$ 240,155	\$892,264

December 31, 2017

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	Cost	Adjustments	Total
Investments in available-for-sale equity securities	\$59,740	\$ 49,771	\$109,511
Investments in privately held entities without readily determinable fair values (cost method investments):			
Investments in privately held entities that report NAV	148,627	N/A	148,627
Investments in privately held entities that do not report NAV	265,116	N/A	265,116
Total investments	\$473,483	\$ 49,771	\$523,254

F-33

7. Investments (continued)

Adjustments recognized in investments in privately held entities that do not report NAV aggregating \$64.1 million as of December 31, 2018, consisted of upward adjustments representing unrealized gains of \$64.3 million and downward adjustments representing unrealized losses of \$200 thousand. During the year ended December 31, 2018, we also recognized an impairment charge of \$5.5 million primarily related to one investment in a privately held entity that does not report NAV.

For investments in privately held entities that do not report NAV, an observable price is a price observed in an orderly transaction for an identical or similar investment of the same issuer. Observable price changes result from, among other things, equity transactions for the same issuer executed during the reporting period, including subsequent equity offerings or other reported equity transactions related to the same issuer. For these transactions to be considered observable price changes, we evaluate whether these transactions have similar rights and obligations, including voting rights, distribution preferences, conversion rights, and other factors, to the investments we hold.

Investments in privately held entities that report NAV

Investments in privately held entities that report NAV consist primarily of investments in limited partnerships. We are committed to funding approximately \$248.3 million for all investments, primarily consisting of \$247.8 million related to investments in limited partnerships. Our funding commitments expire at various dates over the next 11 years, with a weighted-average expiration of 8.8 years.

These investments are not redeemable by us, but we normally receive distributions from these investments throughout their term. Our investments in privately held entities that report NAV generally have expected initial terms in excess of 10 years. The weighted-average remaining term during which these investments are expected to be liquidated was 7.0 years as of December 31, 2018.

Our investment income for the year ended December 31, 2018, consisted of the following (in thousands):

	Year Ended December 31, 2018		
	Unrealized Gains	Realized (Losses) Gains	Total
Investments at fair value, held at period end:			
Publicly traded companies	\$27,944	\$—	\$27,944
Entities that report NAV	22,389	—	22,389
Entities that do not report NAV, held at period end	64,112	(5,483)	58,629
Total investments at fair value, held at period end	114,445	(5,483)	108,962
Investment dispositions during the period:			
Recognized in the current period	—	27,801	27,801
Previously recognized gains	(14,811)	14,811	—
Total investment dispositions during the period	(14,811)	42,612	27,801
Investment income	\$99,634	\$37,129	\$136,763

During the year ended December 31, 2018, we recognized realized losses of \$5.5 million on our investments in entities that do not report NAV, held at period end, representing an impairment charge related to one investment in a privately held entity that does not report NAV.

During the year ended December 31, 2017, we recognized unrealized gains of \$24.4 million on our equity securities classified as available-for-sale as of December 31, 2017. These unrealized gains were recognized in our other comprehensive income and classified in accumulated other comprehensive income within total equity, in accordance with the accounting standards in effect prior to January 1, 2018.

F-34

7. Investments (continued)

In addition, we recognized investment income related to gains recognized in net income upon the sale of investments totaling \$1.3 million and \$17.1 million for the years ended December 31, 2017 and 2016, respectively, in accordance with the accounting standards in effect prior to January 1, 2018, as further described above. These gains are classified within other income in our consolidated statements of operations for 2017 and 2016. The required prospective adoption of the new financial instruments ASU on January 1, 2018 impacted the comparability of our 2018 consolidated financial statements to our 2017 and 2016 consolidated financial statements.

8. Other assets

The following table summarizes the components of other assets as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Acquired below-market ground leases	\$17,434	\$12,684
Acquired in-place leases	132,906	64,979
Deferred compensation plan	19,238	15,534
Deferred financing costs – \$2.2 billion unsecured senior line of credit	16,060	10,525
Deposits	12,974	10,576
Furniture, fixtures, and equipment	14,787	11,070
Interest rate hedge assets	2,606	5,260
Net investment in direct financing lease	39,149	38,382
Notes receivable	528	614
Prepaid expenses	13,690	10,972
Property, plant, and equipment	81,024	32,073
Other assets	19,861	15,784
Total	\$370,257	\$228,453

The components of our net investment in direct financing lease as of December 31, 2018 and 2017, are summarized in the table below (in thousands):

	December 31,	
	2018	2017
Gross investment in direct financing lease	\$262,111	\$263,719
Less: unearned income	(222,962)	(225,337)
Net investment in direct financing lease	\$39,149	\$38,382

Future minimum lease payments to be received under our direct financing lease as of December 31, 2018, are as follows (in thousands):

Year	Total
2019	\$1,655
2020	1,705
2021	1,756
2022	1,809
2023	1,863
Thereafter	253,323
Total	\$262,111

9. Fair value measurements

We provide fair value information about all financial instruments for which it is practicable to estimate fair value. We measure and disclose the estimated fair value of financial assets and liabilities by utilizing a fair value hierarchy that distinguishes between data obtained from sources independent of the reporting entity and the reporting entity's own assumptions about market participant assumptions. This hierarchy consists of three broad levels, as follows: (i) quoted prices in active markets for identical assets or liabilities (Level 1), (ii) significant other observable inputs (Level 2), and (iii) significant unobservable inputs (Level 3). Significant other observable inputs can include quoted prices for similar assets or liabilities in active markets, as well as inputs that are observable for the asset or liability, such as interest rates, foreign exchange rates, and yield curves. Significant unobservable inputs are typically based on an entity's own assumptions, since there is little, if any, related market activity. In instances in which the determination of the fair value measurement is based on inputs from different levels of the fair value hierarchy, the level in the fair value hierarchy within which the entire fair value measurement falls is based on the lowest level of input that is significant to the fair value measurement in its entirety. Our assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment and considers factors specific to the asset or liability. There were no transfers between the levels in the fair value hierarchy during the years ended December 31, 2018 and 2017.

The following tables set forth the assets and liabilities that we measure at fair value on a recurring basis by level within the fair value hierarchy as of December 31, 2018 and 2017 (in thousands):

Description	Total	December 31, 2018		
		Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Investments in publicly traded companies	\$184,005	\$184,005	\$ —	\$ —
Interest rate hedge agreements	\$2,606	\$—	\$ 2,606	\$ —
Liabilities:				
Interest rate hedge agreements	\$768	\$—	\$ 768	\$ —
Description	Total	December 31, 2017		
		Quoted Prices for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Assets:				
Investments in available-for-sale equity securities	\$109,511	\$109,511	\$ —	\$ —
Interest rate hedge agreements	\$5,260	\$—	\$ 5,260	\$ —
Liabilities:				
Interest rate hedge agreements	\$103	\$—	\$ 103	\$ —

Our investments in publicly traded companies have been recognized at fair value. Investments in privately held entities are excluded from the fair value hierarchy above as required by the fair value standards. Refer to Note 7 – “Investments” to our consolidated financial statements for further details.

Our interest rate hedge agreements have been recognized at fair value. Refer to Note 11 – “Interest Rate Hedge Agreements” to our consolidated financial statements for further details. The carrying values of cash and cash equivalents, restricted cash, tenant receivables, other assets, accounts payable, accrued expenses, and tenant security deposits approximate fair value.

9. Fair value measurements (continued)

The fair values of our secured notes payable, unsecured senior notes payable, \$2.2 billion unsecured senior line of credit, and unsecured senior bank term loans were estimated using widely accepted valuation techniques, including discounted cash flow analyses using significant other observable inputs such as available market information on discount and borrowing rates with similar terms, maturities, and credit ratings. Because the valuations of our financial instruments are based on these types of estimates, the actual fair value of our financial instruments may differ materially if our estimates do not prove to be accurate. Additionally, the use of different market assumptions or estimation methods may have a material effect on the estimated fair value amounts.

As of December 31, 2018 and 2017, the book and estimated fair values of our investments in privately held entities that report NAV, secured notes payable, unsecured senior notes payable, unsecured senior line of credit, and unsecured senior bank term loans were as follows (in thousands):

	December 31,			
	2018		2017	
	Book Value	Fair Value	Book Value	Fair Value
Assets:				
Investments in privately held entities that report NAV	\$317,805	\$317,805	N/A	N/A
Liabilities:				
Secured notes payable	\$630,547	\$638,860	\$771,061	\$776,222
Unsecured senior notes payable	\$4,292,293	\$4,288,335	\$3,395,804	\$3,529,713
Unsecured senior line of credit	\$208,000	\$208,106	\$50,000	\$49,986
Unsecured senior bank term loans	\$347,415	\$350,240	\$547,942	\$549,361

Nonrecurring fair value measurements

Refer to “Sales of Real Estate Assets and Impairment Charges” in Note 3 – “Investments in Real Estate” and to Note 7 – “Investments” and Note 19 – “Assets Classified as Held for Sale” to our consolidated financial statements for further discussion.

10. Secured and unsecured senior debt

The following table summarizes our secured and unsecured senior debt as of December 31, 2018 (dollars in thousands):

	Fixed Rate/Hedged Variable-Rate Debt	Unhedged Variable-Rate Debt	Total	Percentage	Weighted-Average Interest Rate ⁽¹⁾	Remaining Term (in years)
Secured notes payable	\$587,444	\$43,103	\$630,547	11.5 %	4.22 %	3.1
Unsecured senior notes payable	4,292,293	—	4,292,293	78.4	4.15	6.4
\$2.2 billion unsecured senior line of credit	100,000	108,000	208,000	3.8	3.07	5.1
Unsecured senior bank term loan	347,415	—	347,415	6.3	2.21	5.1
Total/weighted average	\$5,327,152	\$151,103	\$5,478,255	100.0 %	3.99 %	5.9
Percentage of total debt	97	% 3	% 100	%		

(1) Represents the weighted-average interest rate as of the end of the applicable period, including expense/income related to our interest rate hedge agreements, amortization of loan fees, amortization of debt premiums (discounts),

and other bank fees.

F-37

10. Secured and unsecured senior debt (continued)

The following table summarizes our outstanding indebtedness and respective principal payments as of December 31, 2018 (dollars in thousands):

Debt	Stated Rate	Interest Rate ⁽¹⁾	Maturity	Principal	Unamortized (Deferred Financing Cost), (Discount) Premium	Total
			Date ⁽²⁾			
Secured notes payable						
Greater Boston	L+1.50	% 3.29	% 1/28/20 ⁽³⁾	\$ 193,103	\$ (57)	) \$ 193,046
Greater Boston, San Diego, Seattle, and Maryland	7.75	% 8.15	4/1/20 ⁽⁴⁾	106,661	(418)	) 106,243
San Diego	4.66	% 4.91	1/1/23	33,501	(263)	) 33,238
Greater Boston	3.93	% 3.19	3/10/23	80,909	2,303	) 83,212
Greater Boston	4.82	% 3.40	2/6/24	200,517	13,540	) 214,057
San Francisco	6.50	% 6.50	7/1/36	751	—	) 751
Secured debt weighted-average interest rate/subtotal	4.94	% 4.22		615,442	15,105	) 630,547
\$2.2 billion unsecured senior line of credit	L+0.825	% 3.07	1/28/24	208,000	—	) 208,000
Unsecured senior bank term loan	L+0.90	% 2.21	1/28/24	350,000	(2,585)	) 347,415
Unsecured senior notes payable	2.75	% 2.96	1/15/20	400,000	(845)	) 399,155
Unsecured senior notes payable	4.60	% 4.75	4/1/22	550,000	(2,115)	) 547,885
Unsecured senior notes payable	3.90	% 4.04	6/15/23	500,000	(2,653)	) 497,347
Unsecured senior notes payable	4.00	% 4.18	1/15/24	450,000	(3,685)	) 446,315
Unsecured senior notes payable	3.45	% 3.62	4/30/25	600,000	(5,526)	) 594,474
Unsecured senior notes payable	4.30	% 4.50	1/15/26	300,000	(3,414)	) 296,586
Unsecured senior notes payable	3.95	% 4.13	1/15/27	350,000	(4,037)	) 345,963
Unsecured senior notes payable	3.95	% 4.07	1/15/28	425,000	(3,818)	) 421,182
Unsecured senior notes payable	4.50	% 4.60	7/30/29	300,000	(2,344)	) 297,656
Unsecured senior notes payable	4.70	% 4.81	7/1/30	450,000	(4,270)	) 445,730
Unsecured debt weighted average/subtotal		3.96		4,883,000	(35,292)	) 4,847,708
Weighted-average interest rate/total		3.99	%	\$ 5,498,442	\$ (20,187)	) \$ 5,478,255

Represents the weighted-average interest rate as of the end of the applicable period, including expense/income

(1) related to our interest rate hedge agreements, amortization of loan fees, amortization of debt premiums (discounts), and other bank fees.

(2) Reflects any extension options that we control.

(3) We have the option to extend the stated maturity date to January 28, 2021, subject to certain conditions.

(4) In January 2019, we repaid this secured note payable and recognized a loss on early extinguishment of debt of \$7.1 million, including the write-off of unamortized loan fees.

Amendment of unsecured senior line of credit and unsecured senior bank term loan

On September 28, 2018, we amended our unsecured senior line of credit and unsecured senior bank term loan to extend the maturity date of each to January 28, 2024, including two six-month extension options related to our

unsecured senior line of credit, and to increase the aggregate commitment for our unsecured senior line of credit to \$2.2 billion from \$1.65 billion.

As a result of the amendment and improvement in our credit rating from Moody's Investors Service during the third quarter of 2018, the overall applicable interest rate margin decreased to 0.825% from 1.00% for our \$2.2 billion unsecured senior line of credit, and to 0.90% from 1.10% for our unsecured senior bank term loan. The facility fee related to our \$2.2 billion unsecured senior line of credit also decreased to 0.15% from 0.20%. In connection with these amendments, we recognized a loss on early extinguishment of debt of approximately \$634 thousand related to the write-off of unamortized loan fees.

F-38

10. Secured and unsecured senior debt (continued)

We use our \$2.2 billion unsecured senior line of credit to fund working capital, construction activities, and, from time to time, acquisition of properties. Borrowings under the \$2.2 billion unsecured senior line of credit will bear interest at a “Eurocurrency Rate,” a “LIBOR Floating Rate, or a “Base Rate” specified in the amended \$2.2 billion unsecured senior line of credit agreement plus, in any case, the Applicable Margin. The Eurocurrency Rate specified in the amended \$2.2 billion unsecured senior line of credit agreement is, as applicable, the rate per annum equal to either (i) the LIBOR or a successor rate thereto as agreed to by the administrative agent and the Company for loans denominated in a LIBOR quoted currency (i.e., U.S. dollars, euro, sterling, or yen), (ii) the average annual yield rates applicable to Canadian dollar bankers’ acceptances for loans denominated in Canadian dollars, (iii) the Bank Bill Swap Reference Bid rate for loans denominated in Australian dollars, or (iv) the rate designated with respect to the applicable alternative currency for loans denominated in a non-LIBOR quoted currency (other than Canadian or Australian dollars). The LIBOR Floating Rate means, for any day, one month LIBOR, or a successor rate thereto as agreed to by the administrative agent and the Company for loans denominated in U.S. dollars. The Base Rate means, for any day, a fluctuating rate per annum equal to the highest of (i) the federal funds rate plus 1/2 of 1.00%, (ii) the rate of interest in effect for such day as publicly announced from time to time by Bank of America as its “prime rate,” and (iii) the Eurocurrency Rate plus 1.00%. Our \$2.2 billion unsecured senior line of credit contains a feature that allows lenders to competitively bid on the interest rate for borrowings under the facility. This may result in an interest rate that is below the stated rate. In addition to the cost of borrowing, the facility is subject to an annual facility fee of 0.15% based on the aggregate commitments outstanding.

Repayment of unsecured senior bank term loan

During the three months ended September 30, 2018, we repaid the remaining \$200.0 million balance under our 2019 unsecured senior bank term loan and recognized a loss on early extinguishment of debt of \$189 thousand related to the write-off of unamortized loan fees.

Unsecured senior notes payable

As of December 31, 2018, we have unsecured senior notes payable aggregating \$4.3 billion, which are unsecured obligations of the Company and are fully and unconditionally guaranteed by Alexandria Real Estate Equities, L.P., a 100% owned subsidiary of the Company. The unsecured senior notes payable rank equally in right of payment with all other senior unsecured indebtedness. However, the unsecured senior notes payable are subordinate to existing and future mortgages and other secured indebtedness (to the extent of the value of the collateral securing such indebtedness) and to all existing and future preferred equity and liabilities, whether secured or unsecured, of the Company’s subsidiaries, other than Alexandria Real Estate Equities, L.P. In addition, the terms of the indentures, among other things, limit the ability of the Company, Alexandria Real Estate Equities, L.P., and the Company’s subsidiaries to (i) consummate a merger, or consolidate or sell all or substantially all of the Company’s assets, and (ii) incur certain secured or unsecured indebtedness.

4.00% and 4.70% unsecured senior notes payables

In June 2018, we completed an offering of \$900.0 million of unsecured senior notes for net proceeds of \$891.4 million. The offering consisted of \$450.0 million of 4.00% unsecured senior notes payable on January 15, 2024, which will be used to fund certain eligible green development and redevelopment projects that have received or are expected to receive LEED® Gold or Platinum certification, and \$450.0 million of 4.70% unsecured senior notes payable on July 1, 2030.

Repayment of secured construction loan

In July 2018, we repaid \$150.0 million of the outstanding balance of our secured construction loan and reduced aggregate commitments to \$200.0 million. In connection with the partial repayment of the secured construction loan, we recognized a loss on early extinguishment of debt of \$299 thousand related to the write-off of unamortized loan fees.

F-39

10. Secured and unsecured senior debt (continued)

Interest expense

Interest expense for the years ended December 31, 2018, 2017, and 2016, consisted of the following (dollars in thousands):

	Year Ended December 31,		
	2018	2017	2016
Interest incurred	\$223,715	\$186,867	\$159,403
Capitalized interest	(66,220)	(58,222)	(52,450)
Interest expense	\$157,495	\$128,645	\$106,953

11. Interest rate hedge agreements

We use interest rate derivatives to hedge the variable cash flows associated with certain of our existing LIBOR-based variable-rate debt, including our \$2.2 billion unsecured senior line of credit, unsecured senior bank term loan, and secured notes payable, and to manage our exposure to interest rate volatility.

The fair value of each interest rate hedge agreement is determined using widely accepted valuation techniques, including discounted cash flow analyses on the expected cash flows of each derivative. These analyses reflect the contractual terms of the derivatives, including the period to maturity, and use observable market-based inputs, including interest rate curves and implied volatilities. The fair values of our interest rate hedge agreements are determined using the market-standard methodology of netting the discounted future fixed-cash payments and the discounted expected variable-cash receipts. The variable-cash receipts are based on an expectation of future interest rates (forward curves) derived from observable market interest rate curves. The fair value calculation also includes an amount for risk of non-performance of our counterparties using “significant unobservable inputs,” such as estimates of current credit spreads, to evaluate the likelihood of default, which we have determined to be insignificant to the overall fair value of our interest rate hedge agreements.

Changes in fair value, including accrued interest and adjustments for non-performance risk, of our interest rate hedge agreements that are designated and that qualify as cash flow hedges are classified in accumulated other comprehensive income. Amounts classified in accumulated other comprehensive income are subsequently reclassified into earnings in the period during which the hedged transactions affect earnings. During the next 12 months, we expect to reclassify approximately \$1.9 million from accumulated other comprehensive income to earnings as a decrease of interest expense. As of December 31, 2018 and 2017, the fair values of our interest rate hedge agreements aggregating an asset balance were classified in other assets, and the fair values of our interest rate hedge agreements aggregating a liability balance were classified in accounts payable, accrued expenses, and tenant security deposits, based upon their respective fair values, without any offsetting pursuant to master netting agreements. Refer to Note 9 – “Fair Value Measurements” to our consolidated financial statements for further details. Under our interest rate hedge agreements, we have no collateral posting requirements.

We have agreements with certain of our derivative counterparties that contain a provision wherein we could be declared in default on our derivative obligations if (i) repayment of the underlying indebtedness is accelerated by the lender due to our default on the indebtedness or (ii) we default on any of its indebtedness, including default where repayment of the indebtedness has not been accelerated by the lender. If we had breached any of these provisions as of December 31, 2018, we could have been required to settle our obligations under the agreements at their termination value of \$344 thousand.

11. Interest rate hedge agreements (continued)

We had the following outstanding interest rate hedge agreements that were designated as cash flow hedges of interest rate risk as of December 31, 2018 (dollars in thousands):

Effective Date	Maturity Date	Number of Contracts	Weighted-Average Interest Pay Rate ⁽¹⁾	Fair Value as of 12/31/18	Notional Amount in Effect as of	
					12/31/18	12/31/19
March 29, 2018	March 31, 2019	8	1.16%	\$ 1,962	\$ 600,000	\$—
March 29, 2019	March 31, 2020	1	1.89%	644	—	100,000
March 29, 2019	March 31, 2020	3	2.84%	(768)	—	250,000
Total				\$ 1,838	\$ 600,000	\$ 350,000

In addition to the interest pay rate for each hedge agreement, interest is payable at an applicable margin over LIBOR for borrowings outstanding as of December 31, 2018, as listed under the column heading “Stated Rate” in our summary table of outstanding indebtedness and respective principal payments under Note 10 – “Secured and Unsecured Senior Debt” to our consolidated financial statements.

12. Accounts payable, accrued expenses, and tenant security deposits

The following table summarizes the components of accounts payable, accrued expenses, and tenant security deposits as of December 31, 2018 and 2017 (in thousands):

	December 31,	
	2018	2017
Accounts payable and accrued expenses	\$491,421	\$349,884
Acquired below-market leases	134,808	88,184
Conditional asset retirement obligations	10,343	7,397
Deferred rent liabilities	29,547	27,953
Interest rate hedge liabilities	768	103
Unearned rent and tenant security deposits	250,923	248,924
Other liabilities	63,897	41,387
Total	\$981,707	\$763,832

Some of our properties may contain asbestos, which, under certain conditions, requires remediation. Although we believe that the asbestos is appropriately contained in accordance with environmental regulations, our practice is to remediate the asbestos upon the development or redevelopment of the affected property. We recognize a liability for the fair value of a conditional asset retirement obligation (including asbestos) when the fair value of the liability can be reasonably estimated. For certain properties, we do not recognize an asset retirement obligation when there is an indeterminate settlement date for the obligation because the period in which we may remediate the obligation may not be estimated with any level of precision to provide a meaningful estimate of the retirement obligation.

13. Earnings per share

In January 2018, we entered into forward equity sales agreements to sell an aggregate of 6.9 million shares of our common stock (including the exercise of underwriters' option) at a public offering price of \$123.50 per share, before underwriting discounts and further adjustments as provided for in the sales agreement. We settled all 6.9 million shares of common stock during the year ended December 31, 2018, of which 5.2 million shares were settled during the three months ended December 31, 2018.

In March 2017, we entered into agreements to sell an aggregate of 6.9 million shares of our common stock, which consisted of an initial issuance of 2.1 million shares and 4.8 million shares subject to forward equity sales agreements, at a public offering price of \$108.55 per share less issuance costs, underwriters' discount, and further adjustments as provided for in the sales agreements. We issued the initial 2.1 million shares at closing in March 2017 and settled the remaining 4.8 million shares of common stock in December 2017.

Refer to Note 16 – “Stockholders' Equity” to our consolidated financial statements for a discussion related to our forward equity sales agreements executed in January 2018 and March 2017.

To account for the forward equity sales agreements, we considered the accounting guidance governing financial instruments and derivatives and concluded that our forward equity sales agreements were not liabilities as they did not embody obligations to repurchase our shares nor did they embody obligations to issue a variable number of shares for which the monetary value was predominantly fixed, varied with something other than the fair value of our shares, or varied inversely in relation to our shares. We then evaluated whether the agreements met the derivatives and hedging guidance scope exception to be accounted for as equity instruments and concluded that the agreements can be classified as equity contracts based on the following assessment: (i) none of the agreements' exercise contingencies were based on observable markets or indices besides those related to the market for our own stock price and operations; and (ii) none of the settlement provisions precluded the agreements from being indexed to our own stock.

We also considered the potential dilution resulting from the forward equity sales agreements on the EPS calculations. At inception, the agreements do not have an effect on the computation of basic EPS as no shares are delivered until settlement. The common shares issued upon the settlement of the forward equity sales agreements, weighted for the period these common shares were outstanding, are included in the denominator of basic EPS.

The number of weighted-average shares outstanding – diluted used in the computation of EPS for the year ended December 31, 2018, using the treasury stock method to determine the dilution resulting from the forward equity sales agreements during the period of time prior to settlement. The effect on our weighted-average shares – diluted for the year ended December 31, 2018, was 311 thousand weighted-average incremental shares from the forward equity sales agreement entered into in January 2018. For the year ended December 31, 2017, the effect on our weighted-average shares – diluted from the forward equity sales agreements entered into in March 2017 was 517 thousand weighted-average incremental shares.

For purposes of calculating diluted EPS, we did not assume conversion of our 7.00% Series D cumulative convertible preferred stock (“Series D Convertible Preferred Stock”) for the years ended December 31, 2018, 2017, and 2016, since the result was antidilutive to EPS attributable to Alexandria Real Estate Equities, Inc.'s common stockholders from continuing operations during those periods. Refer to “7.00% Series D Cumulative Convertible Preferred Stock Repurchases” in Note 16 – “Stockholders' Equity” to our consolidated financial statements for further discussion of the partial repurchases of our Series D Convertible Preferred Stock.

We account for unvested restricted stock awards that contain nonforfeitable rights to dividends as participating securities and include these securities in the computation of EPS using the two-class method. Our Series D

Convertible Preferred Stock and forward equity sales agreements are not participating securities and are therefore not included in the computation of EPS using the two-class method. Under the two-class method, we allocate net income (after amounts attributable to noncontrolling interests, dividends on preferred stock, and preferred stock redemption charge) to common stockholders and unvested restricted stock awards by using the weighted-average shares of each class outstanding for quarter-to-date and year-to-date periods independently, based on their respective participation rights to dividends declared (or accumulated) and undistributed earnings.

13. Earnings per share (continued)

The table below is a reconciliation of the numerators and denominators of the basic and diluted EPS computations for the years ended December 31, 2018, 2017, and 2016 (in thousands, except per share amounts):

	Year Ended December 31,		
	2018	2017	2016
Net income (loss)	\$402,793	\$194,204	\$(49,799)
Net income attributable to noncontrolling interests	(23,481)	(25,111)	(16,102)
Dividends on preferred stock	(5,060)	(7,666)	(20,223)
Preferred stock redemption charge	(4,240)	(11,279)	(61,267)
Net income attributable to unvested restricted stock awards	(6,029)	(4,753)	(3,750)
Numerator for basic and diluted EPS – net income (loss) attributable to Alexandria Real Estate Equities, Inc.’s common stockholders	\$363,983	\$145,395	\$(151,141)
Denominator for basic EPS – weighted-average shares of common stock outstanding	103,010	91,546	76,103
Dilutive effect of forward equity sales agreements	311	517	—
Denominator for diluted EPS – weighted-average shares of common stock outstanding	103,321	92,063	76,103
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.’s common stockholders:			
Basic	\$3.53	\$1.59	\$(1.99)
Diluted	\$3.52	\$1.58	\$(1.99)

F-43

14. Income taxes

We have elected to be taxed as a REIT, under the Internal Revenue Code of 1986, as amended, or the Code. We believe we have qualified and continue to qualify as a REIT. Under the Code, a REIT that distributes at least 90% of its REIT taxable income to its shareholders annually and meets certain other conditions is not subject to federal income taxes, but could be subject to certain state, local, and foreign taxes. We distribute 100% of our taxable income annually; therefore, a provision for federal income taxes is not required.

We distributed all of our REIT taxable income in 2017 and 2016 and, as a result, did not incur federal income tax in those years on such income. For the year ended December 31, 2018, we expect our distributions to exceed our REIT taxable income and, as a result, do not expect to incur federal income tax. We expect to finalize our 2018 REIT taxable income when we file our 2018 federal income tax return in 2019.

The income tax treatment of distributions and dividends declared on our common stock, our Series D Convertible Preferred Stock, and our Series E Redeemable Preferred Stock for the years ended December 31, 2018, 2017, and 2016, were as follows (unaudited):

	Common Stock			Series D Convertible Preferred Stock			Series E Redeemable Preferred Stock		
	Year Ended December 31,								
	2018	2017	2016	2018	2017	2016	2017	2016	
Ordinary income	69.9 %	62.1 %	25.2 %	72.7 %	85.3 %	44.8 %	85.3 %	44.8 %	
Return of capital	3.8	27.2	43.9	—	—	—	—	—	
Capital gains at 25%	0.1	0.7	—	0.1	1.0	—	1.0	—	
Capital gains at 20%	26.2	10.0	30.9	27.2	13.7	55.2	13.7	55.2	
Total	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	100.0 %	
Dividends declared	\$3.73	\$3.45	\$3.23	\$1.75	\$1.75	\$1.75	\$0.4031 ⁽¹⁾	\$1.6125	

(1) Refer to Note 16 - "Stockholders' Equity" to our consolidated financial statements under Item 15 of this annual report on Form 10-K for information regarding the redemption of our Series E Preferred Stock.

Beginning in 2018, the Tax Cuts and Jobs Act of 2017 added Section 199A to allow for a new tax deduction based on certain qualified business income. Section 199A provides eligible individual taxpayers a deduction of up to 20 percent of their qualified real estate investment trust dividends.

Our dividends declared in a given quarter are generally paid during the subsequent quarter. The taxability information presented above for our dividends paid in 2018 is based upon management's estimate. Our federal tax return for 2018 is due on or before October 15, 2019, assuming we file for an extension of the due date. Our federal tax returns for previous tax years have not been examined by the IRS. Consequently, the taxability of distributions and dividends is subject to change. The income tax treatment of distributions and dividends noted above for the year ended December 31, 2018, is inclusive of the changes to taxable income related to our 2018 real estate transactions described in Note 3 - "Investments in Real Estate" to our consolidated financial statements under Item 15 of this annual report on Form 10-K.

In addition to our REIT tax returns, we file federal, state, and local tax returns for our subsidiaries. We file with jurisdictions located in the U.S., Canada, India, China, and other international locations and may be subject to audits, assessments, or other actions by local taxing authorities. We recognize tax benefits of uncertain tax positions only if it is more likely than not that the tax position will be sustained, based solely on its technical merits, with the taxing authority having full knowledge of all relevant information. The measurement of a tax benefit for an uncertain tax position that meets the "more likely than not" threshold is based on a cumulative probability model under which the largest amount of tax benefit recognized is the amount with a greater than 50% likelihood of being realized upon

ultimate settlement with the taxing authority that has full knowledge of all relevant information.

As of December 31, 2018, there were no material unrecognized tax benefits. We do not anticipate a significant change to the total amount of unrecognized tax benefits within the next 12 months.

F-44

14. Income taxes (continued)

Interest expense and penalties, if any, are recognized in the first period during which the interest or penalties begin accruing, according to the provisions of the relevant tax law at the applicable statutory rate of interest. We did not incur any significant tax-related interest expense or penalties for the years ended December 31, 2018, 2017, and 2016.

The following reconciles net income (loss) (determined in accordance to GAAP) to taxable income as filed with the IRS for the years ended December 31, 2017 and 2016 (in thousands and unaudited):

	Year Ended	
	December 31,	
	2017	2016
Net income (loss)	\$194,204	\$(49,799)
Net income attributable to noncontrolling interests	(25,111)	(16,102)
Book/tax differences:		
Rental revenue recognition	(121,589)	(36,022)
Depreciation and amortization	137,576	79,710
Share-based compensation	23,466	15,568
Interest expense	(5,256)	(2,597)
Sales of property	12,166	100,047
Impairments	9,011	61,593
Other	3,642	358
Taxable income before dividend deduction	228,109	152,756
Dividend deduction necessary to eliminate taxable income ⁽¹⁾	(228,109)	(152,756)
Estimated income subject to federal income tax	\$—	\$—

(1) Total common stock and preferred stock dividend distributions paid were approximately \$321.8 million and \$262.8 million during the years ended December 31, 2017 and 2016, respectively.

15. Commitments and contingencies

Employee retirement savings plan

We have a retirement savings plan pursuant to Section 401(k) of the Code whereby our employees may contribute a portion of their compensation to their respective retirement accounts in an amount not to exceed the maximum allowed under the Code. In addition to employee contributions, we have elected to provide company discretionary profit-sharing contributions (subject to statutory limitations), which amounted to approximately \$4.1 million, \$3.2 million, and \$2.5 million for the years ended December 31, 2018, 2017, and 2016, respectively. Employees who participate in the plan are immediately vested in their contributions and in the contributions made on their behalf by the Company.

Concentration of credit risk

We maintain our cash and cash equivalents at insured financial institutions. The combined account balances at each institution periodically exceed the Federal Deposit Insurance Corporation (FDIC) insurance coverage of \$250,000, and, as a result, there is a concentration of credit risk related to amounts in excess of FDIC insurance coverage. We have not experienced any losses to date on our invested cash.

In order to limit our risk of non-performance by an individual counterparty under our interest rate hedge agreements, we spread our interest rate hedge agreements among various counterparties. As of December 31, 2018, the largest

aggregate notional amount of interest rate hedge agreements in effect at any single point in time with an individual counterparty was \$150.0 million. If one or more of our counterparties fail to perform under our interest rate hedge agreements, we may incur higher costs associated with our variable-rate LIBOR-based debt than the interest costs we originally anticipated.

We are dependent on rental revenue from relatively few tenants. The inability of any single tenant to make its lease payments could adversely affect our operations. As of December 31, 2018, we had 708 leases with a total of 537 tenants, and 116, or 49%, of our 237 properties were each leased to a single tenant. As of December 31, 2018, our three largest tenants, comprising 3.6%, 3.3%, and 2.9%, accounted for approximately 9.8% of our aggregate annual rental revenue.

F-45

15. Commitments and contingencies (continued)

Commitments

As of December 31, 2018, remaining aggregate costs under contract for the construction of properties undergoing development, redevelopment, and improvements under the terms of leases approximated \$829.9 million. We expect payments for these obligations to occur over one to three years, subject to capital planning adjustments from time to time. We may have the ability to cease the construction of certain properties, which would result in the reduction of our commitments. We have existing office space at 161 First Street/50 Rogers Street in our Alexandria Center® at Kendall Square (“ACKS”) campus that we are required to partially convert to multifamily residential space, pursuant to our entitlements for our ACKS campus. Pursuant to these requirements, we expect to begin construction of the conversion to multifamily residential in 2019. In addition, we have letters of credit and performance obligations aggregating \$9.2 million primarily related to construction projects.

In March 2018, we acquired a 10% interest in a real estate joint venture with Uber Technologies, Inc. and the Golden State Warriors that owns 1655 and 1725 Third Street, located in our Mission Bay/SoMa submarket of San Francisco. Our total equity contribution commitment is \$78.0 million, of which we have contributed \$32.0 million through December 31, 2018.

In November 2017, we entered into an agreement with a real estate developer in the San Francisco Bay Area to own a 49% interest in a real estate joint venture at Menlo Gateway in our Greater Stanford submarket of San Francisco. Our total equity contribution commitment is \$269.0 million, of which we have contributed \$177.7 million through December 31, 2018.

We are committed to funding approximately \$248.3 million for all investments, which primarily consist of \$247.8 million related to investments in limited partnerships. Our funding commitments expire at various dates over the next 11 years, with a weighted-average remaining period of 8.8 years.

Rental expense

Our rental expense attributable to continuing operations for the years ended December 31, 2018, 2017, and 2016, was approximately \$15.8 million, \$14.0 million, and \$14.3 million, respectively. These rental expense amounts include certain operating leases for our headquarters and field offices and ground leases for 29 of our properties. Ground leases generally require fixed annual rent payments and may also include escalation clauses and renewal options. Future minimum lease obligations under non-cancelable ground and other operating leases as of December 31, 2018, were as follows (in thousands):

Year	Office Leases	Ground Leases	Total
2019	\$ 1,777	\$ 12,804	\$ 14,581
2020	326	12,631	12,957
2021	269	12,198	12,467
2022	—	12,302	12,302
2023	—	12,421	12,421
Thereafter	—	525,544	525,544
Total	\$ 2,372	\$ 587,900	\$ 590,272

Our operating lease obligations related to our office leases have remaining terms of up to three years, exclusive of extension options. Excluding one ground lease related to one operating property that expires in 2036 with a net book value of approximately \$8.8 million as of December 31, 2018, our ground lease obligations have remaining terms

generally ranging from 35 to 96 years, including extension options.

F-46

16. Stockholders' equity

ATM common stock offering program

In August 2017, we established an ATM common stock offering program that allows us to sell up to an aggregate of \$750.0 million of our common stock. The following table presents a detail of shares of common stock sold and the remaining aggregate amount available for future sales of common stock under this program since its inception (dollars in thousands, except per share amounts):

	Shares Issued	Average Issue Price per Share	Gross Proceeds	Net Proceeds
Three Months Ended				
September 30, 2017	2,083,526	\$ 119.94	\$ 249,895	\$ 245,785
December 31, 2017	689,792	\$ 125.70	86,708	85,375
	2,773,318		336,603	331,160
March 31, 2018	—	\$—	—	—
June 30, 2018	2,456,037	\$ 124.46	305,675	300,837
September 30, 2018	703,625	\$ 127.91	90,000	88,548
December 31, 2018	—	\$—	—	—
	3,159,662		395,675	389,385
Cumulative activity through December 31, 2018	5,932,980		732,278	\$ 720,545
Remaining availability as of December 31, 2018			17,722	
Total August 2017 ATM common stock offering program			\$ 750,000	

In August 2018, we established a new ATM common stock offering program that allows us to sell up to an aggregate of \$750.0 million of our common stock. The following table presents a detail of shares of common stock sold and the remaining aggregate amount available for future sales of common stock under our new ATM program (dollars in thousands, except per share amounts):

	Shares Issued	Average Issue Price per Share	Gross Proceeds	Net Proceeds
Three Months Ended				
September 30, 2018	855,458	\$ 127.45	\$ 109,031	\$ 106,956
December 31, 2018	—	\$—	—	\$—
Remaining availability as of December 31, 2018			640,969	
Total August 2018 ATM common stock offering program			\$ 750,000	

Forward equity sales agreements

In January 2018, we entered into forward equity sales agreements to sell an aggregate of 6.9 million shares of our common stock (including the exercise of underwriters' option) at a public offering price of \$123.50 per share, before underwriting discounts of \$4.94 per share, and adjustments as provided in the sales agreements. The following table presents a summary of shares of common stock settled (dollars in thousands, except per share amounts):

Net

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	Number of Shares	Average Issue Price per Share	Proceeds
Forward equity sales agreements settled during the three months ended:			
March 31, 2018	843,600	\$ 118.74	\$ 100,169
June 30, 2018	—	\$—	—
September 30, 2018	857,700	\$ 116.62	100,022
December 31, 2018	5,198,700	\$ 116.97	608,108
Total under our forward equity sales agreements	6,900,000		\$ 808,299

F-47

16. Stockholders' equity (continued)

7.00% Series D cumulative convertible preferred stock repurchases

As of December 31, 2018, we had 2.6 million shares of our Series D Convertible Preferred Stock outstanding. During the year ended December 31, 2018, we repurchased, in privately negotiated transactions, 402,000 outstanding shares of our Series D Convertible Preferred Stock at an aggregate price of \$14.0 million, or \$34.77 per share. We recognized a preferred stock redemption charge of \$4.2 million during the year ended December 31, 2018, including the write-off of original issuance costs of approximately \$314 thousand.

As of December 31, 2017, we had 3.0 million shares of our Series D Convertible Preferred Stock issued and outstanding. During the year ended December 31, 2017, we repurchased, in privately negotiated transactions, 501,115 outstanding shares for an aggregate price of \$17.9 million, or \$35.79 per share. We recognized a preferred stock redemption charge of \$5.8 million during the year ended December 31, 2017, including the write-off of original issuance costs of approximately \$391 thousand.

As of December 31, 2016, we had 3.5 million shares of our Series D Convertible Preferred Stock issued and outstanding. During the year ended December 31, 2016, we repurchased, in privately negotiated transactions, 6.0 million outstanding shares for an aggregate price of \$206.8 million, or \$34.41 per share. We recognized a preferred stock redemption charge of \$61.3 million during the year ended December 31, 2016, including the write-off of original issuance costs of approximately \$4.7 million. As of December 31, 2015, we had 9.5 million shares of our Series D Convertible Preferred Stock issued and outstanding.

During the year ended December 31, 2018, 2017, and 2016 we declared cash dividends on our Series D Convertible Preferred Stock aggregating \$5.1 million, or \$1.75 per share, \$5.2 million, or \$1.75 per share, and \$11.8 million, or \$1.75 per share, respectively.

The dividends on our Series D Convertible Preferred Stock are cumulative and accrue from the date of original issuance. We pay dividends quarterly in arrears at an annual rate of \$1.75 per share. Our Series D Convertible Preferred Stock has no stated maturity and is not subject to any sinking fund or mandatory redemption provisions. We are not allowed to redeem our Series D Convertible Preferred Stock, except to preserve our status as a REIT. Investors in our Series D Convertible Preferred Stock generally have no voting rights. We may, at our option, be able to cause some or all of our Series D Convertible Preferred Stock to be automatically converted if the closing sale price per share of our common stock equals or exceeds 150% of the then-applicable conversion price of the Series D Convertible Preferred Stock for at least 20 trading days in a period of 30 consecutive trading days ending on the trading day immediately prior to our issuance of a press release announcing the exercise of our conversion option. Holders of our Series D Convertible Preferred Stock, at their option, may, at any time and from time to time, convert some or all of their outstanding shares initially at a conversion rate of 0.2477 shares of common stock per \$25.00 liquidation preference, which was equivalent to an initial conversion price of approximately \$100.93 per share of common stock. The conversion rate for the Series D Convertible Preferred Stock is subject to adjustments for certain events, including, but not limited to, certain dividends on our common stock in excess of \$0.78 per share per quarter and dividends on our common stock payable in shares of our common stock. As of December 31, 2018, the Series D Convertible Preferred Stock had a conversion rate of approximately 0.2502 shares of common stock per \$25.00 liquidation preference, which is equivalent to a conversion price of approximately \$99.92 per share of common stock.

6.45% Series E cumulative redeemable preferred stock offering

In March 2017, we announced the redemption of our Series E Redeemable Preferred Stock and recognized a preferred stock redemption charge of \$5.5 million related to the write-off of original issuance costs. On April 14, 2017, we

completed the redemption of all 5.2 million outstanding shares of our Series E Redeemable Preferred Stock at a redemption price of \$25.00 per share, or an aggregate of \$130.0 million, plus accrued dividends, using funds primarily from the proceeds of our March 2017 common stock offering.

F-48

16. Stockholders' equity (continued)

Accumulated other comprehensive (loss) income

Accumulated other comprehensive (loss) income attributable to Alexandria Real Estate Equities, Inc.'s stockholders consists of the following (in thousands):

	Net Unrealized Gains (Losses) on:			Total
	Available-for-Sale Equity Securities	Interest Rate Hedge Agreements	Foreign Currency Translation	
Balance as of December 31, 2017	\$49,771	\$ 5,157	\$ (4,904)	\$ 50,024
Amounts reclassified from other comprehensive income to retained earnings	(49,771) ⁽¹⁾	—	—	(49,771)
Other comprehensive income (loss) before reclassifications	—	1,622	(7,369)	(5,747)
Amounts reclassified from other comprehensive income to net income	—	(4,941)	—	(4,941)
Net other comprehensive loss	—	(3,319)	(7,369)	(10,688)
Balance as of December 31, 2018	\$—	\$ 1,838	\$ (12,273)	\$(10,435)

(1) Refer to Note 7 – “Investments” to our consolidated financial statements for additional information.

Common stock, preferred stock, and excess stock authorizations

Our charter authorizes the issuance of 200.0 million shares of common stock, of which 111.0 million shares were issued and outstanding as of December 31, 2018. Our charter also authorizes the issuance of up to 100.0 million shares of preferred stock, of which 2.6 million shares were issued and outstanding as of December 31, 2018. In addition, 200.0 million shares of “excess stock” (as defined in our charter) are authorized, none of which were issued and outstanding as of December 31, 2018.

Additional paid-in capital

In 2017, we sold partial interests in 9625 Towne Centre Drive and development rights at Campus Pointe by Alexandria, which comprised of 10260 and 10290 Campus Point Drive and 4110 Campus Point Court as December 31, 2017. Since we retained controlling interests in both joint ventures following the sale, we continued to consolidate these entities and accounted for the proceeds received as equity financing transactions. The difference of \$7.7 million between the aggregate proceeds of approximately \$26.0 million received through December 31, 2017, and the corresponding partial interest in our cost basis of \$18.3 million was recorded as an adjustment to additional paid-in capital in 2017. These transactions did not qualify as sales of real estate and did not result in purchase accounting adjustments to the carrying value. Accordingly, the carrying amounts of our partner's share of assets and liabilities are reported at historical cost.

17. Share-based compensation

Stock plan

For the purpose of attracting and retaining the highest-quality personnel, providing for additional incentives, and promoting the success of our Company, we have historically issued two forms of share-based compensation under our equity incentive plan: (i) options to purchase common stock and (ii) restricted stock. We have not granted any options since 2002. Each restricted share issued reduced the share reserve by three shares (3:1 ratio) prior to March 23, 2018, and by one share (1:1 ratio) on and after March 23, 2018. As of December 31, 2018, there were 2,433,810 shares reserved for the granting of future options and stock awards under the equity incentive plan.

In addition, the stock plan permits us to issue share awards to our employees, non-employees, and non-employee directors. A share award is an award of common stock that (i) may be fully vested upon issuance or (ii) may be subject to the risk of forfeiture under Section 83 of the Code. Shares issued generally vest over a four-year period from the date of issuance, and the sale of the shares is restricted prior to the date of vesting. The unearned portion of time-based awards is amortized as stock compensation expense on a straight-line basis over the vesting period. Certain restricted share awards are subject to vesting based upon the satisfaction of levels of performance and market conditions. Failure to satisfy the threshold performance conditions will result in the forfeiture of shares. Forfeiture of share awards with time-based or performance-based restrictions results in a reversal of previously recognized share-based compensation expense. Forfeiture of share awards with market-based restrictions does not result in a reversal of previously recognized share-based compensation expense.

The following is a summary of the stock awards activity under our equity incentive plan and related information for the years ended December 31, 2018, 2017, and 2016:

	Number of Share Awards	Weighted-Average Grant Date Fair Value per Share
Outstanding at December 31, 2015	814,018	\$ 80.95
Granted	661,409	\$ 88.98
Vested	(325,537)	\$ 78.73
Forfeited	(14,102)	\$ 79.10
Outstanding at December 31, 2016	1,135,788	\$ 87.21
Granted	688,295	\$ 108.22
Vested	(423,705)	\$ 85.16
Forfeited	(5,796)	\$ 101.45
Outstanding at December 31, 2017	1,394,582	\$ 95.79
Granted	741,244	\$ 121.20
Vested	(403,120)	\$ 103.83
Forfeited	(20,330)	\$ 106.38
Outstanding at December 31, 2018	1,712,376	\$ 105.22

(In thousands)	Year Ended December 31,		
	2018	2017	2016
Total grant date fair value of stock awards vested	\$41,854	\$36,083	\$ 25,630
Total gross compensation recognized for stock awards	\$57,341	\$42,292	\$ 37,037
Capitalized stock compensation	\$22,322	\$16,682	\$ 11,604

Certain restricted stock awards granted during 2015 through 2018 are subject to performance and market conditions. The grant date fair value of these awards is determined using a Monte Carlo simulation pricing model using the

following assumptions for 2018 and 2017, respectively: (i) expected term of 3.0 years and 3.0 years (equal to the remaining performance measurement period at the grant date), (ii) volatility of 16.0% and 22.0% (approximating a blended average of implied and historical volatilities), (iii) dividend yield of 3.1% and 3.2%, and (iv) risk-free rate of 2.15% and 1.46%.

F-50

17. Share-based compensation (continued)

As of December 31, 2018, there was \$134.4 million of unrecognized compensation related to unvested share awards under the equity incentive plan, which is expected to be recognized over the next four years and has a weighted-average vesting period of approximately 17 months.

18. Noncontrolling interests

Noncontrolling interests represent the third-party interests in certain entities in which we have a controlling interest. These entities owned 11 properties as of December 31, 2018, and are included in our consolidated financial statements. Noncontrolling interests are adjusted for additional contributions and distributions, the proportionate share of the net earnings or losses, and other comprehensive income or loss. Distributions, profits, and losses related to these entities are allocated in accordance with the respective operating agreements. During the years ended December 31, 2018 and 2017, we distributed \$30.7 million and \$22.4 million, respectively, to our consolidated real estate joint venture partners.

Certain of our noncontrolling interests have the right to require us to redeem their ownership interests in the respective entities. We classify these ownership interests in the entities as redeemable noncontrolling interests outside of total equity in our consolidated balance sheets. Redeemable noncontrolling interests are adjusted for additional contributions and distributions, the proportionate share of the net earnings or losses, and other comprehensive income or loss. If the amount of a redeemable noncontrolling interest is less than the maximum redemption value at the balance sheet date, such amount is adjusted to the maximum redemption value. Subsequent declines in the redemption value are recognized only to the extent that previous increases have been recognized.

19. Assets classified as held for sale

As of December 31, 2018, one building aggregating 334,144 RSF was classified as held for sale and did not meet the criteria for classification as discontinued operations in our consolidated financial statements.

The following is a summary of net assets as of December 31, 2018 and 2017, for our real estate investment that was classified as held for sale as of each respective date (in thousands):

	December 31,	
	2018	2017
Total assets	\$31,260	\$31,578
Total liabilities	(2,476)	(1,809)
Total accumulated other comprehensive loss (gain)	768	(1,021)
Net assets classified as held for sale	\$29,552	\$28,748

20. Quarterly financial data (unaudited)

The following is a summary of consolidated financial information on a quarterly basis for 2018 and 2017 (in thousands, except per share amounts):

	Quarter			
	First	Second	Third	Fourth
2018				
Revenues	\$320,139	\$325,034	\$341,823	\$340,463
Net income (loss) attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$132,387	\$52,016	\$208,940	\$(31,740)
Net income (loss) per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders:				
Basic ⁽¹⁾	\$1.33	\$0.51	\$2.01	\$(0.30)
Diluted ⁽¹⁾	\$1.32	\$0.51	\$1.99	\$(0.30)
2017				
Revenues	\$270,877	\$273,059	\$285,370	\$298,791
Net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$25,661	\$31,630	\$51,273	\$36,831
Net income per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders:				
Basic ⁽¹⁾	\$0.29	\$0.35	\$0.55	\$0.39
Diluted ⁽¹⁾	\$0.29	\$0.35	\$0.55	\$0.38

(1) Quarterly earnings per common share amounts may not total to the annual amounts due to rounding and due to the increase in the weighted-average shares of common stock outstanding.

21. Subsequent events

Repayment of secured note payable

In January 2019, we repaid early one secured note payable aggregating \$106.7 million, originally due in 2020 and that bore interest at 7.75%, and recognized a loss on early extinguishment of debt of \$7.1 million, including the write-off of unamortized loan fees.

7.00% Series D cumulative convertible preferred stock repurchases

In January 2019, we repurchased, in privately negotiated transactions, 275,000 shares of our 7.00% Series D cumulative convertible preferred stock for \$9.2 million, or \$33.60 per share, and recognized a preferred stock redemption charge of \$2.6 million. As of the date of this report, 2.3 million shares of our Series D Convertible Preferred Stock were outstanding at a book value aggregating \$57.5 million.

Acquisitions

In January 2019, we completed five acquisitions aggregating \$196.5 million in key submarkets with value-add operating properties. These acquisitions consist of: (i) 3170 Porter Drive in our Greater Stanford submarket of San Francisco, aggregating 98,626 RSF, for a purchase price of \$100.3 million; (ii) Shoreway Science Center in our Greater Stanford submarket of San Francisco, aggregating 82,462 RSF, for a purchase price of \$73.2 million; and (iii) 3911 and 3931 Sorrento Valley Boulevard in our Sorrento Mesa submarket of San Diego, aggregating 53,220 RSF, for a purchase price of \$23.1 million.

22. Condensed consolidating financial information

Alexandria Real Estate Equities, Inc. (the “Issuer”) has sold certain debt securities registered under the Securities Act of 1933, as amended, that are fully and unconditionally guaranteed by Alexandria Real Estate Equities, L.P. (the “LP” or the “Guarantor Subsidiary”), an indirectly 100% owned subsidiary of the Issuer. The Issuer’s other subsidiaries, including, but not limited to, the subsidiaries that own substantially all of its real estate (collectively, the “Combined Non-Guarantor Subsidiaries”), will not provide a guarantee of such securities, including the subsidiaries that are partially or 100% owned by the LP. The following condensed consolidating financial information presents the condensed consolidating balance sheets as of December 31, 2018 and 2017, and the condensed consolidating statements of operations, comprehensive income, and cash flows for the years ended December 31, 2018, 2017, and 2016, for the Issuer, the Guarantor Subsidiary, and the Combined Non-Guarantor Subsidiaries, as well as the eliminations necessary to arrive at the information on a consolidated basis. In presenting the condensed consolidating financial statements, the equity method of accounting has been applied to (i) the Issuer’s interests in the Guarantor Subsidiary and the Combined Non-Guarantor Subsidiaries, (ii) the Guarantor Subsidiary’s interests in the Combined Non-Guarantor Subsidiaries, and (iii) the Combined Non-Guarantor Subsidiaries’ interests in the Guarantor Subsidiary, where applicable, even though all such subsidiaries meet the requirements to be consolidated under GAAP. All intercompany balances and transactions between the Issuer, the Guarantor Subsidiary, and the Combined Non-Guarantor Subsidiaries have been eliminated, as shown in the column “Eliminations.” All assets and liabilities have been allocated to the Issuer, the Guarantor Subsidiary, and the Combined Non-Guarantor Subsidiaries generally based on legal entity ownership.

F-54

22. Condensed consolidating financial information (continued)

Condensed Consolidating Balance Sheet
as of December 31, 2018
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Investments in real estate	\$—	\$—	\$11,913,693	\$—	\$11,913,693
Investments in unconsolidated real estate JVs	—	—	237,507	—	237,507
Cash and cash equivalents	119,112	—	115,069	—	234,181
Restricted cash	193	—	37,756	—	37,949
Tenant receivables	—	—	9,798	—	9,798
Deferred rent	—	—	530,237	—	530,237
Deferred leasing costs	—	—	239,070	—	239,070
Investments	—	1,262	891,002	—	892,264
Investments in and advances to affiliates	12,235,577	10,949,631	222,983	(23,408,191)	—
Other assets	56,353	—	313,904	—	370,257
Total assets	\$12,411,235	\$10,950,893	\$14,511,019	\$(23,408,191)	\$14,464,956
Liabilities, Noncontrolling Interests, and Equity					
Secured notes payable	\$—	\$—	\$630,547	\$—	\$630,547
Unsecured senior notes payable	4,292,293	—	—	—	4,292,293
Unsecured senior line of credit	208,000	—	—	—	208,000
Unsecured senior bank term loans	347,415	—	—	—	347,415
Accounts payable, accrued expenses, and tenant security deposits	111,282	—	870,425	—	981,707
Dividends payable	110,280	—	—	—	110,280
Total liabilities	5,069,270	—	1,500,972	—	6,570,242
Redeemable noncontrolling interests	—	—	10,786	—	10,786
Alexandria Real Estate Equities, Inc.'s stockholders' equity	7,341,965	10,950,893	12,457,298	(23,408,191)	7,341,965
Noncontrolling interests	—	—	541,963	—	541,963
Total equity	7,341,965	10,950,893	12,999,261	(23,408,191)	7,883,928
Total liabilities, noncontrolling interests, and equity	\$12,411,235	\$10,950,893	\$14,511,019	\$(23,408,191)	\$14,464,956

22. Condensed consolidating financial information (continued)

Condensed Consolidating Balance Sheet
as of December 31, 2017
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Assets					
Investments in real estate	\$—	\$—	\$10,298,019	\$—	\$10,298,019
Investments in unconsolidated real estate JVs	—	—	110,618	—	110,618
Cash and cash equivalents	130,364	9	124,008	—	254,381
Restricted cash	152	—	22,653	—	22,805
Tenant receivables	—	—	10,262	—	10,262
Deferred rent	—	—	434,731	—	434,731
Deferred leasing costs	—	—	221,430	—	221,430
Investments	—	1,655	521,599	—	523,254
Investments in and advances to affiliates	9,949,861	9,030,994	183,850	(19,164,705)	—
Other assets	45,108	—	183,345	—	228,453
Total assets	\$10,125,485	\$9,032,658	\$12,110,515	\$(19,164,705)	\$12,103,953
Liabilities, Noncontrolling Interests, and Equity					
Secured notes payable	\$—	\$—	\$771,061	\$—	\$771,061
Unsecured senior notes payable	3,395,804	—	—	—	3,395,804
Unsecured senior line of credit	50,000	—	—	—	50,000
Unsecured senior bank term loans	547,942	—	—	—	547,942
Accounts payable, accrued expenses, and tenant security deposits	89,928	—	673,904	—	763,832
Dividends payable	92,145	—	—	—	92,145
Total liabilities	4,175,819	—	1,444,965	—	5,620,784
Redeemable noncontrolling interests	—	—	11,509	—	11,509
Alexandria Real Estate Equities, Inc.'s stockholders' equity	5,949,666	9,032,658	10,132,047	(19,164,705)	5,949,666
Noncontrolling interests	—	—	521,994	—	521,994
Total equity	5,949,666	9,032,658	10,654,041	(19,164,705)	6,471,660
Total liabilities, noncontrolling interests, and equity	\$10,125,485	\$9,032,658	\$12,110,515	\$(19,164,705)	\$12,103,953

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Operations
for the Year Ended December 31, 2018
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Revenues:					
Rental	\$ —	\$ —	\$ 1,010,718	\$ —	\$ 1,010,718
Tenant recoveries	—	—	304,063	—	304,063
Other income (loss)	19,275	—	14,941	(21,538)	12,678
Total revenues	19,275	—	1,329,722	(21,538)	1,327,459
Expenses:					
Rental operations	—	—	381,120	—	381,120
General and administrative	88,707	—	23,236	(21,538)	90,405
Interest	136,036	—	21,459	—	157,495
Depreciation and amortization	6,339	—	471,322	—	477,661
Impairment of real estate	—	—	6,311	—	6,311
Loss on early extinguishment of debt	823	—	299	—	1,122
Total expenses	231,905	—	903,747	(21,538)	1,114,114
Equity in earnings of unconsolidated real estate JVs	—	—	43,981	—	43,981
Equity in earnings of affiliates	591,942	455,574	9,057	(1,056,573)	—
Investment income	—	528	136,235	—	136,763
Gain on sales of real estate – rental properties	—	—	8,704	—	8,704
Net income	379,312	456,102	623,952	(1,056,573)	402,793
Net income attributable to noncontrolling interests	—	—	(23,481)	—	(23,481)
Net income attributable to Alexandria Real Estate Equities, Inc.'s stockholders	379,312	456,102	600,471	(1,056,573)	379,312
Dividends on preferred stock	(5,060)	—	—	—	(5,060)
Preferred stock redemption charge	(4,240)	—	—	—	(4,240)
Net income attributable to unvested restricted stock awards	(6,029)	—	—	—	(6,029)
Net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ 363,983	\$ 456,102	\$ 600,471	\$ (1,056,573)	\$ 363,983

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Operations
for the Year Ended December 31, 2017
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Revenues:					
Rental	\$ —	\$ —	\$ 863,181	\$ —	\$ 863,181
Tenant recoveries	—	—	259,144	—	259,144
Other income (loss)	15,238	(2,575)	11,278	(18,169)	5,772
Total revenues	15,238	(2,575)	1,133,603	(18,169)	1,128,097
Expenses:					
Rental operations	—	—	325,609	—	325,609
General and administrative	73,897	—	19,281	(18,169)	75,009
Interest	101,876	—	26,769	—	128,645
Depreciation and amortization	7,625	—	409,158	—	416,783
Impairment of real estate	—	—	203	—	203
Loss on early extinguishment of debt	670	—	2,781	—	3,451
Total expenses	184,068	—	783,801	(18,169)	949,700
Equity in earnings of unconsolidated real estate JVs	—	—	15,426	—	15,426
Equity in earnings of affiliates	337,923	328,230	6,384	(672,537)	—
Gain on sales of real estate – rental properties	—	—	270	—	270
Gain on sales of real estate – land parcels	—	—	111	—	111
Net income	169,093	325,655	371,993	(672,537)	194,204
Net income attributable to noncontrolling interests	—	—	(25,111)	—	(25,111)
Net income attributable to Alexandria Real Estate Equities, Inc.'s stockholders	169,093	325,655	346,882	(672,537)	169,093
Dividends on preferred stock	(7,666)	—	—	—	(7,666)
Preferred stock redemption charge	(11,279)	—	—	—	(11,279)
Net income attributable to unvested restricted stock awards	(4,753)	—	—	—	(4,753)
Net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ 145,395	\$ 325,655	\$ 346,882	\$ (672,537)	\$ 145,395

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Operations
for the Year Ended December 31, 2016
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Revenues:					
Rental	\$ —	\$ —	\$ 673,820	\$ —	\$ 673,820
Tenant recoveries	—	—	223,655	—	223,655
Other income (loss)	10,607	147	27,515	(14,038)	24,231
Total revenues	10,607	147	924,990	(14,038)	921,706
Expenses:					
Rental operations	—	—	278,408	—	278,408
General and administrative	62,234	—	15,688	(14,038)	63,884
Interest	85,613	—	21,340	—	106,953
Depreciation and amortization	6,792	—	306,598	—	313,390
Impairment of real estate	—	—	209,261	—	209,261
Loss on early extinguishment of debt	3,230	—	—	—	3,230
Total expenses	157,869	—	831,295	(14,038)	975,126
Equity in losses of unconsolidated real estate JVs	—	—	(184)	—	(184)
Equity in earnings of affiliates	81,361	47,215	959	(129,535)	—
Gain on sale of real estate – rental properties	—	—	3,715	—	3,715
Gain on sales of real estate – land parcels	—	—	90	—	90
Net (loss) income	(65,901)	47,362	98,275	(129,535)	(49,799)
Net income attributable to noncontrolling interests	—	—	(16,102)	—	(16,102)
Net (loss) income attributable to Alexandria Real Estate Equities, Inc.'s stockholders	(65,901)	47,362	82,173	(129,535)	(65,901)
Dividends on preferred stock	(20,223)	—	—	—	(20,223)
Preferred stock redemption charge	(61,267)	—	—	—	(61,267)
Net income attributable to unvested restricted stock awards	(3,750)	—	—	—	(3,750)
Net (loss) income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ (151,141)	\$ 47,362	\$ 82,173	\$ (129,535)	\$ (151,141)

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Comprehensive Income
for the Year Ended December 31, 2018
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Net income	\$ 379,312	\$ 456,102	\$ 623,952	\$(1,056,573)	\$ 402,793
Other comprehensive loss					
Unrealized (losses) gains on interest rate hedge agreements:					
Unrealized interest rate hedge gains arising during the period	1,622	—	—	—	1,622
Reclassification adjustment for amortization of interest income included in net income	(4,941)	) —	—	—	(4,941)
Unrealized losses on interest rate hedge agreements, net	(3,319)	) —	—	—	(3,319)
Unrealized losses on foreign currency translation:					
Unrealized foreign currency translation losses arising during the period	—	—	(7,369)	) —	(7,369)
Unrealized losses on foreign currency translation, net	—	—	(7,369)	) —	(7,369)
Total other comprehensive loss	(3,319)	) —	(7,369)	) —	(10,688)
Comprehensive income	375,993	456,102	616,583	(1,056,573)	392,105
Less: comprehensive income attributable to noncontrolling interests	—	—	(23,481)	) —	(23,481)
Comprehensive income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ 375,993	\$ 456,102	\$ 593,102	\$(1,056,573)	\$ 368,624

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Comprehensive Income
for the Year Ended December 31, 2017
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Net income	\$ 169,093	\$ 325,655	\$ 371,993	\$(672,537)	\$ 194,204
Other comprehensive income (loss)					
Unrealized (losses) gains on available-for-sale equity securities:					
Unrealized holding (losses) gains arising during the period	—	(5)	24,365	—	24,360
Reclassification adjustment for losses included in net income	—	2	6,116	—	6,118
Unrealized (losses) gains on available-for-sale equity securities, net	—	(3)	30,481	—	30,478
Unrealized gains (losses) on interest rate hedge agreements:					
Unrealized interest rate hedge gains (losses) arising during the period	3,025	—	(188)	—	2,837
Reclassification adjustment for amortization of interest expense included in net income	1,914	—	1	—	1,915
Unrealized gains (losses) on interest rate hedge agreements, net	4,939	—	(187)	—	4,752
Unrealized gains on foreign currency translation:					
Unrealized foreign currency translation gains arising during the period	—	—	7,774	—	7,774
Reclassification adjustment for cumulative foreign currency translation losses included in net income upon sale or liquidation	—	—	1,599	—	1,599
Unrealized gains on foreign currency translation, net	—	—	9,373	—	9,373
Total other comprehensive income (loss)	4,939	(3)	39,667	—	44,603
Comprehensive income	174,032	325,652	411,660	(672,537)	238,807
Less: comprehensive income attributable to noncontrolling interests	—	—	(25,045)	—	(25,045)
Comprehensive income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ 174,032	\$ 325,652	\$ 386,615	\$(672,537)	\$ 213,762

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Comprehensive Income
for the Year Ended December 31, 2016
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non- Guarantor Subsidiaries	Eliminations	Consolidated
Net (loss) income	\$ (65,901)	\$ 47,362	\$ 98,275	\$(129,535)	\$(49,799)
Other comprehensive income (loss)					
Unrealized (losses) gains on available-for-sale equity securities:					
Unrealized holding gains (losses) arising during the period	—	135	(79,968)	—	(79,833)
Reclassification adjustment for gains included in net income	—	(148)	(18,325)	—	(18,473)
Unrealized (losses) gains on available-for-sale equity securities, net	—	(13)	(98,293)	—	(98,306)
Unrealized gains on interest rate hedge agreements:					
Unrealized interest rate hedge (losses) gains arising during the period	(1,338)	—	188	—	(1,150)
Reclassification adjustment for amortization of interest expense included in net income	5,272	—	1	—	5,273
Unrealized gains on interest rate hedge agreements, net	3,934	—	189	—	4,123
Unrealized gains on foreign currency translation:					
Unrealized foreign currency translation losses arising during the period	—	—	(2,579)	—	(2,579)
Reclassification adjustment for cumulative foreign currency translation losses included in net income upon sale or liquidation	—	—	52,926	—	52,926
Unrealized gains on foreign currency translation, net	—	—	50,347	—	50,347
Total other comprehensive income (loss)	3,934	(13)	(47,757)	—	(43,836)
Comprehensive (loss) income	(61,967)	47,349	50,518	(129,535)	(93,635)
Less: comprehensive income attributable to noncontrolling interests	—	—	(16,102)	—	(16,102)
Comprehensive (loss) income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	\$ (61,967)	\$ 47,349	\$ 34,416	\$(129,535)	\$(109,737)

F-62

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows
for the Year Ended December 31, 2018
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Operating Activities					
Net income	\$ 379,312	\$ 456,102	\$ 623,952	\$(1,056,573)	\$ 402,793
Adjustments to reconcile net income to net cash (used in) provided by operating activities:					
Depreciation and amortization	6,339	—	471,322	—	477,661
Loss on early extinguishment of debt	823	—	299	—	1,122
Impairment of real estate	—	—	6,311	—	6,311
Gain on sales of real estate – rental properties	—	—	(8,704)	) —	(8,704)
Equity in earnings of unconsolidated real estate JVs	—	—	(43,981)	) —	(43,981)
Distributions of earnings from unconsolidated real estate JVs	—	—	430	—	430
Amortization of loan fees	8,777	—	1,494	—	10,271
Amortization of debt discounts (premiums)	797	—	(3,203)	) —	(2,406)
Amortization of acquired below-market leases	—	—	(21,938)	) —	(21,938)
Deferred rent	—	—	(93,883)	) —	(93,883)
Stock compensation expense	35,019	—	—	—	35,019
Equity in earnings of affiliates	(591,942)	) (455,574)	) (9,057)	) 1,056,573	—
Investment income	—	(528)	) (136,235)	) —	(136,763)
Changes in operating assets and liabilities:					
Tenant receivables	—	—	435	—	435
Deferred leasing costs	—	—	(57,088)	) —	(57,088)
Other assets	(14,701)	) —	(6,148)	) —	(20,849)
Accounts payable, accrued expenses, and tenant security deposits	20,663	—	1,246	—	21,909
Net cash (used in) provided by operating activities	(154,913)	) —	725,252	—	570,339
Investing Activities					
Proceeds from sales of real estate	—	—	20,190	—	20,190
Additions to real estate	—	—	(927,168)	) —	(927,168)
Purchase of real estate	—	—	(1,037,180)	) —	(1,037,180)
Deposits for investing activities	—	—	(2,000)	) —	(2,000)
Investments in subsidiaries	(1,693,774)) (1,463,063)) (30,076)) 3,186,913	—
	—	—	(35,922)) —	(35,922)

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Acquisition of interest in unconsolidated real estate JVs					
Investments in unconsolidated real estate joint ventures	—	—	(116,008)	—	(116,008)
Return of capital from unconsolidated real estate JVs	—	—	68,592	—	68,592
Additions to investments	—	—	(235,943)	—	(235,943)
Sales of investments	—	956	102,723	—	103,679
Net cash used in investing activities	\$ (1,693,774)	\$ (1,462,107)	\$ (2,192,792)	\$ 3,186,913	\$ (2,161,760)

F-63

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows (continued)
for the Year Ended December 31, 2018
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Financing Activities					
Borrowings from secured notes payable	\$ —	\$ —	\$ 17,784	\$ —	\$ 17,784
Repayments of borrowings from secured notes payable	—	—	(156,888)	—	(156,888)
Proceeds from issuance of unsecured senior notes payable	899,321	—	—	—	899,321
Borrowings from unsecured senior line of credit	4,741,000	—	—	—	4,741,000
Repayments of borrowings from unsecured senior line of credit	(4,583,000)	—	—	—	(4,583,000)
Repayments of borrowings from unsecured senior bank term loan	(200,000)	—	—	—	(200,000)
Transfer to/from parent company	105,961	1,462,098	1,618,854	(3,186,913)	—
Payments of loan fees	(19,292)	—	—	—	(19,292)
Repurchases of 7.00% Series D cumulative convertible preferred stock	(13,976)	—	—	—	(13,976)
Proceeds from the issuance of common stock	1,293,301	—	—	—	1,293,301
Dividends on common stock	(380,632)	—	—	—	(380,632)
Dividends on preferred stock	(5,207)	—	—	—	(5,207)
Contributions from and sales of noncontrolling interests	—	—	28,275	—	28,275
Distributions to and purchase of noncontrolling interests	—	—	(32,253)	—	(32,253)
Net cash provided by financing activities	1,837,476	1,462,098	1,475,772	(3,186,913)	1,588,433
Effect of foreign exchange rate changes on cash and cash equivalents	—	—	(2,068)	—	(2,068)
Net (decrease) increase in cash, cash equivalents, and restricted cash	(11,211)	(9)	6,164	—	(5,056)
Cash, cash equivalents, and restricted cash as of the beginning of period	130,516	9	146,661	—	277,186
Cash, cash equivalents, and restricted cash as of the end of period	\$ 119,305	\$ —	\$ 152,825	\$ —	\$ 272,130
Supplemental Disclosure of Cash Flow Information:					
Cash paid during the period for interest, net of interest capitalized	\$ 104,935	\$ —	\$ 22,158	\$ —	\$ 127,093
Non-Cash Investing Activities:					
Changes in accrued capital expenditures	\$ —	\$ —	\$ 81,177	\$ —	\$ 81,177

Payable for purchase of real estate \$ — \$ — \$ (65,000) \$ — \$ (65,000)

F-64

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows
for the Year Ended December 31, 2017
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Operating Activities					
Net income	\$ 169,093	\$ 325,655	\$ 371,993	\$(672,537)	\$ 194,204
Adjustments to reconcile net income to net cash (used in) provided by operating activities:					
Depreciation and amortization	7,625	—	409,158	—	416,783
Loss on early extinguishment of debt	670	—	2,781	—	3,451
Impairment of real estate	—	—	203	—	203
Gain on sales of real estate – rental properties	—	—	(270	) —	(270)
Gain on sales of real estate – land parcels	—	—	(111	) —	(111)
Equity in earnings from unconsolidated real estate JVs	—	—	(15,426	) —	(15,426)
Distributions of earnings from unconsolidated real estate JVs	—	—	1,618	—	1,618
Amortization of loan fees	7,627	—	3,522	—	11,149
Amortization of debt discounts (premiums)	608	—	(3,120	) —	(2,512)
Amortization of acquired below-market leases	—	—	(19,055	) —	(19,055)
Deferred rent	—	—	(107,643	) —	(107,643)
Stock compensation expense	25,610	—	—	—	25,610
Equity in earnings of affiliates	(337,923	) (328,230	) (6,384	) 672,537	—
Investment income	—	2,575	(3,904	) —	(1,329)
Changes in operating assets and liabilities:					
Tenant receivables	—	—	(502	) —	(502)
Deferred leasing costs	—	—	(62,639	) —	(62,639)
Other assets	(9,343	) —	(8,879	) —	(18,222)
Accounts payable, accrued expenses, and tenant security deposits	(10,524	) —	36,097	—	25,573
Net cash (used in) provided by operating activities	(146,557	) —	597,439	—	450,882
Investing Activities					
Proceeds from sales of real estate	—	—	15,432	—	15,432
Additions to real estate	—	—	(893,685	) —	(893,685)
Purchase of real estate	—	—	(675,584	) —	(675,584)
Deposits for investing activities	—	—	(2,300) —	(2,300)
Investments in subsidiaries	(1,458,973) (1,257,845) (25,872) 2,742,690	—

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Acquisition of interest in unconsolidated real estate JVs	—	—	(60,291) —	(60,291)		
Investments in unconsolidated real estate joint ventures	—	—	(17,876) —	(17,876)		
Return of capital from unconsolidated real estate JVs	—	—	38,576	—	38,576			
Additions to investments	—	—	(171,881	) —	(171,881)	
Sales of investments	—	208	30,275	—	30,483			
Net cash used in by investing activities	\$ (1,458,973)	\$ (1,257,637)	\$ (1,763,206)	\$ 2,742,690	\$ (1,737,126)

F-65

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows (continued)
for the Year Ended December 31, 2017
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Financing Activities					
Borrowings from secured notes payable	\$ —	\$ —	\$ 153,405	\$ —	\$ 153,405
Repayments of borrowings from secured notes payable	—	—	(396,240)	—	(396,240)
Proceeds from issuance of unsecured senior notes payable	1,023,262	—	—	—	1,023,262
Borrowings from unsecured senior line of credit	3,858,000	—	—	—	3,858,000
Repayments of borrowings from unsecured senior line of credit	(3,836,000)	—	—	—	(3,836,000)
Repayment of borrowings from unsecured senior bank term loan	(200,000)	—	—	—	(200,000)
Transfer to/from parent company	64,156	1,257,646	1,420,888	(2,742,690)	—
Payments of loan fees	(9,440)	—	(579)	—	(10,019)
Repurchases of 7.00% Series D cumulative convertible preferred stock	(17,934)	—	—	—	(17,934)
Redemption of 6.45% Series E cumulative redeemable preferred stock	(130,350)	—	—	—	(130,350)
Proceeds from the issuance of common stock	1,275,397	—	—	—	1,275,397
Dividends on common stock	(312,131)	—	—	—	(312,131)
Dividends on preferred stock	(9,619)	—	—	—	(9,619)
Contributions from and sales of noncontrolling interests	—	—	44,931	—	44,931
Distributions to and purchases of noncontrolling interests	—	—	(22,361)	—	(22,361)
Net cash provided by financing activities	1,705,341	1,257,646	1,200,044	(2,742,690)	1,420,341
Effect of foreign exchange rate changes on cash and cash equivalents	—	—	1,723	—	1,723
Net increase in cash, cash equivalents, and restricted cash	99,811	9	36,000	—	135,820
Cash, cash equivalents, and restricted cash as of the beginning of period	30,705	—	110,661	—	141,366
Cash, cash equivalents, and restricted cash as of the end of period	\$ 130,516	\$ 9	\$ 146,661	\$ —	\$ 277,186
Supplemental Disclosure of Cash Flow Information:					
Cash paid during the period for interest, net of interest capitalized	\$ 85,705	\$ —	\$ 26,408	\$ —	\$ 112,113

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Non-Cash Investing Activities:

Changes in accrued construction	\$ —	\$ —	\$ (11,034)	\$ —	\$ (11,034)
Contribution of real estate from noncontrolling interests	\$ —	\$ —	\$ 8,597	\$ —	\$ 8,597
Contribution of real estate to an unconsolidated real estate JV	\$ —	\$ —	\$ 6,998	\$ —	\$ 6,998

F-66

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows
for the Year Ended December 31, 2016
(In thousands)

	Alexandria Real Estate Equities, Inc. (Issuer)	Alexandria Real Estate Equities, L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Operating Activities					
Net (loss) income	\$ (65,901)	\$ 47,362	\$ 98,275	\$(129,535)	\$(49,799)
Adjustments to reconcile net income (loss) to net cash (used in) provided by operating activities:					
Depreciation and amortization	6,792	—	306,598	—	313,390
Loss on early extinguishment of debt	3,230	—	—	—	3,230
Impairment of real estate	—	—	209,261	—	209,261
Gains on sales of real estate – land parcel	—	—	(90)	—	(90)
Gains on sales of real estate – rental properties	—	—	(3,715)	—	(3,715)
Equity in losses from unconsolidated real estate JVs	—	—	184	—	184
Distributions of earnings from unconsolidated real estate JVs	—	—	406	—	406
Amortization of loan fees	7,709	—	4,163	—	11,872
Amortization of debt discounts (premiums)	488	—	(988)	—	(500)
Amortization of acquired below-market leases	—	—	(5,723)	—	(5,723)
Deferred rent	—	—	(51,673)	—	(51,673)
Stock compensation expense	25,433	—	—	—	25,433
Equity in earnings of affiliates	(81,361)	(47,215)	(959)	129,535	—
Investment income	—	(379)	(16,754)	—	(17,133)
Changes in operating assets and liabilities:					
Tenant receivables	—	—	(285)	—	(285)
Deferred leasing costs	—	(14)	(35,259)	—	(35,273)
Other assets	(10,191)	(1)	(1,228)	—	(11,420)
Accounts payable, accrued expenses, and tenant security deposits	5,806	(609)	125	—	5,322
Net cash (used in) provided by operating activities	(107,995)	(856)	502,338	—	393,487
Investing Activities					
Proceeds from sales of real estate	—	—	123,081	—	123,081
Additions to real estate	—	—	(821,690)	—	(821,690)
Purchase of real estate	—	—	(739,678)	—	(739,678)
Deposit for investing activities	—	—	(450)	—	(450)
Investments in subsidiaries	(877,512)	(907,695)	(18,514)	1,803,721	—

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Investments in unconsolidated real estate joint ventures	—	—	(11,529)	—	(11,529)
Additions to investments	—	—	(102,284)	—	(102,284)
Sales of investments	—	1,251	37,695	—	38,946
Repayment of notes receivable	—	—	15,198	—	15,198
Net cash used in investing activities	\$ (877,512)	\$ (906,444)	\$ (1,518,171)	\$ 1,803,721	\$ (1,498,406)

F-67

22. Condensed consolidating financial information (continued)

Condensed Consolidating Statement of Cash Flows (continued)

for the Year Ended December 31, 2016

(In thousands)

	Alexandria Real Estate Equities Inc. (Issuer)	Alexandria Real Estate Equities L.P. (Guarantor Subsidiary)	Combined Non-Guarantor Subsidiaries	Eliminations	Consolidated
Financing Activities					
Borrowings from secured notes payable	\$ —	\$ —	\$ 291,400	\$ —	\$ 291,400
Repayments of borrowings from secured notes payable	—	—	(310,903)	—	(310,903)
Proceeds from issuance of unsecured senior notes payable	348,604	—	—	—	348,604
Borrowings from unsecured senior line of credit	4,117,000	—	—	—	4,117,000
Repayments of borrowings from unsecured senior line of credit	(4,240,000)	—	—	—	(4,240,000)
Repayments of borrowings from unsecured senior bank term loan	(200,000)	—	—	—	(200,000)
Transfer to/from parent company	8,346	907,300	888,075	(1,803,721)	—
Payments of loan fees	(12,401)	—	(4,280)	—	(16,681)
Repurchases of 7.00% Series D cumulative convertible preferred stock	(206,826)	—	—	—	(206,826)
Proceeds from the issuance of common stock	1,432,177	—	—	—	1,432,177
Dividends on common stock	(240,347)	—	—	—	(240,347)
Dividends on preferred stock	(22,414)	—	—	—	(22,414)
Financing costs paid for sales of noncontrolling interests	—	—	(10,044)	—	(10,044)
Contributions from and sales of noncontrolling interests	—	—	221,487	—	221,487
Distributions to and purchases of noncontrolling interests	—	—	(69,678)	—	(69,678)
Net cash provided by financing activities	984,139	907,300	1,006,057	(1,803,721)	1,093,775
Effect of foreign exchange rate changes on cash and cash equivalents	—	—	(1,460)	—	(1,460)
Net decrease in cash, cash equivalents, and restricted cash	(1,368)	—	(11,236)	—	(12,604)
Cash, cash equivalents, and restricted cash as of the beginning of period	32,073	—	121,897	—	153,970
Cash, cash equivalents, and restricted cash as of the end of period	\$ 30,705	\$ —	\$ 110,661	\$ —	\$ 141,366
Supplemental Disclosure of Cash Flow Information:					
Cash paid during the period for interest, net of interest capitalized	\$ 67,066	\$ —	\$ 17,841	\$ —	\$ 84,907

Non-Cash Investing Activities:

Change in accrued construction	\$ —	\$	—\$ 76,848	\$	—	\$ 76,848
Payable for purchase of real estate	\$ —	\$	—\$ (56,800)	\$	—	\$ (56,800)
Assumption of secured notes payable in connection with purchase of real estate	\$ —	\$	—\$ (203,000)	\$	—	\$ (203,000)
Net investment in direct financing lease	\$ —	\$	—\$ 36,975	\$	—	\$ 36,975
Distribution of real estate in connection with purchase of remaining 49% interest in real estate joint venture with Uber	\$ —	\$	—\$ (25,546)	\$	—	\$ (25,546)
Consolidation of previously unconsolidated real estate joint venture	\$ —	\$	—\$ 87,930	\$	—	\$ 87,930

Non-Cash Financing Activities:

Redemption of redeemable noncontrolling interest	\$ —	\$	—\$ (5,000)	\$	—	\$ (5,000)
Contribution from redeemable noncontrolling interest	\$ —	\$	—\$ 2,264	\$	—	\$ 2,264

F-68

Schedule III

Alexandria Real Estate Equities, Inc. and Subsidiaries

Schedule III

Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation

December 31, 2018

(Dollars in thousands)

Property	Market	Encumbrances	Initial Costs		Costs Capitalized Subsequent to Acquisitions			Total ⁽¹⁾	Accumulated Depreciation	Net Book Basis
			Land	Buildings & Improvements	Buildings & Improvements	Land	Buildings & Improvements			
Alexandria Center [®] at Kendall Square	Greater Boston	\$228,769 ⁽⁴⁾ ₍₅₎	\$279,668	\$205,491	\$1,404,365	\$279,668	\$1,609,856	\$1,889,524	\$(187,742)	\$1,701,782
325 Binney Street	Greater Boston	—	84,338	47	15,592	84,338	15,639	99,977	—	99,977
Alexandria Technology Square [®]	Greater Boston	—	—	619,658	214,662	—	834,320	834,320	(226,968)	607,352
Alexandria Center [®] at One Kendall Square	Greater Boston	214,057	265,614	483,769	196,284	265,614	680,053	945,667	(54,566)	891,101
480 and 500 Arsenal Street	Greater Boston	—	9,773	12,773	86,231	9,773	99,004	108,777	(38,023)	70,754
640 Memorial Drive	Greater Boston	83,212	—	174,878	354	—	175,232	175,232	(29,119)	146,113
780 and 790 Memorial Drive	Greater Boston	—	—	—	51,485	—	51,485	51,485	(22,832)	28,653
167 Sidney Street and 99 Erie Street	Greater Boston	—	—	12,613	13,704	—	26,317	26,317	(6,700)	19,617
79/96 13th Street (Charlestown Navy Yard)	Greater Boston	—	—	6,247	8,706	—	14,953	14,953	(5,083)	9,870
99 A Street	Greater Boston	—	31,671	878	4,087	31,671	4,965	36,636	(342)	36,294
Alexandria Park at 128 225 Second Avenue	Greater Boston	—	10,439	41,596	78,992	10,439	120,588	131,027	(40,748)	90,279
	Greater Boston	—	2,925	14,913	39,739	2,925	54,652	57,577	(6,946)	50,631
		—	14,161	55,081	14,317	14,161	69,398	83,559	(5,487)	78,072

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266 and 275 Second Avenue	Greater Boston										
100 Tech Drive	Greater Boston	—	11,977	85,620	200	11,977	85,820	97,797	(2,035)	95,762
19 Presidential Way	Greater Boston	—	12,833	27,333	20,135	12,833	47,468	60,301	(13,534	)	46,767
100 Beaver Street	Greater Boston	—	1,466	9,046	13,200	1,466	22,246	23,712	(6,369	)	17,343
285 Bear Hill Road	Greater Boston	—	422	3,538	6,888	422	10,426	10,848	(2,164	)	8,684
111 and 130 Forbes Boulevard	Greater Boston	—	3,146	15,725	3,260	3,146	18,985	22,131	(5,808	)	16,323
20 Walkup Drive	Greater Boston	—	2,261	7,099	9,029	2,261	16,128	18,389	(3,395	)	14,994
30 Bearfoot Road	Greater Boston	—	1,220	22,375	45	1,220	22,420	23,640	(17,958	)	5,682
Alexandria Center® for Science & Technology	San Francisco	—	93,813	210,211	402,766	93,813	612,977	706,790	(125,115	)	581,682
1455 and 1515 Third Street	San Francisco	—	117,637	—	—	117,637	—	117,637	—		117,637
510 Townsend Street	San Francisco	—	52,105	—	174,108	52,105	174,108	226,213	(6,648	)	219,565
88 Bluxome Street	San Francisco	—	148,551	21,514	30,534	148,551	52,048	200,599	(4,593	)	196,006
505 Brannan Street	San Francisco	—	31,710	2,540	105,965	31,710	108,505	140,215	(3,578	)	136,637
213, 249, 259, 269, and 279 East Grand Avenue	San Francisco	—	59,199	—	486,463	59,199	486,463	545,662	(31,738	)	513,924
Alexandria Technology Center® – Gateway	San Francisco	—	45,425	121,059	33,778	45,425	154,837	200,262	(54,566	)	145,696
701 Gateway Boulevard	San Francisco	—	25,580	47,835	3,521	25,580	51,356	76,936	(2,046	)	74,890
400 and 450 East Jamie Court	San Francisco	—	—	—	113,594	—	113,594	113,594	(41,189)	72,405

F-69

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Schedule III (continued)

Property	Market	Encumbrances	Initial Costs		Costs Capitalized Subsequent to Acquisitions		Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements	Total ⁽¹⁾	Accumulated Depreciation	Net Cost Basis ⁽²⁾	Date of Construction ⁽³⁾
			Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements							
500 Forbes Boulevard	San Francisco	\$—	\$35,596	\$69,091	\$17,503	\$35,596	\$86,594	\$122,190	\$(24,988)	\$97,202	2001		
7000 Shoreline Court	San Francisco	—	7,038	39,704	16,746	7,038	56,450	63,488	(17,384)	46,104	2001		
341 and 343 Oyster Point Boulevard	San Francisco	—	7,038	—	33,682	7,038	33,682	40,720	(16,558)	24,162	2009-2013		
849/863 Mitten Road/866 Malcolm Road	San Francisco	—	3,211	8,665	22,113	3,211	30,778	33,989	(12,196)	21,793	2012		
960 Industrial Road	San Francisco	—	66,608	5,419	10,803	66,608	16,222	82,830	(2,805)	80,025	N/A		
825 and 835 Industrial Road	San Francisco	—	87,566	—	50,289	87,566	50,289	137,855	—	137,855	N/A		
2425 Garcia Avenue & 2400/2450 Bayshore Parkway	San Francisco	751	1,512	21,323	26,187	1,512	47,510	49,022	(21,337)	27,685	2008		
3165 Porter Drive	San Francisco	—	—	19,154	2,263	—	21,417	21,417	(7,848)	13,569	2002		
1450 Page Mill Road	San Francisco	—	—	84,467	98	—	84,565	84,565	(3,432)	81,133	2017		
3350 West Bayshore Road	San Francisco	—	4,800	6,693	12,736	4,800	19,429	24,229	(5,334)	18,895	1982		
2625/2627/2631 Hanover Street	San Francisco	—	—	6,628	11,887	—	18,515	18,515	(9,761)	8,754	2000		
201 Haskins Way	San Francisco	—	32,245	1,287	18,251	32,245	19,538	51,783	(1,445)	50,338	N/A		
Alexandria PARC	San Francisco	—	72,859	53,309	6,140	72,859	59,449	132,308	(1,028)	131,280	1984		
Alexandria Center® for Life Science	New York City	—	—	—	840,976	—	840,976	840,976	(140,671)	700,305	2010-2016		
219 East 42nd Street	New York City	—	141,266	63,312	2,043	141,266	65,355	206,621	(4,522)	202,099	1995		
Alexandria Life Science Factory at Long Island	New York City	—	22,746	53,093	2,690	22,746	55,783	78,529	(72)	78,457	N/A		

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City											
ARE Spectrum	San Diego	—	32,361	80,957	199,768	32,361	280,725	313,086	(45,897)	267,189	2008-2017
ARE Torrey Ridge	San Diego	—	22,124	152,840	27,818	22,124	180,658	202,782	(17,681)	185,101	2003-2004
ARE Sunrise	San Diego	—	6,118	17,947	81,293	6,118	99,240	105,358	(44,659)	60,699	2000-2015
ARE Nautilus	San Diego	—	6,684	27,600	122,982	6,684	150,582	157,266	(38,844)	118,422	2010-2012
3545 Cray Court	San Diego	33,238	8056	53,944	368	7,056	54,312	61,368	(33,490)	27,878	1998
11119 North Torrey Pines Road	San Diego	15,606	994	37,099	34,084	9,994	71,183	81,177	(18,477)	62,700	2012
5200 Illumina Way	San Diego	—	38,340	96,606	195,100	38,340	291,706	330,046	(40,779)	289,267	2004-2017
Campus Pointe by Alexandria	San Diego	—	48,644	211,125	280,243	48,644	491,368	540,012	(92,388)	447,624	1991-2016
10260 Campus Point Drive	San Diego	—	32,139	16,258	336	32,139	16,594	48,733	—	48,733	1988
4161 Campus Point Court	San Diego	—	38,243	3,537	290	38,243	3,827	42,070	—	42,070	1988
ARE Towne Centre	San Diego	—	8,539	18,850	110,718	8,539	129,568	138,107	(48,259)	89,848	2000-2018
ARE Esplanade	San Diego	10,577	8682	29,991	88,773	9,682	118,764	128,446	(22,904)	105,542	1989-2016
Summers Ridge Science Park	San Diego	—	21,154	102,046	392	21,154	102,438	123,592	(2,628)	120,964	2005
5810/5820 and 6138/6150 Nancy Ridge Drive	San Diego	—	5,476	28,682	12,491	5,476	41,173	46,649	(16,675)	29,974	2000-2001
ARE Portola 10121 and 10151 Barnes Canyon Road	San Diego	—	6,991	25,153	39,490	6,991	64,643	71,634	(9,443)	62,191	2005-2012
7330 Carroll Road	San Diego	—	4,608	5,100	19,102	4,608	24,202	28,810	(3,061)	25,749	1988-2014
5871 Oberlin Drive	San Diego	—	2,650	19,878	1,897	2,650	21,775	24,425	(4,564)	19,861	2007
Vista Wateridge I & II	San Diego	—	1,349	8,016	3,925	1,349	11,941	13,290	(2,156)	11,134	2004
	San Diego	—	3,286	—	735	3,286	735	4,021	—	4,021	N/A

F-70

Schedule III (continued)

Property	Market	Encumbrance	Initial Costs		Costs Capitalized Subsequent to Acquisitions		Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements	Total ⁽¹⁾	Accumulated Depreciation ⁽²⁾	Net Cost Basis	Date of Construction ⁽³⁾	Date Acquired
			Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements	Buildings & Land Improvements								
11025, 11035, 11045, 11055, 11065, and 11075 Roselle Street	San Diego	\$—	\$4,156	\$11,571	\$30,373	\$4,156	\$41,944	\$46,100	\$(10,859)	\$35,241			2006-2014	1997
3985, 4025, 4031, and 4045 Sorrento Valley Boulevard	San Diego	—	4,323	22,846	23,308	4,323	46,154	50,477	(20,963)	29,514			2007	2010
13112 Evening Creek Drive	San Diego	—	7,393	27,950	188	7,393	28,138	35,531	(11,786)	23,745			2007	2007
Townsgate by Alexandria	San Diego	—	16,416	—	1,442	16,416	1,442	17,858	(3)	17,855			N/A	2018
400 Dexter Avenue	Seattle	—	11,342	—	209,315	11,342	209,315	220,657	(12,438)	208,219			2017	2007
701 Dexter Avenue	Seattle	—	35,316	719	1,665	35,316	2,384	37,700	(100)	37,600			1984	2018
1201 and 1208 Eastlake Avenue	Seattle	39,133	5,810	47,149	15,212	5,810	62,361	68,171	(40,526)	27,645			1997	2002
1616 Eastlake Avenue	Seattle	—	6,940	—	98,231	6,940	98,231	105,171	(30,547)	74,624			2013	2003
1551 Eastlake Avenue	Seattle	—	8,525	20,064	42,607	8,525	62,671	71,196	(14,775)	56,421			2012	2004
199 East Blaine Street	Seattle	—	6,528	—	72,331	6,528	72,331	78,859	(21,989)	56,870			2010	2004
219 Terry Avenue	Seattle	—	1,819	2,302	19,807	1,819	22,109	23,928	(6,364)	17,564			2012	2007

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North 1600 Fairview Avenue	Seattle	—	2,212	6,788	7,491	2,212	14,279	16,491	(4,081)	12,410	2007	2005
188 East Blaine Street	Seattle	—	—	8,444	89,865	—	98,309	98,309	(97)	98,212	N/A	2015
2301 5th Avenue	Seattle	—	6,543	76,180	607	6,543	76,787	83,330	(1,093)	82,237	2002	2018
3000/3018 Western Avenue	Seattle	—	1,432	7,497	24,021	1,432	31,518	32,950	(13,336)	19,614	2000	1998
410 West Harrison/410 Elliott Avenue West	Seattle	—	3,857	1,989	11,270	3,857	13,259	17,116	(5,221)	11,895	2006-2008	2004
9800, 9900, and 9920 Medical Center Drive	Maryland	—	20,219	112,543	130,511	20,219	243,054	263,273	(68,110)	195,163	1985-2018	2004
9704, 9708, 9712, and 9714 Medical Center Drive	Maryland	—	10,258	74,173	534	10,258	74,707	84,965	(1,285)	83,680	2015	2018
1330 Piccard Drive	Maryland	—	2,800	11,533	34,768	2,800	46,301	49,101	(17,340)	31,761	2005	1997
1500 and 1550 East Gude Drive	Maryland	—	1,523	7,731	6,426	1,523	14,157	15,680	(7,444)	8,236	1995-2003	1997
14920 and 15010 Broschart Road	Maryland	—	4,904	15,846	4,922	4,904	20,768	25,672	(5,340)	20,332	1998-1999	2004
1405 Research Boulevard	Maryland	—	899	21,946	11,961	899	33,907	34,806	(13,706)	21,100	2006	1997
5 Research Place 9920	Maryland	—	1,466	5,708	28,437	1,466	34,145	35,611	(13,702)	21,909	2010	2001
Belward Campus Drive	Maryland	—	2,732	12,308	62	2,732	12,370	15,102	(211)	14,891	2007	2018
12301 Parklawn Drive	Maryland	—	1,476	7,267	1,167	1,476	8,434	9,910	(2,731)	7,179	2007	2004
5 Research Court	Maryland	—	1,647	13,258	18,293	1,647	31,551	33,198	(13,790)	19,408	2007	2004
Alexandria Technology Center® – Gaithersburg I	Maryland	—	10,183	59,641	34,242	10,183	93,883	104,066	(31,995)	72,071	1992-2009	1997

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Alexandria Technology Center® – Gaithersburg II	Maryland	—	4,531	21,594	32,184	4,531	53,778	58,309	(24,973)	33,336	2000-2003	1997
21 First Field Road 50 and 55	Maryland	—	2,407	13,091	80	2,407	13,171	15,578	(226)	15,352	2015	2018
West Watkins Mill Road 401	Maryland	—	4,574	23,759	96	4,574	23,855	28,429	(408)	28,021	2015	2018
Professional Drive 950 Wind River Lane 620	Maryland	—	1,129	6,941	9,379	1,129	16,320	17,449	(6,626)	10,823	2007	1996
Professional Drive	Maryland	5,068	784	4,705	7,353	784	12,058	12,842	(4,656)	8,186	2012	2005

F-71

Schedule III (continued)

Property	Market	Encumbrances	Initial Costs		Costs Capitalized Subsequent to Acquisitions		Total Costs	Total ⁽¹⁾	Accumulated Depreciation
			Land	Buildings & Improvements	Buildings & Improvements	Land			
8000/9000/10000 Virginia Manor Road	Maryland	\$—	\$—	\$13,679	\$6,924	\$—	\$20,603	\$20,603	\$(9,956)
14225 Newbrook Drive	Maryland	—	4,800	27,639	11,562	4,800	39,201	44,001	(16,389)
Alexandria Technology Center® – Alston	Research Triangle Park	—	1,430	17,482	30,395	1,430	47,877	49,307	(22,117)
Alexandria Center® for AgTech – RTP	Research Triangle Park	—	2,000	6,756	45,550	2,000	52,306	54,306	(61)
9 Laboratory Drive	Research Triangle Park	—	800	—	833	800	833	1,633	—
108/110/112/114 TW Alexander Drive	Research Triangle Park	—	—	376	43,025	—	43,401	43,401	(18,045)
Alexandria Innovation Center® – Research Triangle Park	Research Triangle Park	—	1,065	21,218	29,977	1,065	51,195	52,260	(16,690)
6 Davis Drive	Research Triangle Park	—	9,029	10,712	13,484	9,029	24,196	33,225	(12,366)
7 Triangle Drive	Research Triangle Park	—	701	—	32,433	701	32,433	33,134	(6,403)
2525 East NC Highway 54	Research Triangle Park	—	713	12,827	20,642	713	33,469	34,182	(7,581)
407 Davis Drive	Research Triangle Park	—	1,229	17,733	696	1,229	18,429	19,658	(2,885)
601 Keystone Park Drive	Research Triangle Park	—	785	11,546	7,074	785	18,620	19,405	(5,361)
6040 George Watts Hill Drive	Research Triangle	—	—	—	26,344	—	26,344	26,344	(2,328)

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5 Triangle Drive	Park Research Triangle	—	161	3,409	6,889	161	10,298	10,459	(4,796)
6101 Quadrangle Drive	Park Research Triangle	—	951	3,982	11,128	951	15,110	16,061	(2,866)
Canada	Canada	—	10,350	43,884	9,027	10,350	52,911	63,261	(18,887)
Various	Various	—	58,931	70,220	186,245	58,931	256,465	315,396	(50,705)
Total – North America		630,547	2,383,346	4,487,239	7,277,642	2,383,346	11,764,881	14,148,227	(2,263,79)
Asia		—	—	—	33,553	—	33,553	33,553	(4,290)
		\$630,547	\$2,383,346	\$4,487,239	\$7,311,195	\$2,383,346	\$11,798,434	\$14,181,780	\$(2,268,0)

F-72

Schedule III (continued)

Alexandria Real Estate Equities, Inc.
Consolidated Financial Statement Schedule of Rental Properties and Accumulated Depreciation
December 31, 2018
(Dollars in thousands)

- (1) The aggregate cost of real estate for federal income tax purposes is not materially different from the cost basis under GAAP (unaudited).
- (2) The depreciable life ranges up to 40 years for buildings and improvements, up to 20 years for land improvements, and the term of the respective lease for tenant improvements.
- (3) Represents the later of the date of original construction or the date of the latest renovation.
- (4) Represents \$35,723 related to the loan in footnote (5) and \$193,046 of other debt.
- (5) Loan of \$106,243 secured by six properties identified by this reference.

F-73

Schedule III (continued)

Alexandria Real Estate Equities, Inc.

Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation

December 31, 2018

(In thousands)

A summary of activity of consolidated investments in real estate and accumulated depreciation is as follows:

	December 31,		
Real Estate	2018	2017	2016
Balance at beginning of period	\$12,178,255	\$10,632,518	\$8,945,261
Acquisitions (including real estate, land, and joint venture consolidation)	1,057,036	707,522	1,078,959
Additions to real estate	959,410	881,463	914,178
Deductions (including dispositions and direct financing leases)	(12,921)	(43,248)	(305,880)
Balance at end of period	\$14,181,780	\$12,178,255	\$10,632,518
	December 31,		
Accumulated Depreciation	2018	2017	2016
Balance at beginning of period	\$1,880,236	\$1,554,546	\$1,315,339
Depreciation expense on properties	390,471	348,064	265,387
Sale of properties	(2,620)	(22,374)	(26,180)
Balance at end of period	\$2,268,087	\$1,880,236	\$1,554,546