"Alexandria has achieved the three outputs that define a great company: *Superior Results, Distinctive Impact, and Lasting Endurance.*"

JIM COLLINS
Renowned Author & Business Strategist

ALEXANDRIA REAL ESTATE EQUITIES, INC.
2022 ANNUAL REPORT

A ONE-OF-A-KIND ONCE-IN-A-GENERATION COMPANY

ARE LISTED NYSE

ALEXANDRIA®

Building the Future of Life-Changing Innovation®

ARE LISTED NYSE

Alexandria Celebrates

25 YEARS ON THE NYSE

May 27, 2022 marked 25 years of Alexandria being listed on the New York Stock Exchange. In reaching this major milestone in our over 29-year history, it is remarkable to reflect on our company's extraordinary strategic growth from the visionary pioneer of the life science real estate niche in 1994 to our successful IPO in 1997 to our position today, having led and transformed life science real estate from a specialty niche to a mainstream asset class.

MAY 27, 1997 → DECEMBER 31, 2022

CREDIT RATING UNRATED → **TOP 10%**[1]	**MARKETS** 4 → **9**
TOTAL MARKET CAP[2] $300M → **$35B**	**TOTAL SQUARE FOOTAGE** 1.5M → **74.6M**
TOTAL REVENUES $35M → **$2.6B**	**NUMBER OF PROPERTIES** 15 → **432**
FUNDS FROM OPERATIONS $17M → **$1.4B**[3]	**TENANTS** 35 → **~1,000**

In celebration of Alexandria's 25th anniversary on the NYSE, our executive chairman and founder, Joel S. Marcus, alongside members of the company's board of directors and long-tenured executive management team, rang The Opening Bell on May 16, 2022.

1. Top 10% ranking represents credit rating levels from S&P Global Ratings and Moody's Investors Service for publicly traded U.S. REITs, from Bloomberg Professional Services as of December 31, 2022.
2. Total market capitalization is equal to the sum of total equity capitalization and total debt.
3. Represents funds from operations – diluted, as adjusted. For information on Alexandria's funds from operations, including a definition and a reconciliation from the most directly comparable GAAP measure, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for the fiscal year ended December 31, 2022.

Celebrating 25 Years on the NYSE

ALEXANDRIA'S OUTSTANDING LONG-TERM VALUE

Since our IPO in 1997, we have upheld our operational excellence across all facets of our business to drive exceptional long-term total value for our stockholders, significantly outperforming major indices and companies.

TOTAL STOCKHOLDER RETURN FROM ARE'S IPO ON MAY 27, 1997[1] TO DECEMBER 31, 2022

Sources: Bloomberg and S&P Global Market Intelligence. Assumes reinvestment of dividends.
1. Alexandria's initial public offering (IPO) priced at $20.00 per share on May 27, 1997.

ALEXANDRIA'S OUTSTANDING 5-YEAR AVERAGE FORWARD FFO PER SHARE MULTIPLE

"We reiterate our Outperform rating given ARE's strong development pipeline, robust balance sheet, lack of debt maturities until 2025 and industry leading relationship with tenants."

EVERCORE ISI (JANUARY 31, 2023)[1]

AVERAGE FOR THE FIVE YEARS ENDED DECEMBER 31, 2022

#1

Among FTSE Nareit Equity Office Index REITs

#2

Among Select REITs

For each company presented, represents the average of forward FFO per share multiple results as of each year-end from 2018 through 2022. Each forward FFO multiple is calculated as the quotient of a company's year-end stock price and forward FFO per share estimated for the following year by Bloomberg Professional Services.

1. Source: ARE company update from Evercore ISI.

A Letter From Our Executive Chairman & Founder

WE ARE ONE-OF-A-KIND

ALEXANDRIA: A ONE-OF-A-KIND, ONCE-IN-A-GENERATION COMPANY

2022 was an extraordinary year for Alexandria. We celebrated our 25th anniversary as an NYSE listed company — a significant milestone that is a testament to the enduring strength of our one-of-a-kind, once-in-a-generation company. Against the backdrop of a deleterious macroeconomic environment, we achieved another outstanding year of operating and financial performance. These results were made possible thanks to our differentiated business model; sustained operational excellence; fortress balance sheet; world-class brand at the vanguard and heart of the life science ecosystem, the national treasure that has saved millions of lives during the COVID-19 pandemic; and our long-tenured and highly experienced team with unique life science expertise.

It has been remarkable for me to reflect on the incredible transformation Alexandria has undergone from our modest beginnings to our position today as a highly respected investment-grade S&P 500® REIT. We founded Alexandria in 1994 as a garage startup with $19 million in Series A capital and a bold vision to create a new kind of real estate company uniquely focused on building the complex infrastructure needed to catalyze medical innovation to improve human health. Three years after our inception, we took the company public on the NYSE on May 27, 1997, with just 15 properties totaling 1.5 million square feet. Today, we have a multifaceted business model, unmatched scale with a total asset base of nearly 75 million square feet in the nation's top innovation clusters, and a REIT industry-leading client base of approximately 1,000 tenants that has been diligently cultivated and is not replicable. We are enormously proud of these accomplishments, which attest to the strength of our brand and our standing as the undisputed leading owner, operator, and developer of collaborative campuses for transformative life science companies.

As renowned author and business strategist Jim Collins said, "Alexandria has achieved the three outputs that define a great company: **Superior Results**, **Distinctive Impact**, and **Lasting Endurance**."

ACHIEVING *SUPERIOR RESULTS* THROUGH OUR DIFFERENTIATED & MULTIFACETED BUSINESS MODEL

At Alexandria, our mission to advance human health by curing disease and improving nutrition drives us each and every day. It has shaped our pioneering and impactful business, which we have built on the foundation of our four strategic and integrated verticals — real estate, venture investments, thought leadership, and corporate responsibility — to holistically create collaborative campuses and support vibrant ecosystems that enable the world's most innovative companies to develop scientific discoveries and technological advancements to benefit humankind.

Our unique business model continues to contribute to the company's superior results and exceptional long-term total stockholder return (TSR). Since our IPO in May 1997, we have maintained the highest standards of excellence to generate long-term value for our stockholders. Alexandria's outstanding TSR of 1,673% (assuming reinvestment of dividends) from our IPO through December 31, 2022 significantly outperformed major indices over the same period, including Nasdaq's TSR of 838%, the MSCI U.S. REIT's TSR of 684%, and the S&P 500's TSR of 628%.

This year, Alexandria delivered approximately 8.5% earnings growth in funds from operations per share – diluted, as adjusted, and continued to strengthen our fortress balance sheet — the strongest in our history and one of the strongest in the REIT industry — a remarkable accomplishment in any year but especially noteworthy in a turbulent macroeconomic market. As of December 31, 2022, our investment-grade credit ratings, which ranked in the top 10% among all publicly traded U.S. REITs, and our significant liquidity of $5.3 billion afford us flexibility to manage our strategic business initiatives. Also as of December 31, 2022, Alexandria's unrivaled client base continues to generate stable, long-duration cash flows that support increasing dividends with a yield of 3.3%.

Our high-quality and diverse tenants in our Class A properties in AAA locations continue to drive strong results, with 90% of Alexandria's top 20 tenants annual rental revenue as of December 31, 2022 generated from investment-grade or publicly traded large cap tenants. Highlighting our high-credit tenancy and the essential nature of our Labspace® platform, we collected an average of more than 99% of rents and tenant recoveries in 2022.

Alexandria also continued to capitalize on the strong valuations in the private market by sourcing significant equity-type capital for reinvestment in 2022. This year, our real estate dispositions and partial interest sales unlocked tremendous value, and we successfully completed $2.2 billion of value harvesting for reinvestment in a highly strategic and disciplined manner.

Additionally, we are extremely proud to have earned our fifth consecutive and seventh overall Nareit Investor CARE Award in the Large Cap Equity REIT category for excellence in communications and reporting, demonstrating our consistently best-in-class transparency, quality, and efficiency in communications and reporting to the investment community.

WORLD-CLASS BRAND DELIVERING *DISTINCTIVE IMPACT*

While we continue to deliver strong returns and prudently manage our business, Alexandria's stellar and well-earned reputation in the life science industry has established us as the go-to brand for delivering complex laboratory infrastructure and excellence in operations to the industry's most innovative companies. We continue to cultivate trusted relationships with them to help accelerate the translation of their cutting-edge scientific discoveries into novel medicines to improve and save lives.

Our ability to strategically partner and form enduring partnerships with our tenants is distinctive in the real estate industry and is a testament to Alexandria's operational excellence. Our decades of expert leadership in providing amenity-rich campuses with inspirational design and people-centered placemaking, along with our ability to adapt, innovate, and be a valued and trusted partner, has resulted in an incredibly loyal client base with an average retention rate of more than 80% over the past five years.

The life science industry is large, diverse, and complex. Our client base reflects this diversity with approximately 1,000 tenants that span multinational pharmaceutical companies; public and private biotechnology companies; life science products, such as research tools and manufacturers of complex medicines; and top-tier investment-grade companies and institutions.

Exemplifying the importance of our tenants' work to society and underscoring Alexandria's impressive reach across the life science industry, 50% of all FDA-approved therapies have come from our tenants since 2013. As for the broader industry, we have seen a growing cadence of success in its unrelenting pursuit of innovation on behalf of patients. In the last five years, the FDA has approved nearly 250 novel medicines, compared to just over 180 in the five years prior.

VISIONARY STRATEGY DRIVING *LASTING ENDURANCE*

Our extraordinary growth was accelerated by our visionary cluster development and ecosystem-building strategy, as informed by Harvard Business Professor Michael E. Porter's cluster theory. Utilizing this theory as the basis of our proven cluster model, for which we identified four critical components for innovative companies to thrive — location, innovation, talent, and capital — we shifted our focus during 2004–2006 from single assets to high-potential urban innovation cluster campuses as the first mover in Mission Bay, Cambridge, and New York City. We then deliberately evolved from amenity-rich collaborative cluster campuses to today's differentiated mega campuses of 1 million RSF or more.

Demonstrating the demand for our unrivaled mega campuses, design prowess, and operational excellence, Alexandria achieved our second-highest annual leasing volume in company history with over 8 million RSF this year, of which 74% was generated from existing tenants. Notably, we executed a long-term 427,000 RSF lease with Bristol Myers Squibb (BMS) in 2022 for the development of the global pharmaceutical company's newest cutting-edge R&D facility located on our Campus Point by Alexandria mega campus in San Diego. The purpose-built development is designed to accelerate collaboration and will support the company's innovative research in cancer as well as immune-mediated and neurodegenerative diseases. This historic milestone lease marks the second-largest life science lease in Alexandria's history and furthers our more than 25-year relationship with BMS.

Another exceptional example of our cultivation of strategic long-term relationships is Eli Lilly's selection of 15 Necco Street in the Seaport Innovation District of Greater Boston for its new Lilly Institute for Genetic Medicine and its signing of a 334,000 RSF long-term lease. This iconic facility will support Lilly's efforts to leverage promising RNA- and DNA-based technologies to develop novel therapies to treat or cure diseases such as diabetes, Parkinson's, and cancer. For more than a decade, Alexandria has provided Lilly with long-term real estate solutions, including 15 Necco, that aggregate 1 million RSF on campuses across our Greater Boston, San Francisco Bay Area, New York City, and San Diego cluster locations.

With over 10,000 diseases known to humankind and less than 10% currently addressable with therapies, the incredible innovation taking place within our facilities is and will remain a national imperative. Nearly 40% of adult men and women will be diagnosed with cancer during their lifetimes. One in five adults in the nation's population suffers from a mental health disorder, and there were more than 100,000 deaths due to overdose in the last year alone.

Catalyzed by innovative technologies, massive unmet medical needs, and strong fundamentals, the life science industry remains uniquely positioned to tackle and solve our most persistent and major healthcare challenges. The emergence of a new golden age of biology at this time only enhances the industry's structural integrity and its ability to weather macroeconomic volatility. It reaffirms the fundamental truth Alexandria recognized nearly three decades ago: laboratory infrastructure is essential for advancing innovation that improves human health.

This golden age is also driving the life science industry's war for talent and increasing demand for our mega campuses, which have been purposefully designed to support our tenants' mission-critical efforts to recruit and retain the best people, and we expect it will continue to generate significant demand for Alexandria's Labspace real estate platform and fuel the company's truly exceptional growth.

LOOKING FORWARD

As we look to 2023, we want to thank our 1,000 clients for putting their trust in the Alexandria brand and for their continued perseverance in seeking and advancing groundbreaking medical innovation to benefit humankind. We also thank our one-of-a-kind team for their extraordinary dedication to Alexandria and our solemn mission, and for their passion, dedication, and unmatched operational excellence, which continue to enable our tremendous success and outstanding accomplishments. We are grateful to our stockholders for your continued support and belief in our differentiated and mission-driven business.

I am humbled and proud to lead the one-of-a-kind, once-in-a-generation company I founded and to work alongside our Alexandria family team to fulfill our critical mission to advance human health. Our unwavering commitment to enable our tenants' life-changing work encapsulates Alexandria's world-class brand, and it unites and drives us as we continue to work every day to help them in that pursuit.

With sincere gratitude,

Joel S. Marcus
Executive Chairman & Founder

ALEXANDRIA'S IRREPLACEABLE LIFE SCIENCE REAL ESTATE PLATFORM DOMINATES THE SCARCE ASSET CLASS WE PIONEERED

In 1994, Alexandria identified and created the life science real estate product type by focusing primarily on building the essential infrastructure needed to catalyze innovation to improve human health. Since our founding as a garage startup with four properties totaling 313,000 RSF, we have expanded our asset base to nearly 75 million square feet, including approximately 47 million RSF in operation or under construction, as of year-end 2022 — truly remarkable.

By methodically and rationally scaling our business over the past 29 years, Alexandria has assembled the largest and highest-quality collection of life science assets in the nation's top innovation clusters. Our tremendous success in building Alexandria's dominant platform can be attributed to three key factors: first, our first mover advantage as the visionary pioneer of life science real estate; second, our one-of-a-kind brand defined by operational excellence across all facets of our unique business; and third, our best-in-class assets and unrivaled mega campuses.

We leveraged our significant first mover advantage to execute our bold cluster development strategy that unites the four critical components needed for life science companies to thrive: location, innovation, talent, and capital. Our strategic foresight allowed us to assemble an irreplaceable asset base in the best locations near leading research institutions, giving us a dominant market share in the core life science ecosystems we have shaped.

For nearly three decades, we have built a one-of-a-kind brand that the world's leading innovators trust for their mission-critical infrastructure. From design to development to the management of our facilities, our vertically integrated teams demonstrate the highest levels of operational excellence to support our tenants' relentless efforts to meet very large unmet medical needs and enhance quality of life for patients around the world.

The unparalleled locations and quality of our assets and campuses continue to set our platform apart, resulting in strong cash flows from the impressive roster of approximately 1,000 tenants who count on Alexandria for superior space that not only enables their innovative research but also acts as a critical tool to help them recruit and retain the best scientific and managerial talent in the world, which is by far their greatest asset.

Alexandria's multifaceted and unassailable platform of irreplaceable locations and high-quality life science buildings with high-credit tenants leads an asset class whose scarcity cannot be overstated. A 2022 midyear report by Newmark[1] estimates the operating footprint of life science assets across the United States' top 14 life science clusters as a modest 174 million square feet, of which Alexandria is the clear leader, controlling more square footage than the next four-largest owners of life science real estate combined.

Our dominant platform, coupled with the scarcity of high-quality life science assets, creates strong demand for our asset recycling program. Over the past five years, we have taken advantage of attractive private market valuations to raise $7 billion in capital through dispositions and partial interest sales — the largest amount of capital from asset recycling we have ever raised over a five-year period. 2022 marked another year of our impeccable execution of this program, completing $2.2 billion of value harvesting with an impressive 4.4% cash cap rate, for which we realized a gain of $1.2 billion and a value-creation margin of 107%.

In the first quarter of 2022, we created tremendous value for our stockholders by selling a 70% interest in 100 Binney Street, located in Cambridge's Kendall Square, with a 3.5% cash cap rate, generating $713 million in equity-type capital at a value-creation margin of 136%. In 3Q22 alone, we raised $1.0 billion in capital through asset sales, a remarkable volume in a time of high interest-rate volatility. The quarter's partial interest sales included a 70% stake in 3215 Merryfield Row, a state-of-the-art facility in San Diego's Torrey Pines submarket, which generated $150 million in equity-type capital to recycle into our highly leased value-creation pipeline. In addition to raising accretive capital, in the case of partial interest sales, we continue to maintain asset control and collect management and other fees.

Our ability to monetize our investments at significant profit margins, even in turbulent times, enables the funding of the next generation of Class A developments and highlights the essential and resilient nature of our business. We are in the early innings of the golden age of biology, with an acceleration in the development of transformative new modalities to treat and even cure disease. The life science industry remains positioned to solve major healthcare challenges, including by pursuing options for people living with Alzheimer's and advancing technologies to detect pancreatic cancer in time to save lives. We are incredibly proud to be the trusted real estate partner of this vital industry as it delivers life-changing and lifesaving innovations.

Lastly, I would like to extend my profound gratitude to Steve Richardson, my former Co-CEO, who retired in mid-2022. During his 22 years with Alexandria, Steve inspired countless teammates with his generous leadership, calm demeanor, and genuine care for the Alexandria family and our mission; we continue to be guided by his example.

Many thanks,

Peter M. Moglia
Chief Executive Officer &
Co-Chief Investment Officer

1. Source: Newmark, "2022 Mid-Year Life Science Overview & Market Clusters," August 2022.

100 BINNEY STREET, GREATER BOSTON

3215 MERRYFIELD ROW, SAN DIEGO

ALEXANDRIA'S FORTRESS BALANCE SHEET WITH SIGNIFICANT LIQUIDITY

Outstanding execution by our best-in-class team led to exceptional operating and financial results in 2022, and we continued to strengthen our fortress balance sheet — the strongest in our history as of December 31, 2022.

This achievement is particularly remarkable against the backdrop of a challenging macroenvironment. The enduring strength of our balance sheet is a testament to our disciplined and nimble execution of liability management and to the incremental enhancements we have made year after year over the past decade.

We are incredibly proud of our many balance sheet accomplishments in another momentous year in our company's history. Notably, we ended 2022 with significant liquidity of $5.3 billion that provides us important flexibility to navigate headwinds and execute our unique business strategy. As one of only two S&P 500 REITs without debt maturing prior to 2025, we will not be faced with the need to refinance amid a rising interest rate environment, putting us in a superior position in 2023. Additionally, through our strategic value harvesting and asset recycling program, along with prefunding of equity, we achieved our lowest leverage in company history on a quarterly annualized basis in 4Q22.

We remain vigilant and prepared to adapt to the shifting macroeconomic environment. From our fortress balance sheet to our long-tenured, highly experienced team to our world-class brand, we are well positioned to execute our unique and differentiated business model.

Sincerely,

Dean A. Shigenaga
President & Chief Financial Officer

ALEXANDRIA'S REIT INDUSTRY-LEADING CREDIT PROFILE

TOP 10%
Credit Rating Ranking Among All Publicly Traded U.S. REITs[1]

BBB+
Positive[1]
S&P GLOBAL

Baa1
Stable[1]
MOODY'S

ALEXANDRIA'S REIT INDUSTRY-LEADING BALANCE SHEET

SIGNIFICANT LIQUIDITY
TOP 10 AMONG S&P 500 REITs[2]
$5.3B

DEBT MATURITIES
NO DEBT MATURITIES UNTIL 2025
1 OF ONLY 2 S&P 500 REITs[2]

PERCENTAGE OF DEBT AT FIXED RATES
99.4%

NET DEBT AND PREFERRED STOCK TO ADJUSTED EBITDA[3]
5.1x
LOWEST RATIO IN COMPANY HISTORY

WEIGHTED-AVERAGE

Remaining Debt Term in Years
13.2
LONGEST AMONG S&P 500 REITs[4]

Interest Rate
3.53%

INCREASED LINE OF CREDIT CAPACITY TO
$4.0B

AGGREGATE BOND ISSUANCES IN 2022
$1.8B
at 3.28% for 22-Year Average Term

As of or for the year ended December 31, 2022, unless otherwise specified.

1. A credit rating is not a recommendation to buy, sell, or hold securities and may be subject to revision or withdrawal at any time. Top 10% ranking represents credit rating levels from S&P Global Ratings and Moody's Investors Service for publicly traded U.S. REITs, from Bloomberg Professional Services.
2. As of September 30, 2022. Sources: Company filings and J.P. Morgan, "REIT Detailed Debt Maturities as of September 30, 2022," January 25, 2023. The top 10 ranking of liquidity is based upon the September 30, 2022 Unrestricted Cash & Cash Equivalents and Credit Line Availability as defined by J.P. Morgan.
3. 4Q22 annualized. For information on Alexandria's net debt and preferred stock to Adjusted EBITDA, including a definition and a reconciliation from the most directly comparable GAAP measure, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for the fiscal year ended December 31, 2022.
4. Sources: Company filings and S&P Global Market Intelligence.

ALEXANDRIA CONTINUES TO CAPITALIZE ON STRONG PRIVATE MARKET VALUATIONS BY SOURCING SIGNIFICANT EQUITY-TYPE CAPITAL FOR STRATEGIC REINVESTMENT

2022 REAL ESTATE DISPOSITIONS AND PARTIAL INTEREST SALES

$2.2B Sales Price[1]

4.4% Cash Cap Rate[2]

$1.2B GAIN[3]

107% VALUE-CREATION MARGIN[3]

3-YEAR REAL ESTATE DISPOSITIONS AND PARTIAL INTEREST SALES

$6.0B Sales Price[1]

4.4% Cash Cap Rate[2]

$2.5B GAIN[3]

70% VALUE-CREATION MARGIN[3]

1. Includes initial proceeds from our joint venture partners' contribution toward construction projects.
2. Represents the weighted-average capitalization rate (cash basis) for stabilized operating assets.
3. Gain represents the aggregate gain and consideration in excess of book value recognized on our real estate dispositions and partial interest sales, respectively. Value-creation margin is calculated as the quotient of gain and aggregate gross book value of assets sold.

ALEXANDRIA'S STRATEGIC VISION AND OPERATIONAL EXCELLENCE HAVE LED TO OUR UNPARALLELED ASSET AND TENANT BASES

90%

of Top 20 Tenants Annual Rental Revenue Is From Investment-Grade or Publicly Traded Large Cap Tenants[2]

>80%

Average Retention of Existing Tenants Over the Past Five Years

ALEXANDRIA'S UNMATCHED SCALE ACROSS THE PREMIER LIFE SCIENCE CLUSTERS IN NORTH AMERICA

OVER 30 MEGA CAMPUSES ACROSS OUR ASSET BASE

GREATER BOSTON

SAN FRANCISCO BAY AREA

NEW YORK CITY

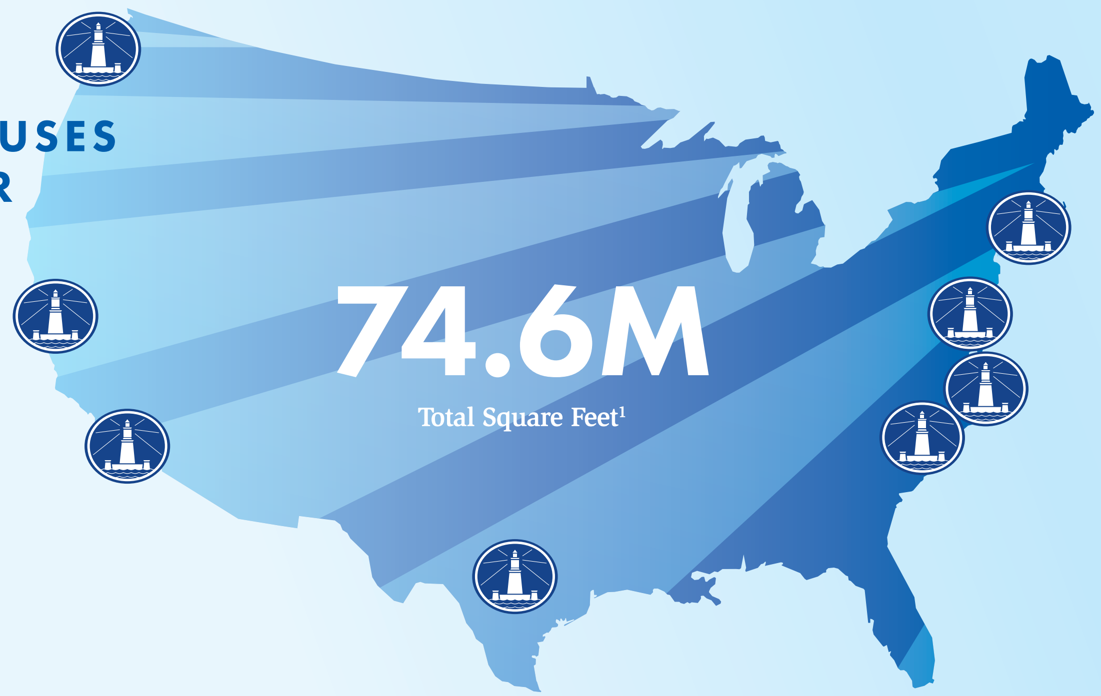
SAN DIEGO

SEATTLE

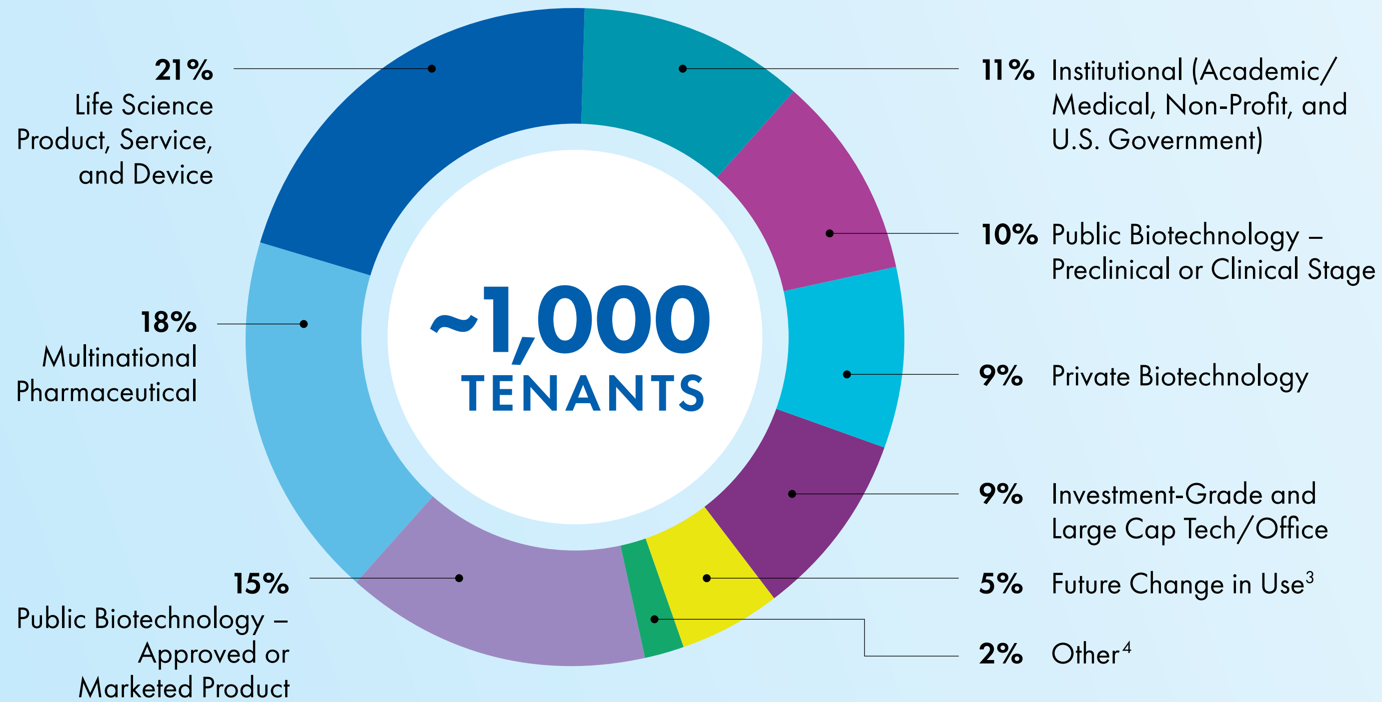
MARYLAND

RESEARCH TRIANGLE

TEXAS



ALEXANDRIA'S REIT INDUSTRY-LEADING CLIENT BASE DRIVES STABLE, LONG-DURATION CASH FLOWS



PERCENTAGE OF ARE'S ANNUAL RENTAL REVENUE

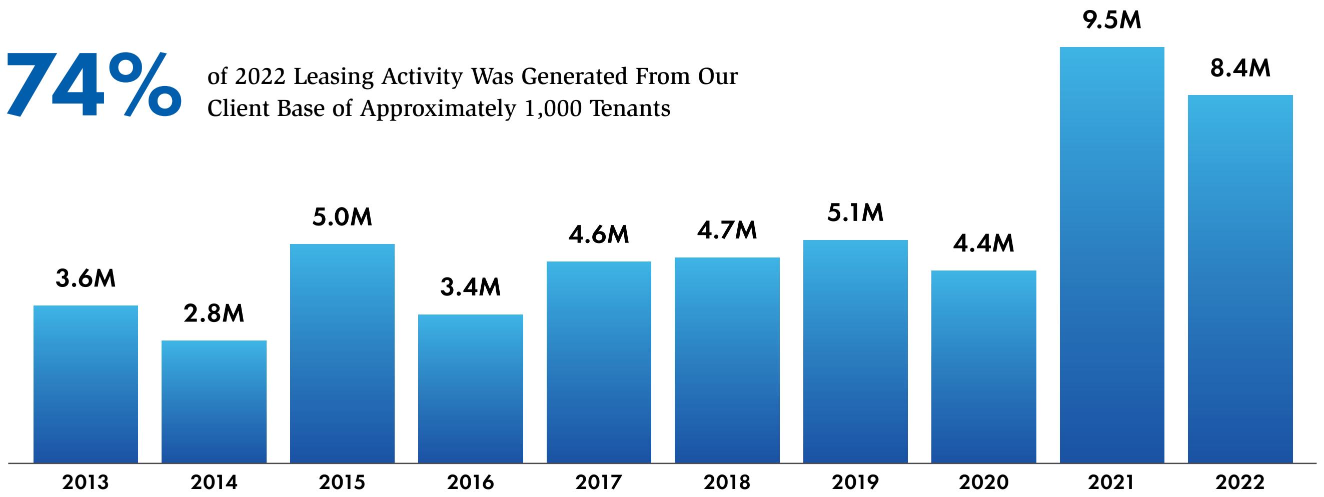
1. As of December 31, 2022, our asset base in North America includes 41.8 million rentable square feet (RSF) of operating properties, 5.6 million RSF of Class A properties undergoing construction, 9.9 million RSF of near-term and intermediate-term development and redevelopment projects, and 17.3 million SF of future development projects.

As of December 31, 2022.

2. Represents the percentage of our annual rental revenue generated by our top 20 tenants that are also investment-grade or publicly traded large cap companies. For information on Alexandria's annual rental revenue and investment-grade or publicly traded large cap tenants, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for the fiscal year ended December 31, 2022.
3. Represents annual rental revenue currently generated from space that is targeted for a future change in use, including 1.1% of total annual rental revenue that is generated from covered land play projects. The weighted-average remaining term of these leases is 5.2 years.
4. Our other tenants, which aggregate 2.0% of our annual rental revenue, comprise technology, professional services, finance, telecommunications, and construction/real estate companies and less than 1.0% of retail-related tenants by annual rental revenue.

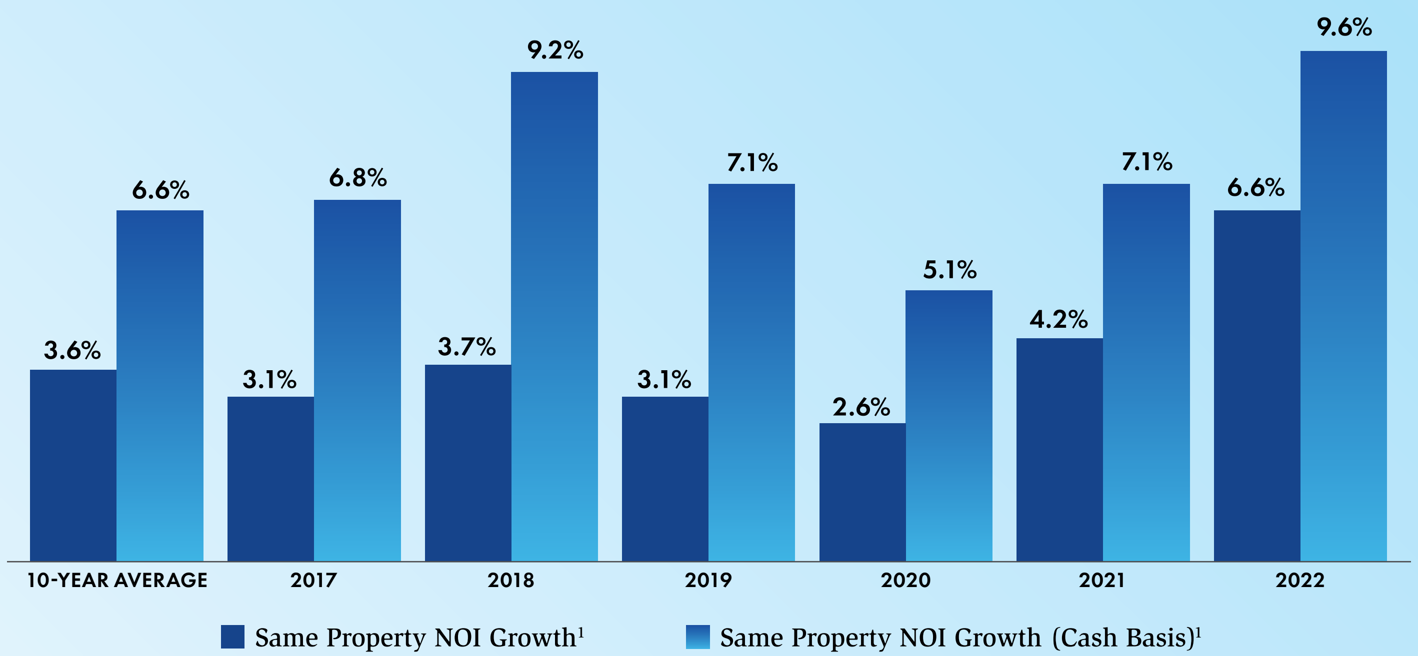
ALEXANDRIA ACHIEVED OUR SECOND-HIGHEST ANNUAL LEASING VOLUME IN COMPANY HISTORY

74% of 2022 Leasing Activity Was Generated From Our Client Base of Approximately 1,000 Tenants



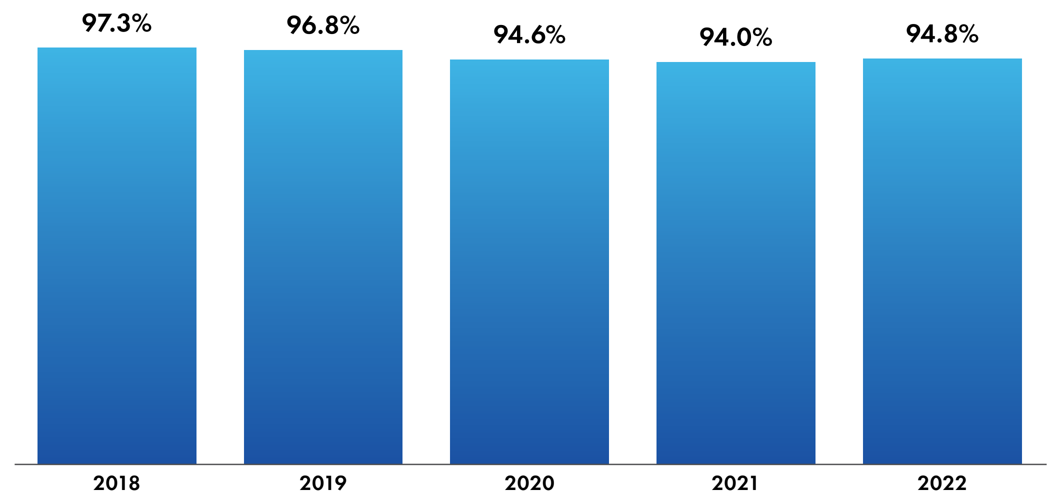
RSF of Leases Executed

ALEXANDRIA REACHED OUR HIGHEST SAME PROPERTY NET OPERATING INCOME GROWTH IN COMPANY HISTORY



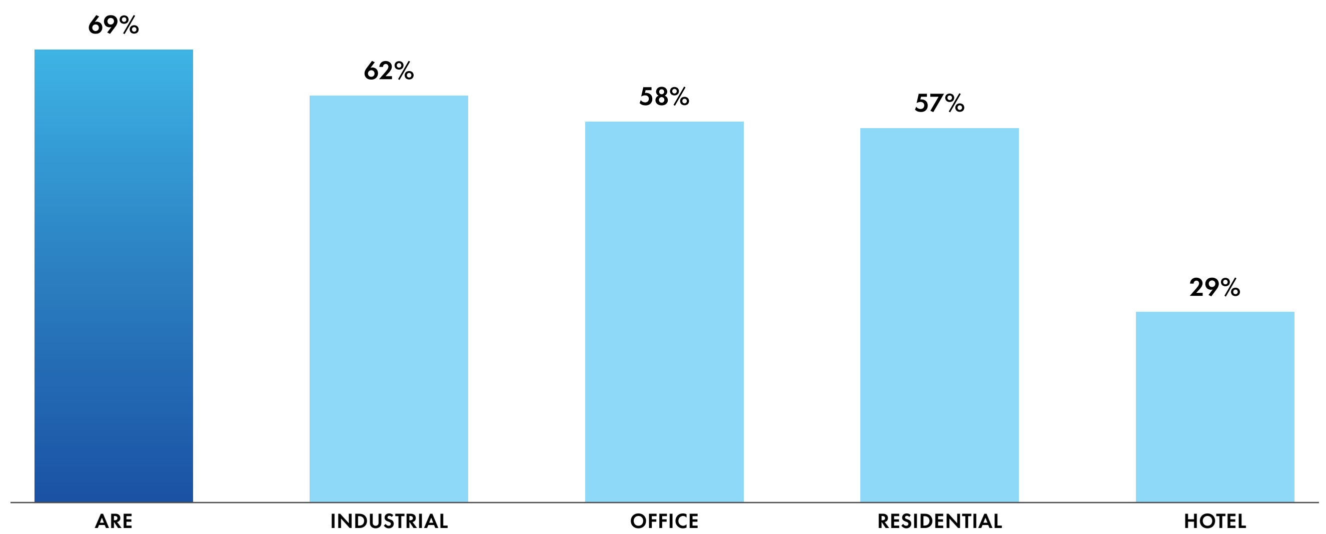
ALEXANDRIA'S SOLID HISTORICAL OCCUPANCY

96% Over 5 Years



Occupancy Percentage[2]

ALEXANDRIA'S REIT INDUSTRY-LEADING ADJUSTED EBITDA MARGIN



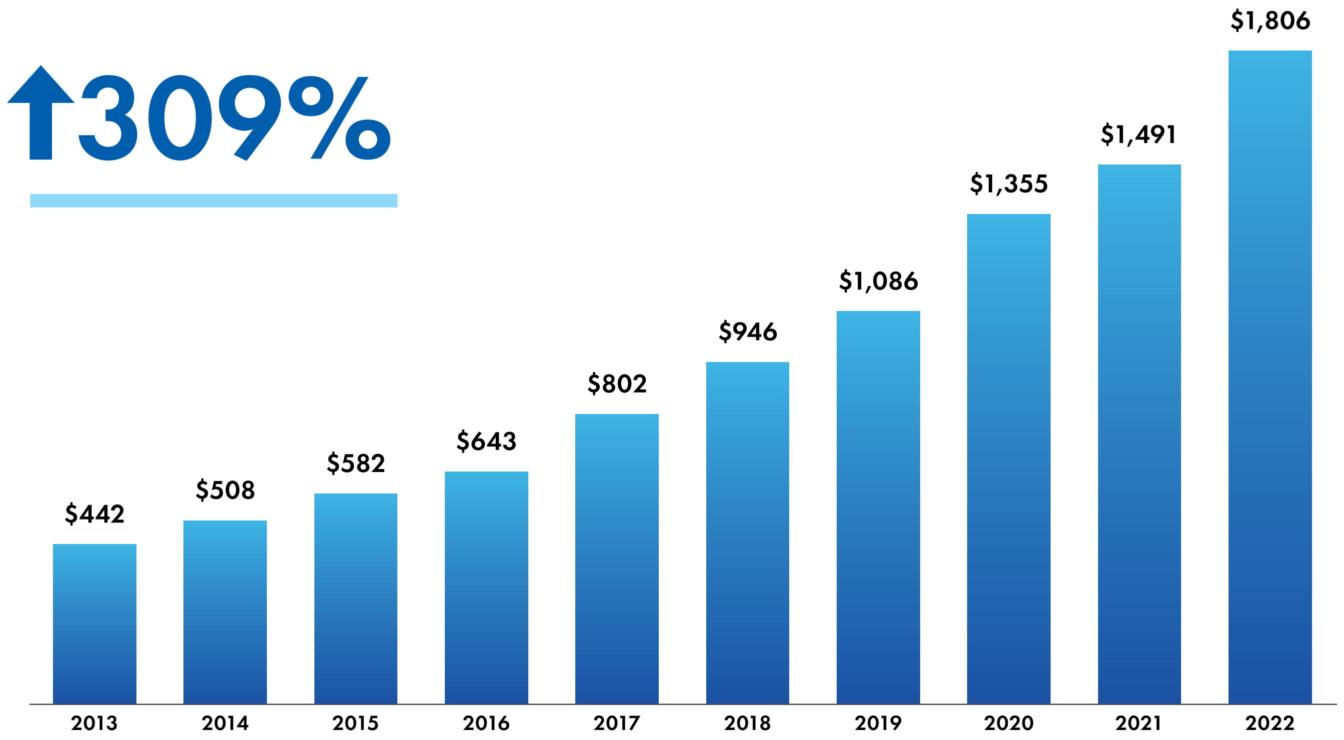
Adjusted EBIDTA Margin[3]

1. For information on Alexandria's net operating income, net operating income (cash basis), and same property performance, including definitions and reconciliations from the most directly comparable GAAP measures, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for each of the fiscal years ended December 31, 2013 through 2022.
2. Represents occupancy percentage of operating properties in North America as of each year-end.
3. Sources: S&P Global Market Intelligence for percentages of REIT asset types as of December 31, 2022. For information on Alexandria's Adjusted EBITDA margin, including a definition and a reconciliation from the most directly comparable GAAP measure, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for the fiscal years ended December 31, 2022.

ALEXANDRIA'S CONSISTENT GROWTH IN NET OPERATING INCOME[1]

$ in Millions

↑309%



DEMAND FOR ALEXANDRIA'S SOUGHT-AFTER BRAND RESULTS IN

HIGHLY LEASED PIPELINE AND NEAR-TERM NET OPERATING INCOME GROWTH

PRIMARILY COMMENCING 1Q23 THROUGH 4Q25

$655M
ANNUAL INCREMENTAL NET OPERATING INCOME

7.6M
RSF[2]

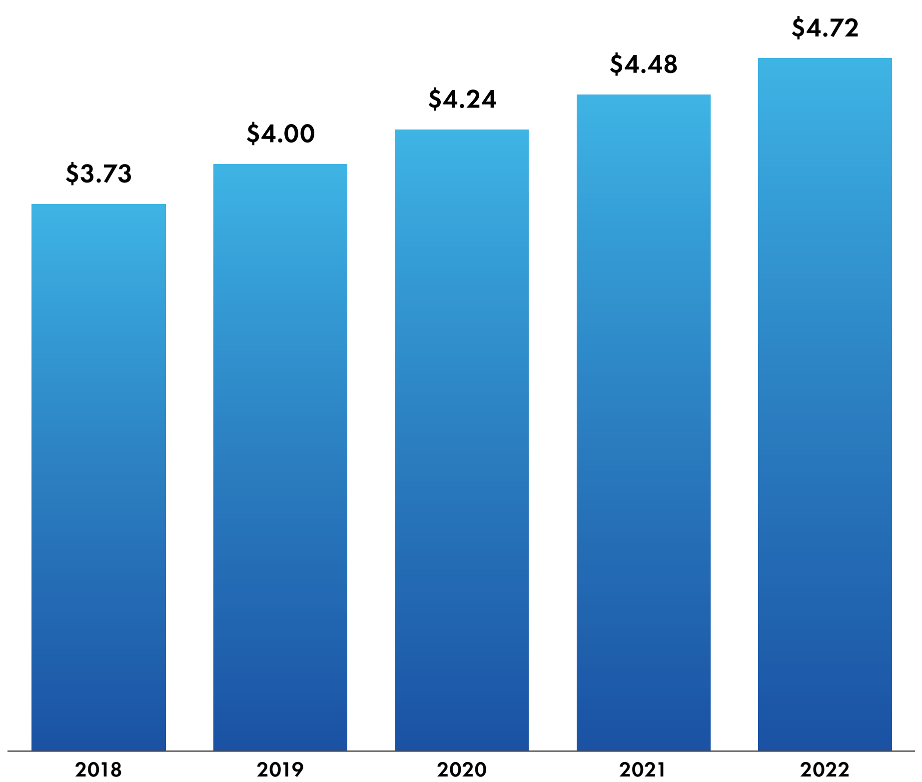
72%
Leased

ALEXANDRIA'S SUSTAINED STRONG REAL ESTATE PERFORMANCE

PER-SHARE GROWTH 2022 VS. 2017

Net Asset Value[3]	Funds From Operations[4]	Common Stock Dividends
↑46%	↑40%	↑37%

ALEXANDRIA'S HISTORICALLY STRONG, CONSISTENT, AND INCREASING DIVIDENDS



Annual Common Stock Dividend Per Share

DIVIDEND YIELD[5]

3.3%

LAST 5 YEARS

6.5%
Average Annual Dividend Per-Share Growth

$1.6B
Cash Flows From Operating Activities After Dividends Retained for Reinvestment

1. For information on Alexandria's net operating income, including a definition and a reconciliation from the most directly comparable GAAP measure, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for each of the fiscal years ended December 31, 2013 through 2022.
2. Represents projects under construction aggregating 5.6 million RSF and seven near-term projects aggregating 2.0 million RSF expected to commence construction during the next four quarters as of December 31, 2022.
3. Based on average net asset value estimates as of the end of each year presented from Bank of America Merrill Lynch, Citigroup Global Markets Inc., Evercore ISI, Green Street, and J.P. Morgan Securities LLC.
4. Represents funds from operations per share – diluted, as adjusted. For information on Alexandria's funds from operations, including a definition and a reconciliation from the most directly comparable GAAP measure, see "Non-GAAP Measures and Definitions" under Item 7 of Alexandria's Annual Report on Form 10-K for the fiscal years ended December 31, 2017 and 2022.
5. Based on the closing price of our common stock as of December 31, 2022 of $145.67 and the common stock dividend declared for the three months ended December 31, 2022 of $1.21 annualized.

ALEXANDRIA'S SIGNIFICANT AWARDS AND RECOGNITIONS IN 2022

COMMUNICATIONS AND REPORTING EXCELLENCE

FIFTH CONSECUTIVE AND SEVENTH OVERALL CARE AWARD

THE MOST NAREIT INVESTOR CARE GOLD AWARDS EARNED BY ANY EQUITY REIT

SUSTAINABILITY

GRESB REAL ESTATE sector leader 2022

BARRON'S

ONE OF THE MOST SUSTAINABLE U.S. REITS

SECOND CONSECUTIVE YEAR

REAL ESTATE

CONTINUED EXCELLENCE IN OPERATIONS, ASSET MANAGEMENT, DESIGN, AND DEVELOPMENT

BOMA TOBY AWARDS

The TOBY Awards recognize quality in commercial buildings and reward excellence in building management

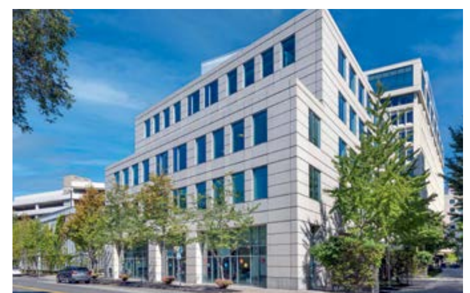
9 LABORATORY DRIVE
RESEARCH TRIANGLE
Winner: Life Science

225 BINNEY STREET
CAMBRIDGE
Winner: Corporate Facility

600/700 ONE KENDALL SQUARE | CAMBRIDGE
Winner: Renovated Building

399 BINNEY STREET
CAMBRIDGE
Winner: Laboratory Building

200 TECHNOLOGY SQUARE
CAMBRIDGE
Winner: Corporate Facility



700 TECHNOLOGY SQUARE
CAMBRIDGE
Winner: Building Under 100K SF

1165 EASTLAKE AVENUE EAST
SEATTLE
Winner: Corporate Facility

ONE-OF-A-KIND BRAND

ALEXANDRIA: THE TRUSTED PARTNER TO THE WORLD'S TOP LIFE SCIENCE COMPANIES

The world-class Alexandria brand means deep experience, expertise, creativity, and dependability, and it has earned us the trust of approximately 1,000 tenants who rely on us daily to help keep their mission-critical R&D platforms operational, safe, and secure as they work tirelessly to improve and save lives.

Bristol Myers Squibb's new research hub in San Diego.

SECOND-LARGEST LIFE SCIENCE LEASE IN COMPANY HISTORY

427K RSF

BMS research hub at Campus Point by Alexandria

Building the Next Level of

ALEXANDRIA AND BRISTOL MYERS SQUIBB'S OVER 25-YEAR TRUSTED STRATEGIC RELATIONSHIP

Designed to illuminate as a beacon of science, the building's dramatic five-story interior atrium creatively illustrates the groundbreaking discoveries taking place within the building while providing open areas and natural light to a beautifully connected space to help BMS accelerate collaboration and foster innovation.

BMS'S GROWTH WITHIN ALEXANDRIA'S ASSET BASE[1]

1.0M RSF

$77.3M
Annual Rental Revenue

6
Alexandria Cluster Markets

7
Alexandria Mega Campuses

8
Mission-Critical Facilities

Bristol Myers Squibb's New Iconic Research Hub in San Diego

Since 1998, Alexandria has leveraged our pioneering real estate platform, unparalleled operational excellence, and best-in-class design to empower Bristol Myers Squibb's growth to further its mission to discover, develop, and deliver innovative medicines that help patients prevail over serious diseases.

In 2022, Alexandria executed a long-term 427,000 RSF lease with BMS for the development of the global pharmaceutical company's newest cutting-edge R&D facility. Situated on the highly sustainable, amenity-rich Campus Point by Alexandria mega campus in the heart of the University Town Center submarket in San Diego, the new research hub will support BMS's groundbreaking research in cancer as well as immune-mediated and neurodegenerative diseases.

CAMPUS POINT BY ALEXANDRIA MEGA CAMPUS[2] | SAN DIEGO

THE LEADING DESTINATION FOR THE SAN DIEGO LIFE SCIENCE COMMUNITY

Home to a collaborative ecosystem of over 20 high-quality entities

Exceptional amenity spaces that help recruit and retain top talent

Features that promote health and wellness

Leading-edge, highly sustainable mega campus

1. As of December 31, 2022, pro forma for BMS's projected relocation to Campus Point by Alexandria in the near term.
2. As of December 31, 2022, consists of 2.8 million RSF, including near-term and future development opportunities.

15 Necco Street is an amenity-rich development with a stunning waterfront presence in Boston and critical adjacency to Cambridge's Kendall Square, as well as convenient access to major transportation hubs. The facility will feature a rooftop deck and outdoor terraces with flexible work areas, as well as a community touchdown space, retail destinations, and healthy eateries on its ground floor.

LONG-TERM, FULL-BUILDING LEASE IN GREATER BOSTON

334K RSF

Lilly Institute for Genetic Medicine at 15 Necco Street

TAKING ALEXANDRIA AND ELI LILLY'S OVER 15-YEAR TRUSTED STRATEGIC RELATIONSHIP TO NEW HEIGHTS

ELI LILLY'S GROWTH WITHIN ALEXANDRIA'S ASSET BASE[1]

1.0M RSF

$84.0M
Annual Rental Revenue

5
Alexandria Cluster Markets

4
Alexandria Mega Campuses

9
Mission-Critical Facilities

Eli Lilly's New State-of-the-Art Institute for Genetic Medicine in Boston

For more than a decade, Alexandria has provided Eli Lilly with long-term real estate solutions in the nation's most innovative and sought-after life science clusters. In 2022, Alexandria executed a long-term 334,000 RSF lease with Lilly for the development of its new Lilly Institute for Genetic Medicine at 15 Necco Street in the Seaport Innovation District of Greater Boston.

Developed in partnership with National Development, the facility is at the cutting edge of highly efficient building design. This purpose-built facility will support Lilly's efforts to leverage promising RNA- and DNA-based technologies to develop novel therapies to treat or cure diseases such as diabetes, Parkinson's, and cancer in a manner not possible with traditional medicines.

15 NECCO STREET | GREATER BOSTON

AT THE LEADING EDGE OF LABORATORY BUILDING DECARBONIZATION

15 Necco Street is designed to mitigate greenhouse gas emissions by prioritizing energy efficiency, leveraging geothermal energy to minimize fossil fuel use, and using renewable electricity. In addition to relying on alternative energy sources, the transformative facility will incorporate numerous wellness features that prioritize the overall physical and mental well-being of its occupants.

High-performance building envelope	Geothermal energy to reduce fossil fuel use
100% renewable electricity generated on and off site	Targeting LEED Gold and Fitwel certifications

1. As of December 31, 2022, pro forma for Lilly's projected relocation to 15 Necco Street in 2024.

Alexandria is developing, operating, and activating space in the thriving Shady Grove Life Sciences Center, ideally located proximate to leading federal government and regulatory institutions, including the NIH and the FDA. The sustainably designed facility, which is targeting LEED Gold certification, is being custom-built for MilliporeSigma, and the expansion is expected to create more than 500 new jobs.

LARGEST MARYLAND LEASE IN COMPANY HISTORY

250K RSF

State-of-the-art facility at the Alexandria Center® for Life Science – Shady Grove

Leveraging Our Scale to Extend

ALEXANDRIA AND MILLIPORESIGMA'S OVER 20-YEAR TRUSTED STRATEGIC RELATIONSHIP

Mission-Critical Infrastructure for MilliporeSigma in Maryland

In 2022, Alexandria deepened our strategic relationship of over two decades with MilliporeSigma, the U.S. and Canada Life Science business of Merck KGaA, Darmstadt, Germany, with a 250,000 RSF long-term lease at 9820 Darnestown Road (pictured above left), a state-of-the-art development project on our Alexandria Center® for Life Science – Shady Grove mega campus in the heart of our Rockville submarket in Maryland.

The cutting-edge facility on a smartly amenitized mega campus will enable MilliporeSigma's consolidation and expansion in Rockville while enhancing its ability to attract and inspire the best talent and collaborate to advance its scientific discovery, biomanufacturing, and testing services.

9820 DARNESTOWN ROAD | MARYLAND

SPOTLIGHT ON OPERATIONAL EXCELLENCE

In 2022, our deeply experienced, best-in-class development teams continued to construct and deliver high-quality, complex Labspace® infrastructure to our tenants. Purpose-built to drive innovation and generational value, the 9820 Darnestown Road development project demonstrates the operational excellence that continues to be highly sought after by leading life science companies.

- DISCIPLINED CAPITAL MANAGEMENT AND PROACTIVE COST CONTROLS
- COMPREHENSIVE APPROACH TO SAFETY AND SECURITY
- ON TRACK TO DELIVER ON TIME AND ON BUDGET

ONE-OF-A-KIND IMPACT

ALEXANDRIA: CATALYZING THE HEALTH AND VITALITY OF OUR COMMUNITIES

As a mission-driven company, Alexandria aligns every aspect of our multifaceted business model and visionary social responsibility efforts to catalyze and lead the way for positive and productive societal change.

The National Medal of Honor Museum groundbreaking in Arlington, Texas.

One-of-a-Kind Impact

ALEXANDRIA'S SOCIAL RESPONSIBILITY PILLARS

Alexandria is deeply committed to making a distinctive impact through our eight social responsibility pillars to address some of today's most urgent and widespread societal challenges.

Accelerating medical innovation to save lives

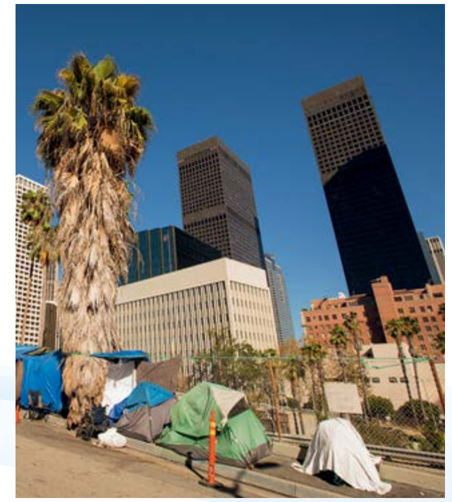
Revolutionizing addiction treatment

Harnessing agtech to combat hunger and improve nutrition

Inspiring future generations with the stories and values of our nation's heroes

Supporting our military, our veterans, and their families

Building principled leaders through education



Approaching homelessness as a healthcare problem, not a housing issue

Prioritizing the mental health crisis

PROVIDING A DATA-DRIVEN COMPREHENSIVE CARE MODEL ON A STATE-OF-THE-ART CAMPUS DEDICATED TO ADDICTION RECOVERY

The campus is anchored along a curved pathway that symbolizes the nonlinear and continual path to recovery and connects all the experiences and elements of the OneFifteen ecosystem.

*"First one in,
last one out.
No life left behind."*

LIZ
Intake Staff

PATIENT SPOTLIGHT

Empowering Former Patients to Give Back

Liz knew she needed to get help for her own addiction after losing custody of her two children and witnessing someone overdose. She started her recovery journey with OneFifteen and was deeply moved by the consistent support, understanding, and connection she experienced throughout her treatment.

Inspired by the strong bonds she forged at OneFifteen, Liz returned to the campus as member of the intake team in May 2022 to pay forward the quality care she benefited from during her recovery. Liz is guided by a powerful personal motto as she works with people on their own recovery journeys: "First one in, last one out. No life left behind."

THE MASSIVE NEED

107K+ DRUG OVERDOSE DEATHS
October 2021–2022[1]

The opioid epidemic that continues to sweep the nation drove Alexandria to act in 2017, when we forged a partnership with Verily, an Alphabet company, to pioneer OneFifteen, a unique, holistic learning health system in Dayton, Ohio — a city with one of the highest per capita overdose death rates in the United States that year.

Today, the 4.3-acre, 59,000 RSF campus that Alexandria designed and developed is home to a comprehensive care model that brings together dedicated facilities and services for crisis stabilization, medication-assisted treatment, residential housing, peer support, family reunification, workforce development, job placement, and community transition.

The steep rise in overdoses since the start of COVID-19 illustrates the dire necessity to sustainably address addiction, and we continue to hope that this personalized, evidence-based model will serve as a blueprint for the rest of the country.

ALEXANDRIA'S MEANINGFUL IMPACT

5,800+
Patients Treated
Since Opening in 2019

14,000+
Telehealth Visits
Conducted Since 2019

4.3 Acre
59,000 RSF
Fully Integrated Campus Ecosystem

1. Source: Centers for Disease Control and Prevention, "Provisional Drug Overdose Death Counts: Dashboard," accessed March 2023. Represents predicted U.S. figure for the 12-month period ending October 2022.

HONORING OUR HEROES AND INSTILLING THEIR VALUES OF COURAGE & SACRIFICE, COMMITMENT & INTEGRITY, CITIZENSHIP & PATRIOTISM

"If freedom is to survive and prosper, it will require the sacrifice, the effort and the thoughtful attention of every citizen."

JOHN F. KENNEDY

The National Medal of Honor Museum in Arlington, Texas, which is expected to begin welcoming visitors in 2024.

Alexandria is immensely proud to support the National Medal of Honor Museum (NMOHM) in helping to expand its fundraising efforts and shape the vision for the future museum in Arlington, Texas.

In March 2022, Joel S. Marcus (pictured left; fourth from the right), Alexandria's Executive Chairman and Founder, was honored by the NMOHM Foundation during a groundbreaking ceremony in celebration of the historic milestone in the development of the national museum in Arlington, Texas. Mr. Marcus, who serves on the board of directors of the National Medal of Honor Museum Foundation, joined other foundation board members, major museum donors, government officials, and 15 Medal of Honor recipients to commemorate the foundation's remarkable progress toward its goal to build a permanent home where the inspiring stories of our country's Medal of Honor recipients will be brought to life.

ALEXANDRIA'S MEANINGFUL IMPACT

$3.4M
Raised by Alexandria in Support of the NMOHM in 2022

1ST AND ONLY
Museum Dedicated to Medal of Honor Recipients

100,000 SF
National Museum in Arlington, TX

DRIVING FORWARD INNOVATIVE SOLUTIONS TO ADDRESS THE DEVASTATING AND PERVASIVE MENTAL HEALTH CRISIS

"Alexandria's long-term support of the foundation has had a significant and positive impact on the lives of the NSW community. Their partnership enables us to address the unique needs of the community we serve, including the growing necessity for new mental health treatments to ensure that our national heroes and their families receive the tools they need to thrive."

ROBIN KING
Chief Executive Officer
Navy SEAL Foundation

Alexandria Summit® Healthcare Policy Forum on Mental Health (right to left): Robin King, CEO of the Navy SEAL Foundation, and Lynne Zydowsky, PhD, Chief of Science of Alexandria, discuss the critical mental health issues afflicting military personnel and veterans and explore ideas aimed at accelerating new and innovative solutions to combat the unprecedented crisis.

THE MASSIVE NEED

NEARLY 60% HIGHER

Suicide rate among veterans compared to non-veteran adults[1]

Due to the ongoing burden of mental illnesses, severe complications, most notably addiction and suicide, have been increasing among adults and youth alike. Amid a crisis that affects us all, military personnel and veterans experience mental health concerns at higher rates.

Alexandria has supported the Navy SEAL Foundation (NSF) and its mission to provide support for the warriors, veterans, and families of Naval Special Warfare (NSW) since 2010. As a result of their sacrifices for our nation, these warriors are at a greater risk of developing mental health issues. With the help of partners like Alexandria, the NSF has created programs to address the unique physical and mental concerns of the SEAL community and their families. NSF also maintains connections to clinical psychologists and access to cutting-edge treatments, and it addresses suicide prevention through its Whole Warrior Health Forums and Thought Leader Symposiums.

ALEXANDRIA'S MEANINGFUL IMPACT

$19M	$7M	25,000
Raised by Alexandria to Support the Navy SEAL Foundation Since 2010	Directed by the Navy SEAL Foundation to Fund Its Physical and Mental Health-Related Programs in 2022	Naval Special Warfare Community Members Served in 2022

1. Source: U.S. Department of Veterans Affairs, "National Veteran Suicide Prevention Annual Report," September 2022.

ALEXANDRIA REAL ESTATE EQUITIES, INC. (NYSE: ARE), an S&P 500® company, is a best-in-class, mission-driven life science REIT making a positive and lasting impact on the world. As the pioneer of the life science real estate niche since its founding in 1994, Alexandria is the preeminent and longest-tenured owner, operator, and developer of collaborative life science, agtech, and technology campuses in AAA innovation cluster locations, including Greater Boston, the San Francisco Bay Area, New York City, San Diego, Seattle, Maryland, and Research Triangle. The trusted partner to approximately 1,000 tenants, Alexandria has a total market capitalization of $35.0 billion and an asset base in North America of 74.6 million SF as of December 31, 2022, which includes 41.8 million RSF of operating properties and 5.6 million RSF of Class A properties undergoing construction, 9.9 million RSF of near-term and intermediate-term development and redevelopment projects, and 17.3 million SF of future development projects. Alexandria has a longstanding and proven track record of developing Class A properties clustered in life science, agtech, and technology campuses that provide our 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 capital to transformative life science, agrifoodtech, climate innovation, and technology companies through our venture capital platform. We believe our unique business model and diligent underwriting ensure a high-quality and diverse tenant base that results in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value. For additional information on Alexandria, please visit www.are.com.

FORWARD-LOOKING STATEMENTS: This document includes "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. Such forward-looking statements include, without limitation, statements regarding our 2022 funds from operations per share attributable to Alexandria's common stockholders – diluted, net operating income, our projected sources and uses of capital, timing and completion of development and redevelopment projects, and our ESG policies, practices, and performance. You can identify the forward-looking statements by their use of forward-looking words, such as "forecast," "guidance," "goals," "projects," "estimates," "anticipates," "believes," "expects," "intends," "may," "plans," "seeks," "should," "targets," or "will," or the negative of those words or similar words. These forward-looking statements are based on our current expectations, beliefs, projections, future plans and strategies, anticipated events or trends, and similar expressions concerning matters that are not historical facts, as well as a number of assumptions concerning future events. There can be no assurance that actual results will not be materially higher or lower than these expectations. These statements are subject to risks, uncertainties, assumptions, and other important factors that could cause actual results to differ materially from the results discussed in the forward-looking statements. Factors that might cause such a difference include, without limitation, our failure to obtain capital (debt, construction financing, and/or equity) or refinance debt maturities, lower-than-expected yields, increased interest rates and operating costs, adverse economic or real estate developments in our markets, our failure to successfully place into service and lease any properties undergoing development or redevelopment and our existing space held for future development or redevelopment (including new properties acquired for that purpose), our failure to successfully operate or lease acquired properties, decreased rental rates, increased vacancy rates or failure to renew or replace expiring leases, defaults on or non-renewal of leases by tenants, adverse general and local economic conditions, inflation, supply chain disruptions, construction delays, an unfavorable capital market environment, decreased leasing activity or lease renewals, failure to obtain LEED and other healthy building certifications and efficiencies, the ongoing COVID-19 pandemic, and other risks and uncertainties detailed in our filings with the Securities and Exchange Commission (SEC). Accordingly, you are cautioned not to place undue reliance on such forward looking statements. All forward-looking statements are made as of the date of this document, and unless otherwise stated, we assume no obligation to update this information and expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise. For more discussion relating to risks and uncertainties that could cause actual results to differ materially from those anticipated in our forward-looking statements, and risks to our business in general, please refer to our SEC filings, including our most recent annual report on Form 10-K and any subsequent quarterly reports on Form 10-Q.

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Sandy Alexander Inc., an ISO 14001:2004 certified printer with Forest Stewardship Council® (FSC®) Chain of Custody, printed Alexandria Real Estate Equities, Inc.'s 2022 Annual Report with the use of renewable wind power resulting in nearly zero carbon emissions. This report was printed on FSC®-certified Verso Sterling paper, a process-chlorine-free 10 percent post-consumer waste (PCW) paper manufactured entirely with 100 percent certified wind energy and containing 100 percent post-consumer recycled fiber.

Alexandria Real Estate Equities, Inc.'s 2022 Annual Report cover and editorial sections are printed on recycled paper made from fiber sourced from well-managed forests and other controlled wood sources and is independently certified to FSC®.

ALEXANDRIA®
Building the Future of Life-Changing Innovation®

ALEXANDRIA REAL ESTATE EQUITIES, INC.

2022 ANNUAL REPORT ON FORM 10-K

A ONE-OF-A-KIND, ONCE-IN-A-GENERATION COMPANY

ALEXANDRIA®

Building the Future of Life-Changing Innovation®

— 25 YEARS LISTED ON THE NYSE —

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, 2022

Commission file number 1-12993

ALEXANDRIA®

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)

26 North Euclid Avenue, 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	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $0.01 par value per share	ARE	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 every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an 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	☒	Smaller reporting company	☐
Accelerated filer	☐	Emerging growth company	☐
Non-accelerated filer	☐		

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 has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☒

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 $23.5 billion based on the closing price for such shares on the New York Stock Exchange on June 30, 2022.

As of January 13, 2023, 173,087,087 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 16, 2023.

INDEX TO FORM 10-K

ALEXANDRIA REAL ESTATE EQUITIES, INC.

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
CIP	Construction in Progress
EPS	Earnings per Share
ESG	Environmental, Social, and Governance
FASB	Financial Accounting Standards Board
FDA	U.S. Food and Drug Administration
FDIC	Federal Deposit Insurance Corporation
FFO	Funds From Operations
GAAP	U.S. Generally Accepted Accounting Principles
HVAC	Heating, Ventilation, and Air Conditioning
IASB	International Accounting Standards Board
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
SoDo	South of Downtown submarket of Seattle
SOFR	Secured Overnight Financing Rate
SoMa	South of Market submarket of San Francisco
U.S.	United States
VIE	Variable Interest Entity

PART I

Forward-looking statements

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,” “intends,” “may,” “plans,” “seeks,” “should,” “targets,” or “will,” or the negative of those 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,” “ARE,” “we,” “us,” and “our” refer to Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries. 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.

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. Alexandria Real Estate Equities, Inc. (NYSE: ARE), an S&P 500® company, is a best-in-class, mission-driven life science REIT making a positive and lasting impact on the world. As the pioneer of the life science real estate niche since its founding in 1994, Alexandria is the preeminent and longest-tenured owner, operator, and developer of collaborative life science, agtech, and technology campuses in AAA innovation cluster locations, including Greater Boston, the San Francisco Bay Area, New York City, San Diego, Seattle, Maryland, and Research Triangle. The trusted partner to approximately 1,000 tenants, Alexandria has a total market capitalization of $35.0 billion and an asset base in North America of 74.6 million SF as of December 31, 2022, which includes 41.8 million RSF of operating properties and 5.6 million RSF of Class A properties undergoing construction, 9.9 million RSF of near-term and intermediate-term development and redevelopment projects, and 17.3 million SF of future development projects.

We develop 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. Our tenants include multinational pharmaceutical companies; public and private biotechnology companies; life science product, service, and medical device companies; digital health, technology, and agtech companies; academic and medical research institutions; U.S. government research agencies; non-profit organizations; and venture capital firms. Alexandria has a longstanding and proven track record of developing Class A properties clustered in life science, agtech, and technology campuses that provide our 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 capital to transformative life science, agrifoodtech, climate innovation, and technology companies through our venture capital platform. We believe our unique business model and diligent underwriting ensure a high-quality and diverse tenant base that results in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value.

Our portfolio includes 64 operating properties and development projects that are held by consolidated real estate joint ventures and four properties that are held by unconsolidated real estate joint ventures. The occupancy percentage of our operating properties in North America was 94.8% as of December 31, 2022. Our 10-year average occupancy percentage of our operating properties as of December 31, 2022 was 96%. Investment-grade or publicly traded large cap tenants represented 48% of our total annual rental revenue in effect as of December 31, 2022. 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 located in collaborative life science, agtech, and technology campuses in AAA innovation clusters. These key campus 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. They generally represent highly desirable locations for tenancy by life science, agtech, 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, agtech, 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, agtech, 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, agtech, and technology industries.

<u>Acquisitions</u>

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, including our mega campus strategy;
- 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;
- Potential impacts of climate change and extreme weather conditions; and
- Our ability to increase the property's long-term financial returns.

<u>Development, redevelopment, and pre-construction</u>

A key component of our business model is our disciplined allocation of capital toward the development and redevelopment of new Class A properties, as well as property enhancements of certain acquired properties. These projects are generally located in collaborative life science, agtech, and technology campuses in AAA innovation clusters and are focused on providing high-quality, generic, and reusable spaces that meet the real estate requirements of our diverse group of tenants.

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, agtech, or tech office space. We generally will not commence new development projects for aboveground construction of new Class A office/laboratory, agtech, 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.

We seek to meet growing demand from our stakeholders and continuously improve the efficiency of our buildings. Additionally, we have committed to significant building goals to promote wellness and productivity for our buildings' occupants, including targeting a LEED® Gold or Platinum 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 developments and are required for the vertical construction of buildings.

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 office/laboratory 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. We generally do not commence vertical construction of new projects prior to achieving significant pre-leasing.

Non-real estate investments

We also hold strategic investments in publicly traded companies and privately held entities primarily involved in the life science, agtech, and technology industries. We invest primarily in highly innovative entities whose focus on the development of therapies and products that advance human 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 new Class A properties located in collaborative life science, agtech, and technology campuses in AAA innovation clusters, as well as the prudent 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, which include net cash flows from operating activities after dividends, incremental leverage-neutral debt supported by growth in EBITDA, strategic value harvesting and asset recycling through real estate dispositions and sales of partial interests, non-real estate investment sales, sales of equity, and other capital;
- Maintaining significant liquidity through borrowing capacity under our unsecured senior line of credit and commercial paper program, secured construction loans, marketable securities, issuances of forward equity contracts from time to time, and cash, cash equivalents, and restricted cash;
- Continuing to improve our credit profile;
- Minimizing the amount of debt maturing 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, non-core and "core-like" operating assets, and sales of partial interests, and reinvesting the proceeds into our highly leased value-creation development and redevelopment projects;
- Allocating capital to Class A properties located in collaborative life science, agtech, and technology campuses in AAA innovation clusters;
- Maintaining geographic diversity in urban intellectual centers of innovation;
- Selectively acquiring high-quality office/laboratory, agtech, and technology 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 office/laboratory 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 technology 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, longest-tenured, and pioneering publicly traded life science REIT to focus primarily on the office/laboratory real estate niche, we provide world-class collaborative life science, agtech, and technology campuses in AAA innovation cluster locations and maintain and cultivate many of the most important and strategic relationships in the life science, agtech, 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 (“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 remediate 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 capital using the real estate as collateral.

State regulations, such as California’s Connelly Act and Proposition 65, among others, require certain building owners and operators to disclose information on the presence of asbestos or other harmful substances. 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, and ongoing expenditures to comply with existing environmental regulations are not expected to be material. 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 insurance, and all-risk property insurance, including business interruption and loss of rental income coverage. We select policy specifications and insured limits that we believe to be appropriate given the relative risk of loss and the cost of the coverage. 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 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. Additional information about 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 Chief Executive Officer 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., 26 North Euclid Avenue, Pasadena, California 91101, Attention: Investor Relations. The public may also download these materials from the SEC’s website at www.sec.gov.

Human capital

As of December 31, 2022, we had 593 employees. We place a significant focus on building loyalty and trusted relationships with our employees. We have adopted a Business Integrity Policy that applies to all of our employees, and its receipt and review by each employee is documented and verified annually. To promote an exceptional corporate culture, Alexandria continuously monitors employee satisfaction, seeks employee feedback, and proactively enhances our employee offerings. We participate in annual performance reviews with our employees and conduct formal employee surveys, and our talent management team holds regular meetings with employees to continuously gather feedback and improve the employee experience. The positive employee experience is evidenced by our low voluntary and total turnover rates averaging 3.6% and 7.7%, respectively, over the last five years, from 2018 to 2022, which are substantially lower than the reported average voluntary and total turnover rates of 16.0% and 19.0%, respectively, in the 2022 Nareit Compensation & Benefits Survey (data for 2021).

We recognize that the fundamental strength of Alexandria results from the contributions of each and every team member within the organization and that our future growth is dependent upon the same. Alexandria devotes extraordinary efforts to hiring, developing, and retaining our talented employees, and we understand firsthand the health, happiness, and well-being of our best-in-class team are key factors to the success of our employees and of the Company.

We have an exceptional track record of identifying highly qualified candidates for promotion from within the Company. Alexandria's executive and senior management teams, represented by our senior vice presidents and above, consist of 60 individuals, averaging 24 years of real estate experience, including 12 years with Alexandria. Moreover, our executive management team alone averages 18 years of experience with the Company. Alexandria's executive and senior management teams have unique experience and expertise in creating, owning, and operating highly dynamic and collaborative campuses in key urban life science, agtech, and technology cluster locations. These teams also include regional market directors with leading reputations and longstanding relationships within the life science, agtech, and technology communities in their respective urban innovation clusters. We believe that our expertise, experience, reputation, and key relationships in the real estate, life science, agtech, and technology industries provide Alexandria with significant competitive advantages in attracting new business opportunities.

Building a diverse board of directors and inclusive workforce

Our Corporate Governance Guidelines highlight our Board of Directors' focus on diversity at the board level, which explicitly states the Board's commitment to considering qualified women and minority director candidates, as well its policy of requesting an initial list of diverse candidates of any search firm it retains.

We strive to create an open and respectful environment in which our employees can actively contribute, have access to opportunities and resources, and realize their full potential. As an equal opportunity employer, we have an Equal Employment Opportunity Policy and a Diversity, Equal Employment Opportunity, and Fair Labor Policy that emphasizes inclusion through hiring and compensation practices and considers a pool of diverse candidates for open positions and internal advancement opportunities.

Furthermore, as a federal government contractor, Alexandria maintains affirmative action plans, which sets forth the policies, practices, and procedures to which the Company is committed in order to ensure that its policies of nondiscrimination and affirmative action are followed for qualified females, minorities, individuals with disabilities, and protected veterans. To address issues related to pay discrimination, the Company has implemented a ban on any and all inquiries into an applicant's salary history and we incorporate fair pay reviews into every employment compensation decision. To reinforce our corporate culture of respect, diversity, and inclusion, we provide anti-harassment training annually for all employees.

Providing exceptional benefits to support our employees' medical and financial health and well-being

We provide a comprehensive benefits package intended to meet and/or exceed the needs of our employees and their families. Our company-sponsored suite of benefits covers 100% of the premiums for our employees and their dependents and includes, but is not limited to, a high-coverage, low-deductible PPO (preferred provider organization) medical plan, a 24/7 telehealth and concierge medical care services program, PPO dental and orthodontia coverage, a generous vision plan, comprehensive prescription drug plan, infertility and family planning benefits, short- and long-term disability benefits, and life and accidental death and dismemberment coverage. These benefits support the health of our employees and their families, their overall well-being, and their future plans and also reward and recognize their operational excellence.

In addition, we have prioritized our employees' total well-being with additional benefits that focus on their emotional, mental, physical, financial, and social health:

- **100% company-paid therapy and life coaching** for our employees and their eligible dependents to help them prioritize their mental health and make these resources accessible and available
- **Additional company-paid holidays and paid time off** to encourage employees to rest and recharge
- **24/7 telehealth and medical care,** including COVID-19 testing

- **Expert-led internal webinar series** addressing relevant and engaging subjects to educate and inform our employees, including with the most up-to-date and reliable information on COVID-19 by leveraging our world-class life sciences network
- **Wellness reimbursement benefit** for fitness and mindfulness applications, online classes, and home exercise equipment that encourages our employees to stay mentally and physically fit
- **Enhanced employee social connectedness through Alexandria's Operation CARE program** for corporate giving, fundraising, and volunteerism opportunities, which consists of several programs, including the following:
  - **Paid volunteer time off** up to 16 hours per calendar year to use at eligible non-profit organizations of their choice
  - **Matching gifts** up to $5,000 per person each calendar year to double the impact of their charitable giving
  - **Volunteer rewards** initiated when an employee volunteers more than 25 hours in any quarter at eligible non-profit organizations, for which Alexandria donates a total of $2,500 to the eligible non-profit organizations of their choice, up to $10,000 annually
- **Alexandria Lifeline™** – Alexandria's unparalleled network in the life science community affords us access to deep medical expertise. Alexandria Lifeline makes this expertise available to our employees and their immediate family members who are suffering from a serious illness or injury and would benefit from specialized medical care.

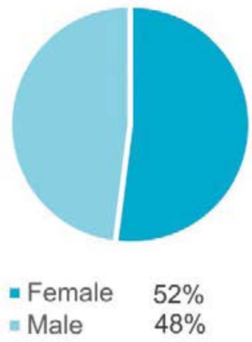
Investing in professional development and training

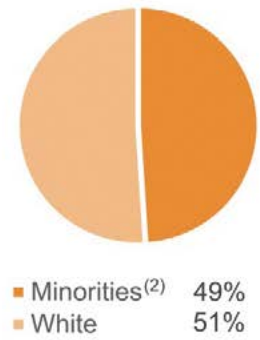
We understand that to attract and retain the best talent, we must provide opportunities for our people to grow and develop. Therefore, we invest in training and development programs to enhance our employees' engagement, effectiveness, and well-being.

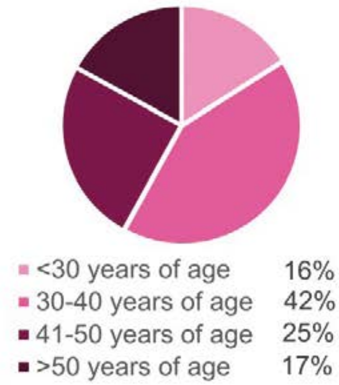
Training topics include project management, business writing, change management, interviewing, presentations, productivity, effective one-on-ones, goal setting, delegation, communication, and feedback. Our mentoring program enables employees to partner with senior leaders throughout the organization for support and career guidance. To further customize development, we partner with key functional leaders to identify opportunities and design and deploy training programs for specific functional teams. Through a bespoke coaching program, we support new and high-potential leaders in their career progression. We also provide on-demand learning resources, such as LinkedIn Learning, as well as internally developed, ARE-specific on-demand content.

To continuously monitor and improve employee performance and engagement, we use employee engagement surveys, the most recent of which was conducted in 2022 and had an employee response rate of 91.4%.

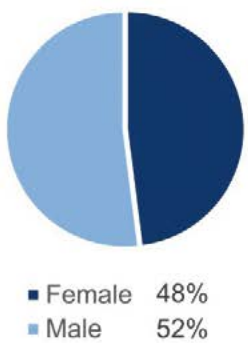
TOTAL WORKFORCE(1)



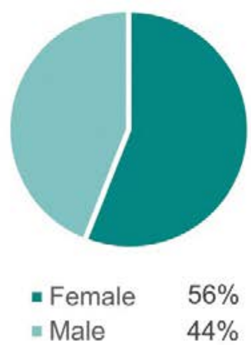




MANAGER ROLE & ABOVE(3)



PROMOTIONS(4)



VOLUNTARY EMPLOYEE TURNOVER(4)

3.6%

(1) As of December 31, 2022, unless stated otherwise.
(2) Minorities are defined to include individuals of Asian, Black/African American, Hispanic/Latino, Native American, Pacific Islander, or multiracial background. We determine race and gender based on our employees' self-identification or other information compiled to meet requirements of the U.S. government.
(3) Managers and above include individuals who lead others and/or oversee projects.
(4) Represents a five-year average from 2018 to 2022.

ITEM 1A. RISK FACTORS

Overview

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. Additional information regarding forward-looking statements is included in the beginning of Part I in this annual report on Form 10-K.

Risk factors summary

An investment in our securities involves various risks. Such risks, including those set forth in the summary of material risks in this Item 1A, should be carefully considered before purchasing our securities.

<u>Risks related to operating factors</u>

- We may be unable to identify and complete acquisitions, investments, or development or redevelopment projects or to successfully and profitably operate properties.
- We could default on our ground leases or be unable to renew or re-lease our land or space on favorable terms or at all. Our tenants may also be unable to pay us rent.
- The cost of maintaining and improving the quality of our properties may be higher than anticipated, and we may be unable to pass any increased operating costs through to our tenants, which can result in reduced cash flows and profitability.
- We could be held liable for environmental damages resulting from our tenants' use of hazardous materials, or from harmful mold, poor air quality, or other defects from our properties, or we could face increased costs in complying with other environmental laws.
- The loss of services of any of our senior officers or key employees and increased competition for skilled personnel could adversely affect us and/or increase our labor costs.
- We rely on a limited number of vendors to provide utilities and other services at our properties, and disruption in such services may have an adverse effect on our operations and financial condition.
- Our insurance policies may not adequately cover all of our potential losses, or we may incur costs due to the financial condition of our insurance carriers.
- We may change business policies without stockholder approval.
- Failure to maintain effective internal control over financial reporting could have a material adverse effect on our business.
- 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.
- We may not be able to raise sufficient capital to fund our operations due to adverse changes in our credit ratings, our inability to refinance our existing debt or issue new debt, or our inability to sell existing properties timely.
- We may invest or spend the net proceeds from our equity or debt offerings in ways with which our investors may not agree and in ways that may not earn a profit.
- Our debt service obligations may restrict our ability to engage in some business activities or cause other adverse effects on our business.
- We face risks and liabilities associated with our investments (including those in connection with short-term liquid investments) and the companies in which we invest (including properties owned through partnerships, limited liability companies, and joint ventures, as well as through our non-real estate venture investment portfolio), which expose us to risks similar to those of our tenant base and additional risks inherent in venture capital investing. We may be limited in our ability to diversify our investments.

<u>Risks related to market and industry factors</u>

- There are limits on ownership of our stock under which a stockholder may lose beneficial ownership of its shares, as well as certain provisions of our charter and bylaws that may delay or prevent transactions that otherwise may be desirable to our stockholders.
- Possible future sales of shares of our common stock could adversely affect its market price.
- We are dependent on the health of the life science, agtech, and technology industries, and changes within these industries, increased competition, or the inability of our tenants and non-real estate equity investments within these industries to obtain funding for research, development, and other operations may adversely impact their ability to make rental payments to us or adversely impact their value.
- Market disruption and volatility, poor economic conditions in the capital markets and global economy, including in connection with a widespread pandemic or outbreak of disease (such as COVID-19), and tight labor markets could adversely affect the value of the companies in which we hold equity investments or the ability of tenants and the companies in which we invest to continue operations, raise additional capital, or access capital from venture capital investors or financial institutions on favorable terms or at all.

Risks related to government and global factors

- Actions, policy, or key leadership changes in government agencies, or changes to laws or regulations, including those related to tax, accounting, debt, derivatives, government spending, or funding (including those related to the FDA, the National Institutes of Health (the "NIH"), the SEC, and other agencies), and drug and healthcare pricing, costs, and programs could have a significant negative impact on the overall economy, our tenants and companies in which we invest, and our business.
- Partial or complete government shutdown resulting in temporary closures of agencies could adversely affect our tenants (some of which are also government agencies) and the companies in which we invest, including delays in the commercialization of such companies' products, decreased funding of research and development, or delays surrounding approval of budget proposals.
- The replacement of LIBOR with SOFR (or another alternative reference rate) and uncertainty related to the volatility of SOFR may adversely affect interest expense related to outstanding variable-rate debt.
- The outbreak of COVID-19, or the future outbreak of any other highly infectious or contagious diseases, could adversely impact or cause disruption to our financial condition and results of operations, and/or to the financial condition and results of operations of our tenants and non-real estate investments.

Risks related to general and other factors

- Social, political, and economic instability, unrest, significant changes, and other circumstances beyond our control, including circumstances related to changes in the U.S. political landscape, could adversely affect our business operations.
- Seasonal weather conditions, climate change and severe weather, changes in the availability of transportation or labor, and other related factors may affect our ability to conduct business, the products and services of our tenants, or the availability of such products and services of our tenants and the companies in which we invest.
- We may be unable to meet our sustainability goals.
- System failures or security incidents through cyber attacks, intrusions, or other methods could disrupt our information technology networks, enterprise applications, and related systems, cause a loss of assets or 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 adversely affect our business and financial condition.
- The enactment of legislation, including the Inflation Reduction Act of 2022, may adversely impact our financial condition and results of operations.
- We are subject to risks from potential fluctuations in exchange rates between the U.S. dollar and certain foreign currencies and downgrades of domestic and foreign government sovereign credit ratings.

We attempt to mitigate the foregoing risks. However, if we are unable to effectively manage the impact of these and other risks, our ability to meet our investment objectives may be substantially impaired and any of the foregoing risks could materially adversely affect our financial condition, results of operations, and cash flows, our ability to make distributions to our stockholders, or the market price of our common stock.

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 significant risks, including, but not limited to, the following:

- 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 tax 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.
- 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 remediation 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, and cash flows, our ability to make distributions to our stockholders, our ability to satisfy our debt service obligations, and the market price of our common stock.

The acquisition or 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 achieve the financial results expected from development or redevelopment projects.

There are significant risks associated with development and redevelopment projects, including, but not limited to, the following possibilities:

- 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 projected 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, security, 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, or otherwise elect to terminate their lease prior to delivery, 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, significant project delays, or lower financial returns.
- We may encounter delays, refusals, unforeseen cost increases, and other impairments resulting from third-party litigation, natural disasters, 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.
- 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 may face increased risks and costs associated with volatility in commodity and labor prices or as a result of supply chain or procurement disruptions, which may adversely affect the status of and returns on our construction projects.

The price of commodities and skilled labor for our construction projects may increase unpredictably due to external factors, including, but not limited to, performance of third-party suppliers and contractors; overall market supply and demand; inflationary pricing; government regulation; international trade; and changes in general business, economic, or political conditions. As a result, the costs of raw construction materials and skilled labor required for the completion of our development and redevelopment projects may fluctuate significantly from time to time.

We rely on a number of third-party suppliers and contractors to supply raw materials and skilled labor for our construction projects. We believe we have favorable relationships with our suppliers and contractors. We have not encountered significant difficulty collaborating with our suppliers and contractors and obtaining materials and skilled labor, nor experienced significant delays or increases in overall project costs due to disputes, work stoppages, or contractors' misconduct or failure to perform. While we do not rely on any single supplier or vendor for the majority of our materials and skilled labor, we may experience difficulties obtaining necessary materials from suppliers or vendors whose supply chains might become impacted by economic or political changes, or difficulties obtaining adequate skilled labor from third-party contractors in a tightening labor market. It is uncertain whether we would be able to source the essential commodities, supplies, materials, and skilled labor timely or at all without incurring significant costs or delays, particularly during times of economic uncertainty resulting from events outside of our control. We may be forced to purchase supplies and materials in larger quantities or in advance of when we would typically purchase them. This may cause us to require use of capital sooner than anticipated. Alternatively, we may also be forced to seek new third-party suppliers or contractors, whom we have not worked with in the past, and it is uncertain whether these new suppliers will be able to adequately meet our materials or labor needs. Our dependence on unfamiliar supply chains or relatively small supply partners may adversely affect the cost and timely completion of our construction projects. In addition, we may be unable to compete with entities that may have more favorable relationships with their suppliers and contractors or greater access to the required construction materials and skilled labor.

In addition, new energy-related initiatives entered into in collaboration with partner countries through global climate agreements may impose stricter requirements for building materials, such as lumber, steel, and concrete, which could significantly increase our construction costs if the manufacturers and suppliers of our materials are burdened with expensive cap-and-trade or similar energy-related regulations or requirements, and the costs of which are passed onto customers like us. As a result of the factors discussed above, we may be unable to complete our development or redevelopment projects timely and/or within our budget, which may affect our ability to lease space to potential tenants and adversely affect our business, financial condition, and results of operations.

If we fail to identify and develop relationships with a sufficient number of qualified suppliers and contractors, the quality and status of our construction projects may be adversely affected.

We believe we have favorable relationships with our existing suppliers and contractors, and we generally have not encountered difficulty collaborating with and obtaining materials and skilled labor, nor experienced significant delays or increases in overall project costs due to disputes, work stoppages, or contractors' misconduct or failure to perform. However, it is possible we may experience these events in the future, or our existing suppliers and contractors may encounter supply chain disruptions from time to time that hinder their ability to supply necessary materials and labor to us. As a result, we may be forced to seek new resources for our construction needs. We may become reliant on unfamiliar supply chains or relatively small supply partners, which may cause uncertainty in the quality, cost, and timely completion of our construction projects.

Our ability to continue to identify and develop relationships with a sufficient network of qualified suppliers who can adequately meet our construction timing and quality standards can be a significant challenge, particularly if global supply chain disruptions continue to persist into 2023. If we fail to identify and develop relationships with a sufficient number of suppliers and contractors who can appropriately address our construction needs, we may experience disruptions in our suppliers' logistics or supply chain networks or information technology systems, and other factors beyond our or our suppliers' control. If we are unable to access materials and labor to complete our construction projects within our expected budgets and meet our tenants' demands and expectations in a timely and efficient manner, our results of operations, cash flows, and reputation may be adversely impacted.

Our tenants may face increased risks and costs associated with volatility in commodity and labor prices or the prices or availability of specialized materials or equipment, or as a result of supply chain or procurement disruptions of such items, which may adversely affect their businesses or financial condition.

Our tenants are generally subject to the same generalized risks of commodity and labor price increases and supply chain or procurement as we and many other companies are. A number of our tenants, however, are also involved in highly specialized research or manufacturing activities that may require unique or custom chemical or biologic materials or sophisticated specialty equipment that is not widely available and therefore may be particularly susceptible to supply chain disruption. In addition, these tenants may have complex supply chains due to their specialized activities that are subject to stringent government regulations, which may further hinder their access to necessary materials and equipment. While we are not aware of such issues materially affecting our tenants to date, it is possible that these issues may affect our tenants in the future, and continued supply chain and procurement disruptions could potentially impact such tenants adversely.

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 make distributions to our stockholders, as well as the market price of our common stock. Refer to "Ground lease obligations" under "Item 7. Management's discussion and analysis of financial condition and results of operations" in this annual report on Form 10-K for additional information on our ground lease obligations.

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, but not limited to, the following risks:

- 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.
- We may not be able to acquire or sell properties when desired or needed, due to the illiquid nature of real estate assets.
- 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.
- We may not be able to complete improvements required to maintain or improve space, due to unanticipated delays, significant cost increases by our vendors, or cancellation of construction resulting from shortages in the supply of necessary construction materials.

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.

We have consolidated and unconsolidated real estate joint ventures in which we share 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 our partners and us 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, 2022, approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate and other rent-related taxes, insurance, utilities, security, 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 (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 generally reassessed to market value at the time of change in ownership or completion of construction; 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, lawmakers and political coalitions initiate efforts to repeal or amend Proposition 13 to eliminate its application to commercial and industrial properties.

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 tenant recoveries. Consequently, as a result of our triple net leases, we do not expect potential increases on property taxes as a result of tax reassessments to significantly impact our operating results. We cannot be certain, however, that we will be able to continue to negotiate pass-through provisions related to taxes in tenant leases in the future, or that higher pass-through expenses will not lead to lower base rents in the long run as a result of tenants' not being able to absorb higher overall occupancy costs. Thus, the repeal of or amendment to Proposition 13 could lead to a decrease in our income from rentals over time. 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 state of California, which could significantly hinder our ability to increase our rents or to maintain existing occupancy levels. The repeal of or amendment to Proposition 13 in California 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, and cash flows and our ability to make distributions to our stockholders.

In addition, we expect to incur higher costs as a result of doing business in California and certain other states. Compliance with various laws passed in California and other states in which we conduct business may result in cost increases due to new constraints on our business and the effects of potential non-compliance by us or third-party service providers. Any changes in connection with compliance could be time consuming and expensive, while failure to timely implement required changes could subject us to liability for non-compliance, any of which could adversely affect our business, operating results, and financial condition.

Most of our costs, such as operating and general and administrative expenses, interest expense, and real estate acquisition and construction costs, are subject to inflation.

During the twelve months ended December 2022, the consumer price index rose by approximately 6.5%, compared to the twelve months ended December 2021. The recent increases in the consumer price index began during the COVID-19 pandemic and were attributed to disruption in global supply chains and labor shortages. During the COVID-19 pandemic, the federal government instituted a series of stimulus policies, aggregating approximately $6 trillion, which may have contributed to strong consumer demand and increased consumer spending.

During 2022, China encountered its largest COVID-19 outbreak since the pandemic began in 2020, with approximately two-thirds of the country's provinces experiencing sustained outbreaks of the virus. In response, several of China's largest factory cities ordered lockdowns, which, among its other impacts, imposed strains on the global supply chain and halted production of key consumer goods. At the end of 2022, China eased its lockdowns significantly, but it is unknown whether such actions will reduce global supply chain strains or result in a new surge of COVID-19 infections and hospitalizations.

Additional supply chain disruptions have been caused by a shortage of long-haul truck drivers and protests by the same. In addition, federal policies and recent global events may have exacerbated, and may continue to exacerbate, increases in the consumer price index. Those events include the following:

- In recent years, energy policy in the U.S. has lacked a consistent approach. Since 2015, during various administrations, the U.S. has joined, abandoned, and rejoined the Paris climate accord. In addition, the energy policy of the federal government in recent years has, at various times, either limited or increased the production of fossil fuels in the U.S. On March 31, 2022, in response to increases in oil prices, President Biden authorized the release of 1 million barrels per day for the following six months — over 180 million barrels in total — from the Strategic Petroleum Reserve. In addition, the administration encouraged U.S. oil producers to utilize the approximately 9,000 approved but unused permits for production of oil and gas on federal lands.
- Beginning in late 2021, as political tensions between Russia and Ukraine escalated, Russia amassed troops on the Ukrainian border, and in February 2022, Russia invaded Ukraine. In response, global economic sanctions were imposed on Russia by the U.S. and the European Union ("EU"), among others.
- In mid-2022, the U.S. administration requested for members of the Organization of the Petroleum Exporting Countries ("OPEC"), including Saudi Arabia and the United Arab Emirates, to significantly increase crude oil production as a way to calm soaring prices on oil. Conflicts in the Middle East, including a civil war in Yemen where the Saudi government has been heavily involved, also hindered any significant increase in oil production by OPEC beyond a modest increase in the summer months. In October 2022, due to uncertainty in the global economy and oil market outlook, OPEC announced it would decrease oil production by 2 million barrels a day, the largest cut since the COVID-19 pandemic began.
- On December 5, 2022, the agreement of the G-7 countries to ban their companies from insuring, financing or shipping Russian oil sold at or above $60 a barrel came into effect in the U.S., EU, and the United Kingdom ("U.K."). In response, Russia threatened to cut off oil exports which could lead to an increase in global prices.

These factors appear to have had a significant impact on increases to the consumer price index and large fluctuations in energy costs, as reflected in crude oil prices that increased from $60–$70 per barrel in mid-2021 to more than $120 per barrel in March 2022, shortly after Russia's invasion of Ukraine, then declined during the second half of 2022 and remained at approximately $70–$80 per barrel at the end of 2022.

Our operating expenses are incurred in connection with, among others, the property-related contracted services such as janitorial and engineering services, utilities, security, repairs and maintenance, and insurance. Property taxes are also impacted by inflationary changes as taxes are regularly reassessed based on changes in the fair value of our properties located outside of California. In California, property taxes are not reassessed based on changes in the fair value of the underlying real estate asset but are instead limited to a maximum 2% annual increase by law.

Our operating expenses, with the exception of ground lease rental expenses, are typically recoverable through our lease arrangements, which allow us to pass through substantially all expenses associated with property taxes, insurance, utilities, security, repairs and maintenance, and other operating expenses (including increases thereto) to our tenants. As of December 31, 2022, approximately 93% of our existing leases (on an annual rental revenue basis) were triple net leases, which allow us to recover operating expenses, and approximately 93% of our existing leases (on an annual rental revenue basis) also provided for the recapture of capital expenditures. Our remaining leases are generally gross leases, which provide for recoveries of operating expenses above the operating expenses from the initial year within each lease.

During inflationary periods, we expect to recover increases in operating expenses from our triple net leases. As a result, we do not believe that inflation would result in a significant adverse effect on our net operating income, results of operations, and operating cash flows at the property level. However, there is no guarantee that our tenants would be able to absorb these expense increases and be able to continue to pay us their portion of operating expenses, capital expenditures, and rent. Also, due to rising costs, they may be unable to continue operating their businesses or conducting research and development activities altogether. Alternatively, our tenants may decide to relocate to areas with lower rent and operating expenses, where we may not currently own properties, and our tenants may cease to lease properties from us. The success of our business depends in large part on our ability to operate our properties effectively. If we are unable to retain our tenants or withstand increases in operating expenses, capital expenditures, and rental costs, we may be unable to meet our financial expectations, which may adversely affect our financial condition, results of operations, cash flows, and our ability to make distributions to our stockholders.

Our general and administrative expenses consist primarily of compensation costs, technology services, and professional service fees. Annually, our employee compensation is adjusted to reflect merit increases; however, to maintain our ability to successfully compete for the best talent, especially in a talent shortage environment, rising inflation rates may require us to provide compensation increases beyond historical annual merit increases, which may unexpectedly or significantly increase our compensation costs. Similarly, technology services and professional service fees are also subject to the impact of inflation and expected to increase proportionately with increasing market prices for such services. Consequently, inflation may increase our general and administrative expenses over time and may adversely impact our results of operations and operating cash flows.

Also, during inflationary periods, interest rates have historically increased. In March 2022, in an attempt to curb the inflation rate, the Board of Governors of the Federal Reserve System (the "U.S. Federal Reserve") raised its benchmark federal funds rate by 0.25% to a range between 0.25% and 0.50%, the first increase since December 2018. In addition, through a series of rapid federal funds rate increases in May 2022, June 2022, July 2022, September 2022, November 2022, and December 2022, the U.S. Federal Reserve increased the federal funds rate to a range between 4.25% and 4.50%.

In addition, on April 5, 2022, the U.S. Federal Reserve confirmed its plan to reduce its balance sheet at a rapid pace beginning in May 2022, effectively concluding the nearly 15-year-long quantitative easing era (in which the U.S. Federal Reserve effectively increased liquidity to consumers and businesses) and launching a reverse process known as quantitative tightening. Our exposure to increases in interest rates in the short term is limited to our variable-rate borrowings, which consist of borrowings under our unsecured senior line of credit and commercial paper program and SOFR-based secured notes payable. Amounts issued under our commercial paper program typically mature in less than 30 days and no later than 397 days from the date of issuance and require repayment or refinancing upon maturity. The effect of inflation on interest rates could increase our financing costs over time, either through near-term borrowings on our variable-rate unsecured senior line of credit and commercial paper program, refinancing of our existing borrowings, or the issuance of new debt.

Historically, during periods of increasing interest rates, real estate valuations have generally decreased as a result of rising capitalization rates which tend to move directionally with interest rates. Consequently, prolonged periods of higher interest rates may negatively impact the valuation of our real estate asset portfolio and result in the decline of our stock price and market capitalization and lower sales proceeds from future real estate dispositions, which in turn could adversely affect our financial condition and our ability to make distributions to our stockholders.

As of December 31, 2022, approximately 96% of our leases (on an annual rental revenue basis) contained effective annual rent escalations approximating 3% that were either fixed or indexed based on a consumer price index or other index. We have long-term lease agreements with our tenants, of which 3%–11% (based on occupied RSF) expire each year primarily over the next ten years. We believe that these annual lease expirations allow us to reset these leases to market rents upon renewal or re-leasing and that annual rent escalations within our long-term leases are generally sufficient to offset the effect of inflation on non-recoverable costs, such as general and administrative and interest expenses. However, the impact of the current rate of inflation of 6.5% may not be adequately offset by some of our annual rent escalations, and it is possible that the resetting of rents from our renewal and re-leasing activities would not fully offset the impact of the current inflation rate. As a result, during inflationary periods in which the inflation rate exceeds the annual rent escalation percentages within our lease contracts, we may not adequately mitigate the impact of inflation, which may adversely affect our business, financial condition, results of operations, and cash flows.

Additionally, inflationary pricing may have a negative effect on the construction costs necessary to complete our development and redevelopment projects, including, but not limited to, costs of construction materials, labor, and services from third-party contractors and suppliers. We rely on a number of these third-party suppliers and contractors to supply raw materials, skilled labor, and services for our construction projects. During 2021 and 2022, industry prices for certain construction materials, including steel, copper, lumber, plywood, concrete, electrical materials, and HVAC materials, experienced significant increases as a result of low inventories; surging demand; underinvestment in infrastructure; tariffs imposed on imports of foreign steel, including on products from key competitors in the EU and China (tariffs in the U.S. on EU exports of steel and aluminum were lifted, effective January 2022); significant changes in the U.S. steel production landscape stemming from the consolidation of certain steel-producing companies; and increases in global commodity and raw materials prices exacerbated by supply and energy shortages that have emerged since the Russia-Ukraine war in 2022.

As a result, the increase in costs of construction materials, heightened by recent inflationary pressure from events noted above, including the Russia-Ukraine conflict, may result in corresponding increases in our overall construction costs. Certain increases in the costs of construction materials, however, can often be managed in our development and redevelopment projects through either (i) general budget contingencies built into our overall construction costs estimates for each of our projects or (ii) guaranteed maximum price construction contracts, which stipulate a maximum price for certain construction costs and shift inflation risk to our construction general contractors. However, it is not guaranteed that our budget contingencies would accurately account for potential construction cost increases given the current severity of inflation and variety of contributing factors. Nor is it guaranteed that our general contractors would be able to absorb such increases in costs and complete our construction projects timely, within budget, or at all.

We have not encountered significant difficulty collaborating with our third-party suppliers and contractors and obtaining materials and skilled labor, nor experienced significant delays or increases in overall project costs due to the factors discussed above. While we do not rely on any single supplier or vendor for the majority of our materials and skilled labor, we may experience difficulties obtaining necessary materials from suppliers or vendors whose supply chains might become impacted by economic or political changes, outmoded technology, aging infrastructure, shortages of shipping containers and/or means of transportation, or difficulties obtaining adequate skilled labor from third-party contractors in a tight labor market. It is uncertain whether we would be able to source the essential commodities, supplies, materials, and skilled labor timely or at all without incurring significant costs or delays, particularly during times of economic uncertainty resulting from events outside of our control, including, but not limited to, effects of the COVID-19 pandemic, federal policies, and the ongoing Russia-Ukraine war.

Higher construction costs could adversely impact our net investments in real estate and expected yields on our development and redevelopment projects, which may make otherwise lucrative investment opportunities less profitable to us. Our reliance on a number of third-party suppliers and contractors may also make such investment opportunities unattainable if we are unable to sufficiently fund our projects due to significant cost increases or are unable to obtain the resources and materials to do so reasonably due to disrupted supply chains. As a result, our financial condition, results of operations, and cash flows, as well as our ability to pay dividends, could be adversely affected over time.

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. In addition, because of the impact to the business environment due to civil unrest, high cost of living, taxes, and other increased region-specific costs of doing business in certain of our markets and submarkets, such as those located in the states of California and Washington, tenants may choose not to renew or re-lease space. 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 biologic 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 or 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 capital.

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, certain of our properties have low tax bases relative to their estimated current market values. As such, the sale of these assets would generate significant taxable gains unless we sold such properties in a tax-deferred exchange under Section 1031 (“Section 1031 Exchange”) of the Internal Revenue Code of 1986, as amended (the “Internal Revenue Code”), or in a similar tax-free or tax-deferred transaction or applied an offsetting tax deduction. For a sale to qualify for tax-deferred treatment under Section 1031, net proceeds from the sale of a property must be held by a third-party escrow agent until applied toward the purchase of a qualifying real estate asset. It is possible we may encounter delays in reinvesting such proceeds, or we may be unable to reinvest such proceeds at all, due to an inability to procure qualifying real estate. Any delay or limitation in using the reinvestment proceeds to acquire additional real estate assets may cause the reinvestment proceeds to become taxable to us. Furthermore, if current laws applicable to such tax-deferred transactions are later amended or repealed, we may no longer be able to sell properties on a tax-deferred basis, which may adversely affect our results of operations and cash flows.

In addition, 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 and/or improve 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, and 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 or under our unsecured senior line of credit or commercial paper program.

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 require compliance with certain financial and non-financial covenants. Borrowings under our unsecured senior line of credit are funded by a group of banks. Our ability to borrow additional amounts under our unsecured senior line of credit and commercial paper program 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 commercial paper program, non-compliance with one or more loan covenants associated with our unsecured senior line of credit, and non-performance or failure of one or more lenders under our unsecured senior line of credit. In addition, we may not be able to refinance or repay outstanding borrowings on our unsecured senior line of credit or commercial paper program.

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 commercial paper program may adversely affect our cash flows, ability to make distributions to our stockholders, financial condition, and results of operations.

Our unsecured senior line of credit restricts our ability to engage in some business activities.

Our unsecured senior line of credit contains 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/or 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, but not limited to, 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 secured 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.
- 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, secured construction loan, or commercial paper program, which could adversely impact our cash flows and operations.
- 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, but are not limited to:

- National, local, and worldwide economic and political conditions;
- Competition from other properties;
- Changes in the life science, agtech, 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;
- Increases in operating costs; and
- Increases in costs to address environmental impacts related to climate change or natural disasters.

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.

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

Our actual financial results may differ materially from 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 leases expire;
- Our ability to reinvest sale proceeds in a timely manner at rates similar to the rate at which assets are sold;
- Our ability to successfully complete developments or redevelopments of properties for lease on time and/or within budget;
- Our ability to procure third-party suppliers or providers of necessary construction materials for our developments and redevelopments of properties;
- 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 a variety of factors, many of which are beyond our control, 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 guidance;
- The publication of research reports and articles about us, our tenants, the real estate industry, or the life science, agtech, 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;
- Changes in our analyst ratings;
- Changes in our corporate credit ratings 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 or equity we raise 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 that may lead to federal government shutdowns or negative impacts on the U.S. economy;
- Fluctuations due to general market volatility;
- Global market factors adversely affecting the U.S. economic and political environment;
- The realization of any of the other risk factors included in this annual report on Form 10-K; and
- General market and economic conditions.

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, or the perception that such sales may occur, could adversely affect prevailing market prices for our common stock. Refer to “Other sources” 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.

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, but not limited to:

- 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 eight 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;
- Challenges in managing foreign relations and trade disputes that adversely affect U.S. and 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, and cash flows, and the market price of our common stock could be adversely affected.

Furthermore, we may in the future enter into agreements with foreign 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.
- Our partners may file for bankruptcy protection or otherwise fail to fund their share of 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.
- 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.

The risks noted above could negatively impact us or require us to:

- Contribute additional capital if our partners fail to fund their share of any required capital contributions;
- Experience substantial unanticipated delays that could hinder either the initiation or completion of redevelopment activities or new construction;
- Incur additional expenses that could prevent the achievement of yields or returns that were initially anticipated;
- Become engaged in a dispute with our joint venture partner that could lead to the sale of either party's ownership interest or the property at a price below estimated fair market value;
- Initiate litigation or settle disagreements with our partners through litigation or arbitration; and
- Suffer losses or less than optimal returns as a result of actions taken by our partners with respect to our joint venture investments.

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, and cash flows, our ability to make distributions to our stockholders, and the market price of our common stock.

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, including the San Francisco Bay Area, 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 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.

For our properties located in the areas prone to wildfires or flooding, we are evaluating the extent to which we have mitigations in place and which operational and physical improvements may be made. For example, resilience measures that may be implemented at some of our properties will include the following:

- In areas prone to fire, we will work toward incorporating brush management practices into landscape design; we will select less flammable vegetation species and position them in a reasonable distance from a property; we will construct building envelopes with fire-resistant materials; and will install HVAC systems that are able to filter smoke particulates in the air in the event of fire.
- In areas prone to flooding, critical building mechanical equipment will be positioned on the roofs or significantly above the projected potential flood elevations; temporary flood barriers will be stored on-site to be deployed at building entrances prior to a flood event; property entrances or the first floor will be elevated above projected present-day and future flood elevations; backflow preventors on storm/sewer utilities that discharge from the building will be installed; and the building envelope will be waterproofed up to the projected flood elevation.

As a part of Alexandria's risk management program, we maintain all-risk property insurance at the portfolio level to mitigate the risk of extreme weather events and natural disasters (including floods, wildfires, earthquakes, and wind events). However, our insurance may not adequately cover all of our potential losses. As a result, there can be no assurance that climate change and severe weather will not have a material adverse effect on our properties, operations, or business.

Our tenants are also required to maintain comprehensive insurance policies, 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 and venture investment portfolio companies in the life science, agtech, and technology industries. We cannot assure our stockholders that our senior officers will remain employed with us. In California and certain other regions where we have operations, there is intense competition for individuals with skill sets needed for our business. Moreover, the high cost of living in California, where our headquarters and many of our properties are located, as a result of high state and local taxes and increased home prices, may impair our ability to attract and retain employees locally in the future. Due to the long-term nature of our investments and properties, we are unable to predict and may be unable to effectively control such costs. If we do not succeed in attracting new personnel and retaining and motivating existing personnel, our business may suffer, and we may be unable to implement our current initiatives or grow effectively.

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.

We have elected to be taxed as a REIT under the Internal Revenue Code. 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 may 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, as well as 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 our current organization and method of operation comply with the rules and regulations promulgated under the Internal Revenue Code to enable us 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. Whether or not the transaction is characterized as a prohibited transaction is a factual matter. 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. However, a sale will not be considered a prohibited transaction if it meets certain safe harbor requirements. 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 the U.S. 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 or businesses 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, security, 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, pandemics, or other unanticipated catastrophic events. If a vendor encounters financial difficulty such as bankruptcy or other events beyond our control that cause it to fail to adequately provide utilities, security, 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 damage to our reputation.

In addition, difficulties encountered by key vendors in providing necessary services at our properties could result in 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. Also, 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.

Pacific Gas and Electric Company (“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 Bay Area market depend on PG&E for the delivery of these essential services. PG&E initiated voluntary reorganization proceedings under Chapter 11 of the U.S. Bankruptcy Code in January 2019 in response to potential liabilities arising from a series of catastrophic wildfires that occurred in Northern California in 2017 and 2018. While PG&E emerged from bankruptcy in July 2020, there is no guarantee that PG&E will be able to sustain safe operations and continue to provide consistent utilities services. During periods of high winds and high fire danger in past fire seasons, PG&E preemptively shut off power to areas of Central and Northern California. The shutoffs were designed to help guard against fires ignited in areas with high winds and dry conditions. PG&E has warned that it may have to employ shutoffs while the utility company addresses maintenance issues. Future shutoffs of power may impact the reliability of access to a stable power supply at our properties and, in turn, adversely impact our tenants’ businesses. In addition, there is no guarantee that PG&E’s safety measures mandated by regulators will be timely and sufficient to prevent future catastrophic wildfires.

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 legal 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. These entities may also have more favorable relationships and pricing with suppliers and contractors and may complete construction projects sooner and at lower costs than we are able. We may also face competition with these entities for access to the same or similar raw materials and labor resources from suppliers and contractors, as well as access to the specific suppliers and contractors we use. 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. If there is no matching growth in demand, the intensified competition may lead to oversupply of available space comparable to ours and result in the pressure on rental rates and greater incentives awarded to tenants. To maintain our ability to retain current and attract new tenants, we may be forced to reduce the rental rates that our tenants are currently willing to pay or offer greater tenant concessions. Should we encounter intensified competition or oversupply, we cannot be certain that we will be able to compete successfully, maintain our occupancy and rental rates, and continue to expand our business. As a result, our financial condition, results of operations, and cash flows, our ability to pay dividends, and our stock price may be adversely affected.

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

Our properties are primarily located in the following markets:

- Greater Boston
- San Francisco Bay Area
- New York City
- San Diego
- Seattle
- Maryland
- Research Triangle

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, agtech, 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 infrastructure 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 and fume hoods.

Because many of our infrastructure improvements are specialized and costlier than those for other property types, we may be more significantly impacted by any unanticipated delays or increased costs due to price volatility or supply shortages of construction materials or labor. As a result, we may be unable to complete our improvements as scheduled or within budgeted amounts, which may adversely affect our ability to lease available space to potential tenants or to reduce our projected project returns.

We are dependent on the life science, agtech, and technology industries, and changes within these industries may adversely impact our revenues from lease payments, the value of our non-real estate investments, and our operating results.

In general, our business strategy is to invest primarily in properties used by tenants in the life science, agtech, and technology industries. Through our venture investment portfolio, we also hold investments in companies that, similar to our tenant base, are concentrated in the life science, agtech, and technology industries. Our business could be adversely affected if the life science, agtech, and technology industries are impacted by an economic, financial, or banking crisis, or if these 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 tenants and investments. Also, some of our properties may be better suited for a particular life science, agtech, or technology industry 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, agtech, and technology industries to undergo mergers, acquisitions, or other consolidations. Mergers, acquisitions, or consolidations of life science, agtech, 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 technology companies in their startup or growth phases of their life cycle. Fluctuations in market confidence in these companies or adverse changes in economic conditions may have a disproportionate effect on the operations of such companies. Deterioration of our tenants' financial condition may result in our inability to collect rental payments from them and therefore may negatively impact our operating results.

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, agtech, and related industries; academic institutions; government institutions; and private foundations. Our tenants determine their research and development budgets based on several factors, including the need to develop new products, the availability of government and other funding, competition, and the general availability of resources. Our investments through our venture investment portfolio are also in companies that, similar to our tenant base, are concentrated in the life science, agtech, and technology industries.

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

<u>Changes in technology, patent expiration, and intellectual property rights and protection</u>

- Our tenants and venture investment portfolio companies develop and 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.
- Many of our tenants and venture investment portfolio companies, and their licensors, require patent, copyright, or trade secret protection and/or rights to use third-party intellectual property to develop, make, market, and sell their products and technologies. A tenant or venture investment portfolio company 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. Additionally, a third party may own intellectual property that limits a tenant's or venture investment portfolio company's ability to bring to market its product or technology without securing a license or other rights to use the third-party intellectual property, which may require the tenant to pay an upfront fee or royalty. Failure to obtain these rights from third parties may make it challenging or impossible for a tenant or venture investment portfolio company to develop and commercialize its products or technologies, which could adversely affect its competitive position and operations.
- Many of our tenants and venture investment portfolio companies depend upon patents to provide exclusive marketing rights for their products. As their product patents expire, competitors may be able to legally produce and market products similar to the products of our tenants or venture investment portfolio companies, which could have a material adverse effect on their sales and results of operations.

<u>High levels of regulation</u>

- Some of our life science industry tenants and venture investment portfolio companies develop and manufacture products that require regulatory approval, including approval from the FDA, prior to being manufactured, marketed, sold, and used. The regulatory approval process to manufacture and market drugs is costly, typically takes many years, requires validation through clinical trials and the use of substantial resources, and is often unpredictable. A tenant or venture investment portfolio company may fail to obtain or may experience significant delays in obtaining these approvals. Even if the tenant or venture investment portfolio company obtains regulatory approvals, marketed products will be subject to ongoing regulatory review and potential loss of approvals.
- The ability of some of our life science industry tenants and venture investment portfolio companies 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 payors. Additionally, reimbursements may decrease in the future.

Failures in the safety and efficacy of their products

- Some of our life science industry tenants and venture investment portfolio companies may find that their potential products are not effective, or are even harmful, when tested in humans.
- Some of our life science industry tenants and venture investment portfolio companies depend upon the commercial success of certain products. Even if a product developed by a life science industry tenant or venture investment portfolio company is 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 product developed, manufactured, marketed, or sold by a life science industry tenant or venture investment portfolio company may not be well accepted by doctors and patients, or may be less effective or accepted than a competitor's product.
- The negative results of safety signals arising from the clinical trials of the competitors of our life science industry tenants or venture investment portfolio companies may prompt regulatory agencies to take actions that may adversely affect the clinical trials or products of our tenants or venture investment portfolio companies.

Significant funding requirements for product research and development

- Some of our life science industry tenants and venture investment portfolio companies require significant funding to develop and commercialize their products and technologies, which must be obtained from venture capital firms; private investors; public markets; other 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 or venture investment portfolio company to raise capital will depend on its financial and operating condition, viability of its products and technology, and the overall condition of the financial, banking, and economic environment, as well as government budget policies.
- Even with sufficient funding, some of our life science industry tenants or venture investment portfolio companies 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 life science industry tenants or venture investment portfolio companies may not be able to successfully manufacture their products economically, even if such products are proven through human clinical trials to be safe and effective in humans.
- Marketed products also face commercialization risk, and some of our life science industry tenants and venture investment portfolio companies may never realize projected levels of product utilization or revenues.
- Negative news regarding the products, the clinical trials, or other business developments of our life science industry tenants or venture investment portfolio companies may cause their stock price or credit profile to deteriorate.

We cannot assure our stockholders that our life science industry tenants or venture investment portfolio companies will be able to develop, manufacture, market, or sell their products and technologies due to the risks inherent in the life science industry. Any life science industry tenant or venture investment portfolio company that is unable to avoid, or sufficiently mitigate, the risks described above may have difficulty making rental payments or satisfying its other lease obligations to us or may have difficulty maintaining the value of our investment. Such risks may also decrease the credit quality of our life science industry tenants and venture investment portfolio companies 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 and venture investment portfolio companies may also adversely impact our stock price.

Our technology industry tenants and venture investment portfolio companies 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 sales growth, and (v) inadequate intellectual property protections. These risks may adversely affect our tenants' ability to make rental payments to us or satisfy their other lease obligations or may impact our venture investment portfolio companies' value, which consequently 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 continue to evolve. 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 and venture investment portfolio companies. These laws and regulations may cover, among other areas, taxation, worker classification, 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 and venture investment portfolio companies.

Dependency on the maintenance and security of the Internet infrastructure

- Some of our technology industry tenants and venture investment portfolio companies 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, venture investment portfolio companies, or users of their products and services.
- 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 and venture investment portfolio companies to conduct business.
- Reliance on a limited number of cloud provider vendors may result in detrimental impacts on or halts of operations during instances of network outages or interruptions.
- Security breaches or network attacks may delay or interrupt the services provided by our technology industry tenants and venture investment portfolio companies and could harm their reputations or subject them to significant liability.

Significant funding requirements for product research and development and sales growth

- Some of our technology industry tenants and venture investment portfolio companies require significant funding to develop and commercialize their products and technologies, which must be obtained from venture capital firms; private investors; 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 or venture investment portfolio company 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 technology industry tenants and venture investment portfolio companies 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 technology industry tenants and venture investment portfolio companies may not be able to successfully manufacture their products economically.
- Marketed products also face commercialization risk, and some of our technology industry tenants and venture investment portfolio companies may never realize projected levels of product utilization or revenues.
- Unfavorable news regarding the products or other business developments of our technology industry tenants or venture investment portfolio companies may cause their stock price or credit profile to deteriorate.

Inadequate intellectual property protections

- The products and services provided by some of our technology industry tenants and venture investment portfolio companies 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 and venture investment portfolio companies 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 and venture investment portfolio companies to incur significant costs to protect their intellectual property rights.

We cannot assure our stockholders that our technology industry tenants and venture investment portfolio companies will be able to develop, manufacture, market, or sell their products and services due to the risks inherent in the technology industry. Any technology industry tenant or venture investment portfolio company that is unable to avoid, or sufficiently mitigate, the risks described above may have difficulty making rental payments or satisfying its other lease obligations to us or may have difficulty maintaining the value of our investment. Such risks may also decrease the credit quality of our technology industry tenants or venture investment portfolio companies 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 and venture investment portfolio companies may also adversely impact our stock price.

Our agtech industry tenants and venture investment portfolio companies are subject to a number of risks unique to their industry, including (i) uncertain regulatory environment, (ii) seasonality in business, (iii) unavailability of transportation mechanisms for carrying products and raw materials, (iv) changes in costs or constraints on supplies or energy used in operations, (v) strikes or labor slowdowns or labor contract negotiations, and (vi) rapid technological changes in agriculture. These risks may adversely affect our tenants' ability to make rental payments or satisfy their other lease obligations to us or may impact our venture investment portfolio companies' value, which consequently may materially adversely affect our business, results of operations, financial condition, and stock price.

<u>Uncertain regulatory environment</u>

- Laws and regulations governing the Internet, e-commerce, electronic devices, and other services and products developed by the agtech industry continue to evolve. 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 agtech industry tenants and venture investment portfolio companies. These laws and regulations may cover, among other areas, taxation, privacy, data protection, pricing, content, copyrights, distribution, mobile communications, business licensing, and consumer protection.

<u>Seasonality in business</u>

- Our agtech industry tenants' and venture investment portfolio companies' businesses may fluctuate from time to time due to seasonal weather conditions and other factors out of their control, affecting products and services our agtech industry tenants and venture investment portfolio companies offer.

<u>Unavailability of transportation mechanisms for carrying products and raw materials</u>

- Some of our agtech industry tenants' and venture investment portfolio companies' businesses depend on transportation services to deliver their products or to deliver raw materials to their clients. If transportation service providers are unavailable or fail to deliver our agtech industry tenants' or venture investment portfolio companies' products in a timely manner, they may be unable to manufacture and deliver their services and products on a timely basis.

<u>Changes in costs or constraints on supplies or energy used in operations</u>

- Similarly, if fuel or other energy prices increase, it may increase transportation costs, which could affect our agtech industry tenants' and venture investment portfolio companies' businesses.

<u>Strikes or labor slowdowns or labor contract negotiations</u>

- Our agtech industry tenants and venture investment portfolio companies may face labor strikes, work slowdowns, labor contract negotiations, or other job actions from their employees or third-party contractors. In the event of a strike, work slowdown, or other similar labor unrest, our agtech industry tenants or venture investment portfolio companies may not have the ability to adequately staff their businesses, which could have an adverse effect on their operations and revenue.

<u>Rapid technological changes in agriculture</u>

- The agtech industry is characterized by regular 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 agtech industry tenants and venture investment portfolio companies.
- Technological advances in agriculture could decrease the demand for crop nutrients, energy, and other crop input products and services our agtech industry tenants and venture investment portfolio companies provide. Genetically engineered crops that resist disease and insects could affect the demand for certain of our tenants' or venture investment portfolio companies' products. Demand for fuel could decline as technology allows for more efficient usage of equipment.

We cannot assure our stockholders that our agtech industry tenants and venture investment portfolio companies will be able to develop, produce, market, or sell their products and services due to the risks inherent in the agtech industry. Any agtech industry tenant or venture investment portfolio company that is unable to avoid, or sufficiently mitigate, the risks described above may have difficulty making rental payments or satisfying its other lease obligations to us. Such risks may also decrease the credit quality of our agtech industry tenants or venture investment portfolio companies 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 agtech 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 agtech industry tenants and venture investment portfolio companies may also adversely impact our stock price.

The companies in which we invest through our non-real estate venture investment portfolio expose us to risks similar to those of our tenant base and additional risks inherent in venture capital investing, which could materially affect our reported asset and liability values and earnings, and may materially and adversely affect our reported results of operations.

Through our strategic venture investment portfolio, we hold investments in companies that, similar to our tenant base, are concentrated in the life science, agtech, and technology industries. The venture investment portfolio companies in which we invest are accordingly subject to risks similar to those posed by our tenant base, including those disclosed in this annual report on Form 10-K. In addition, the companies in which we invest through our venture investment portfolio are subject to the risks inherent in venture capital investing and may be adversely affected by external factors beyond our control and other risks, including, but not limited to the following:

- Risks inherent in venture capital investing, which typically focuses on small early-stage companies with unproven technologies and limited access to capital and is therefore generally considered more speculative than investment in larger, more established companies.
- Market disruption and volatility, which may adversely affect the value of the companies in which we hold equity investments and, in turn, our ability to realize gains upon sales of these investments.
- Disruptions, uncertainty, or volatility in the capital markets and global economy, which may impact the ability of the companies in which we invest to raise additional capital or access capital from venture capital investors or financial institutions on favorable terms.
- Liquidity of the companies in which we invest, which may (i) impede our ability to realize the value at which these investments are carried if we are required to dispose of them, (ii) make it difficult for us to sell these investments on a timely basis, and (iii) impair the value of such investments.
- Changes in the political climate, potential reforms and changes to government negotiation and regulation, the effect of healthcare reform legislation, including those that may limit pricing of pharmaceutical products and drugs, market prices and conditions, 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, all of which may affect the valuation, funding opportunities, business operations, and financial results of the companies in which we invest.
- Changes in U.S. federal government organizations or other agencies, including changes in policy, regulations, budgeting, retention of key leadership and other personnel, administration of drug approvals or restrictions on drug product or service development or commercialization, or a partial or complete future government shutdown resulting in temporary closures of agencies such as the FDA and SEC, could adversely affect the companies in which we invest, including delays in the commercialization of such companies' products, decreased funding of research and development in the life science, agtech, and technology industries, or delays surrounding approval of budget proposals for any of these industries.
- Impacts or changes in business for any reason, including diversion of healthcare resources away from clinical trials, delays, or difficulties enrolling patients or maintaining scheduled appointments in clinical trials, interruptions, and delays in laboratory research due to the reduction in employee resources stemming from social distancing requirements and the desire of employees to avoid contact with people, insufficient inventory of supplies and reagents necessary for laboratory research due to interruptions in supply chain, delays or difficulties obtaining clinical site locations or engaging clinical site staff, interruptions on clinical site monitoring due to travel restrictions, delays in interacting with or receiving approval from regulatory agencies in connection with research activities or clinical trials, and disruptions to manufacturing facilities and supply lines.
- Reduction in revenue or revenue growth, deterioration in the global economy, or other reasons, may impair the value of the companies in which we hold equity investments or impede their ability to raise additional capital.
- Seasonal weather conditions, changes in availability of transportation or labor, and other related factors may affect the products and services or the availability of the products and services of the companies in which we invest in the agtech sector.

Many of the factors listed above are beyond our control and, if the venture investment portfolio companies are adversely affected by any of the foregoing, could materially affect our reported asset and liability values and earnings and may materially and adversely affect our reported results of operations. The occurrence of any of these adverse events could cause the market price of shares of our common stock to decline regardless of the performance of our primary real estate business.

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, agtech, and technology industries through our venture investment portfolio. 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, agtech, and technology companies through our venture investment portfolio. 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.

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 and 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.

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

During 2017–2018, the U.S. Federal Reserve gradually increased the target range for the federal funds rate. As of December 31, 2018, the federal funds rate was set at a range from 2.25% to 2.50%. From August 2019 through March 2020, the U.S. Federal Reserve initiated a series of rate cuts. As of December 31, 2020, the federal funds rate was set at a range from 0% to 0.25%. In December 2021, the U.S. Federal Reserve maintained its target range but began to taper its bond purchases in early 2022. Due to inflation reaching a nearly 40-year high in 2022, the U.S. Federal Reserve raised the federal funds rate a total of seven times during 2022, resulting in a range from 4.25% to 4.50% as of December 31, 2022. In response, market interest rates have increased significantly during this time. It is expected that the U.S. Federal Reserve may continue to increase the federal funds rate during 2023. Should the U.S. Federal Reserve continue to raise rates in the future, this will likely result in further increases in market interest rates, which would also increase our interest expense under our variable-rate borrowings and the costs of refinancing existing indebtedness or obtaining new debt. In addition, continued 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.

Changes to U.S. tax laws that may be enacted in the future could negatively impact the overall economy, government revenues, the real estate industry, our tenants, and us, in ways that cannot be reliably predicted. Furthermore, any future changes to U.S. tax laws may negatively impact certain of our tenants' operating results, financial condition, and future business plans. Such changes to the tax laws 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. For example, the Tax Cuts and Jobs Act of 2017 was enacted on December 20, 2017, and significantly revised the U.S. corporate income tax law by, among other things, reducing the corporate income tax rate to 21% for tax years beginning in 2018, imposing additional limitations on the deductibility of interest, changing the utilization of net operating loss carryforwards, allowing for the expensing of certain capital expenditures, and implementing a modified territorial system. We are currently unable to predict whether any future changes will occur and any impact such changes could have on 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 payors, 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 payors 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 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, then President Trump issued an executive order, "Promoting Healthcare Choice and Competition Across the United States," which the Biden administration repealed in January 2021. It is unknown what other changes will be implemented through the U.S. Congress or future executive orders and how these would impact our tenants. 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 tax reform or 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, 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 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 future 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, 2022, leases with U.S. government tenants at our properties accounted for approximately 1.0% of our aggregate annual rental revenue in effect as of December 31, 2022.

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 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 implementing, 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 payors inside and outside the U.S. will become more severe over time.

Changes in U.S. federal government funding for the FDA, the 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 industry tenants and venture investment portfolio companies, 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.

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.

On December 29, 2022, a $1.7 trillion government budgetary bill, which averted a government shutdown in mid-December 2022 and will provide funding to the government for fiscal year 2023, was signed into law by President Biden. It is unclear whether the U.S. federal government will fail to enact a budget in future fiscal years, and if it does fail to do so, it is possible a partial government shutdown similar to the one that took place from December 22, 2018 to January 25, 2019 may occur. If this occurs, the FDA and certain other science agencies may temporarily shut down select non-essential operations. Also, as was the case in the last government shutdown, the FDA may maintain only operations deemed to be essential public health-related functions and halt the acceptance of new medical product applications and routine regulatory and compliance work for medical products and certain drugs and foods during any shutdown.

Disruptions at the FDA and other agencies, such as those resulting from a government shutdown, or uncertainty from stopgap spending bills 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 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, which went into effect on January 1, 2006 (and made changes to the public Part C Medicare health plan program), explicitly prohibits the U.S. federal government from directly negotiating drug prices with manufacturers. Recently, there has been significant public outcry against price increases viewed to be unfair and unwarranted.

Currently, the outcome of potential reforms and changes to the government's ability to regulate and negotiate 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' and venture investment portfolio companies' businesses, including life science, agtech, 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.

In 2022, after long delays, the SEC adopted two final rules pursuant to the Dodd-Frank Act that apply to us. The first rule requires us to disclose in our annual proxy statements, commencing in 2023, specified information on the relationship between executive compensation actually paid and our financial performance (often referred to as "pay-for-performance" disclosure), including comparative information for peer companies. The second rule requires the national stock exchanges, including the NYSE (upon which our common stock is listed) to propose and adopt listing standards that require listed companies to adopt a compensation recovery ("clawback") policy that allows for recovery of erroneously awarded incentive-based compensation from current or former executive officers in the event of a material restatement of an issuer's financial statements. While we have for many years maintained a clawback policy contained in our Corporate Governance Guidelines, our existing clawback policy may require updates once the NYSE listing standards are established.

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. 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 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.

Global factors

The replacement of LIBOR with SOFR or another alternative reference rate may adversely affect interest expense related to outstanding debt.

In advance of the cessation of LIBOR on June 30, 2023, we amended our unsecured senior line of credit with our lenders to be based on SOFR, and as of December 31, 2022, we had no LIBOR-based debt or financial contracts. SOFR is an index calculated by reference to short-term repurchase agreements backed by U.S. Treasury securities that was selected as a preferred replacement for U.S. dollar LIBOR by the U.S. Federal Reserve. 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.

The transition to SOFR may present challenges, including, but not limited to, the illiquidity of SOFR derivatives markets, which could make it difficult for financial institutions to offer SOFR-based debt products, the determination of the spread adjustment required to convert LIBOR to SOFR (and the related determination of a term structure with different maturities), and that such transition may require substantial negotiations with counterparties. There is no guarantee that the transition from LIBOR to SOFR will not result in financial market disruptions, significant increases in benchmark rates, or borrowing costs to borrowers, any of which could affect our interest expense and earnings and may have an adverse effect on our business, results of operations, financial condition, and stock price.

Whether or not SOFR attains market acceptance as a LIBOR replacement tool remains in question. As such, the future of SOFR at this time remains uncertain.

The outbreak of highly infectious or contagious diseases could adversely impact or cause disruption to our financial condition and results of operations. Further, the spread of COVID-19 has caused severe disruptions in the U.S. and global economies, may further disrupt financial markets, and could create widespread business continuity issues.

In recent years, the outbreaks of a number of diseases, including avian influenza, H1N1, and various other “superbugs,” have increased the risk of a pandemic. Since December 2019, COVID-19 has spread globally, including in the U.S., where COVID-19 has been reported in every state, including those where we own and operate our properties, have executive offices, and conduct principal operations. In March 2020, the World Health Organization declared COVID-19 a pandemic, and the U.S. subsequently declared a national emergency.

The COVID-19 pandemic has had, and continues to have, a significant adverse impact across regional and global economies and financial markets. Countries around the world instituted quarantines and restrictions on travel. Almost every state in the U.S. implemented some form of shelter-in-place or stay-at-home directive during 2020, including, among others, the cities of Boston, San Francisco (including five other San Francisco Bay Area counties), and Seattle, and the states of California, Maryland, Massachusetts, and New York, where we own properties. The lockdown restrictions implemented included quarantines, restrictions on travel, shelter-in-place orders, school closures, restrictions on types of business that may continue to operate, and/or restrictions on types of construction projects that could continue. The subsequent gradual reopening of retail, manufacturing, and office facilities came with required or recommended safety protocols.

The effects of COVID-19 or another pandemic on our (or our tenants’) ability to successfully operate could be adversely impacted due to the following factors, among others:

- The continued service and availability of personnel, including our executive officers and other leaders who are part of our management team, and our ability to recruit, attract, and retain skilled personnel. To the extent our management or personnel are impacted in significant numbers by the outbreak of pandemic or epidemic disease and are not available or allowed to conduct work, our business and operating results may be negatively impacted.
- Our (or our tenants’) ability to operate, generally or in affected areas, or delays in the supply of products or services from our vendors that are necessary for us to operate effectively.
- Our tenants’ ability to pay rent on their leases in full and timely and, to the extent necessary, our inability to restructure our tenants’ long-term rent obligations on terms favorable to us or to timely recapture the space for re-leasing.
- Difficulty in our accessing debt and equity capital on attractive terms, or at all, and a severe disruption and instability in the global financial markets, or deterioration in credit and financing conditions, which may affect our (or our tenants’) ability to access capital necessary to fund business operations or replace or renew maturing liabilities on a timely basis and may adversely affect the valuation of financial assets and liabilities, any of which could affect our (or our tenants’) ability to meet liquidity and capital expenditure requirements or could have a material adverse effect on our business, financial condition, results of operations, and cash flows.
- Complete or partial closures of, or other operational issues at, one or more of our offices or properties resulting from government action or directives.
- Our (or our tenants’) ability to continue or complete construction as planned for our tenants’ operations, or delays in the supply of materials or labor necessary for construction, which may affect our (or our tenants’) ability to complete construction or to complete it timely, our ability to prevent a lease termination, and our ability to collect rent, which may have a material adverse effect on our business, financial condition, results of operations, and cash flows.
- The cost of implementing precautionary measures against COVID-19 (or another pandemic), including, but not limited to, potential additional health insurance and labor-related costs.
- Governmental efforts (such as moratoriums on or suspensions of eviction proceedings) that may affect our ability to collect rent or enforce remedies for the failure of our tenants to pay rent.
- Uncertainty related to whether the U.S. Congress or state legislatures will pass additional laws providing for additional economic stimulus packages, governmental funding, or other relief programs, whether such measures will be enacted, whether our tenants will be eligible or will apply for any such funds, whether the funds, if available, could be used by our tenants to pay rent, and whether such funds will be sufficient to supplement our tenants’ rent and other obligations to us.
- Deterioration of global economic conditions and job losses, which may decrease demand for and occupancy levels of our rental properties and may cause our rental rates and property values to be negatively impacted.
- Our dependence on short-term and long-term debt sources, including our unsecured senior line of credit, commercial paper program, and unsecured senior notes, which may affect our ability to continue our investing activities and make distributions to our stockholders.
- Declines in the valuation of our properties, which may affect our ability to dispose of assets at attractive prices or to obtain debt financing secured by our properties and may reduce the availability of debt funding.
- Declines in the valuation of our venture investment portfolio, which may (i) impede our ability to realize the value at which these investments are carried if we are required to dispose of them, (ii) make it difficult for us to sell these investments on a timely basis, and (iii) impair the value of such investments.

- Refusal or failure by one or more of our lenders under our unsecured senior line of credit to fund their financing commitment to us, which we may not be able to replace on favorable terms, or at all.
- To the extent we enter into derivative financial instruments, one or more counterparties to our derivative financial instruments could default on their obligations to us or could fail, increasing the risk that we may not realize the benefits of utilizing these instruments.
- Any possession taken of our properties, in whole or in part, by governmental authorities for public purposes in eminent domain proceedings.
- Our level of insurance coverage and recovery we receive under any insurance we maintain, which may be delayed by, or insufficient to fully offset potential/actual losses caused by, COVID-19 (or another pandemic).
- Any increase in insurance premiums and imposition of large deductibles.
- Our level of dependence on the Internet, as it relates to employees' working remotely, and increases in malware campaigns and phishing attacks preying on the uncertainties surrounding COVID-19 (or another pandemic), which may increase our vulnerability to cyber attacks.
- Our ability to ensure business continuity in the event our continuity of operations plan is not effective or is improperly implemented or deployed during a disruption.
- Our ability to operate, which may cause our business and operating results to decline or may impact our ability to comply with regulatory obligations and may lead to reputational harm and regulatory issues or fines.

The rapid spread, development, and fluidity of COVID-19 and its multiple variants resulted in, and may continue to result in, significant disruption of the global financial market and labor markets, and it is difficult to ascertain the ultimate impact of the pandemic. Although COVID-19 vaccines are widely distributed and available across the country, a significant percentage of the U.S. population remains unvaccinated due to vaccine hesitancy. As a result, the pandemic and public and private responses to the pandemic may lead to a deterioration of economic conditions, an economic downturn, and/or a recession, at a global scale, which could materially affect our (or our tenants') performance, financial condition, results of operations, and cash flows.

The outbreak of the coronavirus disease, or COVID-19, or the future outbreak of any other highly infectious or contagious diseases, could adversely impact or cause disruption to our tenants' financial condition and results of operations, which may adversely impact our ability to generate income sufficient to meet operating expenses or generate income and capital appreciation.

Our tenants, many of which conduct business in the life science, agtech, or technology industries, may incur significant costs or losses responding to the outbreak of a contagious disease (such as COVID-19), lose business due to interruption in their operations, or incur other liabilities related to shelter-in-place orders, quarantines, infection, or other related factors. Tenants that experience deteriorating financial conditions as a result of the outbreak of such a contagious disease may be unwilling or unable to pay rent in full or timely due to bankruptcy, lack of liquidity, lack of funding, operational failures, or other reasons. Our tenants' defaults and delayed or partial rental payments could adversely impact our rental revenues and operating results.

The negative effects of an outbreak of a contagious disease on our tenants in the life science industry may include, but are not limited to:

- Delays or difficulties in enrolling patients or maintaining scheduled study visits in clinical trials;
- Delays or difficulties in clinical site initiation, including difficulties in recruiting clinical site investigators and staff;
- Diversion of healthcare resources away from clinical trials, including the diversion of hospitals serving as our tenants' clinical trial sites and hospital staff supporting the conduct of our tenants' clinical trials;
- Interruptions of key clinical trial or other research activities, such as clinical trial site monitoring, due to limitations on travel imposed or recommended by federal or state governments, employers, and others;
- Limitations in employee resources that would otherwise be focused on our tenants' research, business, or clinical trials, including because of sickness of employees or their families, the desire of employees to avoid contact with large groups of people, or as a result of the governmental imposition of shelter-in-place or similar working restrictions;
- Interruptions in supply chain, manufacturing, and global shipping, or other delays that may affect the transport of materials necessary for our tenants' research, clinical trials, or manufacturing activities;
- Reduction in revenue projections for our tenants' products due to the prioritization of the treatment of affected patients over other treatments, such as specialty and elective procedures;
- Delays in necessary interactions with ethics committees, regulators, and other important agencies and contractors due to limitations in employee resources or forced furlough of government employees;
- Delays in receiving approval from regulatory authorities to initiate planned clinical trials or research activities;
- Delays in commercialization of our tenants' products and approval by government authorities (such as the FDA and the federal and state Emergency Management Agencies) of our tenants' products caused by disruptions, funding shortages, or health concerns, as well as by the prioritization by the FDA of the review and approvals of diagnostics, therapeutics, and vaccines that are related to an outbreak;
- Difficulty in retaining staff or rehiring staff in connection with layoffs caused by deteriorating global market conditions;

- Changes in local regulations as part of a response to an outbreak that may require our tenants to change the ways in which their clinical trials are conducted, which may result in unexpected costs or the discontinuation of the clinical trials altogether;
- Refusal or reluctance of the FDA to accept data from clinical trials in affected geographies outside the U.S.;
- Diminishing public trust in healthcare facilities or other facilities, such as medical office buildings, that are treating (or have treated) patients affected by contagious diseases; and
- Inability to access capital on terms favorable to our tenants because of changes in company valuation and/or investor appetite due to a general downturn in economic and financial conditions and the volatility of the market.

The negative effects of an outbreak of a contagious disease on our tenants in the technology industry may include, but are not limited to:

- Reduction in staff productivity due to business closures, alternative working arrangements, or illness of staff and/or illness in the family;
- Reduction in sales of our tenants' services and products, longer sales cycles, reduction in subscription duration and value, slower adoption of new technologies, and increase in price competition due to economic uncertainties and downturns;
- Disruptions to our tenants' supply chain, manufacturing vendors, or logistics providers of products or services;
- Limitations on business and marketing activities due to travel restrictions, virtualization, or cancellation of related events;
- Adverse impact on customer relationships and our ability to recognize revenues due to our tenants' inability to access their clients' sites for implementation and on-site consulting services;
- Inability to recruit and develop highly skilled employees with appropriate qualifications, to conduct background checks on potential employees, and to provide necessary equipment and training to new and existing employees;
- Network infrastructure and technology system failures of our tenants, or of third-party services used by our tenants, which may result in system interruptions, reputational harm, loss of intellectual property, delays in product development, lengthy interruptions in services, breaches of data security, and loss of critical data;
- Higher employment compensation costs that may not be offset by improved productivity or increased sales; and
- Inability to access capital on terms favorable to our tenants because of changes in company valuation and/or investor appetite due to a general downturn in of economic and financial conditions and the volatility of the market.

The negative effects of an outbreak of a contagious disease on our tenants in the agtech industry may include, but are not limited to:

- Reduction in productive capacity and profitability because of decreased labor availability due, for example, to government restrictions, the inability of employees to report to work, or collective bargaining efforts;
- Potential contract cancellations, project reductions, and reduction in demand for our tenants' products due to the adverse effect on business confidence and consumer sentiments and the general downturn in economic conditions;
- Disruption of the logistics necessary to import, export, and deliver products to target companies and their customers, as ports and other channels of entry may be closed or may operate at only a portion of capacity;
- Disruptions to manufacturing facilities and supply lines; and
- Inability to access capital on terms favorable to our tenants because of changes in company valuation and/or investor appetite due to a general downturn in economic and financial conditions and the volatility of the market.

The potential impact of a pandemic or outbreak of a contagious disease with respect to our tenants or our properties is difficult to predict and could have a material adverse impact on our tenants' operations and, in turn, on our revenues, business, and results of operations, as well as the value of our stock. The COVID-19 pandemic, or other pandemics or disease outbreaks, may directly or indirectly cause the realization of any of the other risk factors included in this annual report on Form 10-K.

Other factors

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, environmental, 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 and costs associated with the effects of climate change and severe weather.

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 severe weather, including hurricanes, severe winter storms, and coastal flooding due to increases in storm intensity and rising sea levels. Certain of our properties are also located along shorelines and may be vulnerable to coastal hazards, such as sea level rise, severe weather patterns and storm surges, land erosion, and groundwater intrusion. Over time, these conditions could result in declining demand for space at our properties, delays in construction, resulting in increased construction costs, or in our inability to operate the buildings at all. Climate change and severe weather 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 costs of energy, maintenance, repair of water and/or wind damage, and snow removal at our properties.

In addition, to combat the cause of global warming domestically, President Biden identified climate change as one of his administration's top priorities and pledged to seek measures that would pave the path for the U.S. to eliminate net greenhouse gas ("GHG") pollution by 2050. In April 2021, President Biden announced the administration's plan to reduce the U.S. greenhouse gas emissions by at least 50% by 2030.

In March 2022, the SEC released a proposed standard that would require quantitative disclosures of certain climate-related metrics and greenhouse gas emissions, including within the footnotes to our consolidated financial statements. As of the date of this report, the standard has not been finalized, and our assessment of the potential effect of this standard, if adopted as proposed, on our consolidated financial statements is ongoing.

In August 2022, the U.S. Congress signed into law the Inflation Reduction Act of 2022 ("IRA"), which directs nearly $400 billion of federal spending to be used toward reducing carbon emissions and funding clean energy over the next 10 years and is designed to encourage private investment in clean energy, transport, and manufacturing.

Numerous states and municipalities have adopted state and local laws and policies on climate change and emission reduction targets, including, but not limited to, the following:

California

- In September 2018, Senate Bill 100 was signed into law in California, accelerating the state's renewable portfolio standard target dates and setting a policy of meeting 100% of retail electricity sales from eligible renewables and zero-carbon resources by December 31, 2045.

- In September 2020, Governor Newsom signed an executive order requiring all new passenger cars and trucks sold in the state to be emission free by 2035.

- In November 2020, the San Francisco Board of Supervisors adopted an All-Electric New Construction Ordinance that will require all new buildings (residential and non-residential) with initial building permit applications made on or after June 1, 2021 to have all-electric indoor and outdoor space-conditioning, water heating, cooking, and clothes drying systems.

- In September 2021, Governor Newsom signed legislation aimed at achieving net-zero GHG emissions associated with cement used within the state no later than 2045.

- In September 2022, Governor Gavin Newsom enacted a package of legislation that, among other measures, will allow the state to achieve carbon neutrality no later than 2045; establish an 85% emissions reduction target by 2045; achieve 90% and 95% clean energy by 2035 and 2040, respectively; and establish a regulatory framework for removing carbon pollution.

Massachusetts

- In March 2021, Senate Bill 9 was signed into law, updating the state's climate policy to ensure net-zero GHG emissions by 2050 and establishing interim emission reduction targets for several sectors, including commercial and industrial buildings.

- In September 2021, the Boston City Council approved an amendment to the Building Emissions Reduction and Disclosure Ordinance ("BERDO 2.0"), which imposes enforceable emission limits on buildings over 20,000 square feet starting in 2025-2030, targeting zero emissions by 2050. Furthermore, BERDO 2.0 adds a requirement that water and energy use data reported to the City of Boston be verified by a third-party. (An annual reporting requirement starting in 2022 for year 2021 was imposed by BERDO 1.0.)

- In August 2022, Governor Charlie Baker enacted a bill to enable the state to meet its climate targets, with key provisions, including mandating all new vehicles sold to be emission free by 2035; providing certain municipalities the ability to ban fossil fuel hookups in new construction or major renovation projects; requiring the Massachusetts Bay Transportation Authority to electrify its entire fleet of public transportation vehicles by 2040 and purchase only zero-emission buses starting in 2030; and phasing out incentives for fossil fuel-powered heating and cooling systems.

New York

- In July 2019, the Climate Leadership and Community Protection Act ("CLCPA") was signed into law, establishing a statewide framework to reduce net GHG emissions.

- In December 2022, New York approved the Scoping Plan, which details actions required to advance directives stated in the CLCPA and to enable New York to achieve:
  - 70% renewable energy by 2030;
  - Zero emissions electricity by 2040;
  - 40% GHG emissions reduction below 1990 levels by 2030;
  - 85% GHG emissions reduction below 1990 levels by 2050; and
  - Net-zero GHG emissions statewide by 2050.

- In May 2019, New York City enacted Local Law 97 as a part of the Climate Mobilization Act aimed at reducing GHG emissions by 80% from commercial and residential buildings by 2050. Starting in 2024, this law will place carbon caps on most buildings larger than 25,000 square feet.

- In December 2021, New York City passed Local Law 154, which will phase out fossil fuel usage in newly constructed residential and commercial buildings starting in 2024 for lower-rise buildings and in 2027 for taller buildings. With few exceptions, all buildings constructed in New York City must be fully electric by 2027.

Washington

- In May 2019, the Clean Buildings Act was signed into law in the state of Washington. The law imposed a cap on the energy used in commercial buildings larger than 50,000 square feet and established a phase-in compliance requirement starting in 2026. In March 2022, the law was expanded to apply to commercial buildings exceeding 20,000 square feet.

- In 2020, the State of Washington set GHG emission limits, which will require the state to reduce emissions levels by 45% below 1990 levels by 2030 and by 70% below 1990 levels by 2040, and to achieve net-zero emissions by 2050.

Maryland

- In April 2022, the Climate Solutions Now Act of 2022 became law in Maryland. The law requires new and existing buildings over 35,000 RSF:
  - To report energy use data annually beginning in 2025;
  - To reduce direct GHG emissions by 20% from 2025 levels by 2030; and
  - To have net-zero direct emissions by 2040.

  The law also requires the state to reduce its GHG emissions by 60% below 2006 levels by 2031 and to achieve net-zero GHG emissions by 2045.

North Carolina

- In January 2022, Governor Roy Cooper signed an executive order that updates the state's GHG emission goals to require a reduction of 50% below 2005 levels by 2030 and achievement of net-zero GHG emissions by 2050.

Changes in federal, state, and local legislation and regulation based on concerns about climate change could result in increased capital expenditures on our existing properties and our new development properties (for example, to improve their energy efficiency and/or resistance to severe weather), and in our and our tenants' increased compliance and other costs without a corresponding increase in revenue, which may result in adverse impacts to our and our tenants' operating results.

Also, 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. If, as a result of unanticipated events, including those resulting from climate change, these vendors fail to adequately provide key 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 damage to our reputation. Nearly 40% of the properties we own and operate are located in California, where climate change has been linked to the progressively warmer and drier weather associated with ideal conditions for highly destructive wildfires.

For example, most of our properties located in our San Francisco Bay Area market depend on PG&E for the delivery of electric and gas services. In January 2019, in response to potential liabilities arising from a series of catastrophic wildfires that occurred in Northern California in 2017 and 2018, PG&E initiated voluntary reorganization proceedings under Chapter 11 of the U.S. Bankruptcy Code. While PG&E emerged from bankruptcy in July 2020, there is no guarantee that PG&E will be able to sustain safe operations and continue to provide consistent utilities services. During periods of high winds and high fire danger in recent fire seasons, PG&E has preemptively shut off power to areas of Central and Northern California. The shutoffs were designed to help guard against fires ignited in areas with high winds and dry conditions. PG&E has warned that it may have to employ shutoffs while the utility company addresses maintenance issues. Future shutoffs of power may impact the reliability of access to a stable power supply at our properties. There is no guarantee that in the future climate change and severe weather will not adversely affect PG&E or any of our other key vendors, which in turn could have a material adverse effect on our properties and our tenants' operations, as well as on our financial condition, results of operations, and cash flows.

There can be no assurance that climate change and severe weather, or the potential impacts of these events on our vendors and suppliers, 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 remediate hazardous or toxic substances or petroleum products released at or from any of our properties. The cost of investigating and remediating 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 remediate, 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 remediation 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 remediation 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. As discussed in the immediately preceding risk factor, due to concern over the risks of climate change, a more restrictive regulatory framework to reduce GHG 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 timelines. The costs of complying with evolving regulatory requirements, including GHG 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, and 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, but not limited to, the following possibilities:

- Change in market conditions may affect our ability to deploy capital for projects that reduce energy consumption, GHG pollution, and potable water consumption and that provide waste savings.
- Our tenants may 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 offerings of our unsecured senior notes payable due in April 2026, May 2032, and March 2034 in ways investors may not agree with and in ways that may not earn a profit.

The respective net proceeds from the offerings of our unsecured senior notes payable due in April 2026, May 2032, and March 2034 (collectively, the “Green Bonds”) 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 these offerings 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.

‘‘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 applicable issue date of the Green Bonds. We intend to spend the remaining net proceeds from the sale of the Green Bonds within two years following the applicable issue date of the Green Bonds. 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.

There can be no assurance that the projects funded with the proceeds from the Green Bonds 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 regarding 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 Green Bonds 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. Furthermore, from time to time, we may refinance our debt to take advantage of lower market rates or other favorable terms, and we might pursue this strategy in the future in connection with our Green Bonds. If the terms of the refinanced agreements set different or no restrictions on the range of purposes the funds can be allocated to, we can provide no assurance that allocations to future Eligible Green Projects established prior to the refinancing of our Green Bonds will remain unchanged after the refinancing has been completed.

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.

From time to time, the Boards issue ASUs that 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, significant changes to the timing or methodology of revenue or expense recognition, or significant fluctuations in our reported results of operations, including an increase in our operating expenses or general and administrative expenses related to payroll costs, legal costs, and other out-of-pocket costs incurred in order to comply with the requirements of these ASUs.

Any difficulties in the implementation of changes in accounting principles, 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 new ASUs could cause fluctuations in revenue and expense recognition and materially affect our results of operations. We may also experience an increase in general and administrative expenses resulting from additional resources required for the initial implementation of such ASUs. This could adversely affect our reported results of operations, profitability, and financial statements. Additionally, the adoption of new accounting standards could 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.

Security incidents through cyber attacks, cyber intrusions, or other methods could disrupt our information technology networks, enterprise applications, and related systems; cause a loss of assets, system availability, or 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, and cash flows, and the market price of our common stock.

Information technology, communication networks, enterprise applications, 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; disruptions due to power outages or catastrophic events, such as fires, floods, hurricanes, and earthquakes; breaches of our secure network by an unauthorized party (including those caused by supply chain breaches); 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 cybersecurity 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, respond, 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 them on how to identify and alert management to phishing emails, spoofed or manipulated electronic communications, and other critical security threats. We have implemented routine phishing tests using a variety of scenarios, including those obtained from phishing samples and intelligence sources. Additionally, we have an internal team and external partners with well-defined processes devoted to responding to threats, including reports of phishing, in real time. We have implemented internal controls around our treasury function, including enhanced payment authorization procedures, verification requirements for new vendor setup and vendor information changes, and bolstered outgoing payment notification processes and account reconciliation procedures. Finally, we have policies and procedures in place in order to identify cybersecurity incidents and severe technology vulnerabilities and elevate such incidents to senior management in order to appropriately address and remediate any cyber attack. At least annually, we engage a third party to test our security by acting like an advanced threat and try to break into our computer systems.

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, cybersecurity service providers, or other third parties with whom we do business could lead to, among other things:

- 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;
- Our inability to produce financial and operational data necessary to comply with rules and regulations from the SEC, the IRS, 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;
- Difficulties in employee retention and recruitment;
- Unauthorized access to, and destruction, loss, or denial of service to, the computing systems that manage our buildings;
- Increase in the cost of proactive defensive measures to prevent future cyber incidents, including hiring personnel and consultants or investing in additional technologies;
- Increase in our cybersecurity insurance premiums; and
- The wide breadth of software required to run our business, and the increase in supply chain attacks by advanced persistent threats.

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. We may not be able to immediately address the consequences of a security incident. A successful breach of our computer systems, software, networks, or other technology assets 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;
- The frequency and wide variety of sources from which a cyber attack can originate;
- An increase in supply chain attacks;
- The severity of cyber attacks; and
- The proliferation and increasing sophistication and types 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, cybersecurity service providers, and other third parties with whom we do business, may occur, and such events could disrupt our normal business operations and networks in the future. In December 2020, hackers reportedly linked to the Russian government engaged in a massive cyber attack on the U.S. government and major U.S.-based private companies through malware planted in third-party software. The full extent of the hack to these entities remains unknown, and there is no evidence that we have been impacted by this hack, though a significant number of government agencies and companies in the private sector, most of which are U.S.-based, have confirmed breaches.

We have not experienced any material breach of cybersecurity. However, our computer systems will likely be subject to cyber attacks, unauthorized access, computer viruses, or other computer-related penetrations. Our administrative and technical controls as well as other preventive actions we take to reduce the risk of cyber incidents and protect our information technology may be insufficient to prevent physical and electronic break-ins, cyber attacks, or other security breaches to our computer systems.

In response to increasing risks of cyber attacks, President Biden issued an executive order, “Improving the Nation’s Cybersecurity” in May 2021, which established a reporting requirement for government contractors and encouraged coordination between the public and private sectors to better protect against cybersecurity incidents. In addition, in June 2021, the SEC increased its focus on the failure of some public companies to disclose that they had been affected by the aforementioned December 2020 cyber attack, by sending investigative letters seeking voluntary information regarding the attack and questions around companies’ disclosures and internal controls. The SEC also communicated that cyber risks would be included on the SEC rulemaking agenda. We expect the federal government and regulatory agencies to continue to focus on ways to increase protection against and oversight and disclosure of cyber attack incidents.

In March 2022, President Biden signed into law the Cyber Incident Reporting for Critical Infrastructure Act (“CIRCIA”), which will require critical infrastructure entities to report to the Cybersecurity and Infrastructure Security Agency (“CISA”) of the U.S. Department of Homeland Security any substantial cyber incidents within 72 hours and ransomware payments made within 24 hours, among other items. CISA has until September 2025 to release a final rule, and it is yet unknown whether we will be subject to these rules under CIRCIA.

General risk factors

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.

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

From time to time, we may enter into interest rate hedge agreements to manage some of our exposure to interest rate volatility. Interest rate hedge agreements 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. As of December 31, 2022, we had no interest rate hedge agreements outstanding.

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, including through our non-real estate venture investment portfolio, 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.

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, contain financial covenants whose calculations are based on current GAAP, which is subject to future changes. Our unsecured senior line of credit agreement provides 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 and natural or other unforeseen disasters may cause property damage or disrupt operations, which could harm our business and operating results.

We have properties located in areas that may be subject to extreme weather and natural or other disasters, including, but not limited to, earthquakes, winds, floods, hurricanes, fires, power shortages, telecommunication failures, medical epidemics, explosions, or other natural or manmade accidents or incidents. Our corporate headquarters and certain properties are located in areas of California that have historically been subject to earthquakes and wildfires. Such conditions and disastrous events may damage our properties, disrupt our operations, or adversely impact our tenants' or third-party vendors' operations. These events may affect our ability to operate our business and have significant negative consequences on our financial and operating results. Damage caused by these events may result in costly repairs for damaged properties or equipment, delays in the development or redevelopment of our construction projects, or interruption of our daily business operations, which may result in increased costs and decreased revenues.

We maintain insurance coverage at levels that we believe are appropriate for our business. However, we cannot be certain that the amount of coverage will be adequate to satisfy damages or losses incurred in the event of another wildfire or other natural or manmade disaster, which may lead to a material adverse effect on our properties, operations, and our business, or those of our tenants.

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 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. On January 19, 2023, the U.S. reached its borrowing limit and currently faces risk of defaulting on its debt. Generally, if effective legislation to manage the level of federal debt is not enacted and the debt ceiling is reached in any given year, the federal government may suspend its investments for certain government accounts, among other available options, in order to prioritize payments on its obligations. It is anticipated that the U.S. federal government will be able to fund its operations through approximately mid-2023. However, contention among policymakers, among other factors, may hinder the enactment of policies to further increase the borrowing limit or address its debt balance timely. A failure by the U.S. Congress to raise the debt limit would increase the risk of default by the U.S. on its obligations, the risk of a lowering of the U.S. federal government's credit rating, and the risk of other economic dislocations. 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 globally. If economic conditions severely deteriorate as a result of U.S. federal government fiscal gridlock, our operations, or those of our tenants, could be 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.

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 2008 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 2008 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 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 as well as the 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 the subsequent 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.

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 all of those regulations, and it has proposed revisions to certain of its existing derivatives regulations. 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 that, 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.

A global financial stress, 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.

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. 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 have rebounded, the potential of significant future bank credit losses creates uncertainty for the lending outlook.

Downgrades of the U.S. federal 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 and cause the U.S. to default on its obligations, which would likely cause the U.S. credit rating to degrade.

Standard & Poor's Ratings Services lowered its long-term sovereign credit rating on the U.S. from "AAA" to "AA+" in August 2011, which was affirmed in April 2020. 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. Moody's Investor Services, Inc. affirmed its "Aaa" long-term issuer and senior unsecured ratings in June 2020 and maintains a stable outlook on the U.S. credit rating but has warned that the U.S. fiscal strength has been deteriorating. 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 2022 currency and cost of living crises in the U.K., which contributed to the start of what is expected to be a prolonged recession in the U.K. There can be no assurance that government or other measures to aid economic recovery will be effective.

Such developments could result in future sovereign credit rating cuts and cause interest rates and borrowing costs to rise further, 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.

Economic and social volatility and geopolitical instability outside of the U.S. due to large-scale conflicts, including warfare among countries, may adversely impact us, the U.S., and global economies.

From time to time, tensions between countries may erupt into warfare and may adversely affect neighboring countries and those who conduct trade or foreign relations with those affected regions. Such acts of war may cause widespread and lingering damage on a global scale, including, but not limited to, (i) safety and cyber security, (ii) the economy, and (iii) global relations.

In February 2022, Russia invaded Ukraine following years of strained diplomatic relations between the two countries, which was heightened in 2021 when Russia amassed large numbers of military ground forces and support personnel on the Ukraine-Russia border. In response to the invasion and ensuing war, many countries, including the U.S., imposed significant economic and other sanctions against Russia. The war has created the largest refugee crisis in Europe since World War II and has inflicted significant damage to Ukraine's infrastructure and economy. Both countries' economies may be significantly affected, which may also adversely impact the global economy, including that of the U.S. The humanitarian crisis that has resulted from the war is likely to have pronounced and enduring impact on Ukraine, as well as a significant impact to neighboring countries that have accepted refugees. Further, Russia has launched an onslaught of cyberwarfare against Ukraine following its invasion, targeting the country's critical infrastructure, government agencies, media organizations, and related think tanks in the U.S. and EU.

The U.S. federal government has cautioned Americans on the possibility of Russia targeting the U.S. with cyber attacks in retaliation for sanctions that the U.S. has imposed and has urged both the public and private sectors to strengthen their cyber defenses and protect critical services and infrastructure. Additionally, President Biden directed government bodies to mandate cybersecurity and network defense measures within their respective jurisdictions and has initiated action plans to reinforce cybersecurity within the electricity, pipeline, and water sectors. The current administration also launched joint efforts with CISA through its "Shields Up" campaign to defend the U.S. against possible cyber attacks. CISA published advisories warning of Russian state-sponsored threat actors targeting "COVID-19 research, governments, election organizations, healthcare and pharmaceutical, defense, energy, video gaming, nuclear, commercial facilities, water, aviation, and critical manufacturing" sectors in the U.S. and other Western nations. While we have not experienced such cyber attacks to date, it is yet unknown whether Russia will be successful in breaching our network defenses or, more broadly, those within the areas listed above, which, if successful, may cause disruptions to critical infrastructure required for our operations and livelihoods, or those of our tenants, communities, and business partners.

Refer to the risk factor titled "Most of our costs, such as operating and general and administrative expenses, interest expense, and real estate acquisition and construction costs, are subject to inflation" within the "Operating factors" section of this Item 1A for additional discussion of potential impacts that the recent Russia-Ukraine conflict may have on our operations.

Disruption, instability, volatility, and decline in economic activity, regardless of where it occurs, whether caused by acts of war, other acts of aggression, or terrorism, could in turn also harm the demand for, the safety of, and the value of our properties. As a result of the factors discussed above, we may be unable to operate our business as usual, which may adversely affect our cash flows, 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.

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 having commenced in 2014 and incrementally implemented through 2020, though progress was limited during 2020 due to the impact of the COVID-19 pandemic.

Since approving the Basel III Standards, U.S. regulators 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 U.S. Federal Reserve 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 became 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 transition period occurred from 2015 through 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, with effect in April 2014, 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 restricts certain U.S. and foreign financial institutions from engaging in proprietary trading and from investing in sponsoring or having certain relationships with "covered funds," which include private equity funds and hedge funds. Amendments effective in January 2020 have provided a certain level of regulatory relief, particularly pertaining to proprietary trading restrictions, by tailoring the Volker Rule's application, simplifying certain standards and requirements, and reducing compliance burden. Additional amendments related to "covered funds" are expected. 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.

In March 2020, the Basel Committee announced a deferral of Basel III implementation to January 1, 2023 due to impacts from the COVID-19 pandemic. Currently, it is expected that the U.S. will delay implementation until 2025.

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.

Social, political, and economic instability, unrest, and other circumstances beyond our control could adversely affect our business operations.

Our business may be adversely affected by social, political, and economic instability, unrest, or disruption in a geographic region in which we operate, regardless of cause, including legal, regulatory, and policy changes by a new presidential administration in the U.S., protests, demonstrations, strikes, riots, civil disturbance, disobedience, insurrection, or social and other political unrest.

Such events may result in restrictions, curfews, or other actions and give rise to significant changes in regional and global economic conditions and cycles, which may adversely affect our financial condition and operations. In the past several years, there have been protests in cities throughout the U.S. as well as globally, including in Hong Kong, in connection with civil rights, liberties, and social and governmental reform. While protests were peaceful in many locations, looting, vandalism, and fires occurred in cities such as Seattle, Portland, Los Angeles, Washington, D.C., New York City, and Minneapolis that led to the imposition of mandatory curfews and, in some locations, deployment of the U.S. National Guard. Government actions in an effort to protect people and property, including curfews and restrictions on business operations, may disrupt operations, harm perceptions of personal well-being, and increase the need for additional expenditures on security resources. In addition, action resulting from such social or political unrest may pose significant risks to our personnel, facilities, and operations. The effect and duration of demonstrations, protests, or other factors is uncertain, and we cannot ensure there will not be further political or social unrest in the future or that there will not be other events that could lead to social, political, and economic disruptions. If such events or disruptions persist for a prolonged period of time, our overall business and results of operations may be adversely affected.

Changes in federal policy, including tax policies, and at regulatory agencies occur over time through policy and personnel changes following elections, which lead to changes involving the level of oversight and focus on certain industries and corporate entities. The nature, timing, and economic and political effects of potential changes to the current legal and regulatory frameworks affecting the life science, agtech, and technology industries, as well as the real estate industry in general, remain highly uncertain. For example, any proposals to make changes related to U.S. tax law, such as those involving Section 1031 Exchanges, may have a material adverse effect on our future business, financial condition, results of operations, and growth prospects. From time to time, we dispose of properties in transactions qualified as Section 1031 Exchanges. If certain proposed changes were ultimately effected and the laws surrounding Section 1031 Exchanges 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 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.

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 foreign or domestic terrorist attacks may result in declining economic activity, which could reduce the demand for, and the value of, our properties. To the extent that any future foreign or domestic 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.

Any or all of the foregoing could have a material adverse effect on our financial condition, results of operations, and cash flows, or the market price of our common stock. Additional risks and uncertainties not currently known to us, or that we presently deem to be immaterial, may also have potential to materially adversely affect our business, financial condition, and results of operations.

ITEM 1B. UNRESOLVED STAFF COMMENTS

None.

ITEM 2. PROPERTIES

General

As of December 31, 2022, we had 432 properties in North America containing approximately 47.4 million RSF of operating properties and development and redevelopment of new Class A properties under construction, including 64 properties that are held by consolidated real estate joint ventures and four properties that are held by unconsolidated real estate joint ventures. The occupancy percentage of our operating properties in North America was 94.8% as of December 31, 2022. The exteriors of our properties typically resemble traditional office properties, but the interior infrastructures are designed to accommodate the needs of life science, agtech, 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, 2022, we held a fee simple interest in each of our properties, with the exception of 40 properties in North America subject to ground leasehold interests, which accounted for approximately 9% of our total number of properties. Of these 40 properties, we held 14 properties in the Greater Boston market, 20 properties in the San Francisco Bay Area market, two properties in the New York City market, one property in the Seattle market, one property in the Maryland market, and two properties in the Research Triangle market. During the year ended December 31, 2022, our ground lease rental expense aggregated 1.7% 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, 2022, we had over 1,000 leases with a total of approximately 1,000 tenants, and 199, or 46%, of our 432 properties were single-tenant properties. Leases in our multi-tenant buildings typically have initial terms of 4–11 years, while leases in our single-tenant buildings typically have initial terms of 11–21 years. As of December 31, 2022:

- Investment-grade or publicly traded large cap tenants represented 48% of our total annual rental revenue;
- Approximately 96% of our leases (on an annual rental revenue basis) contained effective annual rent escalations approximating 3% that were either fixed or indexed based on a consumer price index or other index;
- Approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses (including increases thereto) in addition to base rent; and
- Approximately 93% of our leases (on an annual rental revenue basis) provided for the recapture of capital expenditures (such as HVAC 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.

Refer to the 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” in this annual report on Form 10-K for a description of the basis used to compute the aforementioned measures.

Locations of properties

The locations of our properties are diversified among a number of life science, agtech, 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, 2022 in each of our markets in North America (dollars in thousands, except per RSF amounts):

	RSF					Number of	Annual Rental Revenue		
Market	Operating	Development	Redevelopment	Total	% of Total	Properties	Total	% of Total	Per RSF
Greater Boston	11,450,547	1,546,965	1,200,173	14,197,685	30 %	84	$ 731,010	36 %	$ 67.58
San Francisco Bay Area	8,100,245	443,388	300,010	8,843,643	19	67	452,191	23	61.88
New York City	1,270,019	—	—	1,270,019	3	5	97,413	5	83.14
San Diego	8,099,957	254,771	—	8,354,728	18	94	330,713	16	42.79
Seattle	2,814,446	311,631	213,976	3,340,053	7	46	109,029	5	39.95
Maryland	3,459,475	282,000	91,134	3,832,609	8	50	115,347	6	35.12
Research Triangle	3,596,979	268,038	376,871	4,241,888	9	42	99,055	5	29.31
Texas	1,724,585	—	201,499	1,926,084	4	15	45,785	2	29.11
Canada	577,225	—	107,081	684,306	1	8	9,868	1	21.15
Non-cluster/other markets	382,960	—	—	382,960	1	11	14,554	1	50.70
Properties held for sale	297,284	—	—	297,284	—	10 (1)	2,476	—	N/A
North America	**41,773,722**	**3,106,793**	**2,490,744**	**47,371,259**	**100 %**	**432**	**$ 2,007,441**	**100 %**	**$ 51.75**
		5,597,537							

(1) Represents properties held for sale in three submarkets, including eight contiguous properties aggregating 128,870 RSF in a non-core submarket.

Summary of occupancy percentages in North America

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

	Operating Properties			Operating and Redevelopment Properties		
Market	12/31/22	12/31/21	12/31/20	12/31/22	12/31/21	12/31/20
Greater Boston	94.5 %	95.2 %	98.1 %	85.5 %	83.2 %	94.8 %
San Francisco Bay Area	96.7	93.0	95.8	93.3	92.6	94.7
New York City	92.3	98.4	97.3	92.3	91.0	87.8
San Diego	95.4	93.1	93.5	95.4	91.7	92.4
Seattle	97.0	95.6	96.0	90.1	88.5	85.5
Maryland	95.8	99.8	96.1	93.3	96.0	90.6
Research Triangle	94.0	94.6	89.6	85.0	86.1	72.7
Texas	91.2	N/A	N/A	81.6	N/A	N/A
Subtotal	95.1	94.9	95.5	89.9	89.1	90.7
Canada	80.8	78.6	81.8	68.2	78.6	81.8
Non-cluster/other markets	75.0	75.1	52.7	75.0	75.1	52.7
North America	**94.8 %**	**94.0 %**	**94.6 %**	**89.4 %**	**88.5 %**	**90.0 %**

Top 20 tenants

90% of Top 20 Tenants Annual Rental Revenue Is 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 3.5% of our annual rental revenue in effect as of December 31, 2022. 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, 2022 (dollars in thousands, except average market cap amounts):

	Tenant	Remaining Lease Term(1) *(in Years)*	Aggregate RSF	Annual Rental Revenue(1)	Percentage of Aggregate Annual Rental Revenue(1)	Investment-Grade Credit Ratings		Average Market Cap(1) *(in billions)*
						Moody's	S&P	
1	Bristol-Myers Squibb Company	4.3	962,439	$ 69,870	3.5 %	A2	A+	$ 156.1
2	Moderna, Inc.	13.8	908,340	51,926	2.6	—	—	$ 62.1
3	Eli Lilly and Company	6.2	743,267	49,890	2.5	A2	A+	$ 292.5
4	Takeda Pharmaceutical Company Limited	7.0	549,760	37,399	1.9	Baa2	BBB+	$ 45.0
5	Illumina, Inc.	7.6	891,495	36,204	1.8	Baa3	BBB	$ 40.2
6	Sanofi	7.6	434,648	34,104	1.7	A1	AA	$ 122.2
7	2seventy bio, Inc.(2)	10.7	312,805	33,617	1.7	—	—	$ 0.5
8	Novartis AG	5.6	447,831	30,749	1.5	A1	AA-	$ 206.3
9	TIBCO Software, Inc.	4.2 (3)	292,013	28,537	1.4	—	—	$ —
10	Uber Technologies, Inc.	59.7 (4)	1,009,188	27,704	1.4	—	—	$ 57.7
11	Roche	6.5	417,011	27,188	1.4	Aa2	AA	$ 290.6
12	Amgen Inc.	3.5	503,832	24,680	1.2	Baa1	BBB+	$ 133.2
13	Pfizer Inc.	1.7	416,996	22,376	1.1	A1	A+	$ 280.1
14	Massachusetts Institute of Technology	6.1	257,626	21,438	1.1	Aaa	AAA	$ —
15	Harvard University	2.0 (3)	286,580	20,086	1.0	Aaa	AAA	$ —
16	Boston Children's Hospital	13.8	269,816	20,066	1.0	Aa2	AA	$ —
17	United States Government	7.3	315,908	19,660	1.0	Aaa	AA+	$ —
18	New York University	8.9	203,500	19,241	1.0	Aa1	AA+	$ —
19	Merck & Co., Inc.	11.3	300,930	18,913	0.9	A1	A+	$ 227.3
20	AstraZeneca PLC	3.8	348,363	18,641	0.9	A3	A	$ 195.1
	Total/weighted average	9.4 (4)	9,872,348	$ 612,289	30.6 %			

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

(1) Based on total annual rental revenue in effect as of December 31, 2022. Represents the percentage of our annual rental revenue generated by our top 20 tenants that are also investment-grade or publicly traded large cap tenants. Refer to the definitions of "Annual rental revenue" and "Investment-grade or publicly traded large cap tenants" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for our methodologies of calculating annual rental revenue from unconsolidated real estate joint ventures and average market capitalization, respectively.

(2) Represents two leases in our Greater Boston and Seattle markets with in-place cash rents that are 20%–25% below current market. As of September 30, 2022, 2seventy bio, Inc. held $127.0 million of cash and cash equivalents.

(3) Includes leases at recently acquired properties with future development and redevelopment opportunities. The leases with these tenants were in place when we acquired the properties.

(4) Includes (i) ground leases for land at 1455 and 1515 Third Street (two buildings aggregating 422,980 RSF) and (ii) leases at 1655 and 1725 Third Street (two buildings aggregating 586,208 RSF) owned by our unconsolidated real estate joint venture in which we have an ownership interest of 10%. Annual rental revenue is presented using 100% of the annual rental revenue from our consolidated properties and our share of annual rental revenue from our unconsolidated real estate joint ventures. Refer to footnote 1 for additional details. Excluding the ground leases, the weighted-average remaining lease term for our top 20 tenants was 7.1 years as of December 31, 2022.

Long-Duration and Stable Cash Flows From High-Quality Tenants

Investment-Grade or Publicly Traded Large Cap Tenants

48%

of ARE's Total
Annual Rental Revenue(1)

Long-Duration Lease Terms

7.1 Years

Weighted-Average
Remaining Term(2)

REIT Industry-Leading Tenant Client Base

90%

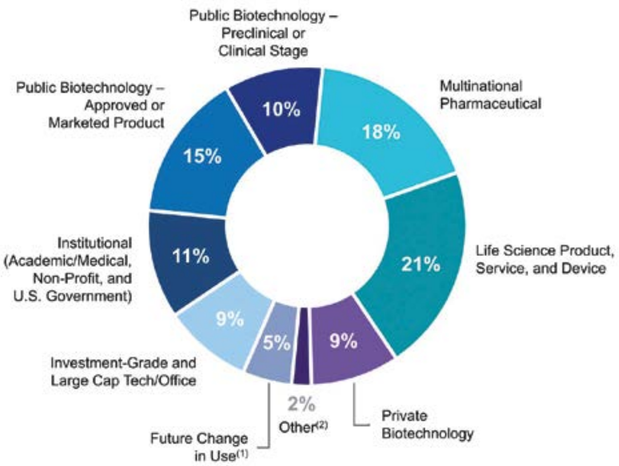
of ARE's Top 20 Tenants
Annual Rental Revenue
Is From Investment-Grade
or Publicly Traded
Large Cap Tenants(1)

Refer to the definition of "Annual rental revenue" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information on our methodology of calculating annual rental revenue for unconsolidated real estate joint ventures.

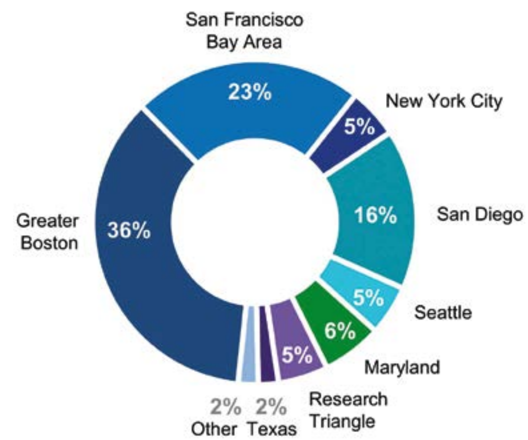
(1) Represents annual rental revenue in effect as of December 31, 2022.
(2) Based on total annual rental revenue in effect as of December 31, 2022.

High-Quality and Diverse Client Base in AAA Locations

Industry Mix of Approximately 1,000 Tenants



AAA Locations



Percentage of ARE's Annual Rental Revenue(3)

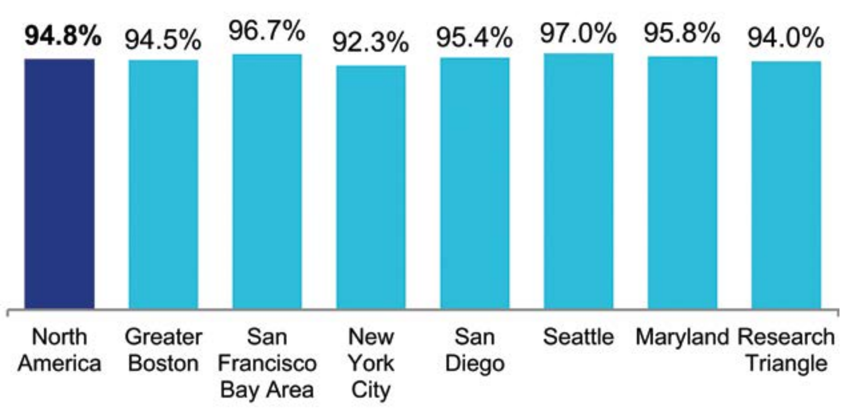
Solid Occupancy From Historically Strong Demand for Class A Properties in AAA Locations

Solid Historical Occupancy(4)

96%

Over 10 Years

Occupancy Across Key Locations



Refer to the definition of "Annual rental revenue" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information on our methodology of calculating annual rental revenue for unconsolidated real estate joint ventures.

(1) Represents annual rental revenue currently generated from space that is targeted for a future change in use, including 1.1% of total annual rental revenue that is generated from covered land play projects. The weighted-average remaining term of these leases is 5.2 years.
(2) Our other tenants, which aggregate 2.0% of our annual rental revenue, comprise technology, professional services, finance, telecommunications, and construction/real estate companies and less than 1.0% of retail-related tenants by annual rental revenue.
(3) Represents annual rental revenue in effect as of December 31, 2022.
(4) Represents average occupancy of operating properties in North America as of each December 31 for the last 10 years.

Mega Campuses Encompass 68% of Our Operating Property RSF[1]

The following table provides certain information about our properties as of December 31, 2022 (dollars in thousands):

Market / *Submarket* / Address	RSF				Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment	Total			Operating	Operating and Redevelopment
Greater Boston								
Cambridge/Inner Suburbs								
Mega Campus: Alexandria Center® at Kendall Square	2,449,354	—	403,892	2,853,246	11	$ 198,373	99.1%	85.1%
50[2], 60[2], 75/125[2], 100[2], and 225[2] Binney Street, 215 First Street, 150 Second Street, 300 Third Street[2], 11 Hurley Street, One Rogers Street, and 100 Edwin H. Land Boulevard								
Mega Campus: Alexandria Center® at One Kendall Square	903,777	462,100	—	1,365,877	12	76,350	95.8	95.8
One Kendall Square (Buildings 100, 200, 300, 400, 500, 600/700, 1400, 1800, and 2000), 325 and 399 Binney Street, and One Hampshire Street								
Mega Campus: Alexandria Technology Square®	1,185,190	—	—	1,185,190	7	116,609	99.1	99.1
100, 200, 300, 400, 500, 600, and 700 Technology Square								
Mega Campus: The Arsenal on the Charles	872,665	248,018	—	1,120,683	13	50,582	96.2	96.2
311, 321, and 343 Arsenal Street, 300, 400, and 500 North Beacon Street, 1, 2, 3, and 4 Kingsbury Avenue, and 100, 200, and 400 Talcott Avenue								
Mega Campus: 480 Arsenal Way and 446, 458, 500, and 550 Arsenal Street	533,327	—	—	533,327	5	24,241	97.6	97.6
99 Coolidge Avenue[2]	—	320,809	—	320,809	1	—	N/A	N/A
640 Memorial Drive	242,477	—	—	242,477	1	19,320	77.6	77.6
780 and 790 Memorial Drive	99,658	—	—	99,658	2	9,257	100.0	100.0
Cambridge/Inner Suburbs	6,286,448	1,030,927	403,892	7,721,267	52	494,732	97.3	91.4
Fenway								
Mega Campus: Alexandria Center® for Life Science – Fenway	1,267,572	170,043	—	1,437,615	2	94,904	92.9	92.9
401 Park Drive and 201 Brookline Avenue[2]								
Seaport Innovation District								
5 and 15[2] Necco Street	95,400	345,995	—	441,395	2	4,414	86.6	86.6
Mega Campus: 380 and 420 E Street	195,506	—	—	195,506	2	4,490	100.0	100.0
Seaport Innovation District	290,906	345,995	—	636,901	4	8,904	95.6	95.6
Route 128								
Mega Campus: 40, 50, and 60 Sylvan Road, 35 Gatehouse Drive, and 840 Winter Street	638,651	—	342,412	981,063	5	38,439	100.0	65.1
Mega Campus: One Moderna Way	706,988	—	—	706,988	4	29,059	100.0	100.0
19, 225, and 235 Presidential Way	585,022	—	—	585,022	3	13,996	99.9	99.9
275 Grove Street	509,702	—	—	509,702	3	15,704	66.1	66.1
225, 266, and 275 Second Avenue	329,005	—	—	329,005	3	18,650	100.0	100.0
100 Beaver Street	82,330	—	—	82,330	1	5,262	100.0	100.0
Route 128	2,851,698	—	342,412	3,194,110	19	121,110	93.9	83.8
Other	753,923	—	453,869	1,207,792	7	11,360	75.2	46.9
Greater Boston	**11,450,547**	**1,546,965**	**1,200,173**	**14,197,685**	**84**	**$ 731,010**	**94.5%**	**85.5%**

(1) As of December 31, 2022. Refer to the "New Class A development and redevelopment properties: summary of pipeline" section within this Item 2 and the definition of "Mega campus" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.
(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 in this annual report in Form 10-K for additional details.

Property listing (continued)

Market / *Submarket* / Address	RSF Operating	RSF Development	RSF Redevelopment	RSF Total	Number of Properties	Annual Rental Revenue	Occupancy Percentage Operating	Occupancy Percentage Operating and Redevelopment
San Francisco Bay Area								
Mission Bay								
Mega Campus: Alexandria Center® for Science and Technology – Mission Bay[1]	2,015,177	212,796	—	2,227,973	10	$ 98,444	100.0%	100.0%
1455[2], 1515[2], 1655, and 1725 Third Street, 409 and 499 Illinois Street, 1450, 1500, and 1700 Owens Street, and 455 Mission Bay Boulevard South								
Mission Bay	2,015,177	212,796	—	2,227,973	10	98,444	100.0	100.0
South San Francisco								
Mega Campus: Alexandria Technology Center® – Gateway[1]	1,114,890	230,592	300,010	1,645,492	12	60,385	92.6	73.0
600[2], 601, 611, 630[2], 650[2], 651, 681, 685, 701, 751, 901[2], and 951[2] Gateway Boulevard								
Mega Campus: 213[1], 249, 259, 269, and 279 East Grand Avenue	919,704	—	—	919,704	5	48,854	100.0	100.0
Mega Campus: 1122 and 1150 El Camino Real	725,172	—	—	725,172	2	10,948	97.8	97.8
Alexandria Center® for Life Science – South San Francisco	504,551	—	—	504,551	3	37,153	100.0	100.0
201 Haskins Way and 400 and 450 East Jamie Court								
500 Forbes Boulevard[1]	155,685	—	—	155,685	1	10,680	100.0	100.0
849/863 Mitten Road/866 Malcolm Road	103,857	—	—	103,857	1	4,834	100.0	100.0
South San Francisco	3,523,859	230,592	300,010	4,054,461	24	172,854	97.2	89.6
Greater Stanford								
Mega Campus: Alexandria Center® for Life Science – San Carlos	739,192	—	—	739,192	9	49,953	97.3	97.3
825, 835, 960, and 1501-1599 Industrial Road								
Alexandria Stanford Life Science District	703,742	—	—	703,742	9	65,349	100.0	100.0
3160, 3165, 3170, and 3181 Porter Drive and 3301, 3303, 3305, 3307, and 3330 Hillview Avenue								
3875 Fabian Way	228,000	—	—	228,000	1	9,402	100.0	100.0
3412, 3420, 3440, 3450, and 3460 Hillview Avenue	338,751	—	—	338,751	5	20,926	73.8	73.8
2100, 2200, 2300, and 2400 Geng Road	196,276	—	—	196,276	4	8,448	70.7	70.7
2475 and 2625/2627/2631 Hanover Street and 1450 Page Mill Road	194,503	—	—	194,503	3	18,040	100.0	100.0
2425 Garcia Avenue/2400/2450 Bayshore Parkway	99,208	—	—	99,208	1	4,257	100.0	100.0
3350 West Bayshore Road	61,537	—	—	61,537	1	4,518	99.9	99.9
Greater Stanford	2,561,209	—	—	2,561,209	33	180,893	93.5	93.5
San Francisco Bay Area	**8,100,245**	**443,388**	**300,010**	**8,843,643**	**67**	**452,191**	**96.7**	**93.3**
New York City								
New York City								
Mega Campus: Alexandria Center® for Life Science – New York City	740,972	—	—	740,972	3	71,779	94.2	94.2
430 and 450 East 29th Street								
219 East 42nd Street	349,947	—	—	349,947	1	18,638	100.0	100.0
Alexandria Center® for Life Science – Long Island City	179,100	—	—	179,100	1	6,996	69.1	69.1
30-02 48th Avenue								
New York City	**1,270,019**	**—**	**—**	**1,270,019**	**5**	**$ 97,413**	**92.3%**	**92.3%**

Refer to the “New Class A development and redevelopment properties: summary of pipeline” section within this Item 2 and the definition of “Mega campus” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

(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 in this annual report in Form 10-K for additional information.
(2) We own 100% of this property.

Property listing (continued)

Market / *Submarket* / Address	RSF				Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment	Total			Operating	Operating and Redevelopment
San Diego								
Torrey Pines								
Mega Campus: One Alexandria Square and One Alexandria North	904,883	—	—	904,883	10	$ 53,236	99.9%	99.9%
3115 and 3215[1] Merryfield Row, 3010, 3013, and 3033 Science Park Road, 10975 and 11119 North Torrey Pines Road, 10975, 10995, and 10996 Torreyana Road, and 3545 Cray Court								
ARE Torrey Ridge	298,863	—	—	298,863	3	15,747	100.0	100.0
10578, 10618, and 10628 Science Center Drive								
ARE Nautilus	213,900	—	—	213,900	4	11,297	88.1	88.1
3530 and 3550 John Hopkins Court and 3535 and 3565 General Atomics Court								
Torrey Pines	1,417,646	—	—	1,417,646	17	80,280	98.2	98.2
University Town Center								
Mega Campus: Campus Point by Alexandria[1]	1,662,342	—	—	1,662,342	11	75,970	97.7	97.7
9880[2], 10010[2], 10140[2], 10210, 10260, 10290, and 10300 Campus Point Drive and 4161, 4224, 4242, and 4275[2] Campus Point Court								
Mega Campus: 5200 Illumina Way[1]	792,687	—	—	792,687	6	29,978	100.0	100.0
Mega Campus: University District	415,462	—	—	415,462	7	18,641	100.0	100.0
9625 Towne Centre Drive[1], 4755, 4757, and 4767 Nexus Center Drive, 4796 Executive Drive, 8505 Costa Verde Boulevard, and 4260 Nobel Drive								
University Town Center	2,870,491	—	—	2,870,491	24	124,589	98.7	98.7
Sorrento Mesa								
Mega Campus: SD Tech by Alexandria[1]	1,059,754	254,771	—	1,314,525	15	43,387	94.1	94.1
9605, 9645, 9675, 9685, 9725, 9735, 9808, 9855, and 9868 Scranton Road, 5505 Morehouse Drive[2], and 10055, 10065, 10075, 10121[2], and 10151[2] Barnes Canyon Road								
Mega Campus: Sequence District by Alexandria	803,319	—	—	803,319	7	23,993	89.0	89.0
6260, 6290, 6310, 6340, 6350, 6420, and 6450 Sequence Drive								
Pacific Technology Park[1]	544,352	—	—	544,352	5	8,106	88.6	88.6
9389, 9393, 9401, 9455, and 9477 Waples Street								
Summers Ridge Science Park[1]	316,531	—	—	316,531	4	11,521	100.0	100.0
9965, 9975, 9985, and 9995 Summers Ridge Road								
Scripps Science Park by Alexandria	244,083	—	—	244,083	3	10,226	100.0	100.0
10102 Hoyt Park Drive and 10256 and 10260 Meanley Drive								
ARE Portola	101,857	—	—	101,857	3	3,880	100.0	100.0
6175, 6225, and 6275 Nancy Ridge Drive								
5810/5820 Nancy Ridge Drive	83,354	—	—	83,354	1	3,853	100.0	100.0
9877 Waples Street	63,774	—	—	63,774	1	2,521	100.0	100.0
5871 Oberlin Drive	33,842	—	—	33,842	1	1,772	100.0	100.0
Sorrento Mesa	3,250,866	254,771	—	3,505,637	40	$ 109,259	93.5%	93.5%

Refer to the "New Class A development and redevelopment properties: summary of pipeline" section within this Item 2 and the definition of "Mega campus" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.

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Property listing (continued)

	RSF						Occupancy Percentage	
Market / *Submarket* / Address	Operating	Development	Redevelopment	Total	Number of Properties	Annual Rental Revenue	Operating	Operating and Redevelopment
San Diego (continued)								
Sorrento Valley								
3911, 3931, 3985, 4025, and 4045 Sorrento Valley Boulevard	131,698	—	—	131,698	5	$ 3,930	75.7%	75.7%
11025, 11035, 11045, 11055, 11065, and 11075 Roselle Street	119,513	—	—	119,513	6	4,312	100.0	100.0
Sorrento Valley	251,211	—	—	251,211	11	8,242	87.3	87.3
Other	309,743	—	—	309,743	2	8,343	79.5	79.5
San Diego	**8,099,957**	**254,771**	**—**	**8,354,728**	**94**	**330,713**	**95.4**	**95.4**
Seattle								
Lake Union								
Mega Campus: The Eastlake Life Science Campus by Alexandria	937,290	311,631	—	1,248,921	9	56,305	97.4	97.4
1150, 1165, 1201[(1)], 1208[(1)], 1551, and 1616 Eastlake Avenue East, 188 and 199[(1)] East Blaine Street, and 1600 Fairview Avenue East								
Mega Campus: Alexandria Center® for Life Science – South Lake Union								
400[(1)] and 601 Dexter Avenue North	309,434	—	—	309,434	2	15,494	100.0	100.0
219 Terry Avenue North	30,705	—	—	30,705	1	1,935	100.0	100.0
Lake Union	1,277,429	311,631	—	1,589,060	12	73,734	98.1	98.1
SoDo								
830 4th Avenue South	42,380	—	—	42,380	1	1,691	70.5	70.5
Elliott Bay								
3000/3018 Western Avenue	47,746	—	—	47,746	1	3,147	100.0	100.0
410 West Harrison Street and 410 Elliott Avenue West	36,849	—	—	36,849	2	1,613	100.0	100.0
Elliott Bay	84,595	—	—	84,595	3	4,760	100.0	100.0
Bothell								
Mega Campus: Alexandria Center® for Advanced Technologies – Canyon Park	1,060,958	—	—	1,060,958	22	23,042	96.7	96.7
22121 and 22125 17th Avenue Southeast, 22021, 22025, 22026, 22030, 22118, and 22122 20th Avenue Southeast, 22333, 22422, 22515, 22522, 22722, and 22745 29th Drive Southeast, 21540, 22213, and 22309 30th Drive Southeast, and 1629, 1631, 1725, 1916, and 1930 220th Street Southeast								
Alexandria Center® for Advanced Technologies – Monte Villa Parkway	246,647	—	213,976	460,623	6	4,657	97.3	52.1
3301, 3303, 3305, 3307, 3555, and 3755 Monte Villa Parkway								
Bothell	1,307,605	—	213,976	1,521,581	28	27,699	96.8	83.2
Other	102,437	—	—	102,437	2	1,145	93.5	93.5
Seattle	**2,814,446**	**311,631**	**213,976**	**3,340,053**	**46**	**$ 109,029**	**97.0%**	**90.1%**

Refer to the “New Class A development and redevelopment properties: summary of pipeline” section within this Item 2 and the definition of “Mega campus” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

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Property listing (continued)

Market / *Submarket* / Address	RSF				Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment	Total			Operating	Operating and Redevelopment
Maryland								
Rockville								
Mega Campus: Alexandria Center® for Life Science – Shady Grove	1,090,102	282,000	61,322	1,433,424	19	$ 49,353	99.0%	93.7%
9601, 9603, 9605, 9704, 9708, 9712, 9714, 9800, 9804, 9808, 9900, and 9950 Medical Center Drive, 14920 and 15010 Broschart Road, 9920 Belward Campus Drive, and 9810 Darnestown Road								
1330 Piccard Drive	131,511	—	—	131,511	1	4,034	100.0	100.0
1405 and 1450[(1)] Research Boulevard	114,849	—	—	114,849	2	2,631	62.8	62.8
1500 and 1550 East Gude Drive	91,359	—	—	91,359	2	1,844	100.0	100.0
5 Research Place	63,852	—	—	63,852	1	2,999	100.0	100.0
5 Research Court	51,520	—	—	51,520	1	1,788	100.0	100.0
12301 Parklawn Drive	49,185	—	—	49,185	1	1,530	100.0	100.0
Rockville	1,592,378	282,000	61,322	1,935,700	27	64,179	96.6	93.0
Gaithersburg								
Alexandria Technology Center® – Gaithersburg I	613,438	—	—	613,438	9	17,359	98.6	98.6
9, 25, 35, 45, 50, and 55 West Watkins Mill Road and 910, 930, and 940 Clopper Road								
Alexandria Technology Center® – Gaithersburg II	486,324	—	—	486,324	7	17,632	96.5	96.5
700, 704, and 708 Quince Orchard Road and 19, 20, 21, and 22 Firstfield Road								
20400 Century Boulevard	50,738	—	29,812	80,550	1	2,035	100.0	63.0
401 Professional Drive	63,154	—	—	63,154	1	1,918	100.0	100.0
950 Wind River Lane	50,000	—	—	50,000	1	1,234	100.0	100.0
620 Professional Drive	27,950	—	—	27,950	1	1,207	100.0	100.0
Gaithersburg	1,291,604	—	29,812	1,321,416	20	41,385	98.0	95.8
Beltsville								
8000/9000/10000 Virginia Manor Road	191,884	—	—	191,884	1	2,951	100.0	100.0
101 West Dickman Street[(1)]	135,423	—	—	135,423	1	705	51.1	51.1
Beltsville	327,307	—	—	327,307	2	3,656	79.8	79.8
Northern Virginia								
14225 Newbrook Drive	248,186	—	—	248,186	1	6,127	100.0	100.0
Maryland	**3,459,475**	**282,000**	**91,134**	**3,832,609**	**50**	**$ 115,347**	**95.8%**	**93.3%**

Refer to the "New Class A development and redevelopment properties: summary of pipeline" section within this Item 2 and the definition of "Mega campus" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.

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Property listing (continued)

Market / *Submarket* / Address	RSF				Number of Properties	Annual Rental Revenue	Occupancy Percentage	
	Operating	Development	Redevelopment	Total			Operating	Operating and Redevelopment
Research Triangle								
Research Triangle								
Mega Campus: Alexandria Center® for Life Science – Durham	1,880,185	—	376,871	2,257,056	16	$ 37,681	93.2%	77.6%
6, 8, 10, 12, 14, 40, 41, 42, and 65 Moore Drive, 21, 25, 27, 29, and 31 Alexandria Way, 2400 Ellis Road, and 14 TW Alexander Drive								
Mega Campus: Alexandria Center® for Advanced Technologies – Research Triangle	350,267	180,000	—	530,267	5	15,869	93.9	93.9
4, 6, 8, 10, and 12 Davis Drive								
Alexandria Center® for AgTech	342,881	—	—	342,881	2	15,315	94.1	94.1
5 and 9 Laboratory Drive								
104, 108, 110, 112, and 114 TW Alexander Drive	227,902	—	—	227,902	5	7,375	94.3	94.3
Alexandria Technology Center® – Alston	186,870	—	—	186,870	3	4,009	94.1	94.1
100, 800, and 801 Capitola Drive								
6040 George Watts Hill Drive	61,547	88,038	—	149,585	2	2,148	100.0	100.0
Alexandria Innovation Center® – Research Triangle	136,729	—	—	136,729	3	3,963	97.2	97.2
7010, 7020, and 7030 Kit Creek Road								
7 Triangle Drive	104,531	—	—	104,531	1	4,422	100.0	100.0
2525 East NC Highway 54	82,996	—	—	82,996	1	3,651	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	1,072	74.3	74.3
5 Triangle Drive	32,120	—	—	32,120	1	1,147	100.0	100.0
6101 Quadrangle Drive	31,600	—	—	31,600	1	759	100.0	100.0
Research Triangle	**3,596,979**	**268,038**	**376,871**	**4,241,888**	**42**	**99,055**	**94.0**	**85.0**
Texas								
Austin								
Mega Campus: Intersection Campus	1,525,613	—	—	1,525,613	12	39,039	90.0	90.0
1001 Trinity Street and 1020 Red River Street	198,972	—	—	198,972	2	6,746	100.0	100.0
Austin	1,724,585	—	—	1,724,585	14	45,785	90.0	90.0
Greater Houston								
8800 Technology Forest Place	—	—	201,499	201,499	1	—	N/A	—
Texas	**1,724,585**	**—**	**201,499**	**1,926,084**	**15**	**45,785**	**91.2**	**81.6**
Canada	577,225	—	107,081	684,306	8	9,868	80.8	68.2
Non-cluster/other markets	382,960	—	—	382,960	11	14,554	75.0	75.0
North America, excluding properties held for sale	**41,476,438**	**3,106,793**	**2,490,744**	**47,073,975**	**422**	**2,004,965**	**94.8%**	**89.4%**
Properties held for sale	297,284	—	—	297,284	10	2,476	34.0%	34.0%
Total – North America	**41,773,722**	**3,106,793**	**2,490,744**	**47,371,259**	**432**	**$2,007,441**		

Refer to the “New Class A development and redevelopment properties: summary of pipeline” section within this Item 2 and the definition of “Mega campus” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

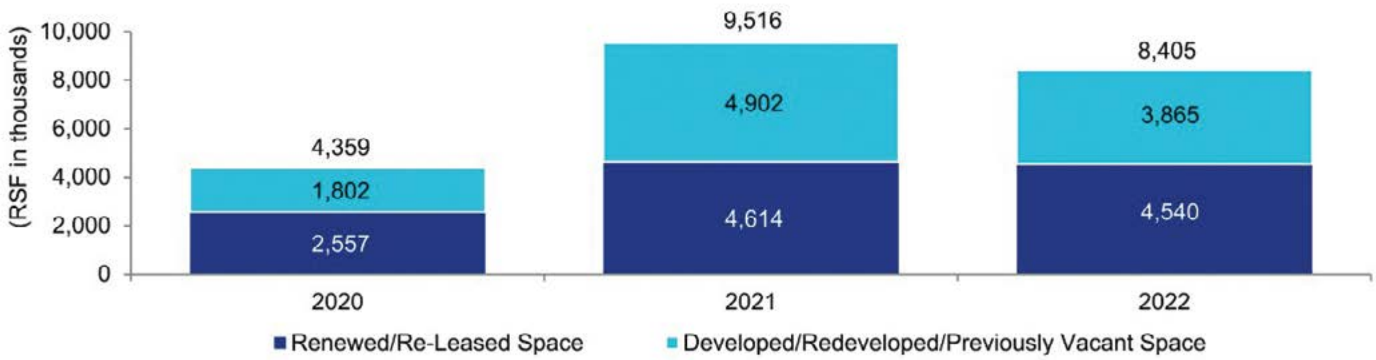
Leasing activity

During the year ended December 31, 2022, strong demand for our high-quality office/laboratory space has translated into the second-highest year of leasing volume in Company history and solid rental rate growth in 2022 for our overall portfolio and our value-creation pipeline.

- Executed a total of 336 leases, with a weighted-average lease term of 8.1 years, for 8.4 million RSF, representing the second-highest leasing year in Company history, 74% of which was generated from our client base of approximately 1,000 tenants, including 2.8 million RSF related to our development and redevelopment projects;
- Annual leasing activity of 4.5 million RSF for renewed and re-leased spaces; and
- Annual rental rate increases of 31.0% and 22.1% (cash basis) on renewed and re-leased space, representing the second-highest annual rental rate growth (cash basis) in Company history.

Approximately 63% of the 336 leases executed during the year ended December 31, 2022 did not include concessions for free rent. During the year ended December 31, 2022, we granted tenant concessions/free rent averaging 2.1 months with respect to the 8.4 million RSF leased.

The following chart presents renewed/re-leased space and developed/redeveloped/previously vacant space leased for the years ended December 31, 2020, 2021, and 2022:



Lease structure

Our Same Properties total revenue growth of 9.8% for the year ended December 31, 2022, and our Same Properties net operating income and Same Properties net operating income increases (cash basis) for the year ended December 31, 2022 of 6.6% and 9.6%, 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 for the year ended December 31, 2022 of 31.0% and 22.1% (cash basis) on 4.5 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 70.0% and Same Properties current-period average occupancy of 95.7% for the year ended December 31, 2022, an increase of 100 bps for the same-period prior-year average, across our 253 Same Properties aggregating 26.1 million RSF. As of December 31, 2022, approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses (including increases thereto) in addition to base rent. Additionally, approximately 96% of our leases (on an annual rental revenue basis) contained contractual annual rent escalations approximating 3% that were either fixed or based on a consumer price index or another index, and approximately 93% of our leases (on an annual rental revenue basis) provided for the recapture of certain capital expenditures.

Leasing activity (continued)

The following table summarizes our leasing activity at our properties for the years ended December 31, 2022 and 2021:

	Year Ended December 31,			
	2022		2021	
	Including Straight-Line Rent	Cash Basis	Including Straight-Line Rent	Cash Basis
(Dollars per RSF)				
Leasing activity:				
Renewed/re-leased space[(1)]				
Rental rate changes	**31.0%**	**22.1%** (2)	**37.9%**	**22.6%**
New rates	$50.37	$48.48	$59.00	$55.60
Expiring rates	$38.44	$39.69	$42.80	$45.36
RSF	4,540,325		4,614,040	
Tenant improvements/leasing commissions	$27.83		$41.05	
Weighted-average lease term	5.0 years		6.3 years	
Developed/redeveloped/previously vacant space leased[(3)]				
New rates	$73.46	$64.04	$78.52	$69.42
RSF	3,865,262		4,902,261	
Weighted-average lease term	11.8 years		11.2 years	
Leasing activity summary (totals):				
New rates	$60.98	$55.64	$69.05	$62.72
RSF	8,405,587 (2)(4)		9,516,301	
Weighted-average lease term	8.1 years		8.8 years	
Lease expirations[(1)]				
Expiring rates	$37.41	$38.06	$41.53	$43.70
RSF	6,572,286		5,747,192	

Leasing activity includes 100% of results for properties in which we have an investment in North America.

(1) Excludes month-to-month leases aggregating 266,292 RSF and 110,180 RSF as of December 31, 2022 and 2021, respectively.
(2) Represents the second highest annual leasing volume and annual rental rate growth (cash basis) in Company history.
(3) Refer to the "New Class A development and redevelopment properties: summary of pipeline" section within this Item 2 for additional information on total project costs.
(4) During the year ended December 31, 2022, we granted tenant concessions/free rent averaging 2.1 months with respect to the 8,405,587 RSF leased. Approximately 63% of the leases executed during the year ended December 31, 2022 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, 2022:

Year	RSF	Percentage of Occupied RSF	Annual Rental Revenue (per RSF)(1)	Percentage of Total Annual Rental Revenue
2023 (2)	2,871,438	7.3 %	$ 45.10	6.5 %
2024	4,341,944	11.1 %	$ 46.70	10.2 %
2025	3,312,092	8.5 %	$ 48.22	8.1 %
2026	2,628,988	6.7 %	$ 50.79	6.7 %
2027	2,669,028	6.8 %	$ 55.36	7.5 %
2028	4,160,778	10.6 %	$ 51.51	10.8 %
2029	2,467,070	6.3 %	$ 53.31	6.6 %
2030	2,766,240	7.1 %	$ 58.03	8.1 %
2031	3,006,892	7.7 %	$ 52.83	8.0 %
2032	1,298,945	3.3 %	$ 56.91	3.7 %
Thereafter	9,613,205	24.6 %	$ 48.72	23.8 %

(1) Represents amounts in effect as of December 31, 2022.
(2) Excludes month-to-month leases aggregating 266,292 RSF as of December 31, 2022.

The following tables present information by market with respect to our 2023 and 2024 contractual lease expirations in North America as of December 31, 2022:

	2023 Contractual Lease Expirations (in RSF)					
Market	Leased	Negotiating/ Anticipating	Targeted for Future Development/ Redevelopment(1)	Remaining Expiring Leases(4)	Total(2)	Annual Rental Revenue (per RSF)(3)
Greater Boston	61,091	83,346	323,110	428,905	896,452	$ 56.56
San Francisco Bay Area	30,876	10,208	—	342,952	384,036	52.63
New York City	—	—	—	88,372	88,372	N/A
San Diego	184,287	124,745	—	426,615	735,647	33.50
Seattle	14,979	8,167	18,680	266,038	307,864	27.22
Maryland	6,674	115,454	—	131,735	253,863	35.41
Research Triangle	81,956	15,043	—	77,286	174,285	33.08
Texas	—	—	—	—	—	—
Canada	13,321	—	—	2,484	15,805	28.89
Non-cluster/other markets	—	—	—	15,114	15,114	41.42
Total	393,184	356,963	341,790	1,779,501	2,871,438	$ 45.10
Percentage of expiring leases	14 %	12 %	12 %	62 %	100 %	

	2024 Contractual Lease Expirations (in RSF)					
Market	Leased	Negotiating/ Anticipating	Targeted for Future Development/ Redevelopment(1)	Remaining Expiring Leases(4)	Total	Annual Rental Revenue (per RSF)(3)
Greater Boston	102,060	5,881	122,465	500,918	731,324	$ 73.74
San Francisco Bay Area	35,798	407,369	—	592,252	1,035,419	50.33
New York City	—	—	349,947	5,645	355,592	N/A
San Diego	—	—	580,021	394,852	974,873	31.10
Seattle	—	267,350	50,552	415,503	733,405	35.04
Maryland	—	3,555	—	62,016	65,571	25.15
Research Triangle	15,519	—	—	194,008	209,527	52.01
Texas	—	—	126,034	72,938	198,972	33.91
Canada	—	—	—	6,786	6,786	24.38
Non-cluster/other markets	—	—	—	30,475	30,475	65.74
Total	153,377	684,155	1,229,019	2,275,393	4,341,944	$ 46.70
Percentage of expiring leases	4 %	16 %	28 %	52 %	100 %	

(1) Represents RSF targeted for future development or redevelopment upon expiration of existing in-place leases primarily related to recently acquired properties with an average contractual lease expiration date of January 7, 2023 and July 13, 2024 for 2023 and 2024, respectively, weighted by annual rental revenue. Refer to "Investments in real estate – value-creation square footage currently in rental properties" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional details on value-creation square feet currently included in rental properties.
(2) Excludes month-to-month leases aggregating 266,292 RSF as of December 31, 2022.
(3) Represents amounts in effect as of December 31, 2022.
(4) The largest remaining contractual expiration for 2023 and 2024 is 108,020 RSF in our Bothell submarket and 98,808 RSF in our Mission Bay submarket, respectively.

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, and property enhancements identified during the underwriting of certain acquired properties, located in collaborative life science, agtech, and technology campuses in AAA 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 value. Our pre-construction activities are undertaken in order to prepare the property for its intended use and include entitlements, permitting, design, site work, and other activities preceding commencement of construction of aboveground building improvements.

Our investments in real estate consisted of the following as of December 31, 2022 (dollars in thousands):

		Development and Redevelopment					
	Operating	Under Construction	Near Term	Intermediate Term	Future	Subtotal	Total
Investments in real estate							
Gross book value as of December 31, 2022[1]	$ 25,568,121	$ 4,055,353	$ 1,738,913	$ 918,528	$2,002,541	$ 8,715,335	$ 34,283,456
Square footage							
Operating	41,773,722	—	—	—	—	—	41,773,722
New Class A development and redevelopment properties	—	5,597,537	6,248,830 [2]	4,780,268	20,716,308	37,342,943	37,342,943
Value-creation square feet currently included in rental properties[3]	—	—	(656,378)	(434,776)	(3,459,383)	(4,550,537)	(4,550,537)
Total square footage	41,773,722	5,597,537	5,592,452	4,345,492	17,256,925	32,792,406	74,566,128

(1) Balances exclude accumulated depreciation and our share of the cost basis associated with our properties held by our unconsolidated real estate joint ventures, which is classified as investments in unconsolidated real estate joint ventures in our consolidated balance sheets.

(2) Includes 2.0 million RSF currently 88% leased and expected to commence construction in the next four quarters. Refer to “New Class A development and redevelopment properties: current projects” within this Item 2 for additional details.

(3) Refer to “Investments in real estate – value-creation square footage currently in rental properties” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional details on value-creation square feet currently included in rental properties.

Acquisitions

Our real estate asset acquisitions for the year ended December 31, 2022 consisted of the following (dollars in thousands):

					Square Footage				
					Acquisitions With Development and Redevelopment Opportunities[1]				
Property	Submarket/Market	Date of Purchase	Number of Properties	Operating Occupancy	Future Development	Operating With Future Development/ Redevelopment	Operating[2]	Total[3]	Purchase Price
One Hampshire Street[4]	Cambridge/Inner Suburbs/ Greater Boston	6/23/22	1	100%	—	88,591	—	88,591	$ 140,000
100 Edwin H. Land Boulevard	Cambridge/Inner Suburbs/ Greater Boston	8/1/22	1	100	TBD	104,500	—	104,500	170,000
421 Park Drive	Fenway/Greater Boston	1/13/22	—	N/A	202,997 [5]	—	—	202,997	81,119 [5]
35 Gatehouse Drive[6]	Route 128/Greater Boston	12/29/22	1	100	75,000	31,611	265,965	372,576	272,500
225 and 235 Presidential Way	Route 128/Greater Boston	1/28/22	2	100	—	440,130	—	440,130	124,673
1150 El Camino Real	South San Francisco/ San Francisco Bay Area	2/8/22	1	99	610,000	431,940	70,000	680,000	118,000
3301, 3303, 3305, and 3307 Hillview Avenue	Greater Stanford/ San Francisco Bay Area	1/6/22	4	100	—	292,013	—	292,013	446,000
Costa Verde by Alexandria	University Town Center/ San Diego	1/11/22	2	100	537,000	8,730	—	545,730	125,000
10010 and 10140 Campus Point Drive and 4275 Campus Point Court	University Town Center/ San Diego	9/29/22	3	100	750,000	226,144	—	750,000	106,380
800 Mercer Street (60% interest in consolidated JV)	Lake Union/Seattle	3/18/22	—	N/A	869,000	—	—	869,000	87,608
Alexandria Center® for Life Science – Durham	Research Triangle/ Research Triangle	1/11/22	—	N/A	1,175,000	—	—	1,175,000	99,428
104 and 108/110/112/114 TW Alexander Drive, 2752 East NC Highway 54, and 10 South Triangle Drive[7]	Research Triangle/ Research Triangle	1/6/22	4	89	750,000	69,485	—	819,485	80,000
Intersection Campus	Austin/Texas	2/18/22	9	81	—	998,099	—	998,099	400,400
1001 Trinity Street and 1020 Red River Street	Austin/Texas	10/4/22	2	100	51,038	198,972	—	250,010	108,000
Other	Various	Various	12	91	1,644,994	646,132	381,760	2,634,686	459,344
			42	92%	6,665,029	3,536,347	717,725	10,222,817	$ 2,818,452

(1) We expect to provide total estimated costs and related yields for development and redevelopment projects in the future, subsequent to the commencement of construction.
(2) Represents the operating component of our value-creation acquisitions that is not expected to undergo future development or redevelopment.
(3) Represents total square footage upon completion of development or redevelopment of one or more new Class A properties. Square footage presented includes RSF of buildings currently in operations with future development or redevelopment opportunities. Refer to the definition of "Investments in real estate – value-creation square footage currently in rental properties" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.
(4) Represents the acquisition of a condominium interest in two floors of a seven-story building.
(5) Represents the incremental purchase price related to the achievement of additional entitlement rights aggregating 202,997 SF at our Alexandria Center® for Life Science – Fenway mega campus.
(6) Represents an opportunity to expand our existing properties at 40, 50, and 60 Sylvan Road and 840 Winter Street into a mega campus.
(7) Includes the acquisition of fee simple interests in the land underlying our recently acquired 108/110/112/114 TW Alexander Drive buildings, which were previously subject to ground leases.

Our completed dispositions of and sales of partial interests in real estate assets during the year ended December 31, 2022 consisted of the following (dollars in thousands, except for sales price per RSF):

Property	Submarket/Market	Date of Sale	Interest Sold	RSF	Capitalization Rate	Capitalization Rate (Cash Basis)	Sales Price	Sales Price per RSF	Gain or Consideration in Excess of Book Value
100 Binney Street	Cambridge/Inner Suburbs/ Greater Boston	3/30/22	70%	432,931	3.6%	3.5%	$ 713,228 (1)	$ 2,353	$ 413,615 (2)
300 Third Street	Cambridge/Inner Suburbs/ Greater Boston	6/27/22	70%	131,963	4.6%	4.3%	166,485 (1)	$ 1,802	113,020 (2)
Alexandria Park at 128, 285 Bear Hill Road, 111 and 130 Forbes Boulevard, and 20 Walkup Drive	Route 128 and Route 495/ Greater Boston	6/8/22	100%	617,043	5.1%	5.1%	334,397	$ 542	202,325
1450 Owens Street	Mission Bay/San Francisco Bay Area	7/1/22	20% (3)	191,000	N/A	N/A	25,039 (1)	N/A	10,083 (2)
341 and 343 Oyster Point Boulevard, 7000 Shoreline Court, and Shoreway Science Center	South San Francisco and Greater Stanford/San Francisco Bay Area	9/15/22	100%	330,379	5.2%	5.2%	383,635	$ 1,161	223,127
3215 Merryfield Row	Torrey Pines/San Diego	9/1/22	70%	170,523	4.5%	4.2%	149,940 (1)	$ 1,256	42,214 (2)
Summers Ridge Science Park	Sorrento Mesa/San Diego	9/15/22	70%	316,531	4.9%	4.6%	159,600 (1)	$ 720	65,097 (2)
7330 and 7360 Carroll Road	Sorrento Mesa/San Diego	9/15/22	100%	84,442	4.4%	4.6%	59,476	$ 704	35,463
Other	Various				N/A	N/A	230,496	N/A	77,003
							$ 2,222,296		$ 1,181,947

(1) Represents the contractual sales price for the percentage interest of the property sold by us.
(2) We retained control over the newly formed real estate joint venture and therefore continue to consolidate this property. We accounted for the difference between the consideration received and the book value of the interest sold as an equity transaction, with no gain or loss recognized in earnings.
(3) Relates to the sale of a partial interest in a land parcel. The noncontrolling interest share of our joint venture partner is anticipated to increase to 75% as our partner contributes capital for construction over time. As of December 31, 2022, the noncontrolling interest share of our joint venture partner was 40.3%.

DEMAND FOR ALEXANDRIA'S BRAND TRANSLATES INTO A HIGHLY LEASED PIPELINE AND NEAR-TERM NET OPERATING INCOME GROWTH

Alexandria's highly leased value-creation pipeline is expected to generate significant incremental net operating income through development and redevelopment of new Class A properties

VISIBILITY FOR FUTURE GROWTH IN ANNUAL INCREMENTAL NET OPERATING INCOME

Commenced From 4Q22 Deliveries

$28M

497,755 RSF

83% Leased

Primarily Commencing 1Q23 Through 4Q25

$655M

7.6M RSF (1)

72% Leased

Refer to "Net operating income" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional details and its reconciliation from the most directly comparable financial measures presented in accordance with GAAP.

(1) As of December 31, 2022. Represents projects under construction aggregating 5.6 million RSF and seven near-term projects aggregating 2.0 million RSF expected to commence construction during the next four quarters.

New Class A development and redevelopment properties: recent deliveries

The Arsenal on the Charles

Greater Boston/
Cambridge/Inner Suburbs

387,678 RSF

96% Occupancy

201 Brookline Avenue

Greater Boston/
Fenway

340,073 RSF

100% Occupancy

201 Haskins Way

San Francisco Bay Area/
South San Francisco

323,190 RSF

100% Occupancy

825 and 835 Industrial Road

San Francisco Bay Area/
Greater Stanford

526,129 RSF

100% Occupancy

3160 Porter Drive

San Francisco Bay Area/
Greater Stanford

92,300 RSF

83% Occupancy

30-02 48th Avenue

New York City/New York City

137,187 RSF

69% Occupancy

3115 Merryfield Row

San Diego/Torrey Pines

146,456 RSF

93% Occupancy

10055 Barnes Canyon Road

San Diego/Sorrento Mesa

195,435 RSF

100% Occupancy

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

10102 Hoyt Park Drive

San Diego/Sorrento Mesa

144,113 RSF

100% Occupancy

5505 Morehouse Drive

San Diego/Sorrento Mesa

79,945 RSF

100% Occupancy

9601 and 9603 Medical Center Drive

Maryland/Rockville

34,589 RSF

100% Occupancy

9950 Medical Center Drive

Maryland/Rockville

84,264 RSF

100% Occupancy

20400 Century Boulevard

Maryland/Gaithersburg

50,738 RSF

100% Occupancy

2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive(1)

Research Triangle/Research Triangle

326,445 RSF

100% Occupancy

5 and 9 Laboratory Drive(2)

Research Triangle/Research Triangle

342,881 RSF

94% Occupancy

8 and 10 Davis Drive(3)

Research Triangle/Research Triangle

250,000 RSF

94% Occupancy

(1) Image represents 2400 Ellis Road in our Alexandria Center® for Life Science – Durham mega campus.
(2) Image represents 9 Laboratory Drive in our Alexandria Center® for AgTech campus.
(3) Image represents 10 Davis Drive in our Alexandria Center® for Advanced Technologies – Research Triangle mega campus.

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

The following table presents value-creation development and redevelopment of new Class A properties placed into service during the year ended December 31, 2022 (dollars in thousands):

Deliveries in 4Q22 commenced $28 million in annual net operating income

			RSF Placed in Service							Total Project		Unlevered Yields	
Property/Market/Submarket	4Q22 Delivery Date[(1)]	Our Ownership Interest	Prior to 1/1/22	1Q22	2Q22	3Q22	4Q22	Total	Occupancy Percentage[(2)]	RSF	Investment	Initial Stabilized	Initial Stabilized (Cash Basis)
Development projects													
201 Brookline Avenue/Greater Boston/ Fenway	11/3/22	98.8%	—	—	—	261,990	78,083	340,073	100%	510,116	$ 734,000	7.2%	6.2%
201 Haskins Way/San Francisco Bay Area/ South San Francisco	N/A	100%	270,879	52,311	—	—	—	323,190	100%	323,190	367,000	6.3	6.0
825 and 835 Industrial Road/San Francisco Bay Area/Greater Stanford	N/A	100%	476,211	49,918	—	—	—	526,129	100%	526,129	631,000	6.7	6.5
3115 Merryfield Row/San Diego/Torrey Pines	N/A	100%	—	146,456	—	—	—	146,456	93%	146,456	150,000	6.3	6.2
10055 Barnes Canyon Road/San Diego/ Sorrento Mesa	11/21/22	50.0%	—	—	110,454	9,473	75,508	195,435	100%	195,435	189,000	7.2	6.7
10102 Hoyt Park Drive/San Diego/Sorrento Mesa	11/15/22	100%	—	—	—	—	144,113	144,113	100%	144,113	114,000	7.4	6.8
9950 Medical Center Drive/Maryland/ Rockville	N/A	100%	—	84,264	—	—	—	84,264	100%	84,264	57,000	8.9	7.8
5 and 9 Laboratory Drive/ Research Triangle/Research Triangle	12/21/22	100%	267,509	11,211	—	1,485	62,676	342,881	94%	342,881	221,000	6.9	7.0
8 and 10 Davis Drive/ Research Triangle/Research Triangle	N/A	100%	65,247	44,980	139,773	—	—	250,000	94%	250,000	159,000	7.6	7.3
Redevelopment projects													
The Arsenal on the Charles/Greater Boston/ Cambridge/Inner Suburbs	12/31/22	100%	137,111	99,796	50,663	43,351	56,757	387,678	96%	872,665	834,000	6.3	5.6
3160 Porter Drive/San Francisco Bay Area/ Greater Stanford	N/A	100%	57,696	34,604	—	—	—	92,300	83%	92,300	117,000	4.6	4.6
30-02 48th Avenue/New York City/New York City	12/31/22	100%	41,848	11,092	18,689	10,197	55,361	137,187	69%	179,100	248,000	5.8	6.0
5505 Morehouse Drive/San Diego/Sorrento Mesa	N/A	100%	28,324	—	51,621	—	—	79,945	100%	79,945	68,000	7.1	7.2
9601 and 9603 Medical Center Drive/ Maryland/Rockville	11/17/22	100%	17,378	—	—	—	17,211	34,589	100%	95,911	54,000	8.4	7.1
20400 Century Boulevard/Maryland/ Gaithersburg	10/17/22	100%	—	32,033	4,194	6,465	8,046	50,738	100%	80,550	35,000	8.5	8.6
2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive/Research Triangle/ Research Triangle	N/A	100%	326,445	—	—	—	—	326,445	100%	703,316	337,000	7.5	6.7
Weighted average/total	11/18/22		1,688,648	566,665	375,394	332,961	497,755	3,461,423		4,626,371	$ 4,315,000	6.8%	6.3%

Refer to “New Class A development and redevelopment properties: current projects” within this Item 2 for details on the RSF in service and under construction, if applicable.

(1) Represents the average delivery date for deliveries that occurred during the three months ended December 31, 2022, weighted by annual rental revenue.
(2) Relates to total operating RSF placed in service as of the most recent delivery.

New Class A development and redevelopment properties: current projects

325 Binney Street

Greater Boston/
Cambridge/Inner Suburbs

462,100 RSF

100% Leased

One Rogers Street

Greater Boston/
Cambridge/Inner Suburbs

403,892 RSF

100% Leased

99 Coolidge Avenue

Greater Boston/
Cambridge/Inner Suburbs

320,809 RSF

36% Leased/Negotiating

500 North Beacon Street and 4 Kingsbury Avenue(1)

Greater Boston/
Cambridge/Inner Suburbs

248,018 RSF

85% Leased/Negotiating

201 Brookline Avenue

Greater Boston/Fenway

170,043 RSF

98% Leased/Negotiating

15 Necco Street

Greater Boston/
Seaport Innovation District

345,995 RSF

97% Leased/Negotiating

40, 50, and 60 Sylvan Road(2)

Greater Boston/Route 128

202,428 RSF

61% Leased/Negotiating

1450 Owens Street

San Francisco Bay Area/
Mission Bay

212,796 RSF

—% Leased/Negotiating

651 Gateway Boulevard

San Francisco Bay Area/
South San Francisco

300,010 RSF

7% Leased/Negotiating

751 Gateway Boulevard

San Francisco Bay Area/
South San Francisco

230,592 RSF

100% Leased

(1) Image represents 500 North Beacon Street in our The Arsenal on the Charles mega campus.
(2) Image represents 50 Sylvan Road.

New Class A development and redevelopment properties: current projects (continued)

10075 Barnes Canyon Road

San Diego/Sorrento Mesa

254,771 RSF

—% Leased/Negotiating

1150 Eastlake Avenue East

Seattle/Lake Union

311,631 RSF

89% Leased/Negotiating

9810 Darnestown Road

Maryland/Rockville

192,000 RSF

100% Leased

9808 Medical Center Drive

Maryland/Rockville

90,000 RSF

73% Leased/Negotiating

9601 and 9603 Medical Center Drive

Maryland/Rockville

61,322 RSF

100% Leased

2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive[(1)]

Research Triangle/Research Triangle

376,871 RSF

86% Leased/Negotiating

4 Davis Drive

Research Triangle/Research Triangle

180,000 RSF

6% Leased/Negotiating

6040 George Watts Hill Drive, Phase II

Research Triangle/Research Triangle

88,038 RSF

100% Leased

(1) Image represents 41 Moore Drive in our Alexandria Center® for Life Science – Durham mega campus.

New Class A development and redevelopment properties: current projects (continued)

The following tables set forth a summary of our new Class A development and redevelopment properties under construction and pre-leased/negotiating near-term projects as of December 31, 2022 (dollars in thousands):

Market Property/Submarket	Dev/Redev	Square Footage			Percentage		Occupancy[1]	
		In Service	CIP	Total	Leased	Leased/ Negotiating	Initial	Stabilized
Under construction								
Greater Boston								
325 Binney Street/Cambridge/Inner Suburbs	Dev	—	462,100	462,100	100%	100%	2023	2024
One Rogers Street/Cambridge/Inner Suburbs	Redev	4,367	403,892	408,259	100	100	2023	2023
99 Coolidge Avenue/Cambridge/Inner Suburbs	Dev	—	320,809	320,809	36	36	2024	2025
500 North Beacon Street and 4 Kingsbury Avenue/Cambridge/Inner Suburbs	Dev	—	248,018	248,018	85	85	2024	2025
201 Brookline Avenue/Fenway	Dev	340,073	170,043	510,116	97	98	3Q22	2023
15 Necco Street/Seaport Innovation District	Dev	—	345,995	345,995	97	97	2024	2024
40, 50, and 60 Sylvan Road/Route 128	Redev	312,845	202,428	515,273	61	61	2023	2024
840 Winter Street/Route 128	Redev	28,230	139,984	168,214	100	100	2024	2024
Other	Redev	—	453,869	453,869	—	— [2]	2023	2025
San Francisco Bay Area								
1450 Owens Street/Mission Bay	Dev	—	212,796	212,796	—	— [2]	2024	2025
651 Gateway Boulevard/South San Francisco	Redev	—	300,010	300,010	7	7 [2]	2023	2025
751 Gateway Boulevard/South San Francisco	Dev	—	230,592	230,592	100	100	2023	2023
San Diego								
10075 Barnes Canyon Road/Sorrento Mesa	Dev	—	254,771	254,771	—	— [2]	2024	2025
Seattle								
1150 Eastlake Avenue East/Lake Union	Dev	—	311,631	311,631	89	89	2023	2024
Alexandria Center® for Advanced Technologies – Monte Villa Parkway/Bothell	Redev	246,647	213,976	460,623	84	84	2023	2024
Maryland								
9810 Darnestown Road/Rockville	Dev	—	192,000	192,000	100	100	2024	2024
9808 Medical Center Drive/Rockville	Dev	—	90,000	90,000	29	73	2023	2024
9601 and 9603 Medical Center Drive/Rockville	Redev	34,589	61,322	95,911	100	100	4Q21	2023
20400 Century Boulevard/Gaithersburg	Redev	50,738	29,812	80,550	100	100	1Q22	2023
Research Triangle								
2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive/ Research Triangle	Redev	326,445	376,871	703,316	86	86	2Q21	2024
4 Davis Drive/Research Triangle	Dev	—	180,000	180,000	—	6 [2]	2023	2024
6040 George Watts Hill Drive, Phase II/Research Triangle	Dev	—	88,038	88,038	100	100	2024	2024
Texas								
8800 Technology Forest Place/Greater Houston	Redev	—	201,499	201,499	23	23	2023	2024
Canada								
Canada	Redev	22,992	107,081	130,073	71	81	2023	2024
		1,366,926	5,597,537	6,964,463	67%	68%		

(1) Initial occupancy dates are subject to leasing and/or market conditions. Multi-tenant projects may have occupancy by tenants over a period of time. Stabilized occupancy may vary depending on single tenancy versus multi-tenancy.
(2) This project is focused on demand from our existing tenants in our adjacent properties/campuses and will also address demand from other non-Alexandria properties/campuses.

New Class A development and redevelopment properties: current projects (continued)

Market Property/Submarket	Dev/Redev	Square Footage			Percentage	
		In Service	CIP	Total	Leased	Leased/ Negotiating
Near-term projects expected to commence construction in the next four quarters						
San Francisco Bay Area						
230 Harriet Tubman Way/South San Francisco	Dev	—	285,346	285,346	100%	100%
San Diego						
11255 and 11355 North Torrey Pines Road/Torrey Pines	Dev	—	309,094	309,094	100	100
10931 and 10933 North Torrey Pines Road/Torrey Pines	Dev	—	299,158	299,158	100	100
Campus Point by Alexandria, Phase II/University Town Center	Dev	—	426,927	426,927	100	100
Campus Point by Alexandria, Phase I/University Town Center	Dev	—	171,102	171,102	100	100
Seattle						
701 Dexter Avenue North/Lake Union	Dev	—	226,586	226,586	—	— (1)
Maryland						
9820 Darnestown Road/Rockville	Dev	—	250,000	250,000	100	100
		—	1,968,213	1,968,213	88	88
Total		1,366,926	7,565,750	8,932,676	72%	72%

(1) This project was initiated due to demand from neighboring tenants.

New Class A development and redevelopment properties: current projects (continued)

Market Property/Submarket	Our Ownership Interest	At 100%				Unlevered Yields	
		In Service	CIP	Cost to Complete	Total at Completion	Initial Stabilized	Initial Stabilized (Cash Basis)
Under construction							
Greater Boston							
325 Binney Street/Cambridge/Inner Suburbs	100%	$ —	$ 477,206	$ 413,794	$ 891,000	8.5%	7.2%
One Rogers Street/Cambridge/Inner Suburbs	100%	10,814	1,040,421	154,765	1,206,000	5.2%	4.2%
99 Coolidge Avenue/Cambridge/Inner Suburbs	75.0%	—	174,817	TBD			
500 North Beacon Street and 4 Kingsbury Avenue/Cambridge/Inner Suburbs	100%	—	156,299	270,701	427,000	6.2%	5.5%
201 Brookline Avenue/Fenway	98.8%	482,455	208,188	43,357	734,000	7.2%	6.2%
15 Necco Street/Seaport Innovation District	90.0%	—	339,207	227,793	567,000	6.7%	5.5%
40, 50, and 60 Sylvan Road/Route 128	100%	173,686	151,887	TBD			
840 Winter Street/Route 128	100%	13,642	99,117	95,241	208,000	7.5%	6.5%
Other	100%	—	128,736	TBD			
San Francisco Bay Area							
1450 Owens Street/Mission Bay	59.7%	—	122,012	TBD			
651 Gateway Boulevard/South San Francisco	50.0%	—	182,941				
751 Gateway Boulevard/South San Francisco	51.0%	—	171,315	118,685	290,000	6.5%	6.3%
San Diego							
10075 Barnes Canyon Road/Sorrento Mesa	50.0%	—	51,389	TBD			
Seattle							
1150 Eastlake Avenue East/Lake Union	100%	—	213,339	191,661	405,000	6.4%	6.2%
Alexandria Center® for Advanced Technologies – Monte Villa Parkway/Bothell	100%	59,309	99,001	70,690	229,000	6.3%	6.2%
Maryland							
9810 Darnestown Road/Rockville	100%	—	78,508	54,492	133,000	6.9%	6.2%
9808 Medical Center Drive/Rockville	100%	—	51,050	TBD			
9601 and 9603 Medical Center Drive/Rockville	100%	18,187	30,907	4,906	54,000	8.4%	7.1%
20400 Century Boulevard/Gaithersburg	100%	21,185	7,584	6,231	35,000	8.5%	8.6%
Research Triangle							
2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive/Research Triangle	100%	93,858	121,944	121,198	337,000	7.5%	6.7%
4 Davis Drive/Research Triangle	100%	—	38,090	TBD			
6040 George Watts Hill Drive, Phase II/Research Triangle	100%	—	20,583	43,417	64,000	8.0%	7.0%
Texas							
8800 Technology Forest Place/Greater Houston	100%	—	73,436	TBD			
Canada							
Canada	100%	3,154	17,376	TBD			
		$ 876,290	$ 4,055,353	$ 3,690,000 (1)	$ 8,620,000 (1)		

(1) Amounts rounded to the nearest $10 million and include preliminary estimated amounts for projects listed as TBD.

New Class A development and redevelopment properties: current projects (continued)

Market Property/Submarket	Our Ownership Interest	At 100% In Service	CIP	Cost to Complete	Total at Completion
Near-term projects expected to commence construction in the next four quarters					
San Francisco Bay Area					
230 Harriet Tubman Way/South San Francisco	45.3%	$ —	$ 110,278	TBD	TBD
San Diego					
11255 and 11355 North Torrey Pines Road/Torrey Pines	100%	—	126,748		
10931 and 10933 North Torrey Pines Road/Torrey Pines	100%	—	83,241		
Campus Point by Alexandria, Phase II/University Town Center	55.0%	—	53,495		
Campus Point by Alexandria, Phase I/University Town Center	55.0%	—	46,821		
Seattle					
701 Dexter Avenue North/Lake Union	100%	—	124,303		
Maryland					
9820 Darnestown Road/Rockville	100%	—	38,952		
		—	583,838	1,830,000 (1)	2,420,000 (1)
Total		$ 876,290	$ 4,639,191	$ 5,520,000 (1)	$ 11,040,000 (1)
Our share of investment[2]				$ 4,660,000 (1)	$ 9,730,000 (1)

(1) Amounts rounded to the nearest $10 million and include preliminary estimated amounts for projects listed as TBD.
(2) Represents our share of investment based on our ownership percentages at the completion of development or redevelopment projects.

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, 2022 (dollars in thousands):

Market Property/Submarket	Our Ownership Interest	Book Value	Square Footage: Development and Redevelopment: Under Construction	Near Term	Intermediate Term	Future	Total[1]
Greater Boston							
Mega Campus: Alexandria Center® at One Kendall Square/Cambridge/Inner Suburbs	100%	$ 477,206	462,100	—	—	—	462,100
325 Binney Street							
Mega Campus: Alexandria Center® at Kendall Square/Cambridge/Inner Suburbs	100%	1,097,991	403,892	104,500	—	41,955	550,347
One Rogers Street and 100 Edwin H. Land Boulevard							
99 Coolidge Avenue/Cambridge/Inner Suburbs	75.0%	174,817	320,809	—	—	—	320,809
Mega Campus: The Arsenal on the Charles/Cambridge/Inner Suburbs	100%	167,226	248,018	—	—	342,603	590,621
311 Arsenal Street, 500 North Beacon Street, and 4 Kingsbury Avenue							
Mega Campus: Alexandria Center® for Life Science – Fenway/Fenway	[2]	524,791	170,043	507,997	—	—	678,040
201 Brookline Avenue and 421 Park Drive							
15 Necco Street/Seaport Innovation District	90.0%	339,207	345,995	—	—	—	345,995
Mega Campus: 40, 50, and 60 Sylvan Road, 35 Gatehouse Drive, and 840 Winter Street/Route 128	100%	308,205	342,412	341,075	—	515,000	1,198,487
275 Grove Street/Route 128	100%	—	—	160,251	—	—	160,251
10 Necco Street/Seaport Innovation District	100%	98,667	—	—	175,000	—	175,000
215 Presidential Way/Route 128	100%	6,808	—	—	112,000	—	112,000
Mega Campus: 480 Arsenal Way and 446, 458, 500, and 550 Arsenal Street/Cambridge/Inner Suburbs	100%	77,582	—	—	—	902,000	902,000
446, 458, and 550 Arsenal Street							
Mega Campus: Alexandria Technology Square®/Cambridge/Inner Suburbs	100%	7,881	—	—	—	100,000	100,000
Mega Campus: 380 and 420 E Street/Seaport Innovation District	100%	125,786	—	—	—	1,000,000	1,000,000
99 A Street/Seaport Innovation District	100%	49,800	—	—	—	235,000	235,000
Mega Campus: One Moderna Way/Route 128	100%	24,686	—	—	—	1,100,000	1,100,000
Other value-creation projects	100%	202,708	453,869	260,992	—	449,549	1,164,410
		$ 3,683,361	**2,747,138**	**1,374,815**	**287,000**	**4,686,107**	**9,095,060**

Refer to the definition of "Mega campus" in the "Definitions and reconciliations" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.

(1) Represents total square footage upon completion of development or redevelopment of one or more new Class A properties. Square footage presented includes RSF of buildings currently in operation at properties that also have inherent future development or redevelopment opportunities. Upon expiration of existing in-place leases, we have the intent to demolish or redevelop the existing property and commence future construction. Refer to the definition of "Investments in real estate – value-creation square footage currently in rental properties" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.

(2) We have a 98.8% ownership interest in 201 Brookline Avenue aggregating 170,043 RSF, which is currently under construction, and a 100% ownership interest in the near-term development project at 421 Park Drive aggregating 507,997 SF.

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

Market Property/Submarket	Our Ownership Interest	Book Value	Square Footage: Development and Redevelopment: Under Construction	Near Term	Intermediate Term	Future	Total[1]
San Francisco Bay Area							
Mega Campus: Alexandria Center® for Science and Technology – Mission Bay/Mission Bay	59.7%	$ 122,012	212,796	—	—	—	212,796
1450 Owens Street							
Mega Campus: Alexandria Technology Center® – Gateway/South San Francisco	[2]	378,730	530,602	—	—	291,000	821,602
651 and 751 Gateway Boulevard							
Alexandria Center® for Life Science – Millbrae/South San Francisco	45.3%	252,173	—	633,747	—	—	633,747
230 Harriet Tubman Way, 201 and 231 Adrian Road, and 6 and 30 Rollins Road							
3825 and 3875 Fabian Way/Greater Stanford	100%	137,076	—	—	250,000	228,000	478,000
Mega Campus: Alexandria Center® for Life Science – San Carlos/Greater Stanford	100%	397,323	—	105,000	700,000	692,830	1,497,830
960 Industrial Road, 987 and 1075 Commercial Street, and 888 Bransten Road							
901 California Avenue/Greater Stanford	100%	11,698	—	56,924	—	—	56,924
Mega Campus: 88 Bluxome Street/SoMa	100%	348,135	—	1,070,925	—	—	1,070,925
Mega Campus: 1122, 1150, and 1178 El Camino Real/South San Francisco	100%	350,590	—	—	—	1,930,000	1,930,000
Mega Campus: 211[3], 213[3], 249, 259, 269, and 279 East Grand Avenue/South San Francisco	100%	6,655	—	—	—	90,000	90,000
211 East Grand Avenue							
Other value-creation projects	100%	—	—	—	—	25,000	25,000
		2,004,392	**743,398**	**1,866,596**	**950,000**	**3,256,830**	**6,816,824**
New York City							
Mega Campus: Alexandria Center® for Life Science – New York City/New York City	100%	133,505	—	—	550,000 [4]	—	550,000
219 East 42nd Street/New York City	100%	—	—	—	579,947	—	579,947
		$ 133,505	**—**	**—**	**1,129,947**	**—**	**1,129,947**

Refer to the definition of "Mega campus" in the "Definitions and reconciliations" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.

(1) Represents total square footage upon completion of development or redevelopment of one or more new Class A properties. Square footage presented includes RSF of buildings currently in operation at properties that also have inherent future development or redevelopment opportunities. Upon expiration of existing in-place leases, we have the intent to demolish or redevelop the existing property and commence future construction. Refer to the definition of "Investments in real estate – value-creation square footage currently in rental properties" in the "Non-GAAP measures and definitions" section under Item 7 in this annual report on Form 10-K for additional information.
(2) We have a 50.0% ownership interest in 651 Gateway Boulevard aggregating 300,010 RSF and a 51.0% ownership interest in 751 Gateway Boulevard aggregating 230,592 RSF.
(3) We own a partial interest in this property through a real estate joint venture. 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 details.
(4) Pursuant to an option agreement, we are currently negotiating a long-term ground lease with the City of New York for the future site of a new building of approximately 550,000 SF.

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

Market Property/Submarket	Our Ownership Interest	Book Value	Square Footage: Development and Redevelopment: Under Construction	Near Term	Intermediate Term	Future	Total[1]
San Diego							
Mega Campus: SD Tech by Alexandria/Sorrento Mesa	50.0%	$ 116,330	254,771	—	160,000	333,845	748,616
9805 Scranton Road and 10065 and 10075 Barnes Canyon Road							
Mega Campus: One Alexandria Square and One Alexandria North/Torrey Pines	100%	262,456	—	608,252	125,280	—	733,532
10931, 10933, 11255, and 11355 North Torrey Pines Road and 10975 and 10995 Torreyana Road							
Mega Campus: Campus Point by Alexandria/University Town Center	55.0%	259,044	—	598,029	—	1,074,445	1,672,474
10010[2], 10140[2], and 10260 Campus Point Drive and 4110, 4150, 4161, and 4275[2] Campus Point Court							
Mega Campus: Sequence District by Alexandria/Sorrento Mesa	100%	43,100	—	200,000	509,000	1,089,915	1,798,915
6260, 6290, 6310, 6340, 6350, and 6450 Sequence Drive							
Scripps Science Park by Alexandria/Sorrento Mesa	100%	69,978	—	105,000	175,041	164,000	444,041
10048 and 10219 Meanley Drive, and 10277 Scripps Ranch Boulevard							
Mega Campus: University District/University Town Center	100%	143,990	—	—	937,000	—	937,000
9363, 9373, and 9393 Towne Centre Drive, 8410-8750 Genesee Avenue, and 4282 Esplanade Court							
Pacific Technology Park/Sorrento Mesa	50.0%	21,981	—	—	149,000	—	149,000
9444 Waples Street							
Mega Campus: 5200 Illumina Way/University Town Center	51.0%	16,652	—	—	—	451,832	451,832
4025, 4031, 4045, and 4075 Sorrento Valley Boulevard/Sorrento Valley	100%	21,282	—	—	—	247,000	247,000
Other value-creation projects	100%	68,606	—	—	—	475,000	475,000
		1,023,419	**254,771**	**1,511,281**	**2,055,321**	**3,836,037**	**7,657,410**
Seattle							
Mega Campus: The Eastlake Life Science Campus by Alexandria/Lake Union	100%	213,339	311,631	—	—	—	311,631
1150 Eastlake Avenue East							
Alexandria Center® for Advanced Technologies – Monte Villa Parkway/Bothell	100%	99,001	213,976	50,552	—	—	264,528
3301, 3555, and 3755 Monte Villa Parkway							
Mega Campus: Alexandria Center® for Life Science – South Lake Union/Lake Union	[3]	377,870	—	1,095,586	—	188,400	1,283,986
601 and 701 Dexter Avenue North and 800 Mercer Street							
830 and 1010 4th Avenue South/SoDo	100%	$ 53,937	—	—	—	597,313	597,313

Refer to the definition of “Mega campus” in the “Definitions and reconciliations” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

(1) Represents total square footage upon completion of development or redevelopment of one or more new Class A properties. Square footage presented includes RSF of buildings currently in operation at properties that also have inherent future development or redevelopment opportunities. Upon expiration of existing in-place leases, we have the intent to demolish or redevelop the existing property and commence future construction. Refer to the definition of “Investments in real estate – value-creation square footage currently in rental properties” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.
(2) We have a 100% ownership interest in this property.
(3) We have a 100% ownership interest in 601 and 701 Dexter Avenue North aggregating 414,986 SF and a 60% ownership interest in the near-term development project at 800 Mercer Street aggregating 869,000 SF.

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

			Square Footage				
			Development and Redevelopment				
Market Property/Submarket	Our Ownership Interest	Book Value	Under Construction	Near Term	Intermediate Term	Future	Total[(1)]
Seattle (continued)							
Mega Campus: Alexandria Center® for Advanced Technologies – Canyon Park/ Bothell	100%	$ 14,059	—	—	—	230,000	230,000
21660 20th Avenue Southeast							
Other value-creation projects	100%	84,369	—	—	—	691,000	691,000
		842,575	**525,607**	**1,146,138**	**—**	**1,706,713**	**3,378,458**
Maryland							
Mega Campus: Alexandria Center® for Life Science – Shady Grove/Rockville	100%	218,117	343,322	250,000	258,000	38,000	889,322
9601, 9603, and 9808 Medical Center Drive and 9810, 9820, and 9830 Darnestown Road							
20400 Century Boulevard/Gaithersburg	100%	7,584	29,812	—	—	—	29,812
		225,701	**373,134**	**250,000**	**258,000**	**38,000**	**919,134**
Research Triangle							
Mega Campus: Alexandria Center® for Life Science – Durham/ Research Triangle	100%	271,547	376,871	—	—	2,060,000	2,436,871
40 and 41 Moore Drive and 14 TW Alexander Drive							
Mega Campus: Alexandria Center® for Advanced Technologies – Research Triangle/Research Triangle	100%	74,801	180,000	—	—	990,000	1,170,000
4 and 12 Davis Drive							
6040 George Watts Hill Drive, Phase II/Research Triangle	100%	20,583	88,038	—	—	—	88,038
Mega Campus: Alexandria Center® for NextGen Medicines/ Research Triangle	100%	100,290	—	100,000	100,000	855,000	1,055,000
3029 East Cornwallis Road							
120 TW Alexander Drive, 2752 East NC Highway 54, and 10 South Triangle Drive/ Research Triangle	100%	51,083	—	—	—	750,000	750,000
Other value-creation projects	100%	4,185	—	—	—	76,262	76,262
		$ 522,489	**644,909**	**100,000**	**100,000**	**4,731,262**	**5,576,171**

Refer to the definition of “Mega campus” in the “Definitions and reconciliations” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

(1) Represents total square footage upon completion of development or redevelopment of one or more new Class A properties. Square footage presented includes RSF of buildings currently in operation at properties that also have inherent future development or redevelopment opportunities. Upon expiration of existing in-place leases, we have the intent to demolish or redevelop the existing property and commence future construction. Refer to the definition of “Investments in real estate – value-creation square footage currently in rental properties” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

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

Market Property/Submarket	Our Ownership Interest	Book Value	Square Footage: Development and Redevelopment: Under Construction	Near Term	Intermediate Term	Future	Total[1]
Texas							
8800 Technology Forest Place/Greater Houston	100%	$ 84,514	201,499	—	—	116,287	317,786
1020 Red River Street/Austin	100%	9,197	—	—	—	177,072	177,072
Other value-creation projects	100%	127,618	—	—	—	1,694,000	1,694,000
		221,329	201,499	—	—	1,987,359	2,188,858
Canada	100%	17,376	107,081	—	—	124,000	231,081
Other value-creation projects	100%	41,188	—	—	—	350,000	350,000
Total pipeline as of December 31, 2022		**$ 8,715,335** [2]	**5,597,537**	**6,248,830**	**4,780,268**	**20,716,308**	**37,342,943**

Refer to the definition of “Mega campus” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

(1) Total square footage includes 4,550,537 RSF of buildings currently in operation that we intend to demolish or redevelop and commence future construction. Refer to the definition of “Investments in real estate – value-creation square footage currently in rental properties” in the “Non-GAAP measures and definitions” section under Item 7 in this annual report on Form 10-K for additional information.

(2) Total book value includes $4.1 billion of projects currently under construction that are 68% leased/negotiating. We also expect to commence construction of seven near-term projects aggregating $583.8 million, which are 88% leased, in the next four quarters.

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 13, 2023, the last reported sales price per share of our common stock was $155.57, and there were 683 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 distribution 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, 2022, we have paid full cumulative dividends on our preferred stock. As of December 31, 2022, we had no outstanding shares of 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.

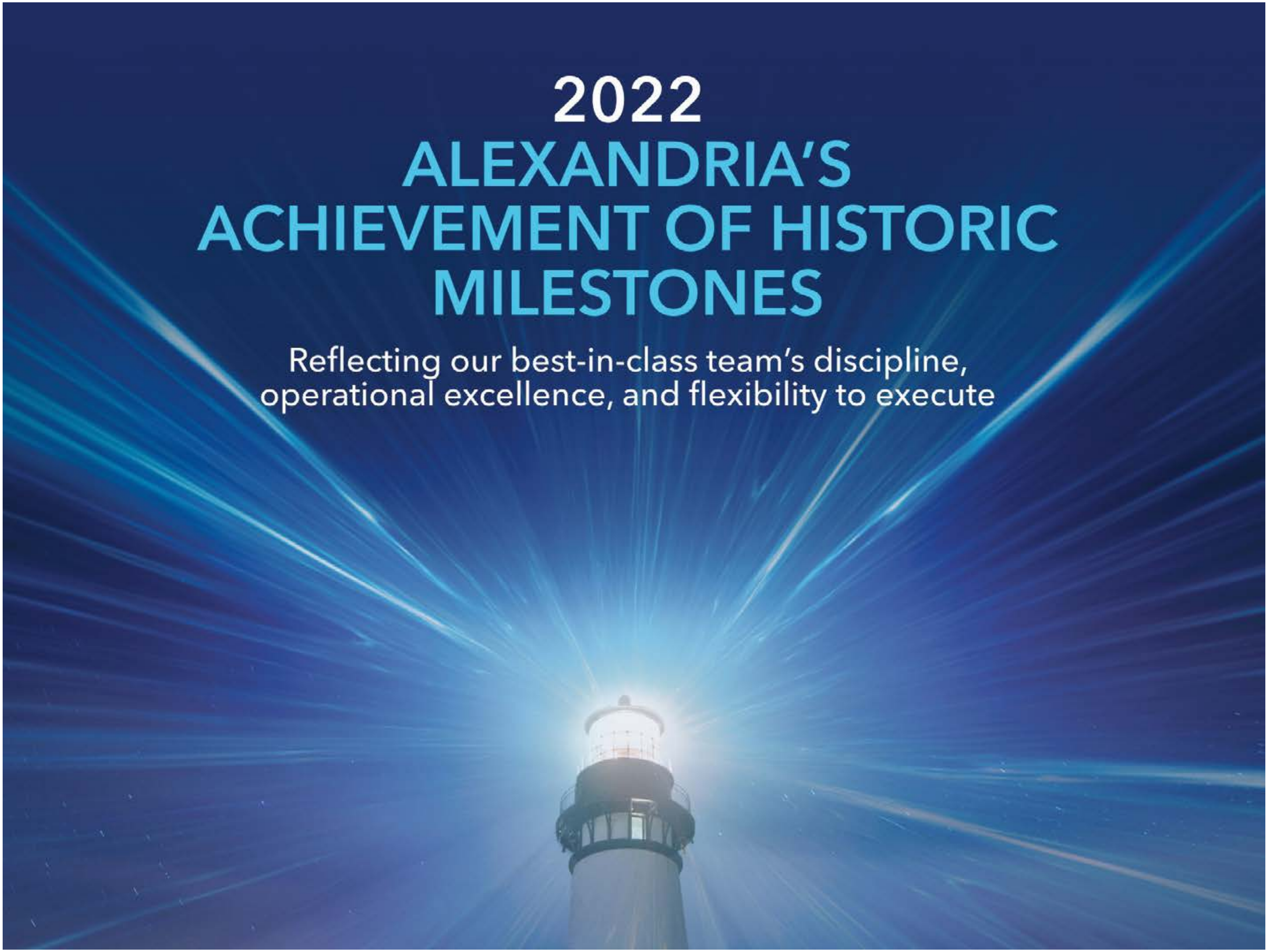
Refer to "Item 12. Security ownership of certain beneficial owners and management and related stockholder matters" in this annual report on Form 10-K for information on securities authorized for issuance under equity compensation plans.

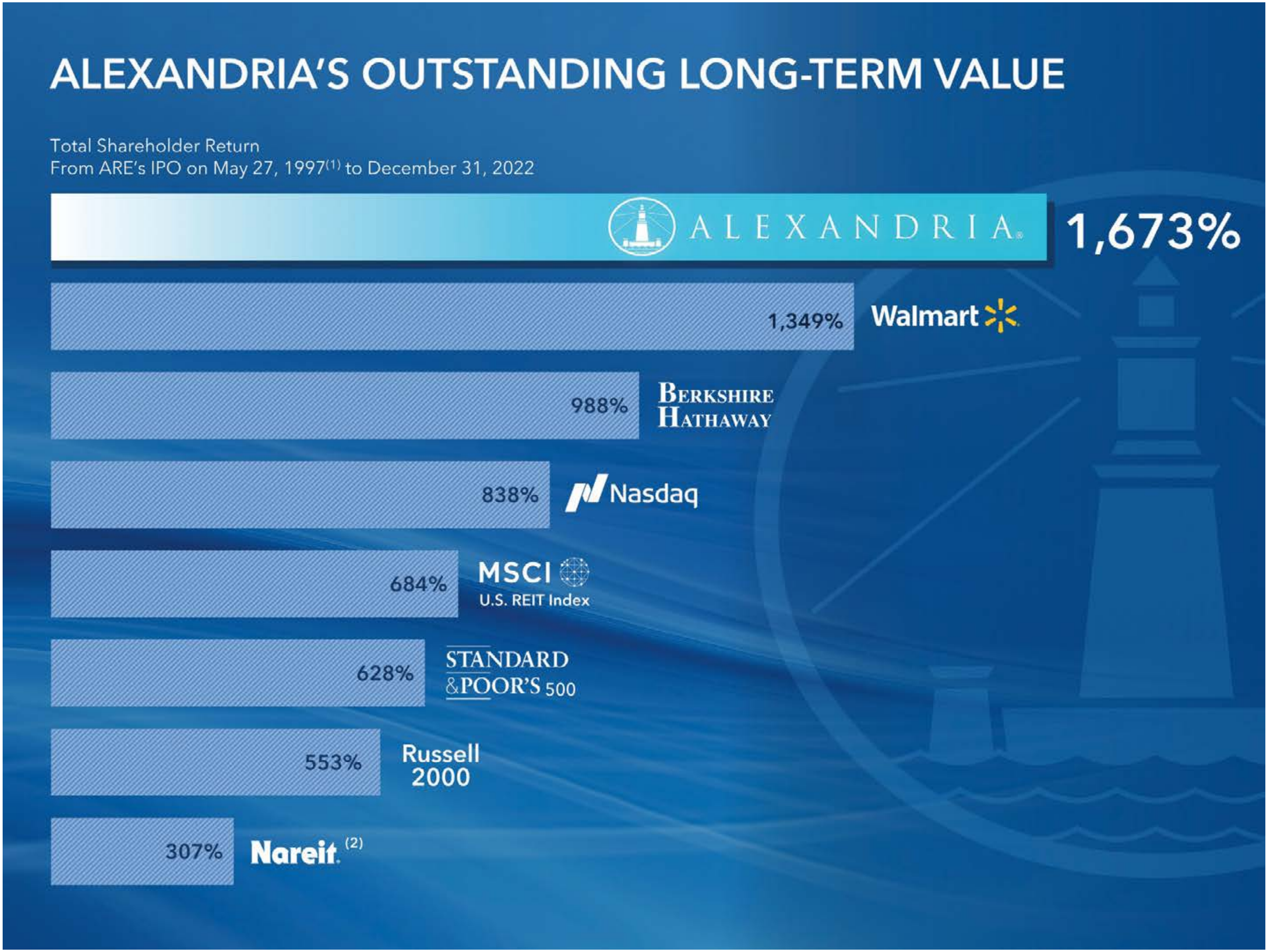
ITEM 6. [RESERVED]

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 within this "Item 7. Management's discussion and analysis of financial condition and results of operations" 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," "ARE," "we," "us," and "our" refer to Alexandria Real Estate Equities, Inc. and its consolidated subsidiaries.

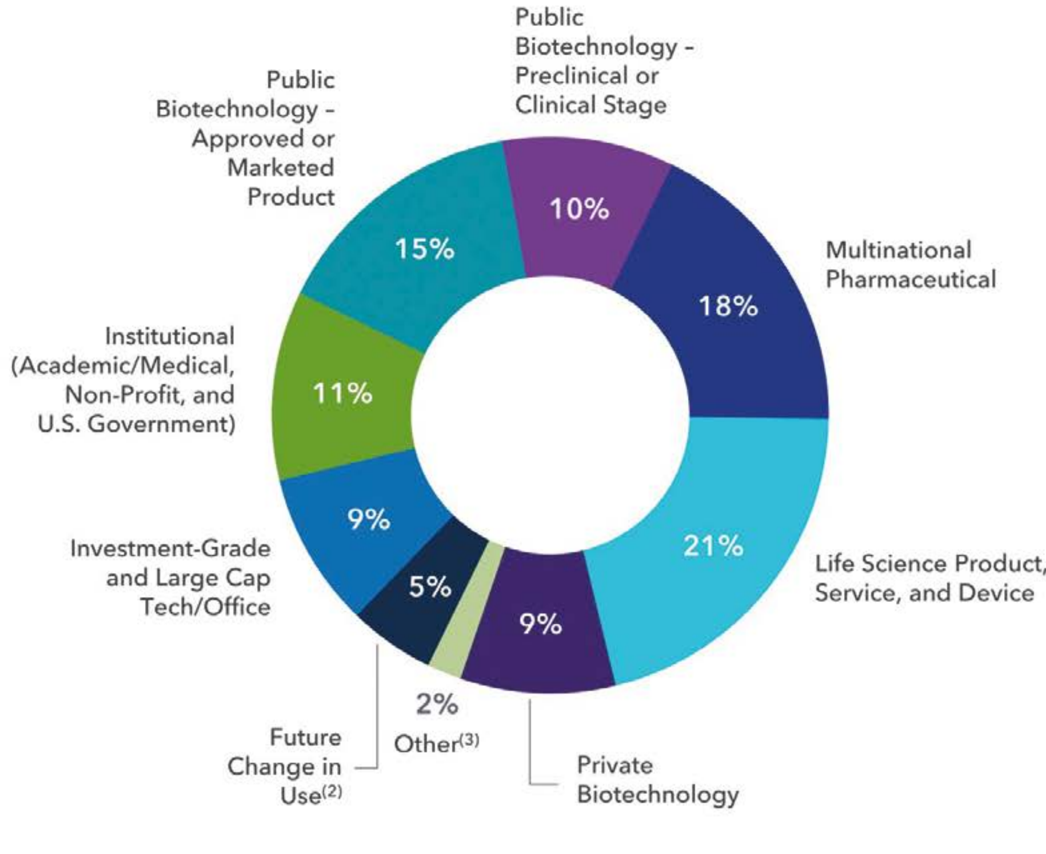

2022
ALEXANDRIA'S
ACHIEVEMENT OF HISTORIC
MILESTONES
Reflecting our best-in-class team's discipline,
operational excellence, and flexibility to execute



Sources: Bloomberg and S&P Global Market Intelligence. Assumes reinvestment of dividends.
(1) Alexandria's IPO priced at $20.00 per share on May 27, 1997.
(2) Represents the FTSE Nareit Equity Office Index.

As of December 31, 2022.
(1) Quarter annualized. Refer to "Net debt and preferred stock to Adjusted EBITDA" in the "Non-GAAP measures and definitions" section within this Item 7 for additional details.

ALEXANDRIA'S REIT INDUSTRY-LEADING CLIENT BASE OF APPROXIMATELY 1,000 TENANTS DRIVES STABLE, LONG-DURATION CASH FLOWS



PERCENTAGE OF ARE'S ANNUAL RENTAL REVENUE[4]

90%

of Top 20 Tenants Annual Rental Revenue as of 4Q22 Is From Investment-Grade or Publicly Traded Large Cap Tenants[1]

81%

of 4Q22 Leasing Activity Was Generated From Existing Tenants

>80%

Average Retention of Existing Tenants Over the Past Five Years

As of December 31, 2022.

(1) Represents the percentage of our annual rental revenue generated by our top 20 tenants that are also investment-grade or publicly traded large cap tenants. Refer to "Annual rental revenue" and "Investment-grade or publicly traded large cap tenants" in the "Non-GAAP measures and definitions" section within this Item 7 for additional details.

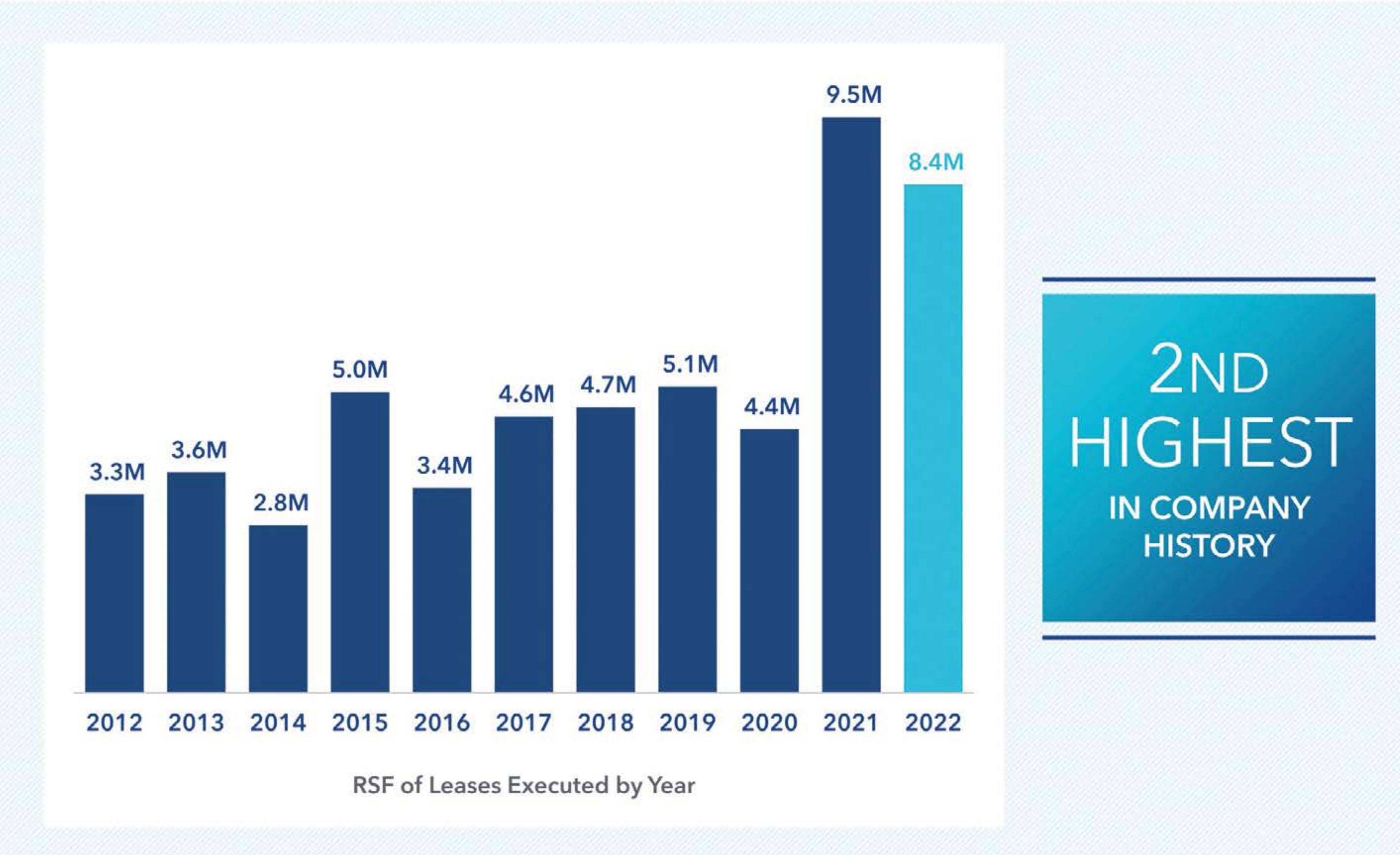
(2) Represents annual rental revenue currently generated from space that is targeted for a future change in use, including 1.1% of total annual rental revenue that is generated from covered land play projects. The weighted-average remaining term of these leases is 5.2 years.

(3) Our other tenants, which aggregate 2.0% of our annual rental revenue, comprise technology, professional services, finance, telecommunications, and construction/real estate companies and less than 1.0% of retail-related tenants by annual rental revenue.

(4) Represents annual rental revenue in effect as of December 31, 2022. Refer to "Annual rental revenue" in the "Non-GAAP measures and definitions" section within this Item 7 for additional details.

ALEXANDRIA'S CONTINUED OPERATIONAL EXCELLENCE DRIVES STRONG LEASING ACTIVITY IN 2022

Leasing volume of 8.4M RSF represents the second-highest annual leasing volume year in Company history, with 74% generated from our client base of approximately 1,000 tenants

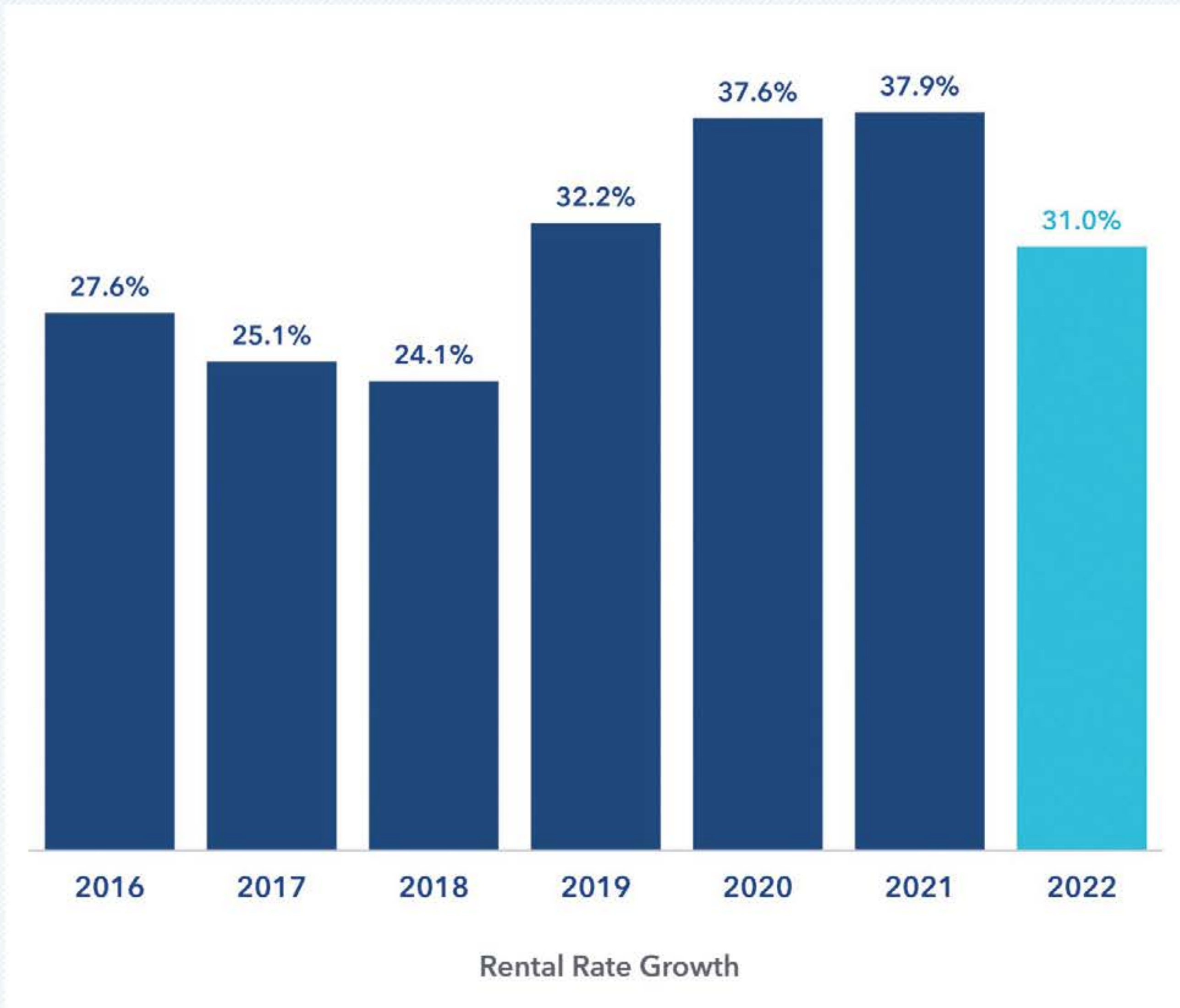


ALEXANDRIA'S SOLID LEASING ACTIVITY CONTINUES TO SURPASS QUARTERLY AVERAGES

During 4Q22, we completed 2.0 million RSF of leasing activity, 81% of which was generated from our client base of approximately 1,000 tenants

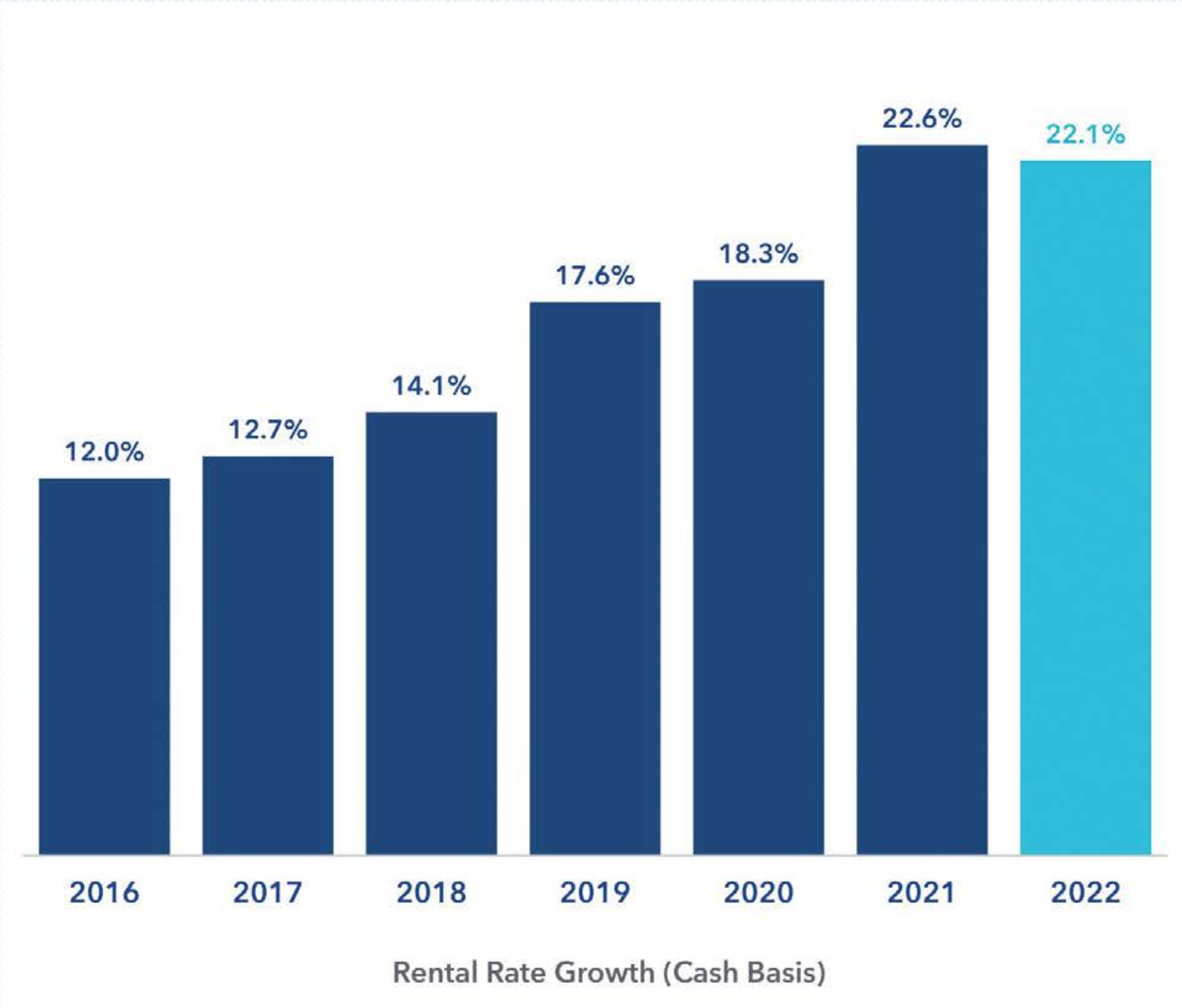
ALEXANDRIA'S SOLID RENTAL RATE INCREASES CONTINUE IN 2022

Rental rate increases of 31.0% on lease renewals and re-leasing of space represent the fourth-highest rental rate increase in Company history



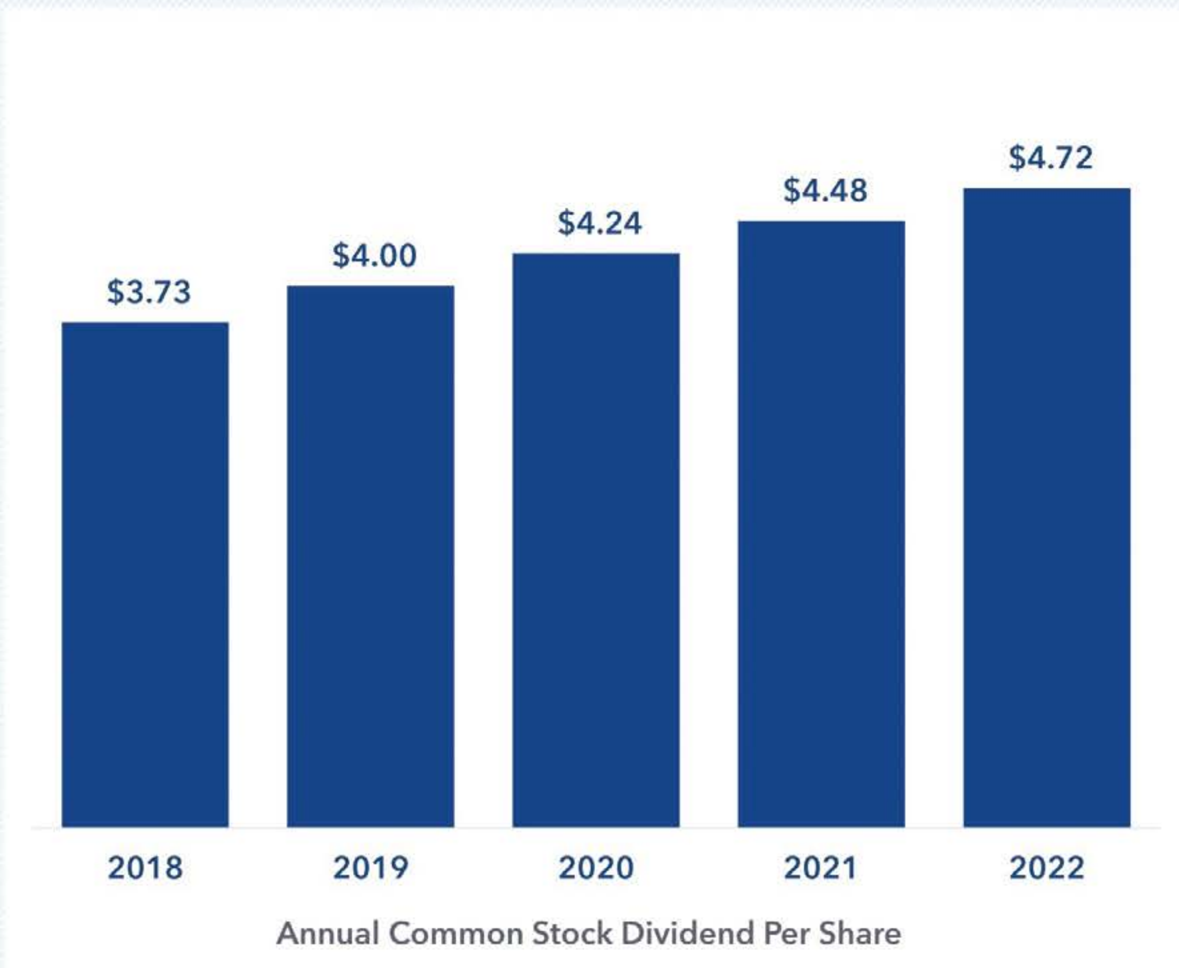
ALEXANDRIA'S SOLID RENTAL RATE INCREASES (CASH BASIS) CONTINUE IN 2022

Rental rate increases of 22.1% (cash basis) on lease renewals and re-leasing of space represent the second-highest rental rate increase (cash basis) in Company history



2ND HIGHEST IN COMPANY HISTORY

ALEXANDRIA'S HISTORICALLY STRONG, CONSISTENT, AND INCREASING DIVIDENDS WITH A FOCUS ON RETAINING SIGNIFICANT CASH FLOWS FROM OPERATING ACTIVITIES AFTER DIVIDENDS FOR REINVESTMENT



DIVIDEND YIELD

3.3%[(1)]

LAST 5 YEARS

6.5%

Average Annual Dividend Per-Share Growth

$1.6B

Cash Flows From Operating Activities After Dividends Retained for Reinvestment

(1) Based on the closing price of common stock as of December 31, 2022 of $145.67 and the common stock dividend declared for the three months ended December 31, 2022 of $1.21 annualized.

ALEXANDRIA CAPITALIZED ON STRONG VALUATIONS IN THE PRIVATE MARKET BY SOURCING SIGNIFICANT EQUITY-TYPE CAPITAL FOR REINVESTMENT IN 2022

Significant Realized Value and Strong Cap Rates

2022 REAL ESTATE DISPOSITIONS AND PARTIAL INTEREST SALES

$2.2 BILLION
SALES PRICE[(1)]

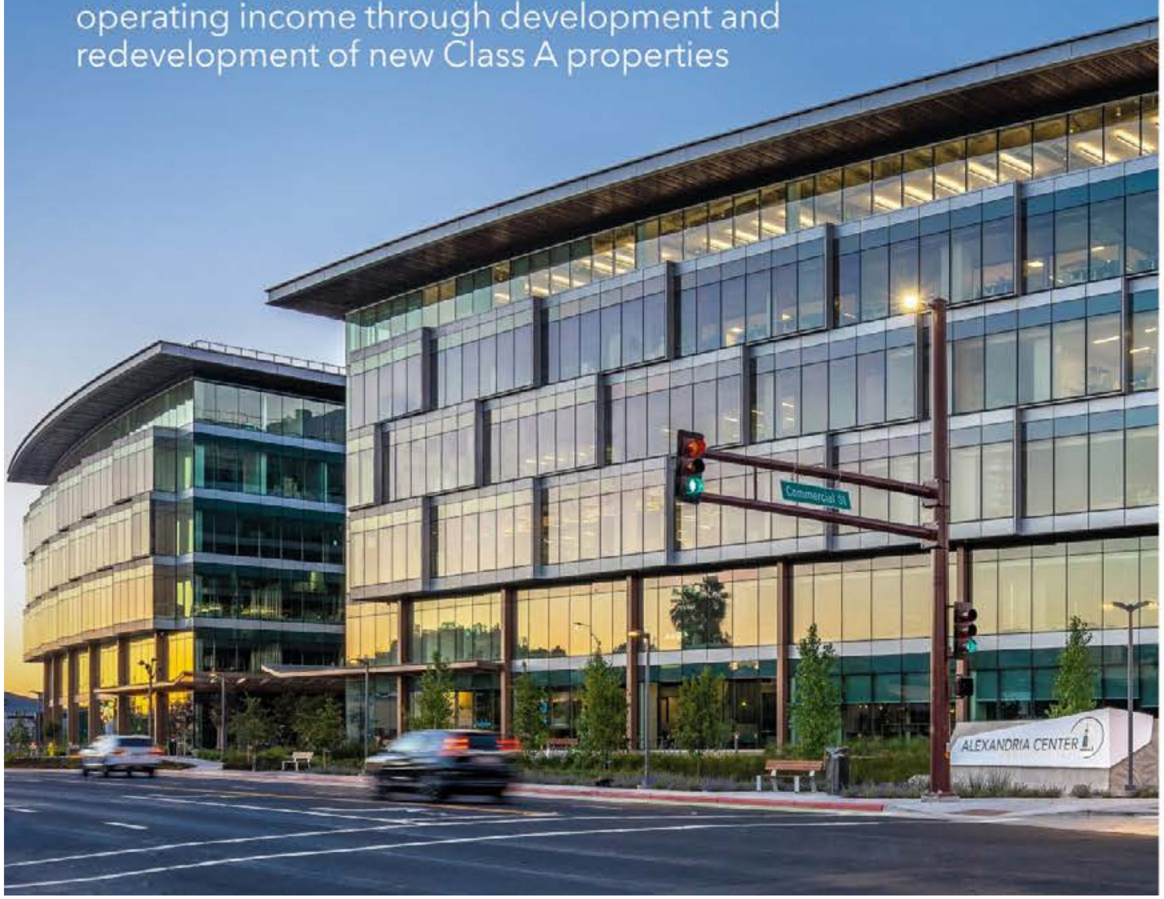
$1.2 BILLION
GAIN[(2)]

4.5% 4.4%
(CASH)
CAP RATE[(3)]

(1) Includes initial proceeds from our joint venture partners' contribution toward construction projects.
(2) Represents the aggregate gain and consideration in excess of book value recognized on dispositions and partial interest sales, respectively.
(3) Represents the weighted-average capitalization rates for stabilized operating assets.

DEMAND FOR ALEXANDRIA'S BRAND TRANSLATES INTO A HIGHLY LEASED PIPELINE AND NEAR-TERM NET OPERATING INCOME GROWTH

Alexandria's highly leased value-creation pipeline is expected to generate significant incremental net operating income through development and redevelopment of new Class A properties



VISIBILITY FOR FUTURE GROWTH IN ANNUAL INCREMENTAL NET OPERATING INCOME

Commenced From 4Q22 Deliveries

$28M

497,755 RSF
83% Leased

Primarily Commencing 1Q23 Through 4Q25

$655M

7.6M RSF [(1)]
72% Leased

Refer to "Net operating income" in the "Non-GAAP measures and definitions" section within this Item 7 for additional details and its reconciliation from the most directly comparable financial measures presented in accordance with GAAP.

(1) As of December 31, 2022. Represents projects under construction aggregating 5.6 million RSF and seven near-term projects aggregating 2.0 million RSF expected to commence construction during the next four quarters.

TOP 10% Credit Rating Ranking Among All Publicly Traded U.S. REITs (1)

ARE
S&P 500

BBB+

Positive (1)

S&P Global Ratings

Baa1

Stable (1)

Moody's Investors Service

(1) A credit rating is not a recommendation to buy, sell, or hold securities and may be subject to revision or withdrawal at any time. Top 10% ranking represents credit rating levels from Moody's Investors Service and S&P Global Ratings for publicly traded U.S. REITs, from Bloomberg Professional Services as of December 31, 2022.

ALEXANDRIA'S IMPRESSIVE KEY BALANCE SHEET ACCOMPLISHMENTS IN 2022

- INCREASED LINE OF CREDIT CAPACITY TO $4.0B AND EXTENDED TERM
- ISSUED BONDS AGGREGATING $1.8B AT 3.28% FOR AVERAGE TERM OF 22 YEARS
- COMPLETED $2.2B OF DISPOSITIONS
- EXTENDED WEIGHTED-AVERAGE DEBT TERM TO 13.2 YEARS
- 4Q22 ACHIEVED LEVERAGE OF 5.1x[(1)], LOWEST RATIO IN COMPANY HISTORY

As of December 31, 2022.

(1) Quarter annualized. Refer to "Net debt and preferred stock to Adjusted EBITDA" in the "Non-GAAP measures and definitions" section within this Item 7 for additional details.

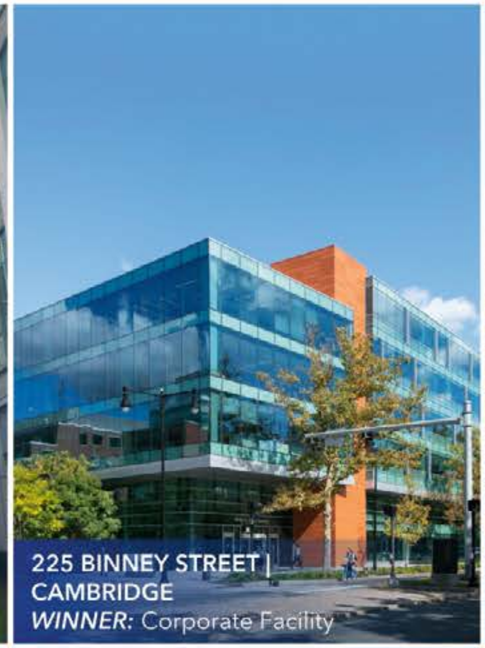
ALEXANDRIA'S CONTINUED EXCELLENCE IN DEVELOPMENT, OPERATIONS, AND ASSET MANAGEMENT

BOMA TOBY AWARDS

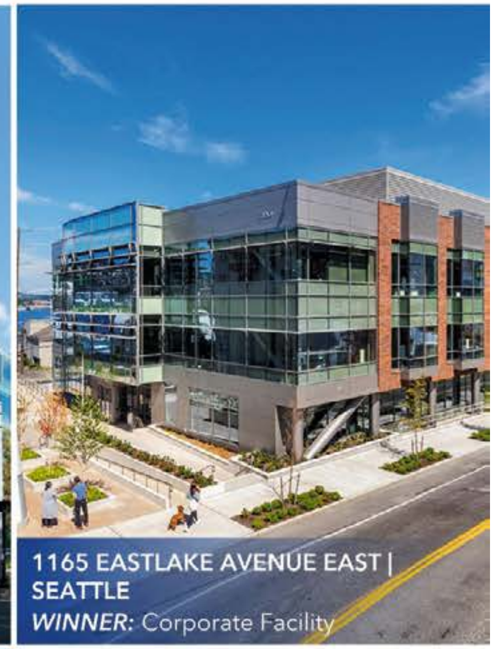
CONGRATULATIONS TO OUR GREATER BOSTON, SEATTLE, AND RESEARCH TRIANGLE TEAMS

The TOBY Awards recognize quality in commercial buildings and reward excellence in building management

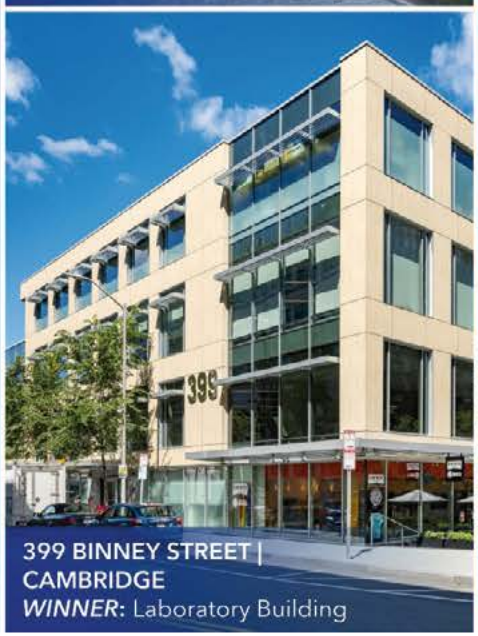
ONE KENDALL SQUARE - BUILDINGS 600/700 | CAMBRIDGE
WINNER: Renovated Building



225 BINNEY STREET | CAMBRIDGE
WINNER: Corporate Facility



1165 EASTLAKE AVENUE EAST | SEATTLE
WINNER: Corporate Facility



399 BINNEY STREET | CAMBRIDGE
WINNER: Laboratory Building

700 TECHNOLOGY SQUARE | CAMBRIDGE
WINNER: Building Under 100,000 SF

9 LABORATORY DRIVE | RESEARCH TRIANGLE
WINNER: Life Science

Executive summary

Operating results

	Year Ended December 31,	
	2022	2021
Net income attributable to Alexandria's common stockholders – diluted:		
In millions	$ 513.3	$ 563.4
Per share	$ 3.18	$ 3.82
Funds from operations attributable to Alexandria's common stockholders – diluted, as adjusted:		
In millions	$ 1,361.7	$ 1,144.9
Per share	$ 8.42	$ 7.76

The operating results shown above include certain items related to corporate-level investing and financing decisions. For additional information, 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 and to the tabular presentation of these items in the "Results of operations" section within this Item 7 in this annual report on Form 10-K.

An operationally excellent, industry-leading REIT with a high-quality client base of approximately 1,000 tenants supporting high-quality revenues, cash flows, and strong margins

Percentage of total annual rental revenue in effect from investment-grade or publicly traded large cap tenants	48%	
Sustained strength in tenant collections:		
Tenant receivables as of December 31, 2022	$ 7.6	million
January 2023 tenant rent and receivables collected as of the date of this report	99.4%	
Occupancy of operating properties in North America	94.8%	
Operating margin	70%	(1)
Adjusted EBITDA margin	69%	(1)
Weighted-average remaining lease term:		
All tenants	7.1	years
Top 20 tenants	9.4	years

(1) For the three months ended December 31, 2022.

Second-highest annual leasing volume and rental rate increases (cash basis)

- Annual leasing volume of 8.4 million RSF in 2022 represents the second highest in Company history, with 74% generated from our client base of approximately 1,000 tenants.
- Rental rate increase (cash basis) of 22.1% on lease renewals and re-leasing of space represents the second highest rental rate growth (cash basis) in Company history.

	2022
Total leasing activity – RSF	8,405,587
Leasing of development and redevelopment space – RSF	2,828,539
Lease renewals and re-leasing of space:	
RSF (included in total leasing activity above)	4,540,325
Rental rate increases	31.0%
Rental rate increases (cash basis)	22.1%

Continued strong net operating income and internal growth, including highest annual same property growth in Company history

- Total revenues of $2.6 billion, up 22.5%, for the year ended December 31, 2022, compared to $2.1 billion for the year ended December 31, 2021.
- Net operating income (cash basis) of $1.6 billion for the year ended December 31, 2022, increased by $292.8 million, or 22.2%, compared to the year ended December 31, 2021.
- 96% of our leases contain contractual annual rent escalations approximating 3%.
- Same property net operating income growth of 6.6% and 9.6% (cash basis) for the year ended December 31, 2022, compared to the year ended December 31, 2021, with both increases representing the highest growth in Company history.
- Our 2022 same property growth outperformed our 10-year averages of 3.6% and 6.7% (cash basis) as a result of an increase in same property occupancy of 100 bps and early lease renewals that commenced in late 2021/early 2022.

Continued strong, consistent, and increasing dividends with a focus on retaining significant net cash flows from operating activities after dividends for reinvestment

- Common stock dividend declared for the three months ended December 31, 2022 was $1.21 per common share, aggregating $4.72 per common share for the year ended December 31, 2022, up 24 cents, or 5%, over the year ended December 31, 2021.
- Dividend yield of 3.3% as of December 31, 2022.
- Dividend payout ratio of 58% for the three months ended December 31, 2022.
- Average annual dividend per-share growth of 6.5% over the last five years.

Alexandria's value-creation pipeline drives visibility for future growth aggregating over $655 million of incremental net operating income

- Highly leased value-creation pipeline of current and seven near-term projects expected to generate greater than $655 million of incremental net operating income, primarily commencing from the first quarter of 2023 through the fourth quarter of 2025.
  - 7.6 million RSF of value-creation projects, which are 72% leased.
  - 77% of the leased RSF of our value-creation projects was generated from our client base of approximately 1,000 tenants.

External growth and investments in real estate

Delivery and commencement of value-creation projects

- During the three months ended December 31, 2022, we placed into service development and redevelopment projects aggregating 497,755 RSF across multiple submarkets, resulting in $28 million of incremental annual net operating income.
- Annual net operating income (cash basis) is expected to increase by $57 million upon the burn-off of initial free rent from recently delivered projects.
- Commenced two development projects aggregating 467,567 RSF during the three months ended December 31, 2022, including 212,796 RSF at 1450 Owens Street in our Mission Bay submarket, which will be 100% funded by our joint venture partner, and 254,771 RSF at 10075 Barnes Canyon Road in our Sorrento Mesa submarket, which will be 50% funded by our joint venture partner.

Value-creation pipeline of new Class A development and redevelopment projects as a percentage of gross assets	December 31, 2022
Under construction projects 68% leased/negotiating	10%
Near-term projects expected to commence construction in the next four quarters 88% leased	2%
Income-producing/potential cash flows/covered land play(1)	7%
Land	3%

(1) Includes projects that have existing buildings that are generating or can generate operating cash flows. Also includes development rights associated with existing operating campuses. These projects aggregate 1.1% of total annual rental revenue as of December 31, 2022 and are included in targeted for a future change in use in our industry mix chart. Refer to "High-quality and diverse client base in AAA locations" under Item 2 in this annual report on Form 10-K.

- 81% of construction costs related to active development and redevelopment projects aggregating 5.6 million RSF are under a guaranteed maximum price ("GMP") contract or other fixed contracts. Our budgets also include construction cost contingencies in GMP contracts plus additional landlord contingencies that generally range from 3% to 5%.

Alexandria is at the vanguard of innovation for a high-quality client base of approximately 1,000 tenants, focused on accommodating their current needs and providing them with a path for future growth

- During the year ended December 31, 2022, we completed acquisitions in our key life science cluster submarkets aggregating 10.2 million SF, which comprise 9.5 million RSF of value-creation opportunities and 0.7 million RSF of operating space, for an aggregate purchase price of $2.8 billion.

Execution of capital strategy

2022 capital strategy

During 2022, we continued to execute on many of the long-term components of our capital strategy, as described below.

Maintained access to diverse sources of capital strategically important to our long-term capital structure

- Generated significant net cash flows from operating activities
  - In 2022, we funded approximately $460 million of our equity capital needs with net cash flows from operating activities after dividends.
- Continued strategic value harvesting through real estate dispositions and partial interest sales
  - In 2022, these sales generated $2.2 billion of capital for investment into our highly leased development and redevelopment projects and strategic acquisitions. In connection with these transactions, we recorded gains or consideration in excess of book value aggregating $1.2 billion.
- Achieved significant growth in annualized Adjusted EBITDA of $215.7 million, or 13%, for the year ended December 31, 2022 compared to the year ended December 31, 2021, which allowed us to:
  - Improve our net debt and preferred stock to Adjusted EBITDA ratio to 5.1x, representing the lowest ratio in Company history, for the three months ended December 31, 2022 annualized, and fund $1.2 billion of growth on a leverage-neutral basis; and
  - Take advantage of favorable capital market environment and opportunistically issue, on a leverage-neutral basis, unsecured senior notes payable aggregating $1.8 billion with a weighted-average interest rate of 3.28% and an initial weighted-average term of 22.0 years.
- Continued disciplined management of common equity issuances to support growth in FFO per share, as adjusted, and NAV per share
  - In 2022, the aforementioned internally generated capital enabled us to meet our capital requirements while prudently limiting the amount of equity issuances to 12.9 million shares of common stock sold under our forward equity sales agreements and ATM common stock offering program for net proceeds of $2.5 billion.

Maintained a strong and flexible balance sheet with lowest leverage in Company history as of December 31, 2022

- Investment-grade credit ratings ranked in the top 10% among all publicly traded U.S. REITs.
- Net debt and preferred stock to Adjusted EBITDA of 5.1x, the lowest ratio in Company history, and fixed-charge coverage ratio of 5.0x for the three months ended December 31, 2022 annualized.
- Total debt and preferred stock to gross assets of 25%.
- 99.4% of our debt has a fixed rate.
- 13.2 years weighted-average remaining term of debt.
- No debt maturities prior to 2025.
- No remaining LIBOR-based debt ahead of June 2023 phase-out.
- $5.3 billion of liquidity.
- $24.9 billion in total equity capitalization, which ranks in the top 10% among all publicly traded U.S. REITs.
- $1.4 billion of contractual construction funding commitments from existing real estate joint venture partners expected over the next four years.

Completion of unsecured senior line of credit amendment to upsize and extend term

- In 2022, we amended our unsecured senior line of credit with the following key changes:

	New Agreement	Change
Commitments available for borrowing	$4.0 billion	Up $1.0 billion
Maturity date	January 2028	Extended by 2 years
Interest rate	SOFR+0.875%	Converted to SOFR from LIBOR

2023 capital strategy

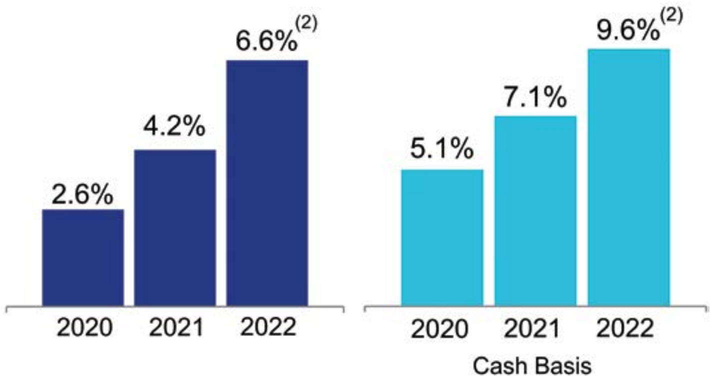
During 2023, we intend to continue to execute our capital strategy to achieve further improvements to our credit profile, which will allow us to further improve our cost of capital and continue our disciplined approach to capital allocation. Consistent with 2022, our capital strategy for 2023 includes the following elements:

- Allocate capital to Class A properties located in life science, agtech, and tech campuses in AAA urban innovation clusters.
- Maintain prudent access to diverse sources of capital, which include net cash flows from operating activities after dividends, incremental leverage-neutral debt supported by growth in Adjusted EBITDA, strategic value harvesting and asset recycling through real estate disposition and partial interest sales, non-real estate investment sales, sales of equity, and other capital.
- Continue to improve our credit profile.
- Maintain commitment to long-term capital to fund growth.
- Prudently ladder debt maturities and manage short-term variable-rate debt.
- Prudently manage equity investments to support corporate-level investment strategies.
- Maintain a stable and flexible balance sheet with significant liquidity.

The anticipated delivery of significant incremental EBITDA from our development and redevelopment of new Class A properties is expected to enable us to continue to debt fund a significant portion of our development and redevelopment projects on a leverage-neutral basis. We expect to continue to maintain access to diverse sources of capital, including unsecured senior notes payable and 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. 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 equity capital. For further information, refer to “Projected results, Sources of capital,” and “Uses of capital” within this Item 7. Our ability to meet our 2023 capital strategy objectives and expectations will depend in part on capital market conditions, real estate market conditions, and other factors beyond our control. Accordingly, there can be no assurance that we will be able to achieve these objectives and expectations. Refer to our discussion of “Forward-looking statements” under Part I and “Item 1A. Risk factors” in this annual report on Form 10-K.

Operating summary

Historical Same Property Net Operating Income Growth[1]



Favorable Lease Structure[3]

Strategic Lease Structure by Owner and Operator of Collaborative Life Science, Agtech, and Technology Campuses

Increasing cash flows

Percentage of leases containing annual rent escalations — **96%**

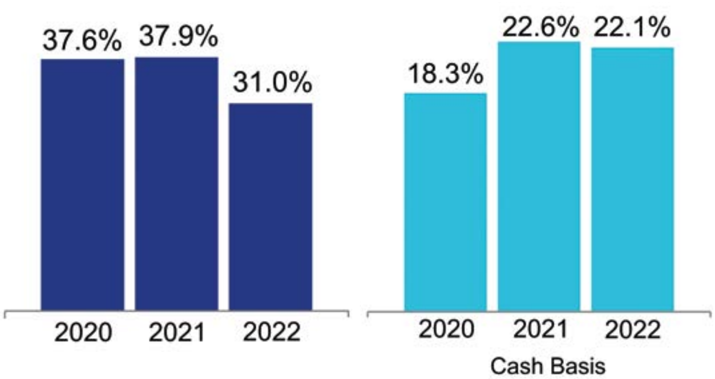
Stable cash flows

Percentage of triple net leases — **93%**

Lower capex burden

Percentage of leases providing for the recapture of capital expenditures — **93%**

Historical Rental Rate Growth: Renewed/Re-Leased Space



Margins[4]

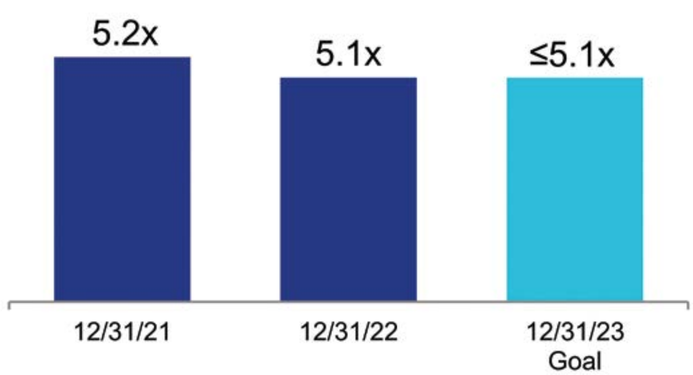
Operating

70%

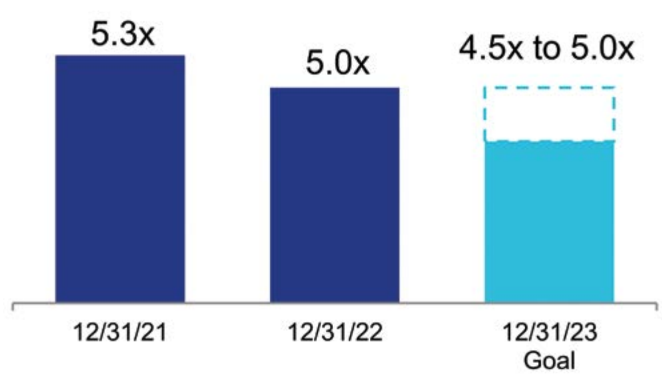
Adjusted EBITDA

69%

Net Debt and Preferred Stock to Adjusted EBITDA[5]



Fixed-Charge Coverage Ratio[5]



(1) Refer to “Same properties” and “Non-GAAP measures and definitions“ within this Item 7 for additional details. “Non-GAAP measures and definitions” contains the definition of “Net operating income” and its reconciliation from the most directly comparable financial measures presented in accordance with GAAP.
(2) Our 2022 same property growth outperformed our 10-year averages of 3.6% and 6.7% (cash basis) as a result of an increase in same property occupancy of 100 bps and early lease renewals that commenced in late 2021/early 2022.
(3) Percentages calculated based on annual rental revenue in effect as of December 31, 2022.
(4) Represents percentages for the three months ended December 31, 2022.
(5) Quarter annualized. Refer to the definitions of “Net debt and preferred stock to Adjusted EBITDA” and “Fixed-charge coverage ratio” in the “Non-GAAP measures and definitions” section within this Item 7 for additional details.

Industry and ESG leadership: catalyzing and leading the way for positive change to benefit human health and society

- In January 2022, Alexandria Venture Investments, our strategic venture capital platform, was recognized by Silicon Valley Bank in its “Healthcare Investments and Exits: Annual Report 2021” as the #1 most active corporate investor in biopharma by new deal volume (2020-2021) for the fifth consecutive year. In March 2022, Alexandria Venture Investments was also recognized by AgFunder in its “2022 AgriFoodTech Investment Report” as one of the five most active U.S. Investors in agrifoodtech by number of companies in which it invested (2021) for the second consecutive year.
- Several of Alexandria’s facilities and campuses across our regions received awards in honor of excellence in operations, development, and design:
  - 200 Technology Square on our Alexandria Technology Square® mega campus in our Cambridge/Inner Suburbs submarket earned a 2022 BOMA Mid-Atlantic TOBY (The Outstanding Building of the Year) award in the Corporate Category. The TOBY Awards honor and recognize quality in building operations and award excellence in building management.
  - Our Alexandria Center® for AgTech campus in our Research Triangle submarket was named Top Flex/Warehouse Development in the *Triangle Business Journal*’s 2022 SPACE Awards. The annual SPACE Awards recognize the Research Triangle’s top real estate developments and transactions.
  - 685 Gateway Boulevard, an amenities building on our Alexandria Technology Center® – Gateway mega campus in our South San Francisco submarket, which is on track to achieve Zero Energy Certification, was awarded one of 10 national awards issued by WoodWorks – Wood Products Council in the 2022 Wood Design Awards, an annual awards program that celebrates excellence in wood building design.
- In February 2022, Alexandria earned the first-ever Fitwel Life Science certification for 300 Technology Square, located on our Alexandria Technology Square® mega campus in our Cambridge/Inner Suburbs submarket. The new rigorous, evidence-based Fitwel Life Science Scorecard – developed in partnership with the Center for Active Design exclusively for Alexandria – is the first healthy building framework dedicated to laboratory facilities, marking another pioneering effort by the Company to prioritize tenant health and wellness and further differentiate our world-class laboratory buildings.
- In February 2022, Alexandria was ranked the #5 most sustainable REIT, as featured in the *Barron’s* article, “10 Real Estate Companies That Are Both Greener and More Profitable.”
- In March 2022, Alexandria’s executive chairman and founder, Joel S. Marcus, was honored by the National Medal of Honor Museum Foundation in Arlington, Texas during a groundbreaking ceremony in celebration of the historic mission-critical milestone in the development of the national museum. Mr. Marcus, who serves on the foundation’s board of directors, attended alongside fellow foundation board members, major museum donors, government officials, and 15 Medal of Honor recipients to commemorate the foundation’s remarkable progress toward its goal to build a permanent home where the inspiring stories of our country’s Medal of Honor recipients will be brought to life.
- In April 2022, 9880 Campus Point Drive, a 98,000 RSF development on the Campus Point by Alexandria mega campus in our University Town Center submarket, earned LEED Platinum certification, the highest level of certification under the U.S. Green Building Council’s Core & Shell rating system. Home to Alexandria GradLabs®, a dynamic proprietary platform purpose-built to accelerate the growth of promising post-seed-stage life science companies, the cutting-edge facility demonstrates high levels of sustainability, including decreased water consumption, significantly reduced energy use, and increased use of recycled resources and materials.
- In June 2022, we released our 2021 ESG Report, which highlights our longstanding ESG leadership. The report details our efforts to advance our ESG impact, including by driving high-performance building design and operations to reduce carbon emissions, mitigating climate-related risk in our real estate portfolio, and investing in and providing essential infrastructure for sustainable agrifoodtech companies. It also showcases Alexandria’s comprehensive efforts to catalyze the health, wellness, safety, and productivity of our employees, tenants, local communities, and the world through the built environment and beyond, including through our visionary social responsibility endeavors. Notable initiatives presented in the report that highlight our innovative approach include:
  - Furthering the development of our approach to physical and transitional climate-related risk by initiating a process to assess and understand potential physical risk and pathways to mitigate and adapt to climate change, as well as preparing for the transition to a low-carbon economy and continuing to develop science-based targets;
  - Implementing innovative solutions to minimize fossil fuel use in our state-of-the-art laboratory development projects, such as at 325 Binney Street, which will harness geothermal energy to target a LEED Zero Energy certification and a 92% reduction in fossil fuel use as a key component of its design to be the most sustainable laboratory building in Cambridge; at 751 Gateway Boulevard, which is pursuing electrification and is tracking to be the first all-electric laboratory building in South San Francisco; and at our Alexandria Center® for Life Science – South Lake Union mega campus in Seattle, where the Company is incorporating an innovative wastewater heat recovery system; and
  - Increasing our investment in renewable electricity to mitigate carbon emissions in our existing asset base, including through a large-scale solar power purchase agreement that will significantly increase the supply of renewable electricity to our Greater Boston market starting in 2024.
- In July 2022, Alexandria Venture Investments was recognized as the #1 most active corporate investor in biopharma by new deal volume (2021-1H22) for the fifth consecutive year by Silicon Valley Bank in its “Healthcare Investments and Exits: Mid-Year 2022 Report.” Alexandria’s venture activity provides us with, among other things, mission-critical data and insights into industry innovations and trends.

- In September 2022, coinciding with National Suicide Prevention Month, we announced our deepened partnership with KITA, a non-profit providing tuition-free summer camp for children who have lost a loved one to suicide, and the advancement of our eighth social responsibility pillar addressing the mental health crisis. Through Alexandria's significant support, KITA will have free, long-term access to 28 acres in Acton, Maine that will serve as the non-profit's new home and enable it to grow its program and increase the number of children it serves.
- In October 2022, Alexandria continued to enhance its first social responsibility pillar focused on advancing human health by empowering NEXT for AUTISM's development of important support services for autistic individuals and their families. Alexandria has been forging strategically supportive partnerships with highly impactful organizations that aim to accelerate groundbreaking medical innovation to advance vitally needed therapies for individuals with autism.
- In October 2022, Alexandria's position as a groundbreaking leader in ESG was reinforced in the 2022 GRESB Real Estate Assessment, with several achievements, including (i) Regional and Global Sector Leader for buildings in development in the Science & Technology sector, (ii) #2 ranking for buildings in operation in the Diversified Listed sector, and (iii) "A" disclosure score for the fifth consecutive year. Alexandria has earned "Green Star" recognitions in the operating asset benchmark for the sixth consecutive year and in the development benchmark for the third consecutive year since its 2020 launch.
- In October 2022, Alexandria was recognized as a Climate Leader by the Sponsors of Mass Save®, a collaborative of the energy utilities and energy efficiency service providers in Massachusetts. Utilizing these programs in our Greater Boston market, we have implemented over 65 energy conservation projects across more than 40 buildings over the last 10 years, resulting in estimated recurring annual energy savings of over 5 million kWh. Alexandria was the only real estate company to be selected in the inaugural cohort of honorees.
- In October 2022, Mr. Marcus, as a newly appointed member of the Prix Galien USA's esteemed Awards jury, honored groundbreaking medical innovations in life science. He served on the Prix Galien committee, alongside other influential science leaders, that recognized the Best Startup, Best Digital Health Solution and the inaugural Best Incubators, Accelerators and Equity.
- In October 2022, 9880 Campus Point Drive on the Campus Point by Alexandria mega campus in our University Town Center submarket received an Orchid award for Architecture from the San Diego Architectural Foundation, and a People's Choice Orchid. The facility is home to Alexandria GradLabs®, a dynamic platform that is accelerating the growth of promising early-stage life science companies.
- Alexandria is addressing some of today's most urgent societal challenges through our eight social responsibility pillars, including the mental health crisis and opioid addiction. In October 2022:
  - Alexandria presented a timely conversation on the state of mental health in America with former congressman Patrick J. Kennedy, one of the world's leading voices and policymakers on mental health, at the Galien Forum USA 2022, which was held at the Alexandria Center® for Life Science – New York City.
  - OneFifteen, a novel, data-driven comprehensive care model we developed in partnership with Verily, celebrated its third anniversary of the campus's opening in Dayton, Ohio. OneFifteen has treated over 5,800 patients since opening its doors in October 2019.
- In November 2022, our executive chairman and founder, Joel S. Marcus, presented at the much-anticipated Annual Baron Investment Conference for a rare second time. Mr. Marcus opened the program with a presentation on what renowned author and business strategist Jim Collins describes as our "Superior Results, Distinctive Impact, and Lasting Endurance."
- In November 2022, Alexandria earned several 2022 TOBY (The Outstanding Building of the Year) Awards from BOMA (Building Owners and Managers Association) in Boston, Seattle, and Raleigh-Durham. The TOBY Awards recognize quality in commercial buildings and reward excellence in building management.
  - In our Cambridge/Inner Suburbs submarket: Four recognitions across three of our premier mega campuses – Alexandria Center® at Kendall Square, Alexandria Center® at One Kendall Square, and Alexandria Technology Square® – for Corporate Facility, Laboratory Building, Renovated Building, and Building Under 100,000 SF categories.
  - In our Lake Union submarket: A recognition for 1165 Eastlake Avenue East on The Eastlake Life Science Campus by Alexandria mega campus in the Corporate Facility category.
  - In our Research Triangle submarket: A recognition for 9 Laboratory Drive on our Alexandria Center® for AgTech campus in the Life Science category.
- In January 2023, Alexandria Venture Investments was recognized by Silicon Valley Bank in its "Healthcare Investments and Exits: Annual Report 2022" as the #1 most active corporate investor in biopharma by new deal volume (2021-2022) for the sixth consecutive year. Alexandria's venture activity provides us with, among other things, mission-critical data on and insights into key macro life science industry and innovation trends.

ALEXANDRIA'S MISSION-DRIVEN AND INDUSTRY-LEADING ESG PROGRAM
ACHIEVEMENTS AND RECOGNITION

GRESB REAL ESTATE sector leader 2022

#1 FOR BUILDINGS IN DEVELOPMENT
Science & Technology

#2 FOR BUILDINGS IN OPERATION
Diversified Listed

"A" DISCLOSURE SCORE
2018-2022

"GREEN STAR" DESIGNATION

OPERATING ASSETS
2017-2022

DEVELOPMENT
2020-2022

S&P Global

TOP 10% ESG RANK[(1)]

CDP DISCLOSURE INSIGHT ACTION

"B" SCORE

TOP 10% ENVIRONMENTAL DISCLOSURE & PERFORMANCE SCORE[(1)]

MSCI

"A" ESG RATING
2021 | 2022

BARRON'S

ONE OF THE MOST SUSTAINABLE U.S. REITs
2021 | 2022

SUSTAINALYTICS

"LOW" ESG RISK

TOP 10% ESG PROFILE[(2)]

2022 mass save™ CLIMATE LEADER

MASS SAVE CLIMATE LEADER
2022

ISS

TOP 10% ENVIRONMENT & SOCIAL SCORES[(3)]

fitwel®

FITWEL IMPACT AWARD
Highest-Scoring Project
2020 | 2021

Bloomberg

TOP 10% SOCIAL SCORE[(4)]

Fitwel® Viral Response Certified DISTINCTION

FITWEL VIRAL RESPONSE
2020 | 2021 | 2022

(1) Reflects current score for Alexandria and latest scores available for the FTSE Nareit All REITs Index companies from Bloomberg Professional Services as of December 31, 2022.
(2) Top 10% ranking among companies included in the Sustainalytics Global Universe, based on information available from Bloomberg Professional Services as of December 31, 2022.
(3) Reflects current scores for Alexandria and latest scores available for the FTSE Nareit All REITs Index companies on ISS's website as of December 31, 2022.
(4) Top 10% ranking among FTSE Nareit All REITs Index companies, based on information available from Bloomberg Professional Services as of December 31, 2022.

ALEXANDRIA'S LONGSTANDING AND RECOGNIZED SUSTAINABILITY LEADERSHIP

Developing and operating efficient and healthy buildings, reducing carbon emissions, and mitigating climate risk

Proactively Managing and Mitigating Climate Risk Using Industry-Leading Guidelines

TCFD | TASK FORCE ON CLIMATE–RELATED FINANCIAL DISCLOSURES

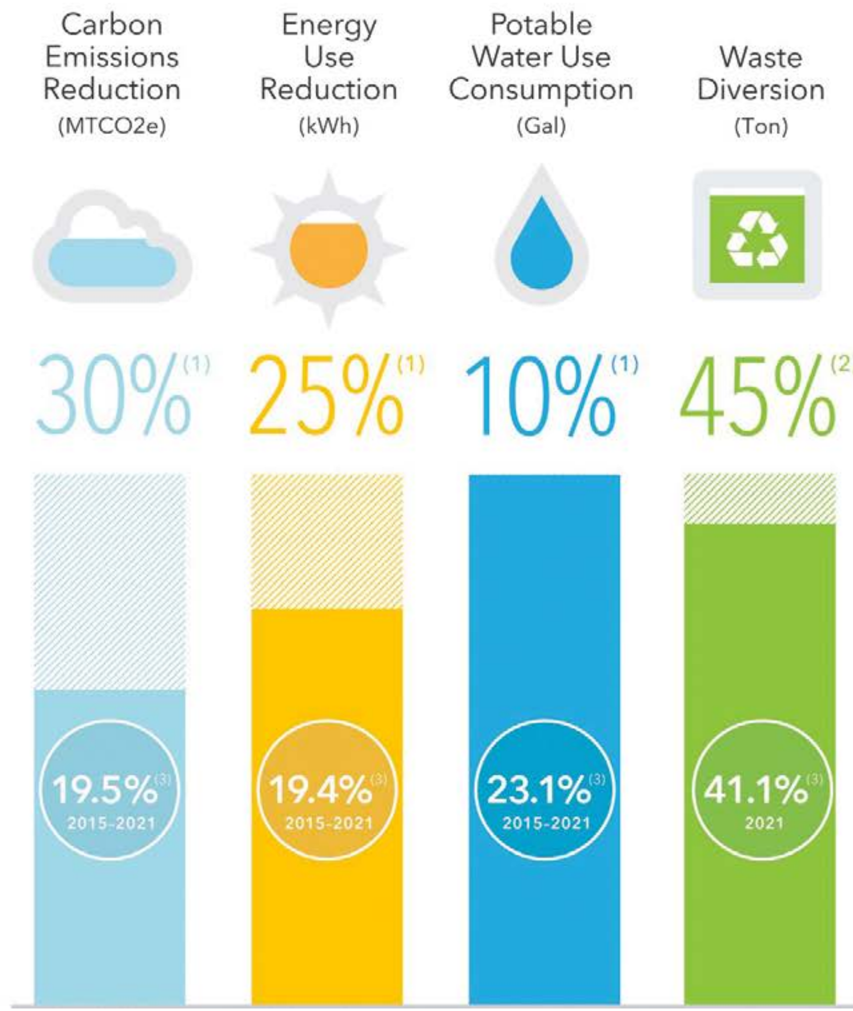
ALEXANDRIA'S CLIMATE RISK ASSESSMENT COVERS

Sea Level Rise | Precipitation | Drought | Extreme Heat | Wildfire

Driving High-Performance Building Design

Proactively Designing All-Electric Buildings

2025 Environmental Goals and Progress for Buildings in Operation



Environmental progress data for 2021 reflected in the chart above received independent limited assurance from DNV Business Assurance USA, Inc.

(1) 2025 environmental goal for Alexandria's cumulative progress relative to a 2015 baseline on a like-for-like basis for buildings in operation that the Company directly manages.
(2) 2025 environmental goal for buildings in operation that Alexandria indirectly and directly manages. In alignment with industry best practice, the Company reports waste diversion annually; the 2025 goal is to achieve a waste diversion rate of at least 45% by 2025.
(3) Progress toward 2025 goals.

ALEXANDRIA'S HIGHLY IMPACTFUL SOCIAL RESPONSIBILITY PILLARS

Developing and implementing collaborative and innovative solutions to some of society's most urgent challenges

Accelerating Medical Innovation to Save Lives

Harnessing Agtech to Combat Hunger & Improve Nutrition

Supporting Our Military & Veterans

Revolutionizing Addiction Treatment

Building Principled Leaders Through Education

Addressing Homelessness

Preserving History & Honoring Our Greatest Heroes

Prioritizing the Mental Health & Suicide Crisis

Climate change and sustainability

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. and some of our properties are located in close proximity to shorelines. To the extent that climate change impacts weather patterns, our markets could experience severe weather, including hurricanes, severe winter storms, wild fires, droughts, and coastal flooding due to increases in storm intensity and rising sea levels. Over time, these conditions could result in declining demand for space at our properties, delays in construction and resulting increased construction costs, or in our inability to operate the buildings at all. Climate change and severe weather 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, and by increasing the costs of energy, maintenance, repair of water and/or wind damage, and snow removal at our properties. We continue to evaluate our asset base for potential exposure to the following climate-related risks: sea level rise and increases in heavy rain, flood, drought, extreme heat, and wildfire. As a part of Alexandria's risk management program, we purchase property insurance to mitigate the risk of extreme weather events and natural disasters. However, our insurance may not adequately cover all of our potential losses. As a result, there can be no assurance that climate change and severe weather will not have a material adverse effect on our properties, operations, or business.

Board of directors and leadership oversight

The Audit Committee of Alexandria's Board of Directors oversees the management of the Company's financial and other systemic risks, including those related to climate. At a management level, Alexandria's Sustainability Committee, which comprises members of the executive management team and senior decision makers spanning the Company's Real Estate Development, Asset Management, Risk, and Sustainability teams, leads the development and execution of our approach to climate-related risk.

Proactively managing and mitigating climate risk

The resilience of our properties under a changing climate is paramount both for our business and our tenants' mission-critical research, development, manufacturing, and commercialization efforts. We consider the potential impacts associated with climate change and extreme weather conditions in the acquisition, design, development, and operation of our buildings and campuses. Our approach to climate readiness focuses on physical and transition risks and is aligned to guidelines issued by the Task Force on Climate-related Financial Disclosures ("TCFD"), which we endorsed in 2018. To this end, we have initiated a process to assess potential physical risks as well as the pathways to mitigate and adapt to climate change. We are also preparing for the transition to a low-carbon economy and continue to advance our approach to sustainable design and operations to align with our tenants' strategic sustainability goals and anticipate evolving regulations.

As further detailed in the "Monitoring and preparing for transition" section below, over the past few years, regulatory bodies in most of our regions have either passed or proposed legislation to limit the carbon footprint of buildings, require procurement of clean power, or eliminate natural gas from new construction projects. Additionally, certain U.S. jurisdictions incorporated guidelines into their building codes to address the up-front impacts of building materials such as concrete. Moreover, our tenant preferences for green, efficient, and healthy buildings continue to rise. As of December 31, 2022, 90% of Alexandria's top 20 tenants (by annual rental revenue) have set net-zero carbon and/or carbon neutrality goals. As a result of our own sustainability mission compelling us to reduce carbon emissions and mitigate climate risk, as well as the changing regulatory environment and our tenants' expectations, we have implemented a comprehensive approach to assessing and mitigating physical risk to our properties as well as to preparing for the transition, as described below.

Assessing and mitigating physical risk to our properties

We consider two climate change scenarios for the years 2030 and 2050 when evaluating physical risk to our properties: (1) a business-as-usual scenario in which greenhouse gas ("GHG") emissions continue to increase with time (Representative Concentration Pathways ("RCP") 8.5); and (2) a mitigation scenario in which GHG emissions level off by the year 2050 and decline thereafter (RCP 4.5). To ensure a conservative evaluation of potential risk at the asset level, we use the RCP 8.5 scenario, which has greater climate hazard impacts than RCP 4.5. These climate change assessments covering both acute and chronic risks enable us to assess preparedness for climate-related risks across the real estate life cycle.

For our property acquisitions, our risk management and sustainability teams will conduct climate change evaluations and advise the transactions and asset management teams of any need for potential property upgrades, which are evaluated in our financial modeling and transactional decisions.

For our developments and redevelopments of new Class A properties, we will evaluate the potential impact of sea level rise, storm surges in coastal or tidal locations, and changing temperatures out to the year 2050. As feasible, we will consider designs that accommodate potential expansion of cooling infrastructure to meet future building needs while providing flexibility and optimization of infrastructure funds for more immediate needs. In water-scarce areas, we will consider planting drought-resistant vegetation and equipping buildings to connect to a municipal recycled-water infrastructure where available and feasible. In areas prone to wildfire, we will work toward incorporating brush management practices into landscape design and including enhanced air filtration systems to support safe and healthy indoor air. For example, we have designed our development project at 15 Necco street to account for a high-emissions climate scenario and incorporate a number of innovative measures, including the strategic placement of critical infrastructure and building systems to provide multiple layers of protection, elevate the first floor above predicted 2070 flood evaluation (as published by the City of Boston), and install landscape and hardscape features to decrease surface water runoff and serve as barriers to potential flooding.

For our properties located in the areas prone to wildfires or flooding, we are evaluating the extent to which we have mitigations in place and which operational and physical improvements may be made. For example, resilience measures that may be implemented at some of our properties will include the following:

- In areas prone to fire, we will work toward incorporating brush management practices into landscape design; we will select less flammable vegetation species and position them in a reasonable distance from a property; we will construct building envelopes with fire-resistant materials; and will install HVAC systems that are able to filter smoke particulates in the air in the event of fire.
- In areas prone to flooding, critical building mechanical equipment will be positioned on the roofs or significantly above the projected potential flood elevations; temporary flood barriers will be stored on-site to be deployed at building entrances prior to a flood event; property entrances or the first floor will be elevated above projected present-day and future flood elevations; backflow preventors on storm/sewer utilities that discharge from the building will be installed; and the building envelope will be waterproofed up to the projected flood elevation.

As a part of Alexandria's risk management program, we maintain all-risk property insurance at the portfolio level to mitigate the risk of extreme weather events and natural disasters (including floods, wildfires, earthquakes, and wind events). However, our insurance may not adequately cover all of our potential losses. As a result, there can be no assurance that climate change and severe weather will not have a material adverse effect on our properties, operations, or business.

We also maintain all-risk property insurance at the portfolio level to mitigate certain risks associated with natural catastrophes (floods, wildfires, earthquakes, and wind events); our insurance policies, however, may not completely cover all our potential losses.

Monitoring and preparing for transition

Globally, public concern regarding climate change has continued to escalate. On November 20, 2022, the United Nations ("UN") held its annual climate summit, COP27, and as a result of the summit announced an agreement that reaffirmed the goal to limit the global temperature rise to the crucial temperature threshold of 1.5 degrees Celsius above pre-industrial levels. The agreement also provided a loss and damage fund for countries most vulnerable to climate disasters. As of the date of this report, no decisions have been made on who should pay into the fund, where the funds will come from, and which countries will benefit, and it is unknown how or if the terms of the agreement will be carried out effectively or whether these funds will be sufficient to mitigate the effects of damages related to climate change over time.

In August 2021, the United Nations' Intergovernmental Panel on Climate Change issued a detailed report titled "Climate Change 2021: The Physical Science Basis," which provides comprehensive evidence of the catastrophic impact of GHG emissions on climate change, including increases in severe and dangerous weather conditions. In the U.S., in June 2019, President Biden identified climate change as one of his administration's top priorities and pledged to seek measures that would pave the path for the U.S. to eliminate net GHG pollution by the year 2050. In April 2021, President Biden announced his plan to reduce the U.S. GHG emissions by at least 50% by the year 2030. These environmental goals earned a prominent place in President Biden's $1.2 trillion infrastructure bill, which was signed into law on November 15, 2021. Also, in August 2022, U.S. Congress signed into law the Inflation Reduction Act of 2022 ("IRA"), which directs nearly $400 billion for federal spending to be used toward reducing carbon emissions and funding clean energy over the next 10 years and is designed to encourage private investment in clean energy, transport, and manufacturing. It is yet unknown what impact, if any, the IRA may have on us.

Numerous states and municipalities have adopted state and local laws and policies on climate change and emission reduction targets, including, but not limited to, the following:

California

- In September 2018, Senate Bill 100 was signed into law in California, accelerating the state's renewable portfolio standard target dates and setting a policy of meeting 100% of retail electricity sales from eligible renewables and zero-carbon resources by December 31, 2045.

- In September 2020, Governor Newsom signed an executive order requiring all new passenger cars and trucks sold in the state to be emission free by 2035.

- In November 2020, the San Francisco Board of Supervisors adopted an All-Electric New Construction Ordinance that will require all new buildings (residential and non-residential) with initial building permit applications made on or after June 1, 2021 to have all-electric indoor and outdoor space-conditioning, water heating, cooking, and clothes drying systems.

- In September 2021, Governor Newsom signed legislation aimed at achieving net-zero GHG emissions associated with cement used within the state no later than 2045.

- In September 2022, Governor Gavin Newsom enacted a package of legislation that, among other measures, will allow the state to achieve carbon neutrality no later than 2045; establish an 85% emissions reduction target by 2045; achieve 90% and 95% clean energy by 2035 and 2040, respectively; and establish a regulatory framework for removing carbon pollution.

Massachusetts

- In March 2021, Senate Bill 9 was signed into law, updating the state's climate policy to ensure net-zero GHG emissions by 2050 and establishing interim emission reduction targets for several sectors, including commercial and industrial buildings.

- In September 2021, the Boston City Council approved an amendment to the Building Emissions Reduction and Disclosure Ordinance ("BERDO 2.0"), which imposes enforceable emission limits on buildings over 20,000 square feet starting in 2025-2030, targeting zero emissions by 2050. Furthermore, BERDO 2.0 adds a requirement that water and energy use data reported to the City of Boston be verified by a third-party. (An annual reporting requirement starting in 2022 for year 2021 was imposed by BERDO 1.0.)

- In August 2022, Governor Charlie Baker enacted a bill to enable the state to meet its climate targets, with key provisions, including mandating all new vehicles sold to be emission free by 2035; providing certain municipalities the ability to ban fossil fuel hookups in new construction or major renovation projects; requiring the Massachusetts Bay Transportation Authority to electrify its entire fleet of public transportation vehicles by 2040 and purchase only zero-emission buses starting in 2030; and phasing out incentives for fossil fuel-powered heating and cooling systems.

New York

- In July 2019, the Climate Leadership and Community Protection Act ("CLCPA") was signed into law, establishing a statewide framework to reduce net GHG emissions.

- In December 2022, New York approved the Scoping Plan, which details actions required to advance directives stated in the CLCPA and to enable New York to achieve:
  - 70% renewable energy by 2030;
  - Zero emissions electricity by 2040;
  - 40% GHG emissions reduction below 1990 levels by 2030;
  - 85% GHG emissions reduction below 1990 levels by 2050; and
  - Net-zero GHG emissions statewide by 2050.

- In May 2019, New York City enacted Local Law 97 as a part of the Climate Mobilization Act aimed at reducing GHG emissions by 80% from commercial and residential buildings by 2050. Starting in 2024, this law will place carbon caps on most buildings larger than 25,000 square feet.

- In December 2021, New York City passed Local Law 154, which will phase out fossil fuel usage in newly constructed residential and commercial buildings starting in 2024 for lower-rise buildings and in 2027 for taller buildings. With few exceptions, all buildings constructed in New York City must be fully electric by 2027.

Washington

- In May 2019, the Clean Buildings Act was signed into law in the state of Washington. The law imposed a cap on the energy used in commercial buildings larger than 50,000 square feet and established a phase-in compliance requirement starting in 2026. In March 2022, the law was expanded to apply to commercial buildings exceeding 20,000 square feet.

- In 2020, the State of Washington set GHG emission limits, which will require the state to reduce emissions levels by 45% below 1990 levels by 2030 and by 70% below 1990 levels by 2040, and to achieve net-zero emissions by 2050.

Maryland

- In April 2022, the Climate Solutions Now Act of 2022 became law in Maryland. The law requires new and existing buildings over 35,000 RSF:

- To report energy use data annually beginning in 2025;
- To reduce direct GHG emissions by 20% from 2025 levels by 2030; and
- To have net-zero direct emissions by 2040.

The law also requires the state to reduce its GHG emissions by 60% below 2006 levels by 2031 and to achieve net-zero GHG emissions by 2045.

North Carolina

- In January 2022, Governor Roy Cooper signed an executive order that updates the state's GHG emission goals to require a reduction of 50% below 2005 levels by 2030 and achievement of net-zero GHG emissions by 2050.

Alexandria has implemented a comprehensive approach to responding to transition risk through the following strategies:

Decarbonizing construction

Alexandria targets LEED Gold or Platinum certification for new ground-up developments. Through our sustainability goals for new developments, we deliver energy- and resource-efficient buildings that meet or exceed tenant, city, state, and federal requirements for energy and water efficiency, material sourcing, biodiversity, and alternative transportation.

We are also revolutionizing the design of our buildings through innovative low-carbon solutions and are pursuing more advanced certifications in Zero Energy from LEED and the International Living Future Institute ("ILFI") for two projects:

- At 325 Binney Street, on our Alexandria Center at One Kendall Square mega campus in our Cambridge submarket, the building design harnesses geothermal energy and is expected to yield a 92% reduction in fossil fuel consumption. The project is targeting LEED Platinum Core & Shell and LEED Zero Energy certifications.

- At 685 Gateway Boulevard, an amenities building on our Alexandria Technology Center® – Gateway mega campus in our South San Francisco submarket, we are targeting Zero Energy Certification through ILFI by leveraging design strategies such as building envelope optimization, high-performance features, and on-site energy generation.

With several jurisdictions shifting (or with plans to shift soon) from fossil fuels for heating and requiring all electric buildings as a strategy to reduce carbon emissions associated with building operations, we have proactively incorporated electrification into new building designs, with one project completed and three currently in progress. We also continue to explore further opportunities to heat and cool our buildings with alternative energy, such as geothermal and wastewater heat recovery.

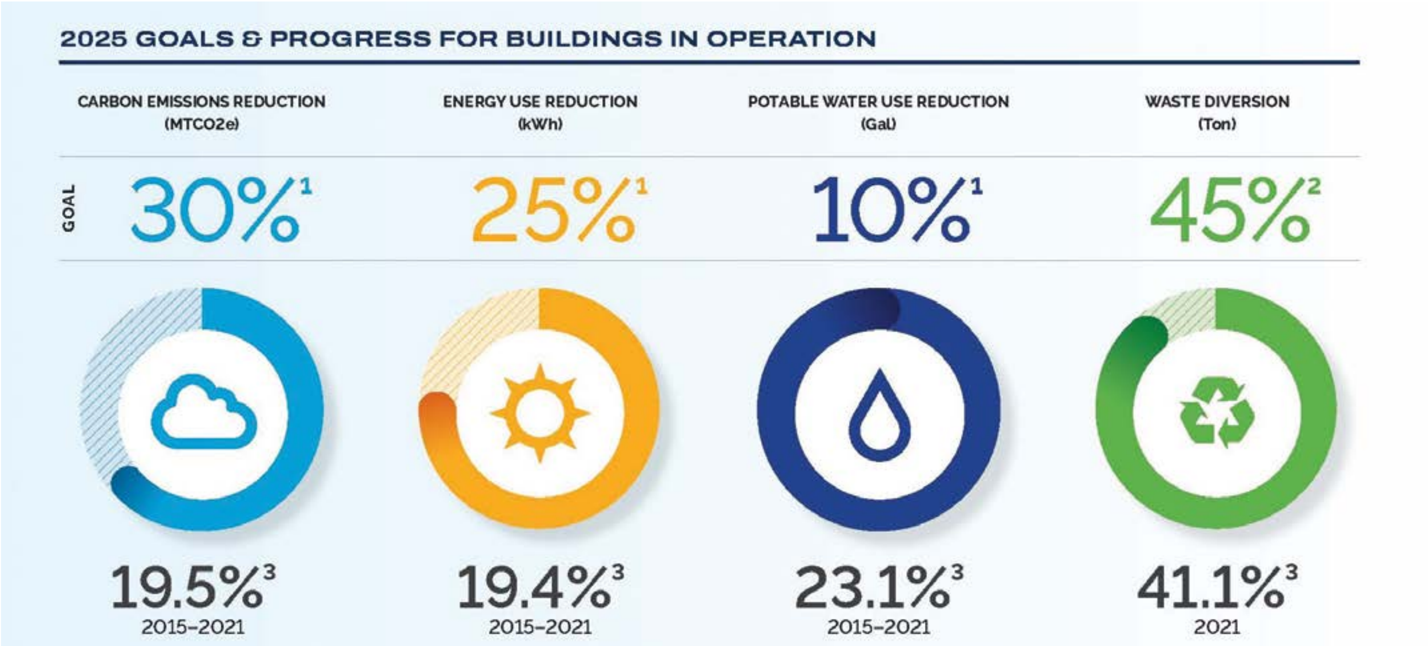
Embodied carbon from the building sector accounts for 11% of annual global GHG emissions, and Alexandria is playing a leadership role in the industry's effort to measure and ultimately reduce carbon associated with the construction process. In 2019, Alexandria became a sponsor and the first REIT to use the Carbon Leadership Forum's Embodied Carbon in Construction Calculator (EC3) tool. For new construction projects, we seek to procure products with Environmental Product Declarations ("EPDs"), which document and verify information on product composition and environmental impact. Using such EPDs, Alexandria targets a 10% reduction in embodied carbon for new ground-up development projects.

Investing in renewable energy

Alexandria anticipates a significant increase in the percentage of renewable electricity used by our properties beginning in 2024 as a result of a new large-scale solar power purchase agreement ("PPA") that we executed in our Greater Boston market. Starting in 2024, the PPA is expected to supply the Greater Boston market with new renewable electricity with power produced by a solar farm that will be connected to the New England grid. With this contract in place, 53% of Alexandria's total electricity consumption is expected to be renewable based on electric usage during 2021.

Reducing the environmental footprint of buildings in operation

Our sustainability mission compels us toward industry-leading sustainability practices and performance that can help reduce operating expenses and result in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value, and thus enable us to capture climate-related opportunities. Our ongoing efforts to reduce consumption are driven by our commitment to operational excellence in sustainability, building efficiency, and service to our tenants. Alexandria's 2025 sustainability goals for buildings in operation and new ground-up construction projects provide the framework, metrics, and targets that guide the Company's focus on continuous, long-term improvement. For buildings in operation, we set goals to reduce carbon emissions, energy consumption, and potable water consumption and increase waste diversion by the year 2025.



(1) 2025 environmental goal for Alexandria's cumulative progress relative to a 2015 baseline on a like-for-like basis for buildings in operation that the Company directly manages.
(2) 2025 environmental goal for buildings in operation that Alexandria indirectly and directly manages. In alignment with industry best practice, the Company reports waste diversion annually; the 2025 goal is to achieve a waste diversion rate of at least 45% by 2025.
(3) Progress toward 2025 goal.

As we look to the future, we are creating our long-term strategy and plan for the net zero-carbon transition. We are developing an approach to set industry-leading science-based targets that will provide a pathway to reduce GHG emissions and continue our leadership in sustainability.

Refer to "Item 1A. Risk factors" in this annual report on Form 10-K for discussion of the risks we face from climate change.

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 this annual report on Form 10-K. We believe that such 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 that this tabular presentation will supplement for investors an understanding of our disclosures and real estate operating results. Gains or losses on sales of real estate and impairments of assets classified as held for sale are related to corporate-level decisions to dispose of real estate. Gains or losses on early extinguishment of debt 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, impairments of real estate and non-real estate investments, and acceleration of stock compensation expense due to the resignation of an executive officer 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. Impairments of non-real estate investments are not related to the operating performance of our real estate as they represent the write-down of non-real estate investments when their fair values decrease below their respective carrying values due to changes in general market or other conditions outside of our control. Significant items included in the tabular disclosure for current periods are described in further detail under this Item 7 in this annual report on Form 10-K. Key items included in net income attributable to Alexandria's common stockholders for the years ended December 31, 2022 and 2021 and the related per share amounts were as follows:

	Year Ended December 31,			
	2022	2021	2022	2021
(In millions, except per share amounts)	Amount		Per Share – Diluted	
Impairment of real estate	$ (65.0)	$ (52.7)	$ (0.40)	$ (0.35)
Loss on early extinguishment of debt	(3.3)	(67.3)	(0.02)	(0.46)
Gain on sales of real estate[(1)]	537.9	126.6	3.33	0.86
Acceleration of stock compensation expense due to executive officer resignation	(7.2)	—	(0.04)	—
Unrealized (losses) gains on non-real estate investments	(412.2)	43.6	(2.55)	0.30
Impairment of non-real estate investments	(20.5)	—	(0.13)	—
Significant realized gains on non-real estate investments	—	110.1	—	0.75
Total	$ 29.7	$ 160.3	$ 0.19	$ 1.10

(1) 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 within this Item 7 for additional 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 additional information on the determination of our Same Properties portfolio, refer to the definition of “Same property comparisons” in the “Non-GAAP measures and definitions” section within this Item 7 in this annual report on Form 10-K. The following table presents information regarding our Same Properties as of December 31, 2022 and 2021:

	December 31,	
	2022	2021
Percentage change in net operating income over comparable period from prior year	6.6%	4.2%
Percentage change in net operating income (cash basis) over comparable period from prior year	9.6%	7.1%
Operating margin	70%	72%
Number of Same Properties	253	247
RSF	26,121,796	23,490,412
Occupancy – current-period average	95.7%	96.6%
Occupancy – same-period prior-year average	94.7%	96.3%

The following table reconciles the number of Same Properties to total properties for the year ended December 31, 2022:

Development – under construction	Properties
4 Davis Drive	1
201 Brookline Avenue	1
15 Necco Street	1
751 Gateway Boulevard	1
325 Binney Street	1
1150 Eastlake Avenue East	1
9810 Darnestown Road	1
99 Coolidge Avenue	1
500 North Beacon Street and 4 Kingsbury Avenue	2
9808 Medical Center Drive	1
6040 George Watts Hill Drive	1
1450 Owens Street	1
10075 Barnes Canyon Road	1
	14

Development – placed into service after January 1, 2021	Properties
1165 Eastlake Avenue East	1
201 Haskins Way	1
825 and 835 Industrial Road	2
9950 Medical Center Drive	1
3115 Merryfield Row	1
8 and 10 Davis Drive	2
5 and 9 Laboratory Drive	2
10055 Barnes Canyon Road	1
10102 Hoyt Park Drive	1
	12

Redevelopment – under construction	Properties
2400 Ellis Road, 40 and 41 Moore Drive, and 14 TW Alexander Drive	4
840 Winter Street	1
20400 Century Boulevard	1
9601 and 9603 Medical Center Drive	2
One Rogers Street	1
40, 50, and 60 Sylvan Road	3
Alexandria Center® for Advanced Technologies – Monte Villa Parkway	6
651 Gateway Boulevard	1
8800 Technology Forest Place	1
Canada	2
Other	2
	24

Redevelopment – placed into service after January 1, 2021	Properties
700 Quince Orchard Road	1
3160 Porter Drive	1
5505 Morehouse Drive	1
The Arsenal on the Charles	11
30-02 48th Avenue	1
Other	1
	16

Acquisitions after January 1, 2021	Properties
3301, 3303, 3305, 3307, 3420, and 3440 Hillview Avenue	6
Sequence District by Alexandria	5
Alexandria Center® for Life Science – Fenway	1
550 Arsenal Street	1
1501-1599 Industrial Road	6
One Investors Way	2
2475 Hanover Street	1
10975 and 10995 Torreyana Road	2
Pacific Technology Park	5
1122 and 1150 El Camino Real	2
12 Davis Drive	1
8505 Costa Verde Boulevard and 4260 Nobel Drive	2
225 and 235 Presidential Way	2
104 TW Alexander Drive	4
One Hampshire Street	1
Intersection Campus	12
100 Edwin H. Land Boulevard	1
10010 and 10140 Campus Point Drive and 4275 Campus Point Court	3
446 and 458 Arsenal Street	2
35 Gatehouse Drive	1
1001 Trinity Street and 1020 Red River Street	2
Other	37
	99
Unconsolidated real estate joint ventures	4
Properties held for sale	10
Total properties excluded from Same Properties	179
Same Properties	253
Total properties in North America as of December 31, 2022	432

Comparison of results for the year ended December 31, 2022 to the year ended December 31, 2021

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, 2022, compared to the year ended December 31, 2021. We provide a comparison of the results for the year ended December 31, 2021 to the year ended December 31, 2020, including a comparison of the components of net operating income for our Same Properties and Non-Same Properties for the year ended December 31, 2021, compared to the year ended December 31, 2020, in the “Results of operations” section within this Item 7 of our annual report on Form 10-K for the year ended December 31, 2021. Refer to the “Non-GAAP measures and definitions” section within this Item 7 in this annual report on Form 10-K for definitions of “Tenant recoveries” and “Net operating income” and their reconciliations from the most directly comparable financial measures presented in accordance with GAAP, income from rentals and net income, respectively.

	Year Ended December 31,			
(Dollars in thousands)	2022	2021	$ Change	% Change
Income from rentals:				
Same Properties	$ 1,385,380	$ 1,289,246	$ 96,134	7.5 %
Non-Same Properties	564,718	329,346	235,372	71.5
Rental revenues	1,950,098	1,618,592	331,506	20.5
Same Properties	478,333	407,450	70,883	17.4
Non-Same Properties	147,609	82,207	65,402	79.6
Tenant recoveries	625,942	489,657	136,285	27.8
Income from rentals	2,576,040	2,108,249	467,791	22.2
Same Properties	620	479	141	29.4
Non-Same Properties	12,302	5,422	6,880	126.9
Other income	12,922	5,901	7,021	119.0
Same Properties	1,864,333	1,697,175	167,158	9.8
Non-Same Properties	724,629	416,975	307,654	73.8
Total revenues	2,588,962	2,114,150	474,812	22.5
Same Properties	561,301	475,209	86,092	18.1
Non-Same Properties	221,852	148,346	73,506	49.6
Rental operations	783,153	623,555	159,598	25.6
Same Properties	1,303,032	1,221,966	81,066	6.6
Non-Same Properties	502,777	268,629	234,148	87.2
Net operating income	$ 1,805,809	$ 1,490,595	$ 315,214	21.1 %
Net operating income – Same Properties	**$ 1,303,032**	**$ 1,221,966**	**$ 81,066**	**6.6 %**
Straight-line rent revenue	(54,991)	(79,602)	24,611	(30.9)
Amortization of acquired below-market leases	(26,224)	(27,252)	1,028	(3.8)
Net operating income – Same Properties (cash basis)	**$ 1,221,817**	**$ 1,115,112**	**$ 106,705**	**9.6 %**

Income from rentals

Total income from rentals for the year ended December 31, 2022 increased by $467.8 million, or 22.2%, to $2.6 billion, compared to $2.1 billion for the year ended December 31, 2021, as a result of increase in rental revenues and tenant recoveries, as discussed below.

Rental revenues

Total rental revenues for the year ended December 31, 2022 increased by $331.5 million, or 20.5%, to $2.0 billion, compared to $1.6 billion for the year ended December 31, 2021. The increase was primarily due to an increase in rental revenues from our Non-Same Properties related to 3.9 million RSF of development and redevelopment projects placed into service subsequent to January 1, 2021 and 99 operating properties aggregating 9.6 million RSF acquired subsequent to January 1, 2021.

Rental revenues from our Same Properties for the year ended December 31, 2022 increased by $96.1 million, or 7.5%, to $1.4 billion, compared to $1.3 billion for the year ended December 31, 2021. The increase was primarily due to rental rate increases on lease renewals and re-leasing of space since January 1, 2021 and an increase in occupancy from our Same Properties to 95.7% for the year ended December 31, 2022 from 94.7% for the year ended December 31, 2021.

Tenant recoveries

Tenant recoveries for the year ended December 31, 2022 increased by $136.3 million, or 27.8%, to $625.9 million, compared to $489.7 million for the year ended December 31, 2021. This increase was partially from our Non-Same Properties related to our development and redevelopment projects placed into service and properties acquired subsequent to January 1, 2021, as discussed above under "Rental revenues."

Same Properties tenant recoveries for the year ended December 31, 2022 increased by $70.9 million, or 17.4%, primarily due to higher operating expenses during the year ended December 31, 2022, as discussed under "Rental operations" below. As of December 31, 2022, approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses (including increases thereto) in addition to base rent.

Other income

Other income for the year ended December 31, 2022 increased by $7.0 million, or 119.0%, to $12.9 million, compared to $5.9 million for the year ended December 31, 2021. The increase in other income was primarily due to an increase in fees for construction management services provided to tenants and an increase in interest income resulting from larger average deposits in, and higher interest rates earned by, our money market accounts during the year ended December 31, 2022, compared to the year ended December 31, 2021.

Rental operations

Total rental operating expenses for the year ended December 31, 2022 increased by $159.6 million, or 25.6%, to $783.2 million, compared to $623.6 million for the year ended December 31, 2021. The increase was partially due to incremental expenses related to our Non-Same Properties, which consist of development and redevelopment projects placed into service and acquired properties, as discussed above under "Rental revenues."

Same Properties rental operating expenses increased by $86.1 million, or 18.1%, to $561.3 million during the year ended December 31, 2022, compared to $475.2 million for the year ended December 31, 2021. The increase was primarily the result of increases in (i) utilities expenses aggregating $21.4 million, primarily due to increased electricity usage and rates; (ii) property tax expenses aggregating $16.4 million, primarily related to changes in the ownership of four of our consolidated real estate joint ventures located in our Mission Bay submarket during the three months ended December 31, 2021 and resulting tax reassessment of values of the properties held by these joint ventures; and (iii) higher contract services costs aggregating $12.7 million, primarily due to increases in security services and trash and janitorial service consumption and rates.

General and administrative expenses

General and administrative expenses for the year ended December 31, 2022 increased by $25.8 million, or 17.0%, to $177.3 million, compared to $151.5 million for the year ended December 31, 2021. For the year ended December 31, 2022, approximately $7.2 million of the increase was the result of the acceleration of stock compensation expense recognized in connection with the resignation of Stephen A. Richardson, our former co-chief executive officer, which became effective on July 31, 2022. The remaining increase was primarily due to the costs related to corporate related costs, additional headcount, and corporate responsibility efforts, as well as 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, as discussed above under "Rental revenues." As a percentage of net operating income, our general and administrative expenses for the years ended December 31, 2022 and 2021 were 9.8% and 10.2%, respectively.

Interest expense

Interest expense for the years ended December 31, 2022 and 2021 consisted of the following (dollars in thousands):

Component	Year Ended December 31, 2022	Year Ended December 31, 2021	Change
Gross interest	$ 372,848	$ 312,806	$ 60,042
Capitalized interest	(278,645)	(170,641)	(108,004)
Interest expense	$ 94,203	$ 142,165	$ (47,962)
Average debt balance outstanding[(1)]	$ 10,374,497	$ 9,071,513	$ 1,302,984
Weighted-average annual interest rate[(2)]	3.6 %	3.4 %	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 during the respective periods.

The net change in interest expense during the year ended December 31, 2022, compared to the year ended December 31, 2021, resulted from the following (dollars in thousands):

Component	Interest Rate[(1)]	Effective Date	Change
Increases in interest incurred due to:			
Issuances of debt:			
$850 million unsecured senior notes payable	3.08%	February 2021	$ 3,342
$900 million unsecured senior notes payable – green bond	2.12%	February 2021	2,384
$1.0 billion unsecured senior notes payable	3.63%	February 2022	31,138
$800 million unsecured senior notes payable – green bond	3.07%	February 2022	20,804
Fluctuation in interest rate and average balance:			
$2.0 billion commercial paper program			7,167
Other increase in interest			3,032
Total increases			67,867
Decreases in interest incurred due to:			
Repayments of debt:			
$650 million unsecured senior notes payable – green bond	4.03%	March 2021	(2,945)
Secured notes payable	3.40%	April 2022	(4,880)
Total decreases			(7,825)
Change in gross interest			60,042
Increase in capitalized interest			(108,004)
Total change in interest expense			$ (47,962)

(1) Represents the weighted-average interest rate as of the end of the applicable period, including amortization of loan fees, amortization of debt premiums (discounts), and other bank fees.

Depreciation and amortization

Depreciation and amortization expense for the year ended December 31, 2022 increased by $181.1 million, or 22.1%, to $1.0 billion, compared to $821.1 million for the year ended December 31, 2021. The increase was primarily due to additional depreciation from development and redevelopment projects placed into service and properties acquired, as discussed above under "Rental revenues."

Impairment of real estate

During the year ended December 31, 2022, we recognized real estate impairment charges aggregating $65.0 million, as detailed below:

- Impairment charges aggregating $44.1 million, which consisted of write-offs of pre-acquisition costs, including the $38.3 million write-off of our entire investment in a future development project aggregating over 600,000 RSF in one of our existing submarkets in California. This impairment was recognized upon our decision to no longer proceed with this project as a result of a deteriorated macroeconomic environment that negatively impacted the financial outlook for this project.

- Impairment charges aggregating $20.9 million recognized during the three months ended December 31, 2022 to reduce the carrying amount of 10 properties and a land parcel located in multiple submarkets to their respective estimated fair value, less costs to sell, upon classification as held for sale. We expect to sell these real estate assets in 2023.

During the year ended December 31, 2021, we recognized impairment charges aggregating $52.7 million, primarily related to impairment charges for a land parcel in our SoMa submarket for the development of an office property and a property located in our non-core submarket, to its estimated fair value less costs to sell.

For more information, refer to the “Sales of real estate assets and impairment charges” section in Note 3 – “Investments in real estate” to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

Loss on early extinguishment of debt

During the year ended December 31, 2022, we recognized a loss on early extinguishment of debt of $3.3 million, including a prepayment penalty and the write-off of unamortized loan fees, related to the repayment of two secured notes payable.

During the year ended December 31, 2021, we recognized a loss on early extinguishment of debt of $67.3 million, including the write-off of unamortized loan fees primarily related to the refinancing of our 4.00% unsecured senior notes payable aggregating $650.0 million due in 2024 pursuant to a partial cash tender offer.

Equity in earnings of unconsolidated real estate joint ventures

During the years ended December 31, 2022 and 2021, we recognized equity in earnings of unconsolidated real estate joint ventures of $645 thousand and $12.3 million, respectively. The decrease is primarily related to the sale of our investment in an unconsolidated real estate joint venture in our Greater Stanford submarket in December 2021.

Refer to Note 4 – “Consolidated and unconsolidated real estate joint ventures” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.

Investment income

During the year ended December 31, 2022, we recognized investment losses aggregating $331.8 million, which consisted of $80.4 million of realized gains and $412.2 million of unrealized losses. Realized gains of $80.4 million primarily consisted of sales of investments and distributions received, partially offset by impairment charges of $20.5 million primarily related to investments in privately held entities that do not report NAV. Unrealized losses of $412.2 million during the year ended December 31, 2022 primarily consisted of decreases in fair values of our investments in publicly traded companies and investments in privately held entities that report NAV.

During the year ended December 31, 2021, we recognized investment income aggregating $259.5 million, which consisted of $215.8 million of realized gains and $43.6 million of unrealized gains.

For more information about our investments, refer to Note 7 – “Investments” to our consolidated financial statements under Item 15 in this annual report on Form 10-K. For our impairments accounting policy, refer to the “Investments” section in Note 2 – “Summary of significant accounting policies” to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

Gain on sales of real estate

During the year ended December 31, 2022, we recognized $537.9 million of gains related to the completion of nine real estate dispositions across various markets. The gains were classified in gain on sales of real estate within our consolidated statements of operations for the year ended December 31, 2022.

During the year ended December 31, 2021, we recognized $126.6 million of gains, which included a $101.1 million gain recognized in connection with the sale of our entire 49.0% interest in the unconsolidated real estate joint venture at Menlo Gateway and a $23.2 million gain related to the sale of a property located in our Seattle market. The gains were classified in gain on sales of real estate within our consolidated statements of operations for the year ended December 31, 2021.

For more information about our sales of real estate, refer to the “Sales of real estate assets and impairment charges” section in Note 3 – “Investment in real estate” to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

Other comprehensive income

Total other comprehensive income for the year ended December 31, 2022 decreased by $12.8 million to aggregate net unrealized losses of $13.5 million, compared to net unrealized losses of $0.7 million for the year ended December 31, 2021, primarily due to unrealized losses on foreign currency translation related to our operations in Canada and China.

Summary of capital expenditures

Our construction spending for the year ended December 31, 2022 consisted of the following (in thousands):

Construction Spending	Year Ended December 31, 2022
Additions to real estate – consolidated projects	$ 3,307,313
Investments in unconsolidated real estate joint ventures	1,442
Contributions from noncontrolling interests	(320,057)
Construction spending (cash basis)	2,988,698
Change in accrued construction	102,801
Construction spending	$ 3,091,499

The following table summarizes the total projected construction spending for the year ending December 31, 2023, which includes interest, property taxes, insurance, payroll, and other indirect project costs (in thousands):

Projected Construction Spending	Year Ending December 31, 2023
Development, redevelopment, and pre-construction projects	$ 3,549,000
Contributions from noncontrolling interests (consolidated real estate joint ventures)	(794,000) (1)
Revenue-enhancing and repositioning capital expenditures	160,000
Non-revenue-enhancing capital expenditures	60,000
Guidance midpoint	$ 2,975,000

(1) Approximately 55% of this amount represents contractual funding commitments from our existing consolidated real estate joint ventures, and the remaining amount is from projected new real estate joint ventures.

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 for the year ending December 31, 2023, 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 financial measure presented in accordance with GAAP, to funds from operations per share, a non-GAAP measure, and other key assumptions included in our updated guidance for the year ending December 31, 2023. There can be no assurance that actual amounts will not be materially higher or lower than these expectations. Refer to our discussion of "Forward-looking statements" included in the beginning of Part I in this annual report on Form 10-K.

Projected 2023 Earnings per Share and Funds From Operations per Share Attributable to Alexandria's Common Stockholders – Diluted

Earnings per share(1)	$3.41 to $3.61
Depreciation and amortization of real estate assets	5.50
Allocation of unvested restricted stock awards	(0.05)
Funds from operations per share(2)	$8.86 to $9.06
Midpoint	$8.96

(1) Excludes unrealized gains or losses after December 31, 2022 that are required to be recognized in earnings and are excluded from funds from operations per share, as adjusted.

(2) Refer to the definition of "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 within this Item 7 in this annual report on Form 10-K for additional information.

Key Assumptions(1) *(Dollars in millions)*	2023 Guidance Low	2023 Guidance High
Occupancy percentage for operating properties in North America as of December 31, 2023	94.8%	95.8%
Lease renewals and re-leasing of space:		
Rental rate increases	27.0%	32.0%
Rental rate increases (cash basis)	11.0%	16.0%
Same property performance:		
Net operating income increase	2.0%	4.0%
Net operating income increase (cash basis)	4.0%	6.0%
Straight-line rent revenue	$ 130	$ 145
General and administrative expenses	$ 183	$ 193
Capitalization of interest	$ 342	$ 362
Interest expense	$ 74	$ 94

(1) Our assumptions presented in the table above are subject to a number of variables and uncertainties, including those discussed as "Forward-looking statements" under Part I; "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. 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.

Key Credit Metrics	2023 Guidance
Net debt and preferred stock to Adjusted EBITDA – fourth quarter of 2023 annualized	Less than or equal to 5.1x
Fixed-charge coverage ratio – fourth quarter of 2023 annualized	4.5x to 5.0x

Consolidated and unconsolidated real estate joint ventures

We present components of balance sheet and operating results information for the noncontrolling interest 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. Refer to Note 4 – "Consolidated and unconsolidated real estate joint ventures" to our consolidated financial statements under Item 15 in this annual report on Form 10-K for further discussion.

Consolidated Real Estate Joint Ventures

Property/Market/Submarket	Noncontrolling[1] Interest Share	Operating RSF at 100%
50 and 60 Binney Street/Greater Boston/Cambridge/Inner Suburbs	66.0%	532,395
75/125 Binney Street/Greater Boston/Cambridge/Inner Suburbs	60.0%	388,270
100 and 225 Binney Street and 300 Third Street/Greater Boston/Cambridge/Inner Suburbs	70.0% (2)	870,106
99 Coolidge Avenue/Greater Boston/Cambridge/Inner Suburbs	25.0%	— (3)
Alexandria Center® for Science and Technology – Mission Bay/San Francisco Bay Area/Mission Bay[4]	75.0%	1,005,989
1450 Owens Street/San Francisco Bay Area/Mission Bay	40.3% (2)(5)	— (3)
601, 611, 651, 681, 685, and 701 Gateway Boulevard/San Francisco Bay Area/South San Francisco	50.0%	789,567
751 Gateway Boulevard/San Francisco Bay Area/South San Francisco	49.0%	— (3)
211 and 213 East Grand Avenue/San Francisco Bay Area/South San Francisco	70.0%	300,930
500 Forbes Boulevard/San Francisco Bay Area/South San Francisco	90.0%	155,685
Alexandria Center® for Life Science – Millbrae/San Francisco Bay Area/South San Francisco	54.7%	—
3215 Merryfield Row/San Diego/Torrey Pines	70.0% (2)	170,523
Campus Point by Alexandria/San Diego/University Town Center[6]	45.0%	1,337,916
5200 Illumina Way/San Diego/University Town Center	49.0%	792,687
9625 Towne Centre Drive/San Diego/University Town Center	49.9%	163,648
SD Tech by Alexandria/San Diego/Sorrento Mesa[7]	50.0%	876,869
Pacific Technology Park/San Diego/Sorrento Mesa	50.0%	544,352
Summers Ridge Science Park/San Diego/Sorrento Mesa[8]	70.0% (2)	316,531
1201 and 1208 Eastlake Avenue East and 199 East Blaine Street /Seattle/Lake Union	70.0%	321,218
400 Dexter Avenue North/Seattle/Lake Union	70.0%	290,754
800 Mercer Street/Seattle/Lake Union	40.0% (2)	—

Unconsolidated Real Estate Joint Ventures

Property/Market/Submarket	Our Ownership Share[9]	Operating RSF at 100%
1655 and 1725 Third Street/San Francisco Bay Area/Mission Bay	10.0%	586,208
1401/1413 Research Boulevard/Maryland/Rockville	65.0% (10)	(11)
1450 Research Boulevard/Maryland/Rockville	73.2% (12)	42,679
101 West Dickman Street/Maryland/Beltsville	57.9% (12)	135,423

(1) In addition to the consolidated real estate joint ventures listed, various partners hold insignificant noncontrolling interests in three other real estate joint ventures in North America.
(2) Refer to the "Formation of consolidated real estate joint ventures and sales of partial interests" section in Note 4 – "Consolidated and unconsolidated real estate joint ventures" to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.
(3) Represents a property currently under construction. Refer to "New Class A development and redevelopment properties: current projects" under Item 2 in this annual report on Form 10-K for additional details.
(4) Includes 409 and 499 Illinois Street, 1500 and 1700 Owens Street, and 455 Mission Bay Boulevard South.
(5) The noncontrolling interest share of our joint venture partner is anticipated to increase to 75% as our partner contributes 100% of the remaining cost to complete the project over time.
(6) Includes 10210, 10260, 10290, and 10300 Campus Point Drive and 4110, 4150, 4161, 4224, and 4242 Campus Point Court.
(7) Includes 9605, 9645, 9675, 9685, 9725, 9735, 9808, 9855, and 9868 Scranton Road and 10055, 10065, and 10075 Barnes Canyon Road.
(8) Includes 9965, 9975, 9985, and 9995 Summers Ridge Road.
(9) In addition to the unconsolidated real estate joint ventures listed, we hold an interest in one other insignificant unconsolidated real estate joint venture in North America.
(10) Represents our ownership interest; our voting interest is limited to 50%.
(11) Represents a joint venture with a distinguished retail real estate developer for a retail shopping center aggregating 84,837 RSF.
(12) Represents a joint venture with a local real estate operator in which our partner manages the day-to-day activities that significantly affect the economic performance of the joint venture.

The following table presents key terms related to our unconsolidated real estate joint ventures' secured loans as of December 31, 2022 (dollars in thousands):

Unconsolidated Joint Venture	Maturity Date	Stated Rate	Interest Rate[1]	At 100% Aggregate Commitment	At 100% Debt Balance[2]	Our Share
1401/1413 Research Boulevard	12/23/24	2.70%	3.33%	$ 28,500	$ 28,146	65.0%
1655 and 1725 Third Street	3/10/25	4.50%	4.57%	600,000	599,081	10.0%
101 West Dickman Street	11/10/26	SOFR+1.95% [3]	6.38%	26,750	11,575	57.9%
1450 Research Boulevard	12/10/26	SOFR+1.95% [3]	6.44%	13,000	3,802	73.2%
				$ 668,250	$ 642,604	

(1) Includes interest expense and amortization of loan fees.
(2) Represents outstanding principal, net of unamortized deferred financing costs, as of December 31, 2022.
(3) This loan is subject to a fixed SOFR floor rate of 0.75%.

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, 2022		December 31, 2022	
	Three Months Ended	Year Ended	Three Months Ended	Year Ended
Total revenues	$ 102,013	$ 366,794	$ 2,689	$ 11,130
Rental operations	(31,176)	(109,358)	(753)	(3,197)
	70,837	257,436	1,936	7,933
General and administrative	(372)	(1,594)	(10)	(106)
Interest	(15)	(15)	(772)	(3,516)
Depreciation and amortization of real estate assets	(29,702)	(107,591)	(982)	(3,666)
Fixed returns allocated to redeemable noncontrolling interests[1]	201	805	—	—
	$ 40,949	$ 149,041	$ 172	$ 645
Straight-line rent and below-market lease revenue	$ 3,858	$ 15,776	$ 274	$ 1,136
Funds from operations[2]	$ 70,651	$ 256,632	$ 1,154	$ 4,311

(1) Represents an allocation of joint venture earnings to redeemable noncontrolling interests primarily in one property in our South San Francisco submarket. These redeemable noncontrolling interests earn a fixed return on their investment rather than participate in the operating results of the property.
(2) Refer to the definition of "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 within this Item 7 in this annual report on Form 10-K for the definition and its reconciliation from the most directly comparable financial measure presented in accordance with GAAP.

	As of December 31, 2022	
	Noncontrolling Interest Share of Consolidated Real Estate Joint Ventures	Our Share of Unconsolidated Real Estate Joint Ventures
Investments in real estate	$ 3,392,839	$ 114,664
Cash, cash equivalents, and restricted cash	129,186	4,729
Other assets	386,667	11,346
Secured notes payable	(14,599)	(87,694)
Other liabilities	(183,233)	(4,610)
Redeemable noncontrolling interests	(9,612)	—
	$ 3,701,248	$ 38,435

During the years ended December 31, 2022 and 2021, our consolidated real estate joint ventures distributed an aggregate of $192.2 million and $112.4 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 in this annual report on Form 10-K for additional information.

Investments

We hold strategic investments in publicly traded companies and privately held entities primarily involved in the life science, agtech, and technology industries. The tables below summarize components of our non-real estate investments and investment income. Refer to Note 7 – "Investments" to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.

	December 31, 2022		
(In thousands)	Three Months Ended	Year Ended	Year Ended December 31, 2021
Realized gains	$ 4,464 [(1)]	$ 80,435 [(1)]	$ 215,845 [(2)]
Unrealized (losses) gains	(24,117)	(412,193)	43,632
Investment (loss) income	$ (19,653)	$ (331,758)	$ 259,477

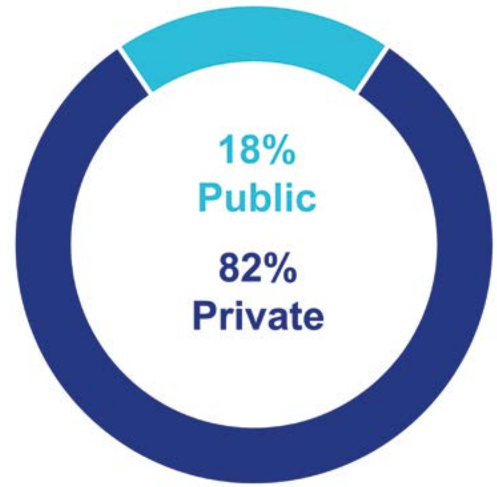
Investments *(In thousands)*	Cost	Unrealized Gains	Unrealized Losses	Carrying Amount
Publicly traded companies	$ 210,986	$ 96,271	$ (100,118)	$ 207,139
Entities that report NAV	452,391	315,071	(7,710)	759,752
Entities that do not report NAV:				
Entities with observable price changes	100,296	95,062	(1,574)	193,784
Entities without observable price changes	388,940	—	—	388,940
Investments accounted for under the equity method of accounting	N/A	N/A	N/A	65,459
December 31, 2022	$ 1,152,613 [(3)]	$ 506,404	$ (109,402)	$ 1,615,074
December 31, 2021	$ 1,007,303	$ 830,863	$ (33,190)	$ 1,876,564

(1) For the three months and year ended December 31, 2022, includes impairments aggregating $20.5 million primarily related to three non-real estate investments in privately held entities that do not report NAV.

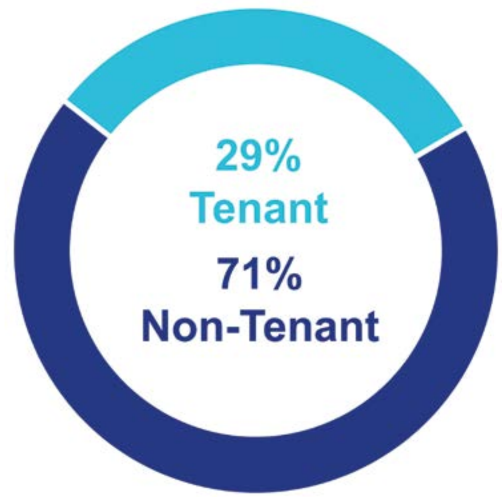
(2) Includes six separate significant realized gains aggregating $110.1 million related to the following transactions: (i) the sales of investments in three publicly traded biotechnology companies, (ii) a distribution received from a limited partnership investment, and (iii) the acquisition of two of our privately held non-real estate investments in a biopharmaceutical company and a biotechnology company.

(3) Represents 2.9% of gross assets as of December 31, 2022.

Public/Private Mix (Cost)



Tenant/Non-Tenant Mix (Cost)



Liquidity

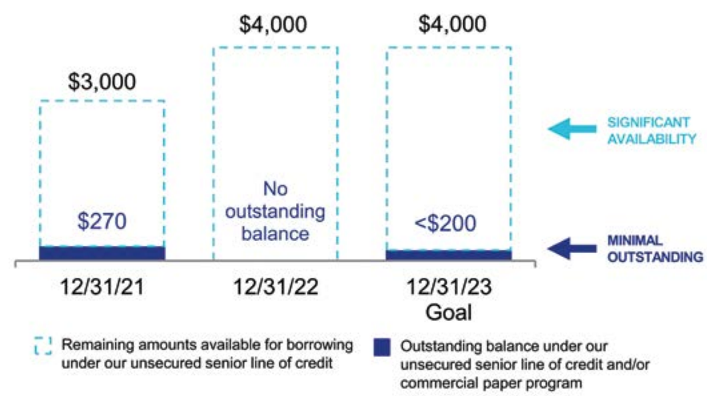
Liquidity

$5.3B

(In millions)	
Availability under our unsecured senior line of credit, net of amounts outstanding under our commercial paper program	$ 4,000
Outstanding forward equity sales agreements[(1)]	102
Cash, cash equivalents, and restricted cash	858
Remaining construction loan commitments	136
Investments in publicly traded companies	207
Liquidity as of December 31, 2022	$ 5,303

Minimal Outstanding Borrowings and Significant Availability on Unsecured Senior Line of Credit

(in millions)



(1) Represents expected net proceeds from the future settlement of 0.7 million shares under forward equity sales agreements after underwriter discounts.

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, and payment of dividends, through net cash provided by operating activities, periodic asset sales, strategic real estate joint ventures, long-term secured and unsecured indebtedness, borrowings under our unsecured senior line of credit, issuances under our commercial paper program, and issuances of additional debt and/or equity securities.

We also 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.

For additional information on our liquidity requirements related to our contractual obligations and commitments, refer to Note 5 – "Leases" and Note 10 – "Secured and unsecured senior debt" to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

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, strategic real estate joint ventures, non-real estate investment sales, 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.
- Prudently manage variable-rate debt exposure through the reduction of short-term and medium-term variable-rate debt.
- Maintain a large unencumbered asset pool to provide financial flexibility.
- Fund 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 real estate assets.
- Maintain high levels of pre-leasing and percentage leased in value-creation projects.

The following table presents the availability under our unsecured senior line of credit, net of amounts outstanding under our commercial paper program; outstanding forward equity sales agreements; cash, cash equivalents, and restricted cash; availability under our secured construction loan; and investments in publicly traded companies as of December 31, 2022 (dollars in thousands):

Description	Stated Rate	Aggregate Commitments	Outstanding Balance[1]	Remaining Commitments/ Liquidity
Availability under our unsecured senior line of credit, net of amounts outstanding under our commercial paper program	SOFR+0.875%	$ 4,000,000	$ —	$ 4,000,000
Outstanding forward equity sales agreements[2]				102,427
Cash, cash equivalents, and restricted cash				857,975
Remaining construction loan commitments	SOFR+2.70%	$ 195,300	$ 58,396	135,583
Investments in publicly traded companies				207,139
Liquidity as of December 31, 2022				$ 5,303,124

(1) Represents outstanding principal, net of unamortized deferred financing costs, as of December 31, 2022.
(2) Represents expected net proceeds from the future settlement of 0.7 million shares under forward equity sales agreements after underwriter discounts.

Cash, cash equivalents, and restricted cash

As of December 31, 2022 and 2021, we had $858.0 million and $415.2 million, respectively, of cash, cash equivalents, and restricted cash. We expect existing cash, cash equivalents, and restricted cash, net cash provided by operating activities, proceeds from real estate asset sales, partial interest sales, strategic real estate joint ventures, non-real estate investment sales, borrowings under our unsecured senior line of credit, issuances under our commercial paper program, issuances of unsecured senior notes payable, borrowings under our secured construction loans, 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 for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,		
	2022	2021	Change
Net cash provided by operating activities	$ 1,294,321	$ 1,010,197	$ 284,124
Net cash used in investing activities	$ (5,080,458)	$ (7,107,324)	$ 2,026,866
Net cash provided by financing activities	$ 4,229,772	$ 5,916,361	$ (1,686,589)

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 collectibility 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, 2022 increased by $284.1 million to $1.3 billion, compared to $1.0 billion for the year ended December 31, 2021. The increase was primarily attributable to the following since January 1, 2021: (i) cash flows generated from our highly leased development and redevelopment projects recently placed into service, (ii) income-producing acquisitions, and (iii) increases in rental rates on lease renewals and re-leasing of space.

Investing activities

Cash used in investing activities for the years ended December 31, 2022 and 2021 consisted of the following (in thousands):

	Year Ended December 31,		
	2022	2021	Increase (Decrease)
Sources of cash from investing activities:			
Proceeds from sales of real estate	$ 994,331	$ 190,576	$ 803,755
Change in escrow deposits	155,968	—	155,968
Return of capital from unconsolidated real estate joint ventures	471	—	471
Sale of interests in unconsolidated real estate joint ventures	—	394,952	(394,952)
Sales of and distributions from non-real estate investments	198,320	424,623	(226,303)
	1,349,090	1,010,151	338,939
Uses of cash for investing activities:			
Purchases of real estate	2,877,861	5,434,652	(2,556,791)
Additions to real estate	3,307,313	2,089,849	1,217,464
Change in escrow deposits	—	161,696	(161,696)
Acquisition of interest in unconsolidated real estate joint venture	—	9,048	(9,048)
Investments in unconsolidated real estate joint ventures	1,442	13,666	(12,224)
Additions to non-real estate investments	242,932	408,564	(165,632)
	6,429,548	8,117,475	(1,687,927)
Net cash used in investing activities	$ 5,080,458	$ 7,107,324	$ (2,026,866)

The decrease in net cash used in investing activities for the year ended December 31, 2022 when compared to the year ended December 31, 2021 was primarily due to a decreased use of cash for purchases of real estate and increase in proceeds from dispositions of real estate, partially offset by increased cash used for additions to real estate. Refer to Note 3 – “Investments in real estate” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for further information.

Financing activities

Cash flows provided by financing activities for the years ended December 31, 2022 and 2021 consisted of the following (in thousands):

	Year Ended December 31, 2022	Year Ended December 31, 2021	Change
Borrowings from secured notes payable	$ 49,715	$ 10,005	$ 39,710
Repayments of borrowings from secured notes payable	(934)	(17,979)	17,045
Payment for the defeasance of secured notes payable	(198,304)	—	(198,304)
Proceeds from issuance of unsecured senior notes payable	1,793,318	1,743,716	49,602
Repayments of unsecured senior notes payable	—	(650,000)	650,000
Premium paid for early extinguishment of debt	—	(66,829)	66,829
Borrowings from unsecured senior line of credit	1,181,000	3,521,000	(2,340,000)
Repayments of borrowings from unsecured senior line of credit	(1,181,000)	(3,521,000)	2,340,000
Proceeds from issuances under commercial paper program	14,641,500	30,951,300	(16,309,800)
Repayments of borrowings from commercial paper program	(14,911,500)	(30,781,300)	15,869,800
Payments of loan fees	(35,612)	(18,938)	(16,674)
Changes related to debt	1,338,183	1,169,975	168,208
Contributions from and sales of noncontrolling interests	1,542,347	2,026,486	(484,139)
Distributions to and purchases of noncontrolling interests	(192,171)	(118,891)	(73,280)
Proceeds from the issuance of common stock	2,346,444	3,529,097	(1,182,653)
Dividend payments	(757,742)	(655,968)	(101,774)
Taxes paid related to net settlement of equity awards	(47,289)	(34,338)	(12,951)
Net cash provided by financing activities	$ 4,229,772	$ 5,916,361	$ (1,686,589)

Capital resources

We expect that our principal liquidity needs for the year ending December 31, 2023 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.

Key Sources and Uses of Capital *(In millions)*	2023 Guidance		
	Range		Midpoint
Sources of capital:			
Incremental debt	$ 550	$ 850	$ 700
Excess 2022 bond capital held as cash at December 31, 2022	300	300	300
Net cash provided by operating activities after dividends	350	400	375
Real estate dispositions, sales of partial interests, and issuances of common equity	1,400	2,400	1,900 (1)
Total sources of capital	$ 2,600	$ 3,950	$ 3,275
Uses of capital:			
Construction	$ 2,400	$ 3,550	$ 2,975
Acquisitions	200	400	300
Total uses of capital	$ 2,600	$ 3,950	$ 3,275
Incremental debt (included above):			
Issuance of unsecured senior notes payable	$ 500	$ 1,000	$ 750
Unsecured senior line of credit, commercial paper program, and other	50	(150)	(50)
Incremental debt	$ 550	$ 850	$ 700

(1) Refer to Note 15 – "Stockholders' equity" to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional details. During the three months ended December 31, 2022, we entered into new forward equity sales agreements aggregating $104.7 million to sell 699,274 shares under our ATM program at an average price of $149.68 per share (before underwriter discounts). We expect to settle these forward equity sales agreements in 2023 and establish a new ATM program during the first quarter of 2023.

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 as "Forward-looking statements" under Part I; "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. We expect to update our forecast of key sources and uses of capital on a quarterly basis.

Sources of capital

Net cash provided by operating activities after dividends

We expect to retain $350.0 million to $400.0 million of net cash flows from operating activities after payment of common stock dividends and distributions to noncontrolling interests for the year ending December 31, 2023. For purposes of this calculation, changes in operating assets and liabilities are excluded as they represent timing differences. For the year ending December 31, 2023, we expect our recently delivered projects, our highly pre-leased value-creation projects expected to be delivered, and contributions from Same Properties and recently acquired properties to contribute significant increases in income from rentals, net operating income, and cash flows. We anticipate significant contractual near-term growth in annual cash rents of $57 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 “Cash flows” within this Item 7 in this annual report on Form 10-K for a discussion of cash flows provided by operating activities for the year ended December 31, 2022.

Debt

We expect to fund a portion of our capital needs in 2023 from real estate dispositions, sales of partial interests, strategic real estate joint ventures, settlement of our outstanding forward equity sales agreements, cash on hand, issuances under our commercial paper program, borrowings under our unsecured senior line of credit, and borrowings under our secured construction loans.

In September 2022, we amended our unsecured senior line of credit to extend the maturity date to January 22, 2028 from January 6, 2026, increase the commitments to $4.0 billion from $3.0 billion, and convert the interest rate to SOFR plus 0.875% from LIBOR plus 0.815%. As of December 31, 2022, we had no outstanding balance on our unsecured senior line of credit. 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. Based upon our ability to achieve certain annual sustainability targets, the interest rate and facility fee rate are also subject to upward or downward adjustments of up to four basis points with respect to the interest rate and up to one basis point with respect to the facility fee.

In September 2022, we increased the aggregate amount we may issue from time to time under our commercial paper program to $2.0 billion from $1.5 billion. Commercial notes under our commercial paper program can have a maximum maturity of 397 days from the date of issuance and are generally issued with a maturity of 30 days or less. Our commercial paper program is backed by our unsecured senior line of credit, and at all times we expect to retain a minimum undrawn amount of borrowing capacity under our unsecured senior line of credit equal to any outstanding balance under our commercial paper program. We use borrowings under the program to fund short-term capital needs. The notes issued under our commercial paper program are sold under customary terms in the commercial paper market. They are typically issued at a discount to par, representing a yield to maturity dictated by market conditions at the time of issuance. In the event we are unable to issue commercial paper notes or refinance outstanding commercial paper notes under terms equal to or more favorable than those under the unsecured senior line of credit, we expect to borrow under the unsecured senior line of credit at SOFR plus 0.875%. The commercial paper notes sold during the year ended December 31, 2022 were issued at a weighted-average yield to maturity of 1.91%. As of December 31, 2022, we had no outstanding balance under our commercial paper program.

In February 2022, we issued $1.8 billion of unsecured senior notes payable with a weighted-average interest rate of 3.28% and a weighted-average maturity of 22.0 years. The unsecured senior notes consisted of $800.0 million of 2.95% green unsecured senior notes due 2034 and $1.0 billion of 3.55% unsecured senior notes due 2052.

In April 2022, we repaid two secured notes payable aggregating $195.0 million due in 2024 with an effective interest rate of 3.40% and recognized a loss on early extinguishment of debt of $3.3 million, including a prepayment penalty and the write-off of unamortized loan fees.

The following table provides our average debt outstanding and weighted-average interest rate during the year ended December 31, 2022:

	Year Ended December 31, 2022	
	Average Debt Outstanding	Weighted-Average Interest Rate
Long-term fixed-rate debt	$ 9,999,145	3.50 %
Short-term variable-rate unsecured senior line of credit and commercial paper program debt	564,649	1.72
Blended average interest rate	$ 10,563,794	3.40
Loan fee amortization and annual facility fee related to unsecured senior line of credit	N/A	0.11
Total/weighted average	$ 10,563,794	3.51 %

Proactive management of transition from LIBOR

LIBOR has been used extensively in the U.S. and globally as a reference rate for various commercial and financial contracts, including variable-rate debt and interest rate swap contracts. However, based on an announcement made by the Financial Conduct Authority on March 5, 2021, one-week and two-month LIBOR rates ceased to be published after December 31, 2021; all other LIBOR settings will effectively cease after June 30, 2023, and it is expected that LIBOR will no longer be used after this date. In connection with this change, in the U.S. the Alternative Reference Rates Committee ("ARRC") was established to help ensure the successful transition from LIBOR. In June 2017, the ARRC selected SOFR, a new index calculated by reference to short-term repurchase agreements backed by U.S. Treasury securities, as its preferred replacement for U.S. dollar LIBOR. We have been closely monitoring developments related to the transition from LIBOR and have implemented numerous proactive measures to eliminate the potential transition-related impacts to the Company, specifically:

- Since January 2017, we have proactively eliminated outstanding LIBOR-based borrowings, and as of December 31, 2022, we had no LIBOR-based debt or financial contracts, including through our consolidated and unconsolidated real estate joint ventures.
- From 2020 through December 31, 2022, we increased the aggregate amount available under our commercial paper program to $2.0 billion from $750.0 million. Our commercial paper program is not subject to LIBOR and is used for funding short-term working capital needs. This program provides us with the ability to issue commercial paper notes bearing interest at short-term fixed rates with a maturity of generally 30 days or less and a maximum maturity of 397 days from the date of issuance. As of December 31, 2022, we had no commercial paper notes outstanding.
- In September 2022, we amended our unsecured senior line of credit to convert its interest rate to SOFR, among other changes. As of December 31, 2022, we had no borrowings outstanding under our unsecured senior line of credit.

Refer to Note 10 – "Secured and unsecured senior debt" to our consolidated financial statements under Item 15 and "Item 1A. Risk factors" in this annual report on Form 10-K for additional information about our management of risks related to the transition from LIBOR.

Real estate dispositions, sales of partial interests, and issuances of 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 pending and recently completed opportunistic acquisitions and our highly leased value-creation development and redevelopment projects, and also provide significant capital for growth. We may also consider additional sales of partial interests in core Class A properties and/or development projects. For 2023, we expect real estate dispositions, sales of partial interests, and issuances of common equity ranging from $1.4 billion to $2.4 billion. The amount of asset sales necessary to meet our forecasted sources of capital will vary depending upon the amount of Adjusted EBITDA associated with the assets sold.

Refer to Note 3 – "Investment in real estate", Note 4 – "Consolidated and unconsolidated real estate joint ventures", and Note 15 – "Stockholders' equity" to our consolidated financial statements under Item 15 and "Dispositions and sales of partial interests" under Item 2 in this annual report on Form 10-K for additional information on our dispositions, sales of partial interests, and issuances of common equity.

As a REIT, we are generally subject to a 100% tax on the net income from real estate asset sales that the IRS characterizes as "prohibited transactions." We do not expect our sales will be categorized as prohibited transactions. However, unless we meet certain "safe harbor" requirements, whether a real estate asset sale is a prohibited transaction will be based on the facts and circumstances of the sale. Our real estate asset sales may not always meet such safe harbor requirements. Refer to "Item 1A. Risk factors" in this annual report on Form 10-K for additional information about the "prohibited transaction" tax.

Common equity transactions

During the year ended December 31, 2022, our common equity transactions included the following:

- In January 2022, we entered into new forward equity sales agreements aggregating $1.7 billion to sell 8.1 million shares of our common stock (including the exercise of an underwriters' option) at a public offering price of $210.00 per share, before underwriting discounts and commissions.
  - During the year ended December 31, 2022, we settled all of our outstanding forward equity sales agreements by issuing 8.1 million shares and received net proceeds of $1.6 billion.

- In December 2021, we entered into a new ATM common stock offering program, which allows us to sell up to an aggregate of $1.0 billion of our common stock.
  - During the year ended December 31, 2022, we entered into new forward equity sales agreements aggregating $858.1 million to sell 4.9 million shares under our ATM program at an average price of $175.12 per share (before underwriting discounts).
    - During the three months ended December 31, 2022, we settled a portion of our outstanding forward equity agreements by issuing 4.2 million shares and received net proceeds of $737.4 million.
    - We expect to settle the remaining outstanding forward equity agreements by issuing 699,274 shares and receive net proceeds of approximately $102.4 million in 2023.
  - As of December 31, 2022, the remaining aggregate amount available under our ATM program for future sales of common stock was $141.9 million. We expect to establish a new ATM program during the first quarter of 2023.

Other sources

Under our current shelf registration statement filed with the SEC, we may issue 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, together with joint venture partners, hold interests in real estate joint ventures that we consolidate in our financial statements. These existing joint ventures provide significant equity capital to fund a portion of our future construction spend, and our joint venture partners may also contribute equity into these entities for financing-related activities. Over the next four years, we expect to receive $1.4 billion from our existing real estate joint venture partners to fund construction projects. For 2023, we expect contributions from noncontrolling interests to aggregate $794.0 million, approximately 55% of which represents funding commitments from our existing real estate joint ventures and the remaining amount of which represents funding expected from our future real estate joint ventures. During the year ended December 31, 2022, we received $1.5 billion of contributions from and sales of noncontrolling interests.

Uses of capital

Summary of capital expenditures

One of our primary uses of capital relates to the development, redevelopment, pre-construction, and construction of properties. We currently have projects in our value-creation pipeline aggregating 5.6 million RSF of Class A properties undergoing construction, 9.9 million RSF of near-term and intermediate-term development and redevelopment projects, and 17.3 million SF of future development projects 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 “New Class A development and redevelopment properties: current projects” under Item 2 in 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 in 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, 2022 and 2021 of $278.6 million and $170.6 million, respectively, was classified in investments in real estate in our consolidated balance sheets.

Property taxes, insurance on real estate, and indirect project costs, such as 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 costs related to development, redevelopment, pre-construction, and construction projects, aggregating $83.8 million and $69.8 million, and property taxes, insurance on real estate and indirect project costs aggregating $97.3 million and $73.8 million during the years ended December 31, 2022 and 2021, respectively.

The increase in capitalized costs for the year ended December 31, 2022, compared to the year ended December 31, 2021, was primarily due to an increase in our value-creation pipeline projects undergoing construction and pre-construction activities in 2022 over 2021. 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 and indirect project costs related to the 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 $36.2 million for the year ended December 31, 2022.

We use third-party brokers to assist in our leasing activity, who are paid on a contingent basis upon successful leasing. We are required to capitalize initial direct costs related to successful leasing transactions that result directly from and are essential to the lease transaction and would not have been incurred had that lease transaction not been successfully executed. During the year ended December 31, 2022, we capitalized total initial direct leasing costs of $186.7 million. 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 other costs, are expensed as incurred.

Acquisitions

Refer to the “Acquisitions” section in Note 3 – “Investments in real estate” and to Note 4 – “Consolidated and unconsolidated real estate joint ventures” to our consolidated financial statements under Item 15 in this annual report on Form 10-K, and the “Acquisitions” section in “Item 2. Properties” in this annual report on Form 10-K for information on our acquisitions.

Dividends

During the years ended December 31, 2022 and 2021, we paid common stock dividends of $757.7 million and $656.0 million, respectively. The increase of $101.8 million in dividends paid on our common stock during the year ended December 31, 2022, compared to the year ended December 31, 2021, was primarily due to an increase in the number of common shares outstanding subsequent to January 1, 2021 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 $4.66 per common share paid during the year ended December 31, 2022 from $4.42 per common share paid during the year ended December 31, 2021.

Secured notes payable

Secured notes payable as of December 31, 2022 consisted of three notes secured by two properties. Our secured notes payable typically require monthly payments of principal and interest and had a weighted-average interest rate of approximately 6.75%. As of December 31, 2022, the total book value of our investments in real estate securing debt was approximately $216.8 million. As of December 31, 2022, our secured notes payable, including unamortized discounts and deferred financing costs, comprised approximately $649 thousand and $58.4 million of fixed-rate debt and unhedged variable-rate debt, respectively.

Unsecured senior notes payable and 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, 2022 were as follows:

Covenant Ratios[1]	Requirement	December 31, 2022
Total Debt to Total Assets	Less than or equal to 60%	27%
Secured Debt to Total Assets	Less than or equal to 40%	0.2%
Consolidated EBITDA[2] to Interest Expense	Greater than or equal to 1.5x	18.2x
Unencumbered Total Asset Value to Unsecured Debt	Greater than or equal to 150%	363%

(1) All covenant ratio titles utilize terms as defined in the respective debt agreements.
(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.

The requirements of, and our actual performance with respect to, the key financial covenants under our unsecured senior line of credit as of December 31, 2022 were as follows:

Covenant Ratios [1]	Requirement	December 31, 2022
Leverage Ratio	Less than or equal to 60.0%	26.6%
Secured Debt Ratio	Less than or equal to 45.0%	0.1%
Fixed-Charge Coverage Ratio	Greater than or equal to 1.50x	4.34x
Unsecured Interest Coverage Ratio	Greater than or equal to 1.75x	18.87x

(1) All covenant ratio titles utilize terms as defined in the credit agreement.

Estimated interest payments

Estimated interest payments on our fixed-rate debt are calculated based upon contractual interest rates, including interest payment dates and scheduled maturity dates. As of December 31, 2022, 99.4% of our debt was fixed-rate debt. For additional information regarding our debt, refer to Note 10 – "Secured and unsecured senior debt" to our consolidated financial statements under Item 15 in this annual report on Form 10-K.

Ground lease obligations

Operating lease agreements

Ground lease obligations as of December 31, 2022, included leases for 40 of our properties, which accounted for approximately 9% of our total number of properties. Excluding one ground lease that expires in 2036 related to one operating property with a net book value of $6.3 million as of December 31, 2022, our ground lease obligations have remaining lease terms ranging from approximately 31 to 99 years, including available extension options that we are reasonably certain to exercise.

As of December 31, 2022, the remaining contractual payments under ground and office lease agreements in which we are the lessee aggregated $870.1 million and $34.1 million, respectively. We are required to recognize a right-of-use asset and a related liability to account for our future obligations under operating lease arrangements in which we are the lessee. The operating lease liability is measured based on the present value of the remaining lease payments, including payments during the term under our extension options that we are reasonably certain to exercise. The right-of-use asset is equal to the corresponding operating lease liability, adjusted for the initial direct leasing cost and any other consideration exchanged with the landlord prior to the commencement of the lease, as well as adjustments to reflect favorable or unfavorable terms of an acquired lease when compared with market terms at the time of acquisition. As of December 31, 2022, the present value of the remaining contractual payments, aggregating $904.2 million, under our operating lease agreements, including our extension options that we are reasonably certain to exercise, was $406.7 million, which was classified in accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets. As of December 31, 2022, the weighted-average remaining lease term of operating leases in which we are the lessee was approximately 42 years, and the weighted-average discount rate was 4.6%. Our corresponding operating lease right-of-use assets, adjusted for initial direct leasing costs and other consideration exchanged with the landlord prior to the commencement of the lease, aggregated $558.3 million. We classify the right-of-use asset in other assets in our consolidated balance sheets. Refer to the "Lease accounting" section in 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.

Commitments

As of December 31, 2022, remaining aggregate costs under contract for the construction of properties undergoing development, redevelopment, and improvements under the terms of leases approximated $3.5 billion. In addition, we may be required to incur construction costs associated with our future development projects aggregating 643,331 RSF in our Greater Boston market pursuant to an agreement whereby our counterparty may elect to execute future lease agreements on mutually agreeable terms.

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 projects, which would result in the reduction of our commitments. In addition, we have letters of credit and performance obligations aggregating $22.4 million primarily related to construction projects and an anticipated acquisition.

We are committed to funding approximately $415.4 million related to our non-real estate investments. These funding commitments are primarily associated with our investments in privately held entities that report NAV and expire at various dates over the next 12 years, with a weighted-average expiration of 8.6 years as of December 31, 2022.

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 pollution legal liability insurance covering exposure to certain environmental losses at substantially all of our properties.

Foreign currency translation gains and losses

The following table presents the change in accumulated other comprehensive loss attributable to Alexandria Real Estate Equities, Inc.'s stockholders during the year ended December 31, 2022 due to the changes in the foreign exchange rates for our real estate investments in Canada and Asia. We reclassify unrealized foreign currency translation gains and losses into net income as we dispose of these holdings.

(In thousands)	Total
Balance as of December 31, 2021	$ (7,294)
Other comprehensive loss before reclassifications	(13,518)
Net other comprehensive loss	(13,518)
Balance as of December 31, 2022	$ (20,812)

Inflation

As of December 31, 2022, approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses (including increases thereto) in addition to base rent. Approximately 96% of our leases (on an annual rental revenue 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. A period of inflation, however, could cause an increase in the cost of our variable-rate borrowings, including borrowings under our unsecured senior line of credit and commercial paper program, issuances of unsecured senior notes payable, and borrowings under our secured construction loans, and secured loans held by our unconsolidated real estate joint ventures.

In addition, refer to "Item 1A. Risk factors" in this annual report on Form 10-K for a discussion about risks that inflation directly or indirectly may pose to our business.

Issuer and guarantor subsidiary summarized 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 summarized financial information presents on a combined basis, balance sheet information as of December 31, 2022 and 2021, and results of operations and comprehensive income for the years ended December 31, 2022 and 2021 for the Issuer and the Guarantor Subsidiary. The information presented below excludes eliminations necessary to arrive at the information on a consolidated basis. In presenting the summarized financial statements, the equity method of accounting has been applied to (i) the Issuer's interests in the Guarantor Subsidiary, (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 assets and liabilities have been allocated to the Issuer and the Guarantor Subsidiary generally based on legal entity ownership.

The following tables present combined summarized financial information as of December 31, 2022 and 2021, and for the years ended December 31, 2022 and 2021, for the Issuer and Guarantor Subsidiary. Amounts provided do not represent our total consolidated amounts:

	December 31,	
(in thousands)	2022	2021
Assets:		
Cash, cash equivalents, and restricted cash	$ 465,707	$ 78,856
Other assets	107,287	101,956
Total assets	$ 572,994	$ 180,812
Liabilities:		
Unsecured senior notes payable	$ 10,100,717	$ 8,316,678
Unsecured senior line of credit and commercial paper	—	269,990
Other liabilities	466,369	401,721
Total liabilities	$ 10,567,086	$ 8,988,389

	Year Ended December 31,	
(in thousands)	2022	2021
Total revenues	$ 33,052	$ 26,798
Total expenses	(277,647)	(363,525)
Net loss	(244,595)	(336,727)
Net income attributable to unvested restricted stock awards	(8,392)	(7,848)
Net loss attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	$ (252,987)	$ (344,575)

As of December 31, 2022, 420 of our 432 properties were held indirectly by the REIT's wholly owned consolidated subsidiary, Alexandria Real Estate Equities, L.P.

Critical accounting estimates

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, current trends, and various other factors that we believe to be reasonable under the circumstances.

We continually evaluate the estimates, judgments, and assumptions we use to prepare our consolidated financial statements. Changes in estimates, judgments, or assumptions could affect our financial position and our results of operations, which are used by our stockholders, potential investors, industry analysts, and lenders in their evaluation of our performance.

Our critical accounting estimates are defined as accounting estimates or assumptions made in accordance with GAAP, which involve a significant level of estimation uncertainty or subjectivity and have had or are reasonably likely to have a material impact on our financial condition or results of operations. Our significant accounting policies, which utilize these critical accounting estimates, are described in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements under Item 15 in this annual report on Form 10-K. Our critical accounting estimates are described below.

Recognition of real estate acquired

Generally, our acquisitions of real estate or in-substance real estate are accounted for as asset acquisitions and not business combinations 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 requires that the acquisition consideration (including acquisition costs) be 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 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.

We assess the relative fair values of tangible and intangible assets and liabilities based on:

(i) Available comparable market information;
(ii) Estimated replacement costs; or
(iii) Discounted cash flow analysis/estimated net operating income and capitalization rates.

In certain instances, we may use multiple valuation techniques and estimate fair values based on an average of multiple valuation results. We exercise judgement to determine key assumptions used in each valuation technique. For example, to estimate future cash flows in the discounted cash flow analysis, we are required to use judgment and make a number of assumptions, including those related to projected growth in rental rates and operating expenses, and anticipated trends and market/economic conditions. The use of different assumptions in the discounted cash flow analysis can affect the amount of consideration allocated to the acquired depreciable/amortizable asset, which in turn can impact our net income due to the recognition of the related depreciation/amortization expense in our consolidated statements of operations.

We completed acquisitions of 42 properties for a total purchase price of $2.8 billion during the year ended December 31, 2022. These transactions were accounted for as asset acquisitions, and the purchase price of each was allocated based on the relative fair values of the assets acquired and liabilities assumed. Refer to the "Investments in real estate" section in 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.

Impairment of long-lived assets

Impairment of real estate assets classified as held for sale

A property is classified as held for sale when all of the accounting criteria for a plan of sale have been met. These criteria are described in the "Investments in real estate" section in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements under Item 15 in this annual report on Form 10-K. Upon classification as held for sale, we recognize an impairment charge, if necessary, to lower the carrying amount of the real estate asset to its estimated fair value less cost to sell. The determination of fair value can involve significant judgments and assumptions. We develop key assumptions based on the following available factors: (i) contractual sales price, (ii) preliminary non-binding letters of intent, or (iii) other available comparable market information. If this information is not available, we use estimated replacement costs or estimated cash flow projections that utilize estimated discount and capitalization rates. These estimates are subject to uncertainty and therefore require significant judgment by us. We review all assets held for sale each reporting period to determine whether the existing carrying amounts are fully recoverable in comparison to their estimated fair values less costs to sell. Subsequently, as a result of our quarterly assessment, we may recognize an incremental impairment charge for any decrease in the asset's fair value less cost to sell. Conversely, we may recognize a gain for a subsequent increase in fair value less cost to sell, limited to the cumulative net loss previously recognized.

Impairment of other long-lived assets

For each reporting period, we review current activities and changes in the business conditions of all of our long-lived assets, including our rental properties, CIP, land held for development, right-of-use assets related to operating leases in which we are the lessee, and intangibles, 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, including, if necessary, a probability-weighted approach if multiple outcomes are under consideration.

Long-lived assets to be held and used, 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. Triggering events or impairment indicators 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 or amortization 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 asset is expected to be held and used. We may also adjust depreciation of properties that are expected to be disposed of or redeveloped prior to the end of their useful lives.

The evaluation for impairment and calculation of the carrying amount of a long-lived asset to be held and used involves consideration of factors and calculations that are different than the estimate of fair value of assets classified as held for sale. 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.

Impairment of real estate joint ventures accounted for under the equity method of accounting

We generally account for our investments in real estate joint ventures that do not meet the consolidation criteria under the equity method. Under the equity method of accounting, we initially recognize our investment at cost and subsequently adjust the carrying amount of the investment for our share of the investee’s earnings or losses, distributions received, and other-than-temporary impairments.

Our unconsolidated real estate joint ventures are individually evaluated for impairment when conditions exist that may indicate that the decrease in the carrying amount of our investment has occurred and is other than temporary. Triggering events or impairment indicators for an unconsolidated joint venture include its recurring operating losses, and other events such as occupancy changes, significant near-term lease expirations, significant changes in construction costs, estimated completion dates, rental rates, and other factors related to the properties owned by the real estate joint venture, or a decision by investors to cease providing support or reduce their financial commitment to the joint venture.

Upon determination that an other-than-temporary impairment has occurred, a write-down is recognized to reduce the carrying amount of our investment to its estimated fair value. As of December 31, 2022, the carrying amounts of our investments in unconsolidated real estate joint ventures aggregated $38.4 million, or approximately 0.1% of our total assets. During the year ended December 31, 2022, no other-than-temporary impairments related to our unconsolidated real estate joint ventures were identified. Refer to the “Unconsolidated real estate joint ventures” section in Note 4 – “Consolidated and unconsolidated real estate joint ventures” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.

Impairment of non-real estate investments

We hold strategic investments in publicly traded companies and privately held entities primarily involved in the life science, agtech, 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 privately held entities that do not report NAV per share require our evaluation for impairment when changes in these entities’ conditions may indicate that an impairment exists. We closely monitor these investments throughout the year for new developments, including operating results, prospects and results of clinical trials, new product initiatives, new collaborative agreements, capital-raising events, and merger and acquisition activities. We evaluate these investees on the basis of a qualitative assessment for indicators of impairment by monitoring the presence of the following triggering events or 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, including the research and development of technology and products that the investee is bringing or attempting to bring to the market, (iv) significant concerns about the investee's ability to continue as a going concern, or (v) a decision by investors to cease providing support to reduce their financial commitment to the investee. If such indicators are present, we are required to estimate the investment's fair value and immediately recognize an impairment loss in an amount equal to the investment's carrying value in excess of its estimated fair value. As of each December 31, 2022, 2021, and 2020, the carrying amounts of our investments in privately held entities that do not report NAV per share accounted for approximately 2% of our total assets and aggregated $582.7 million, $491.3 million, and $389.2 million, respectively. During the years ended December 31, 2022, 2021, and 2020, we recognized impairment charges aggregating 4%, 0%, and 6% of the carrying amounts of our investments in privately held entities that do not report NAV, respectively.

Monitoring of tenant credit quality

We monitor, on an ongoing basis, 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 industries in which they conduct business, and (iv) monitoring the timeliness of lease payments.

We have a team of employees who, among them, have an extensive educational background or experience in biology, chemistry, industrial biotechnology, agtech, and the life science industry, as well as knowledge in finance. This team is responsible for timely assessment, monitoring, and communication of our tenants' credit quality and any material changes therein. During the fiscal years ended 2022, 2021, and 2020, specific write-offs and a general allowance related to deferred rent balances of tenants recognized in our consolidated statements of operations have not exceeded 0.8% of our income from rentals for each respective year. For additional information, refer to the "Monitoring of tenant credit quality" section in 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.

Allowance for credit losses

For the financial assets in scope of the accounting standard on credit losses, we are required to estimate and recognize lifetime expected losses, rather than incurred losses, which results in the earlier recognition of credit losses even if the expected risk of credit loss is remote.

As of December 31, 2022, all of our 432 properties were subject to the operating lease agreements, which are excluded from the scope of the standard on credit losses. As of December 31, 2022, we had one direct financing lease agreement for a parking structure with an aggregate net investment balance of $39.4 million, which represented approximately 0.1% of our total assets. At each reporting date, we estimate the current credit loss related to these assets by assessing the probability of default on these leases based on the lessees' financial condition, credit rating, business prospects, remaining lease term, and, in the case of the direct financing lease, the expected value of the underlying collateral upon its repossession, and, if necessary, we recognize a credit loss adjustment. Since our adoption of this standard on January 1, 2020, and as of each December 31, 2022 and 2021, our allowance for credit losses has not exceeded $2.8 million, or 0.01% of our total assets. For further details, refer to the "Allowance for credit losses" section in Note 2 – "Summary of significant accounting policies" and to Note 5 – "Leases" to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.

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 acquisition and disposition decisions, financing decisions, capital structure, capital market transactions, variances resulting from the volatility of market conditions outside of our control, or other corporate activities that may not be representative of the operating performance of our properties.

The 2018 White Paper published by the Nareit Board of Governors (the "Nareit White Paper") defines funds from operations as net income (computed in accordance with GAAP), excluding gains or losses on sales of real estate, and impairments of real estate, plus depreciation and amortization of operating real estate assets, 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.

We compute funds from operations, as adjusted, as funds from operations calculated in accordance with the Nareit White Paper, excluding significant gains, losses, and impairments realized on non-real estate investments, unrealized gains or losses on non-real estate investments, gains or losses on early extinguishment of debt, significant termination fees, acceleration of stock compensation expense due to the resignation of an executive officer, deal costs, the income tax effect related to such items, and the amount of such items that is allocable to our unvested restricted stock awards. We compute the amount that is allocable to our unvested restricted stock awards using the two-class method. Under the two-class method, we allocate net income (after amounts attributable to noncontrolling interests) to common stockholders and to unvested restricted stock awards by applying the respective weighted-average shares outstanding during each quarter-to-date and year-to-date period. This may result in a difference of the summation of the quarter-to-date and year-to-date amounts. 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.

The following table reconciles net income to funds from operations for the share of consolidated real estate joint ventures attributable to noncontrolling interests and our share of unconsolidated real estate joint ventures for the three and twelve months ended December 31, 2022 (in thousands):

	Noncontrolling Interest Share of Consolidated Real Estate Joint Ventures		Our Share of Unconsolidated Real Estate Joint Ventures	
	December 31, 2022		December 31, 2022	
	Three Months Ended	Year Ended	Three Months Ended	Year Ended
Net income	$ 40,949	$ 149,041	$ 172	$ 645
Depreciation and amortization of real estate assets	29,702	107,591	982	3,666
Funds from operations	$ 70,651	$ 256,632	$ 1,154	$ 4,311

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 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 for the years ended December 31, 2022, 2021, and 2020. Per share amounts may not add due to rounding.

	Year Ended December 31,		
(In thousands)	2022	2021	2020
Net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – basic and diluted	$ 513,268	$ 563,399	$ 760,791
Depreciation and amortization of real estate assets	988,363	804,633	684,682
Noncontrolling share of depreciation and amortization from consolidated real estate JVs	(107,591)	(70,880)	(61,933)
Our share of depreciation and amortization from unconsolidated real estate JVs	3,666	13,734	11,413
Gain on sales of real estate	(537,918)	(126,570)	(154,089)
Impairment of real estate – rental properties	20,899 (1)	25,485	40,501
Allocation to unvested restricted stock awards	(1,118)	(6,315)	(7,018)
Funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted(2)	879,569	1,203,486	1,274,347
Unrealized losses (gains) on non-real estate investments	412,193	(43,632)	(374,033)
Significant realized gains on non-real estate investments	—	(110,119)	—
Impairment of non-real estate investments	20,512 (3)	—	24,482
Impairment of real estate	44,070 (4)	27,190	15,221
Loss on early extinguishment of debt	3,317	67,253	60,668
Termination fee	—	—	(86,179)
Acceleration of stock compensation expense due to executive officer resignation	7,185 (5)	—	4,499
Allocation to unvested restricted stock awards	(5,137)	710	4,790
Funds from operations attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, as adjusted	$ 1,361,709	$ 1,144,888	$ 923,795

(1) Primarily consists of an impairment of one real estate asset recognized to reduce the carrying amount of the asset to its estimated fair value, less cost to sell, upon its classification as held for sale in December 2022. We expect to complete the sale of this asset during 2023.
(2) Calculated in accordance with standards established by the Nareit Board of Governors.
(3) Primarily relates to three investments in privately held entities that do not report NAV.
(4) Includes (i) the write-off of pre-acquisition deposits primarily related to one previously pending acquisition, which was recognized upon our decision not to proceed with the acquisition, and (ii) a $38.3 million impairment charge related to one future development, which we recognized upon our decision not to proceed with the project.
(5) Relates to the resignation of Stephen A. Richardson, our former co-chief executive officer, in July 2022.

(Per share)	Year Ended December 31, 2022	2021	2020
Net income per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted	$ 3.18	$ 3.82	$ 6.01
Depreciation and amortization of real estate assets	5.47	5.07	5.01
Gain on sales of real estate	(3.33)	(0.86)	(1.22)
Impairment of real estate – rental properties	0.13 [1]	0.17	0.32
Allocation to unvested restricted stock awards	(0.01)	(0.04)	(0.05)
Funds from operations per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted	5.44	8.16	10.07
Unrealized losses (gains) on non-real estate investments	2.55	(0.30)	(2.96)
Significant realized gains on non-real estate investments	—	(0.75)	—
Impairment of non-real estate investments	0.13 [1]	—	0.19
Impairment of real estate	0.27 [1]	0.18	0.12
Loss on early extinguishment of debt	0.02	0.46	0.48
Termination fee	—	—	(0.68)
Acceleration of stock compensation expense due to executive officer resignation	0.04 [1]	—	0.04
Allocation to unvested restricted stock awards	(0.03)	0.01	0.04
Funds from operations per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders – diluted, as adjusted	$ 8.42	$ 7.76	$ 7.30
Weighted-average shares of common stock outstanding for calculations of:			
EPS – diluted	161,659	147,460	126,490
Funds from operations – diluted, per share	161,659	147,460	126,490
Funds from operations – diluted, as adjusted, per share	161,659	147,460	126,490

(1) Refer to footnotes on the previous page for additional details.

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, impairments of real estate, and significant termination fees. Adjusted EBITDA also excludes unrealized gains or losses and significant realized gains or losses and impairments that result from our non-real estate investments. These non-real estate investment amounts are classified in our consolidated statements of operations outside of total 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 investing and financing decisions related to our real estate and non-real estate investments, our 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, significant impairments and realized gains or losses on non-real estate investments, and significant termination fees allows investors to evaluate performance from period to period on a consistent basis without having to account for differences recognized because of investing and financing decisions related to our real estate and non-real estate investments or other corporate activities that may not be representative of the operating performance of our properties.

In addition, 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 income (loss) or cash flows from 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.

In order to calculate the Adjusted EBITDA margin, we divide Adjusted EBITDA by total revenues as presented in our consolidated statements of operations. We believe that this supplemental performance measure provides investors with additional useful information regarding the profitability of our operating activities.

The following table reconciles net income (loss), the most directly comparable financial measure calculated and presented in accordance with GAAP, to Adjusted EBITDA and calculates the Adjusted EBITDA margin for the three months and years ended December 31, 2022 and 2021 (dollars in thousands):

	Three Months Ended December 31,		Year Ended December 31,	
	2022	2021	2022	2021
Net income	$ 95,268	$ 99,796	$ 670,701	$ 654,282
Interest expense	17,522	34,862	94,203	142,165
Income taxes	2,063	4,156	9,673	12,054
Depreciation and amortization	264,480	239,254	1,002,146	821,061
Stock compensation expense	11,586	14,253	57,740	48,669
Loss on early extinguishment of debt	—	—	3,317	67,253
Gain on sales of real estate	—	(124,226)	(537,918)	(126,570)
Significant realized gains on non-real estate investments	—	—	—	(110,119)
Unrealized losses (gains) on non-real estate investments	24,117	139,716	412,193	(43,632)
Impairment of real estate	26,186	—	64,969	52,675
Impairment of non-real estate investments	20,512	—	20,512	—
Adjusted EBITDA	$ 461,734	$ 407,811	$ 1,797,536	$ 1,517,838
Total revenues	$ 670,281	$ 576,923	$ 2,588,962	$ 2,114,150
Adjusted EBITDA margin	69%	71%	69%	72%

Annual rental revenue

Annual rental revenue represents the annualized fixed base rental obligations, calculated in accordance with GAAP, for leases 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 from 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, 2022, approximately 93% of our leases (on an annual rental revenue basis) were triple net leases, which require tenants to pay substantially all real estate taxes, insurance, utilities, repairs and maintenance, 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, along with base rent, are classified in income from rentals in our consolidated statements of operations.

Capitalization rates

Capitalization rates are calculated based on net operating income and net operating income (cash basis) annualized for the quarter preceding the date on which the property is sold, or near-term prospective net operating income.

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). Refer to the definition of "Fixed-charge coverage ratio" in this section within this Item 7 in this annual report on 10-K 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.

Construction costs related to active development and redevelopment projects under contract

Includes (i) costs incurred to date, (ii) remaining costs to complete under a general contractor's guaranteed maximum price ("GMP") construction contract or other fixed contracts, and (iii) our maximum committed tenant improvement allowances under our executed leases. The general contractor's GMP contract or other fixed contracts reduce our exposure to costs of construction materials, labor, and services from third-party contractors and suppliers, unless the overruns result from, among other things, a force majeure event or a change in the scope of work covered by the contract.

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, and property enhancements identified during the underwriting of certain acquired properties, located in collaborative life science, agtech, and technology campuses in AAA 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, agtech, or tech office space. We generally will not commence new development projects for aboveground construction of new Class A office/laboratory, agtech, 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.

Development, redevelopment, and pre-construction spending also includes the following costs: (i) amounts to bring certain acquired properties up to market standard and/or other costs identified during the acquisition process (generally within two years of acquisition) and (ii) permanent conversion of space for highly flexible, move-in-ready office/laboratory space to foster the growth of promising early- and growth-stage life science companies.

Revenue-enhancing and repositioning capital expenditures represent spending to reposition or significantly change the use of a property, including through improvement in the asset quality from Class B to Class A.

Non-revenue-enhancing capital expenditures represent costs required to maintain the current revenues of a stabilized property, including the associated costs for renewed and re-leased space.

Dividend payout ratio (common stock)

Dividend payout ratio (common stock) is the ratio of the absolute dollar amount of dividends on our common stock (shares of common stock outstanding on the respective record dates multiplied by the related dividend per share) to funds from operations attributable to Alexandria's common stockholders – diluted, as adjusted.

Dividend yield

Dividend yield for the quarter represents the annualized quarter dividend divided by the closing common stock price at the end of the quarter.

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 that 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 and computes the fixed-charge coverage ratio for the three months and years ended December 31, 2022 and 2021 (dollars in thousands):

	Three Months Ended December 31,		Year Ended December 31,	
	2022	2021	2022	2021
Adjusted EBITDA	$ 461,734	$ 407,811	$ 1,797,536	$ 1,517,838
Interest expense	$ 17,522	$ 34,862	$ 94,203	$ 142,165
Capitalized interest	79,491	44,078	278,645	170,641
Amortization of loan fees	(3,975)	(2,911)	(13,549)	(11,441)
Amortization of debt (discounts) premiums	(272)	502	(384)	2,041
Cash interest and fixed charges	$ 92,766	$ 76,531	$ 358,915	$ 303,406
Fixed-charge coverage ratio:				
– period annualized	5.0x	5.3x	5.0x	5.0x
– trailing 12 months	5.0x	5.0x	5.0x	5.0x

Gross assets

Gross assets are calculated as total assets plus accumulated depreciation as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Total assets	$ 35,523,399	$ 30,219,373
Accumulated depreciation	4,354,063	3,771,241
Gross assets	$ 39,877,462	$ 33,990,614

Initial stabilized yield (unlevered)

Initial stabilized yield is calculated as the estimated amounts of net operating income at stabilization divided by 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 twelve months ended December 31, 2022, as reported by Bloomberg Professional Services. Credit ratings from Moody's Investors Service and S&P Global Ratings reflect credit ratings of the tenant's parent entity, and there can be no assurance that a tenant's parent entity will satisfy the tenant's lease obligation upon such tenant's default. We monitor the credit quality and related material changes of our tenants. Material changes that cause a tenant's market capitalization to decrease below $10 billion, which are not immediately reflected in the twelve-month average, may result in their exclusion from this measure.

Investments in real estate – value-creation square footage currently in rental properties

The square footage presented in the table below includes RSF of buildings in operation as of December 31, 2022, primarily representing lease expirations or vacant space at recently acquired properties that also have inherent future development or redevelopment opportunities and for which we have the intent to demolish or redevelop the existing property upon expiration of the existing in-place leases and commencement of future construction:

		RSF of Lease Expirations Targeted for Development and Redevelopment			
Property/Submarket	Dev/Redev	2023	2024	Thereafter[1]	Total
Near-term projects:					
100 Edwin H. Land Boulevard/Cambridge/Inner Suburbs	Redev	—	104,500	—	104,500
40 Sylvan Road/Route 128	Redev	312,845	—	—	312,845
275 Grove Street/Route 128	Redev	—	—	160,251	160,251
840 Winter Street/Route 128	Redev	10,265	17,965	—	28,230
3301 Monte Villa Parkway/Bothell	Redev	—	50,552	—	50,552
		323,110	173,017	160,251	656,378
Intermediate-term projects:					
219 East 42nd Street/New York City	Dev	—	349,947	—	349,947
10975 and 10995 Torreyana Road/Torrey Pines	Dev	—	84,829	—	84,829
		—	434,776	—	434,776
Future projects:					
311 Arsenal Street/Cambridge/Inner Suburbs	Redev	—	—	308,446	308,446
550 Arsenal Street/Cambridge/Inner Suburbs	Dev	—	—	260,867	260,867
446 and 458 Arsenal Street/Cambridge/Inner Suburbs	Dev	—	—	38,200	38,200
380 and 420 E Street/Seaport Innovation District	Dev	—	—	195,506	195,506
Other/Greater Boston	Redev	—	—	167,549	167,549
1122 and 1150 El Camino Real/South San Francisco	Dev	—	—	655,172	655,172
3875 Fabian Way/Greater Stanford	Dev	—	—	228,000	228,000
960 Industrial Road/Greater Stanford	Dev	—	—	110,000	110,000
Campus Point by Alexandria/University Town Center	Dev	—	495,192	—	495,192
Sequence District by Alexandria/Sorrento Mesa	Dev/Redev	—	—	688,034	688,034
4025 and 4045 Sorrento Valley Boulevard/Sorrento Valley	Dev	—	—	22,886	22,886
601 Dexter Avenue North/Lake Union	Dev	18,680	—	—	18,680
830 4th Avenue South/SoDo	Dev	—	—	42,380	42,380
Other/Seattle	Dev	—	—	102,437	102,437
1020 Red River Street/Austin	Redev	—	126,034	—	126,034
		18,680	621,226	2,819,477	3,459,383
		341,790	1,229,019	2,979,728	4,550,537

(1) Includes vacant square footage as of December 31, 2022.

Joint venture financial information

We present components of balance sheet and operating results information related to our real estate joint ventures, which are not presented, 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, which are controlled by us through contractual rights or majority voting rights, 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, and are instead controlled jointly or by our joint venture partners through contractual rights or majority voting rights, 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 our real estate 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 that 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 our real estate 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. 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 presented and prepared in accordance with GAAP.

Mega campus

Mega campuses are cluster campuses that consist of approximately 1 million RSF or more, including operating, active development/redevelopment, and land RSF less operating RSF expected to be demolished. The following table reconciles our operating RSF as of December 31, 2022:

	Operating RSF
Mega campus	28,554,356
Non-mega campus	13,219,366
Total	41,773,722
Mega campus RSF as a percentage of total operating property RSF	68 %

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 and preferred stock to Adjusted EBITDA

Net debt and preferred stock to Adjusted EBITDA is a non-GAAP financial measure that we believe is useful to investors as a supplemental measure of evaluating our balance sheet leverage. Net debt and preferred stock is equal to the sum of total consolidated debt less cash, cash equivalents, and restricted cash, plus preferred stock outstanding as of the end of the period. Refer to the definition of "Adjusted EBITDA and Adjusted EBITDA margin" within this Item 7 in this annual report on Form 10-K for further information on the calculation of Adjusted EBITDA.

The following table reconciles debt to net debt and preferred stock and computes the ratio to Adjusted EBITDA as of December 31, 2022 and 2021 (dollars in thousands):

	December 31,	
	2022	2021
Secured notes payable	$ 59,045	$ 205,198
Unsecured senior notes payable	10,100,717	8,316,678
Unsecured senior line of credit and commercial paper	—	269,990
Unamortized deferred financing costs	74,918	65,476
Cash and cash equivalents	(825,193)	(361,348)
Restricted cash	(32,782)	(53,879)
Preferred stock	—	—
Net debt and preferred stock	$ 9,376,705	$ 8,442,115
Adjusted EBITDA:		
– quarter annualized	$ 1,846,936	$ 1,631,244
– trailing 12 months	$ 1,797,536	$ 1,517,838
Net debt and preferred stock to Adjusted EBITDA:		
– quarter annualized	5.1x	5.2x
– trailing 12 months	5.2x	5.6x

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) and computes operating margin for the years ended December 31, 2022, 2021, and 2020 (dollars in thousands):

	Year Ended December 31,		
	2022	2021	2020
Net income	$ 670,701	$ 654,282	$ 827,171
Equity in earnings of unconsolidated real estate joint ventures	(645)	(12,255)	(8,148)
General and administrative expenses	177,278	151,461	133,341
Interest expense	94,203	142,165	171,609
Depreciation and amortization	1,002,146	821,061	698,104
Impairment of real estate	64,969	52,675	48,078
Loss on early extinguishment of debt	3,317	67,253	60,668
Gain on sales of real estate	(537,918)	(126,570)	(154,089)
Investment loss (income)	331,758	(259,477)	(421,321)
Net operating income	1,805,809	1,490,595	1,355,413
Straight-line rent revenue	(118,003)	(115,145)	(96,676)
Amortization of acquired below-market leases	(74,346)	(54,780)	(57,244)
Net operating income (cash basis)	$ 1,613,460	$ 1,320,670	$ 1,201,493
Net operating income (from above)	$ 1,805,809	$ 1,490,595	$ 1,355,413
Total revenues	$ 2,588,962	$ 2,114,150	$ 1,885,637
Operating margin	70%	71%	72%

Net operating income is a non-GAAP financial measure calculated as net income, 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, impairments 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 of 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 net operating income generated by a property divided by 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 or a deterioration in market conditions. We also exclude realized and unrealized investment gain or loss, which results from investment decisions that occur at the corporate level related to non-real estate investments in publicly traded companies and certain privately held entities. Therefore, we do not consider these activities 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 the definition of “Annual rental revenue” in this “Non-GAAP measures and definitions” section.

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 income from rentals, as well as 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, termination fees, if any, are excluded from the results of same properties. Refer to "Same properties" section within this Item 7 in this annual report on Form 10-K for additional information.

Stabilized occupancy date

The stabilized occupancy date represents the estimated date on which the project is expected to reach occupancy of 95% or greater.

Tenant recoveries

Tenant recoveries represent revenues comprising reimbursement of real estate taxes, insurance, utilities, repairs and maintenance, common area expenses, and other operating expenses and earned in the period during which the applicable expenses are incurred and the tenant's obligation to reimburse us arises.

We classify rental revenues and tenant recoveries generated through the leasing of real estate assets within revenues in income from rentals in our consolidated statements of operations. We provide investors with a separate presentation of rental revenues and tenant recoveries in "Comparison of results for the year ended December 31, 2022 to the year ended December 31, 2021" in the "Results of operations" section within this Item 7 because we believe it promotes investors' understanding of our operating results. We believe that the presentation of tenant recoveries is useful to investors as a supplemental measure of our ability to recover operating expenses under our triple net leases, including recoveries of utilities, repairs and maintenance, insurance, property taxes, common area expenses, and other operating expenses, and of our ability to mitigate the effect to net income for any significant variability to components of our operating expenses.

The following table reconciles income from rentals to tenant recoveries for the years ended December 31, 2022, 2021, and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Income from rentals	$ 2,576,040	$ 2,108,249	$ 1,878,208
Rental revenues	(1,950,098)	(1,618,592)	(1,471,840)
Tenant recoveries	$ 625,942	$ 489,657	$ 406,368

Total equity capitalization

Total equity capitalization is equal to the outstanding shares of common stock multiplied by the closing price on the last trading day at the end of each period presented.

Total market capitalization

Total market capitalization is equal to the sum of total equity capitalization and total debt.

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.

The following table summarizes unencumbered net operating income as a percentage of total net operating income for the years ended December 31, 2022, 2021, and 2020 (dollars in thousands):

	Year Ended December 31,		
	2022	2021	2020
Unencumbered net operating income	$ 1,790,033	$ 1,444,307	$ 1,295,520
Encumbered net operating income	15,776	46,288	59,893
Total net operating income	$ 1,805,809	$ 1,490,595	$ 1,355,413
Unencumbered net operating income as a percentage of total net operating income	99%	97%	96%

Weighted-average shares of common stock outstanding – diluted

From time to time, we enter into capital market transactions, including forward equity sales agreements (“Forward Agreements”), to fund acquisitions, to fund construction of our highly leased development and redevelopment projects, and for general working capital purposes. We are required to consider the potential dilutive effect of our Forward Agreements under the treasury stock method while the Forward Agreements are outstanding. As of December 31, 2022, we had Forward Agreements outstanding to sell an aggregate of 0.7 million shares of common stock. Refer to Note 15 – “Stockholders’ equity” to our consolidated financial statements under Item 15 in this annual report on Form 10-K for additional information.

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, for the years ended December 31, 2022, 2021, and 2020 are calculated as follows. Also shown are the weighted-average unvested shares associated with restricted stock awards used in calculating the amounts allocable to unvested stock award holders for each of the respective periods presented below (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Basic shares for earnings per share	161,659	146,921	126,106
Forward Agreements	—	539	384
Diluted shares for earnings per share	161,659	147,460	126,490
Basic shares for funds from operations per share and funds from operations per share, as adjusted	161,659	146,921	126,106
Forward Agreements	—	539	384
Diluted shares for funds from operations per share and funds from operations per share, as adjusted	161,659	147,460	126,490
Unvested restricted shares used in the allocation of net income, funds from operations, and funds from operations, as adjusted	1,723	1,782	1,728

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Interest rate risk

The primary market risk to which we believe we may be 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 hedge 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 may carry additional risks, such as counterparty credit risk and the legal enforceability of hedge agreements. As of December 31, 2022, we did not have any outstanding interest rate hedge agreements.

Our future earnings and fair values relating to our outstanding debt are primarily dependent upon prevalent market rates of interest. The following tables illustrate the effect of a 1% change in interest rates, assuming a zero percent interest rate floor, on our fixed- and variable-rate debt as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Annualized effect on future earnings due to variable-rate debt:		
Rate increase of 1%	$ (597)	$ (527)
Rate decrease of 1%	$ 597	$ 106
Effect on fair value of total consolidated debt:		
Rate increase of 1%	$ (668,639)	$ (811,028)
Rate decrease of 1%	$ 759,638	$ 944,392

These amounts are determined by considering the effect of the hypothetical interest rates on our borrowings as of December 31, 2022 and 2021, respectively. 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 we hold equity investments in publicly traded companies and privately held entities. All of our investments in actively traded public companies are reflected in our 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 per share are measured at cost less impairments, adjusted for observable price changes during the period. Changes in fair value of public investments, changes in NAV per share reported by privately held entities, and observable price changes of privately held entities that do not report NAV per share are classified 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, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Equity price risk:		
Fair value increase of 10%	$ 161,507	$ 187,656
Fair value decrease of 10%	$ (161,507)	$ (187,656)

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 tables illustrate 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, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Effect on potential future earnings due to foreign currency exchange rate:		
Rate increase of 10%	$ 147	$ 120
Rate decrease of 10%	$ (147)	$ (120)
Effect on the fair value of net investment in foreign subsidiaries due to foreign currency exchange rate:		
Rate increase of 10%	$ 22,523	$ 18,790
Rate decrease of 10%	$ (22,523)	$ (18,790)

The sensitivity analyses assume 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, 2022 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, 2022, we had performed an evaluation, under the supervision of our principal executive officers and principal financial officer 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 principal executive officers and principal financial officer concluded that our disclosure controls and procedures were effective as of December 31, 2022.

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, 2022, 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 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, 2022 and 2021. In making its assessment, management has utilized the criteria set forth in the 2013 framework issued by the Committee of Sponsoring Organizations of the Treadway Commission in *Internal Control – Integrated Framework* (COSO 2013). Management concluded that based on its assessment, the Company's internal control over financial reporting was effective as of December 31, 2022. The effectiveness of our internal control over financial reporting as of December 31, 2022, 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, 2022, 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, 2022, 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, 2022 and 2021, 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, 2022 and the related notes and financial statement schedule, and our report dated January 30, 2023, 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
January 30, 2023

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

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 2023 annual meeting of stockholders to be filed pursuant to Regulation 14A within 120 days after the end of our fiscal year (the “2023 Proxy Statement”) under the captions “Directors and Executive Officers” and “Corporate Governance Guidelines and Code of Ethics.”

ITEM 11. EXECUTIVE COMPENSATION

The information required by this Item is incorporated herein by reference from our 2023 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, 2022:

Equity Compensation Plan Information

	Number of securities to be issued upon exercise of outstanding options, warrants, and rights (a)	Weighted-average exercise price of outstanding options, warrants, and rights (b)	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in column (a)) (c)
Equity Compensation Plan Approved by Stockholders — Amended and Restated 1997 Stock Award and Incentive Plan	—	—	3,838,370

The other information required by this Item is incorporated herein by reference from our 2023 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 2023 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 2023 Proxy Statement under the caption “Fees Billed by Independent Registered Public Accountants.”

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.

(a)(3) Exhibits

Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
3.1*	Articles of Amendment and Restatement of the Company	Form 10-Q	August 14, 1997
3.2*	Certificate of Correction of the Company	Form 10-Q	August 14, 1997
3.3*	Articles of Amendment of the Company, dated May 10, 2017	Form 8-K	May 12, 2017
3.4*	Articles of Amendment of the Company, dated May 18, 2022	Form 8-K	May 19, 2022
3.5*	Articles Supplementary, dated June 9, 1999, relating to the 9.50% Series A Cumulative Redeemable Preferred Stock	Form 10-Q	August 13, 1999
3.6*	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	Form 8-K	February 10, 2000
3.7*	Articles Supplementary, dated February 10, 2000, relating to the Series A Junior Participating Preferred Stock	Form 8-K	February 10, 2000
3.8*	Articles Supplementary, dated January 18, 2002, relating to the 9.10% Series B Cumulative Redeemable Preferred Stock	Form 8-A	January 18, 2002
3.9*	Articles Supplementary, dated June 22, 2004, relating to the 8.375% Series C Cumulative Redeemable Preferred Stock	Form 8-A	June 28, 2004
3.10*	Articles Supplementary, dated March 25, 2008, relating to the 7.00% Series D Cumulative Convertible Preferred Stock	Form 8-K	March 25, 2008
3.11*	Articles Supplementary, dated March 12, 2012, relating to the 6.45% Series E Cumulative Redeemable Preferred Stock	Form 8-K	March 14, 2012
3.12*	Articles Supplementary, dated May 10, 2017, relating to Reclassified Preferred Stock	Form 8-K	May 12, 2017
3.13*	Amended and Restated Bylaws of the Company (Amended July 27, 2018)	Form 8-K	August 2, 2018
4.1*	Specimen certificate representing shares of common stock	Form 10-Q	May 5, 2011
4.2*	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	Form 8-K	February 29, 2012

Exhibit Number	Exhibit Title	Incorporated by Reference to:	Date Filed
4.3*	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	Form 8-K	July 18, 2014
4.4*	Form of 4.500% Senior Note due 2029 (included in Exhibit 4.3 above)	Form 8-K	July 18, 2014
4.5*	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	Form 8-K	November 17, 2015
4.6*	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	Form 8-K	November 17, 2015
4.7*	Form of 4.30% Senior Note due 2026 (included in Exhibit 4.6 above)	Form 8-K	November 17, 2015
4.8*	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	Form 8-K	June 10, 2016
4.9*	Form of 3.95% Senior Note due 2027 (included in Exhibit 4.8 above)	Form 8-K	June 10, 2016
4.10*	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	Form 8-K	March 3, 2017
4.11*	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	Form 8-K	March 3, 2017
4.12*	Form of 3.95% Senior Note due 2028 (included in Exhibit 4.11 above)	Form 8-K	March 3, 2017
4.13*	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	Form 8-K	November 20, 2017
4.14*	Form of 3.45% Senior Note due 2025 (included in Exhibit 4.13 above)	Form 8-K	November 20, 2017
4.15*	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	Form 8-K	June 21, 2018
4.16*	Supplemental Indenture No. 4, 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	Form 8-K	June 21, 2018
4.17*	Form of 4.700% Senior Note Due 2030 (included in Exhibit 4.16 above)	Form 8-K	June 21, 2018
4.18*	Supplemental Indenture No. 5, dated as of March 21, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	March 21, 2019
4.19*	Form of 3.800% Senior Note Due 2026 (included in Exhibit 4.18 above)	Form 8-K	March 21, 2019
4.20*	Supplemental Indenture No. 6, dated as of March 21, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	March 21, 2019
4.21*	Form of 4.850% Senior Note Due 2049 (included in Exhibit 4.20 above)	Form 8-K	March 21, 2019
4.22*	Supplemental Indenture No. 8, dated as of July 15, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	July 15, 2019
4.23*	Form of 3.375% Senior Note Due 2031 (included in Exhibit 4.22 above)	Form 8-K	July 15, 2019
4.24*	Supplemental Indenture No. 9, dated as of July 15, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	July 15, 2019
4.25*	Supplemental Indenture No. 11 dated as of September 12, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	September 12, 2019
4.26*	Form of 4.000% Senior Note Due 2050 (included in Exhibit 4.25 above)	Form 8-K	July 15, 2019

Exhibit Number		Exhibit Title	Incorporated by Reference to:	Date Filed
4.27*		Supplemental Indenture No. 10, dated as of September 12, 2019, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	September 12, 2019
4.28*		Form of 2.750% Senior Note Due 2029 (included in Exhibit 4.27 above)	Form 8-K	September 12, 2019
4.29*		Supplemental Indenture No. 12, dated as of March 26, 2020, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Branch Banking and Trust Company, as Trustee	Form 8-K	March 26, 2020
4.30*		Form of 4.900% Senior Note due 2030 (included in Exhibit 4.29 above)	Form 8-K	March 26, 2020
4.31*		Supplemental Indenture No. 13, dated August 5, 2020, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Trust Bank, as Trustee	Form 8-K	August 5, 2020
4.32*		Form of 1.875% Senior Notes due 2033 (included in Exhibit 4.31 above)	Form 8-K	August 5, 2020
4.33*		Supplemental Indenture No. 14, dated February 18, 2021, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Trust Bank, as Trustee	Form 8-K	February 18, 2021
4.34*		Form of 2.000 % Senior Notes due 2032 (included in Exhibit 4.33 above)	Form 8-K	February 18, 2021
4.35*		Supplemental Indenture No. 15, dated February 18, 2021, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Trust Bank, as Trustee	Form 8-K	February 18, 2021
4.36*		Form of 3.000 % Senior Notes due 2051 (included in Exhibit 4.35 above)	Form 8-K	February 18, 2021
4.37*		Supplemental Indenture No. 16, dated February 16, 2022, among the Company, as Issuer, Alexandria Real Estate Equities, L.P. as Guarantor, and Truist Bank, as Trustee	Form 8-K	February 16, 2022
4.38*		Form of 2.950% Senior Notes due 2034 (included in Exhibit 4.37 above)	Form 8-K	February 16, 2022
4.39*		Supplemental Indenture No. 17, dated February 16, 2022, among the Company, as Issuer, Alexandria Real Estate Equities, L.P., as Guarantor, and Truist Bank, as Trustee	Form 8-K	February 16, 2022
4.40*		Form of 3.550% Senior Notes due 2052 (included in Exhibit 4.39 above)	Form 8-K	February 16, 2022
4.41		Description of Registrant's Securities Registered Pursuant to Section 12 of the Securities Exchange Act of 1934	N/A	Filed herewith
10.1*		Amended and Restated Credit Agreement, dated as of September 22, 2022, among the Company, as the Borrower, Alexandria Real Estate Equities, L.P., as a Guarantor, Citibank, N.A., as Administrative Agent, and the Other Lenders Party Thereto, Citibank, N.A., BofA Securities, Inc., JPMorgan Chase Bank, N.A., Goldman Sachs Bank USA, RBC Capital Markets, the Bank of Nova Scotia, Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, and U.S. Bank National Association, as Joint Lead Arrangers, Citibank, N.A., BofA Securities, Inc., JPMorgan Chase Bank, N.A., Goldman Sachs Bank USA, and RBC Capital Markets, as Joint Bookrunners, Bank of America, N.A., JPMorgan Chase Bank, N.A., Goldman Sachs Bank USA, and Royal Bank of Canada, as Co-Syndication Agents, and the Bank of Nova Scotia, Mizuho Bank, Ltd., Sumitomo Mitsui Banking Corporation, U.S. Bank National Association, Bank of the West, Barclays Bank PLC, Capital One, N.A., Banco Bilbao Vizcaya Argentaria, S.A. New York Branch, Fifth Third Bank, National Association, PNC Bank, National Association, Regions Bank, TD Bank, N.A., The Huntington National Bank, and Truist Bank, as Co-Documentation Agents, and Citibank, N.A., as Sustainability Structuring Agent	Form 10-Q	October 24, 2022
10.2*	(1)	Amended and Restated 1997 Stock Award and Incentive Plan of the Company	Form 8-K	May 19, 2022
10.3*	(1)	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	Form S-11	May 5, 1997
10.4*	(1)	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	Form S-11	May 5, 1997
10.5*	(1)	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	Form S-11	May 5, 1997

Exhibit Number		Exhibit Title	Incorporated by Reference to:	Date Filed
10.6*	(1)	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	Form 10-K	January 30, 2018
10.7*	(1)	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	Form 10-K	January 30, 2018
10.8*	(1)	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	Form 10-K	January 30, 2018
10.9*	(1)	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	Form 10-K	January 30, 2018
10.10*	(1)	The Company's 2000 Deferred Compensation Plan, amended and restated effective as of January 1, 2010	Form 10-K	March 1, 2011
10.11*	(1)	The Company's 2000 Deferred Compensation Plan for Directors, amended and restated effective as of January 1, 2010	Form 10-K	March 1, 2011
10.12*	(1)	Amended and Restated Executive Employment Agreement, effective as of January 1, 2015, by and between the Company and Joel S. Marcus	Form 8-K	April 7, 2015
10.13*	(1)	Letter Amendment to Amended and Restated Executive Employment Agreement, dated July 3, 2017, by and between the Company and Joel S. Marcus	Form 8-K	July 3, 2017
10.14*	(1)	Letter Amendment to Amended and Restated Executive Employment Agreement, entered into on March 20, 2018, by and between the Company and Joel S. Marcus	Form 10-Q	May 1, 2018
10.15*	(1)	Letter Amendment to Amended and Restated Executive Employment Agreement, dated January 15, 2019, by and between the Company and Joel S. Marcus	Form 8-K	January 18, 2019
10.16*	(1)	Letter Amendment to Amended and Restated Executive Employment Agreement, dated June 8, 2020, by and between the Company and Joel S. Marcus	Form 10-Q	July 27, 2020
10.17*	(1)	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	Form 10-Q	May 1, 2018
10.18*	(1)	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	Form 10-Q	July 31, 2018
10.19*	(1)	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	Form 10-Q	May 1, 2018
10.20*	(1)	Executive Employment Agreement between the Company and Daniel J. Ryan, entered into on May 22, 2018 and effective as of May 22, 2018	Form 10-Q	July 31, 2018
10.21*	(1)	Second Amended and Restated Executive Employment Agreement between the Company and John H. Cunningham, entered into on July 5, 2017 and effective as of July 5, 2017	Form 10-K	February 1, 2021
10.22*	(1)	Second Amended and Restated Executive Employment Agreement between the Company and Vincent R. Ciruzzi, Jr., entered into on October 1, 2015 and effective as of October 1, 2015	Form 10-K	February 1, 2021
10.23*	(1)	Executive Employment Agreement between the Company and Hunter Kass, entered into on January 1, 2021 and effective as of January 1, 2021	Form 10-K	January 31, 2022
10.24*	(1)	Amended and Restated Consulting Agreement, dated as of September 30, 2011, between the Company and James H. Richardson	Form 10-Q	November 9, 2011
10.25	(1)	Summary of Director Compensation Arrangements	N/A	Filed herewith
10.26*	(1)	Anniversary Bonus Plan of the Company	Form 8-K	June 17, 2010

Exhibit Number		Exhibit Title	Incorporated by Reference to:	Date Filed
10.27*	(1)	Form of Indemnification Agreement between the Company and each of its directors and officers	Form 10-K	March 1, 2011
14.1		The Company’s Business Integrity Policy and Procedures for Reporting Non-Compliance (code of ethics pursuant to Item 406 of Regulation S-K)	N/A	Filed herewith
21.1		List of Subsidiaries of the Company	N/A	Filed herewith
22.1		List of Guarantor Subsidiaries of the Company	N/A	Filed herewith
23.1		Consent of Ernst & Young LLP	N/A	Filed herewith
31.1		Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	N/A	Filed herewith
31.2		Certification of Principal Executive Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	N/A	Filed herewith
31.3		Certification of Principal Financial Officer Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002	N/A	Filed herewith
32.0		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	N/A	Filed herewith
101.1		The following materials from the Company’s annual report on Form 10-K for the year ended December 31, 2022, formatted in iXBRL (Inline eXtensible Business Reporting Language): (i) Consolidated Balance Sheets as of December 31, 2022 and 2021, (ii) Consolidated Statements of Operations for the years ended December 31, 2022, 2021, and 2020, (iii) Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, 2021, and 2020, (iv) Consolidated Statements of Changes in Stockholders’ Equity and Noncontrolling Interests for the years ended December 31, 2022, 2021, and 2020, (v) Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021, and 2020, (vi) Notes to Consolidated Financial Statements, and (vii) Schedule III — Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation of the Company.	N/A	Filed herewith
104		Cover Page Interactive Data File (embedded within the Inline XBRL document)	N/A	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: January 30, 2023

By: /s/ Joel S. Marcus

Joel S. Marcus
Executive Chairman
(Principal Executive Officer)

/s/ Peter M. Moglia

Peter M. Moglia
Chief Executive Officer and Co-Chief Investment Officer
(Principal Executive Officer)

KNOW ALL THOSE BY THESE PRESENTS, that each person whose signature appears below constitutes and appoints Joel S. Marcus, as his or her true and lawful attorney-in-fact and agent, with full power of substitution and resubstitution, for him or her and in his or her 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)	January 30, 2023
/s/ Peter M. Moglia Peter M. Moglia	Chief Executive Officer and Co-Chief Investment Officer (Principal Executive Officer)	January 30, 2023
/s/ Dean A. Shigenaga Dean A. Shigenaga	President and Chief Financial Officer (Principal Financial Officer)	January 30, 2023
/s/ Andres R. Gavinet Andres R. Gavinet	Chief Accounting Officer (Principal Accounting Officer)	January 30, 2023
/s/ Steven R. Hash Steven R. Hash	Lead Director	January 30, 2023
/s/ James P. Cain James P. Cain	Director	January 30, 2023
/s/ Cynthia L. Feldmann Cynthia L. Feldmann	Director	January 30, 2023
/s/ Maria C. Freire Maria C. Freire	Director	January 30, 2023
/s/ Jennifer Friel Goldstein Jennifer Friel Goldstein	Director	January 30, 2023
/s/ Richard H. Klein Richard H. Klein	Director	January 30, 2023
/s/ Michael A. Woronoff Michael A. Woronoff	Director	January 30, 2023

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, 2022 and 2021, 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, 2022, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, 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, 2022, 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 January 30, 2023 expressed an unqualified opinion thereon.

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.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of the critical audit matter does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

	Recognition of acquired real estate – Purchase price accounting
Description of the Matter	As more fully disclosed in Notes 2 and 3 to the consolidated financial statements, during 2022, the Company completed the acquisition of 42 properties for a total purchase price of $2.8 billion. The transactions were accounted for as asset acquisitions, and the purchase prices were allocated based on the relative fair values of the assets acquired (including land, buildings and improvements, right-of-use assets, and the intangible value of acquired above-market leases, acquired in-place leases, tenant relationships, and other intangible assets) and liabilities assumed (including the intangible value of acquired below-market leases and other intangible liabilities). The fair value of tangible and intangible assets and liabilities is based on available comparable market information, including estimated replacement costs, rental rates, recent market transactions, and estimated cash flow projections that utilize appropriate discount and capitalization rates. Estimates of future cash flows are based on a number of factors, including the historical operating results, known and anticipated trends, and market or economic conditions, that may affect the property. Auditing the Company's estimate of the fair value of the acquired tangible and intangible assets and liabilities involves significant estimation uncertainty due to the judgment used by management in selecting key assumptions based on recent comparable transactions or market data, which are primarily unobservable inputs, and the sensitivity of the estimates to changes in assumptions. The allocation of purchase price to the components of properties acquired could have an effect on the Company's net income due to the useful depreciable and amortizable lives applicable to each component, and the recognition and classification of the related depreciation or amortization expense in the Company's consolidated statements of operations.
How we Addressed the Matter in Our Audit	Our audit procedures related to the key assumptions utilized in the Company's purchase price accounting for acquired real estate included the following procedures, among others: We tested the design and operating effectiveness of controls over the Company's process for determining and reviewing the key inputs and assumptions used in estimating the fair value of acquired assets and liabilities and allocating purchase price to the various components. We evaluated the incorporation of the key assumptions in the purchase price accounting model and recalculated the model's results. To test the fair values of acquired tangible and intangible assets and liabilities used in the purchase price allocation, we performed procedures to evaluate the valuation methods and significant assumptions used by management. We evaluated the completeness and accuracy of the underlying data supporting the determination of the various inputs. Our internal valuation specialists assisted us in evaluating the methodology used by the Company and considered the consistency of the land and building values, estimated replacement costs, market rental rates, ground lease rates, and discount rates with external data sources.

/s/ Ernst & Young LLP

We have served as the Company's auditor since 1994.

Los Angeles, California
January 30, 2023

Alexandria Real Estate Equities, Inc.
Consolidated Balance Sheets
(In thousands, except share and per share amounts)

	December 31, 2022	December 31, 2021
Assets		
Investments in real estate	$ 29,945,440	$ 24,980,669
Investments in unconsolidated real estate joint ventures	38,435	38,483
Cash and cash equivalents	825,193	361,348
Restricted cash	32,782	53,879
Tenant receivables	7,614	7,379
Deferred rent	942,646	839,335
Deferred leasing costs	516,275	402,898
Investments	1,615,074	1,876,564
Other assets	1,599,940	1,658,818
Total assets	$ 35,523,399	$ 30,219,373
Liabilities, Noncontrolling Interests, and Equity		
Secured notes payable	$ 59,045	$ 205,198
Unsecured senior notes payable	10,100,717	8,316,678
Unsecured senior line of credit and commercial paper	—	269,990
Accounts payable, accrued expenses, and other liabilities	2,471,259	2,210,410
Dividends payable	209,131	183,847
Total liabilities	12,840,152	11,186,123
Commitments and contingencies		
Redeemable noncontrolling interests	9,612	9,612
Alexandria Real Estate Equities, Inc.'s stockholders' equity:		
Common stock, $0.01 par value per share, 400,000,000 and 200,000,000 shares authorized as of December 31, 2022 and 2021, respectively; 170,748,395 and 158,043,880 shares issued and outstanding as of December 31, 2022 and 2021, respectively	1,707	1,580
Additional paid-in capital	18,991,492	16,195,256
Accumulated other comprehensive loss	(20,812)	(7,294)
Alexandria Real Estate Equities, Inc.'s stockholders' equity	18,972,387	16,189,542
Noncontrolling interests	3,701,248	2,834,096
Total equity	22,673,635	19,023,638
Total liabilities, noncontrolling interests, and equity	$ 35,523,399	$ 30,219,373

The accompanying notes are an integral part of these consolidated financial statements.

Alexandria Real Estate Equities, Inc.
Consolidated Statements of Operations
(In thousands, except per share amounts)

	Year Ended December 31,		
	2022	2021	2020
Revenues:			
Income from rentals	$ 2,576,040	$ 2,108,249	$ 1,878,208
Other income	12,922	5,901	7,429
Total revenues	2,588,962	2,114,150	1,885,637
Expenses:			
Rental operations	783,153	623,555	530,224
General and administrative	177,278	151,461	133,341
Interest	94,203	142,165	171,609
Depreciation and amortization	1,002,146	821,061	698,104
Impairment of real estate	64,969	52,675	48,078
Loss on early extinguishment of debt	3,317	67,253	60,668
Total expenses	2,125,066	1,858,170	1,642,024
Equity in earnings of unconsolidated real estate joint ventures	645	12,255	8,148
Investment (loss) income	(331,758)	259,477	421,321
Gain on sales of real estate	537,918	126,570	154,089
Net income	670,701	654,282	827,171
Net income attributable to noncontrolling interests	(149,041)	(83,035)	(56,212)
Net income attributable to Alexandria Real Estate Equities, Inc.'s stockholders	521,660	571,247	770,959
Net income attributable to unvested restricted stock awards	(8,392)	(7,848)	(10,168)
Net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	$ 513,268	$ 563,399	$ 760,791
Net income per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders:			
Basic	$ 3.18	$ 3.83	$ 6.03
Diluted	$ 3.18	$ 3.82	$ 6.01

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,		
	2022	2021	2020
Net income	$ 670,701	$ 654,282	$ 827,171
Other comprehensive (loss) income			
Unrealized (losses) gains on foreign currency translation:			
Unrealized foreign currency translation (losses) gains arising during the period	(13,518)	(669)	3,124
Unrealized (losses) gains on foreign currency translation, net	(13,518)	(669)	3,124
Total other comprehensive (loss) income	(13,518)	(669)	3,124
Comprehensive income	657,183	653,613	830,295
Less: comprehensive income attributable to noncontrolling interests	(149,041)	(83,035)	(56,212)
Comprehensive income attributable to Alexandria Real Estate Equities, Inc.'s stockholders	$ 508,142	$ 570,578	$ 774,083

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							
	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
Balance as of December 31, 2019	120,800,315	$ 1,208	$ 8,874,367	$ —	$ (9,749)	$ 1,288,352	$ 10,154,178	$ 12,300
Net income	—	—	—	770,959	—	55,309	826,268	903
Total other comprehensive income	—	—	—	—	3,124	—	3,124	—
Contributions from and sales of noncontrolling interests	—	—	267,432	—	—	449,726	717,158	281
Distributions to and redemption of noncontrolling interests	—	—	—	—	—	(86,663)	(86,663)	(2,142)
Issuance of common stock	15,337,916	153	2,315,709	—	—	—	2,315,862	—
Issuance pursuant to stock plan	688,599	7	83,992	—	—	—	83,999	—
Taxes related to net settlement of equity awards	(136,501)	(1)	(21,321)	—	—	—	(21,322)	—
Dividends declared on common stock ($4.24 per share)	—	—	—	(557,684)	—	—	(557,684)	—
Cumulative effect of adjustment upon adoption of credit loss ASU on January 1, 2020	—	—	—	(2,484)	—	—	(2,484)	—
Reclassification of earnings in excess of distributions	—	—	210,791	(210,791)	—	—	—	—
Balance as of December 31, 2020	136,690,329	1,367	11,730,970	—	(6,625)	1,706,724	13,432,436	11,342
Net income	—	—	—	571,247	—	82,169	653,416	866
Total other comprehensive loss	—	—	—	—	(669)	—	(669)	—
Contributions from and sales of noncontrolling interests	—	—	989,393	—	—	1,157,668	2,147,061	282
Distributions to and redemption of noncontrolling interests	—	—	—	—	—	(112,465)	(112,465)	(2,878)
Issuance of common stock	20,827,052	208	3,528,889	—	—	—	3,529,097	—
Issuance pursuant to stock plan	709,737	7	97,926	—	—	—	97,933	—
Taxes related to net settlement of equity awards	(183,238)	(2)	(34,336)	—	—	—	(34,338)	—
Dividends declared on common stock ($4.48 per share)	—	—	—	(688,833)	—	—	(688,833)	—
Reclassification of distributions in excess of earnings	—	—	(117,586)	117,586	—	—	—	—
Balance as of December 31, 2021	158,043,880	$ 1,580	$ 16,195,256	$ —	$ (7,294)	$ 2,834,096	$ 19,023,638	$ 9,612

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 (continued)
(Dollars in thousands)

	Alexandria Real Estate Equities, Inc.'s Stockholders' Equity							
	Number of Common Shares	Common Stock	Additional Paid-In Capital	Retained Earnings	Accumulated Other Comprehensive Loss	Noncontrolling Interests	Total Equity	Redeemable Noncontrolling Interests
Balance as of December 31, 2021	158,043,880	$ 1,580	$ 16,195,256	$ —	$ (7,294)	$ 2,834,096	$ 19,023,638	$ 9,612
Net income	—	—	—	521,660	—	148,236	669,896	805
Total other comprehensive loss	—	—	—	—	(13,518)	—	(13,518)	—
Contributions from and sales of noncontrolling interests	—	—	649,623	—	—	910,506	1,560,129	—
Distributions to and redemption of noncontrolling interests	—	—	(111)	—	—	(191,590)	(191,701)	(805)
Issuance of common stock	12,250,645	123	2,346,321	—	—	—	2,346,444	—
Issuance pursuant to stock plan	749,101	7	109,217	—	—	—	109,224	—
Taxes related to net settlement of equity awards	(295,231)	(3)	(47,448)	—	—	—	(47,451)	—
Dividends declared on common stock ($4.72 per share)	—	—	—	(783,026)	—	—	(783,026)	—
Reclassification of distributions in excess of earnings	—	—	(261,366)	261,366	—	—	—	—
Balance as of December 31, 2022	170,748,395	$ 1,707	$ 18,991,492	$ —	$ (20,812)	$ 3,701,248	$ 22,673,635	$ 9,612

The accompanying notes are an integral part of these consolidated financial statements.

Alexandria Real Estate Equities, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Operating Activities			
Net income	$ 670,701	$ 654,282	$ 827,171
Adjustments to reconcile net income to net cash provided by operating activities:			
Depreciation and amortization	1,002,146	821,061	698,104
Impairment of real estate	64,969	52,675	48,078
Gain on sales of real estate	(537,918)	(126,570)	(154,089)
Loss on early extinguishment of debt	3,317	67,253	60,668
Equity in earnings of unconsolidated real estate joint ventures	(645)	(12,255)	(8,148)
Distributions of earnings from unconsolidated real estate joint ventures	3,374	20,350	5,908
Amortization of loan fees	13,549	11,441	10,494
Amortization of debt discounts (premiums)	384	(2,041)	(3,555)
Amortization of acquired above- and below-market leases	(74,346)	(54,780)	(57,244)
Deferred rent	(118,003)	(115,145)	(96,676)
Stock compensation expense	57,740	48,669	43,502
Investment loss (income)	331,758	(259,477)	(421,321)
Changes in operating assets and liabilities:			
Tenant receivables	(273)	(44)	2,804
Deferred leasing costs	(181,322)	(131,560)	(61,067)
Other assets	(18,960)	(24,591)	(10,997)
Accounts payable, accrued expenses, and other liabilities	77,850	60,929	(1,122)
Net cash provided by operating activities	1,294,321	1,010,197	882,510
Investing Activities			
Proceeds from sales of real estate	994,331	190,576	747,020
Additions to real estate	(3,307,313)	(2,089,849)	(1,445,171)
Purchases of real estate	(2,877,861)	(5,434,652)	(2,570,693)
Change in escrow deposits	155,968	(161,696)	7,408
Sales of interest in unconsolidated real estate joint ventures	—	394,952	—
Acquisitions of interest in unconsolidated real estate joint venture	—	(9,048)	—
Investments in unconsolidated real estate joint ventures	(1,442)	(13,666)	(3,444)
Return of capital from unconsolidated real estate joint ventures	471	—	20,225
Additions to non-real estate investments	(242,932)	(408,564)	(174,655)
Sales of and distributions from non-real estate investments	198,320	424,623	141,149
Net cash used in investing activities	$ (5,080,458)	$ (7,107,324)	$ (3,278,161)

The accompanying notes are an integral part of these consolidated financial statements.

Alexandria Real Estate Equities, Inc.
Consolidated Statements of Cash Flows
(In thousands)

	Year Ended December 31,		
	2022	2021	2020
Financing Activities			
Borrowings from secured notes payable	$ 49,715	$ 10,005	$ —
Repayments of borrowings from secured notes payable	(934)	(17,979)	(84,104)
Payment for the defeasance of secured note payable	(198,304)	—	(32,865)
Proceeds from issuances of unsecured senior notes payable	1,793,318	1,743,716	1,697,651
Repayments of unsecured senior notes payable	—	(650,000)	(500,000)
Borrowings from unsecured senior line of credit	1,181,000	3,521,000	2,700,000
Repayments of borrowings from unsecured senior line of credit	(1,181,000)	(3,521,000)	(3,084,000)
Proceeds from issuance under commercial paper program	14,641,500	30,951,300	23,539,400
Repayments of borrowings from commercial paper program	(14,911,500)	(30,781,300)	(23,439,400)
Premium paid for early extinguishment of debt	—	(66,829)	(54,385)
Payments of loan fees	(35,612)	(18,938)	(32,309)
Taxes paid related to net settlement of equity awards	(47,289)	(34,338)	(21,322)
Proceeds from issuance of common stock	2,346,444	3,529,097	2,315,862
Dividends on common stock	(757,742)	(655,968)	(532,980)
Contributions from and sales of noncontrolling interests	1,542,347	2,026,486	367,613
Distributions to and purchases of noncontrolling interests	(192,171)	(118,891)	(88,805)
Net cash provided by financing activities	4,229,772	5,916,361	2,750,356
Effect of foreign exchange rate changes on cash, cash equivalents, and restricted cash	(887)	(1,712)	311
Net increase (decrease) in cash, cash equivalents, and restricted cash	442,748	(182,478)	355,016
Cash, cash equivalents, and restricted cash as of the beginning of period	415,227	597,705	242,689
Cash, cash equivalents, and restricted cash as of the end of period	$ 857,975	$ 415,227	$ 597,705
Supplemental Disclosure and Non-Cash Investing and Financing Activities:			
Cash paid during the period for interest, net of interest capitalized	$ 63,193	$ 139,471	$ 161,351
Accrued construction for current-period additions to real estate	$ 561,538	$ 474,751	$ 275,454
Right-of-use asset	$ 21,776	$ 103,860	$ 87,554
Lease liability	$ (21,776)	$ (103,860)	$ (87,554)
Contribution of assets from real estate joint venture partner	$ 19,146	$ 118,750	$ 350,000
Issuance of noncontrolling interest to joint venture partner	$ (19,146)	$ (118,750)	$ (292,930)
Consolidation of real estate assets in connection with our acquisition of partner's interest in unconsolidated real estate joint venture	$ —	$ 19,613	$ —
Assumption of secured note payable in connection with acquisition of partner's interest in unconsolidated real estate joint venture	$ —	$ (14,558)	$ —
Deferred purchase price in connection with acquisitions of real estate	$ —	$ (81,119)	$ —
Assignment of secured notes payable in connection with sale of real estate	$ —	$ 28,200	$ —

The accompanying notes are an integral part of these consolidated financial statements.

1. ORGANIZATION AND BASIS OF PRESENTATION

Alexandria Real Estate Equities, Inc. (NYSE: ARE), an S&P 500® life science REIT, is the pioneer of the life science real estate niche since its founding in 1994. Alexandria is the preeminent and longest-tenured owner, operator, and developer of collaborative life science, agtech, and technology campuses in AAA innovation cluster locations, including Greater Boston, the San Francisco Bay Area, New York City, San Diego, Seattle, Maryland, and Research Triangle. With approximately 1,000 tenants, Alexandria has a total market capitalization of $35.0 billion and an asset base in North America of 74.6 million SF as of December 31, 2022. 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.

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 accounting 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., 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.

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 the general partner or the managing member of a joint venture) 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. 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 (i.e., 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 information on specific joint ventures that qualify as VIEs and 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 life science, agtech, and technology tenants. Our properties are similar in that they provide space for lease to the aforementioned industries, consist of improvements that are generic and reusable, 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 review 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.

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, our acquisitions of real estate or in-substance real estate do 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

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, liabilities assumed, noncontrolling interests, and previously existing ownership interests at fair value as of the acquisition date. Assets include intangible assets such as tenant relationships, acquired in-place leases, and favorable intangibles associated with in-place leases in which we are the lessor. Liabilities include unfavorable intangibles associated with in-place leases in which we are the lessor. In addition, for acquired in-place finance or operating leases in which we are the lessee, acquisition consideration is allocated to lease liabilities and related right-of-use assets, adjusted to reflect favorable or unfavorable terms of the lease when compared with market terms. 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 relative 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 related to acquisitions of real estate or in-substance real estate (such as legal and other third-party services) 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 useful depreciable and amortizable lives applicable to 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 values of tangible and intangible assets and liabilities based on available comparable market information, including estimated replacement costs, rental rates, and recent market transactions. In addition, we may use estimated cash flow projections that utilize appropriate discount and capitalization rates. 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 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. If there is a bargain fixed-rate renewal option for the period beyond the noncancelable 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 that 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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Depreciation and amortization

The values allocated to buildings and building improvements, land improvements, tenant improvements, and equipment are depreciated on a straight-line basis. For buildings and building improvements, we depreciate using the shorter of the respective ground lease terms or their estimated useful lives, not to exceed 40 years. Land improvements are depreciated over their estimated useful lives, not to exceed 20 years. Tenant improvements are depreciated over their respective lease terms or estimated useful lives, and equipment is depreciated over the shorter of the lease term or its estimated useful life. The values of the right-of-use assets are amortized on a straight-line basis over the remaining terms of each related lease. The values of acquired in-place leases and associated favorable intangibles (i.e., acquired above-market leases) are classified in other assets in our consolidated balance sheets and are amortized over the remaining terms of the related leases as a reduction of income from rentals in our consolidated statements of operations. The values of unfavorable intangibles (i.e., acquired below-market leases) associated with acquired in-place leases are classified in accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets and are amortized over the remaining terms of the related leases as an increase in income from rentals in our consolidated statements of operations.

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. For additional details, refer to Note 18 – “Assets classified as held for sale” to our consolidated financial statements.

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.

We recognize gains or losses on real estate sales in accordance with the accounting standard on the derecognition of nonfinancial assets arising from contracts 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 (in which we are the seller) qualify as contracts with noncustomers. In our transactions with noncustomers, we apply certain recognition and measurement principles consistent with our method of recognizing revenue arising from contracts with customers. Derecognition of the asset is based on the transfer of control. If a real estate sales contract includes our ongoing involvement with the property, then we 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 is recognized as revenue as we transfer 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 we retain a controlling or noncontrolling interest in the property. If we retain a controlling interest in the property upon completion of the sale, we continue to reflect the asset at its book value, record a noncontrolling interest for the book value of the partial interest sold, and recognize additional paid-in capital for the difference between the consideration received and the partial interest at book value. Conversely, if we retain a noncontrolling interest upon completion of the sale of a partial interest of real estate, we recognize a gain or loss as if 100% of the asset were sold.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairment of long-lived assets

Prior to and subsequent to the end of each quarter, we review current activities and changes in the business conditions of all of our long-lived assets 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, 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, right-of-use assets related to operating leases in which we are the lessee, 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. Triggering events or impairment indicators for long-lived assets to be held and used 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 asset, 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 of the asset to its estimated fair value. If an impairment charge is not required to be recognized, the recognition of depreciation or amortization is adjusted prospectively, as necessary, to reduce the carrying amount of the asset to its estimated disposition value over the remaining period that the asset 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, which is different from the held and used impairment model. Under the held for sale impairment model, an impairment charge 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.

International operations

In addition to operating properties in the U.S., we have eight 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. Revenue and expense 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 (loss) as a separate component of total equity and are excluded from net income (loss).

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 (loss) are reclassified to net income when realized upon the sale of our investment or upon the complete or substantially complete liquidation of our investment.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Investments

We hold strategic investments in publicly traded companies and privately held entities primarily involved in the life science, agtech, and technology industries. As a REIT, we generally limit our ownership of each individual entity's voting stock to less than 10%. We evaluate each investment to determine whether we have the ability to exercise significant influence, but not control, over an investee. We evaluate investments in which our ownership is equal to or greater than 20%, but less than or equal to 50%, of an investee's voting stock with a presumption that we have this ability. For our investments in limited partnerships that maintain specific ownership accounts, we presume that such ability exists when our ownership interest exceeds 3% to 5%. In addition to our ownership interest, we consider whether we have a board seat or whether we participate in the policy-making process, among other criteria, to determine if we have the ability to exert significant influence, but not control, over an investee. If we determine that we have such ability, we account for the investment under the equity method of accounting, as described below.

Investments accounted for under the equity method

Under the equity method of accounting, we initially recognize our investment at cost and subsequently adjust the carrying amount of the investment for our share of earnings or losses reported by the investee, distributions received, and other-than-temporary impairments. For more information about our investments accounted for under the equity method, refer to Note 7 – "Investments" to our consolidated financial statements.

Investments that do not qualify for the equity method of accounting

For investees over which we determine that we do not have the ability to exercise significant influence or control, we account for each investment depending on whether it is an investment in a (i) publicly traded company, (ii) privately held entity that reports NAV per share, or (iii) privately held entity that does not report NAV per share, as described below.

Investments in publicly traded companies

Our investments in publicly traded companies are classified as investments with readily determinable fair values and are presented at fair value in our consolidated balance sheets, with changes in fair value classified in investment income (loss) in our consolidated statements of operations. The fair values for our investments in publicly traded companies are determined based on sales prices or quotes available on securities exchanges.

Investments in privately held companies

Our investments in privately held entities without readily determinable fair values consist of (i) investments in privately held entities that report NAV per share and (ii) investments in privately held entities that do not report NAV per share. These investments are accounted for as follows:

Investments in privately held entities that report NAV per share

Investments in privately held entities that report NAV per share, such as our privately held investments in limited partnerships, are presented at fair value using NAV as a practical expedient, with changes in fair value recognized in net income. We use NAV per share reported by limited partnerships generally 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 per share

Investments in privately held entities that do not report NAV per share are accounted for using a measurement alternative, under which these investments are measured at cost, adjusted for observable price changes and impairments, with changes recognized in net income.

An observable price arises from an orderly transaction for an identical or similar investment of the same issuer, which is observed by an investor without expending undue cost and effort. Observable price changes result from, among other things, equity transactions of the same issuer executed during the reporting period, including subsequent equity offerings or other reported equity transactions related to the same issuer. To determine whether these transactions are indicative of an observable price change, we evaluate, among other factors, whether these transactions have similar rights and obligations, including voting rights, distribution preferences, and conversion rights to the investments we hold.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Impairment evaluation of equity method investments and investments in privately held entities that do not report NAV per share

We monitor equity method investments and investments in privately held entities that do not report NAV per share for new developments, including operating results, prospects and results of clinical trials, new product initiatives, new collaborative agreements, capital-raising events, and merger and acquisition activities. These investments are evaluated on the basis of a qualitative assessment for indicators of impairment by monitoring the presence of the following triggering events or 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, including the research and development of technology and products that the investee is bringing or attempting to bring to the market;
(iv) significant concerns about the investee's ability to continue as a going concern; and/or
(v) a decision by investors to cease providing support or reduce their financial commitment to the investee.

If such indicators are present, we are required to estimate the investment's fair value and immediately recognize an impairment charge in an amount equal to the investment's carrying value in excess of its estimated fair value.

Investment income/loss recognition and classification

We recognize both realized and unrealized gains and losses in our consolidated statements of operations, classified within investment income. Unrealized gains and losses represent:

(i) changes in fair value for investments in publicly traded companies;
(ii) changes in NAV for investments in privately held entities that report NAV per share;
(iii) observable price changes for investments in privately held entities that do not report NAV per share; and
(iv) our share of unrealized gains or losses reported by our equity method investees.

Realized gains and losses on our investments represent the difference between proceeds received upon disposition of investments and their historical or adjusted cost basis. For our equity method investments, realized gains and losses represent our share of realized gains or losses reported by the investee. Impairments are realized losses, which result in an adjusted cost basis, and represent charges to reduce the carrying values of investments in privately held entities that do not report NAV per share and equity method investments, if impairments are deemed other than temporary, to their estimated fair value.

Revenues

The table below provides details of our consolidated total revenues for the years ended December 31, 2022 and 2021 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Income from rentals:			
Revenues subject to the lease accounting standard:			
Operating leases	$ 2,534,862	$ 2,081,362	$ 1,854,427
Direct financing and sales-type leases	3,094	3,489	2,469
Revenues subject to the lease accounting standard	2,537,956	2,084,851	1,856,896
Revenues subject to the revenue recognition accounting standard	38,084	23,398	21,312
Income from rentals	2,576,040	2,108,249	1,878,208
Other income	12,922	5,901	7,429
Total revenues	$ 2,588,962	$ 2,114,150	$ 1,885,637

During the year ended December 31, 2022, revenues that were subject to the lease accounting standard aggregated $2.5 billion, or 98.0% of our total revenues. During the year ended December 31, 2022, our total revenues also included $51.0 million, or 2.0%, subject to other accounting guidance. Our other income consisted primarily of construction management fees and interest income earned during the year ended December 31, 2022. For a detailed discussion related to our revenue streams, refer to the "Lease accounting" and "Recognition of revenue arising from contracts with customers" sections within this Note 2 to our consolidated financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Lease accounting

Definition and classification of a lease

When we enter into a contract or amend an existing contract, we evaluate whether the contract meets the definition of a lease. To meet the definition of a lease, the contract must meet all three criteria:

(i) One party (lessor) must hold an identified asset;
(ii) The counterparty (lessee) must have the right to obtain substantially all of the economic benefits from the use of the asset throughout the period of the contract; and
(iii) The counterparty (lessee) must have the right to direct the use of the identified asset throughout the period of the contract.

We classify our leases as either finance leases or operating leases if we are the lessee, or sales-type, direct financing, or operating leases if we are the lessor. We use the following criteria to determine if a lease is a finance lease (as a lessee) or sales-type or direct financing lease (as a lessor):

(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; or
(v) The underlying asset is specialized and is expected to have no alternative use at the end of the lease term.

If we meet any of the above criteria, we account for the lease as a finance, a sales-type, or a direct financing lease. If we do not meet any of the criteria, we account for the lease as an operating lease.

A lease is accounted for as a sales-type lease if it is considered to transfer control of the underlying asset to the lessee. A lease is accounted for as a direct financing lease if risks and rewards are conveyed without the transfer of control, which is normally indicated by the existence of a residual value guarantee from an unrelated third party other than the lessee.

This classification will determine the method of recognition of the lease:

- For an operating lease, we recognize income from rentals if we are the lessor, or rental operations expense if we are the lessee, over the term of the lease on a straight-line basis.
- For a sales-type lease or a direct financing lease, we recognize the income from rentals, or for a finance lease, we recognize rental operations expense, over the term of the lease using the effective interest method.
- At inception of a sales-type lease or a direct financing lease, if we determine the fair value of the leased property is lower than its carrying amount, we recognize a selling loss immediately at lease commencement. If fair value exceeds the carrying amount of a lease, a gain is recognized at lease commencement on a sales-type lease. For a direct financing lease, a gain is deferred at lease commencement and amortized over the lease term.

Lessor accounting

Costs to execute leases

We capitalize initial direct costs, which represent only incremental costs of a lease that would not have been incurred if the lease had not been obtained. Costs that we incur to negotiate or arrange a lease, regardless of its outcome, such as for fixed employee compensation, tax, or legal advice to negotiate lease terms, and other costs, are expensed as incurred.

Operating leases

We account for the revenue from our lease contracts by utilizing the single component accounting policy. This policy requires us to account for, by class of underlying asset, the lease component and nonlease component(s) associated with each lease as a single component if two criteria are met:

(i) The timing and pattern of transfer of the lease component and the nonlease component(s) are the same; and
(ii) The lease component would be classified as an operating lease if it were accounted for separately.

Lease components consist primarily of fixed rental payments, which represent scheduled rental amounts due under our leases, and contingent rental payments. Nonlease components consist primarily of tenant recoveries representing reimbursements of rental operating expenses under our triple net lease structure, including recoveries for utilities, repairs and maintenance, and common area expenses.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

If the lease component is the predominant component, we account for all revenues under such lease as a single component in accordance with the lease accounting standard. Conversely, if the nonlease component is the predominant component, all revenues under such lease are accounted for in accordance with the revenue recognition accounting standard. Our operating leases qualify for the single component accounting, and the lease component in each of our leases is predominant. Therefore, we account for all revenues from our operating leases under the lease accounting standard and classify these revenues as income from rentals in our consolidated statements of operations.

We commence recognition of income from rentals related to the operating leases at the date the property is ready for its intended use by the tenant and the tenant takes possession or controls the physical use of the leased asset. Income from rentals related to fixed rental payments under operating leases is recognized on a straight-line basis over the respective operating lease terms. We classify amounts expected to be received in later periods as deferred rent in our consolidated balance sheets. Amounts received currently but recognized as revenue in future periods are classified in accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets.

Income from rentals related to variable payments includes tenant recoveries and contingent rental payments. Tenant recoveries, including reimbursements of utilities, repairs and maintenance, common area expenses, real estate taxes and insurance, 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. Income from rentals related to other variable payments is recognized when associated contingencies are removed.

We assess collectibility from our tenants of future lease payments for each of our operating leases. If we determine that collectibility is probable, we recognize income from rentals based on the methodology described above. If we determine that collectibility is not probable, we recognize an adjustment to lower our income from rentals. Furthermore, we may recognize a general allowance at a portfolio level (not the individual level) if we do not expect to collect future lease payments in full.

For each lease for which we determine that collectibility of future lease payments is not probable, we cease the recognition of income from rentals on a straight-line basis, and limit the recognition of income to the payments collected from the lessee. We do not resume straight-line recognition of income from rentals for these leases until we determine that the collectibility of future payments related to these leases is probable. We also record a general allowance related to the deferred rent balances that at the portfolio level (not the individual level) are not expected to be collected in full through the lease term. During the year ended December 31, 2022, we recorded adjustments aggregating $13.6 million, to increase the general allowance balance. As of December 31, 2022, our general allowance balance aggregated $20.4 million.

Direct financing and sales-type leases

Income from rentals related to our direct financing and sales-type leases is recognized over the lease term using the effective interest rate method. At lease commencement, we record an asset within other assets in our consolidated balance sheets, which represents our net investment in the lease. This initial net investment is determined by aggregating the present values of the total future lease payments attributable to the lease and the estimated residual value of the property, less any unearned income related to our direct financing lease. Over the lease term, the investment in the lease accretes in value, producing a constant periodic rate of return on the net investment in the lease. Income from these leases is classified in income from rentals in our consolidated statements of operations. Our net investment is reduced over time as lease payments are received.

We evaluate our net investment in direct financing and sales-type leases for impairment under the current expected credit loss standard. For more information, refer to the "Allowance for credit losses" section within this Note 2 to our consolidated financial statements.

On January 1, 2022, we adopted an accounting standard that requires lessors to classify a lease with variable lease payments that do not depend on an index or a rate as an operating lease on the commencement date of the lease if both of the following criteria are met:

(i) The lease would have been classified as a sales-type lease or direct financing lease under the current lease standard; and
(ii) The sales-type lease or direct financing lease classification would have resulted in a selling loss at lease commencement.

Under this accounting standard, the lessor does not derecognize the underlying asset and does not recognize a loss upon lease commencement but continues to depreciate the underlying asset over its useful life. We elected a prospective application of this accounting standard to leases that commence or are modified on or after the date this standard was adopted. Historically, substantially all our leases in which we are the lessor have been operating leases; therefore, our adoption of this accounting standard has not had and is not expected to have a material effect on our consolidated financial statements.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Lessee accounting

We have operating lease agreements in which we are the lessee consisting of ground and office leases. At the lease commencement date (or at the acquisition date if the lease is acquired as part of a real estate acquisition), we are required to recognize a liability to account for our future obligations under these operating leases, and a corresponding right-of-use asset.

The lease liability is measured based on the present value of the future lease payments, including payments during the term under our extension options that we are reasonably certain to exercise. The present value of the future lease payments is 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. Subsequently, the lease liability is accreted by applying a discount rate established at the lease commencement date to the lease liability balance as of the beginning of the period and is reduced by the payments made during the period. We classify the operating lease liability in accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets.

The right-of-use asset is measured based on the corresponding lease liability, adjusted for initial direct leasing costs and any other consideration exchanged with the landlord prior to the commencement of the lease, as well as adjustments to reflect favorable or unfavorable terms of an acquired lease when compared with market terms at the time of acquisition. Subsequently, the right-of-use asset is amortized on a straight-line basis during the lease term. We classify the right-of-use asset in other assets in our consolidated balance sheets.

Recognition of revenue arising from contracts with customers

We recognize revenues associated with transactions arising from contracts with customers, excluding revenues subject to the lease accounting standard discussed in the “Lease accounting” section above, in accordance with the revenue recognition accounting standard. 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.

We generally recognize revenue representing the transfer of goods and services to customers in an amount that reflects the consideration to which we expect to be entitled in the exchange. In order to determine the recognition of revenue from customer contracts, we use a five-step model to (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.

We 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. We consider whether we control the goods or services prior to the transfer to the customer in order to determine whether we should account for the arrangement as a principal or agent. If we determine that we control the goods or services provided to the customer, then we are the principal to the transaction, and we recognize the gross amount of consideration expected in the exchange. If we simply arrange but do not control the goods or services being transferred to the customer, then we are considered to be an agent to the transaction, and we recognize the net amount of consideration we are entitled to retain in the exchange.

Total revenues subject to the revenue recognition accounting standard and classified within income from rentals in our consolidated statements of operations for the years ended December 31, 2022 and 2021 included $38.1 million and $23.4 million, respectively, primarily related to short-term parking revenues associated with long-term lease agreements. Short-term parking revenues do not qualify for the single component accounting policy, as discussed in the “Lessor accounting” subsection of the “Lease accounting” section within this Note 2, due to the difference in the timing and pattern of transfer of our parking service obligations and associated lease components within the same lease agreement. We recognize short-term parking revenues in accordance with the revenue recognition accounting standard when the service is provided and the performance obligation is satisfied, which normally occurs at a point in time.

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.

2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (continued)

Allowance for credit losses

We are required to estimate and recognize lifetime expected losses, rather than incurred losses, for most of our financial assets measured at amortized cost and certain other instruments, including trade and other receivables (excluding receivables arising from operating leases), loans, held-to-maturity debt securities, net investments in leases arising from sales-type and direct financing leases, and off-balance-sheet credit exposures (e.g., loan commitments). The recognition of such expected losses, even if the expected risk of credit loss is remote, typically results in earlier recognition of credit losses. An assessment of the collectibility of operating lease payments and the recognition of an adjustment to lease income based on this assessment is governed by the lease accounting standard discussed in the "Lease accounting" section earlier within this Note 2 to our consolidated financial statements.

At each reporting date, we reassess our credit loss allowances on the aggregate net investment of our direct financing and sales-type leases and our trade receivables. If necessary, we recognize a credit loss adjustment for our current estimate of expected credit losses, which is classified within rental operations in our consolidated statements of operations. For further details, refer to Note 5 – "Leases" to our consolidated financial statements.

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, China, and other international locations. Our tax returns are subject to routine examination in various jurisdictions for the 2016 through 2021 calendar years.

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. All nonforfeitable dividends paid on share-based payment awards are initially classified in retained earnings and reclassified to compensation cost only if forfeitures of the underlying awards occur. Our employee and non-employee share-based awards are measured at fair value on the grant date and recognized over the recipient's required service period.

Forward equity sales agreements

We account for our forward equity sales agreements in accordance with the accounting guidance governing financial instruments and derivatives. As of December 31, 2022, none of our forward equity sales agreements were deemed to be 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 also 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.

Issuer and guarantor subsidiaries of guaranteed securities

Generally, a parent entity must provide separate subsidiary issuer or guarantor financial statements, unless it qualifies for disclosure exceptions. A parent entity may be eligible for disclosure exceptions if it meets the following criteria:

(i) The subsidiary issuer or guarantor is a consolidated subsidiary of the parent company, and
(ii) The subsidiary issues a registered security that is:
- Issued jointly and severally with the parent company, or
- Fully and unconditionally guaranteed by the parent company.

A parent entity that meets the above criteria may instead present summarized financial information ("alternative disclosures") either within the consolidated financial statements or within the "Management's discussion and analysis of financial condition and results of operations" section in Item 7. We evaluated the criteria and determined that we are eligible for the disclosure exceptions, which allow us to provide alternative disclosures; as such, we present alternative disclosures within the "Management's discussion and analysis of financial condition and results of operations" section in Item 7.

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 capitalized and 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.

Distributions from equity method investments

We use the "nature of the distribution" approach to determine the classification within our consolidated statements of cash flows of cash distributions received from equity method investments, including our unconsolidated real estate joint ventures and equity method non-real estate investments. Under this approach, distributions are classified based on the nature of the underlying activity that generated the cash distributions. If we lack the information necessary to apply this approach in the future, we will be required to apply the "cumulative earnings" approach as an accounting change on a retrospective basis. Under the cumulative earnings approach, 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.

Restricted cash

We present cash and cash equivalents separately from restricted cash within our consolidated balance sheets. However, we include restricted cash with cash and cash equivalents when reconciling the beginning-of-period and end-of-period total amounts shown in the consolidated statements of cash flows. We provide a reconciliation between the consolidated balance sheets and the consolidated statements of cash flows, as required when the balance includes more than one line item for cash, cash equivalents, and restricted cash. We also provide a disclosure of the nature of the restrictions related to material restricted cash balances.

Recent accounting pronouncements

On June 30, 2022, the FASB issued an ASU to clarify the guidance on fair value measurement of an equity security that is subject to a contractual sale restriction. Currently, some entities apply a discount to the price of an equity security, subject to a contractual sale restriction, whereas others do not. This update eliminates the diversity in practice by clarifying that a recognition of a discount related to a contractual sale restriction is not permitted. This update does not change the application of existing measurement guidance on share-based compensation. We hold certain equity investments in publicly held entities that are subject to trading restrictions. We do not recognize a discount related to such trading restrictions; therefore, the adoption of this standard will have no impact on our consolidated financial statements. Pursuant to the disclosure requirements of this new standard, the footnotes to our consolidated financial statements will contain incremental disclosures related to equity securities that are subject to contractual sale restrictions, including (i) the fair value of such equity securities reflected in the balance sheet, (ii) the nature and remaining duration of the corresponding restrictions, and (iii) any circumstances that could cause a lapse in the restrictions. The accounting standard will become effective for us on January 1, 2024, with early adoption permitted.

3. INVESTMENTS IN REAL ESTATE

Our consolidated investments in real estate, including real estate assets classified as held for sale as described in Note 18 – "Assets classified as held for sale" to our consolidated financial statements, consisted of the following as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022	December 31, 2021
Rental properties:		
Land (related to rental properties)	$ 4,284,731	$ 3,782,182
Buildings and building improvements	18,605,627	16,312,402
Other improvements	2,677,763	2,109,884
Rental properties	25,568,121	22,204,468
Development and redevelopment projects	8,715,335	6,528,640
Gross investments in real estate – North America	34,283,456	28,733,108
Less: accumulated depreciation – North America	(4,349,780)	(3,766,758)
Net investments in real estate – North America	29,933,676	24,966,350
Net investments in real estate – Asia	11,764	14,319
Investments in real estate	$ 29,945,440	$ 24,980,669

Acquisitions

Our real estate asset acquisitions during the year ended December 31, 2022 consisted of the following (dollars in thousands):

		Square Footage			
Market	Number of Properties	Future Development	Operating With Future Development/ Redevelopment	Operating	Purchase Price
Greater Boston	5	277,997	664,832	265,965	$ 788,292
San Francisco Bay Area	5	610,000	723,953	70,000	564,000
San Diego	5	1,287,000	234,874	—	231,380
Seattle	—	869,000	—	—	87,608
Research Triangle	4	1,925,000	69,485	—	179,428
Texas	11	51,038	1,197,071	—	508,400
Other	12	1,644,994	646,132	381,760	459,344
Year ended December 31, 2022	42	6,665,029	3,536,347	717,725	$ 2,818,452 [(1)]

(1) Represents the aggregate contractual purchase price of our acquisitions, which differs from purchases of real estate in our consolidated statements of cash flows due to the timing of payment, closing costs, and other acquisition adjustments such as prorations of rents and expenses.

Based upon our evaluation of each acquisition, we determined that substantially all of the fair value related to each acquisition was concentrated in a single identifiable asset or a group of similar identifiable assets, or was associated with a land parcel with no operations. Accordingly, each transaction did not meet the definition of a business and therefore 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.

During the year ended December 31, 2022, we acquired 42 properties for an aggregate purchase price of $2.8 billion. In connection with our acquisitions, we recorded in-place lease assets aggregating $180.5 million and below-market lease liabilities in which we are the lessor aggregating $156.1 million. As of December 31, 2022, the weighted-average amortization period remaining on our in-place leases and below-market leases acquired during the year ended December 31, 2022 was 7.4 years and 12.2 years, respectively, and 9.7 years in total.

3. INVESTMENTS IN REAL ESTATE (continued)

Acquired below-market leases

The balances of acquired below-market tenant leases existing as of December 31, 2022 and 2021, and related accumulated amortization, classified in accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets as of December 31, 2022 and 2021 were as follows (in thousands):

	December 31,	
	2022	2021
Acquired below-market leases	$ 730,441	$ 579,267
Accumulated amortization	(312,785)	(237,682)
	$ 417,656	$ 341,585

For the years ended December 31, 2022, 2021, and 2020, we recognized in rental revenues approximately $78.0 million, $57.7 million, and $57.8 million, respectively, related to the amortization of acquired below-market leases existing as of the end of each respective year.

The weighted-average amortization period of the value of acquired below-market leases existing as of December 31, 2022 was approximately 6.4 years, and the estimated annual amortization of the value of acquired below-market leases as of December 31, 2022 is as follows (in thousands):

Year	Amount
2023	$ 77,462
2024	67,889
2025	45,468
2026	34,061
2027	33,711
Thereafter	159,065
Total	$ 417,656

Acquired in-place leases

The balances of acquired in-place leases, and related accumulated amortization, classified in other assets in our consolidated balance sheets as of December 31, 2022 and 2021 were as follows (in thousands):

	December 31,	
	2022	2021
Acquired in-place leases	$ 1,150,690	$ 987,213
Accumulated amortization	(535,052)	(377,341)
	$ 615,638	$ 609,872

Amortization for these intangible assets, classified in depreciation and amortization expense in our consolidated statements of operations, was approximately $169.5 million, $146.6 million, and $105.4 million for the years ended December 31, 2022, 2021, and 2020, respectively. The weighted-average amortization period of the value of acquired in-place leases was approximately 8.5 years, and the estimated annual amortization of the value of acquired in-place leases as of December 31, 2022 is as follows (in thousands):

Year	Amount
2023	$ 133,737
2024	99,034
2025	76,530
2026	61,745
2027	49,987
Thereafter	194,605
Total	$ 615,638

3. INVESTMENTS IN REAL ESTATE (continued)

Sales of real estate assets and impairment charges

Our completed dispositions of and sales of partial interests in real estate assets during the year ended December 31, 2022 consisted of the following (dollars in thousands):

Property	Submarket/Market	Date of Sale	Interest Sold	RSF	Sales Price	Gain on Sale of Real Estate	Consideration in Excess of Book Value[(1)]
Three months ended March 31, 2022:							
100 Binney Street	Cambridge/Inner Suburbs/ Greater Boston	3/30/22	70%	432,931	$ 713,228	N/A	$ 413,615
Three months ended June 30, 2022:							
300 Third Street	Cambridge/Inner Suburbs/ Greater Boston	6/27/22	70%	131,963	166,485	N/A	113,020
Alexandria Park at 128, 285 Bear Hill Road, 111 and 130 Forbes Boulevard, and 20 Walkup Drive	Route 128 and Route 495/ Greater Boston	6/8/22	100%	617,043	334,397	$ 202,325	N/A
Other					47,800	11,894	N/A
					548,682	214,219	113,020
Three months ended September 30, 2022:							
1450 Owens Street	Mission Bay/San Francisco Bay Area	7/1/22	20%	191,000	25,039	N/A	10,083
341 and 343 Oyster Point Boulevard, 7000 Shoreline Court, and Shoreway Science Center	South San Francisco and Greater Stanford/San Francisco Bay Area	9/15/22	100%	330,379	383,635	223,127	N/A
3215 Merryfield Row	Torrey Pines/San Diego	9/1/22	70%	170,523	149,940	N/A	42,214
Summers Ridge Science Park	Sorrento Mesa/San Diego	9/15/22	70%	316,531	159,600	N/A	65,097
7330 and 7360 Carroll Road	Sorrento Mesa/San Diego	9/15/22	100%	84,442	59,476	35,463	N/A
Other	Various				182,696	65,109	N/A
					960,386	323,699	117,394
Year ended December 31, 2022					$ 2,222,296 [(2)]	$ 537,918	$ 644,029

(1) Relates to sales of partial interests in real estate assets over which we retained control and therefore continue to consolidate. We recognized the difference between the consideration received and the book value of partial interests sold in additional paid-in capital, with no gain or loss recognized in earnings.

(2) Represents the aggregate contractual sales price of our sales, which differs from proceeds from sales of real estate and contributions from and sales of noncontrolling interests in our consolidated statements of cash flows under “Investing activities” and “Financing activities,” respectively, primarily due to the timing of payment, closing costs, and other sales adjustments such as prorations of rents and expenses.

During the year ended December 31, 2022, we completed dispositions of and sales of partial interests in real estate assets for an aggregate sales price of $2.2 billion, as described below.

- We completed dispositions of real estate assets for sales prices aggregating $1.0 billion and recognized gains on sales of real estate aggregating $537.9 million within our consolidated statements of operations.
- We completed sales of partial interests in real estate assets for an aggregate sales price of $1.2 billion, where these partial interest sales resulted in proceeds in excess of book values aggregating $644.0 million. We accounted for our sales of partial interests as equity transactions, with the excess recognized in additional paid-in capital within our consolidated statements of changes in stockholders’ equity and no gain or loss recognized in earnings since we continue to consolidate the resulting real estate joint ventures. For more detail, refer to the “Formation of consolidated real estate joint ventures and sales of partial interests” section in Note 4 – “Consolidated and unconsolidated real estate joint ventures” to our consolidated financial statements.

Impairment charges

During the year ended December 31, 2022, we recognized impairment charges aggregating $65.0 million, as detailed below:

- Impairment charges aggregating $44.1 million, which consisted of write-offs of pre-acquisition costs, including the $38.3 million write-off of our entire investment in a future development project aggregating over 600,000 RSF in one of our existing submarkets in California. This impairment was recognized upon our decision to no longer proceed with this project as a result of a deteriorated macroeconomic environment that negatively impacted the financial outlook for this project.
- Impairment charges aggregating $20.9 million to reduce the carrying amounts of 10 properties and a land parcel located in multiple submarkets to their respective estimated fair values, less costs to sell, upon their classification as held for sale. We expect to sell these real estate assets in 2023. Refer to Note 18 – “Assets classified as held for sale” to our consolidated financial statements for additional information.

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, 2022, our real estate joint ventures held the following properties:

Property	Market	Submarket	Our Ownership Interest[1]
Consolidated real estate joint ventures[2]:			
50 and 60 Binney Street	Greater Boston	Cambridge/Inner Suburbs	34.0%
75/125 Binney Street	Greater Boston	Cambridge/Inner Suburbs	40.0%
100 and 225 Binney Street and 300 Third Street	Greater Boston	Cambridge/Inner Suburbs	30.0% [3]
99 Coolidge Avenue	Greater Boston	Cambridge/Inner Suburbs	75.0%
Alexandria Center® for Science and Technology – Mission Bay[4]	San Francisco Bay Area	Mission Bay	25.0%
1450 Owens Street	San Francisco Bay Area	Mission Bay	59.7% [5]
601, 611, 651, 681, 685, and 701 Gateway Boulevard	San Francisco Bay Area	South San Francisco	50.0%
751 Gateway Boulevard	San Francisco Bay Area	South San Francisco	51.0%
211 and 213 East Grand Avenue	San Francisco Bay Area	South San Francisco	30.0%
500 Forbes Boulevard	San Francisco Bay Area	South San Francisco	10.0%
Alexandria Center® for Life Science – Millbrae	San Francisco Bay Area	South San Francisco	45.3%
3215 Merryfield Row	San Diego	Torrey Pines	30.0%
Campus Point by Alexandria[6]	San Diego	University Town Center	55.0%
5200 Illumina Way	San Diego	University Town Center	51.0%
9625 Towne Centre Drive	San Diego	University Town Center	50.1%
SD Tech by Alexandria[7]	San Diego	Sorrento Mesa	50.0%
Pacific Technology Park	San Diego	Sorrento Mesa	50.0%
Summers Ridge Science Park[8]	San Diego	Sorrento Mesa	30.0%
1201 and 1208 Eastlake Avenue East and 199 East Blaine Street	Seattle	Lake Union	30.0%
400 Dexter Avenue North	Seattle	Lake Union	30.0%
800 Mercer Street	Seattle	Lake Union	60.0%
Unconsolidated real estate joint ventures[2]:			
1655 and 1725 Third Street	San Francisco Bay Area	Mission Bay	10.0%
1401/1413 Research Boulevard	Maryland	Rockville	65.0% [9]
1450 Research Boulevard	Maryland	Rockville	73.2% [10]
101 West Dickman Street	Maryland	Beltsville	57.9% [10]

(1) Refer to the table on the next page that shows the categorization of our joint ventures under the consolidation framework.
(2) In addition to the real estate joint ventures listed, various partners hold insignificant noncontrolling interests in three other consolidated real estate joint ventures in North America and we hold an interest in one other insignificant unconsolidated real estate joint venture in North America.
(3) 225 Binney Street is owned through a tenancy in common arrangement. We directly own 26.3% of the tenancy in common and a real estate joint venture owns the remaining 73.7% of the tenancy in common. We own 5% of this real estate joint venture, resulting in an aggregate ownership of 30% of this property. We determined that we are the primary beneficiary of the real estate joint venture and as such, we consolidate this joint venture under the variable interest entity model.
(4) Includes 409 and 499 Illinois Street, 1500 and 1700 Owens Street, and 455 Mission Bay Boulevard South.
(5) The noncontrolling interest share of our joint venture partner is anticipated to increase to 75% as our partner contributes 100% of the remaining cost to complete the project over time.
(6) Includes 10210, 10260, 10290, and 10300 Campus Point Drive and 4110, 4150, 4161, 4224, and 4242 Campus Point Court.
(7) Includes 9605, 9645, 9675, 9685, 9725, 9735, 9808, 9855, and 9868 Scranton Road and 10055, 10065, and 10075 Barnes Canyon Road.
(8) Includes 9965, 9975, 9985, and 9995 Summers Ridge Road.
(9) Represents our ownership interest; our voting interest is limited to 50%.
(10) Represents a joint venture with a local real estate operator in which our partner manages the day-to-day activities that significantly affect the economic performance of the joint venture.

Our consolidation policy is described under the “Consolidation” section in 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.

4. CONSOLIDATED AND UNCONSOLIDATED REAL ESTATE JOINT VENTURES (continued)

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 the categorization of our real estate joint ventures under the consolidation framework:

<table>
<tr><th>Property[1]</th><th>Consolidation Model</th><th>Voting Interest</th><th>Consolidation Analysis</th><th>Conclusion</th></tr>
<tr><td>50 and 60 Binney Street</td><td rowspan="24">VIE model</td><td rowspan="24">Not applicable under VIE model</td><td rowspan="21">We have:
(i) The power to direct the activities of the joint venture that most significantly affect its economic performance; and
(ii) Benefits that can be significant to the joint venture.
Therefore, we are the primary beneficiary of each VIE</td><td rowspan="21">Consolidated</td></tr>
<tr><td>75/125 Binney Street</td></tr>
<tr><td>100 and 225 Binney Street and 300 Third Street</td></tr>
<tr><td>99 Coolidge Avenue</td></tr>
<tr><td>Alexandria Center® for Science and Technology – Mission Bay</td></tr>
<tr><td>1450 Owens Street</td></tr>
<tr><td>601, 611, 651, 681, 685, and 701 Gateway Boulevard</td></tr>
<tr><td>751 Gateway Boulevard</td></tr>
<tr><td>211 and 213 East Grand Avenue</td></tr>
<tr><td>500 Forbes Boulevard</td></tr>
<tr><td>Alexandria Center® for Life Science – Millbrae</td></tr>
<tr><td>3215 Merryfield Row</td></tr>
<tr><td>Campus Point by Alexandria</td></tr>
<tr><td>5200 Illumina Way</td></tr>
<tr><td>9625 Towne Centre Drive</td></tr>
<tr><td>SD Tech by Alexandria</td></tr>
<tr><td>Pacific Technology Park</td></tr>
<tr><td>Summers Ridge Science Park</td></tr>
<tr><td>1201 and 1208 Eastlake Avenue East and 199 East Blaine Street</td></tr>
<tr><td>400 Dexter Avenue North</td></tr>
<tr><td>800 Mercer Street</td></tr>
<tr><td>1401/1413 Research Boulevard</td><td rowspan="3">We do not control the joint venture and are therefore not the primary beneficiary</td><td rowspan="4">Equity method of accounting</td></tr>
<tr><td>1450 Research Boulevard</td></tr>
<tr><td>101 West Dickman Street</td></tr>
<tr><td>1655 and 1725 Third Street</td><td>Voting model</td><td>Does not exceed 50%</td><td>Our voting interest is 50% or less</td></tr>
</table>

(1) In addition to the real estate joint ventures listed, various partners hold insignificant noncontrolling interests in three other consolidated real estate joint ventures in North America and we hold an interest in one other insignificant unconsolidated real estate joint venture in North America.

Formation of consolidated real estate joint ventures and sales of partial interests

In each of the real estate joint ventures described below, we are contractually responsible for activities that most significantly impact the economic performance of the joint venture. In addition, our joint venture partner(s) in each of the following real estate joint ventures lacks kick-out rights over our role as property manager. Therefore, we determined that our joint venture partner does not have a controlling financial interest, and consequently each real estate joint venture should be accounted for as a VIE. We also determined that we are the primary beneficiary of each real estate joint venture because we are responsible for activities that most significantly impact their economic performance, and also have the obligation to absorb losses of, or the right to receive benefits from, each joint venture that could potentially be significant to the joint venture. Accordingly, we consolidate each real estate joint venture under the variable interest model.

Refer to the “Consolidation” section in Note 2 – “Summary of significant accounting policies” to our consolidated financial statements for additional information. For a summary of our completed dispositions and sales of partial interests in real estate assets during the year ended December 31, 2022, refer to the “Sales of real estate assets and impairment charges” section in Note 3 – “Investments in real estate” to our consolidated financial statements.

800 Mercer Street

In March 2022, we formed a real estate joint venture with an institutional investor to acquire a land parcel aggregating 869,000 SF at 800 Mercer Street in our Lake Union submarket. We have a 60% ownership interest in the joint venture, and our share of the contractual purchase price aggregated $87.6 million. Upon completion of the transaction in March 2022, we determined that we had control over the newly formed real estate joint venture and therefore consolidated the real estate asset.

<u>Sales of partial interests</u>

Upon completion of each transaction described below, we determined that we had control over each newly formed real estate joint venture and therefore continued to consolidate each property. Accordingly, we accounted for these sales of partial interests as equity transactions, with no gain or loss recognized in earnings.

100 Binney Street

In March 2022, we formed a real estate joint venture in our Cambridge/Inner Suburbs submarket by contributing our 100 Binney Street property and sold to our joint venture partner a 70% interest in the joint venture for an aggregate sales price of $713.2 million, or $2,353 per RSF, representing $413.6 million of consideration in excess of the book value of our 70% interest sold.

300 Third Street

In June 2022, we sold a 70% interest in our 300 Third Street property located in our Cambridge/Inner Suburbs submarket for an aggregate sales price of $166.5 million, or $1,802 per RSF, representing $113.0 million of consideration in excess of the book value of our 70% interest sold.

1450 Owens Street

In July 2022, we formed a real estate joint venture in our Mission Bay submarket by contributing a land parcel aggregating 191,000 SF at 1450 Owens Street with an aggregate fair market value of $125.2 million. At the formation of the joint venture, we received proceeds of $25.0 million from our joint venture partner for a noncontrolling interest share of 20%, which is anticipated to increase to 75% as our partner contributes capital for construction over time. The proceeds represent $10.1 million of consideration in excess of the book value of our 20% interest sold. As of December 31, 2022, the noncontrolling interest share of our joint venture partner was 40.3%.

3215 Merryfield Row

In September 2022, we formed a real estate joint venture in our Torrey Pines submarket by selling a 70% interest in our 3215 Merryfield Row property for an aggregate sales price of $149.9 million, or $1,256 per RSF, representing $42.2 million of consideration in excess of the book value of our 70% interest sold.

Summers Ridge Science Park

In September 2022, we sold a 70% interest in our Summers Ridge Science Park campus at 9965, 9975, 9985, and 9995 Summers Ridge Road located in our Sorrento Mesa submarket for an aggregate sales price of $159.6 million, or $720 per RSF, representing $65.1 million of consideration in excess of the book value of our 70% interest sold, and formed a new real estate joint venture with our institutional partner.

Consolidated VIEs' balance sheet information

The table below aggregates the balance sheet information of our consolidated VIEs as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Investments in real estate	$ 6,771,842	$ 5,014,842
Cash and cash equivalents	246,931	181,074
Other assets	684,487	509,281
Total assets	$ 7,703,260	$ 5,705,197
Secured notes payable	$ 58,396	$ 7,991
Other liabilities	430,615	269,605
Total liabilities	489,011	277,596
Alexandria Real Estate Equities, Inc.'s share of equity	3,513,001	2,593,505
Noncontrolling interests' share of equity	3,701,248	2,834,096
Total liabilities and equity	$ 7,703,260	$ 5,705,197

In determining whether to aggregate the balance sheet information of 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. None of our consolidated VIEs' 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, and our maximum exposure to our consolidated VIEs is limited to our variable interests in each VIE, except for our 99 Coolidge Avenue real estate joint venture in which the VIE's secured construction loan is guaranteed by us. For additional information, refer to Note 10 – "Secured and unsecured senior debt" to our consolidated financial statements.

4. CONSOLIDATED AND UNCONSOLIDATED REAL ESTATE JOINT VENTURES (continued)

Unconsolidated real estate joint ventures

Our maximum exposure to our unconsolidated VIEs is limited to our investment in each VIE. Our investments in unconsolidated real estate joint ventures, accounted for under the equity method of accounting presented in our consolidated balance sheets as of December 31, 2022 and 2021, consisted of the following (in thousands):

Property	December 31, 2022	December 31, 2021
1655 and 1725 Third Street	$ 12,996	$ 14,034
1450 Research Boulevard	5,625	4,455
101 West Dickman Street	8,678	8,481
Other	11,136	11,513
	$ 38,435	$ 38,483

The following table presents key terms related to our unconsolidated real estate joint ventures' secured loans as of December 31, 2022 (dollars in thousands):

Unconsolidated Joint Venture	Maturity Date	Stated Rate	Interest Rate[(1)]	At 100% Aggregate Commitment	At 100% Debt Balance[(2)]	Our Share
1401/1413 Research Boulevard	12/23/24	2.70%	3.33%	$ 28,500	$ 28,146	65.0%
1655 and 1725 Third Street	3/10/25	4.50%	4.57%	600,000	599,081	10.0%
101 West Dickman Street	11/10/26	SOFR + 1.95% [(3)]	6.38%	26,750	11,575	57.9%
1450 Research Boulevard	12/10/26	SOFR + 1.95% [(3)]	6.44%	13,000	3,802	73.2%
				$ 668,250	$ 642,604	

(1) Includes interest expense and amortization of loan fees.
(2) Represents outstanding principal, net of unamortized deferred financing costs, as of December 31, 2022.
(3) This loan is subject to a fixed SOFR floor rate of 0.75%.

5. LEASES

Refer to the "Lease accounting" section in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements for information about lease accounting standards that set principles for the recognition, measurement, presentation, and disclosure of leases for both parties to a lease agreement (i.e., lessees and lessors).

Leases in which we are the lessor

As of December 31, 2022, we had 432 properties aggregating 41.8 million operating RSF located in key clusters, including Greater Boston, the San Francisco Bay Area, New York City, San Diego, Seattle, Maryland, and Research Triangle. We focus on developing Class A properties in AAA innovation cluster locations, which we consider to be highly desirable for tenancy by life science, agtech, and technology entities. 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. As of December 31, 2022, all leases in which we are the lessor were classified as operating leases, with the exception of one direct financing lease. Our leases are described below.

Operating leases

As of December 31, 2022, our 432 properties were subject to operating lease agreements. Two of these properties, representing two land parcels, are subject to lease agreements that each contain an option for the lessee to purchase the underlying asset from us at fair market value during each of the 30-day periods commencing on the dates that are 15 years, 30 years, and 74.5 years after the rent commencement date of October 1, 2017. The remaining lease term related to each of the two land parcels is 69.9 years. Our leases generally contain options to extend lease terms at prevailing market rates at the time of expiration. Certain operating leases contain early termination options that require advance notification and payment of a penalty, which in most cases is substantial enough to be deemed economically disadvantageous by a tenant to exercise. Future lease payments to be received under the terms of our operating lease agreements, excluding expense reimbursements, in effect as of December 31, 2022 are outlined in the table below (in thousands):

Year	Amount
2023	$ 1,755,123
2024	1,874,121
2025	1,865,064
2026	1,822,110
2027	1,743,625
Thereafter	11,736,511
Total	$ 20,796,554

Refer to Note 3 – "Investments in real estate" to our consolidated financial statements for additional information about our owned real estate assets, which are the underlying assets under our operating leases.

Direct financing and sales-type leases

As of December 31, 2022, we had one direct financing lease agreement, with a net investment balance of $39.4 million, for a parking structure with a remaining lease term of 69.9 years. The lessee has an option to purchase the underlying asset at fair market value during each of the 30-day periods commencing on the dates that are 15 years, 30 years, and 74.5 years after the rent commencement date of October 1, 2017.

In May 2022, we completed the sale of land at 9609, 9613, and 9615 Medical Center Drive in our Rockville submarket, which was subject to long-term sales-type leases, for the sales price of $47.8 million and recognized a gain of $11.9 million classified in gain on sales of real estate within our consolidated statements of operations for the year ended December 31, 2022. As of December 31, 2022, we had no sales-type leases.

5. LEASES (continued)

The components of our aggregate net investment in our direct financing and sales-type leases as of December 31, 2022 and 2021 are summarized in the table below (in thousands):

	December 31, 2022	December 31, 2021
Gross investment in direct financing and sales-type leases	$ 255,186	$ 403,388
Add: estimated unguaranteed residual value of the underlying assets related to sales-type leases	—	31,839
Less: unearned income on direct financing lease	(212,995)	(215,557)
Less: effect of discounting on sales-type leases	—	(146,175)
Less: allowance for credit losses	(2,839)	(2,839)
Net investment in direct financing and sales-type leases	$ 39,352	$ 70,656

As of December 31, 2022, our estimated credit loss related to our direct financing lease was $2.8 million. No adjustment to the estimated credit loss balance was required during the year ended December 31, 2022. For further details, refer to the "Allowance for credit losses" section in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements.

Future lease payments to be received under the terms of our direct financing lease as of December 31, 2022 are outlined in the table below (in thousands):

Year	Total
2023	$ 1,863
2024	1,919
2025	1,976
2026	2,036
2027	2,097
Thereafter	245,295
Total	$ 255,186

Income from rentals

Our income from rentals includes revenue related to agreements for the rental of our real estate, which primarily includes revenues subject to the lease accounting standard and the revenue recognition accounting standard as shown below (in thousands):

	Year Ended December 31, 2022	2021	2020
Income from rentals:			
Revenues subject to the lease accounting standard:			
Operating leases	$ 2,534,862	$ 2,081,362	$ 1,854,427
Direct financing and sales-type leases	3,094	3,489	2,469
Revenues subject to the lease accounting standard	2,537,956	2,084,851	1,856,896
Revenues subject to the revenue recognition accounting standard	38,084	23,398	21,312
Income from rentals	$ 2,576,040	$ 2,108,249	$ 1,878,208

Our revenues that are subject to the revenue recognition accounting standard and are classified in income from rentals consist primarily of short-term parking revenues that are not considered lease revenues under the lease accounting standard. Refer to the "Revenues" and "Recognition of revenue arising from contracts with customers" sections in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements for additional information.

5. LEASES (continued)

Deferred leasing costs

The following table summarizes our deferred leasing costs as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Deferred leasing costs	$ 996,116	$ 857,414
Accumulated amortization	(479,841)	(454,516)
Deferred leasing costs, net	$ 516,275	$ 402,898

Residual value risk management strategy

Our leases do not have guarantees of residual value on the underlying assets. We manage risk associated with the residual value of our leased assets by (i) evaluating each potential acquisition of real estate to determine whether it meets our business objective to invest primarily in high-demand markets with limited supply of available space, (ii) directly managing our leased properties, conducting frequent property inspections, proactively addressing potential maintenance issues before they arise, and timely resolving any occurring issues, and (iii) carefully selecting our tenants and monitoring their credit quality throughout their respective lease terms.

Leases in which we are the lessee

Operating lease agreements

We have operating lease agreements in which we are the lessee consisting of ground and office leases. Certain of these leases have options to extend or terminate the contract terms upon meeting certain criteria. There are no notable restrictions or covenants imposed by the leases, nor guarantees of residual value.

We recognize a right-of-use asset, which is classified within other assets in our consolidated balance sheets, and a related liability, which is classified within accounts payable, accrued expenses, and other liabilities in our consolidated balance sheets, to account for our future obligations under ground and office lease arrangements in which we are the lessee. Refer to the "Lessee accounting" subsection of the "Lease accounting" section in Note 2 – "Summary of significant accounting policies" to our consolidated financial statements.

As of December 31, 2022, the present value of the remaining contractual payments aggregating $904.2 million under our operating lease agreements, including our extension options that we are reasonably certain to exercise, was $406.7 million. Our corresponding operating lease right-of-use assets, adjusted for initial direct leasing costs and other consideration exchanged with the landlord prior to the commencement of the lease, aggregated $558.3 million. As of December 31, 2022, the weighted-average remaining lease term of operating leases in which we are the lessee was approximately 42 years, and the weighted-average discount rate was 4.6%. The weighted-average discount rate is based on the incremental borrowing rate estimated for each lease, 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.

Ground lease obligations as of December 31, 2022, included leases for 40 of our properties, which accounted for approximately 9% of our total number of properties. Excluding one ground lease that expires in 2036 related to one operating property with a net book value of $6.3 million as of December 31, 2022, our ground lease obligations have remaining lease terms ranging from approximately 31 years to 99 years, including extension options which we are reasonably certain to exercise.

5. LEASES (continued)

The reconciliation of future lease payments under noncancelable operating ground and office leases in which we are the lessee, to the operating lease liability reflected in our consolidated balance sheet as of December 31, 2022 is presented in the table below (in thousands):

Year	Total
2023	$ 24,073
2024	24,389
2025	24,475
2026	24,543
2027	22,866
Thereafter	783,888
Total future payments under our operating leases in which we are the lessee	904,234
Effect of discounting	(497,534)
Operating lease liability	$ 406,700

Lessee operating costs

Operating lease costs relate to our ground and office leases in which we are the lessee. Ground leases generally require fixed annual rent payments and may also include escalation clauses and renewal options. Our operating lease obligations related to our office leases have remaining terms of up to 13 years, exclusive of extension options. For the years ended December 31, 2022, 2021, and 2020, our costs for operating leases in which we are the lessee were as follows (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Gross operating lease costs	$ 36,527	$ 28,598	$ 23,518
Capitalized lease costs	(3,661)	(3,167)	(3,529)
Expenses for operating leases in which we are the lessee	$ 32,866	$ 25,431	$ 19,989

For the years ended December 31, 2022, 2021, and 2020, amounts paid and classified as operating activities in our consolidated statements of cash flows for leases in which we are the lessee were $55.2 million, $24.7 million, and $20.8 million, respectively. The increase in 2022 primarily relates to a $26.3 million payment made during the three months ended March 31, 2022 in connection with the execution of ground lease extensions at two properties in our Greater Stanford submarket.

6. CASH, CASH EQUIVALENTS, AND RESTRICTED CASH

Cash, cash equivalents, and restricted cash consisted of the following as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Cash and cash equivalents	$ 825,193	$ 361,348
Restricted cash:		
Funds held in trust under the terms of certain secured notes payable	—	17,264
Funds held in escrow for real estate acquisitions	30,112	30,000
Other	2,670	6,615
	32,782	53,879
Total	$ 857,975	$ 415,227

7. INVESTMENTS

We hold strategic investments in publicly traded companies and privately held entities primarily involved in the life science, agtech, and technology industries. As a REIT, we generally limit our ownership of each individual entity's voting stock to less than 10%. We evaluate each investment to determine whether we have the ability to exercise significant influence, but not control, over an investee. We evaluate investments in which our ownership is equal to or greater than 20%, but less than or equal to 50%, of an investee's voting stock with a presumption that we have this ability. For our investments in limited partnerships that maintain specific ownership accounts, we presume that such ability exists when our ownership interest exceeds 3% to 5%. In addition to our ownership interest, we consider whether we have a board seat or whether we participate in the policy-making process, among other criteria, to determine if we have the ability to exert significant influence, but not control, over an investee. If we determine that we have such ability, we account for the investment under the equity method of accounting, as described below.

Investments accounted for under the equity method

Under the equity method of accounting, we initially recognize our investment at cost and subsequently adjust the carrying amount of the investment for our share of earnings or losses reported by the investee, distributions received, and other-than-temporary impairments.

As of December 31, 2022, we had seven investments in limited partnerships aggregating $65.5 million that maintain specific ownership accounts for each investor, which were accounted for under the equity method. Our ownership interest in each of these seven investments was greater than 5%.

Investments that do not qualify for the equity method of accounting

For investees over which we determine that we do not have the ability to exercise significant influence or control, we account for each investment depending on whether it is an investment in a (i) publicly traded company, (ii) privately held entity that reports NAV per share, or (iii) privately held entity that does not report NAV per share, as described below.

Investments in publicly traded companies

Our investments in publicly traded companies are classified as investments with readily determinable fair values and are presented at fair value in our consolidated balance sheets, with changes in fair value classified in investment income (loss) in our consolidated statements of operations. The fair values for our investments in publicly traded companies are determined based on sales prices or quotes available on securities exchanges.

Investments in privately held companies

Our investments in privately held entities without readily determinable fair values consist of (i) investments in privately held entities that report NAV per share and (ii) investments in privately held entities that do not report NAV per share. These investments are accounted for as follows:

Investments in privately held entities that report NAV per share

Investments in privately held entities that report NAV per share, such as our privately held investments in limited partnerships, are presented at fair value using NAV as a practical expedient, with changes in fair value recognized in net income. We use NAV per share reported by limited partnerships generally 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 per share

Investments in privately held entities that do not report NAV per share are accounted for using a measurement alternative, under which these investments are measured at cost, adjusted for observable price changes and impairments, with changes recognized in net income.

An observable price arises from an orderly transaction for an identical or similar investment of the same issuer, which is observed by an investor without expending undue cost and effort. Observable price changes result from, among other things, equity transactions of the same issuer executed during the reporting period, including subsequent equity offerings or other reported equity transactions related to the same issuer. To determine whether these transactions are indicative of an observable price change, we evaluate, among other factors, whether these transactions have similar rights and obligations, including voting rights, distribution preferences, and conversion rights to the investments we hold.

7. INVESTMENTS (continued)

Impairment evaluation of equity method investments and investments in privately held entities that do not report NAV per share

We monitor equity method investments and investments in privately held entities that do not report NAV per share for new developments, including operating results, prospects and results of clinical trials, new product initiatives, new collaborative agreements, capital-raising events, and merger and acquisition activities. These investments are evaluated on the basis of a qualitative assessment for indicators of impairment by monitoring the presence of the following triggering events or 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, including the research and development of technology and products that the investee is bringing or attempting to bring to the market;
(iv) significant concerns about the investee's ability to continue as a going concern; and/or
(v) a decision by investors to cease providing support or reduce their financial commitment to the investee.

If such indicators are present, we are required to estimate the investment's fair value and immediately recognize an impairment charge in an amount equal to the investment's carrying value in excess of its estimated fair value.

Investment income/loss recognition and classification

We recognize both realized and unrealized gains and losses in our consolidated statements of operations, classified within investment income. Unrealized gains and losses represent:

(i) changes in fair value for investments in publicly traded companies;
(ii) changes in NAV for investments in privately held entities that report NAV per share;
(iii) observable price changes for investments in privately held entities that do not report NAV per share; and
(iv) our share of unrealized gains or losses reported by our equity method investees.

Realized gains and losses on our investments represent the difference between proceeds received upon disposition of investments and their historical or adjusted cost basis. For our equity method investments, realized gains and losses represent our share of realized gains or losses reported by the investee. Impairments are realized losses, which result in an adjusted cost basis, and represent charges to reduce the carrying values of investments in privately held entities that do not report NAV per share and equity method investments, if impairments are deemed other than temporary, to their estimated fair value.

Funding commitments to investments in privately held entities that report NAV

We are committed to funding approximately $380.7 million for our investments in privately held entities that report NAV. Our funding commitments expire at various dates over the next 12 years, with a weighted-average expiration of 8.6 years as of December 31, 2022. These investments are not redeemable by us, but we may receive distributions from these investments throughout their terms. 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 5.4 years as of December 31, 2022.

7. INVESTMENTS (continued)

The following tables summarize our investments as of December 31, 2022 and 2021 (in thousands):

	December 31, 2022			
	Cost	Unrealized Gains	Unrealized Losses	Carrying Amount
Publicly traded companies	$ 210,986	$ 96,271	$ (100,118)	$ 207,139
Entities that report NAV	452,391	315,071	(7,710)	759,752
Entities that do not report NAV:				
Entities with observable price changes	100,296	95,062	(1,574)	193,784
Entities without observable price changes	388,940	—	—	388,940
Investments accounted for under the equity method	N/A	N/A	N/A	65,459
Total investments	$ 1,152,613	$ 506,404	$ (109,402)	$ 1,615,074

	December 31, 2021			
	Cost	Unrealized Gains	Unrealized Losses	Carrying Amount
Publicly traded companies	$ 203,290	$ 309,998	$ (29,471)	$ 483,817
Entities that report NAV	385,692	446,586	(2,414)	829,864
Entities that do not report NAV:				
Entities with observable price changes	56,257	74,279	(1,305)	129,231
Entities without observable price changes	362,064	—	—	362,064
Investments accounted for under the equity method	N/A	N/A	N/A	71,588
Total investments	$ 1,007,303	$ 830,863	$ (33,190)	$ 1,876,564

Cumulative gains and losses (realized and unrealized) on investments in privately held entities that do not report NAV still held as of December 31, 2022 aggregated to a gain of $22.9 million, which consisted of upward adjustments aggregating $95.1 million, downward adjustments aggregating $1.6 million, and impairments aggregating $70.6 million.

Our investment (loss) income for the years ended December 31, 2022, 2021, and 2020 consisted of the following (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Realized gains	$ 80,435	$ 215,845	$ 47,288
Unrealized (losses) gains	(412,193)	43,632	374,033
Investment (loss) income	$ (331,758)	$ 259,477	$ 421,321

During the year ended December 31, 2022, gains and losses on investments in privately held entities that do not report NAV still held as of December 31, 2022 aggregated to a loss of $18.3 million, which consisted of upward adjustments aggregating $26.3 million, downward adjustments aggregating $5.8 million, and impairments aggregating $38.8 million.

During the year ended December 31, 2021, gains and losses on investments in privately held entities that do not report NAV still held as of December 31, 2021 aggregated to a loss of $33.3 million, which consisted of upward adjustments aggregating $32.7 million and downward adjustments and impairments aggregating $66.0 million.

During the year ended December 31, 2020, gains and losses on investments in privately held entities that do not report NAV still held as of December 31, 2020 aggregated to a gain of $3.1 million, which consisted of upward adjustments aggregating $36.7 million and downward adjustments and impairments aggregating $33.6 million.

Unrealized gains or losses related to investments still held (excluding investments accounted for under the equity method of accounting) as of December 31, 2022, 2021, and 2020 aggregated to a loss of $276.5 million and gains of $109.4 million and $392.7 million, respectively.

7. INVESTMENTS (continued)

Our investment losses for the year ended December 31, 2022 also included $2.1 million of equity in earnings of our equity method investments.

Refer to the “Investments” section in Note 2 – “Summary of significant accounting policies” to our consolidated financial statements for additional information.

8. OTHER ASSETS

The following table summarizes the components of other assets as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Acquired in-place leases	$ 615,638	$ 609,872
Deferred compensation plan	33,534	38,937
Deferred financing costs – unsecured senior line of credit	31,747	19,294
Deposits	20,805	176,077
Furniture, fixtures, and equipment	23,186	26,429
Net investment in direct financing and sales-type leases[(1)]	39,352	70,656
Notes receivable	19,875	13,088
Operating lease right-of-use assets	558,255	474,299
Other assets	80,724	53,985
Prepaid expenses	28,294	24,806
Property, plant, and equipment	148,530	151,375
Total	$ 1,599,940	$ 1,658,818

(1) We completed the sale of our real estate assets subject to sales-type leases in May 2022. As of December 31, 2022, we had no remaining sales-type leases. Refer to Note 5 – “Leases” to our consolidated financial statements for additional information.

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.

Assets and liabilities measured at fair value on a recurring basis

The following table sets forth the assets that we measure at fair value on a recurring basis by level in the fair value hierarchy (in thousands). There were no liabilities measured at fair value on a recurring basis as of December 31, 2022 and 2021. In addition, there were no transfers of assets measured at fair value on a recurring basis to or from Level 3 in the fair value hierarchy during the year ended December 31, 2022.

		Fair Value Measurement Using		
Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Investments in publicly traded companies:				
As of December 31, 2022	$ 207,139	$ 207,139	$ —	$ —
As of December 31, 2021	$ 483,817	$ 483,817	$ —	$ —

9. FAIR VALUE MEASUREMENTS (continued)

Our investments in publicly traded companies represent investments with readily determinable fair values, and are carried at fair value, with changes in fair value classified in investment income in our consolidated financial statements. We also hold investments in privately held entities, which consist of (i) investments that report NAV, and (ii) investments that do not report NAV, as further described below.

Our investments in privately held entities that report NAV, 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 classified in net income. As of December 31, 2022 and 2021, the carrying values of investments in privately held entities that report NAV aggregated $759.8 million and $829.9 million, respectively. These investments are excluded from the fair value hierarchy above as required by the fair value accounting standards. We estimate the fair value of each of our investments in limited partnerships based on the most recent NAV reported by each limited partnership. As a result, the determination of fair values of our investments in privately held entities that report NAV generally does not involve significant estimates, assumptions, or judgments.

Assets and liabilities measured at fair value on a nonrecurring basis

The following table sets forth the assets measured at fair value on a nonrecurring basis by level within the fair value hierarchy as of December 31, 2022 and 2021 (in thousands). These investments were measured at various times during the period from January 1, 2018 to December 31, 2022.

		Fair Value Measurement Using		
Description	Total	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)(1)
Investments in privately held entities that do not report NAV				
As of December 31, 2022	$ 212,262	$ —	$ 193,784 (2)	$ 18,478
As of December 31, 2021	$ 138,011	$ —	$ 129,231	$ 8,780

(1) These amounts are included in the investments in privately held entities without observable price changes balances aggregating $388.9 million and $362.1 million as of December 31, 2022 and 2021, respectively, disclosed in Note 7 – “Investments” to our consolidated financial statements. The aforementioned balances represent the carrying amounts of investments in privately held entities that do not report NAV for which impairments have been recognized in accordance with the measurement alternative guidance described in the “Investments” section in Note 2 – “Summary of significant accounting policies” to our consolidated financial statements.

(2) This balance represents the total carrying amount of our equity investments in privately held entities with observable price changes, included in the investments balance of $1.6 billion in our consolidated balance sheets as of December 31, 2022. For more information, refer to Note 7 – “Investments” to our consolidated financial statements.

Our 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. These investments are adjusted based on the observable price changes in orderly transactions for the identical or similar investment of the same issuer. Further adjustments are not made until another observable transaction occurs. Therefore, the determination of fair values of our investments in privately held entities that do not report NAV does not involve significant estimates and assumptions or subjective and complex judgments.

We also subject our investments in privately held entities that do not report NAV to a qualitative assessment for indicators of impairment. If indicators of impairment are present, we are required to estimate the investment’s fair value and immediately recognize an impairment charge in an amount equal to the investment’s carrying value in excess of its estimated fair value.

The estimates of fair value typically incorporate valuation techniques that include an income approach reflecting a discounted cash flow analysis, and a market approach that includes a comparative analysis of acquisition multiples and pricing multiples generated by market participants. In certain instances, we may use multiple valuation techniques for a particular investment and estimate its fair value based on an average of multiple valuation results.

Refer to Note 7 – “Investments” to our consolidated financial statements for additional information.

Our real estate assets classified as held for sale are measured at fair value less cost to sell, with changes recognized in net income. We evaluate these assets utilizing an agreed-upon contractual sales price and available comparable market information. If this information is not available, we use estimated replacement costs or estimated cash flow projections that utilize appropriate discount and capitalization rates. As of December 31, 2022, the carrying amounts of our real estate investments classified as held for sale aggregated $116.1 million, which is included in the investments in real estate balance in our consolidated balance sheet. For our assets classified as held for sale during 2022, the estimated fair values were primarily based on unobservable inputs categorized within Level 3 of the fair value hierarchy. During the year ended December 31, 2022, we recognized impairment charges aggregating $20.9 million to reduce the carrying amounts of these assets to their respective estimated fair values less costs to sell. We expect to sell these real estate assets in 2023. Refer to Note 18 – “Assets classified as held for sale” to our consolidated financial statements for additional information.

The carrying values of cash and cash equivalents, restricted cash, tenant receivables, deposits, notes receivable, accounts payable, accrued expenses, and other short-term liabilities approximate their fair value.

The fair values of our secured notes payable and unsecured senior notes payable, and the amounts outstanding on our unsecured senior line of credit and commercial paper program, 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, 2022 and 2021, the book and estimated fair values of our secured notes payable and unsecured senior notes payable, and the amounts outstanding under our unsecured senior line of credit and commercial paper program, including the level within the fair value hierarchy for which the estimates were derived, were as follows (in thousands):

	December 31, 2022				
		Fair Value Hierarchy			
	Book Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Estimated Fair Value
Liabilities:					
Secured notes payable	$ 59,045	$ —	$ 58,811	$ —	$ 58,811
Unsecured senior notes payable	$ 10,100,717	$ —	$ 8,539,015	$ —	$ 8,539,015
Unsecured senior line of credit	$ —	$ —	$ —	$ —	$ —
Commercial paper program	$ —	$ —	$ —	$ —	$ —

	December 31, 2021				
		Fair Value Hierarchy			
	Book Value	Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Estimated Fair Value
Liabilities:					
Secured notes payable	$ 205,198	$ —	$ 214,097	$ —	$ 214,097
Unsecured senior notes payable	$ 8,316,678	$ —	$ 8,995,913	$ —	$ 8,995,913
Unsecured senior line of credit	$ —	$ —	$ —	$ —	$ —
Commercial paper program	$ 269,990	$ —	$ 269,994	$ —	$ 269,994

10. SECURED AND UNSECURED SENIOR DEBT

The following table summarizes our outstanding indebtedness and respective principal payments as of December 31, 2022 (dollars in thousands):

Debt	Stated Rate	Interest Rate [(1)]	Maturity Date [(2)]	Principal Payments Remaining for the Periods Ending December 31, 2023	2024	2025	2026	2027	Thereafter	Principal	Unamortized (Deferred Financing Cost), (Discount) Premium	Total
Secured notes payable												
Greater Boston[(3)]	SOFR+2.70%	6.75 %	11/19/26	$ —	$ —	$ —	$ 59,717	$ —	$ —	$ 59,717	(1,321)	$ 58,396
San Francisco Bay Area	6.50%	6.50	7/1/36	30	32	34	36	38	479	649	—	649
Secured debt weighted average interest rate/ subtotal		6.75		30	32	34	59,753	38	479	60,366	(1,321)	59,045
Unsecured senior line of credit and commercial paper program[(4)]	[(4)]	N/A [(4)]	1/22/28 [(4)]	[(4)]	—	—	—	—	— [(4)]	—	—	—
Unsecured senior notes payable	3.45%	3.62	4/30/25	—	—	600,000	—	—	—	600,000	(2,061)	597,939
Unsecured senior notes payable	4.30%	4.50	1/15/26	—	—	—	300,000	—	—	300,000	(1,507)	298,493
Unsecured senior notes payable – green bond	3.80%	3.96	4/15/26	—	—	—	350,000	—	—	350,000	(1,631)	348,369
Unsecured senior notes payable	3.95%	4.13	1/15/27	—	—	—	—	350,000	—	350,000	(2,074)	347,926
Unsecured senior notes payable	3.95%	4.07	1/15/28	—	—	—	—	—	425,000	425,000	(2,152)	422,848
Unsecured senior notes payable	4.50%	4.60	7/30/29	—	—	—	—	—	300,000	300,000	(1,469)	298,531
Unsecured senior notes payable	2.75%	2.87	12/15/29	—	—	—	—	—	400,000	400,000	(2,879)	397,121
Unsecured senior notes payable	4.70%	4.81	7/1/30	—	—	—	—	—	450,000	450,000	(2,796)	447,204
Unsecured senior notes payable	4.90%	5.05	12/15/30	—	—	—	—	—	700,000	700,000	(6,290)	693,710
Unsecured senior notes payable	3.375%	3.48	8/15/31	—	—	—	—	—	750,000	750,000	(5,628)	744,372
Unsecured senior notes payable – green bond	2.00%	2.12	5/18/32	—	—	—	—	—	900,000	900,000	(8,802)	891,198
Unsecured senior notes payable	1.875%	1.97	2/1/33	—	—	—	—	—	1,000,000	1,000,000	(8,840)	991,160
Unsecured senior notes payable – green bond	2.95%	3.07	3/15/34	—	—	—	—	—	800,000	800,000	(8,737)	791,263
Unsecured senior notes payable	4.85%	4.93	4/15/49	—	—	—	—	—	300,000	300,000	(3,102)	296,898
Unsecured senior notes payable	4.00%	3.91	2/1/50	—	—	—	—	—	700,000	700,000	10,222	710,222
Unsecured senior notes payable	3.00%	3.08	5/18/51	—	—	—	—	—	850,000	850,000	(11,988)	838,012
Unsecured senior notes payable	3.55%	3.63	3/15/52	—	—	—	—	—	1,000,000	1,000,000	(14,549)	985,451
Unsecured debt weighted average interest rate/subtotal		3.51		—	—	600,000	650,000	350,000	8,575,000	10,175,000	(74,283)	10,100,717
Weighted-average interest rate/total		3.53%		$ 30	$ 32	$600,034	$ 709,753	$ 350,038	$ 8,575,479	$10,235,366	$ (75,604)	$10,159,762

(1) Represents the weighted-average interest rate as of the end of the applicable period, including amortization of loan fees, amortization of debt premiums (discounts), and other bank fees.
(2) Reflects any extension options that we control.
(3) Represents a secured construction loan held by our consolidated real estate joint venture at 99 Coolidge Avenue, of which we own a 75.0% interest. As of December 31, 2022, this joint venture has $135.6 million available under existing lender commitments. The interest rate shall be reduced from SOFR+2.70% to SOFR+2.10% over time upon the completion of certain leasing, construction, and financial covenant milestones.
(4) Refer to “Amendment of our unsecured senior line of credit” and “$2.0 billion commercial paper program” on the next page.

10. SECURED AND UNSECURED SENIOR DEBT (continued)

The following table summarizes our secured and unsecured senior debt and amounts outstanding under our unsecured senior line of credit and commercial paper program as of December 31, 2022 (dollars in thousands):

	Fixed-Rate Debt	Variable-Rate Debt	Total	Percentage	Weighted-Average Interest Rate(1)	Weighted-Average Remaining Term (in years)
Secured notes payable	$ 649	$ 58,396	$ 59,045	0.6%	6.75%	4.0
Unsecured senior notes payable	10,100,717	—	10,100,717	99.4	3.51	13.3
Unsecured senior line of credit and commercial paper program(2)	—	—	—	—	N/A	5.1 (3)
Total/weighted average	$10,101,366	$ 58,396	$10,159,762	100.0%	3.53%	13.2 (3)
Percentage of total debt	99.4%	0.6%	100%			

(1) Represents the weighted-average interest rate as of the end of the applicable period, including expense/income related to the amortization of loan fees, amortization of debt premiums (discounts), and other bank fees.

(2) As of December 31, 2022, we had no outstanding balance on our unsecured senior line of credit. Our unsecured senior line of credit has aggregate commitments of $4.0 billion and bears an interest rate of SOFR plus 0.875%. In addition, the rate is subject to a sustainability adjustment of +/- four basis points based upon our ability to achieve certain annual sustainability targets. As of December 31, 2022, we had no commercial paper notes outstanding.

(3) We calculate the weighted-average remaining term of our commercial paper notes by using the maturity date of our unsecured senior line of credit. Using the maturity date of our outstanding commercial paper, the consolidated weighted-average maturity of our debt is 13.2 years. The commercial paper notes sold during the year ended December 31, 2022 were issued at a weighted-average yield to maturity of 1.91% and had a weighted-average maturity term of 13 days.

Unsecured senior notes payable

In February 2022, we issued $1.8 billion of unsecured senior notes payable with a weighted-average interest rate of 3.28% and a weighted-average maturity of 22.0 years. The unsecured senior notes consisted of $800.0 million of 2.95% green unsecured senior notes due 2034 and $1.0 billion of 3.55% unsecured senior notes due 2052.

Amendment of our unsecured senior line of credit

On September 22, 2022, we amended our unsecured senior line of credit, and the key changes are summarized below:

	New Agreement	Change
Commitments available for borrowing	$4.0 billion	Up $1.0 billion
Maturity date	January 22, 2028	Extended by 2 years
Interest rate	SOFR+0.875%	Converted to SOFR from LIBOR

In addition, the interest rate under our amended unsecured senior line of credit is subject to upward or downward adjustments of up to four basis points based upon our ability to achieve certain annual sustainability targets. As of December 31, 2022, we had no outstanding balance on our unsecured senior line of credit.

$2.0 billion commercial paper program

In September 2022, we increased the aggregate amount we may issue from time to time under our commercial paper program to $2.0 billion from $1.5 billion. Our commercial paper program provides us with the ability to issue up to $2.0 billion of commercial paper notes that bear interest at short-term fixed rates with a maturity of generally 30 days or less and a maximum maturity of 397 days from the date of issuance. Our commercial paper program is backed by our unsecured senior line of credit, and at all times we expect to retain a minimum undrawn amount of borrowing capacity under our unsecured senior line of credit equal to any outstanding notes issued under our commercial paper program. We use the net proceeds from the issuances of the notes for general working capital and other general corporate purposes. General corporate purposes may include, but are not limited to, the repayment of other debt and selective development, redevelopment, or acquisition of properties. As of December 31, 2022, we had no outstanding balance under our commercial paper program.

Extinguishment of secured notes payable

In April 2022, we repaid two secured notes payable aggregating $195.0 million due in 2024 with an effective interest rate of 3.40% and recognized a loss on early extinguishment of debt of $3.3 million, including a prepayment penalty and the write-off of unamortized loan fees.

10. SECURED AND UNSECURED SENIOR DEBT (continued)

Interest expense

The following table summarizes interest expense for the years ended December 31, 2022, 2021, and 2020 (in thousands):

	Year Ended December 31,		
	2022	2021	2020
Interest incurred	$ 372,848	$ 312,806	$ 297,227
Capitalized interest	(278,645)	(170,641)	(125,618)
Interest expense	$ 94,203	$ 142,165	$ 171,609

11. ACCOUNTS PAYABLE, ACCRUED EXPENSES, AND OTHER LIABILITIES

The following table summarizes the components of accounts payable, accrued expenses, and other liabilities as of December 31, 2022 and 2021 (in thousands):

	December 31,	
	2022	2021
Accounts payable and accrued expenses	$ 389,741	$ 513,416
Accrued construction	624,440	438,866
Acquired below-market leases	417,656	341,585
Conditional asset retirement obligations	52,723	59,797
Deferred rent liabilities	18,321	12,384
Operating lease liability	406,700	434,745
Unearned rent and tenant security deposits	449,622	326,924
Other liabilities	112,056	82,693
Total	$ 2,471,259	$ 2,210,410

As of December 31, 2022 and 2021, our conditional asset retirement obligations liability primarily consisted of the soil and groundwater remediation liabilities associated with certain of our properties. Some of our properties may contain asbestos or may be subjected to other hazardous or toxic substances, which, under certain conditions, requires remediation. We engage independent environmental consultants to conduct Phase I or similar environmental assessments at our properties. This type of assessment generally includes a site inspection, interviews, and a public records review, asbestos, lead-based paint and mold surveys, subsurface sampling, and other testing. 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. In addition, environmental laws and regulations subject our tenants, and potentially us, to liability that may result from our tenants' routine handling of hazardous substances and wastes as part of their operations at our properties. These assessments and investigations of our properties have not to date revealed any additional environmental liability we believe would have a material adverse effect on our business and financial statements or that would require additional disclosures or recognition in our consolidated financial statements.

12. EARNINGS PER SHARE

From time to time, we enter into forward equity sales agreements, which are discussed in Note 15 – "Stockholders' equity" to our consolidated financial statements. We consider 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. To determine the dilution resulting from the forward equity sales agreements during the period of time prior to settlement, we calculate the number of weighted-average shares outstanding – diluted using the treasury stock method.

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 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) 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.

The table reconciles the numerators and denominators of the basic and diluted EPS computations for the years ended December 31, 2022, 2021, and 2020 (in thousands, except per share amounts):

	Year Ended December 31,		
	2022	2021	2020
Net income	$ 670,701	$ 654,282	$ 827,171
Net income attributable to noncontrolling interests	(149,041)	(83,035)	(56,212)
Net income attributable to unvested restricted stock awards	(8,392)	(7,848)	(10,168)
Numerator for basic and diluted EPS – net income attributable to Alexandria Real Estate Equities, Inc.'s common stockholders	$ 513,268	$ 563,399	$ 760,791
Denominator for basic EPS – weighted-average shares of common stock outstanding	161,659	146,921	126,106
Dilutive effect of forward equity sales agreements	—	539	384
Denominator for diluted EPS – weighted-average shares of common stock outstanding	161,659	147,460	126,490
Net income per share attributable to Alexandria Real Estate Equities, Inc.'s common stockholders:			
Basic	$ 3.18	$ 3.83	$ 6.03
Diluted	$ 3.18	$ 3.82	$ 6.01

13. INCOME TAXES

We have elected to be taxed as a REIT, under 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 2021 and 2020 and, as a result, did not incur federal income tax in those years on such income. For the year ended December 31, 2022, we expect to distribute all of our REIT taxable income and, as a result, do not expect to incur federal income tax. We expect to finalize our 2022 REIT taxable income when we file our 2022 federal income tax return in 2023.

The income tax treatment of distributions and dividends declared on our common stock for the years ended December 31, 2022, 2021, and 2020 was as follows (unaudited):

	Year Ended December 31,		
	2022	2021	2020
Ordinary income	57.4 %	46.3 %	65.7 %
Return of capital	—	—	13.2
Capital gains at 25%	8.1	3.8	—
Capital gains at 20%	34.5	49.9	21.1
Total	100.0 %	100.0 %	100.0 %
Dividends declared	$ 4.72	$ 4.48	$ 4.24

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% of their qualified REIT 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 2022 is based upon management's estimate. Our federal tax return for 2022 is due on or before October 15, 2023, 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.

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, 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, 2022, 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.

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, 2022, 2021, and 2020.

13. INCOME TAXES (continued)

The following reconciles net income (determined in accordance with GAAP) to taxable income as filed with the IRS for the years ended December 31, 2021 and 2020 (in thousands and unaudited):

	Year Ended December 31,	
	2021	2020
Net income	$ 654,282	$ 827,171
Net income attributable to noncontrolling interests	(83,035)	(56,212)
Book/tax differences:		
Rental revenue recognition	(23,306)	(165,091)
Depreciation and amortization	153,382	220,046
Share-based compensation	34,265	30,695
Interest expense	(79,907)	(21,174)
Sales of property	(100,449)	(69,048)
Impairments	23,130	40,398
Non-real estate investment expense (income)	42,908	(377,820)
Other	33,446	22,315
Taxable income before dividend deduction	654,716	451,280
Dividend deduction necessary to eliminate taxable income[(1)]	(654,716)	(451,280)
Estimated income subject to federal income tax	$ —	$ —

(1) Total common stock dividend distributions paid were approximately $656.0 million and $533.0 million during the years ended December 31, 2021 and 2020, respectively.

14. 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 $8.7 million, $5.0 million, and $6.2 million for the years ended December 31, 2022, 2021, and 2020, 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 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.

Our rental revenue is generated by a diverse array of many tenants. As of December 31, 2022, we had over 1,000 leases with a total of approximately 1,000 tenants. The inability of any single tenant to make its lease payments is unlikely to have a severe or financially disruptive effect on our operations. As of December 31, 2022, our three largest tenants accounted for 3.5%, 2.6%, and 2.5% of our aggregate annual rental revenue individually, or 8.6% in the aggregate.

Commitments

As of December 31, 2022, remaining aggregate costs under contract for the construction of properties undergoing development, redevelopment, and improvements under the terms of leases approximated $3.5 billion. 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.

In addition, we have letters of credit and performance obligations aggregating $22.4 million primarily related to deposits for acquisitions in our Greater Boston and San Francisco Bay Area markets.

We are committed to funding approximately $415.4 million related to our non-real estate investments. These funding commitments are primarily associated with our investments in privately held entities that report NAV, which expire at various dates over the next 12 years, with a weighted-average expiration of 8.6 years as of December 31, 2022.

15. STOCKHOLDERS' EQUITY

Common equity transactions

During the year ended December 31, 2022, our common equity transactions included the following:

- In January 2022, we entered into new forward equity sales agreements aggregating $1.7 billion to sell 8.1 million shares of our common stock (including the exercise of an underwriters' option) at a public offering price of $210.00 per share, before underwriting discounts and commissions.
    - In March 2022, we settled a portion of our forward equity sales agreements by issuing 3.2 million shares and received net proceeds of $648.2 million.
    - In September 2022, we settled a portion of our outstanding forward equity agreements by issuing 1.0 million shares and received net proceeds of $199.7 million.
    - In November 2022, we settled the remaining of our outstanding forward equity agreements by issuing 3.8 million shares and received net proceeds of $763.3 million.

- In December 2021, we entered into a new ATM common stock offering program, which allows us to sell up to an aggregate of $1.0 billion of our common stock.
    - We entered into new forward equity sales agreements aggregating $858.1 million to sell 4.9 million shares under our ATM program at an average price of $175.12 per share (before underwriting discounts).
        - During the three months ended December 31, 2022, we settled a portion of our outstanding forward equity agreements by issuing 4.2 million shares and received net proceeds of $737.4 million.
        - We expect to settle the remaining outstanding forward equity agreements by issuing 699,274 shares and receive net proceeds of approximately $102.4 million in 2023.
    - As of December 31, 2022, the remaining aggregate amount available under our ATM program for future sales of common stock was $141.9 million.

Accumulated other comprehensive loss

The change in accumulated other comprehensive loss attributable to Alexandria Real Estate Equities, Inc.'s stockholders during the year ended December 31, 2022, was entirely due to net unrealized losses of $13.5 million on foreign currency translation related to our operations in Canada and China.

Common stock, preferred stock, and excess stock authorizations

In May 2022, our stockholders approved an amendment to our charter to increase the authorized number of shares of common stock from 200.0 million to 400.0 million, of which 170.7 million shares were issued and outstanding as of December 31, 2022. Our charter also authorizes the issuance of up to 100.0 million shares of preferred stock, none of which were issued and outstanding as of December 31, 2022. 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, 2022.

16. SHARE-BASED COMPENSATION

Stock award and incentive plan

For the purpose of attracting and retaining the highest-quality personnel, providing for additional incentives, and promoting the success of our Company, we generally issue share-based compensation in the form of restricted stock, pursuant to our stock award and incentive plan. We have not granted any options since 2002. Each restricted share issued reduced our 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, 2022, there were 3,838,370 shares reserved for the granting of future stock-based awards under our stock award and incentive plan.

In addition, our stock award and incentive 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. Certain restricted share awards are also subject to an additional one-year holding period after vesting. The unearned portion of time-based share 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 or market conditions. Failure to satisfy the threshold performance conditions will result in the forfeiture of shares and in a reversal of previously recognized share-based compensation expense. Failure to satisfy the market condition results in the forfeiture of shares but does not result in a reversal of previously recognized share-based compensation expense, provided that the requisite service has been rendered. Forfeiture of time-based, performance-based, or market-based awards due to the failure to meet the service requirement results in the reversal of previously recognized share-based compensation expense.

Departure of co-chief executive officer effective July 31, 2022

On July 1, 2022, Stephen A. Richardson, co-chief executive officer, tendered his resignation from all of his positions with the Company and its subsidiaries, which became effective July 31, 2022, and notified the Company of his intent to retire from full-time employment and his professional career for family and personal reasons.

Following the effective date of Mr. Richardson’s resignation, his duties and responsibilities were allocated to other members of the Company’s executive management team. Mr. Richardson continues to assist the Company as a strategic consultant for internal growth. Mr. Richardson’s outstanding unvested stock awards continue to vest pursuant to the terms effective on each respective grant date. Due to the reduction in the level of Mr. Richardson’s services to the Company following his resignation from the co-CEO role, applicable stock compensation accounting standards required the acceleration of unamortized compensation of approximately $7.2 million classified in general and administrative expenses in consolidated statements of operations for the year ended December 31, 2022, representing the difference between compensation expense recognized in connection with the unvested awards and the fair value of these awards.

16. SHARE-BASED COMPENSATION (continued)

The following is a summary of the stock awards activity under our equity incentive plan and related information for the years ended December 31, 2022, 2021, and 2020 (dollars in thousands, except per share information):

	Number of Share Awards	Weighted-Average Grant Date Fair Value Per Share
Outstanding at December 31, 2019	1,799,685	$ 119.59
Granted	753,473	$ 147.71
Vested	(688,599)	$ 115.57
Forfeited	(39,279)	$ 117.76
Outstanding at December 31, 2020	1,825,280	$ 132.95
Granted	740,920	$ 174.32
Vested	(709,737)	$ 131.54
Forfeited	(33,003)	$ 99.55
Outstanding at December 31, 2021	1,823,460	$ 150.89
Granted	1,032,731	$ 141.58
Vested	(749,101)	$ 146.25
Forfeited	(19,569)	$ 160.83
Outstanding at December 31, 2022	2,087,521	$ 149.96

	Year Ended December 31,		
	2022	2021	2020
Total grant date fair value of stock awards vested	$ 109,557	$ 93,359	$ 79,578
Total gross compensation recognized for stock awards	$ 104,424	$ 94,748	$ 80,651
Capitalized stock compensation	$ 46,684	$ 46,079	$ 37,149

Certain restricted stock awards granted during 2022, 2021, and 2020 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 2022, 2021, and 2020, respectively: (i) expected term of 2.8 years, 3.0 years, and 3.0 years (equal to the remaining performance measurement period at the grant date), (ii) volatility of 30.0%, 29.0%, and 17.0% (approximating a blended average of implied and historical volatilities), (iii) dividend yield of 2.5%, 2.8%, and 2.8%, and (iv) risk-free rate of 2.47%, 0.23%, and 1.63%.

As of December 31, 2022, there was $256.5 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 21 months.

17. NONCONTROLLING INTERESTS

Noncontrolling interests represent the third-party interests in certain entities in which we have a controlling interest. These entities owned 64 properties as of December 31, 2022 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, 2022 and 2021, we distributed $192.2 million and $112.4 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.

Refer to the “Formation of consolidated real estate joint ventures and sales of partial interests” section in Note 4 – “Consolidated and unconsolidated real estate joint ventures” to our consolidated financial statements for additional information.

18. ASSETS CLASSIFIED AS HELD FOR SALE

As of December 31, 2022, we had 10 properties and a land parcel in North America aggregating 297,284 RSF, including eight contiguous properties aggregating 128,870 RSF in a non-core submarket, and one property in Asia aggregating 334,144 RSF, which were classified as held for sale in our consolidated financial statements.

The disposal of properties classified as held for sale does not represent a strategic shift and therefore does not meet the criteria for classification as a discontinued operation. We cease depreciation of our properties upon their classification as held for sale. Refer to the “Real estate sales” subsection of the “Investments in real estate” section in Note 2 – “Summary of significant accounting policies” and the “Sales of real estate assets and impairment charges” section in Note 3 – “Investment in real estate” for information about impairment charges related to our assets classified as held for sale recognized during the year ended December 31, 2022.

The following is a summary of net assets as of December 31, 2022 and 2021 for our real estate investments that were classified as held for sale as of each respective date (in thousands):

	December 31,	
	2022	2021
Total assets	$ 117,197	$ 17,749
Total liabilities	(2,034)	(1,083)
Total accumulated other comprehensive income (loss)	898	(1,750)
Net assets classified as held for sale	$ 116,061	$ 14,916

SCHEDULE III

Alexandria Real Estate Equities, Inc. and Subsidiaries
Schedule III
Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation
December 31, 2022
(Dollars in thousands)

			Initial Costs		Costs Capitalized Subsequent to Acquisitions	Total Costs						
Property	Market	Encumbrances	Land	Buildings & Improvements	Buildings & Improvements	Land	Buildings & Improvements	Total[(1)]	Accumulated Depreciation[(2)]	Net Cost Basis	Date of Construction[(3)]	Date Acquired
Alexandria Center® at Kendall Square	Greater Boston	$ —	$ 600,178	$ 926,555	$ 1,710,754	$ 600,178	$ 2,637,309	$ 3,237,487	$ (426,360)	$ 2,811,127	1981 - 2017	2005 - 2022
Alexandria Center® at One Kendall Square	Greater Boston	—	405,164	576,213	791,887	405,164	1,368,100	1,773,264	(181,035)	1,592,229	1985 - 2019	2016 - 2022
Alexandria Technology Square®	Greater Boston	—	—	619,658	284,297	—	903,955	903,955	(336,004)	567,951	2001 - 2012	2006
The Arsenal on the Charles	Greater Boston	—	191,797	354,611	430,395	191,797	785,006	976,803	(43,466)	933,337	2000 - 2022	2019 - 2021
480 Arsenal Way and 446, 458, 500, and 550 Arsenal Street	Greater Boston	—	121,533	24,464	118,499	121,533	142,963	264,496	(55,429)	209,067	1962 - 2009	2000 - 2022
99 Coolidge Avenue	Greater Boston	58,396	43,125	—	130,650	43,125	130,650	173,775	—	173,775	N/A	2020
640 Memorial Drive	Greater Boston	—	—	174,878	24,172	—	199,050	199,050	(54,855)	144,195	2011	2015
780 and 790 Memorial Drive	Greater Boston	—	—	—	55,774	—	55,774	55,774	(28,636)	27,138	2002	2001
Alexandria Center® for Life Science – Fenway	Greater Boston	—	912,016	617,552	465,215	912,016	1,082,767	1,994,783	(28,642)	1,966,141	2019 - 2022	2021
380 and 420 E Street	Greater Boston	—	156,355	9,229	12,671	156,355	21,900	178,255	(2,982)	175,273	2013	2020
5, 10, and 15 Necco Street	Greater Boston	—	277,554	55,897	189,157	277,554	245,054	522,608	(5,130)	517,478	2019	2019
99 A Street	Greater Boston	—	31,671	878	17,290	31,671	18,168	49,839	(938)	48,901	1968	2018
One Moderna Way	Greater Boston	—	67,329	301,000	48,064	67,329	349,064	416,393	(24,103)	392,290	1999 - 2015	2018 - 2021
40, 50, and 60 Sylvan Road, 35 Gatehouse Drive, and 840 Winter Street	Greater Boston	—	141,629	513,901	130,111	141,629	644,012	785,641	(15,206)	770,435	1999 - 2010	2020 - 2022
275 Grove Street	Greater Boston	—	70,476	150,159	29,516	70,476	179,675	250,151	(10,384)	239,767	2000	2020
225, 266, and 275 Second Avenue	Greater Boston	—	17,086	69,994	90,202	17,086	160,196	177,282	(41,593)	135,689	2014 - 2018	2014 - 2017
19, 225, and 235 Presidential Way	Greater Boston	—	32,136	118,391	26,959	32,136	145,350	177,486	(28,312)	149,174	1999 - 2001	2005 - 2022
100 Beaver Street	Greater Boston	—	1,466	9,046	27,636	1,466	36,682	38,148	(12,984)	25,164	2006	2005
Other	Greater Boston	—	77,892	218,874	32,756	77,892	251,630	329,522	(2,711)	326,811	Various	Various
Alexandria Center® for Science and Technology – Mission Bay	San Francisco	—	213,014	218,556	576,431	213,014	794,987	1,008,001	(212,667)	795,334	2007 - 2014	2004 - 2017
Alexandria Technology Center® – Gateway	San Francisco	—	193,004	364,078	511,319	193,004	875,397	1,068,401	(140,102)	928,299	1984 - 2021	2002 - 2020
Alexandria Center® for Life Science - Millbrae	San Francisco	—	69,989	—	182,183	69,989	182,183	252,172	—	252,172	N/A	2021 - 2022
211, 213, 249, 259, 269, and 279 East Grand Avenue	San Francisco	—	59,199	—	545,180	59,199	545,180	604,379	(113,507)	490,872	2008 - 2019	2004
1122, 1150, and 1178 El Camino Real	San Francisco	—	330,154	51,145	29,205	330,154	80,350	410,504	(5,257)	405,247	1971 - 2007	2021 - 2022
Alexandria Center® for Life Science – South San Francisco	San Francisco	—	32,245	1,287	473,644	32,245	474,931	507,176	(101,983)	405,193	2012 - 2022	2002 - 2017
500 Forbes Boulevard	San Francisco	—	35,596	69,091	17,503	35,596	86,594	122,190	(33,699)	88,491	2001	2007

SCHEDULE III (continued)

			Initial Costs		Costs Capitalized Subsequent to Acquisitions	Total Costs						
Property	Market	Encumbrances	Land	Buildings & Improvements	Buildings & Improvements	Land	Buildings & Improvements	Total[1]	Accumulated Depreciation[2]	Net Cost Basis	Date of Construction[3]	Date Acquired
849/863 Mitten Road/866 Malcolm Road	San Francisco	$ —	$ 3,211	$ 8,665	$ 28,925	$ 3,211	$ 37,590	$ 40,801	$ (16,934)	$ 23,867	2012	1998
Alexandria Center® for Life Science – San Carlos	San Francisco	—	433,634	28,323	683,113	433,634	711,436	1,145,070	(41,366)	1,103,704	1970 - 2022	2017 - 2021
3825 and 3875 Fabian Way	San Francisco	—	194,424	54,519	4,734	194,424	59,253	253,677	(9,273)	244,404	1969 - 2014	2019
Alexandria Stanford Life Science District	San Francisco	—	—	571,462	113,539	—	685,001	685,001	(38,801)	646,200	2002 - 2022	2003 - 2022
3330, 3412, 3420, 3440, 3450, and 3460 Hillview Avenue	San Francisco	—	—	332,257	39,911	—	372,168	372,168	(14,892)	357,276	1978 - 2018	2020 - 2021
2100, 2200, 2300, and 2400 Geng Road	San Francisco	—	72,859	53,309	31,093	72,859	84,402	157,261	(13,640)	143,621	1984 - 2019	2018
2475 and 2625/2627/2631 Hanover Street and 1450 Page Mill Road	San Francisco	—	—	187,472	12,816	—	200,288	200,288	(28,387)	171,901	2000 - 2017	1999 - 2021
2425 Garcia Avenue/2400/2450 Bayshore Parkway	San Francisco	649	1,512	21,323	26,281	1,512	47,604	49,116	(26,540)	22,576	2008	1999
3350 West Bayshore Road	San Francisco	—	4,800	6,693	43,953	4,800	50,646	55,446	(9,921)	45,525	1982	2005
901 California Avenue	San Francisco	—	—	—	11,698	—	11,698	11,698	—	11,698	N/A	2021
88 Bluxome Street	San Francisco	—	148,551	21,514	178,071	148,551	199,585	348,136	(23,098)	325,038	N/A	2017
Alexandria Center® for Life Science – New York City	New York City	—	—	—	1,065,858	—	1,065,858	1,065,858	(261,840)	804,018	2010 - 2016	2006
219 East 42nd Street	New York City	—	141,266	63,312	4,010	141,266	67,322	208,588	(41,375)	167,213	1995	2018
Alexandria Center® for Life Science – Long Island City	New York City	—	22,746	53,093	143,633	22,746	196,726	219,472	(4,735)	214,737	2022	2018
One Alexandria Square and One Alexandria North	San Diego	—	247,423	192,755	586,559	247,423	779,314	1,026,737	(230,733)	796,004	1980 - 2022	1994 - 2021
ARE Torrey Ridge	San Diego	—	22,124	152,840	83,386	22,124	236,226	258,350	(61,674)	196,676	2004 - 2021	2016
ARE Nautilus	San Diego	—	6,684	27,600	127,356	6,684	154,956	161,640	(65,962)	95,678	2009 - 2012	1994 - 1997
Campus Point by Alexandria	San Diego	—	200,556	396,739	520,759	200,556	917,498	1,118,054	(189,887)	928,167	1988 - 2019	2010 - 2022
5200 Illumina Way	San Diego	—	39,051	96,606	199,332	39,051	295,938	334,989	(73,658)	261,331	2004 - 2017	2010
University District	San Diego	—	142,290	48,840	235,312	142,290	284,152	426,442	(118,325)	308,117	1988 - 2018	1998 - 2022
SD Tech by Alexandria	San Diego	—	81,428	254,069	303,932	81,428	558,001	639,429	(29,314)	610,115	1988 - 2022	2013 - 2020
Sequence District by Alexandria	San Diego	—	163,610	281,389	16,539	163,610	297,928	461,538	(12,300)	449,238	1997 - 2000	2020 - 2021
Pacific Technology Park	San Diego	—	96,796	66,660	23,987	96,796	90,647	187,443	(3,833)	183,610	1989 - 1991	2021
Summers Ridge Science Park	San Diego	—	21,154	102,046	4,278	21,154	106,324	127,478	(13,900)	113,578	2005	2018
Scripps Science Park by Alexandria	San Diego	—	79,451	59,343	67,546	79,451	126,889	206,340	(899)	205,441	2001 - 2022	2021 - 2022
ARE Portola	San Diego	—	6,991	25,153	40,315	6,991	65,468	72,459	(21,298)	51,161	2005 - 2012	2007
5810/5820 Nancy Ridge Drive	San Diego	—	3,492	18,285	33,337	3,492	51,622	55,114	(14,356)	40,758	2021	2004
9877 Waples Street	San Diego	—	5,092	11,908	12,787	5,092	24,695	29,787	(2,604)	27,183	2020	2020
5871 Oberlin Drive	San Diego	—	1,349	8,016	20,455	1,349	28,471	29,820	(4,138)	25,682	2021	2010

SCHEDULE III (continued)

Property	Market	Encumbrances	Initial Costs: Land	Initial Costs: Buildings & Improvements	Costs Capitalized Subsequent to Acquisitions: Buildings & Improvements	Total Costs: Land	Total Costs: Buildings & Improvements	Total Costs: Total(1)	Accumulated Depreciation(2)	Net Cost Basis	Date of Construction(3)	Date Acquired
3911, 3931, 3985, 4025, 4031, 4045, and 4075 Sorrento Valley Boulevard	San Diego	$ —	$ 18,177	$ 42,723	$ 33,696	$ 18,177	$ 76,419	$ 94,596	$ (41,391)	$ 53,205	2007 - 2015	2010 - 2019
11025, 11035, 11045, 11055, 11065, and 11075 Roselle Street	San Diego	—	4,156	11,571	49,735	4,156	61,306	65,462	(18,736)	46,726	2006 - 2014	1997 - 2014
Other	San Diego	—	131,174	92,292	85,824	131,174	178,116	309,290	(22,540)	286,750	Various	Various
The Eastlake Life Science Campus by Alexandria	Seattle	—	53,758	83,012	814,762	53,758	897,774	951,532	(204,217)	747,315	1997 - 2021	2002 - 2022
Alexandria Center® for Life Science – South Lake Union	Seattle	—	229,607	1,128	370,610	229,607	371,738	601,345	(45,771)	555,574	1984 - 2017	2007 - 2022
219 Terry Avenue North	Seattle	—	1,819	2,302	20,450	1,819	22,752	24,571	(9,296)	15,275	2012	2007
830 and 1010 4th Avenue South	Seattle	—	52,700	12,062	11,711	52,700	23,773	76,473	(665)	75,808	1995	2020
3000/3018 Western Avenue	Seattle	—	1,432	7,497	24,859	1,432	32,356	33,788	(25,427)	8,361	2000	1998
410 West Harrison Street and 410 Elliott Avenue West	Seattle	—	3,857	1,989	19,360	3,857	21,349	25,206	(8,394)	16,812	2006 - 2008	2004
Alexandria Center® for Advanced Technologies – Canyon Park	Seattle	—	133,558	206,374	15,223	133,558	221,597	355,155	(8,718)	346,437	1985 - 2007	2021 - 2022
Alexandria Center® for Advanced Technologies – Monte Villa Parkway	Seattle	—	52,464	64,753	41,093	52,464	105,846	158,310	(1,410)	156,900	1994 - 1997	2020
Other	Seattle	—	78,900	931	9,156	78,900	10,087	88,987	(821)	88,166	Various	Various
Alexandria Center® for Life Science – Shady Grove	Maryland	—	85,365	253,567	465,521	85,365	719,088	804,453	(127,332)	677,121	1988 - 2022	2004 - 2021
1330 Piccard Drive	Maryland	—	2,800	11,533	37,666	2,800	49,199	51,999	(23,626)	28,373	2005	1997
1405 Research Boulevard	Maryland	—	899	21,946	15,638	899	37,584	38,483	(18,336)	20,147	2006	1997
1500 and 1550 East Gude Drive	Maryland	—	1,523	7,731	10,582	1,523	18,313	19,836	(11,079)	8,757	1995 - 2003	1997
5 Research Place	Maryland	—	1,466	5,708	30,996	1,466	36,704	38,170	(18,247)	19,923	2010	2001
5 Research Court	Maryland	—	1,647	13,258	24,105	1,647	37,363	39,010	(17,698)	21,312	2007	2004
12301 Parklawn Drive	Maryland	—	1,476	7,267	1,734	1,476	9,001	10,477	(3,615)	6,862	2007	2004
Alexandria Technology Center® – Gaithersburg I	Maryland	—	20,980	121,952	53,024	20,980	174,976	195,956	(55,129)	140,827	1992 - 2019	1997 - 2019
Alexandria Technology Center® – Gaithersburg II	Maryland	—	17,134	67,825	102,075	17,134	169,900	187,034	(41,816)	145,218	2000 - 2021	1997 - 2020
20400 Century Boulevard	Maryland	—	3,641	4,759	20,369	3,641	25,128	28,769	(1,303)	27,466	2022	2021
401 Professional Drive	Maryland	—	1,129	6,941	11,327	1,129	18,268	19,397	(9,529)	9,868	2007	1996
950 Wind River Lane	Maryland	—	2,400	10,620	1,050	2,400	11,670	14,070	(4,202)	9,868	2009	2010
620 Professional Drive	Maryland	—	784	4,705	8,267	784	12,972	13,756	(8,015)	5,741	2012	2005
8000/9000/10000 Virginia Manor Road	Maryland	—	—	13,679	11,436	—	25,115	25,115	(12,541)	12,574	2003	1998
14225 Newbrook Drive	Maryland	—	4,800	27,639	22,773	4,800	50,412	55,212	(21,550)	33,662	2006	1997
Alexandria Center® for Life Science – Durham	Research Triangle	—	190,236	471,263	210,462	190,236	681,725	871,961	(30,992)	840,969	1985 - 2021	2020 - 2022

SCHEDULE III (continued)

			Initial Costs		Costs Capitalized Subsequent to Acquisitions	Total Costs						
Property	Market	Encumbrances	Land	Buildings & Improvements	Buildings & Improvements	Land	Buildings & Improvements	Total[1]	Accumulated Depreciation[2]	Net Cost Basis	Date of Construction[3]	Date Acquired
Alexandria Center® for Advanced Technologies – Research Triangle	Research Triangle	$ —	$ 27,784	$ 16,958	$ 242,853	$ 27,784	$ 259,811	$ 287,595	$ (18,477)	$ 269,118	2007 - 2022	2012 - 2021
Alexandria Center® for AgTech	Research Triangle	—	2,801	6,756	205,945	2,801	212,701	215,502	(17,091)	198,411	2018 - 2022	2017 - 2018
104, 108, 110, 112, 114, and 120 TW Alexander Drive, 2752 East NC Highway 54, and 10 South Triangle Drive	Research Triangle	—	54,047	15,440	60,381	54,047	75,821	129,868	(24,513)	105,355	1966 - 2016	1999 - 2022
Alexandria Technology Center® – Alston	Research Triangle	—	1,430	17,482	33,110	1,430	50,592	52,022	(27,787)	24,235	1985 - 2009	1998
6040 George Watts Hill Drive	Research Triangle	—	—	—	47,008	—	47,008	47,008	(5,524)	41,484	2015	2014 - 2022
Alexandria Innovation Center® – Research Triangle	Research Triangle	—	1,065	21,218	30,954	1,065	52,172	53,237	(23,951)	29,286	2005 - 2008	2000
7 Triangle Drive	Research Triangle	—	701	—	43,037	701	43,037	43,738	(10,215)	33,523	2022	2005
2525 East NC Highway 54	Research Triangle	—	713	12,827	20,729	713	33,556	34,269	(15,179)	19,090	1995	2004
407 Davis Drive	Research Triangle	—	1,229	17,733	1,104	1,229	18,837	20,066	(5,190)	14,876	1998	2013
601 Keystone Park Drive	Research Triangle	—	785	11,546	14,956	785	26,502	27,287	(7,664)	19,623	2009	2006
5 Triangle Drive	Research Triangle	—	161	3,409	12,686	161	16,095	16,256	(8,519)	7,737	1981	1998
6101 Quadrangle Drive	Research Triangle	—	951	3,982	11,483	951	15,465	16,416	(4,581)	11,835	2012	2008
Alexandria Center® for NextGen Medicines	Research Triangle	—	94,184	—	6,106	94,184	6,106	100,290	—	100,290	N/A	2021
Intersection Campus	Texas	—	159,310	440,295	18,956	159,310	459,251	618,561	(11,606)	606,955	2000 - 2019	2021 - 2022
1020 Red River Street and 1001 Trinity Street	Texas	—	66,451	61,732	1,212	66,451	62,944	129,395	(387)	129,008	1987 - 1990	2022
8800 Technology Forest Place	Texas	—	2,116	9,784	72,614	2,116	82,398	84,514	(49)	84,465	2002 - 2003	2020
Other	Texas	—	110,867	219	16,532	110,867	16,751	127,618	(78)	127,540	Various	Various
Canada	Canada	—	31,167	117,076	16,899	31,167	133,975	165,142	(30,097)	135,045	1998 - 2020	2005 - 2022
Various	Various	—	109,115	87,138	294,271	109,115	381,409	490,524	(66,808)	423,716	Various	Various
North America		59,045	7,983,861	11,010,270	15,289,325	7,983,861	26,299,595	34,283,456	(4,349,780)	29,933,676		
Asia		—	—	—	16,047	—	16,047	16,047	(4,283)	11,764	2015	2008
		$ 59,045	$ 7,983,861	$ 11,010,270	$ 15,305,372	$ 7,983,861	$ 26,315,642	$ 34,299,503	$ (4,354,063)	$ 29,945,440		

Alexandria Real Estate Equities, Inc.
Consolidated Financial Statement Schedule of Rental Properties and Accumulated Depreciation
December 31, 2022
(Dollars in thousands)

(1) As of December 31, 2022, the total cost of our real estate assets aggregated $34.3 billion, which exceeded the cost of real estate for federal income tax purposes aggregating $33.7 billion by approximately $562.3 million.

(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.

Alexandria Real Estate Equities, Inc.
Consolidated Financial Statement Schedule of Real Estate and Accumulated Depreciation
December 31, 2022
(In thousands)

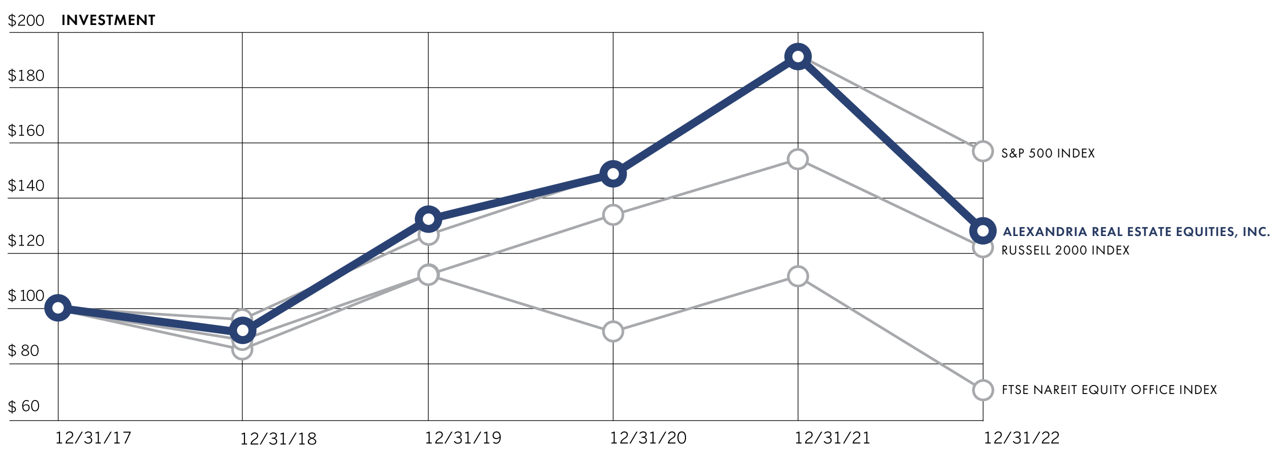
A summary of activity of consolidated investments in real estate and accumulated depreciation is as follows:

	December 31,		
Real Estate	2022	2021	2020
Balance at beginning of period	$ 28,751,910	$ 21,274,810	$ 17,552,956
Acquisitions (including real estate, land, and joint venture consolidation)	2,722,214	5,405,569	2,825,537
Additions to real estate	3,388,478	2,267,848	1,505,152
Deductions (including dispositions and direct financing leases)	(563,099)	(196,317)	(608,835)
Balance at end of period	$ 34,299,503	$ 28,751,910	$ 21,274,810

	December 31,		
Accumulated Depreciation	2022	2021	2020
Balance at beginning of period	$ 3,771,241	$ 3,182,438	$ 2,708,918
Depreciation expense on properties	751,584	607,927	530,226
Sale of properties	(168,762)	(19,124)	(56,706)
Balance at end of period	$ 4,354,063	$ 3,771,241	$ 3,182,438

PERFORMANCE GRAPH

The following performance graph compares the cumulative total return on our common stock over the five-year period ended December 31, 2022 to the cumulative total return of the S&P 500 Index, the Russell 2000 Index, and the Equity Office Index prepared by FTSE Russell and Nareit ("FTSE Nareit Equity Office Index"). The graph assumes that $100 was invested on December 31, 2017 in our common stock, the S&P 500 Index, the Russell 2000 Index, and the FTSE Nareit Equity Office Index and that all dividends were reinvested. The returns shown on the graph are not necessarily indicative of future performance.



	PERIOD ENDED					
INDEX	12/31/17	12/31/18	12/31/19	12/31/20	12/31/21	12/31/22
ALEXANDRIA REAL ESTATE EQUITIES, INC.	$100.00	$91.03	$131.11	$148.52	$190.23	$128.17
S&P 500 INDEX	$100.00	$95.62	$125.72	$148.85	$191.58	$156.88
RUSSELL 2000 INDEX	$100.00	$88.99	$111.70	$134.00	$153.85	$122.41
FTSE NAREIT EQUITY OFFICE INDEX	$100.00	$85.50	$112.36	$91.65	$111.81	$69.75

Source: S&P Global Market Intelligence © 2023

CORPORATE INFORMATION

COMMON STOCK
Listed on the New York Stock Exchange
Symbol "ARE"

CORPORATE OFFICE
26 North Euclid Avenue
Pasadena, California 91101
(626) 578-0777

TRANSFER AGENT
American Stock Transfer & Trust Company, LLC
6201 15th Avenue
Brooklyn, New York 11219
(800) 937-5449

LEGAL COUNSEL
Morrison & Foerster LLP
Los Angeles, California

INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM
Ernst & Young LLP
Los Angeles, California

ANNUAL MEETING
The annual meeting will be held at 11:00 a.m. Pacific Time on May 16, 2023 at
26 North Euclid Avenue
Pasadena, California 91101

SEC FORM 10-K
A copy of the Company's Annual Report on Form 10-K, as filed with the Securities and Exchange Commission, is available without charge, upon written request to:

Alexandria Real Estate Equities, Inc.
26 North Euclid Avenue
Pasadena, California 91101
(626) 578-0777
www.are.com

DIRECTORS AND OFFICERS

BOARD OF DIRECTORS

Joel S. Marcus
Executive Chairman and Founder
Alexandria Real Estate Equities, Inc.

Steven R. Hash
Prior President and Chief Operating Officer, and Co-Founder
Renaissance Macro Research, LLC

James P. Cain
Managing Partner
Cain Global Partners, LLC

Cynthia L. Feldmann
Prior President and Founder
Jetty Lane Associates

Maria C. Freire, PhD
Prior President and Executive Director
Foundation for the National Institutes of Health

Richard H. Klein, CPA
Chief Financial Officer
Industrial Realty Group, LLC

Michael A. Woronoff
Partner
Kirkland & Ellis LLP

EXECUTIVE OFFICERS

Joel S. Marcus
Executive Chairman and Founder

Peter M. Moglia
Chief Executive Officer and Co-Chief Investment Officer

Dean A. Shigenaga
President and Chief Financial Officer

Daniel J. Ryan
Co-Chief Investment Officer and Regional Market Director – San Diego

Hunter L. Kass
Executive Vice President – Regional Market Director – Greater Boston

Vincent R. Ciruzzi
Chief Development Officer

Lawrence J. Diamond
Co-Chief Operating Officer and Regional Market Director – Maryland

Joseph Hakman
Co-Chief Operating Officer and Chief Strategic Transactions Officer

John H. Cunningham
Executive Vice President – Regional Market Director – New York City

Jackie B. Clem
General Counsel and Secretary

Marc E. Binda
Executive Vice President – Finance and Treasurer

Andres R. Gavinet
Chief Accounting Officer

Gary D. Dean
Executive Vice President – Real Estate Legal Affairs

Orraparn C. Lee
Executive Vice President – Accounting

Kristina A. Fukuzaki-Carlson
Executive Vice President – Business Operations

Madeleine T. Alsbrook
Executive Vice President – Talent Management

ALEXANDRIA REAL ESTATE EQUITIES, INC. (NYSE: ARE), an S&P 500® company, is a best-in-class, mission-driven life science REIT making a positive and lasting impact on the world. As the pioneer of the life science real estate niche since its founding in 1994, Alexandria is the preeminent and longest-tenured owner, operator, and developer of collaborative life science, agtech, and technology campuses in AAA innovation cluster locations, including Greater Boston, the San Francisco Bay Area, New York City, San Diego, Seattle, Maryland, and Research Triangle. The trusted partner to approximately 1,000 tenants, Alexandria has a total market capitalization of $35.0 billion and an asset base in North America of 74.6 million SF as of December 31, 2022, which includes 41.8 million RSF of operating properties and 5.6 million RSF of Class A properties undergoing construction, 9.9 million RSF of near-term and intermediate-term development and redevelopment projects, and 17.3 million SF of future development projects. Alexandria has a longstanding and proven track record of developing Class A properties clustered in life science, agtech, and technology campuses that provide our 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 capital to transformative life science, agrifoodtech, climate innovation, and technology companies through our venture capital platform. We believe our unique business model and diligent underwriting ensure a high-quality and diverse tenant base that results in higher occupancy levels, longer lease terms, higher rental income, higher returns, and greater long-term asset value. For additional information on Alexandria, please visit www.are.com.

FORWARD-LOOKING STATEMENTS: This document includes "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. Such forward-looking statements include, without limitation, statements regarding our 2023 earnings per share attributable to Alexandria's common stockholders – diluted, 2023 funds from operations per share attributable to Alexandria's common stockholders – diluted, net operating income, our projected sources and uses of capital, our ESG policies, practices, and performance, our 2025 sustainability goals, and the prospects for success of any treatment approach to the opioid crisis, addiction, mental health, any new medicines or technologies or approach to address other threats to human health, hunger and food insecurity, deficiencies in support for services for the military, educational disparities, and homelessness. You can identify the forward-looking statements by their use of forward-looking words, such as "forecast," "guidance," "goals," "projects," "estimates," "anticipates," "believes," "expects," "intends," "may," "plans," "seeks," "should," "targets," "aims," or "will," or the negative of those words or similar words. These forward-looking statements are based on our current expectations, beliefs, projections, future plans and strategies, anticipated events or trends, and similar expressions concerning matters that are not historical facts, as well as a number of assumptions concerning future events. There can be no assurance that actual results will not be materially higher or lower than these expectations. These statements are subject to risks, uncertainties, assumptions, and other important factors that could cause actual results to differ materially from the results discussed in the forward-looking statements. Factors that might cause such a difference include, without limitation, our failure to obtain capital (debt, construction financing, and/or equity) or refinance debt maturities, lower than expected yields, increased interest rates and operating costs, continued inflation, supply chain and labor market disruptions, changes in exchange rates, adverse economic, geopolitical or real estate developments in our markets, our failure to successfully place into service and lease any properties undergoing development or redevelopment and our existing space held for future development or redevelopment (including new properties acquired for that purpose), our failure to successfully operate or lease acquired properties, decreased rental rates, increased vacancy rates or failure to renew or replace expiring leases, defaults on or non-renewal of leases by tenants, adverse general and local economic conditions, natural disasters, an unfavorable capital market environment, decreased leasing activity or lease renewals, failure to obtain LEED and other healthy building certifications and efficiencies, and other risks and uncertainties detailed in our filings with the Securities and Exchange Commission ("SEC"). Accordingly, you are cautioned not to place undue reliance on such forward-looking statements. All forward-looking statements are made as of the date of this Annual Report, and unless otherwise stated, we assume no obligation to update this information and expressly disclaim any obligation to update or revise any forward-looking statements, whether as a result of new information, future events, or otherwise. For more discussion relating to risks and uncertainties that could cause actual results to differ materially from those anticipated in our forward-looking statements, and risks to our business in general, please refer to our SEC filings, including our most recent annual report on Form 10-K and any subsequent quarterly reports on Form 10-Q.

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