UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D. C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the Fiscal Year Ended: December 31, 2021

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from ______ **to** ______

Commission File Number: **001-11954 (Vornado Realty Trust)**
Commission File Number: **001-34482 (Vornado Realty L.P.)**

Vornado Realty Trust
Vornado Realty L.P.

(Exact name of registrants as specified in its charter)

Vornado Realty Trust	**Maryland**	**22-1657560**
	(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)
Vornado Realty L.P.	**Delaware**	**13-3925979**
	(State or other jurisdiction of incorporation or organization)	(I.R.S. Employer Identification Number)

888 Seventh Avenue, New York, New York 10019
(Address of principal executive offices) (Zip Code)

(212) 894-7000
(Registrants' telephone number, including area code)

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

Registrant	Title of Each Class	Trading Symbol(s)	Name of Exchange on Which Registered
Vornado Realty Trust	Common Shares of beneficial interest, $.04 par value per share	VNO	New York Stock Exchange
	Cumulative Redeemable Preferred Shares of beneficial interest, liquidation preference $25.00 per share:		
Vornado Realty Trust	5.40% Series L	VNO/PL	New York Stock Exchange
Vornado Realty Trust	5.25% Series M	VNO/PM	New York Stock Exchange
Vornado Realty Trust	5.25% Series N	VNO/PN	New York Stock Exchange
Vornado Realty Trust	4.45% Series O	VNO/PO	New York Stock Exchange

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

Registrant	Title of Each Class
Vornado Realty Trust	Series A Convertible Preferred Shares of beneficial interest, liquidation preference $50.00 per share
Vornado Realty L.P.	Class A Units of Limited Partnership Interest

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act.

Vornado Realty Trust: Yes ☑ No ☐ Vornado Realty L.P.: 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.

Vornado Realty Trust: Yes ☐ No ☑ Vornado Realty L.P.: 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.

Vornado Realty Trust: Yes ☑ No ☐ Vornado Realty L.P.: 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).

Vornado Realty Trust: Yes ☑ No ☐ Vornado Realty L.P.: 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,” "non-accelerated filer," “smaller reporting company” and “emerging growth company” in Rule 12b-2 of the Exchange Act.

Vornado Realty Trust:

☑ Large Accelerated Filer	☐ Accelerated Filer
☐ Non-Accelerated Filer	☐ Smaller Reporting Company
	☐ Emerging Growth Company

Vornado Realty L.P.:

☐ Large Accelerated Filer	☐ Accelerated Filer
☑ Non-Accelerated Filer	☐ Smaller Reporting Company
	☐ Emerging Growth Company

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

Indicate by check mark whether the registrant 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.

Vornado Realty Trust: Yes ☑ No ☐ Vornado Realty L.P.: Yes ☑ No ☐

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

Vornado Realty Trust: Yes ☐ No ☑ Vornado Realty L.P.: Yes ☐ No ☑

The aggregate market value of the voting and non-voting common shares held by non-affiliates of Vornado Realty Trust, i.e. by persons other than officers and trustees of Vornado Realty Trust, was $8,259,860,000 at June 30, 2021.

As of December 31, 2021, there were 191,723,608 common shares of beneficial interest outstanding of Vornado Realty Trust.

There is no public market for the Class A units of limited partnership interest of Vornado Realty L.P. Based on the June 30, 2021 closing share price of Vornado Realty Trust’s common shares, which are issuable upon redemption of the Class A units, the aggregate market value of the Class A units held by non-affiliates of Vornado Realty L.P., i.e. by persons other than Vornado Realty Trust and its officers and trustees, was $515,447,000 at June 30, 2021.

<u>Documents Incorporated by Reference</u>

Part III: Portions of Proxy Statement for Annual Meeting of Vornado Realty Trust’s Shareholders to be held on May 19, 2022.

EXPLANATORY NOTE

This report combines the Annual Reports on Form 10-K for the fiscal year ended December 31, 2021 of Vornado Realty Trust and Vornado Realty L.P. Unless stated otherwise or the context otherwise requires, references to “Vornado” refer to Vornado Realty Trust, a Maryland real estate investment trust (“REIT”), and references to the “Operating Partnership” refer to Vornado Realty L.P., a Delaware limited partnership. References to the “Company,” “we,” “us” and “our” mean collectively Vornado, the Operating Partnership and those subsidiaries consolidated by Vornado.

The Operating Partnership is the entity through which we conduct substantially all of our business and own, either directly or through subsidiaries, substantially all of our assets. Vornado is the sole general partner and also a 92.6% limited partner of the Operating Partnership. As the sole general partner of the Operating Partnership, Vornado has exclusive control of the Operating Partnership’s day-to-day management.

Under the limited partnership agreement of the Operating Partnership, unitholders may present their Class A units for redemption at any time (subject to restrictions agreed upon at the time of issuance of the units that may restrict such right for a period of time). Class A units may be tendered for redemption to the Operating Partnership for cash; Vornado, at its option, may assume that obligation and pay the holder either cash or Vornado common shares on a one-for-one basis. Because the number of Vornado common shares outstanding at all times equals the number of Class A units owned by Vornado, the redemption value of each Class A unit is equivalent to the market value of one Vornado common share, and the quarterly distribution to a Class A unitholder is equal to the quarterly dividend paid to a Vornado common shareholder. This one-for-one exchange ratio is subject to specified adjustments to prevent dilution. Vornado generally expects that it will elect to issue its common shares in connection with each such presentation for redemption rather than having the Operating Partnership pay cash. With each such exchange or redemption, Vornado’s percentage ownership in the Operating Partnership will increase. In addition, whenever Vornado issues common shares other than to acquire Class A units of the Operating Partnership, Vornado must contribute any net proceeds it receives to the Operating Partnership and the Operating Partnership must issue to Vornado an equivalent number of Class A units of the Operating Partnership. This structure is commonly referred to as an umbrella partnership REIT, or UPREIT.

The Company believes that combining the Annual Reports on Form 10-K of Vornado and the Operating Partnership into this single report provides the following benefits:

- enhances investors’ understanding of Vornado and the Operating Partnership by enabling investors to view the business as a whole in the same manner as management views and operates the business;
- eliminates duplicative disclosure and provides a more streamlined and readable presentation because a substantial portion of the disclosure applies to both Vornado and the Operating Partnership; and
- creates time and cost efficiencies in the preparation of one combined report instead of two separate reports.

The Company believes it is important to understand the few differences between Vornado and the Operating Partnership in the context of how Vornado and the Operating Partnership operate as a consolidated company. The financial results of the Operating Partnership are consolidated into the financial statements of Vornado. Vornado does not have any significant assets, liabilities or operations, other than its investment in the Operating Partnership. The Operating Partnership, not Vornado, generally executes all significant business relationships other than transactions involving the securities of Vornado. The Operating Partnership holds substantially all of the assets of Vornado. The Operating Partnership conducts the operations of the business and is structured as a partnership with no publicly traded equity. Except for the net proceeds from equity offerings by Vornado, which are contributed to the capital of the Operating Partnership in exchange for Class A units of partnership in the Operating Partnership, and the net proceeds of debt offerings by Vornado, which are contributed to the Operating Partnership in exchange for debt securities of the Operating Partnership, as applicable, the Operating Partnership generates all remaining capital required by the Company’s business. These sources may include working capital, net cash provided by operating activities, borrowings under the revolving credit facility, the issuance of secured and unsecured debt and equity securities and proceeds received from the disposition of certain properties.

To help investors better understand the key differences between Vornado and the Operating Partnership, certain information for Vornado and the Operating Partnership in this report has been separated, as set forth below:

- Item 5. Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities;
- Item 7. Management’s Discussion and Analysis of Financial Condition and Results of Operations includes information specific to each entity, where applicable; and
- Item 8. Financial Statements and Supplementary Data which includes the following specific disclosures for Vornado Realty Trust and Vornado Realty L.P.:
  - Note 10. Redeemable Noncontrolling Interests
  - Note 11. Shareholders' Equity/Partners' Capital
  - Note 14. Stock-based Compensation
  - Note 18. Income (Loss) Per Share/Income (Loss) Per Class A Unit

This report also includes separate Part II, Item 9A. Controls and Procedures sections and separate Exhibits 31 and 32 certifications for each of Vornado and the Operating Partnership in order to establish that the requisite certifications have been made and that Vornado and the Operating Partnership are compliant with Rule 13a-15 or Rule 15d-15 of the Securities Exchange Act of 1934 and 18 U.S.C. §1350.

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(1) These items are omitted in whole or in part because Vornado, the Operating Partnership's sole general partner, will file a definitive Proxy Statement pursuant to Regulation 14A under the Securities Exchange Act of 1934 with the Securities and Exchange Commission no later than 120 days after December 31, 2021, portions of which are incorporated by reference herein.

FORWARD-LOOKING STATEMENTS

Certain statements contained herein constitute forward-looking statements as such term is defined in 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 are not guarantees of performance. They represent our intentions, plans, expectations and beliefs and are subject to numerous assumptions, risks and uncertainties. Our future results, financial condition and business may differ materially from those expressed in these forward-looking statements. You can find many of these statements by looking for words such as “approximates,” “believes,” “expects,” “anticipates,” “estimates,” “intends,” “plans,” “would,” “may” or other similar expressions in this Annual Report on Form 10-K. We also note the following forward-looking statements: in the case of our development and redevelopment projects, the estimated completion date, estimated project cost and cost to complete; and estimates of future capital expenditures, dividends to common and preferred shareholders and operating partnership distributions. Many of the factors that will determine the outcome of these and our other forward-looking statements are beyond our ability to control or predict. For further discussion of factors that could materially affect the outcome of our forward-looking statements, see “Item 1A. Risk Factors” in this Annual Report on Form 10-K.

Currently, one of the most significant factors is the ongoing adverse effect of the COVID-19 pandemic on our business, financial condition, results of operations, cash flows, operating performance and the effect it has had and may continue to have on our tenants, the global, national, regional and local economies and financial markets and the real estate market in general. The extent of the impact of the COVID-19 pandemic will depend on future developments, including vaccination rates among the population, the efficacy and durability of vaccines against emerging variants, and governmental and tenant responses thereto, all of which are uncertain at this time but the impact could be material. Moreover, you are cautioned that the COVID-19 pandemic will heighten many of the risks identified in “Item 1A. Risk Factors” in this Annual Report on Form 10-K.

For these statements, we claim the protection of the safe harbor for forward-looking statements contained in the Private Securities Litigation Reform Act of 1995. You are cautioned not to place undue reliance on our forward-looking statements, which speak only as of the date of this Annual Report on Form 10-K or the date of any document incorporated by reference. All subsequent written and oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to release publicly any revisions to our forward-looking statements to reflect events or circumstances occurring after the date of this Annual Report on Form 10-K.

PART I

ITEM 1. BUSINESS

Vornado is a fully-integrated REIT and conducts its business through, and substantially all of its interests in properties are held by, the Operating Partnership, a Delaware limited partnership. Accordingly, Vornado’s cash flow and ability to pay dividends to its shareholders are dependent upon the cash flow of the Operating Partnership and the ability of its direct and indirect subsidiaries to first satisfy their obligations to creditors. Vornado is the sole general partner of and owned approximately 92.6% of the common limited partnership interest in the Operating Partnership as of December 31, 2021.

We currently own all or portions of:

New York:

- 67 Manhattan operating properties consisting of:
  - 20.6 million square feet of office space in 32 of the properties;
  - 2.7 million square feet of street retail space in 60 of the properties;
  - 1,674 units in eight residential properties;
- Multiple development sites, including Hotel Pennsylvania;
- A 32.4% interest in Alexander’s, Inc. (“Alexander’s”) (NYSE: ALX), which owns six properties in the greater New York metropolitan area, including 731 Lexington Avenue, the 1.1 million square foot Bloomberg, L.P. headquarters building, and The Alexander, a 312-unit apartment tower in Queens;
- Signage throughout the Penn District and Times Square; and
- Building Maintenance Services LLC ("BMS"), a wholly owned subsidiary, which provides cleaning and security services for our buildings and third parties.

Other Real Estate and Investments:

- The 3.7 million square foot theMART in Chicago;
- A 70% controlling interest in 555 California Street, a three-building office complex in San Francisco’s financial district aggregating 1.8 million square feet;
- A 25% interest in Vornado Capital Partners, our real estate fund (the "Fund"). We are the general partner and investment manager of the fund. The fund is in wind-down; and
- Other real estate and investments.

OBJECTIVES AND STRATEGY

Our business objective is to maximize Vornado shareholder value. We intend to achieve this objective by continuing to pursue our investment philosophy and to execute our operating strategies through:

- maintaining a superior team of operating and investment professionals and an entrepreneurial spirit;
- investing in properties in select markets, such as New York City, where we believe there is a high likelihood of capital appreciation;
- acquiring quality properties at a discount to replacement cost and where there is a significant potential for higher rents;
- developing and redeveloping properties to increase returns and maximize value; and
- investing in operating companies that have a significant real estate component.

We expect to finance our growth, acquisitions and investments using internally generated funds and proceeds from asset sales and by accessing the public and private capital markets. We may also offer Vornado common or preferred shares or Operating Partnership units in exchange for property and may repurchase or otherwise reacquire these securities in the future.

ACQUISITION

We completed the following acquisition during 2021:

- $158 million purchase of our joint venture partner's 45% ownership interest in One Park Avenue (valuing the property at $875 million, encumbered by $525 million of existing debt), increasing our ownership interest to 100%.

DISPOSITIONS

We completed the following sale transactions during 2021:

- $137 million net proceeds from the sale of six condominium units at 220 Central Park South ("220 CPS");
- $100 million aggregate sale of three Manhattan retail properties located at 677-679, 759-771 and 828-850 Madison Avenue;
- $75 million sale by Alexander's (32.4% interest) of its Paramus, New Jersey property to IKEA Property, Inc. ("IKEA"), the tenant at the property, pursuant to IKEA's purchase option contained in the lease;
- $28 million sale of 501 Broadway by the Fund (25% interest); and
- $10 million sale by Alexander's (32.4% interest) of a parcel of land in the Bronx, New York.

FINANCINGS

We completed the following financing transactions during 2021:

- $1.25 billion unsecured revolving credit facility extended from January 2023 to April 2026, lowering the interest rate to LIBOR plus 0.89% from LIBOR plus 1.00%;
- $1.2 billion refinancing of 555 California Street (70% interest);
- $950 million refinancing of 1290 Avenue of the Americas (70% interest);
- $750 million green bond public offering of senior unsecured notes;
- $675 million repayment of theMART mortgage loan;
- $525 million refinancing of One Park Avenue;
- $500 million modification of the PENN 11 mortgage loan lowering the interest rate to LIBOR plus 1.95% from LIBOR plus 2.75%, resulting in a fixed rate of 2.23% pursuant to the interest rate swap agreement;
- $350 million refinancing of 909 Third Avenue;
- $300 million issuance of 4.45% Series O cumulative redeemable preferred shares; and
- $300 million redemption of 5.70% Series K cumulative redeemable preferred shares.

DEVELOPMENT AND REDEVELOPMENT EXPENDITURES

PENN District

Farley

Our 95% joint venture (5% is owned by the Related Companies ("Related")) is developing Farley Office and Retail, which will include approximately 845,000 rentable square feet of commercial space, comprised of approximately 730,000 square feet of office space and approximately 115,000 square feet of restaurant and retail space. The total development cost of this project is estimated to be approximately $1,120,000,000 at our 95% share, of which $896,186,000 of cash has been expended as of December 31, 2021.

PENN 1

We are redeveloping PENN 1, a 2,547,000 square foot office building located on 34th Street between Seventh and Eighth Avenue. In December 2020, we entered into an agreement with the Metropolitan Transportation Authority (the “MTA”) to oversee the redevelopment of the Long Island Rail Road Concourse at Penn Station (the "Concourse"), within the footprint of PENN 1. Skanska USA Civil Northeast, Inc. will perform the redevelopment under a fixed price contract for $380,000,000 which is being funded by the MTA. In connection with the redevelopment, we entered into an agreement with the MTA which will result in the widening of the Concourse to relieve overcrowding and our trading of 15,000 square feet of back of house space for 22,000 square feet of retail frontage space. Vornado's total development cost for the PENN 1 project is estimated to be $450,000,000. As of December 31, 2021, $309,437,000 of cash has been expended.

PENN 2

We are redeveloping PENN 2, a 1,795,000 square foot (as expanded) office building, located on the west side of Seventh Avenue between 31st and 33rd Street. The development cost of this project is estimated to be $750,000,000, of which $161,066,000 of cash has been expended as of December 31, 2021.

PENN 15 (Hotel Pennsylvania Site)

We have permanently closed the Hotel Pennsylvania and plan to develop an office tower on the site. Demolition of the existing building structure commenced in the fourth quarter of 2021.

We are also making districtwide improvements within the PENN District. The development cost of these improvements is estimated to be $100,000,000, of which $31,481,000 of cash has been expended as of December 31, 2021.

We are also evaluating other development and redevelopment opportunities at certain of our properties in Manhattan including, in particular, the PENN District.

There can be no assurance that the above projects will be completed, completed on schedule or within budget.

ENVIRONMENTAL SUSTAINABILITY INITIATIVES

We have long believed a focus on environmental sustainability is responsible management of our business and important to our tenants. It has been central to Vornado's business strategy for over 10 years. The Corporate Governance and Nominating Committee of Vornado's Board of Trustees is assigned with oversight of Environmental, Social and Governance ("ESG") matters, which includes climate change risk. Environmental sustainability initiatives are carried out by a dedicated team of professionals that work directly with our business units.

Vornado is an industry leader in sustainability, owning and operating more than 27 million square feet of LEED (Leadership in Energy and Environmental Design) certified buildings, representing 95% of our office portfolio, with over 23 million square feet at LEED Gold or Platinum. In 2021, we were selected as a global "Sector Leader" for all Office/Retail Diversified REITs in the Global Real Estate Sustainability Benchmark ("GRESB"), ranked second among 94 responding listed companies in the United States and received the "Green Star" distinction for the ninth consecutive year. In 2020, we received the Leader in the Light Award by the National Association for Real Estate Investment Trusts (NAREIT) for the 11th consecutive year; were recognized as an EPA ENERGY STAR Partner of the Year, with the Sustained Excellence distinction; and received the 2020 Leadership Award from the United States Green Buildings Council (USGBC). We prioritize addressing climate change and in 2019 adopted a 10-year plan to make our buildings carbon neutral by 2030 ("Vision 2030"). Vision 2030 is a multi-faceted approach that prioritizes energy efficiency, demand management, and renewable power. We rely on both existing and future technology, as well as meaningful stakeholder collaboration with our tenants, our employees, and our communities, to achieve this plan. Our commitment to carbon neutrality and associated emissions reduction targets have been approved by the Science Based Targets Initiative as consistent with a 1.5°C climate scenario, the most ambitious goal of the Paris Agreement.

We consider sustainability in all aspects of our business, including the design, construction, retrofit and ongoing maintenance and operations of our portfolio of buildings. We operate our buildings sustainably and efficiently by establishing best practices in energy and water consumption, carbon reduction, resource and waste management and ecologically sensitive procurement. Our policies, from 100% green cleaning to energy efficiency, are implemented across our entire portfolio. Mandatory sustainability training is required for all of our building operators and managers, and we undertake significant outreach with our tenants, employees and investors regarding Vornado's sustainability programs and strategies.

In January 2022, the Compensation Committee of Vornado's Board of Trustees approved the 2022 performance based long-term incentive plan which for the first time formally ties senior management compensation to achievement of certain ESG targets, including reductions in greenhouse emissions, achieving a specified GRESB score and targeting a higher percentage of LEED Gold or Platinum certified square footage.

We are committed to transparent reporting of sustainability performance indicators and publish an annual ESG Report in accordance with the Global Reporting Initiative and aligned with the metrics codified by the Sustainability Accounting Standards Board and recommendations set forth by the Task Force on Climate-related Financial Disclosures. Further details on our environmental sustainability initiatives and strategy, including our Vision 2030 Roadmap, can be found in our 2020 ESG Report at (esg.vno.com). There can be no assurance that our Vision 2030 commitment will be achieved in the planned time frame. The ESG Report is not incorporated by reference and should not be considered part of this Annual Report on Form 10-K.

HUMAN CAPITAL MANAGEMENT

As of December 31, 2021, we have approximately 3,224 employees, consisting of (i) 2,710 employees of Building Maintenance Services LLC, a wholly owned subsidiary, which provides cleaning, security, and engineering services primarily to our New York properties, (ii) 235 employees in our corporate office, (iii) 161 employees in leasing and property management, and (iv) 118 employees of theMART. The foregoing does not include employees of partially owned entities.

Human capital management is critical to our success and our employees are the foundation of our human capital. To foster talent and growth, we provide training and continuing education, promote career and personal development, and encourage innovation and engagement.

Compensation, Benefits and Employees Wellbeing

To attract and retain the best-qualified talent and to help our employees stay healthy, balance their work and personal lives, and meet their financial and retirement goals, we offer competitive benefits including, but not limited to, market-competitive compensation, healthcare (medical, dental and vision coverage), a health savings account, 401(k) and employer match, dependent care flexible spending account, parental leave, adoption/surrogacy benefits, short-term and long-term disability insurance, life insurance, time off/paid holidays, tuition reimbursement, subsidized gym memberships, employee wellness programs and incentives, in-workplace COVID-19 and flu vaccinations, onsite COVID-19 testing, commuter benefits, employee assistance program and workplace flexibility.

Talent Development

We promote career and personal development, provide training and continuing education, and encourage innovation and engagement. This includes tuition reimbursement for our employees' continuing education and professional development, and the opportunity to participate in a variety of training and networking engagements.

HUMAN CAPITAL MANAGEMENT - CONTINUED

Culture and Engagement

Our employees are critical to our success, and we believe creating a positive and inclusive culture is essential to attracting and retaining engaged employees. We seek to retain our employees by actively engaging with our workforce and we solicit their feedback through our divisional leaders and employee surveys. We use their feedback to create and continually enhance programs that support their needs.

Through our volunteer program, Vornado Volunteers, employees are granted one day of paid time off per calendar year to volunteer for a cause of their choice.

Diversity and Inclusion

Vornado is a diverse and inclusive environment that empowers the individual and enriches the employment experience. We have published Equal Employment Opportunity "EEO" data since 2017 and have a broadly diverse workforce across both our corporate base as well as our BMS division. Our employee demographics data can be found on our ESG micro-site (esg.vno.com), which is not incorporated by reference and should not be considered part of this Annual Report on Form 10-K.

Our diversity metrics set a baseline from where we constantly strive to improve.

Health and Wellness / COVID-19 Response

As a building owner and landlord to thousands of business tenants, we focus on maintaining and improving the health of our indoor environments, as well as communicating the value of our health and wellness programs with consistency and clarity to our stakeholders. We believe that consistent health programming and communications protocols not only mitigate health risks within our buildings, but they also create a responsible behavior framework for our employees, our tenants, and our visitors.

We responded to the COVID-19 pandemic with determination to ensure that our tenants, employees and visitors remain healthy and safe. We fortified many of our buildings with protections that include daily health screenings and questionnaires, social distancing and PPE requirements, enhanced HVAC and indoor air quality, and installed onsite COVID-19 testing and vaccination locations. This infrastructure is further reinforced with our green cleaning program and our on-site operations team.

Labor Relations

BMS employs and manages janitorial and security staff who are members of 32BJ SEIU and engineering staff who are members of Local 94 of the International Union of Operating Engineers AFL-CIO. Through our active participation in the Realty Advisory Board on Labor Relations, we work collaboratively with both unions and consider our relations with our union employees to be very positive.

For additional information on human capital matters, please see our most recent ESG report, available for download on our website at www.vno.com and in digital format at esg.vno.com. This report and other information on our website are not incorporated by reference into and do not form any part of this Annual Report on Form 10-K.

COMPETITION

We compete with a large number of real estate investors, property owners and developers, some of which may be willing to accept lower returns on their investments. Principal factors of competition are rents charged, sales prices, attractiveness of location, the quality of the property and the breadth and the quality of services provided. Our success depends upon, among other factors, trends of the global, national, regional and local economies, the financial condition and operating results of current and prospective tenants and customers, availability and cost of capital, construction and renovation costs, taxes, governmental regulations, legislation, population and employment trends. See "Risk Factors" in Item 1A for additional information regarding these factors.

SEGMENT DATA

We operate in the following reportable segments: New York and Other. Financial information related to these reportable segments for the years ended December 31, 2021, 2020 and 2019 is set forth in Note 23 – *Segment Information* to our consolidated financial statements in this Annual Report on Form 10-K.

TENANTS ACCOUNTING FOR OVER 10% OF REVENUES

None of our tenants accounted for more than 10% of total revenues in any of the years ended December 31, 2021, 2020 and 2019.

CERTAIN ACTIVITIES

We do not base our acquisitions and investments on specific allocations by type of property. We have historically held our properties for long-term investment; however, it is possible that properties in our portfolio may be sold or otherwise disposed of when circumstances warrant. Further, we have not adopted a policy that limits the amount or percentage of assets which could be invested in a specific property or property type. Generally our activities are reviewed and may be modified from time to time by Vornado's Board of Trustees without the vote of our shareholders or Operating Partnership unitholders.

PRINCIPAL EXECUTIVE OFFICES

Our principal executive offices are located at 888 Seventh Avenue, New York, New York 10019; telephone (212) 894-7000.

MATERIALS AVAILABLE ON OUR WEBSITE

Copies of our Annual Report on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K and amendments to those reports, as well as Reports on Forms 3, 4 and 5 regarding officers, trustees or 10% beneficial owners, filed or furnished pursuant to Section 13(a), 15(d) or 16(a) of the Securities Exchange Act of 1934 are available free of charge through our website (www.vno.com) as soon as reasonably practicable after they are electronically filed with, or furnished to, the Securities and Exchange Commission. Also available on our website are copies of our Audit Committee Charter, Compensation Committee Charter, Corporate Governance and Nominating Committee Charter, Code of Business Conduct and Ethics, and Corporate Governance Guidelines. In the event of any changes to these charters or the code or guidelines, changed copies will also be made available on our website. Copies of these documents are also available directly from us free of charge. Our website also includes other financial and non-financial information, including certain non-GAAP financial measures, none of which is a part of this Annual Report on Form 10-K. Copies of our filings under the Securities Exchange Act of 1934 are also available free of charge from us, upon request.

ITEM 1A. RISK FACTORS

Material factors that may adversely affect our business, operations and financial condition are summarized below. We refer to the equity and debt securities of both Vornado and the Operating Partnership as our "securities" and the investors who own shares of Vornado or units of the Operating Partnership, or both, as our "equity holders." The risks and uncertainties described herein may not be the only ones we face. Additional risks and uncertainties not presently known to us or that we currently believe to be immaterial may also adversely affect our business, operations and financial condition. See "Forward-Looking Statements" contained herein on page 6.

RISKS RELATED TO OUR PROPERTIES AND INDUSTRY

Our business, financial condition, results of operations and cash flows have been and may continue to be adversely affected by the COVID-19 pandemic and the impact could be material to us.

Our business has been adversely affected by the ongoing COVID-19 pandemic and preventive measures taken to curb the spread of the virus. The pandemic has resulted in governments and other authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders, and business closures. Existing and potential new variants make the on-going impact of the COVID-19 pandemic difficult to predict. If the virus continues to spread significantly in its current form or as a more contagious variant, governmental agencies and other authorities may order additional closures or impose further restrictions on businesses, which could negatively impact the financial condition of our tenants. The continuation of the pandemic could also have fundamental adverse effects on our business. Further delays in tenant return-to-work plans as a result of the continued risks of the pandemic and further dependence on work from home and flexible work arrangements may lead our office tenants to reassess their long-term physical space needs. Further, while many of the limitations and restrictions imposed on retailers during the onset of the pandemic have been lifted and/or eased, economic conditions, including a decline in Manhattan tourism since the onset of the virus, continue to adversely affect the financial health of our retail tenants. The impact of such conditions could cause retailers to reduce the number and size of their physical locations and further increase reliance on e-commerce. Over time, these factors could decrease the demand for office and retail space and ultimately decrease occupancy and/or rent levels across our portfolio, which may have a negative impact on our financial condition and/or access to capital. In addition, the value of our real estate assets may decline, which may result in non-cash impairment charges in future periods and the impact could be material. The extent of the COVID-19 pandemic's effect on our operational and financial performance will depend on future developments, including vaccination rates among the population, the efficacy and durability of vaccines against emerging variants, and governmental and tenant responses thereto, all of which are uncertain at this time. Given the dynamic nature of the circumstances, it is difficult to predict the ongoing impact of the COVID-19 pandemic on our business, financial condition, results of operations and cash flows but the impact could be material.

A significant portion of our properties is located in the New York City Metropolitan area and is affected by the economic cycles and risks inherent to this area.

In 2021, approximately 88% of our net operating income ("NOI", a non-GAAP measure) came from properties located in the New York City metropolitan area. We may continue to concentrate a significant portion of our future acquisitions, development and redevelopment in this area. Real estate markets are subject to economic downturns and we cannot predict how economic conditions will impact this market in either the short or long term. Declines in the economy or declines in real estate markets in the New York City metropolitan area, including the effects of the COVID-19 pandemic, have hurt and could continue to hurt our financial performance and the value of our properties. In addition to the factors affecting the national economic condition generally, the factors affecting economic conditions in this region include:

- financial performance and productivity of the media, advertising, professional services, financial, technology, retail, insurance and real estate industries;
- business layoffs or downsizing;
- any oversupply of, or reduced demand for, real estate;
- industry slowdowns;
- relocations of businesses;
- changing demographics;
- increased work from home and use of alternative work places;
- changes in the number of domestic and international tourists to our markets (including as a result of changes in the relative strengths of world currencies and as a result of the COVID-19 pandemic);
- the fiscal health of New York State and New York City governments and local transit authorities, particularly as a result of the COVID-19 pandemic;
- infrastructure quality; and
- changes in rates or the treatment of the deductibility of state and local taxes.

It is impossible for us to ensure the accuracy of predictions of the future or the effect of trends in the economic and investment climates of the geographic areas in which we concentrate, and more generally of the United States, or the real estate markets in these areas. Local, national or global economic downturns could negatively affect the value of our properties, our businesses and profitability.

We are subject to risks that affect the general and New York City retail environments.

Certain of our properties are Manhattan retail properties. In 2021, approximately 17% of our NOI is from Manhattan retail properties. As such, these properties are affected by the general and New York City retail environments, including office and residential occupancy rates, the level of consumer spending and consumer confidence, Manhattan tourism, employer remote-working policies, the threat of terrorism, increasing competition from on-line retailers, other retailers, and outlet malls, and the impact of technological change upon the retail environment generally. Further, New York City tourism has not yet fully recovered from the effects of the COVID-19 pandemic. The decline in international tourists, who comprise a major source of demand for our Manhattan retail tenants, has adversely affected such tenants. These factors could adversely affect the financial condition of our retail tenants, or result in the bankruptcy of such tenants, and the willingness of retailers to lease space in our retail locations, which could have an adverse effect on the value of our properties, our business and profitability.

Our performance and the value of an investment in us are subject to risks associated with our real estate assets and with the real estate industry.

The value of our real estate and the value of an investment in us fluctuates depending on conditions in the general economy and the real estate business. These conditions may also adversely impact our revenues and cash flows.

The factors that affect the value of our real estate investments include, among other things:

- global, national, regional and local economic conditions;
- competition from other available space, including co-working space and sub-leases;
- local conditions such as an oversupply of space or a reduction in demand for real estate in the area;
- how well we manage our properties;
- the development and/or redevelopment of our properties;
- changes in market rental rates;
- the impact on our retail tenants and demand for retail space at our properties due to increased competition from online shopping;
- the timing and costs associated with property improvements and rentals;
- whether we are able to pass all or portions of any increases in operating costs through to tenants;
- changes in real estate taxes and other expenses;
- the ability of state and local governments to operate within their budgets;
- whether tenants and users such as customers and shoppers consider a property attractive;
- changes in consumer preferences adversely affecting retailers and retail store values;
- changes in space utilization by our tenants due to technology, economic conditions, and business environment;
- the financial condition of our tenants, including the extent of tenant bankruptcies or defaults;
- consequences of any armed conflict involving, or terrorist attacks against, the United States or individual acts of violence in public spaces;
- trends in office real estate;
- availability of financing on acceptable terms or at all;
- inflation or deflation;
- fluctuations in interest rates;
- our ability to obtain adequate insurance;
- changes in zoning laws and taxation;
- government regulation;
- potential liability under environmental or other laws or regulations;
- natural disasters;
- general competitive factors;
- climate change; and
- pandemics.

The rents or sales proceeds we receive and the occupancy levels at our properties may decline as a result of adverse changes in any of these factors. If rental revenues, sales proceeds and/or occupancy levels decline, we generally would expect to have less cash available for operating costs, to pay indebtedness and for distribution to equity holders. In addition, some of our major expenses, including mortgage payments, real estate taxes and maintenance costs generally do not decline when the related rents decline and maintenance costs can increase substantially in an inflationary environment.

Real estate is a competitive business and that competition may adversely impact us.

We compete with a large number of real estate investors, property owners and developers, some of which may be willing to accept lower returns on their investments. Principal factors of competition are rents charged, sales prices, attractiveness of location, the quality of the property and the breadth and the quality of services provided. Substantially all of our properties face competition from similar properties in the same market, which may adversely impact the rents we can charge at those properties and our results of operations.

Our commercial office properties are located primarily in highly developed areas of the New York metropolitan area. Manhattan is the largest office market in the United States. The number of competitive office properties in the New York metropolitan area, which may be newer or better located than our properties, could have a material adverse effect on our ability to lease office space at our properties and on the effective rents we are able to charge.

We depend on leasing space to tenants on economically favorable terms and collecting rent from tenants who may not be able to pay.

Our financial results depend significantly on leasing space in our properties to tenants on economically favorable terms. In addition, because a majority of our income comes from renting of real property, our income, funds available to pay indebtedness and funds available for distribution to equity holders will decrease if a significant number of our tenants cannot pay their rent or if we are not able to maintain occupancy levels on favorable terms. If a tenant does not pay its rent, we may not be able to enforce our rights as landlord without delays and may incur substantial legal and other costs. Even if we are able to enforce our rights, a tenant may not have recoverable assets.

We may be adversely affected by trends in office real estate, including work from home trends.

In 2021, approximately 79% of our NOI is from our office properties. Work from home, flexible or hybrid work schedules, open workplaces, videoconferencing, and teleconferencing are becoming more common, particularly as a result of the COVID-19 pandemic. These practices may enable businesses to reduce their office space requirements. There is also an increasing trend among some businesses to utilize shared office spaces and co-working spaces. A continuation of the movement towards these practices could, over time, erode the overall demand for office space and, in turn, place downward pressure on occupancy, rental rates, cash flows and property valuations.

We may be unable to renew leases or relet space as leases expire.

When our tenants decide not to renew their leases upon their expiration, we may not be able to relet the space. Even if tenants do renew or we can relet the space, the terms of renewal or reletting, considering among other things, rent and other concessions, the cost of improvements to the property and leasing commissions, may be less favorable than the terms in the expired leases. In addition, changes in space utilization by our tenants may impact our ability to renew or relet space without the need to incur substantial costs in renovating or redesigning the internal configuration of the relevant property. If we are unable to promptly renew the leases or relet the space at similar rates or if we incur substantial costs in renewing or reletting the space, our cash flow and ability to service debt obligations and pay dividends and distributions to equity holders could be adversely affected.

Bankruptcy or insolvency of tenants may decrease our revenue, net income and available cash.

From time to time, some of our tenants have declared bankruptcy, and other tenants may declare bankruptcy or become insolvent in the future. The bankruptcy or insolvency of a major tenant could cause us to suffer lower revenues and operational difficulties, including leasing the remainder of the property. As a result, the bankruptcy or insolvency of a major tenant could result in decreased net income and funds available to pay our indebtedness or make distributions to equity holders.

Terrorist attacks may adversely affect the value of our properties and our ability to generate cash flow.

We have significant investments in the New York City, Chicago and San Francisco metropolitan areas. In response to a terrorist attack or the perceived threat of terrorism, tenants in these areas may choose to relocate their businesses to less populated, lower-profile areas of the United States that may be perceived to be less likely targets of future terrorist activity and fewer customers may choose to patronize businesses in these areas. This, in turn, would trigger a decrease in the demand for space in these areas, which could increase vacancies in our properties and force us to lease space on less favorable terms. Furthermore, we may experience increased costs in security, equipment and personnel. As a result, the value of our properties and the level of our revenues and cash flows could decline materially.

Natural disasters and the effects of climate change could have a concentrated impact on the areas where we operate and could adversely impact our results.

Our investments are concentrated in the New York, Chicago and San Francisco metropolitan areas. Natural disasters, including earthquakes, storms, tornados, floods and hurricanes, could cause significant damage to our properties and the surrounding environment or area. Potentially adverse consequences of "global warming," including rising sea levels, could similarly have an impact on our properties and the economies of the metropolitan areas in which we operate. Government efforts to combat climate change may impact the cost of operating our properties. Over time, these conditions could result in declining demand for office space in our buildings or the inability of us to operate the buildings at all. Climate change may also have indirect effects on our business by increasing the cost of (or making unavailable) property insurance on terms we find acceptable, increasing the cost of energy at our properties and requiring us to expend funds as we seek to repair and protect our properties against such risks. The incurrence of these losses, costs or business interruptions may adversely affect our operating and financial results.

Our properties are located in urban areas, which means the vitality of our properties is reliant on sound transportation and utility infrastructure. If that infrastructure is compromised in any way by an extreme weather event, such a compromise could have an adverse impact on our local economies and populations, as well as on our tenants' ability to do business in our buildings.

Our properties are subject to transitional risks related to climate-related policy change.

De-carbonization of grid-supplied energy could lead to increased energy costs and operating expenses for our buildings. Retrofitting our building systems to consume less energy could lead to increased capital costs. Buildings which consume fossil fuel onsite may be subject to penalties. In addition, the full transition of grid-supplied energy to renewable sources (as has been mandated by the Climate Leadership and Community Protection Act in New York State) could lead to increased energy costs and operating expenses for our buildings.

We may become subject to costs, taxes or penalties, or increases therein, associated with natural resource or energy usage, such as a "carbon tax" and by local legislation such as New York City's Local Law 97, which sets limits on carbon emissions in our buildings and imposes penalties if we exceed those limits, or laws passed to impose limits or eliminate any onsite fossil fuel combustion in new construction and major renovations. These costs, taxes or penalties could increase our operating costs and decrease the cash available to pay our obligations or distribute to our equity owners.

Changes to tax laws could affect REITs generally, the trading of our shares and our results of operations, both positively and negatively, in ways that are difficult to anticipate.

The rules dealing with U.S. federal, state and local income taxation are constantly under review by persons involved in the legislative process and by the IRS and the Treasury Department. Changes to tax laws (which changes may have retroactive application) could adversely affect the taxation of REITs and their shareholders. We cannot predict whether, when, in what form, or with what effective dates, tax laws, regulations and rulings may be enacted, promulgated or decided, or technical corrections made, which could result in an increase in our, or our shareholders', tax liability or require changes in the manner in which we operate in order to minimize increases in our tax liability. If such changes occur, we may be required to pay additional taxes on our assets or income and/or be subject to additional restrictions. These increased tax costs could, among other things, adversely affect the trading price for our common shares, our financial condition, our results of operations and the amount of cash available for the payment of dividends.

RISKS RELATED TO OUR OPERATIONS AND STRATEGIES

We face risks associated with property acquisitions.

We have acquired in the past and intend to continue to pursue the acquisition of properties and portfolios of properties, including, but not limited to, large portfolios that could increase our size and result in alterations to our capital structure. Our acquisition activities and their success are subject to the following risks:

- even if we enter into an acquisition agreement for a property, we may be unable to complete that acquisition after making a non-refundable deposit and incurring certain other acquisition-related costs;
- we may be unable to obtain or assume financing for acquisitions on favorable terms or at all;
- acquired properties may fail to perform as expected;
- the actual costs of repositioning, redeveloping or maintaining acquired properties may be greater than our estimates and may require significantly greater time and attention of management than anticipated;
- the acquisition agreement will likely contain conditions to closing, including completion of due diligence investigations to our satisfaction or other conditions that are not within our control, which may not be satisfied;
- acquired properties may be located in new markets where we may face risks associated with a lack of market knowledge or understanding of the local economy, lack of business relationships in the area, costs associated with opening a new regional office and unfamiliarity with local governmental and permitting procedures;
- we may acquire real estate through the acquisition of the ownership entity subjecting us to the risks of that entity and we may be exposed to the liabilities of properties or companies acquired, some of which we may not be aware of at the time of acquisition; and
- we may be unable to quickly and efficiently integrate new acquisitions, particularly acquisitions of portfolios of properties, into our existing operations, and this could have an adverse effect on our results of operations and financial condition.

Any delay or failure on our part to identify, negotiate, finance and consummate such acquisitions in a timely manner and on favorable terms, or operate acquired properties to meet our financial expectations, could impede our growth and have an adverse effect on us, including our financial condition, results of operations, cash flow and the market value of our securities.

We are exposed to risks associated with property redevelopment and repositioning that could adversely affect us, including our financial condition and results of operations.

We continue to engage in redevelopment and repositioning activities with respect to our properties, and, accordingly, we are subject to certain risks, which could adversely affect us, including our financial condition and results of operations. These risks include, without limitation, (i) the availability and pricing of financing on favorable terms or at all; (ii) the availability and timely receipt of zoning and other regulatory approvals; (iii) the potential for the fluctuation of occupancy rates and rents at redeveloped properties, which may result in our investment not being profitable; (iv) start up, repositioning and redevelopment costs may be higher than anticipated; (v) cost overruns, especially in an inflationary environment, and untimely completion of construction (including risks beyond our control, such as weather or labor conditions, material shortages or supply chain delays); (vi) the potential that we may fail to recover expenses already incurred if we abandon development or redevelopment opportunities after we begin to explore them; (vii) the potential that we may expend funds on and devote management time to projects which we do not complete; (viii) the inability to complete leasing of a property on schedule or at all, resulting in an increase in carrying or redevelopment costs; (ix) the possibility that properties will be leased at below expected rental rates and (x) to the extent the redevelopment activities are conducted in partnership with third parties, the possibility of disputes with our joint venture development partners and the potential that we miss certain project milestone deadlines. These risks could result in substantial unanticipated delays or expenses and could prevent the initiation or the completion of redevelopment activities or the ultimate rents achieved on new developments, any of which could have an adverse effect on our financial condition, results of operations, cash flow, the market value of our common shares and ability to satisfy our principal and interest obligations and to make distributions to our shareholders.

From time to time we have made, and in the future we may seek to make one or more material acquisitions. The announcement of such a material acquisition may result in a rapid and significant decline in the price of our securities.

From time to time we have made, and in the future we may seek to make one or more material acquisitions that we believe will maximize shareholder value. However, an announcement by us of one or more significant acquisitions could result in a quick and significant decline in the price of our securities.

It may be difficult to sell real estate timely, which may limit our flexibility.

Real estate investments are relatively illiquid. Consequently, we may have limited ability to dispose of assets in our portfolio promptly in response to changes in economic or other conditions which could have an adverse effect on our sources of working capital and our ability to satisfy our debt obligations.

We may not be able to effectively operate our business if we are unable to attract and retain qualified personnel due to a tight labor market and COVID-19 vaccine mandate in areas in which we operate.

Our success depends on our ability to continue to attract, retain, and motivate qualified personnel. Currently, the U.S. job market is experiencing labor shortages and employee resignations at record levels. Factors impacting the labor shortage include continued fears of COVID-19, enhanced unemployment insurance benefits, people leaving the workforce entirely, higher pay from competitors, demand for flexible working hours and remote work, and many other factors. The increased ability of employees in the workforce to work from home or in other remote work arrangements has made it and may continue to make it more difficult for us to compete in the job market. In addition, we may find it difficult to attract and retain employees in New York City, where our corporate office and a significant portion of our properties are located, due to the implementation of a COVID-19 vaccine mandate beginning in December 2021. Our inability to attract, retain, and motivate qualified personnel, could have a material adverse effect on our ability to operate our business.

Significant inflation could adversely affect our business and financial results.

Increased inflation could adversely affect us by increasing costs of land, construction and renovation. In a highly inflationary environment, we may be unable to raise rental rates at or above the rate of inflation, which could reduce our profit margins. In addition, our cost of labor and materials could increase, which could have an adverse impact on our business or financial results. While increases in most operating expenses at our properties can be passed on to our office and retail tenants, some tenants have fixed reimbursement charges and expenses at our residential properties may not be able to be passed on to residential tenants. Unreimbursed increased operating expenses may reduce cash flow available for payment of mortgage debt and interest and for distributions to shareholders.

We may not be permitted to dispose of certain properties or pay down the debt associated with those properties when we might otherwise desire to do so without incurring additional costs. In addition, when we dispose of or sell assets, we may not be able to reinvest the sales proceeds and earn similar returns.

As part of an acquisition of a property, or a portfolio of properties, we may agree, and in the past have agreed, not to dispose of the acquired properties or reduce the mortgage indebtedness for a long-term period, unless we pay certain of the resulting tax costs of the seller. These agreements could result in us holding on to properties that we would otherwise sell and not pay down or refinance. In addition, when we dispose of or sell assets, we may not be able to reinvest the sales proceeds and earn returns similar to those generated by the assets that were sold.

From time to time we have made, and in the future we may seek to make investments in companies over which we do not have sole control. Some of these companies operate in industries with different risks than investing and operating real estate.

From time to time we have made, and in the future we may seek to make, investments in companies that we may not control, including, but not limited to, Alexander's, our Fifth Avenue and Times Square JV, and other equity and loan investments. Although these businesses generally have a significant real estate component, some of them operate in businesses that are different from investing and operating real estate. Consequently, we are subject to operating and financial risks of those industries and to the risks associated with lack of control, such as having differing objectives than our partners or the entities in which we invest, or becoming involved in disputes, or competing directly or indirectly with these partners or entities. In addition, we rely on the internal controls and financial reporting controls of these entities and their failure to maintain effectiveness or comply with applicable standards may adversely affect us.

We are subject to risks involved in real estate activity through joint ventures and private equity real estate funds.

We currently own properties through joint ventures and private equity real estate funds with other persons and entities and may in the future acquire or own properties through joint ventures and funds when we believe circumstances warrant the use of such structures. Joint venture and fund investments involve risk, including: the possibility that our partners might refuse to make capital contributions when due and therefore we may be forced to make contributions to maintain the value of the property; that we may be responsible to our partners for indemnifiable losses; that our partners might at any time have business or economic goals that are inconsistent with ours; that third parties may be hesitant or refuse to transact with the joint venture or fund due to the identity of our partners; and that our partners may be in a position to take action or withhold consent contrary to our recommendations, instructions or requests. We and our respective joint venture partners may each have the right to trigger a buy-sell, put right or forced sale arrangement, which could cause us to sell our interest, or acquire our partner's interest, or to sell the underlying asset, at a time when we otherwise would not have initiated such a transaction, without our consent or on unfavorable terms. In some instances, joint venture and fund partners may have competing interests in our markets that could create conflicts of interest. These conflicts may include compliance with the REIT requirements, and our REIT status could be jeopardized if any of our joint ventures or funds do not operate in compliance with REIT requirements. To the extent our partners do not meet their obligations to us or our joint ventures or funds, or they take action inconsistent with the interests of the joint venture or fund, we may be adversely affected.

RISKS RELATED TO OUR INDEBTEDNESS AND ACCESS TO CAPITAL

Capital markets and economic conditions can materially affect our liquidity, financial condition and results of operations as well as the value of an investment in our debt and equity securities.

There are many factors that can affect the value of our debt and equity securities, including the state of the capital markets and the economy. Demand for office and retail space typically declines nationwide due to an economic downturn, bankruptcies, downsizing, layoffs and cost cutting. Government action or inaction may adversely affect the state of the capital markets. The cost and availability of credit may be adversely affected by illiquid credit markets and wider credit spreads, which may adversely affect our liquidity and financial condition, including our results of operations, and the liquidity and financial condition of our tenants. Our inability or the inability of our tenants to timely refinance maturing liabilities and access the capital markets to meet liquidity needs may materially affect our financial condition and results of operations and the value of our securities.

We may not be able to obtain capital to make investments.

We depend primarily on external financing to fund the growth of our business. This is because one of the requirements of the Internal Revenue Code of 1986, as amended, for a REIT is that it distributes 90% of its taxable income, excluding net capital gains, to its shareholders. This, in turn, requires the Operating Partnership to make distributions to its unitholders. There is a separate requirement to distribute net capital gains or pay a corporate level tax in lieu thereof. Our access to debt or equity financing depends on the willingness of third parties to lend or make equity investments and on conditions in the capital markets generally. Although we believe that we will be able to finance any investments we may wish to make in the foreseeable future, there can be no assurance that new financing will be available or available on acceptable terms. For information about our available sources of funds, see *"Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources"* and the notes to the consolidated financial statements in this Annual Report on Form 10-K.

We depend on dividends and distributions from our direct and indirect subsidiaries. The creditors and preferred equity holders of these subsidiaries are entitled to amounts payable to them by the subsidiaries before the subsidiaries may pay any dividends or distributions to us.

Substantially all of Vornado's assets are held through its Operating Partnership that holds substantially all of its properties and assets through subsidiaries. The Operating Partnership's cash flow is dependent on cash distributions to it by its subsidiaries, and in turn, substantially all of Vornado's cash flow is dependent on cash distributions to it by the Operating Partnership. The creditors of each of Vornado's direct and indirect subsidiaries are entitled to payment of that subsidiary's obligations to them, when due and payable, before distributions may be made by that subsidiary to its equity holders. Thus, the Operating Partnership's ability to make distributions to its equity holders depends on its subsidiaries' ability first to satisfy their obligations to their creditors and then to make distributions to the Operating Partnership. Likewise, Vornado's ability to pay dividends to its holders of common and preferred shares depends on the Operating Partnership's ability first to satisfy its obligations to its creditors and make distributions to holders of its preferred units and then to make distributions to Vornado.

Furthermore, the holders of preferred units of the Operating Partnership are entitled to receive preferred distributions before payment of distributions to the Operating Partnership's equity holders, including Vornado. Thus, Vornado's ability to pay cash dividends to its equity holders and satisfy its debt obligations depends on the Operating Partnership's ability first to satisfy its obligations to its creditors and make distributions to holders of its preferred units and then to its equity holders, including Vornado. As of December 31, 2021, there were three series of preferred units of the Operating Partnership not held by Vornado with a total liquidation value of $53,223,000.

In addition, Vornado's participation in any distribution of the assets of any of its direct or indirect subsidiaries upon the liquidation, reorganization or insolvency is only after the claims of the creditors, including trade creditors and preferred equity holders, are satisfied.

We have a substantial amount of indebtedness that could affect our future operations.

As of December 31, 2021, our consolidated mortgages and unsecured indebtedness, excluding related premium, discount and deferred financing costs, totaled $8.7 billion. We are subject to the risks normally associated with debt financing, including the risk that our cash flow from operations will be insufficient to meet our required debt service. Our debt service costs generally will not be reduced if developments in the market or at our properties, such as the entry of new competitors or the loss of major tenants, cause a reduction in the income from our properties. Should such events occur, our operations may be adversely affected. If a property is mortgaged to secure payment of indebtedness and income from such property is insufficient to pay that indebtedness, the property could be foreclosed upon by the mortgagee resulting in a loss of income and a decline in our total asset value.

We have outstanding debt, and the amount of debt and its cost may increase and refinancing may not be available on acceptable terms.

We rely on both secured and unsecured, variable rate and non-variable rate debt to finance acquisitions and development activities and for working capital. If we are unable to obtain debt financing or refinance existing indebtedness upon maturity, our financial condition and results of operations would likely be adversely affected. In addition, the cost of our existing debt may increase, especially in the case of a rising interest rate environment, and we may not be able to refinance our existing debt in sufficient amounts or on acceptable terms. If the cost or amount of our indebtedness increases or we cannot refinance our debt in sufficient amounts or on acceptable terms, we are at risk of credit rating downgrades and default on our obligations that could adversely affect our financial condition and results of operations.

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

The interest rate hedge instruments we use to manage some of our exposure to interest rate volatility involve risk and counterparties may fail to perform under these arrangements. In addition, these arrangements may not be effective in reducing our exposure to interest rate changes and when existing interest rate hedges terminate, we may incur increased costs in implementing further interest rate hedges. Failure to hedge effectively against interest rate changes may adversely affect our results of operations.

Covenants in our debt instruments could adversely affect our financial condition and our acquisitions and development activities.

The mortgages on our properties contain customary covenants such as those that limit our ability, without the prior consent of the applicable lender, to further mortgage the applicable property or to discontinue insurance coverage. Our unsecured indebtedness and debt that we may obtain in the future may contain customary restrictions, requirements and other limitations on our ability to incur indebtedness, including covenants that limit our ability to incur debt based upon the level of our ratio of total debt to total assets, our ratio of secured debt to total assets, our ratio of EBITDA to interest expense, and fixed charges, and that require us to maintain a certain ratio of unencumbered assets to unsecured debt. Our ability to borrow is subject to compliance with these and other covenants. In addition, failure to comply with our covenants could cause a default under the applicable debt instrument, and we may then be required to repay such debt with capital from such other sources or give possession of a secured property to the lender. Under those circumstances, other sources of capital may not be available to us or may be available only on unattractive terms.

A downgrade in our credit ratings could materially and adversely affect our business and financial condition.

Our credit rating and the credit ratings assigned to our debt securities and our preferred shares could change based upon, among other things, our results of operations and financial condition. These ratings are subject to ongoing evaluation by credit rating agencies, and any rating could be changed or withdrawn by a rating agency in the future if, in its judgment, circumstances warrant such action. Moreover, these credit ratings are not recommendations to buy, sell or hold our common shares or any other securities. If any of the credit rating agencies that have rated our securities downgrades or lowers its credit rating, or if any credit rating agency indicates that it has placed any such rating on a "watch list" for a possible downgrading or lowering, or otherwise indicates that its outlook for that rating is negative, such action could have a material adverse effect on our costs and availability of funding, which could in turn have a material adverse effect on our financial condition, results of operations, cash flows, the trading/redemption price of our securities, and our ability to satisfy our debt service obligations and to pay dividends and distributions to our equity holders.

RISK RELATED TO OUR ORGANIZATION AND STRUCTURE

Vornado's Amended and Restated Declaration of Trust (the "declaration of trust") sets limits on the ownership of its shares.

Generally, for Vornado to maintain its qualification as a REIT under the Internal Revenue Code, not more than 50% in value of the outstanding shares of beneficial interest of Vornado may be owned, directly or indirectly, by five or fewer individuals at any time during the last half of Vornado's taxable year. The Internal Revenue Code defines "individuals" for purposes of the requirement described in the preceding sentence to include some types of entities. Under Vornado's declaration of trust, as amended, no person may own more than 6.7% of the outstanding common shares of any class, or 9.9% of the outstanding preferred shares of any class, with some exceptions for persons who held common shares in excess of the 6.7% limit before Vornado adopted the limit and other persons approved by Vornado's Board of Trustees. In addition, our declaration of trust includes restrictions on ownership of our common shares and preferred shares to preserve our status as a "domestically controlled qualified investment entity" within the meaning of Section 897 (h)(4)(B) of the Internal Revenue Code of 1986, as amended. These restrictions on transferability and ownership may delay, deter or prevent a change in control of Vornado or other transaction that might involve a premium price or otherwise be in the best interest of equity holders.

The Maryland General Corporation Law (the "MGCL") contains provisions that may reduce the likelihood of certain takeover transactions.

The MGCL imposes conditions and restrictions on certain "business combinations" (including, among other transactions, a merger, consolidation, share exchange, or, in certain circumstances, an asset transfer or issuance of equity securities) between a Maryland REIT and certain persons who beneficially own at least 10% of the corporation's stock (an "interested shareholder"). Unless approved in advance by the board of trustees of the trust, or otherwise exempted by the statute, such a business combination is prohibited for a period of five years after the most recent date on which the interested shareholder became an interested shareholder. After such five-year period, a business combination with an interested shareholder must be: (a) recommended by the board of trustees of the trust, and (b) approved by the affirmative vote of at least (i) 80% of the trust's outstanding shares entitled to vote and (ii) two-thirds of the trust's outstanding shares entitled to vote which are not held by the interested shareholder with whom the business combination is to be effected, unless, among other things, the trust's common shareholders receive a "fair price" (as defined by the statute) for their shares and the consideration is received in cash or in the same form as previously paid by the interested shareholder for his or her shares.

In approving a transaction, Vornado's Board of Trustees may provide that its approval is subject to compliance, at or after the time of approval, with any terms and conditions determined by the Board of Trustees. Vornado's Board of Trustees has adopted a resolution exempting any business combination between Vornado and any trustee or officer of Vornado or its affiliates. As a result, any trustee or officer of Vornado or its affiliates may be able to enter into business combinations with Vornado that may not be in the best interest of our equity holders. With respect to business combinations with other persons, the business combination provisions of the MGCL may have the effect of delaying, deferring or preventing a change in control of Vornado or other transaction that might involve a premium price or otherwise be in the best interest of our equity holders. The business combination statute may discourage others from trying to acquire control of Vornado and increase the difficulty of consummating any offer.

Title 3, Subtitle 8 of the MGCL permits our Board of Trustees, without shareholder approval and regardless of what is currently provided in our declaration of trust or bylaws, to implement certain takeover defenses, including adopting a classified board or increasing the vote required to remove a trustee. Such takeover defenses may have the effect of inhibiting a third party from making an acquisition proposal for us or of delaying, deferring or preventing a change in control of us under the circumstances that otherwise could provide our common shareholders with the opportunity to realize a premium over the then current market price.

Vornado may issue additional shares in a manner that could adversely affect the likelihood of certain takeover transactions.

Vornado's declaration of trust authorizes the Board of Trustees to:

- cause Vornado to issue additional authorized but unissued common shares or preferred shares;
- classify or reclassify, in one or more series, any unissued preferred shares;
- set the preferences, rights and other terms of any classified or reclassified shares that Vornado issues; and
- increase, without shareholder approval, the number of shares of beneficial interest that Vornado may issue.

Vornado's Board of Trustees could establish a series of preferred shares whose terms could delay, deter or prevent a change in control of Vornado, and therefore of the Operating Partnership, or other transaction that might involve a premium price or otherwise be in the best interest of our equity holders, although Vornado's Board of Trustees does not now intend to establish a series of preferred shares of this kind. Vornado's declaration of trust and bylaws contain other provisions that may delay, deter or prevent a change in control of Vornado or other transaction that might involve a premium price or otherwise be in the best interest of our equity holders.

We may change our policies without obtaining the approval of our equity holders.

Our operating and financial policies, including our policies with respect to acquisitions of real estate or other companies, growth, operations, indebtedness, capitalization, dividends and distributions, are exclusively determined by Vornado's Board of Trustees. Accordingly, our equity holders do not control these policies.

Steven Roth and Interstate Properties may exercise substantial influence over us. They and some of Vornado's other trustees and officers have interests or positions in other entities that may compete with us.

As of December 31, 2021, Interstate Properties, a New Jersey general partnership, and its partners beneficially owned an aggregate of approximately 6.9% of the common shares of beneficial interest of Vornado and 26.1% of the common stock of Alexander's, which is described below. Steven Roth, David Mandelbaum and Russell B. Wight, Jr. are the three partners of Interstate Properties. Mr. Roth is the Chairman of the Board of Trustees and Chief Executive Officer of Vornado, the managing general partner of Interstate Properties, and the Chairman of the Board of Directors and Chief Executive Officer of Alexander's. Messrs. Mandelbaum and Wight are Trustees of Vornado and Directors of Alexander's.

Because of these overlapping interests, Mr. Roth and Interstate Properties and its partners may have substantial influence over Vornado, and therefore over the Operating Partnership. In addition, certain decisions concerning our operations or financial structure may present conflicts of interest among Messrs. Roth, Mandelbaum and Wight and Interstate Properties and our other equity holders. In addition, Mr. Roth, Interstate Properties and its partners, and Alexander's currently and may in the future engage in a wide variety of activities in the real estate business which may result in conflicts of interest with respect to matters affecting us, such as which of these entities or persons, if any, may take advantage of potential business opportunities, the business focus of these entities, the types of properties and geographic locations in which these entities make investments, potential competition between business activities conducted, or sought to be conducted, competition for properties and tenants, possible corporate transactions such as acquisitions and other strategic decisions affecting the future of these entities.

We manage and lease the real estate assets of Interstate Properties pursuant to a management agreement for which we receive an annual fee equal to 4% of annual base rent and percentage rent. See Note 22 – *Related Party Transactions* to our consolidated financial statements in this Annual Report on Form 10-K for additional information.

There may be conflicts of interest between Alexander's and us.

As of December 31, 2021, we owned 32.4% of the outstanding common stock of Alexander's. Alexander's is a REIT that has six properties, which are located in the greater New York metropolitan area. In addition to the 2.2% that they indirectly own through Vornado, Interstate Properties, which is described above, and its partners owned 26.1% of the outstanding common stock of Alexander's as of December 31, 2021. Mr. Roth is the Chairman of the Board of Trustees and Chief Executive Officer of Vornado, the managing general partner of Interstate Properties, and the Chairman of the Board of Directors and Chief Executive Officer of Alexander's. Messrs. Mandelbaum and Wight are Trustees of Vornado and Directors of Alexander's and general partners of Interstate Properties. Ms. Mandakini Puri and Dr. Richard West are Trustees of Vornado and Directors of Alexander's.

We manage, develop and lease Alexander's properties under management, development and leasing agreements under which we receive annual fees from Alexander's. These agreements are described in Note 5 - *Investments in Partially Owned Entities* to our consolidated financial statements in this Annual Report on Form 10-K.

RISKS RELATED TO OUR COMMON SHARES AND OPERATING PARTNERSHIP CLASS A UNITS

The trading price of Vornado's common shares has been volatile and may continue to fluctuate.

The trading price of Vornado's common shares has been volatile and may continue to fluctuate widely as a result of several factors, many of which are outside our control. In addition, the stock market is subject to fluctuations in the share prices and trading volumes that affect the market prices of the shares of many companies. These broad market fluctuations have in the past and may in the future adversely affect the market price of Vornado's common shares and the redemption price of the Operating Partnership's Class A units. In particular, the market price of our common shares has been further adversely impacted since March 2020 due to the COVID-19 pandemic. These factors include:

- our financial condition and performance;
- the financial condition of our tenants, including the extent of tenant bankruptcies or defaults;
- actual or anticipated quarterly fluctuations in our operating results and financial condition;
- our dividend policy;
- the reputation of REITs and real estate investments generally and the attractiveness of REIT equity securities in comparison to other equity securities, including securities issued by other real estate companies, and fixed income securities;
- uncertainty and volatility in the equity and credit markets;
- fluctuations in interest rates;
- changes in revenue or earnings estimates or publication of research reports and recommendations by financial analysts or actions taken by rating agencies with respect to our securities or those of other REITs;
- failure to meet analysts' revenue or earnings estimates;
- speculation in the press or investment community;
- strategic actions by us or our competitors, such as acquisitions or restructurings;
- the extent of institutional investor interest in us;
- the extent of short-selling of Vornado common shares and the shares of our competitors;
- fluctuations in the stock price and operating results of our competitors;

- general financial and economic market conditions and, in particular, developments related to market conditions for office REITs and other real estate related companies and the New York City real estate market;
- domestic and international economic factors unrelated to our performance;
- changes in tax laws and rules; and
- all other risk factors addressed elsewhere in this Annual Report on Form 10-K.

A significant decline in Vornado's stock price could result in substantial losses for our equity holders.

Vornado has many shares available for future sale, which could hurt the market price of its shares and the redemption price of the Operating Partnership's units.

The interests of equity holders could be diluted if we issue additional equity securities. As of December 31, 2021, Vornado had authorized but unissued 58,276,392 common shares of beneficial interest, $.04 par value, and 58,387,098 preferred shares of beneficial interest, no par value; of which 20,859,593 common shares are reserved for issuance upon redemption of Class A Operating Partnership units, convertible securities and employee stock options and 11,200,000 preferred shares are reserved for issuance upon redemption of preferred Operating Partnership units. Any shares not reserved may be issued from time to time in public or private offerings or in connection with acquisitions. In addition, common and preferred shares reserved may be sold upon issuance in the public market after registration under the Securities Act or under Rule 144 under the Securities Act or other available exemptions from registration. We cannot predict the effect that future sales of Vornado's common and preferred shares or Operating Partnership Class A and preferred units will have on the market prices of our securities.

In addition, under Maryland law, Vornado's Board of Trustees has the authority to increase the number of authorized shares without shareholder approval.

Loss of our key personnel could harm our operations and adversely affect the value of our common shares and Operating Partnership Class A units.

We are dependent on the efforts of Steven Roth, the Chairman of the Board of Trustees and Chief Executive Officer of Vornado. While we believe that we could find a replacement for him and other key personnel, the loss of their services could harm our operations and adversely affect the value of our securities.

RISKS RELATED TO REGULATORY COMPLIANCE

Vornado may fail to qualify or remain qualified as a REIT and may be required to pay federal income taxes at corporate rates, which could adversely impact the value of our common shares.

Although we believe that Vornado will remain organized and will continue to operate so as to qualify as a REIT for federal income tax purposes, Vornado may fail to remain so qualified. Qualifications are governed by highly technical and complex provisions of the Internal Revenue Code for which there are only limited judicial or administrative interpretations and depend on various facts and circumstances that are not entirely within our control. In addition, legislation, new regulations, administrative interpretations or court decisions may significantly change the relevant tax laws and/or the federal income tax consequences of qualifying as a REIT. If, with respect to any taxable year, Vornado fails to maintain its qualification as a REIT and does not qualify under statutory relief provisions, Vornado could not deduct distributions to shareholders in computing our taxable income and would have to pay federal income tax on its taxable income at regular corporate rates. The federal income tax payable would include any applicable alternative minimum tax. If Vornado had to pay federal income tax, the amount of money available to distribute to equity holders and pay its indebtedness would be reduced for the year or years involved, and Vornado would not be required to make distributions to shareholders in that taxable year and in future years until it was able to qualify as a REIT and did so. In addition, Vornado would also be disqualified from treatment as a REIT for the four taxable years following the year during which qualification was lost, unless Vornado were entitled to relief under the relevant statutory provisions. Our failure to qualify as a REIT could impact our ability to expand our business and raise capital and adversely affect the value of our common shares.

We may face possible adverse federal tax audits and changes in federal tax laws, which may result in an increase in our tax liability.

In the normal course of business, certain entities through which we own real estate either have undergone or may undergo tax audits. Although we believe that we have substantial arguments in favor of our positions, in some instances there is no controlling precedent or interpretive guidance. There can be no assurance that audits will not occur with increased frequency or that the ultimate result of such audits will not have a material adverse effect on our results of operations.

At any time, the U.S. federal income tax laws governing REITs or the administrative interpretations of those laws may be amended. We cannot predict if or when any new U.S. federal income tax law, regulation, or administrative interpretation, or any amendment to any existing U.S. federal income tax law, Treasury regulation or administrative interpretation, will be adopted, promulgated or become effective and any such law, regulation, or interpretation may take effect retroactively. Vornado, its taxable REIT subsidiaries, and our security holders could be adversely affected by any such change in, or any new, U.S. federal income tax law, Treasury regulation or administrative interpretation.

We may face possible adverse state and local tax audits and changes in state and local tax law.

Because Vornado is organized and qualifies as a REIT, it is generally not subject to federal income taxes, but we are subject to certain state and local taxes. In the normal course of business, certain entities through which we own real estate either have undergone, or are currently undergoing, tax audits. Although we believe that we have substantial arguments in favor of our positions in the ongoing audits, in some instances there is no controlling precedent or interpretive guidance on the specific point at issue. There can be no assurance that audits will not occur with increased frequency or that the ultimate result of such audits will not have a material adverse effect on our results of operations.

From time to time changes in state and local tax laws or regulations are enacted, which may result in an increase in our tax liability. A shortfall in tax revenues for states and municipalities in which we operate may lead to an increase in the frequency and size of such changes including changes in laws, regulations and administration of property and transfer taxes. If such changes occur, we may be required to pay additional taxes on our assets or income. These increased tax costs could adversely affect our financial condition and results of operations and the amount of cash available for the payment of dividends and distributions to our security holders.

Compliance or failure to comply with the Americans with Disabilities Act ("ADA") or other safety regulations and requirements could result in substantial costs.

ADA generally requires that public buildings, including our properties, meet certain Federal requirements related to access and use by disabled persons. Noncompliance could result in the imposition of fines by the Federal government or the award of damages to private litigants and/or legal fees to their counsel. From time to time persons have asserted claims against us with respect to some of our properties under the ADA, but to date such claims have not resulted in any material expense or liability. If, under the ADA, we are required to make substantial alterations and capital expenditures in one or more of our properties, including the removal of access barriers, it could adversely affect our financial condition and results of operations, as well as the amount of cash available for distribution to equity holders.

Our properties are subject to various federal, state and local regulatory requirements, such as state and local fire and life safety requirements. If we fail to comply with these requirements, we could incur fines or private damage awards. We do not know whether existing requirements will change or whether compliance with future requirements will require significant unanticipated expenditures that will affect our cash flow and results of operations.

We may incur significant costs to comply with environmental laws and environmental contamination may impair our ability to lease and/or sell real estate.

Our operations and properties are subject to various federal, state and local laws and regulations concerning the protection of the environment, including air and water quality, hazardous or toxic substances and health and safety. Under some environmental laws, a current or previous owner or operator of real estate may be required to investigate and clean up hazardous or toxic substances released at a property. The owner or operator may also be held liable to a governmental entity or to third parties for property damage or personal injuries and for investigation and clean-up costs incurred by those parties because of the contamination. These laws often impose liability without regard to whether the owner or operator knew of the release of the substances or caused the release. The presence of contamination or the failure to remediate contamination may also impair our ability to sell or lease real estate or to borrow using the real estate as collateral. Other laws and regulations govern indoor and outdoor air quality including those that can require the abatement or removal of asbestos-containing materials in the event of damage, demolition, renovation or remodeling and govern emissions of and exposure to asbestos fibers in the air. The maintenance and removal of lead paint and certain electrical equipment containing polychlorinated biphenyls (PCBs) are also regulated by federal and state laws. We are also subject to risks associated with human exposure to chemical or biological contaminants such as molds, pollens, viruses and bacteria which, above certain levels, can be alleged to be connected to allergic or other health effects and symptoms in susceptible individuals. Our predecessor companies may be subject to similar liabilities for activities of those companies in the past. We could incur fines for environmental compliance and be held liable for the costs of remedial action with respect to the foregoing regulated substances or related claims arising out of environmental contamination or human exposure to contamination at or from our properties.

Each of our properties has been subject to varying degrees of environmental assessment. To date, these environmental assessments have not revealed any environmental condition material to our business. However, identification of new compliance concerns or undiscovered areas of contamination, changes in the extent or known scope of contamination, human exposure to contamination or changes in clean-up or compliance requirements could result in significant costs to us.

GENERAL RISKS

The occurrence of cyber incidents, or a deficiency in our cyber security, as well as other disruptions of our IT networks and related systems, could negatively impact our business by causing a disruption to our operations, a compromise or corruption of our confidential information, and/or damage to our business relationships or reputation, all of which could negatively impact our financial results.

We face risks associated with security breaches, whether through cyber attacks or cyber intrusions over the Internet, malware, ransomware, computer viruses, attachments to e-mails, persons who access our systems from inside or outside our organization, and other significant disruptions of our IT networks and related systems. The risk of a security breach or disruption, particularly through cyber attack or cyber intrusion, including by computer hackers, foreign governments and cyber terrorists, has generally increased as the number, intensity and sophistication of attempted attacks and intrusions from around the world have increased. Although we have not experienced cyber incidents that are individually, or in the aggregate, material, we have experienced cyber attacks in the past, which have thus far been mitigated by preventative, detective, and responsive measures that we have put in place. Our IT networks and related systems are essential to the operation of our business and our ability to perform day-to-day operations (including managing our building systems) and, in some cases, may be critical to the operations of certain of our tenants. Although we make efforts to maintain the security and integrity of these types of IT networks and related systems, and we have implemented various measures to manage the risk of a security breach or disruption, there can be no assurance that our security efforts and measures will be effective or that attempted security breaches or disruptions would not be successful or damaging. Unauthorized parties, whether within or outside our company, may disrupt or gain access to our systems, or those of third parties with whom we do business, through human error, misfeasance, fraud, trickery, or other forms of deceit, including break-ins, use of stolen credentials, social engineering, phishing, computer viruses or other malicious codes, and similar means of unauthorized and destructive tampering. Even the most well protected information, networks, systems and facilities remain potentially vulnerable because the techniques used in such attempted security breaches evolve and generally are not recognized until launched against a target, and in some cases are designed to not be detected and, in fact, may not be detected. Accordingly, we may be unable to anticipate these techniques or to implement adequate security barriers or other preventative measures, and thus it is impossible for us to entirely mitigate this risk.

A security breach or other significant disruption involving our IT networks and related systems could disrupt the proper functioning of our networks and systems and therefore our operations and/or those of certain of our tenants; result in the unauthorized access to, and destruction, loss, theft, misappropriation or release of, proprietary, confidential, sensitive or otherwise valuable information of ours or others, which others could use to compete against us or which could expose us to damage claims by third-parties for disruptive, destructive or otherwise harmful purposes and outcomes; result in our inability to maintain the building systems relied upon by our tenants for the efficient use of their leased space; require significant management attention and resources to remedy any damages that result; may require payments to the attackers; subject us to litigation claims for breach of contract, damages, credits, fines, penalties, governmental investigations and enforcement actions or termination of leases or other agreements; or damage our reputation among our tenants and investors generally. Any or all of the foregoing could have a material adverse effect on our results of operations, financial condition and cash flows.

A cyber attack or systems failure could interfere with our ability to comply with financial reporting requirements, which could adversely affect us. A cyber attack could also compromise the confidential information of our employees, tenants, customers and vendors. A successful attack could disrupt and materially affect our business operations, including damaging relationships with tenants, customers and vendors. Any compromise of our information security systems could also result in a violation of applicable privacy and other laws, significant legal and financial exposure, damage to our reputation, loss or misuse of the information (which may be confidential, proprietary and/or commercially sensitive in nature) and a loss of confidence in our security measures, which could harm our business.

Competition for acquisitions may reduce the number of acquisition opportunities available to us and increase the costs of those acquisitions.

We may acquire properties when we are presented with attractive opportunities. We may face competition for acquisition opportunities from other well-capitalized investors, including publicly traded and privately held REITs, private real estate funds, domestic and foreign financial institutions, life insurance companies, sovereign wealth funds, pension trusts, partnerships and individual investors, which may adversely affect us because that competition may cause an increase in the purchase price for a desired acquisition property or result in a competitor acquiring the desired property instead of us.

If we are unable to successfully acquire additional properties, our ability to grow our business could be adversely affected. In addition, increases in the cost of acquisition opportunities could adversely affect our results of operations.

We may be adversely affected by the discontinuation of London Interbank Offered Rate ("LIBOR").

On March 5, 2021, the United Kingdom Financial Conduct Authority ("FCA") announced that USD LIBOR will no longer be published after June 30, 2023. The Secured Overnight Financing Rate ("SOFR") has been identified by market participants as the preferred alternative to USD LIBOR in derivatives and other financial contracts. Our new floating rate loans entered into after December 31, 2021 no longer reference to LIBOR rates and instead reference to SOFR or another floating rate.

As of December 31, 2021, we had approximately $6.7 billion of consolidated outstanding debt indexed to LIBOR. $2.2 billion of this debt is subject to interest rate swaps that convert the floating rates to a fixed interest rate. In the transition from the use of LIBOR to SOFR or other alternatives, the level of interest payments we incur may change. In addition, although certain of our LIBOR based obligations provide for alternative methods of calculating the interest rate payable (including transition to an alternative benchmark rate) if LIBOR is not reported and we have been entering into amendments to certain of our financing agreements to provide for alternative benchmark rates if LIBOR is discontinued, uncertainty as to the extent and manner of future changes may result in interest rates and/or payments that are higher than or lower than or that do not otherwise correlate over time with the interest rates and/or payments that would have been made on our obligations if LIBOR was available in its current form. Use of alternative interest rates or other LIBOR reforms could result in increased volatility or a tightening of credit markets which could adversely affect our ability to obtain cost-effective financing. In addition, the transition of our existing LIBOR financing agreements to alternative benchmarks may result in unanticipated changes to the overall interest rate paid on our liabilities.

Some of our potential losses may not be covered by insurance.

For our properties, we maintain general liability insurance with limits of $300,000,000 per occurrence and per property, of which $250,000,000 includes communicable disease coverage, and we maintain all risk property and rental value insurance with limits of $2.0 billion per occurrence, with sub-limits for certain perils such as flood and earthquake, excluding communicable disease coverage. Our California properties have earthquake insurance with coverage of $350,000,000 per occurrence and in the aggregate, subject to a deductible in the amount of 5% of the value of the affected property. We maintain coverage for certified terrorism acts with limits of $6.0 billion per occurrence and in the aggregate (as listed below), $1.2 billion for non-certified acts of terrorism, and $5.0 billion per occurrence and in the aggregate for terrorism involving nuclear, biological, chemical and radiological ("NBCR") terrorism events, as defined by the Terrorism Risk Insurance Act of 2002, as amended to date and which has been extended through December 2027.

Penn Plaza Insurance Company, LLC ("PPIC"), our wholly owned consolidated subsidiary, acts as a re-insurer with respect to a portion of all risk property and rental value insurance and a portion of our earthquake insurance coverage, and as a direct insurer for coverage for acts of terrorism including NBCR acts. Coverage for acts of terrorism (excluding NBCR acts) is fully reinsured by third party insurance companies and the Federal government with no exposure to PPIC. For NBCR acts, PPIC is responsible for a deductible of $1,785,910 and 20% of the balance of a covered loss and the Federal government is responsible for the remaining portion of a covered loss. We are ultimately responsible for any loss incurred by PPIC.

We continue to monitor the state of the insurance market and the scope and costs of coverage for acts of terrorism and other events. However, we cannot anticipate what coverage will be available on commercially reasonable terms in the future. We are responsible for uninsured losses and for deductibles and losses in excess of our insurance coverage, which could be material.

Our debt instruments, consisting of mortgage loans secured by our properties, senior unsecured notes and revolving credit agreements contain customary covenants requiring us to maintain insurance. Although we believe that we have adequate insurance coverage for purposes of these agreements, we may not be able to obtain an equivalent amount of coverage at reasonable costs in the future. Further, if lenders insist on greater coverage than we are able to obtain it could adversely affect our ability to finance or refinance our properties and expand our portfolio.

ITEM 1B. UNRESOLVED STAFF COMMENTS

There are no unresolved comments from the staff of the Securities and Exchange Commission as of the date of this Annual Report on Form 10-K.

ITEM 2. PROPERTIES

We operate in two reportable segments: New York and Other. The following pages provide details of our real estate properties as of December 31, 2021.

NEW YORK SEGMENT Property	% Ownership	Type	% Occupancy	Square Feet In Service	Square Feet Under Development or Not Available for Lease	Square Feet Total Property
PENN 1 (ground leased through 2098)[1]	100.0 %	Office / Retail	82.4%	2,290,000	257,000	2,547,000
1290 Avenue of the Americas	70.0 %	Office / Retail	99.6%	2,120,000	—	2,120,000
PENN 2	100.0 %	Office / Retail	100.0%	428,000	1,192,000	1,620,000
909 Third Avenue (ground leased through 2063)[1]	100.0 %	Office	96.7%	1,350,000	—	1,350,000
280 Park Avenue[2]	50.0 %	Office / Retail	98.1%	1,264,000	—	1,264,000
Independence Plaza, Tribeca (1,327 units)[2]	50.1 %	Retail / Residential	100.0% [3]	1,249,000	8,000	1,257,000
770 Broadway	100.0 %	Office / Retail	99.3%	1,182,000	—	1,182,000
PENN 11	100.0 %	Office / Retail	99.3%	1,153,000	—	1,153,000
90 Park Avenue	100.0 %	Office / Retail	98.9%	956,000	—	956,000
One Park Avenue	100.0 %	Office / Retail	96.9%	944,000	—	944,000
888 Seventh Avenue (ground leased through 2067)[1]	100.0 %	Office / Retail	94.6%	887,000	—	887,000
100 West 33rd Street	100.0 %	Office	95.3%	859,000	—	859,000
Farley Office and Retail (ground and building leased through 2116)[1]	95.0 %	Office / Retail	100.0%	756,000	89,000	845,000
330 West 34th Street (65.2% ground leased through 2149)[1]	100.0 %	Office / Retail	74.2%	725,000	—	725,000
85 Tenth Avenue[2]	49.9 %	Office / Retail	89.6%	638,000	—	638,000
650 Madison Avenue[2]	20.1 %	Office / Retail	93.3%	601,000	—	601,000
350 Park Avenue	100.0 %	Office / Retail	72.8%	581,000	—	581,000
150 East 58th Street[4]	100.0 %	Office / Retail	88.3%	545,000	—	545,000
33-00 Northern Boulevard (Center Building)	100.0 %	Office	92.4%	498,000	—	498,000
7 West 34th Street[2]	53.0 %	Office / Retail	100.0%	477,000	—	477,000
595 Madison Avenue	100.0 %	Office / Retail	81.4%	332,000	—	332,000
640 Fifth Avenue[2]	52.0 %	Office / Retail	84.9%	315,000	—	315,000
50-70 West 93rd Street (324 units)[2]	49.9 %	Residential	96.3%	283,000	—	283,000
Manhattan Mall	100.0 %	Retail	18.3%	257,000	—	257,000
40 Fulton Street	100.0 %	Office / Retail	84.7%	251,000	—	251,000
260 Eleventh Avenue (ground leased through 2114)[1]	100.0 %	Office	95.5%	209,000	—	209,000
4 Union Square South	100.0 %	Retail	99.3%	204,000	—	204,000
61 Ninth Avenue (2 buildings) (ground leased through 2115)[1][2]	45.1 %	Office / Retail	94.5%	192,000	—	192,000
512 West 22nd Street[2]	55.0 %	Office / Retail	72.6%	172,000	—	172,000
825 Seventh Avenue	51.2 %	Office[2] / Retail	44.7%	172,000	—	172,000
1540 Broadway[2]	52.0 %	Retail	79.9%	161,000	—	161,000
Paramus	100.0 %	Office	85.2%	129,000	—	129,000
666 Fifth Avenue [2][5]	52.0 %	Retail	100.0%	114,000	—	114,000
1535 Broadway[2]	52.0 %	Retail / Theatre	98.2%	107,000	—	107,000
57th Street (2 buildings)[2]	50.0 %	Office / Retail	83.9%	103,000	—	103,000
689 Fifth Avenue[2]	52.0 %	Office / Retail	93.9%	98,000	—	98,000
478-486 Broadway (2 buildings) (10 units)[6]	100.0 %	Retail / Residential	100.0% [3]	33,000	56,000	89,000
150 West 34th Street	100.0 %	Retail	100.0%	78,000	—	78,000
510 Fifth Avenue	100.0 %	Retail	51.5%	66,000	—	66,000
655 Fifth Avenue[2]	50.0 %	Retail	100.0%	57,000	—	57,000
155 Spring Street[6]	100.0 %	Retail	88.6%	50,000	—	50,000
435 Seventh Avenue	100.0 %	Retail	100.0%	43,000	—	43,000

See notes on page 27.

NEW YORK SEGMENT – CONTINUED Property	% Ownership	Type	% Occupancy	Square Feet In Service	Square Feet Under Development or Not Available for Lease	Square Feet Total Property
692 Broadway	100.0 %	Retail	64.4%	36,000	—	36,000
606 Broadway	50.0 %	Office / Retail	100.0%	36,000	—	36,000
697-703 Fifth Avenue[(2)]	44.8 %	Retail	100.0%	26,000	—	26,000
1131 Third Avenue	100.0 %	Retail	100.0%	23,000	—	23,000
131-135 West 33rd Street	100.0 %	Retail	100.0%	23,000	—	23,000
715 Lexington Avenue	100.0 %	Retail	100.0%	10,000	12,000	22,000
537 West 26th Street	100.0 %	Retail	100.0%	17,000	—	17,000
443 Broadway	100.0 %	Retail	100.0%	16,000	—	16,000
334 Canal Street (4 units)	100.0 %	Retail / Residential	100.0% [(3)]	14,000	—	14,000
304 Canal Street (4 units)	100.0 %	Retail / Residential	100.0% [(3)]	13,000	—	13,000
431 Seventh Avenue	100.0 %	Retail	—%	10,000	—	10,000
759-771 Madison Avenue (40 East 66th Street) (4 units)	100.0 %	Residential	100.0%	10,000	—	10,000
138-142 West 32nd Street	100.0 %	Retail	100.0%	8,000	—	8,000
148 Spring Street	100.0 %	Retail	72.7%	8,000	—	8,000
339 Greenwich Street	100.0 %	Retail	100.0%	8,000	—	8,000
150 Spring Street (1 unit)	100.0 %	Retail / Residential	74.2% [(3)]	7,000	—	7,000
966 Third Avenue	100.0 %	Retail	100.0%	7,000	—	7,000
968 Third Avenue[(2)]	50.0 %	Retail	100.0%	7,000	—	7,000
137 West 33rd Street	100.0 %	Retail	100.0%	3,000	—	3,000
57th Street[(2)]	50.0 %	Land	**(7)**	—	—	—
Eighth Avenue and 34th Street	100.0 %	Land	**(7)**	—	—	—
PENN 15 (Hotel Pennsylvania Site)[(8)]	100.0 %	Land	**(7)**	—	—	—
Other (3 buildings)	100.0 %	Retail	100.0%	16,000	—	16,000
Alexander's, Inc.:						
731 Lexington Avenue[(2)]	32.4 %	Office / Retail	98.9%	1,056,000	23,000	1,079,000
Rego Park II, Queens (6.6 acres)[(2)]	32.4 %	Retail	84.4%	480,000	135,000	615,000
Rego Park I, Queens (4.8 acres)[(2)]	32.4 %	Retail	100.0%	260,000	78,000	338,000
The Alexander Apartment Tower, Queens (312 units)[(2)]	32.4 %	Residential	95.2%	255,000	—	255,000
Flushing, Queens (1.0 acre ground leased through 2037)[(1)(2)]	32.4 %	Retail	100.0%	167,000	—	167,000
Rego Park III, Queens (3.2 acres)[(2)]	32.4 %	Land	**(7)**	—	—	—
Total New York Segment			**91.8%**	**25,445,000**	**1,850,000**	**27,295,000**
Our Ownership Interest			**91.3%**	**20,086,000**	**1,683,000**	**21,769,000**

See notes on page 27.

OTHER SEGMENT Property	% Ownership	Type	% Occupancy	Square Feet In Service	Under Development or Not Available for Lease	Total Property
theMART:						
theMART, Chicago	100.0 %	Office / Retail / Trade show / Showroom	88.8%	3,673,000	—	3,673,000
Piers 92 and 94 (New York) (ground and building leased through 2110)[1]	100.0 %	Trade show / Other	—%	—	208,000	208,000
527 West Kinzie, Chicago	100.0 %	Land	(7)	—	—	—
Other (2 properties)[2], Chicago	50.0 %	Retail	100.0%	19,000	—	19,000
Total theMART			**88.9%**	**3,692,000**	**208,000**	**3,900,000**
Our Ownership Interest			**88.9%**	**3,683,000**	**208,000**	**3,891,000**
555 California Street:						
555 California Street	70.0 %	Office / Retail	97.8%	1,505,000	—	1,505,000
315 Montgomery Street	70.0 %	Office / Retail	100.0%	235,000	—	235,000
345 Montgomery Street	70.0 %	Office / Retail	—%	78,000	—	78,000
Total 555 California Street			**93.8%**	**1,818,000**	**—**	**1,818,000**
Our Ownership Interest			**93.8%**	**1,273,000**	**—**	**1,273,000**
Other:						
Rosslyn Plaza, VA (197 units)[2]	46.2 %	Office / Residential	65.1% (3)	685,000	304,000	989,000
Fashion Centre Mall, VA[2]	7.5 %	Retail	95.7%	868,000	—	868,000
Washington Tower, VA[2]	7.5 %	Office	75.0%	170,000	—	170,000
Wayne Towne Center, Wayne, NJ (ground leased through 2064)[1]	100.0 %	Retail	100.0%	638,000	52,000	690,000
Annapolis, MD (ground leased through 2042)[1]	100.0 %	Retail	100.0%	128,000	—	128,000
Atlantic City, NJ (11.3 acres ground leased through 2070 to MGM Growth Properties for a portion of the Borgata Hotel and Casino complex)	100.0 %	Land	100.0%	—	—	—
Total Other			**89.7%**	**2,489,000**	**356,000**	**2,845,000**
Our Ownership Interest			**92.8%**	**1,154,000**	**192,000**	**1,346,000**
Vornado Capital Partners Real Estate Fund ("Fund")[9] :						
Crowne Plaza Times Square, NY (0.64 acres owned in fee; 0.18 acres ground leased through 2187 and 0.05 acres ground leased through 2035) [1][10]	75.7 %	Office / Retail / Hotel	86.7%	246,000	—	246,000
Lucida, 86th Street and Lexington Avenue, NY (ground leased through 2082)[1] (39 units)	100.0 %	Retail / Residential	100.0% (3)	157,000	—	157,000
1100 Lincoln Road, Miami, FL	100.0 %	Retail / Theatre	78.0%	130,000	—	130,000
Total Real Estate Fund			**87.0%**	**533,000**	**—**	**533,000**
Our Ownership Interest			**87.0%**	**152,000**	**—**	**152,000**

(1) Term assumes all renewal options exercised, if applicable.
(2) Denotes property not consolidated in the accompanying consolidated financial statements and related financial data included in the Annual Report on Form 10-K.
(3) Excludes residential occupancy statistics.
(4) Includes 962 Third Avenue (the Annex building to 150 East 58th Street) 50.0% ground leased through 2118[1].
(5) 75,000 square feet is leased from 666 Fifth Avenue Office Condominium.
(6) 478-482 Broadway and 155 Spring Street sold on January 13, 2022.
(7) Properties under development or to be developed.
(8) We permanently closed the Hotel Pennsylvania and plan to develop an office tower on the site. Demolition of the existing building structure commenced in the fourth quarter of 2021.
(9) We own a 25% interest in the Fund. The ownership percentage in this section represents the Fund's ownership in the underlying assets.
(10) We own a 32.8% economic interest through the Fund and the Crowne Plaza Joint Venture.

Top 10 Tenants Based on Annualized Escalated Rents[(1)] (at share):

Tenant	Square Footage At Share	Annualized Escalated Rents At Share	% of Total Annualized Escalated Rents At Share
Meta Platforms, Inc. (formerly Facebook, Inc.)	1,451,153	$ 156,036	8.6%
IPG and affiliates	967,552	66,748	3.7%
Google/Motorola Mobility (guaranteed by Google)	759,446	42,785	2.4%
New York University	632,628	40,948	2.3%
Bloomberg L.P.	304,385	38,237	2.1%
Equitable Financial Life Insurance Company	336,644	35,196	1.9%
Swatch Group USA	14,949	32,349	1.8%
Verizon Media Group	313,726	31,475	1.7%
Amazon (including its Whole Foods subsidiary)	312,694	29,353	1.6%
The City of New York	636,573	25,887	1.4%

See note below.

Annualized Escalated Rents[(1)] (at share) by Tenants' Industry:

Industry	Percentage
Office:	
Technology	17%
Financial Services	16%
Professional Services	8%
Advertising/Marketing	5%
Real Estate	4%
Insurance	3%
Entertainment and Electronics	3%
Education	3%
Banking	3%
Communications	3%
Apparel	2%
Engineering, Architect & Surveying	2%
Government	2%
Health Services	2%
Other	4%
	77%
Retail:	
Apparel	6%
Luxury Retail	4%
Banking	2%
Restaurants	1%
Grocery	1%
Other	4%
	18%
Showroom	5%
Total	100%

(1) Represents monthly contractual base rent before free rent plus tenant reimbursements multiplied by 12. Annualized escalated rents at share include leases signed but not yet commenced in place of current tenants or vacancy in the same space.

NEW YORK

As of December 31, 2021, our New York segment consisted of 27.3 million square feet in 73 properties. The 27.3 million square feet is comprised of 20.6 million square feet of Manhattan office in 32 of the properties, 2.7 million square feet of Manhattan street retail in 60 of the properties, 1,674 units in eight residential properties, and our 32.4% interest in Alexander's, which owns six properties in the greater New York metropolitan area, including 731 Lexington Avenue, the 1.1 million square foot Bloomberg, L.P. headquarters building, and The Alexander, a 312-unit apartment tower in Queens. The New York segment also includes 10 garages totaling 1.7 million square feet (4,875 spaces).

As of December 31, 2021, the occupancy rate for our New York segment was 91.3%.

Occupancy and weighted average annual rent per square foot:

Office:

			Vornado's Ownership Interest		
As of December 31,	**Total Square Feet**	**In Service Square Feet**	**In Service Square Feet At Share**	**Occupancy Rate**	**Weighted Average Annual Escalated Rent Per Square Foot**
2021	20,630,000	19,442,000	16,757,000	92.2%	$ 80.01
2020	20,586,000	18,361,000	15,413,000	93.4%	79.05
2019 (1)	20,666,000	19,070,000	16,195,000	96.9%	76.26
2018	21,495,000	19,858,000	16,632,000	97.2%	74.04
2017	21,329,000	20,256,000	16,982,000	97.1%	71.09

Retail:

			Vornado's Ownership Interest		
As of December 31,	**Total Square Feet**	**In Service Square Feet**	**In Service Square Feet At Share**	**Occupancy Rate**	**Weighted Average Annual Escalated Rent Per Square Foot**
2021	2,693,000	2,267,000	1,825,000	80.7%	$ 214.22
2020	2,690,000	2,275,000	1,805,000	78.8%	226.38
2019 (1)	2,712,000	2,300,000	1,842,000	94.5%	209.86
2018	2,802,000	2,648,000	2,419,000	97.3%	228.43
2017	2,931,000	2,720,000	2,471,000	96.9%	217.17

Occupancy and average monthly rent per unit:

Residential:

		Vornado's Ownership Interest		
As of December 31,	**Total Number of Units**	**Total Number of Units**	**Occupancy Rate**	**Average Monthly Rent Per Unit**
2021	1,986	951	96.4%	$ 3,776
2020	1,995	960	84.9%	3,714
2019	1,996	960	97.5%	3,902
2018	2,004	968	96.6%	3,788
2017	2,031	995	96.7%	3,757

(1) Reflects the transfer of 45.4% of common equity in the properties contributed to the Fifth Avenue and Times Square JV on April 18, 2019.

NEW YORK – CONTINUED

Lease expirations as of December 31, 2021 (at share)[(1)]:

Year	Number of Expiring Leases	Square Feet of Expiring Leases[(2)]	Percentage of New York Square Feet	Annualized Escalated Rents of Expiring Leases Total	Annualized Escalated Rents of Expiring Leases Per Square Foot
Office:					
Month to month	7	25,000	0.2%	$ 1,419,000	$ 56.76
2022	80	671,000	4.4%	48,405,000	72.14 [(3)]
2023[(4)]	64	1,357,000	8.9%	125,367,000	92.39
2024	81	1,039,000	6.8%	93,258,000	89.76
2025	51	719,000	4.7%	57,919,000	80.55
2026	68	1,451,000	9.7%	107,605,000	74.16
2027	61	1,318,000	8.7%	90,028,000	68.31
2028	38	989,000	6.5%	70,334,000	71.12
2029	32	1,170,000	7.7%	94,220,000	80.53
2030	31	621,000	4.1%	48,939,000	78.81
2031	25	817,000	5.4%	72,149,000	88.31
Retail:					
Month to month	8	20,000	1.6%	$ 1,548,000	$ 77.40
2022	8	115,000	9.3%	6,630,000	57.65 [(5)]
2023	12	58,000	4.7%	26,356,000	454.41
2024	12	173,000	14.0%	37,780,000	218.38
2025	11	40,000	3.2%	11,074,000	276.85
2026	8	82,000	6.6%	25,544,000	311.51
2027	13	32,000	2.6%	18,241,000	570.03
2028	9	29,000	2.3%	13,539,000	466.86
2029	12	46,000	3.7%	20,046,000	435.78
2030	19	155,000	12.5%	21,686,000	139.91
2031	34	96,000	7.8%	30,658,000	319.35

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(1) Assumes tenants do not exercise renewal or cancellation options.
(2) Excludes storage, vacancy and other.
(3) Based on current market conditions, we expect to re-lease this space at rents between $70 to $80 per square foot.
(4) Excludes the expiration of 492,000 square feet at 909 Third Avenue for U.S. Post Office as we assume the exercise of all renewal options through 2038 given the below-market rent on their options.
(5) Based on current market conditions, we expect to re-lease this space at rents between $50 to $75 per square foot.

Alexander’s

As of December 31, 2021, we own 32.4% of the outstanding common stock of Alexander’s, which owns six properties in the greater New York metropolitan area aggregating 2.5 million square feet, including 731 Lexington Avenue, the 1.1 million square foot Bloomberg L.P. headquarters building. Alexander’s had $1,096,544,000 of outstanding debt as of December 31, 2021, of which our pro rata share was $355,280,000, none of which is recourse to us.

OTHER REAL ESTATE AND INVESTMENTS

theMART

As of December 31, 2021, we own the 3.7 million square foot theMART in Chicago, whose largest tenant is Motorola Mobility at 609,000 square feet, the lease of which is guaranteed by Google. As of December 31, 2021, theMART had an occupancy rate of 88.9% and a weighted average annual rent per square foot of $54.40.

555 California Street

As of December 31, 2021, we own a 70% controlling interest in a three-building office complex aggregating 1.8 million square feet, located at California and Montgomery Streets in San Francisco's financial district ("555 California Street"). 555 California Street is encumbered by a $1.2 billion mortgage loan that bears a rate of LIBOR plus 1.93% in years one through five (2.04% as of December 31, 2021), LIBOR plus 2.18% in year six and LIBOR plus 2.43% in year seven. The loan matures in May 2023, with five one-year extension options (May 2028 as fully extended). We swapped the interest rate on our $840,000,000 share of the loan to a fixed rate of 2.26% through May 2024. As of December 31, 2021, 555 California Street had an occupancy rate of 93.8% and a weighted average annual rent per square foot of $89.53.

Vornado Capital Partners Real Estate Fund (the "Fund") and Crowne Plaza Times Square Hotel Joint Venture (the "Crowne Plaza Joint Venture")

As of December 31, 2021, we own a 25% interest in the Fund, which is in wind-down, and currently has three investments, one of which is the Crowne Plaza Times Square Hotel in which we also own an additional interest through the Crowne Plaza Joint Venture. We are the general partner and investment manager of the Fund. As of December 31, 2021, these three investments including the Crowne Plaza Joint Venture's share of the Crowne Plaza Times Square Hotel are carried on our consolidated balance sheet at an aggregate fair value of $7,730,000.

ITEM 3. LEGAL PROCEEDINGS

We are from time to time involved in legal actions arising in the ordinary course of business. In our opinion, after consultation with legal counsel, the outcome of such matters is not expected to have a material adverse effect on our financial position, 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

Vornado Realty Trust

Vornado's common shares are traded on the New York Stock Exchange under the symbol "VNO."

As of February 1, 2022, there were 830 holders of record of Vornado common shares.

Vornado Realty L.P.

There is no established trading market for the Operating Partnership's Class A units. Class A units that are not held by Vornado may be tendered for redemption to the Operating Partnership for cash; Vornado, at its option, may assume that obligation and pay the holder either cash or Vornado common shares on a one-for-one basis. Because the number of Vornado common shares outstanding at all times equals the number of Class A units owned by Vornado, the redemption value of each Class A unit is equivalent to the market value of one Vornado common share, and the quarterly distribution to a Class A unit holder is equal to the quarterly dividend paid to a Vornado common shareholder.

As of February 1, 2022, there were 882 Class A unitholders of record.

Recent Sales of Unregistered Securities

During 2021, we issued 838,982 Class A units in connection with (i) the issuance of Vornado common shares and (ii) the exercise of awards pursuant to Vornado's omnibus share plan, including grants of restricted Vornado common shares and restricted units of the Operating Partnership and upon conversion, surrender or exchange of the Operating Partnership's units or Vornado stock options. The consideration received included $898,703 in cash proceeds. Such units were issued in reliance on an exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended.

From time to time, in connection with equity awards granted under our Omnibus Share Plan, we may withhold common shares for tax purposes or acquire common shares as part of the payment of the exercise price. Although we treat these as repurchases for certain financial statement purposes, these withheld or acquired shares are not considered by us as repurchases for this purpose.

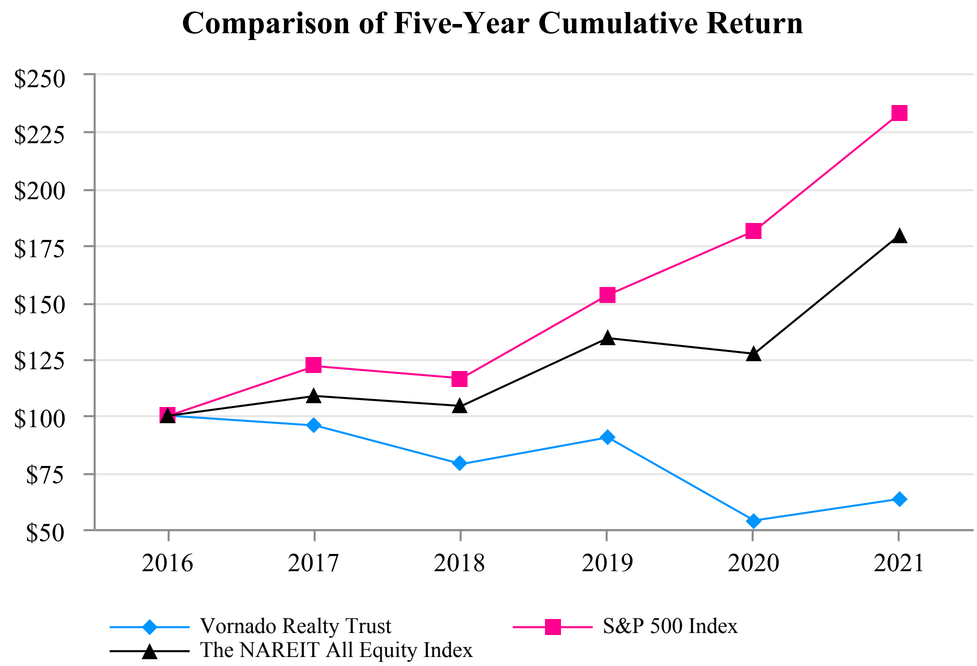
Information relating to compensation plans under which Vornado's equity securities are authorized for issuance is set forth under Part III, Item 12 of this Annual Report on Form 10-K and such information is incorporated by reference herein.

Recent Purchases of Equity Securities

None.

Performance Graph

The following graph is a comparison of the five-year cumulative return of Vornado's common shares, the Standard & Poor's 500 Index (the "S&P 500 Index") and the National Association of Real Estate Investment Trusts' ("NAREIT") All Equity Index, a peer group index. The graph assumes that $100 was invested on December 31, 2016 in our common shares, the S&P 500 Index and the NAREIT All Equity Index and that all dividends were reinvested without the payment of any commissions. There can be no assurance that the performance of our shares will continue in line with the same or similar trends depicted in the graph below.



	2016	2017	2018	2019	2020	2021
Vornado Realty Trust	$ 100	$ 96	$ 79	$ 90	$ 54	$ 63
S&P 500 Index	100	122	116	153	181	233
The NAREIT All Equity Index	100	109	104	134	127	180

ITEM 6. RESERVED

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

Introduction

The following discussion should be read in conjunction with the financial statements and related notes included under Part II, Item 8 of this Annual Report on Form 10-K.

Our Management's Discussion and Analysis of Financial Condition and Results of Operations ("MD&A") within this section is focused on the years ended December 31, 2021 and 2020, including year-to-year comparisons between these years. Our MD&A for the year ended December 31, 2019, including year-to-year comparisons between 2020 and 2019, can be found in Part II, Item 7, Management's Discussion and Analysis of Financial Condition and Results of Operations in the Company's Annual Report on Form 10-K for the year ended December 31, 2020.

Overview

Vornado Realty Trust (“Vornado”) is a fully-integrated real estate investment trust (“REIT”) and conducts its business through, and substantially all of its interests in properties are held by, Vornado Realty L.P., a Delaware limited partnership (the “Operating Partnership”). Accordingly, Vornado’s cash flow and ability to pay dividends to its shareholders are dependent upon the cash flow of the Operating Partnership and the ability of its direct and indirect subsidiaries to first satisfy their obligations to creditors. Vornado is the sole general partner of and owned approximately 92.6% of the common limited partnership interest in the Operating Partnership as of December 31, 2021. All references to the “Company,” “we,” “us” and “our” mean collectively Vornado, the Operating Partnership and those subsidiaries consolidated by Vornado.

We own and operate office and retail properties with a concentration in the New York City metropolitan area. In addition, we have a 32.4% interest in Alexander’s, Inc. (“Alexander’s”) (NYSE: ALX), which owns six properties in the greater New York metropolitan area, as well as interests in other real estate and investments.

Our business objective is to maximize Vornado shareholder value, which we measure by the total return provided to our shareholders. Below is a table comparing Vornado’s performance to the FTSE NAREIT Office Index (“Office REIT”) and the MSCI US REIT Index (“MSCI”) for the following periods ended December 31, 2021:

	Total Return[(1)]		
	Vornado	Office REIT	MSCI
Three-month	0.8%	7.9%	16.3%
One-year	17.7%	22.0%	43.1%
Three-year	(19.4%)	30.8%	66.4%
Five-year	(36.6%)	17.7%	66.8%
Ten-year	11.6%	102.6%	192.3%

(1) Past performance is not necessarily indicative of future performance.

We intend to achieve this objective by continuing to pursue our investment philosophy and to execute our operating strategies through:

- maintaining a superior team of operating and investment professionals and an entrepreneurial spirit;
- investing in properties in select markets, such as New York City, where we believe there is a high likelihood of capital appreciation;
- acquiring quality properties at a discount to replacement cost and where there is a significant potential for higher rents;
- developing and redeveloping properties to increase returns and maximize value; and
- investing in operating companies that have a significant real estate component.

We expect to finance our growth, acquisitions and investments using internally generated funds and proceeds from asset sales and by accessing the public and private capital markets. We may also offer Vornado common or preferred shares or Operating Partnership units in exchange for property and may repurchase or otherwise reacquire these securities in the future.

We compete with a large number of real estate investors, property owners and developers, some of which may be willing to accept lower returns on their investments. Principal factors of competition are rents charged, sales prices, attractiveness of location, the quality of the property and the breadth and the quality of services provided. Our success depends upon, among other factors, trends of the global, national, regional and local economies, the financial condition and operating results of current and prospective tenants and customers, availability and cost of capital, construction and renovation costs, taxes, governmental regulations, legislation, population and employment trends. See “Risk Factors” in Item 1A for additional information regarding these factors.

Overview - continued

Our business has been adversely affected by the ongoing COVID-19 pandemic and the preventive measures taken to curb the spread of the virus. The pandemic has resulted in governments and other authorities implementing numerous measures to try to contain the virus, such as travel bans and restrictions, quarantines, shelter in place orders, and business closures. Some of the effects on us include the following:

- While many of the limitations and restrictions imposed on our retail tenants during the onset of the pandemic have been lifted and/or eased, economic conditions and other factors, including a decline in Manhattan tourism since the onset of the virus, continue to adversely affect the financial health of our retail tenants.
- While our buildings are open, many of our office tenants are working remotely.
- We temporarily closed the Hotel Pennsylvania on April 1, 2020 and on April 5, 2021, we permanently closed the hotel and plan to develop an office tower on the site.
- Trade shows at theMART were cancelled beginning March of 2020 and resumed in the third quarter of 2021 with generally lower attendance than pre-pandemic levels.

The extent of the COVID-19 pandemic's effect on our operational and financial performance will depend on future developments, including vaccination rates among the population, the efficacy and durability of vaccines against emerging variants and governmental and tenant responses thereto, all of which are uncertain at this time. Given the dynamic nature of the circumstances, it is difficult to predict the ongoing impact of the COVID-19 pandemic on our business, financial condition, results of operations and cash flows but the impact could be material.

Overview - continued

Year Ended December 31, 2021 Financial Results Summary

Net income attributable to common shareholders for the year ended December 31, 2021 was $101,086,000, or $0.53 per diluted share, compared to net loss attributable to common shareholders of $348,744,000, or $1.83 per diluted share, for the year ended December 31, 2020. The years ended December 31, 2021 and 2020 include certain items that impact net income (loss) attributable to common shareholders, which are listed in the table below. The aggregate of these items, net of amounts attributable to noncontrolling interests, increased net income attributable to common shareholders by $12,933,000, or $0.07 per diluted share, for the year ended December 31, 2021 and increased net loss attributable to common shareholders by $372,637,000, or $1.95 per diluted share, for the year ended December 31, 2020.

Funds from operations ("FFO") attributable to common shareholders plus assumed conversions for the year ended December 31, 2021 was $571,074,000, or $2.97 per diluted share, compared to $750,522,000, or $3.93 per diluted share, for the year ended December 31, 2020. The years ended December 31, 2021 and 2020 include certain items that impact FFO, which are listed in the table on the following page. The aggregate of these items, net of amounts attributable to noncontrolling interests, increased FFO by $21,211,000, or $0.11 per diluted share, for the year ended December 31, 2021 and by $249,507,000, or $1.31 per diluted share, for the year ended December 31, 2020.

The following table reconciles the difference between our net income (loss) attributable to common shareholders and our net income attributable to common shareholders, as adjusted:

(Amounts in thousands)	For the Year Ended December 31,	
	2021	2020
Certain (income) expense items that impact net income (loss) attributable to common shareholders:		
After-tax net gain on sale of 220 Central Park South ("220 CPS") condominium units	$ (44,607)	$ (332,099)
Hotel Pennsylvania loss (permanently closed on April 5, 2021)	29,472	31,280
Tax benefit recognized by our taxable REIT subsidiaries	(27,910)	—
Defeasance costs and write-off of unamortized deferred financing costs related to 1290 Avenue of the Americas refinancing, net of $7,664 attributable to noncontrolling interests	17,882	—
Our share of Alexander's gain on sale of Paramus, New Jersey property pursuant to IKEA Property, Inc.'s purchase option	(11,620)	—
Deferred tax liability on our investment in Farley Office and Retail (held through a taxable REIT subsidiary)	10,868	—
Previously capitalized Series K preferred share issuance costs	9,033	—
Real estate impairment losses	7,880	236,286
Our share of (income) loss from real estate fund investments	(3,757)	63,114
Non-cash impairment loss on our investment in Fifth Avenue and Times Square JV, net of $4,289 attributable to noncontrolling interests	—	409,060
608 Fifth Avenue non-cash lease liability extinguishment gain	—	(70,260)
Severance and other reduction-in-force related expenses	—	23,368
Credit losses on loans receivable resulting from a new GAAP accounting standard effective January 1, 2020	—	13,369
Severance accrual related to Hotel Pennsylvania closure, net of $3,145 of income tax benefit	—	6,101
Mark-to-market decrease in Pennsylvania Real Estate Investment Trust ("PREIT") common shares (sold on January 23, 2020)	—	4,938
Other	(1,379)	12,586
	(14,138)	397,743
Noncontrolling interests' share of above adjustments	1,205	(25,106)
Total of certain (income) expense items that impact net income (loss) attributable to common shareholders	$ (12,933)	$ 372,637

Overview - continued

Year Ended December 31, 2021 Financial Results Summary - continued

The following table reconciles the difference between our FFO attributable to common shareholders plus assumed conversions and our FFO attributable to common shareholders plus assumed conversions, as adjusted:

(Amounts in thousands)	For the Year Ended December 31, 2021	2020
Certain (income) expense items that impact FFO attributable to common shareholders plus assumed conversions:		
After-tax net gain on sale of 220 CPS condominium units	$ (44,607)	$ (332,099)
Tax benefit recognized by our taxable REIT subsidiaries	(27,910)	—
Defeasance costs and write-off of unamortized deferred financing costs related to 1290 Avenue of the Americas refinancing, net of $7,664 attributable to noncontrolling interests	17,882	—
Hotel Pennsylvania loss (permanently closed on April 5, 2021)	12,331	20,843
Deferred tax liability on our investment in Farley Office and Retail (held through a taxable REIT subsidiary)	10,868	—
Previously capitalized Series K preferred share issuance costs	9,033	—
Our share of (income) loss from real estate fund investments	(3,757)	63,114
608 Fifth Avenue non-cash lease liability extinguishment gain	—	(70,260)
Severance and other reduction-in-force related expenses	—	23,368
Credit losses on loans receivable resulting from a new GAAP accounting standard effective January 1, 2020	—	13,369
Severance accrual related to Hotel Pennsylvania closure, net of $3,145 of income tax benefit	—	6,101
Other	3,804	9,660
	(22,356)	(265,904)
Noncontrolling interests' share of above adjustments	1,145	16,397
Total of certain (income) expense items that impact FFO attributable to common shareholders plus assumed conversions, net	$ (21,211)	$ (249,507)

Same Store Net Operating Income ("NOI") At Share

The percentage increase (decrease) in same store NOI at share and same store NOI at share - cash basis of our New York segment, theMART and 555 California Street are summarized below.

Year Ended December 31, 2021 compared to December 31, 2020:	Total	New York	theMART[(1)]	555 California Street
Same store NOI at share % increase (decrease)	2.9 %	4.0 %	(14.2)%	7.9%
Same store NOI at share - cash basis % increase (decrease)	1.6 %	3.2 %	(14.9)%	0.2%

(1) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART.

Calculations of same store NOI at share, reconciliations of our net income to NOI at share, NOI at share - cash basis and FFO and the reasons we consider these non-GAAP financial measures useful are provided in the following pages of Management's Discussion and Analysis of Financial Condition and Results of Operations.

Acquisition

One Park Avenue

On August 5, 2021, pursuant to a right of first offer, we increased our ownership interest in One Park Avenue, a 944,000 square foot Manhattan office building, to 100.0% by acquiring our joint venture partner's 45.0% ownership interest in the property. The purchase price values the property at $875,000,000. We paid approximately $158,000,000 in cash and assumed our joint venture partner's share of the $525,000,000 mortgage loan. We previously accounted for our investment under the equity method and have consolidated the accounts of the property from the date of acquisition of the additional 45.0% ownership interest.

Dispositions

220 CPS

During the year ended December 31, 2021, we closed on the sale of six condominium units at 220 CPS for net proceeds of $137,404,000 resulting in a financial statement net gain of $50,318,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income. In connection with these sales, $5,711,000 of income tax expense was recognized on our consolidated statements of income. From inception to December 31, 2021, we have closed on the sale of 106 units for net proceeds of $3,006,896,000 resulting in financial statement net gains of $1,117,255,000.

Overview - continued

Dispositions - continued

Alexander's, Inc. ("Alexander's")

On June 4, 2021, Alexander's completed the sale of a parcel of land in the Bronx, New York for $10,000,000. As a result of the sale, we recognized our $2,956,000 share of the net gain and also received a $300,000 sales commission paid by Alexander's.

On October 4, 2021, Alexander's sold its Paramus, New Jersey property to IKEA Property, Inc. ("IKEA"), the tenant at the property, for $75,000,000 pursuant to IKEA's purchase option contained in the lease. The property was encumbered by a $68,000,000 mortgage loan which was repaid at closing of the sale. As a result of the sale, we recognized our $11,620,000 share of the net gain and also received a $750,000 sales commission paid by Alexander's.

Madison Avenue

On September 24, 2021, we sold three Manhattan retail properties located at 677-679, 759-771 and 828-850 Madison Avenue in two separate sale transactions for an aggregate sales price of $100,000,000. Net proceeds from the sales were $96,503,000. In connection with the sales, we recorded $7,880,000 of non-cash impairment losses which are included in "impairment losses, transaction related costs and other" on our consolidated statements of income.

Vornado Capital Partners Real Estate Fund (the "Fund")

On December 7, 2021, the Fund completed the sale of the retail condominium located at 501 Broadway for $27,500,000. From the inception of this investment through its disposition, the Fund realized a $6,346,000 net loss.

SoHo Properties

On May 10, 2021, we entered into an agreement to sell two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street for a sales price of $84,500,000. On January 13, 2022, we completed the sale transaction and realized net proceeds of $81,399,000. In connection with the sale, we will recognize a net gain of approximately $850,000 in the first quarter of 2022.

Financings

Secured Debt

On February 26, 2021, the joint venture completed a $525,000,000 refinancing of One Park Avenue. The interest-only loan bears a rate of LIBOR plus 1.11% (1.22% as of December 31, 2021) and matures in March 2023, with three one-year extension options (March 2026, as fully extended). We realized our $105,000,000 share of net proceeds. The loan replaced the previous $300,000,000 loan that bore interest at LIBOR plus 1.75% and was scheduled to mature in March 2021.

On March 7, 2021, we entered into an interest rate swap agreement for our $500,000,000 PENN 11 mortgage loan to swap the interest rate on the mortgage loan from LIBOR plus 2.75% to a fixed rate of 3.03% through March 2024. On December 1, 2021, we completed a loan modification which reduced the interest rate on the mortgage loan to LIBOR plus 1.95% (2.05% as of December 31, 2021) from LIBOR plus 2.75%, resulting in a fixed rate of 2.23% pursuant to the interest rate swap agreement.

On March 26, 2021, we completed a $350,000,000 refinancing of 909 Third Avenue, a 1.4 million square foot Manhattan office building. The interest-only loan bears a fixed rate of 3.23% and matures in April 2031. The loan replaced the previous $350,000,000 loan that bore interest at a fixed rate of 3.91% and was scheduled to mature in May 2021.

On May 10, 2021, we completed a $1.2 billion refinancing of 555 California Street, a three-building 1.8 million square foot office campus in San Francisco, in which we own a 70.0% controlling interest. The interest-only loan bears a rate of LIBOR plus 1.93% in years one through five (2.04% as of December 31, 2021), LIBOR plus 2.18% in year six and LIBOR plus 2.43% in year seven. The loan matures in May 2023, with five one-year extension options (May 2028 as fully extended). We swapped the interest rate on our $840,000,000 share of the loan to a fixed rate of 2.26% through May 2024. The loan replaced the previous $533,000,000 loan that bore interest at a fixed rate of 5.10% and was scheduled to mature in September 2021.

On May 28, 2021, we repaid the $675,000,000 mortgage loan on theMART, a 3.7 million square foot commercial building in Chicago, with proceeds from our senior unsecured notes offering. The loan bore interest at 2.70% and was scheduled to mature in September 2021.

On November 16, 2021, we completed a $950,000,000 refinancing of 1290 Avenue of the Americas, a 2.1 million square foot Class A Manhattan office building, in which we own a 70.0% controlling interest. The interest-only loan bears a rate of LIBOR plus 1.51% (1.62% as of December 31, 2021) in years one to five, increasing 0.25% in both years six and seven. The loan matures in November 2023 with five one-year extension options (November 2028 as fully extended). We defeased the existing $950,000,000 loan that bore interest at a fixed rate of 3.34% and was scheduled to mature in November 2022. As a result, we incurred $23,729,000 of defeasance costs, which are included in "interest and debt expense" on our consolidated statements of income, of which $7,119,000 is attributable to noncontrolling interest.

Overview - continued

Financings - continued

Unsecured Revolving Credit Facility

On April 15, 2021, we extended our $1.25 billion unsecured revolving credit facility from January 2023 (as fully extended) to April 2026 (as fully extended). The interest rate on the extended facility was lowered to LIBOR plus 0.90% from LIBOR plus 1.00%. We subsequently qualified for a sustainability margin adjustment by achieving certain key performance indicator (KPI) metrics, which reduced our interest rate by 0.01% to LIBOR plus 0.89%. The facility fee remains at 20 basis points. Our separate $1.50 billion unsecured revolving credit facility matures in March 2024 (as fully extended) and has an interest rate of LIBOR plus 0.90% and a facility fee of 20 basis points.

Senior Unsecured Notes

On May 24, 2021, we completed a green bond public offering of $400,000,000 2.15% senior unsecured notes due June 1, 2026 ("2026 Notes") and $350,000,000 3.40% senior unsecured notes due June 1, 2031 ("2031 Notes"). Interest on the senior unsecured notes is payable semi-annually on June 1 and December 1, commencing December 1, 2021. The 2026 Notes were sold at 99.86% of their face amount to yield 2.18% and the 2031 Notes were sold at 99.59% of their face amount to yield 3.45%.

Preferred Shares/Units

On September 22, 2021, Vornado sold 12,000,000 4.45% Series O cumulative redeemable preferred shares at a price of $25.00 per share, pursuant to an effective registration statement. Vornado received aggregate net proceeds of $291,153,000, after underwriters' discount and issuance costs, and contributed the net proceeds to the Operating Partnership in exchange for 12,000,000 4.45% Series O preferred units (with economic terms that mirror those of the Series O preferred shares). Dividends on the Series O preferred shares/units are cumulative and payable quarterly in arrears. The Series O preferred shares/units are not convertible into, or exchangeable for, any of our properties or securities. On or after five years from the date of issuance (or sooner under limited circumstances), Vornado may redeem the Series O preferred shares/units at a redemption price of $25.00 per share/unit, plus accrued and unpaid dividends/distributions through the date of redemption. The Series O preferred shares/units have no maturity date and will remain outstanding indefinitely unless redeemed by Vornado. Vornado used the net proceeds for the redemption of its 5.70% Series K cumulative redeemable preferred shares/units.

On October 13, 2021, we redeemed all of the outstanding 5.70% Series K preferred shares/units at their redemption price of $25.00 per share/unit, or $300,000,000 in the aggregate, plus accrued and unpaid dividends/distributions through the date of redemption. We recognized $9,033,000 of previously capitalized issuance costs in "Series K preferred share/unit issuance costs" on our consolidated statements of income during the third quarter of 2021, when the preferred shares/units were called for redemption.

Leasing Activity for the Year Ended December 31, 2021

The leasing activity and related statistics below are based on leases signed during the period and are not intended to coincide with the commencement of rental revenue in accordance with accounting principles generally accepted in the United States of America ("GAAP"). Second generation relet space represents square footage that has not been vacant for more than nine months and tenant improvements and leasing commissions are based on our share of square feet leased during the period.

- 2,252,000 square feet of New York Office space (1,973,000 square feet at share) at an initial rent of $83.26 per square foot and a weighted average lease term of 11.1 years. The changes in the GAAP and cash mark-to-market rent on the 1,591,000 square feet of second generation space were positive 15.9% and positive 10.8%, respectively. Tenant improvements and leasing commissions were $10.31 per square foot per annum, or 12.4% of initial rent.
- 229,000 square feet of New York Retail space (208,000 square feet at share) at an initial rent of $145.44 per square foot and a weighted average lease term of 17.1 years. The changes in the GAAP and cash mark-to-market rent on the 109,000 square feet of second generation space were positive 37.1% and positive 13.2%, respectively. Tenant improvements and leasing commissions were $4.26 per square foot per annum, or 2.9% of initial rent.
- 330,000 square feet at theMART (all at share) at an initial rent of $51.18 per square foot and a weighted average lease term of 5.8 years. The changes in the GAAP and cash mark-to-market rent on the 273,000 square feet of second generation space were negative 0.5% and 0.0%, respectively. Tenant improvements and leasing commissions were $7.63 per square foot per annum, or 14.9% of initial rent.
- 74,000 square feet at 555 California Street (52,000 square feet at share) at an initial rent of $114.70 per square foot and a weighted average lease term of 4.0 years. The changes in the GAAP and cash mark-to-market rent on the 48,000 square feet of second generation space were positive 29.5% and positive 25.4%, respectively. Tenant improvements and leasing commissions were $3.94 per square foot per annum, or 3.4% of initial rent.

Overview - continued

Square footage (in service) and Occupancy as of December 31, 2021:

(Square feet in thousands)	Number of properties		Square Feet (in service) Total Portfolio	Square Feet (in service) Our Share	Occupancy %	
New York:						
Office	32	(1)	19,442	16,757	92.2%	
Retail (includes retail properties that are in the base of our office properties)	60	(1)	2,267	1,825	80.7%	
Residential - 1,986 units(2)	8	(1)	1,518	785	96.4%	(2)
Alexander's	6		2,218	719	95.6%	(2)
			25,445	20,086	91.3%	
Other:						
theMART	4		3,692	3,683	88.9%	
555 California Street	3		1,818	1,273	93.8%	
Other	11		2,489	1,154	92.8%	
			7,999	6,110		
Total square feet at December 31, 2021			33,444	26,196		

See notes below.

Square footage (in service) and Occupancy as of December 31, 2020:

(Square feet in thousands)	Number of properties		Square Feet (in service) Total Portfolio	Square Feet (in service) Our Share	Occupancy %	
New York:						
Office	32	(1)	18,361	15,413	93.4%	
Retail (includes retail properties that are in the base of our office properties)	63	(1)	2,275	1,805	78.8%	
Residential - 1,995 units(2)	9	(1)	1,526	793	84.9%	(2)
Alexander's	7		2,366	766	98.5%	(2)
Hotel Pennsylvania (temporarily closed on April 1, 2020 and permanently closed on April 5, 2021)	1		—	—		
			24,528	18,777	92.2%	
Other:						
theMART	4		3,692	3,683	89.5%	
555 California Street	3		1,741	1,218	98.4%	
Other	11		2,489	1,154	92.8%	
			7,922	6,055		
Total square feet at December 31, 2020			32,450	24,832		

(1) Reflects the Office, Retail and Residential space within our 77 and 79 total New York properties as of December 31, 2021 and 2020, respectively.
(2) The Alexander Apartment Tower (312 units) is reflected in Residential unit count and occupancy.

Critical Accounting Estimates

In preparing the consolidated financial statements we have made estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Accounting estimates are deemed critical if they involve a significant level of estimation uncertainty and have had or are reasonably likely to have a material impact on our financial condition or results of operations. Below is a summary of the critical accounting estimates used in the preparation of our consolidated financial statements. A discussion of our accounting policies is included in Note 2 - *Basis of Presentation and Significant Accounting Policies* to our consolidated financial statements in this Annual Report on Form 10-K.

Acquisitions of Real Estate

Upon the acquisition of real estate, we assess whether the transaction should be accounted for as an asset acquisition or as a business combination. Acquisitions of integrated sets of assets and activities that do not meet the definition of a business are accounted for as asset acquisitions. Our acquisitions of real estate generally 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 identified intangible assets).

We assess the fair value of acquired assets (including land, buildings and improvements, identified intangibles, such as acquired above and below-market leases, acquired in-place leases and tenant relationships) and acquired liabilities and we allocate the purchase price on a relative fair value basis. We assess fair value based on estimated cash flow projections based on a number of factors such as historical operating results, known trends, and market/economic conditions and make key assumptions regarding the discount and capitalization rates used in our analyses. The use of different assumptions to value the acquired properties and allocate value between land and building could affect the revenues recognized over the terms of the leases at our properties and the expenses recognized over the property's estimated remaining useful life on our consolidated statements of income.

Impairment Analyses for Investments in Real Estate and Unconsolidated Partially Owned Entities

Our investments in consolidated properties, including any related right-of-use assets and intangible assets, and unconsolidated partially owned entities are individually reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. Impairment analyses are based on current plans, intended holding periods, ability to hold, and available information at the time the analyses are prepared. Assessing impairment can be complex and involves a high degree of subjectivity in determining if impairment indicators are present and in estimating the future undiscounted cash flows or the fair value of an asset. In particular, these estimates are sensitive to significant assumptions, including the estimation of future rental revenues, operating expenses, discount and capitalization rates and our intent and ability to hold the related asset, all of which could be affected by our expectations about future market or economic conditions. These estimates can have a significant impact on the undiscounted cash flows or estimated fair value of an asset and could thereby affect the value of our real estate investments on our consolidated balance sheets as well as any potential impairment losses recognized on our consolidated statements of income.

Collectability Assessments for Revenue Recognition

We evaluate on an individual lease basis whether it is probable that we will collect substantially all amounts due from our tenants and recognize changes in the collectability assessment of our operating leases as adjustments to rental revenue. Management exercises judgment in assessing collectability of tenant receivables and considers payment history, current credit status, publicly available information about the financial condition of the tenant, the impact of COVID-19 on tenants' businesses, and other factors. Our assessment of the collectability of tenant receivables can have a significant impact on the rental revenue recognized in our consolidated statements of income.

Recent Accounting Pronouncements

See Note 2 – *Basis of Presentation and Significant Accounting Policies* to our consolidated financial statements in this Annual Report on Form 10-K for a discussion concerning recent accounting pronouncements.

NOI At Share by Segment for the Years Ended December 31, 2021 and 2020

NOI at share represents total revenues less operating expenses including our share of partially owned entities. NOI at share - cash basis represents NOI at share adjusted to exclude straight-line rental income and expense, amortization of acquired below and above market leases, net and other non-cash adjustments. We consider NOI at share - cash basis to be the primary non-GAAP financial measure for making decisions and assessing the unlevered performance of our segments as it relates to the total return on assets as opposed to the levered return on equity. As properties are bought and sold based on NOI at share - cash basis, we utilize this measure to make investment decisions as well as to compare the performance of our assets to that of our peers. NOI at share and NOI at share - cash basis should not be considered alternatives to net income or cash flow from operations and may not be comparable to similarly titled measures employed by other companies. NOI at share - cash basis includes rent that has been deferred as a result of the COVID-19 pandemic.

Below is a summary of NOI at share and NOI at share - cash basis by segment for the years ended December 31, 2021 and 2020.

(Amounts in thousands)	For the Year Ended December 31, 2021		
	Total	New York	Other
Total revenues	$ 1,589,210	$ 1,257,599	$ 331,611
Operating expenses	(797,315)	(626,386)	(170,929)
NOI - consolidated	791,895	631,213	160,682
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(69,385)	(38,980)	(30,405)
Add: NOI from partially owned entities	310,858	300,721	10,137
NOI at share	1,033,368	892,954	140,414
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	1,318	(1,188)	2,506
NOI at share - cash basis	$ 1,034,686	$ 891,766	$ 142,920

(Amounts in thousands)	For the Year Ended December 31, 2020		
	Total	New York	Other
Total revenues	$ 1,527,951	$ 1,221,748	$ 306,203
Operating expenses	(789,066)	(640,531)	(148,535)
NOI - consolidated	738,885	581,217	157,668
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(72,801)	(43,773)	(29,028)
Add: NOI from partially owned entities	306,495	296,447	10,048
NOI at share	972,579	833,891	138,688
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	46,246	36,715	9,531
NOI at share - cash basis	$ 1,018,825	$ 870,606	$ 148,219

NOI At Share by Segment for the Years Ended December 31, 2021 and 2020 - continued

The elements of our New York and Other NOI at share for the years ended December 31, 2021 and 2020 are summarized below.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	2020
New York:		
Office[(1)]	$ 677,167	$ 672,495
Retail[(2)]	173,363	147,299
Residential	17,783	20,687
Alexander's[(3)]	37,318	35,912
Hotel Pennsylvania[(4)]	(12,677)	(42,502)
Total New York	892,954	833,891
Other:		
theMART[(5)]	58,909	69,178
555 California Street	64,826	60,324
Other investments	16,679	9,186
Total Other	140,414	138,688
NOI at share	$ 1,033,368	$ 972,579

(1) 2020 includes $18,173 of non-cash write-offs of receivables arising from the straight-lining of rents and $6,702 of write-offs of tenant receivables deemed uncollectible.

(2) 2020 includes $25,876 of non-cash write-offs of receivables arising from the straight-lining of rents and $12,017 of write-offs of tenant receivables deemed uncollectible.

(3) 2020 includes $3,511 of non-cash write-offs of receivables arising from the straight-lining of rents and $1,335 of write-offs of tenant receivables deemed uncollectible.

(4) On April 5, 2021, we permanently closed the Hotel Pennsylvania. Beginning in the third quarter of 2021, we commenced capitalization of carrying costs in connection with our development of the future PENN 15 (formerly Hotel Pennsylvania) site.

(5) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART. 2020 includes $2,722 of non-cash write-offs of receivables arising from the straight-lining of rents and $1,742 of write-offs of tenant receivables deemed uncollectible.

NOI At Share by Segment for the Years Ended December 31, 2021 and 2020 - continued

The elements of our New York and Other NOI at share - cash basis for the years ended December 31, 2021 and 2020 are summarized below.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	2020
New York:		
Office[(1)]	$ 686,507	$ 691,755
Retail[(2)]	160,801	158,686
Residential	16,656	19,369
Alexander's[(3)]	40,525	42,737
Hotel Pennsylvania[(4)]	(12,723)	(41,941)
Total New York	891,766	870,606
Other:		
theMART[(5)]	64,389	76,251
555 California Street	60,680	60,917
Other investments	17,851	11,051
Total Other	142,920	148,219
NOI at share - cash basis	$ 1,034,686	$ 1,018,825

(1) 2020 includes $6,702 of write-offs of tenant receivables deemed uncollectible.

(2) 2020 includes $12,017 of write-offs of tenant receivables deemed uncollectible.

(3) 2020 includes $1,335 of write-offs of tenant receivables deemed uncollectible.

(4) On April 5, 2021, we permanently closed the Hotel Pennsylvania. Beginning in the third quarter of 2021, we commenced capitalization of carrying costs in connection with our development of the future PENN 15 (formerly Hotel Pennsylvania) site.

(5) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART. 2020 includes $1,742 of write-offs of tenant receivables deemed uncollectible.

Reconciliation of Net Income (Loss) to NOI At Share and NOI At Share - Cash Basis for the Years Ended December 31, 2021 and 2020

Below is a reconciliation of net income (loss) to NOI at share and NOI at share - cash basis for the years ended December 31, 2021 and 2020.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	2020
Net income (loss)	$ 207,553	$ (461,845)
Depreciation and amortization expense	412,347	399,695
General and administrative expense	134,545	181,509
Impairment losses, transaction related costs and other	13,815	174,027
(Income) loss from partially owned entities	(130,517)	329,112
(Income) loss from real estate fund investments	(11,066)	226,327
Interest and other investment (income) loss, net	(4,612)	5,499
Interest and debt expense	231,096	229,251
Net gains on disposition of wholly owned and partially owned assets	(50,770)	(381,320)
Income tax (benefit) expense	(10,496)	36,630
NOI from partially owned entities	310,858	306,495
NOI attributable to noncontrolling interests in consolidated subsidiaries	(69,385)	(72,801)
NOI at share	1,033,368	972,579
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	1,318	46,246
NOI at share - cash basis	1,034,686	1,018,825

NOI At Share by Region

	For the Year Ended December 31,	
	2021	2020
Region:		
New York City metropolitan area	88%	87%
Chicago, IL	6%	7%
San Francisco, CA	6%	6%
	100%	100%

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020

Revenues

Our revenues were $1,589,210,000 for the year ended December 31, 2021 compared to $1,527,951,000 in the prior year, an increase of $61,259,000. Below are the details of the increase by segment:

(Amounts in thousands)			
Increase (decrease) due to:	**Total**	**New York**	**Other**
Rental revenues:			
Acquisitions, dispositions and other	$ 11,815	$ 9,696	$ 2,119
Development and redevelopment	(8,163)	(8,163)	—
Hotel Pennsylvania[1]	(8,493)	(8,493)	—
Trade shows[2]	8,179	—	8,179
Same store operations	43,558 [3]	32,694	10,864
	46,896	25,734	21,162
Fee and other income:			
BMS cleaning fees	14,244	14,779	(535)
Management and leasing fees	(7,691)	(7,331)	(360)
Other income	7,810	2,669	5,141
	14,363	10,117	4,246
Total increase in revenues	$ 61,259	$ 35,851	$ 25,408

See notes on the following page.

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020 - continued

Expenses

Our expenses were $1,367,869,000 for the year ended December 31, 2021 compared to $1,550,740,000 in the prior year, a decrease of $182,871,000. Below are the details of the decrease by segment:

(Amounts in thousands) Increase (decrease) due to:	Total	New York	Other
Operating:			
Acquisitions, dispositions and other	$ 11,198	$ 11,198	$ —
Development and redevelopment	(10,249)	(10,249)	—
Non-reimbursable expenses	11,125	11,349	(224)
Hotel Pennsylvania[(1)]	(37,763)	(37,763)	—
Trade shows[(2)]	3,293	—	3,293
BMS expenses	7,670	8,205	(535)
Same store operations	22,975	3,115	19,860 [(4)]
	8,249	(14,145)	22,394
Depreciation and amortization:			
Acquisitions, dispositions and other	15,080	15,080	—
Development and redevelopment	11,351	11,351	—
Same store operations	(13,779)	(12,032)	(1,747)
	12,652	14,399	(1,747)
General and administrative	(46,964) [(5)]	(15,430)	(31,534)
Expense from deferred compensation plan liability	3,404	—	3,404
Impairment losses, transaction related costs and other	(160,212)	(158,527) [(6)]	(1,685)
Total decrease in expenses	$ (182,871)	$ (173,703)	$ (9,168)

(1) On April 5, 2021, we permanently closed the Hotel Pennsylvania. Beginning in the third quarter of 2021, we commenced capitalization of carrying costs in connection with our development of the future PENN 15 (formerly Hotel Pennsylvania) site. Operating expense for 2020 includes a $9,246 severance accrual for furloughed union employees.

(2) We cancelled trade shows at theMART beginning late March of 2020 due to the COVID-19 pandemic and resumed in the third quarter of 2021.

(3) 2020 includes $63,204 for the write-off of lease receivables deemed uncollectible (primarily write-offs of receivables arising from the straight-lining of rents).

(4) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART.

(5) Primarily due to the overhead reduction program, including $22,132 of severance and other reduction-in-force related expenses in 2020.

(6) Primarily due to $236,286 of non-cash impairment losses related to wholly owned street retail assets in 2020, partially offset by $70,260 of lease liability extinguishment gain related to 608 Fifth Avenue recognized in 2020 and $7,880 of non-cash impairment losses for the three Manhattan retail properties sold in 2021.

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020 - continued

Income (Loss) from Partially Owned Entities

Below are the components of income (loss) from partially owned entities.

(Amounts in thousands)	Percentage Ownership at December 31, 2021	For the Year Ended December 31, 2021	2020
Our share of net income (loss):			
Fifth Avenue and Times Square JV:			
Equity in net income[(1)]	51.5%	$ 47,144	$ 21,063
Return on preferred equity, net of our share of the expense		37,416	37,357
Non-cash impairment loss		—	(413,349)
		84,560	(354,929)
Alexander's[(2)]	32.4%	40,121	18,635
Partially owned office buildings[(3)]	Various	12,057	12,742
Other investments[(4)]	Various	(6,221)	(5,560)
		$ 130,517	$ (329,112)

(1) 2021 includes decreases in our share of depreciation and amortization expense compared to the prior year of $17,448, primarily resulting from non-cash impairment losses recognized during 2020. 2020 includes $3,125 of write-offs of lease receivables deemed uncollectible.

(2) 2021 includes our $11,620 share of net gain on the sale of the Paramus, New Jersey property to IKEA Property, Inc., and our $2,956 share of net gain on the sale of a parcel of land in the Bronx, New York. We also recognized $750 and $300, respectively, of sales commissions paid by Alexander's in connection with these sales. 2020 includes our $4,846 share of write-offs of lease receivables deemed uncollectible.

(3) Includes interests in 280 Park Avenue, 650 Madison Avenue, One Park Avenue (consolidated from August 5, 2021), 7 West 34th Street, 512 West 22nd Street, 61 Ninth Avenue, 85 Tenth Avenue and others.

(4) Includes interests in Independence Plaza, Rosslyn Plaza and others.

Income (Loss) from Real Estate Fund Investments

Below is a summary of income (loss) from the Fund and the Crowne Plaza joint venture.

(Amounts in thousands)	For the Year Ended December 31, 2021	2020
Net investment income (loss)	$ 6,445	$ (220)
Net unrealized income (loss) on held investments	3,257	(226,107)
Net realized income on exited investments	1,364	—
Income (loss) from real estate fund investments	11,066	(226,327)
Less (income) loss attributable to noncontrolling interests in consolidated subsidiaries	(7,309)	163,213
Income (loss) from real estate fund investments net of noncontrolling interests in consolidated subsidiaries	$ 3,757	$ (63,114)

Interest and Other Investment Income (Loss), net

The following table sets forth the details of interest and other investment income (loss), net.

(Amounts in thousands)	For the Year Ended December 31, 2021	2020
Interest on loans receivable	$ 2,517	$ 3,384
Interest on cash and cash equivalents and restricted cash	284	5,793
Credit losses on loans receivable	—	(13,369)
Market-to-market decrease in the fair value of marketable security (sold on January 23, 2020)	—	(4,938)
Other, net	1,811	3,631
	$ 4,612	$ (5,499)

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020 - continued

Interest and Debt Expense

Interest and debt expense was $231,096,000 for the year ended December 31, 2021, compared to $229,251,000 in the prior year, an increase of $1,845,000. This increase was primarily due to (i) $23,729,000 of defeasance costs, of which $7,119,000 is attributable to noncontrolling interest, in connection with the refinancing of 1290 Avenue of the Americas partially offset by, (ii) $10,941,000 of lower interest expense due to variable rates on certain mortgage loans that were previously swapped to higher fixed rates under interest rate swap arrangements that expired in 2020, and (iii) $9,387,000 of lower interest expense resulting from lower average interest rates on our variable rate loans.

Net Gains on Disposition of Wholly Owned and Partially Owned Assets

Net gains on disposition of wholly owned and partially owned assets for the year ended December 31, 2021 was $50,770,000 compared to $381,320,000 in the prior year, a decrease of $330,550,000. This resulted primarily from lower net gains on sale of 220 CPS condominium units.

Income Tax Benefit (Expense)

Income tax benefit was $10,496,000 for the year ended December 31, 2021, compared to an expense of $36,630,000 in the prior year, a decrease in expense of $47,126,000. This was primarily due to a higher tax benefit recognized by our taxable REIT subsidiaries in 2021 and lower income tax expense from the sale of 220 CPS condominium units partially offset by an increase in the deferred tax liability on our investment in Farley Office and Retail.

Net (Income) Loss Attributable to Noncontrolling Interests in Consolidated Subsidiaries

Net income attributable to noncontrolling interests in consolidated subsidiaries was $24,014,000 for the year ended December 31, 2021, compared to net loss of $139,894,000 in the prior year, an increase in income of $163,908,000. This resulted primarily from a decrease in net loss allocated to the noncontrolling interests of our real estate fund investments.

Net (Income) Loss Attributable to Noncontrolling Interests in the Operating Partnership (Vornado Realty Trust)

Net income attributable to noncontrolling interests in the Operating Partnership was $7,540,000 for the year ended December 31, 2021, compared to net loss of $24,946,000 in the prior year, an increase in income of $32,486,000. This resulted primarily from higher net income subject to allocation to Class A unitholders.

Preferred Share Dividends of Vornado Realty Trust

Preferred share dividends were $65,880,000 for the year ended December 31, 2021, compared to $51,739,000 in the prior year, an increase of $14,141,000. This was primarily due to the issuance of the 5.25% Series N cumulative redeemable preferred shares in November 2020 and the 4.45% Series O cumulative redeemable preferred shares in September 2021, partially offset by the redemption of the 5.70% Series K cumulative redeemable preferred shares in October 2021.

Preferred Unit Distributions of Vornado Realty L.P.

Preferred unit distributions were $66,035,000 for the year ended December 31, 2021, compared to $51,904,000 in the prior year, an increase of $14,131,000. This was primarily due to the issuance of the 5.25% Series N cumulative redeemable preferred units in November 2020 and the 4.45% Series O cumulative redeemable preferred units in September 2021, partially offset by the redemption of the 5.70% Series K cumulative redeemable preferred units in October 2021.

Preferred Share/Unit Issuance Costs

Preferred share/unit issuance costs for the year ended December 31, 2021 were $9,033,000 representing the previously capitalized issuance costs which were expensed upon calling for redemption of all the outstanding Series K cumulative redeemable preferred shares/units in September 2021.

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020 - continued

Same Store Net Operating Income At Share

Same store NOI at share represents NOI at share from operations which are in service in both the current and prior year reporting periods. Same store NOI at share - cash basis is same store NOI at share adjusted to exclude straight-line rental income and expense, amortization of acquired below and above market leases, net and other non-cash adjustments. We present these non-GAAP measures to (i) facilitate meaningful comparisons of the operational performance of our properties and segments, (ii) make decisions on whether to buy, sell or refinance properties, and (iii) compare the performance of our properties and segments to those of our peers. Same store NOI at share and same store NOI at share - cash basis should not be considered alternatives to net income or cash flow from operations and may not be comparable to similarly titled measures employed by other companies.

Below are reconciliations of NOI at share to same store NOI at share for our New York segment, theMART, 555 California Street and other investments for the year ended December 31, 2021 compared to December 31, 2020.

(Amounts in thousands)

	Total	New York	theMART[(1)]	555 California Street	Other
NOI at share for the year ended December 31, 2021	$ 1,033,368	$ 892,954	$ 58,909	$ 64,826	$ 16,679
Less NOI at share from:					
Change in ownership interest in One Park Avenue	(9,651)	(9,651)	—	—	—
Dispositions	312	312	—	—	—
Development properties	(28,793)	(28,793)	—	—	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	12,677	12,677	—	—	—
Other non-same store income, net	(23,464)	(6,785)	—	—	(16,679)
Same store NOI at share for the year ended December 31, 2021	$ 984,449	$ 860,714	$ 58,909	$ 64,826	$ —
NOI at share for the year ended December 31, 2020	$ 972,579	$ 833,891	$ 69,178	$ 60,324	$ 9,186
Less NOI at share from:					
Dispositions	3,488	3,488	—	—	—
Development properties	(31,707)	(31,707)	—	—	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	42,502	42,502	—	—	—
Other non-same store income, net	(30,321)	(20,382)	(524)	(229)	(9,186)
Same store NOI at share for the year ended December 31, 2020	$ 956,541	$ 827,792	$ 68,654	$ 60,095	$ —
Increase (decrease) in same store NOI at share	$ 27,908	$ 32,922	$ (9,745)	$ 4,731	$ —
% increase (decrease) in same store NOI at share	2.9 %	4.0 %	(14.2)%	7.9 %	— %

(1) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART.

Results of Operations – Year Ended December 31, 2021 Compared to December 31, 2020 - continued

Same Store Net Operating Income At Share - continued

Below are reconciliations of NOI at share - cash basis to same store NOI at share - cash basis for our New York segment, theMART, 555 California Street and other investments for the year ended December 31, 2021 compared to December 31, 2020.

(Amounts in thousands)	Total	New York	theMART[(1)]	555 California Street	Other
NOI at share - cash basis for the year ended December 31, 2021	$ 1,034,686	$ 891,766	$ 64,389	$ 60,680	$ 17,851
Less NOI at share - cash basis from:					
Change in ownership interest in One Park Avenue	(7,023)	(7,023)	—	—	—
Dispositions	611	611	—	—	—
Development properties	(25,710)	(25,710)	—	—	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	12,723	12,723	—	—	—
Other non-same store income, net	(25,297)	(7,446)	—	—	(17,851)
Same store NOI at share - cash basis for the year ended December 31, 2021	$ 989,990	$ 864,921	$ 64,389	$ 60,680	$ —
NOI at share - cash basis for the year ended December 31, 2020	$ 1,018,825	$ 870,606	$ 76,251	$ 60,917	$ 11,051
Less NOI at share - cash basis from:					
Dispositions	(1,835)	(1,835)	—	—	—
Development properties	(42,998)	(42,998)	—	—	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	41,941	41,941	—	—	—
Other non-same store income, net	(41,652)	(29,663)	(553)	(385)	(11,051)
Same store NOI at share - cash basis for the year ended December 31, 2020	$ 974,281	$ 838,051	$ 75,698	$ 60,532	$ —
Increase (decrease) in same store NOI at share - cash basis	$ 15,709	$ 26,870	$ (11,309)	$ 148	$ —
% increase (decrease) in same store NOI at share - cash basis	1.6 %	3.2 %	(14.9)%	0.2 %	— %

(1) 2021 includes an increase in real estate tax expense of $18,285 primarily due to a recent increase in the triennial tax-assessed value of theMART.

Related Party Transactions

See Note 22 - *Related Party Transactions* to our consolidated financial statements in this Annual Report on Form 10-K for a discussion concerning related party transactions.

Liquidity and Capital Resources

Our cash requirements include property operating expenses, capital improvements, tenant improvements, debt service, leasing commissions, dividends to our shareholders and distributions to unitholders of the Operating Partnership, as well as acquisition and development and redevelopment costs. The sources of liquidity to fund these cash requirements include rental revenue, which is our primary source of cash flow and is dependent upon the occupancy and rental rates of our properties; proceeds from debt financings, including mortgage loans, senior unsecured borrowings, unsecured term loans and unsecured revolving credit facilities; proceeds from the issuance of common and preferred equity; and asset sales.

As of December 31, 2021, we have \$4.1 billion of liquidity comprised of \$1.9 billion of cash and cash equivalents and restricted cash and \$2.2 billion available on our \$2.75 billion revolving credit facilities. The on-going challenges posed by the COVID-19 pandemic could adversely impact our cash flow from continuing operations but we anticipate that cash flow from continuing operations over the next twelve months together with cash balances on hand will be adequate to fund our business operations, cash distributions to unitholders of the Operating Partnership, cash dividends to our shareholders, debt amortization and recurring capital expenditures. Capital requirements for development and redevelopment expenditures and acquisitions may require funding from borrowings, equity offerings and/or asset sales.

We may from time to time purchase or retire outstanding debt securities or redeem our equity securities. Such purchases, if any, will depend on prevailing market conditions, liquidity requirements and other factors. The amounts involved in connection with these transactions could be material to our consolidated financial statements.

Summary of Cash Flows

Cash and cash equivalents and restricted cash was \$1,930,351,000 at December 31, 2021, a \$199,982,000 increase from the balance at December 31, 2020.

Our cash flow activities for the years ended December 31, 2021 and 2020 are summarized as follows:

(Amounts in thousands)	For the Year Ended December 31,		Increase (Decrease) in Cash Flow
	2021	2020	
Net cash provided by operating activities	$ 761,806	$ 424,240	$ 337,566
Net cash used in investing activities	(532,347)	(87,800)	(444,547)
Net cash used in financing activities	(29,477)	(213,202)	183,725

Operating Activities

Net cash provided by operating activities primarily consists of cash inflows from rental revenues and operating distributions from our non-consolidated partially owned entities less cash outflows for property expenses, general and administrative expenses and interest expense. For the year ended December 31, 2021, net cash provided by operating activities of \$761,806,000 was comprised of \$758,260,000 of cash from operations, including distributions of income from partially owned entities of \$214,521,000 and return of capital from real estate fund investments of \$5,104,000, and a net increase of \$3,546,000 in cash due to the timing of cash receipts and payments related to changes in operating assets and liabilities.

Liquidity and Capital Resources - continued

Summary of Cash Flows - continued

Investing Activities

Net cash flow used in investing activities is impacted by the timing and extent of our development, capital improvement, acquisition and disposition activities during the year.

The following table details the net cash used in investing activities for the years ended December 31, 2021 and 2020:

(Amounts in thousands)	For the Year Ended December 31, 2021	For the Year Ended December 31, 2020	Increase (Decrease) in Cash Flow
Development costs and construction in progress	$ (585,940)	$ (601,920)	$ 15,980
Additions to real estate	(149,461)	(155,738)	6,277
Proceeds from sale of condominium units at 220 Central Park South	137,404	1,044,260	(906,856)
Acquisition of additional 45.0% ownership interest in One Park Avenue (inclusive of $5,806 of prorations and net working capital and net of $39,370 of cash and restricted cash balances consolidated upon acquisition)	(123,936)	—	(123,936)
Distributions of capital from partially owned entities	106,005	2,389	103,616
Proceeds from sales of real estate	100,024	—	100,024
Investments in partially owned entities	(14,997)	(8,959)	(6,038)
Acquisitions of real estate and other	(3,000)	(1,156)	(1,844)
Proceeds from repayments of loans receivable	1,554	—	1,554
Moynihan Train Hall expenditures	—	(395,051)	395,051
Proceeds from sales of marketable securities	—	28,375	(28,375)
Net cash used in investing activities	$ (532,347)	$ (87,800)	$ (444,547)

Financing Activities

Net cash flow used in financing activities is impacted by the timing and extent of issuances of debt and equity securities, distributions paid to common shareholders and unitholders of the Operating Partnership as well as principal and other repayments associated with our outstanding debt.

The following table details the net cash used in financing activities for the years ended December 31, 2021 and 2020:

(Amounts in thousands)	For the Year Ended December 31, 2021	For the Year Ended December 31, 2020	Increase (Decrease) in Cash Flow
Proceeds from borrowings	$ 3,248,007	$ 1,056,315	$ 2,191,692
Repayments of borrowings	(1,584,243)	(1,067,564)	(516,679)
Purchase of marketable securities in connection with defeasance of mortgage payable	(973,729)	—	(973,729)
Dividends paid on common shares/Distributions to Vornado	(406,109)	(827,319)	421,210
Redemption of preferred shares/units	(300,000)	—	(300,000)
Proceeds from the issuance of preferred shares/units	291,153	291,182	(29)
Distributions to redeemable security holders and noncontrolling interests in consolidated subsidiaries	(190,876)	(91,514)	(99,362)
Dividends paid on preferred shares/Distributions to preferred unitholders	(65,880)	(64,271)	(1,609)
Debt issuance costs	(51,184)	(10,901)	(40,283)
Contributions from noncontrolling interests in consolidated subsidiaries	4,052	100,094	(96,042)
Repurchase of shares/Class A units related to stock compensation agreements and related tax withholdings and other	(1,567)	(137)	(1,430)
Proceeds received from exercise of Vornado stock options and other	899	5,862	(4,963)
Moynihan Train Hall reimbursement from Empire State Development	—	395,051	(395,051)
Net cash used in financing activities	$ (29,477)	$ (213,202)	$ 183,725

Liquidity and Capital Resources - continued

Dividends

On January 19, 2022, Vornado declared a quarterly common dividend of $0.53 per share (an indicated annual rate of $2.12 per common share). This dividend, if declared by the Board of Trustees for all of 2022, would require Vornado to pay out approximately $406,000,000 of cash for common share dividends. In addition, during 2022, Vornado expects to pay approximately $62,000,000 of cash dividends on outstanding preferred shares and approximately $30,000,000 of cash distributions to unitholders of the Operating Partnership.

Debt

We have an effective shelf registration for the offering of our equity and debt securities that is not limited in amount due to our status as a "well-known seasoned issuer." We have issued senior unsecured notes from a shelf registration statement that contain financial covenants that restrict our ability to incur debt, and that require us to maintain a level of unencumbered assets based on the level of our secured debt. Our unsecured revolving credit facilities contain financial covenants that require us to maintain minimum interest coverage and maximum debt to market capitalization ratios, and provide for higher interest rates in the event of a decline in our ratings below Baa3/BBB. Our unsecured revolving credit facilities also contain customary conditions precedent to borrowing, including representations and warranties, and contain customary events of default that could give rise to accelerated repayment, including such items as failure to pay interest or principal. As of December 31, 2021, we are in compliance with all of the financial covenants required by our senior unsecured notes and our unsecured revolving credit facilities.

A summary of our consolidated debt as of December 31, 2021 and 2020 is presented below.

(Amounts in thousands)	As of December 31, 2021		As of December 31, 2020	
Consolidated debt:	Balance	Weighted Average Interest Rate	Balance	Weighted Average Interest Rate
Variable rate	$ 4,534,215	1.59%	$ 3,220,815	1.83%
Fixed rate	4,140,000	3.06%	4,212,643	3.70%
Total	8,674,215	2.29%	7,433,458	2.89%
Deferred financing costs, net and other	(58,268)		(34,462)	
Total, net	$ 8,615,947		$ 7,398,996	

During 2022 and 2023, $700,000,000 and $0, respectively, of our outstanding consolidated debt matures (based on the extended maturity for certain loans in which we have the unilateral right to extend); we may refinance this maturing debt as it comes due or choose to repay it using cash and cash equivalents or our unsecured revolving credit facilities. We may also refinance or prepay other outstanding debt depending on prevailing market conditions, liquidity requirements and other factors. The amounts involved in connection with these transactions could be material to our consolidated financial statements.

Details of 2021 financing activities are provided in the "Overview" of Management's Discussion and Analysis of Financial Condition and Results of Operations.

The contractual principal and interest repayments schedule of our consolidated debt as of December 31, 2021 is as follows:

(Amounts in thousands)	Total	Less than 1 Year	1 – 3 Years	3 – 5 Years	Thereafter
Notes and mortgages payable	$ 6,484,855	$ 1,178,788	$ 4,112,696	$ 394,291	$ 799,080
Senior unsecured notes due 2025	497,906	15,750	31,500	450,656	—
Senior unsecured notes due 2026	438,031	8,600	17,200	412,231	—
Senior unsecured notes due 2031	462,124	11,900	23,800	23,800	402,624
Unsecured term loan	859,732	29,799	829,933	—	—
Revolving credit facilities	585,328	8,181	577,147	—	—
Total contractual principal[(1)] and interest[(2)] repayments	$ 9,327,976	$ 1,253,018	$ 5,592,276	$ 1,280,978	$ 1,201,704

(1) Based on the contractual maturity of our loans, including the extended maturity date of certain loans for which the unilateral right to extend has been exercised as of December 31, 2021.

(2) Estimated interest for variable-rate debt based on the 1-month LIBOR curve available as of December 31, 2021.

Liquidity and Capital Resources - continued

Capital Expenditures

Capital expenditures consist of expenditures to maintain and improve assets, tenant improvement allowances and leasing commissions. During 2022, we expect to incur $275,000,000 of capital expenditures for our consolidated properties. We plan to fund these capital expenditures from operating cash flow, existing liquidity, and/or borrowings. Our partially owned non-consolidated subsidiaries typically fund their capital expenditures without any additional equity contribution from us.

Development and Redevelopment Expenditures

Development and redevelopment expenditures consist of all hard and soft costs associated with the development and redevelopment of a property. We plan to fund these development and redevelopment expenditures from operating cash flow, existing liquidity, and/or borrowings. See detailed discussion below for our current development and redevelopment projects.

PENN District

Farley

Our 95% joint venture (5% is owned by the Related Companies ("Related")) is developing Farley Office and Retail, which will include approximately 845,000 rentable square feet of commercial space, comprised of approximately 730,000 square feet of office space and approximately 115,000 square feet of restaurant and retail space. The total development cost of this project is estimated to be approximately $1,120,000,000 at our 95% share, of which $896,186,000 of cash has been expended as of December 31, 2021.

PENN 1

We are redeveloping PENN 1, a 2,547,000 square foot office building located on 34th Street between Seventh and Eighth Avenue. In December 2020, we entered into an agreement with the Metropolitan Transportation Authority (the “MTA”) to oversee the redevelopment of the Long Island Rail Road Concourse at Penn Station (the "Concourse"), within the footprint of PENN 1. Skanska USA Civil Northeast, Inc. will perform the redevelopment under a fixed price contract for $380,000,000 which is being funded by the MTA. In connection with the redevelopment, we entered into an agreement with the MTA which will result in the widening of the Concourse to relieve overcrowding and our trading of 15,000 square feet of back of house space for 22,000 square feet of retail frontage space. Vornado's total development cost for the PENN 1 project is estimated to be $450,000,000. As of December 31, 2021, $309,437,000 of cash has been expended.

PENN 2

We are redeveloping PENN 2, a 1,795,000 square foot (as expanded) office building, located on the west side of Seventh Avenue between 31st and 33rd Street. The development cost of this project is estimated to be $750,000,000, of which $161,066,000 of cash has been expended as of December 31, 2021.

PENN 15 (Hotel Pennsylvania Site)

We have permanently closed the Hotel Pennsylvania and plan to develop an office tower on the site. Demolition of the existing building structure commenced in the fourth quarter of 2021.

We are also making districtwide improvements within the PENN District. The development cost of these improvements is estimated to be $100,000,000, of which $31,481,000 of cash has been expended as of December 31, 2021.

We are also evaluating other development and redevelopment opportunities at certain of our properties in Manhattan including, in particular, the PENN District.

There can be no assurance that the above projects will be completed, completed on schedule or within budget.

Other Obligations

We have contractual cash obligations for certain properties that are subject to long-term ground and building leases. During 2022, $36,044,000 of lease payments are due, including fair market rent resets accounted for as variable rent, under our operating leases. For 2023 and thereafter, we have $1,303,520,000 of future lease payments. We believe that our operating cash flow will be adequate to fund these lease payments.

Liquidity and Capital Resources - continued

Insurance

For our properties, we maintain general liability insurance with limits of $300,000,000 per occurrence and per property, of which $250,000,000 includes communicable disease coverage, and we maintain all risk property and rental value insurance with limits of $2.0 billion per occurrence, with sub-limits for certain perils such as flood and earthquake, excluding communicable disease coverage. Our California properties have earthquake insurance with coverage of $350,000,000 per occurrence and in the aggregate, subject to a deductible in the amount of 5% of the value of the affected property. We maintain coverage for certified terrorism acts with limits of $6.0 billion per occurrence and in the aggregate (as listed below), $1.2 billion for non-certified acts of terrorism, and $5.0 billion per occurrence and in the aggregate for terrorism involving nuclear, biological, chemical and radiological ("NBCR") terrorism events, as defined by the Terrorism Risk Insurance Act of 2002, as amended to date and which has been extended through December 2027.

Penn Plaza Insurance Company, LLC ("PPIC"), our wholly owned consolidated subsidiary, acts as a re-insurer with respect to a portion of all risk property and rental value insurance and a portion of our earthquake insurance coverage, and as a direct insurer for coverage for acts of terrorism including NBCR acts. Coverage for acts of terrorism (excluding NBCR acts) is fully reinsured by third party insurance companies and the Federal government with no exposure to PPIC. For NBCR acts, PPIC is responsible for a deductible of $1,785,910 and 20% of the balance of a covered loss and the Federal government is responsible for the remaining portion of a covered loss. We are ultimately responsible for any loss incurred by PPIC.

Certain condominiums in which we own an interest (including our leasehold interest in the Farley Condominiums) own insurance policies with different per occurrence and aggregate limits than our policies described above.

We continue to monitor the state of the insurance market and the scope and costs of coverage for acts of terrorism and other events. However, we cannot anticipate what coverage will be available on commercially reasonable terms in the future. We are responsible for uninsured losses and for deductibles and losses in excess of our insurance coverage, which could be material.

Our debt instruments, consisting of mortgage loans secured by our properties, senior unsecured notes and revolving credit agreements contain customary covenants requiring us to maintain insurance. Although we believe that we have adequate insurance coverage for purposes of these agreements, we may not be able to obtain an equivalent amount of coverage at reasonable costs in the future. Further, if lenders insist on greater coverage than we are able to obtain it could adversely affect our ability to finance or refinance our properties and expand our portfolio.

Other Commitments and Contingencies

We are from time to time involved in legal actions arising in the ordinary course of business. In our opinion, after consultation with legal counsel, the outcome of such matters is not currently expected to have a material adverse effect on our financial position, results of operations or cash flows.

Each of our properties has been subjected to varying degrees of environmental assessment at various times. The environmental assessments did not reveal any material environmental contamination. However, there can be no assurance that the identification of new areas of contamination, changes in the extent or known scope of contamination, the discovery of additional sites, or changes in cleanup requirements would not result in significant costs to us.

In July 2018, we leased 78,000 square feet at 345 Montgomery Street in San Francisco, CA, to a subsidiary of Regus PLC, for an initial term of 15 years. The obligations under the lease were guaranteed by Regus PLC in an amount of up to $90,000,000. The tenant purported to terminate the lease prior to space delivery. We commenced a suit on October 23, 2019 seeking to enforce the lease and the guaranty. On May 11, 2021, the court issued a final statement of decision in our favor and on July 7, 2021, the Regus subsidiary appealed the decision. On October 9, 2020, the successor to Regus PLC filed for bankruptcy in Luxembourg. We are actively pursuing claims relating to the guaranty against the successor to Regus PLC and its parent in Luxembourg and other jurisdictions.

In November 2011, we entered into an agreement with the New York City Economic Development Corporation ("EDC") to lease Piers 92 and 94 (the "Piers"). In February 2019, EDC issued an order for us to vacate Pier 92 due to structural problems. Beginning March 2020 through August 2021, we did not pay EDC the monthly rent due under the non-recourse lease due to the loss of our right to use or occupy Pier 92. On August 31, 2021, both parties entered into a mutual release with respect to claims by EDC for unpaid rent owed and claims by the Company for costs and damages as a result of our inability to use or occupy Pier 92.

Our mortgage loans are non-recourse to us, except for the mortgage loans secured by 640 Fifth Avenue, 7 West 34th Street and 435 Seventh Avenue, which we guaranteed and therefore are part of our tax basis. In certain cases we have provided guarantees or master leased tenant space. These guarantees and master leases terminate either upon the satisfaction of specified circumstances or repayment of the underlying loans. In addition, we have guaranteed the rent and payments in lieu of real estate taxes due to ESD, an entity of New York State, for Farley Office and Retail. As of December 31, 2021, the aggregate dollar amount of these guarantees and master leases is approximately $1,648,000,000.

As of December 31, 2021, $15,273,000 of letters of credit were outstanding under one of our unsecured revolving credit facilities. Our unsecured revolving credit facilities contain financial covenants that require us to maintain minimum interest coverage and maximum debt to market capitalization ratios, and provide for higher interest rates in the event of a decline in our ratings below Baa3/BBB. Our unsecured revolving credit facilities also contain customary conditions precedent to borrowing, including representations and warranties, and also contain customary events of default that could give rise to accelerated repayment, including such items as failure to pay interest or principal.

Our 95% consolidated joint venture (5% is owned by Related) is developing Farley Office and Retail. In connection with the development of the property, the joint venture admitted a historic tax credit investor partner (the "Tax Credit Investor"). Under the terms of the historic tax credit arrangement, the joint venture is required to comply with various laws, regulations, and contractual provisions. Non-compliance with applicable requirements could result in projected tax benefits not being realized and, therefore, may require a refund or reduction of the Tax Credit Investor's capital contributions. As of December 31, 2021, the Tax Credit Investor has made $92,400,000 in capital contributions. Vornado and Related have guaranteed certain of the joint venture's obligations to the Tax Credit Investor.

As investment manager of the Fund we are entitled to an incentive allocation after the limited partners have received a preferred return on their invested capital. The incentive allocation is subject to catch-up and clawback provisions. Accordingly, based on the December 31, 2021 fair value of the Fund assets, at liquidation we would be required to make a $27,100,000 payment to the limited partners, net of amounts owed to us, representing a clawback of previously paid incentive allocations, which would have no income statement impact as it was previously accrued.

As of December 31, 2021, we expect to fund additional capital to certain of our partially owned entities aggregating approximately $10,300,000.

As of December 31, 2021, we have construction commitments aggregating approximately $494,000,000.

Funds From Operations

Vornado Realty Trust

FFO is computed in accordance with the definition adopted by the Board of Governors of the National Association of Real Estate Investment Trusts ("NAREIT"). NAREIT defines FFO as GAAP net income or loss adjusted to exclude net gains from sales of certain real estate assets, real estate impairment losses, depreciation and amortization expense from real estate assets and other specified items, including the pro rata share of such adjustments of unconsolidated subsidiaries. FFO and FFO per diluted share are non-GAAP financial measures used by management, investors and analysts to facilitate meaningful comparisons of operating performance between periods and among our peers because it excludes the effect of real estate depreciation and amortization and net gains on sales, which are based on historical costs and implicitly assume that the value of real estate diminishes predictably over time, rather than fluctuating based on existing market conditions. FFO does not represent cash generated from operating activities and is not necessarily indicative of cash available to fund cash requirements and should not be considered as an alternative to net income as a performance measure or cash flow as a liquidity measure. FFO may not be comparable to similarly titled measures employed by other companies. The calculations of both the numerator and denominator used in the computation of income per share are disclosed in Note 18 – *Income (Loss) Per Share/Income (Loss) Per Class A Unit*, in our consolidated financial statements in Part II, Item 8 of this Annual Report on Form 10-K.

FFO attributable to common shareholders plus assumed conversions was $571,074,000, or $2.97 per diluted share, for the year ended December 31, 2021, compared to $750,522,000, or $3.93 per diluted share, for the prior year. Details of certain items that impact FFO are discussed in the financial results summary of our "Overview."

(Amounts in thousands, except per share amounts)	For the Year Ended December 31,	
	2021	**2020**
Reconciliation of net income (loss) attributable to common shareholders to FFO attributable to common shareholders plus assumed conversions:		
Net income (loss) attributable to common shareholders	$ 101,086	$ (348,744)
Per diluted share	$ 0.53	$ (1.83)
FFO adjustments:		
Depreciation and amortization of real property	$ 373,792	$ 368,556
Real estate impairment losses	7,880	236,286
Decrease in fair value of marketable securities	—	4,938
Proportionate share of adjustments to equity in net income (loss) of partially owned entities to arrive at FFO:		
Depreciation and amortization of real property	139,247	156,646
Net gains on sale of real estate	(15,675)	—
(Increase) decrease in fair value of marketable securities	(1,155)	2,801
Non-cash impairment loss on our investment in Fifth Avenue and Times Square JV, net of $4,289 of noncontrolling interests	—	409,060
	504,089	1,178,287
Noncontrolling interests' share of above adjustments	(34,144)	(79,068)
FFO adjustments, net	$ 469,945	$ 1,099,219
FFO attributable to common shareholders	$ 571,031	$ 750,475
Convertible preferred share dividends	43	47
FFO attributable to common shareholders plus assumed conversions	$ 571,074	$ 750,522
Per diluted share	$ 2.97	$ 3.93
Reconciliation of weighted average shares outstanding:		
Weighted average common shares outstanding	191,551	191,146
Effect of dilutive securities:		
Out-Performance Plan units	557	—
Convertible preferred shares	26	28
AO LTIP units	10	—
Employee stock options and restricted stock awards	4	19
Denominator for FFO per diluted share	192,148	191,193

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

We have exposure to fluctuations in market interest rates. Market interest rates are sensitive to many factors that are beyond our control. Our exposure to a change in interest rates on our consolidated and non-consolidated debt (all of which arises out of non-trading activity) is as follows:

(Amounts in thousands, except per share and unit amounts)	2021			2020	
	December 31, Balance	Weighted Average Interest Rate	Effect of 1% Change In Base Rates	December 31, Balance	Weighted Average Interest Rate
Consolidated debt:					
Variable rate	$ 4,534,215	1.59%	$ 45,342	$ 3,220,815	1.83%
Fixed rate	4,140,000	3.06%	—	4,212,643	3.70%
	$ 8,674,215	2.29%	45,342	$ 7,433,458	2.89%
Pro rata share of debt of non-consolidated entities(1):					
Variable rate	$ 1,267,224	1.78%	12,672	$ 1,384,710 (1)	1.80%
Fixed rate	1,432,181	3.72%	—	1,488,464	3.76%
	$ 2,699,405	2.81%	12,672	$ 2,873,174	2.81%
Noncontrolling interests' share of consolidated subsidiaries			(6,821)		
Total change in annual net income attributable to the Operating Partnership			51,193		
Noncontrolling interests' share of the Operating Partnership			(3,496)		
Total change in annual net income attributable to Vornado			$ 47,697		
Total change in annual net income attributable to the Operating Partnership per diluted Class A unit			$ 0.25		
Total change in annual net income attributable to Vornado per diluted share			$ 0.25		

(1) Net of our $16,200 share of Alexander's participation in its Rego Park II shopping center mortgage loan which is considered partially extinguished as the participation interest is a reacquisition of debt. On April 7, 2021, Alexander's used its participation in the loan to reduce the loan balance.

Fair Value of Debt

The estimated fair value of our consolidated debt is calculated based on current market prices and discounted cash flows at the current rate at which similar loans would be made to borrowers with similar credit ratings for the remaining term of such debt. As of December 31, 2021, the estimated fair value of our consolidated debt was $8,657,000,000.

Derivatives and Hedging

We utilize various financial instruments to mitigate the impact of interest rate fluctuations on our cash flows and earnings, including hedging strategies, depending on our analysis of the interest rate environment and the costs and risks of such strategies. The following table summarizes our consolidated derivative instruments, all of which hedge variable rate debt, as of December 31, 2021.

(Amounts in thousands)	As of December 31, 2021					
			Variable Rate			
Hedged Item	Fair Value	Notional Amount	Spread over LIBOR	Interest Rate	Swapped Rate	Expiration Date
Included in other assets:						
555 California Street mortgage loan interest rate swap	$ 11,814	$ 840,000 (1)	L+193	2.04%	2.26%	5/24
PENN 11 mortgage loan interest rate swap	6,565	500,000	L+195	2.05%	2.23%	3/24
Various interest rate caps	550	1,650,000				
	$ 18,929	$ 2,990,000				
Included in other liabilities:						
Unsecured term loan interest rate swap	$ 28,976	$ 750,000 (2)	L+100	1.10%	3.87%	10/23
33-00 Northern Boulevard mortgage loan interest rate swap	3,861	100,000	L+180	1.91%	4.14%	1/25
	$ 32,837	$ 850,000				

(1) Represents our 70.0% share of the $1.2 billion mortgage loan.
(2) Remaining $50,000 balance of our unsecured term loan bears interest at a floating rate of LIBOR plus 1.00%.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

INDEX TO FINANCIAL STATEMENTS

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Trustees
Vornado Realty Trust
New York, New York

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Vornado Realty Trust and subsidiaries (the "Company") as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with the accounting principles generally accepted in the United States of America.

We have also 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, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 14, 2022, expressed an unqualified opinion on the Company's internal control over financial reporting.

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 critical audit matters does not alter in any way our opinion on the 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.

Real Estate Recoverability Assessment — Refer to Note 2 to the financial statements

Critical Audit Matter Description

The Company’s wholly owned properties are individually reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment exists when the carrying amount of an asset exceeds the aggregate projected future cash flows over the anticipated holding period on an undiscounted basis. The recoverability assessment is determined based on projected future cash flows that utilize capitalization rates and available market information. The Company’s undiscounted cash flows requires management to make significant estimates and assumptions related to future market rental rates and capitalization rates.

We identified the recoverability assessment of wholly owned properties as a critical audit matter because of the significant estimates and assumptions related to future market rental rates and capitalization rates. Performing audit procedures to evaluate the reasonableness of these estimates and assumptions required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, where applicable.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the recoverability assessment of wholly owned properties included the following, among other things:

- We tested the effectiveness of controls over management's evaluation of recoverability of its wholly owned properties, including those over future market rental rates and capitalization rates used in the assessment.
- We evaluated the reasonableness of future market rental rates and capitalization rates used by management with independent market data, focusing on geographical location and property. In addition, we developed ranges of independent estimates of future market rental rates and capitalization rates and compared those to the amounts used by management.
- We involved our fair value specialists in providing comparable market transaction details to further support the future market rental rate and capitalization rate assumptions, as applicable.
- We evaluated the reasonableness of management's projected future cash flows by comparing management's projections to the Company's historical results.
- We evaluated whether the assumptions were consistent with evidence obtained in other areas of the audit.

/s/ DELOITTE & TOUCHE LLP

New York, New York
February 14, 2022

We have served as the Company's auditor since 1976.

VORNADO REALTY TRUST
CONSOLIDATED BALANCE SHEETS

(Amounts in thousands, except unit, share and per share amounts)	As of December 31, 2021	2020
ASSETS		
Real estate, at cost:		
Land	$ 2,540,193	$ 2,420,054
Buildings and improvements	9,839,166	7,933,030
Development costs and construction in progress	718,694	1,604,637
Leasehold improvements and equipment	119,792	130,222
Total	13,217,845	12,087,943
Less accumulated depreciation and amortization	(3,376,347)	(3,169,446)
Real estate, net	9,841,498	8,918,497
Right-of-use assets	337,197	367,365
Cash and cash equivalents	1,760,225	1,624,482
Restricted cash	170,126	105,887
Tenant and other receivables	79,661	77,658
Investments in partially owned entities	3,297,389	3,491,107
Real estate fund investments	7,730	3,739
220 Central Park South condominium units ready for sale	57,142	128,215
Receivable arising from the straight-lining of rents	656,318	674,075
Deferred leasing costs, net of accumulated amortization of $211,775 and $196,972	391,693	372,919
Identified intangible assets, net of accumulated amortization of $97,186 and $93,113	154,895	23,856
Other assets	512,714	434,022
	$ 17,266,588	$ 16,221,822
LIABILITIES, REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY		
Mortgages payable, net	$ 6,053,343	$ 5,580,549
Senior unsecured notes, net	1,189,792	446,685
Unsecured term loan, net	797,812	796,762
Unsecured revolving credit facilities	575,000	575,000
Lease liabilities	370,206	401,008
Accounts payable and accrued expenses	613,497	427,202
Deferred revenue	48,118	40,110
Deferred compensation plan	110,174	105,564
Other liabilities	304,725	294,520
Total liabilities	10,062,667	8,667,400
Commitments and contingencies		
Redeemable noncontrolling interests:		
Class A units - 14,033,438 and 13,583,607 units outstanding	587,440	507,212
Series D cumulative redeemable preferred units - 141,400 and 141,401 units outstanding	3,535	4,535
Total redeemable noncontrolling partnership units	590,975	511,747
Redeemable noncontrolling interest in a consolidated subsidiary	97,708	94,520
Total redeemable noncontrolling interests	688,683	606,267
Shareholders' equity:		
Preferred shares of beneficial interest: no par value per share; authorized 110,000,000 shares; issued and outstanding 48,792,902 and 48,793,402 shares	1,182,459	1,182,339
Common shares of beneficial interest: $0.04 par value per share; authorized 250,000,000 shares; issued and outstanding 191,723,608 and 191,354,679 shares	7,648	7,633
Additional capital	8,143,093	8,192,507
Earnings less than distributions	(3,079,320)	(2,774,182)
Accumulated other comprehensive loss	(17,534)	(75,099)
Total shareholders' equity	6,236,346	6,533,198
Noncontrolling interests in consolidated subsidiaries	278,892	414,957
Total equity	6,515,238	6,948,155
	$ 17,266,588	$ 16,221,822

See notes to the consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF INCOME

(Amounts in thousands, except per share amounts)	For the Year Ended December 31,		
	2021	2020	2019
REVENUES:			
Rental revenues	$ 1,424,531	$ 1,377,635	$ 1,767,222
Fee and other income	164,679	150,316	157,478
Total revenues	1,589,210	1,527,951	1,924,700
EXPENSES:			
Operating	(797,315)	(789,066)	(917,981)
Depreciation and amortization	(412,347)	(399,695)	(419,107)
General and administrative	(134,545)	(181,509)	(169,920)
Expense from deferred compensation plan liability	(9,847)	(6,443)	(11,609)
Impairment losses, transaction related costs and other	(13,815)	(174,027)	(106,538)
Total expenses	(1,367,869)	(1,550,740)	(1,625,155)
Income (loss) from partially owned entities	130,517	(329,112)	78,865
Income (loss) from real estate fund investments	11,066	(226,327)	(104,082)
Interest and other investment income (loss), net	4,612	(5,499)	21,819
Income from deferred compensation plan assets	9,847	6,443	11,609
Interest and debt expense	(231,096)	(229,251)	(286,623)
Net gain on transfer to Fifth Avenue and Times Square JV	—	—	2,571,099
Net gains on disposition of wholly owned and partially owned assets	50,770	381,320	845,499
Income (loss) before income taxes	197,057	(425,215)	3,437,731
Income tax benefit (expense)	10,496	(36,630)	(103,439)
Income (loss) from continuing operations	207,553	(461,845)	3,334,292
Loss from discontinued operations	—	—	(30)
Net income (loss)	207,553	(461,845)	3,334,262
Less net (income) loss attributable to noncontrolling interests in:			
Consolidated subsidiaries	(24,014)	139,894	24,547
Operating Partnership	(7,540)	24,946	(210,872)
Net income (loss) attributable to Vornado	175,999	(297,005)	3,147,937
Preferred share dividends	(65,880)	(51,739)	(50,131)
Series K preferred share issuance costs	(9,033)	—	—
NET INCOME (LOSS) attributable to common shareholders	$ 101,086	$ (348,744)	$ 3,097,806
INCOME (LOSS) PER COMMON SHARE - BASIC:			
Net income (loss) per common share	$ 0.53	$ (1.83)	$ 16.23
Weighted average shares outstanding	191,551	191,146	190,801
INCOME (LOSS) PER COMMON SHARE - DILUTED:			
Net income (loss) per common share	$ 0.53	$ (1.83)	$ 16.21
Weighted average shares outstanding	192,122	191,146	191,053

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Net income (loss)	$ 207,553	$ (461,845)	$ 3,334,262
Other comprehensive income (loss):			
Increase (reduction) in value of interest rate swaps and other	51,338	(29,971)	(47,883)
Other comprehensive income (loss) of nonconsolidated subsidiaries	10,275	(14,342)	(938)
Amounts reclassified from accumulated other comprehensive loss relating to nonconsolidated subsidiary	—	—	(2,311)
Comprehensive income (loss)	269,166	(506,158)	3,283,130
Less comprehensive (income) loss attributable to noncontrolling interests	(35,602)	174,287	(183,090)
Comprehensive income (loss) attributable to Vornado	$ 233,564	$ (331,871)	$ 3,100,040

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(Amounts in thousands, except per share amount)

	Preferred Shares		Common Shares		Additional Capital	Earnings Less Than Distributions	Accumulated Other Comprehensive (Loss) Income	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Shares	Amount	Shares	Amount					
Balance as of December 31, 2020	48,793	$ 1,182,339	191,355	$ 7,633	$ 8,192,507	$ (2,774,182)	$ (75,099)	$ 414,957	$ 6,948,155
Net income attributable to Vornado	—	—	—	—	—	175,999	—	—	175,999
Net income attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	—	20,826	20,826
Dividends on common shares ($2.12 per share)	—	—	—	—	—	(406,109)	—	—	(406,109)
Dividends on preferred shares (see Note 11 for dividends per share amounts)	—	—	—	—	—	(65,880)	—	—	(65,880)
Series O cumulative redeemable preferred shares issuance	12,000	291,153	—	—	—	—	—	—	291,153
Common shares issued:									
Upon redemption of Class A units, at redemption value	—	—	350	14	14,562	—	—	—	14,576
Under employees' share option plan	—	—	1	—	22	—	—	—	22
Under dividend reinvestment plan	—	—	21	1	876	—	—	—	877
Contributions	—	—	—	—	—	—	—	4,052	4,052
Distributions	—	—	—	—	—	—	—	(160,975)	(160,975)
Conversion of Series A preferred shares to common shares	—	(13)	1	—	13	—	—	—	—
Deferred compensation shares and options	—	—	(4)	—	906	(114)	—	—	792
Other comprehensive income of nonconsolidated subsidiaries	—	—	—	—	—	—	10,275	—	10,275
Increase in value of interest rate swaps	—	—	—	—	—	—	51,337	—	51,337
Unearned 2018 Out-Performance Plan awards acceleration	—	—	—	—	10,283	—	—	—	10,283
Redeemable Class A unit measurement adjustment	—	—	—	—	(76,073)	—	—	—	(76,073)
Series K cumulative redeemable preferred shares called for redemption	(12,000)	(290,967)	—	—	—	(9,033)	—	—	(300,000)
Redeemable noncontrolling interests' share of above adjustments	—	—	—	—	—	—	(4,048)	—	(4,048)
Other	—	(53)	—	—	(3)	(1)	1	32	(24)
Balance as of December 31, 2021	48,793	$ 1,182,459	191,724	$ 7,648	$ 8,143,093	$ (3,079,320)	$ (17,534)	$ 278,892	$ 6,515,238

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY - CONTINUED

(Amounts in thousands, except per share amounts)

	Preferred Shares		Common Shares		Additional Capital	Earnings Less Than Distributions	Accumulated Other Comprehensive (Loss) Income	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Shares	Amount	Shares	Amount					
Balance as of December 31, 2019	36,796	$ 891,214	190,986	$ 7,618	$ 7,827,697	$ (1,954,266)	$ (40,233)	$ 578,948	$ 7,310,978
Cumulative effect of accounting change	—	—	—	—	—	(16,064)	—	—	(16,064)
Net loss attributable to Vornado	—	—	—	—	—	(297,005)	—	—	(297,005)
Net loss attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	—	(140,438)	(140,438)
Dividends on common shares ($2.38 per share)	—	—	—	—	—	(454,939)	—	—	(454,939)
Dividends on preferred shares (see Note 11 for dividends per share amounts)	—	—	—	—	—	(51,739)	—	—	(51,739)
Series N cumulative redeemable preferred shares issuance	12,000	291,182	—	—	—	—	—	—	291,182
Common shares issued:									
Upon redemption of Class A units, at redemption value	—	—	236	9	9,257	—	—	—	9,266
Under employees' share option plan	—	—	69	3	3,514	—	—	—	3,517
Under dividend reinvestment plan	—	—	47	2	2,343	—	—	—	2,345
Contributions:									
Real estate fund investments	—	—	—	—	—	—	—	3,389	3,389
Other	—	—	—	—	—	—	—	4,305	4,305
Distributions	—	—	—	—	—	—	—	(33,007)	(33,007)
Conversion of Series A preferred shares to common shares	(3)	(57)	4	—	57	—	—	—	—
Deferred compensation shares and options	—	—	13	1	1,305	(137)	—	—	1,169
Other comprehensive loss of nonconsolidated subsidiaries	—	—	—	—	—	—	(14,342)	—	(14,342)
Reduction in value of interest rate swaps	—	—	—	—	—	—	(29,972)	—	(29,972)
Unearned 2017 Out-Performance Plan awards acceleration	—	—	—	—	10,824	—	—	—	10,824
Redeemable Class A unit measurement adjustment	—	—	—	—	344,043	—	—	—	344,043
Redeemable noncontrolling interests' share of above adjustments	—	—	—	—	—	—	2,914	—	2,914
Other	—	—	—	—	(6,533)	(32)	6,534	1,760	1,729
Balance as of December 31, 2020	48,793	$ 1,182,339	191,355	$ 7,633	$ 8,192,507	$ (2,774,182)	$ (75,099)	$ 414,957	$ 6,948,155

See notes to consolidated financial statements.

(Amounts in thousands, except per share amount)

	Preferred Shares		Common Shares		Additional Capital	Earnings Less Than Distributions	Accumulated Other Comprehensive Income (Loss)	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Shares	Amount	Shares	Amount					
Balance as of December 31, 2018	36,800	$ 891,294	190,535	$ 7,600	$ 7,725,857	$ (4,167,184)	$ 7,664	$ 642,652	$ 5,107,883
Net income attributable to Vornado	—	—	—	—	—	3,147,937	—	—	3,147,937
Net loss attributable to noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	—	(24,547)	(24,547)
Dividends on common shares :									
Special dividend ($1.95 per share)	—	—	—	—	—	(372,380)	—	—	(372,380)
Aggregate quarterly dividends ($2.64 per common share)	—	—	—	—	—	(503,785)	—	—	(503,785)
Dividends on preferred shares	—	—	—	—	—	(50,131)	—	—	(50,131)
Common shares issued:									
Upon redemption of Class A units, at redemption value	—	—	171	7	11,243	—	—	—	11,250
Under employees' share option plan	—	—	245	10	5,479	(8,587)	—	—	(3,098)
Under dividend reinvestment plan	—	—	22	1	1,413	—	—	—	1,414
Contributions:									
Real estate fund investments	—	—	—	—	—	—	—	9,023	9,023
Other	—	—	—	—	—	—	—	8,848	8,848
Distributions	—	—	—	—	—	—	—	(45,587)	(45,587)
Conversion of Series A preferred shares to common shares	(2)	(80)	6	—	80	—	—	—	—
Deferred compensation shares and options	—	—	7	—	1,095	(105)	—	—	990
Other comprehensive loss of nonconsolidated subsidiaries	—	—	—	—	—	—	(938)	—	(938)
Reduction in value of interest rate swaps	—	—	—	—	—	—	(47,885)	—	(47,885)
Amounts reclassified related to a nonconsolidated subsidiary	—	—	—	—	—	—	(2,311)	—	(2,311)
Unearned 2016 Out-Performance Plan awards acceleration	—	—	—	—	11,720	—	—	—	11,720
Redeemable Class A unit measurement adjustment	—	—	—	—	70,810	—	—	—	70,810
Redeemable noncontrolling interests' share of above adjustments	—	—	—	—	—	—	3,235	—	3,235
Deconsolidation of partially owned entity	—	—	—	—	—	—	—	(11,441)	(11,441)
Other	(2)	—	—	—	—	(31)	2	—	(29)
Balance as of December 31, 2019	36,796	$ 891,214	190,986	$ 7,618	$ 7,827,697	$ (1,954,266)	$ (40,233)	$ 578,948	$ 7,310,978

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Cash Flows from Operating Activities:			
Net income (loss)	$ 207,553	$ (461,845)	$ 3,334,262
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization (including amortization of deferred financing costs)	432,594	417,942	438,933
Distributions of income from partially owned entities	214,521	175,246	116,826
Equity in net (income) loss of partially owned entities	(130,517)	329,112	(78,865)
Net gains on disposition of wholly owned and partially owned assets	(50,770)	(381,320)	(845,499)
Stock-based compensation expense	38,329	48,677	53,908
Defeasance cost in connection with refinancing of mortgage payable	23,729	—	—
Amortization of below-market leases, net	(9,249)	(16,878)	(19,830)
Straight-lining of rents	8,644	24,404	9,679
Real estate impairment losses	7,880	236,286	26,705
Write-off of lease receivables deemed uncollectible	7,695	63,204	17,237
Return of capital from real estate fund investments	5,104	—	—
Net realized and unrealized (income) loss on real estate fund investments	(4,621)	226,107	106,109
Non-cash (gain on extinguishment of 608 Fifth Avenue lease liability) impairment loss on 608 Fifth Avenue right-of-use asset	—	(70,260)	75,220
Credit losses on loans receivable	—	13,369	—
Decrease in fair value of marketable securities	—	4,938	5,533
Net gain on transfer to Fifth Avenue and Times Square JV	—	—	(2,571,099)
Prepayment penalty on redemption of senior unsecured notes due 2022	—	—	22,058
Other non-cash adjustments	7,368	6,739	(3,472)
Changes in operating assets and liabilities:			
Real estate fund investments	(4,474)	(7,197)	(10,000)
Tenant and other receivables	(187)	(5,330)	(25,988)
Prepaid assets	30,466	(137,452)	7,558
Other assets	(54,716)	(52,832)	(4,302)
Accounts payable and accrued expenses	35,856	14,868	5,940
Other liabilities	(3,399)	(3,538)	1,626
Net cash provided by operating activities	761,806	424,240	662,539
Cash Flows from Investing Activities:			
Development costs and construction in progress	(585,940)	(601,920)	(649,056)
Additions to real estate	(149,461)	(155,738)	(233,666)
Proceeds from sale of condominium units at 220 Central Park South	137,404	1,044,260	1,605,356
Acquisition of additional 45.0% ownership interest in One Park Avenue (inclusive of $5,806 of prorations and net working capital and net of $39,370 of cash and restricted cash balances consolidated upon acquisition)	(123,936)	—	—
Distributions of capital from partially owned entities	106,005	2,389	24,880
Proceeds from sales of real estate	100,024	—	324,201
Investments in partially owned entities	(14,997)	(8,959)	(18,257)
Acquisitions of real estate and other	(3,000)	(1,156)	(69,699)
Proceeds from repayments of loans receivable	1,554	—	1,395
Moynihan Train Hall expenditures	—	(395,051)	(438,935)
Proceeds from sales of marketable securities	—	28,375	168,314
Proceeds from transfer of interest in Fifth Avenue and Times Square JV (net of $35,562 of transaction costs and $10,899 of deconsolidated cash and restricted cash)	—	—	1,248,743
Proceeds from redemption of 640 Fifth Avenue preferred equity	—	—	500,000
Net cash (used in) provided by investing activities	(532,347)	(87,800)	2,463,276

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Cash Flows from Financing Activities:			
Proceeds from borrowings	$ 3,248,007	$ 1,056,315	$ 1,108,156
Repayments of borrowings	(1,584,243)	(1,067,564)	(2,718,987)
Purchase of marketable securities in connection with defeasance of mortgage payable	(973,729)	—	(407,126)
Dividends paid on common shares	(406,109)	(827,319)	(503,785)
Redemption of preferred shares	(300,000)	—	(893)
Proceeds from the issuance of preferred shares	291,153	291,182	—
Distributions to noncontrolling interests	(190,876)	(91,514)	(80,194)
Dividends paid on preferred shares	(65,880)	(64,271)	(50,131)
Debt issuance costs	(51,184)	(10,901)	(15,588)
Contributions from noncontrolling interests	4,052	100,094	17,871
Repurchase of shares related to stock compensation agreements and related tax withholdings and other	(1,567)	(137)	(8,692)
Proceeds received from exercise of employee share options and other	899	5,862	6,903
Moynihan Train Hall reimbursement from Empire State Development	—	395,051	438,935
Prepayment penalty on redemption of senior unsecured notes due 2022	—	—	(22,058)
Net cash used in financing activities	(29,477)	(213,202)	(2,235,589)
Net increase in cash and cash equivalents and restricted cash	199,982	123,238	890,226
Cash and cash equivalents and restricted cash at beginning of period	1,730,369	1,607,131	716,905
Cash and cash equivalents and restricted cash at end of period	$ 1,930,351	$ 1,730,369	$ 1,607,131
Reconciliation of Cash and Cash Equivalents and Restricted Cash:			
Cash and cash equivalents at beginning of period	$ 1,624,482	$ 1,515,012	$ 570,916
Restricted cash at beginning of period	105,887	92,119	145,989
Cash and cash equivalents and restricted cash at beginning of period	$ 1,730,369	$ 1,607,131	$ 716,905
Cash and cash equivalents at end of period	$ 1,760,225	$ 1,624,482	$ 1,515,012
Restricted cash at end of period	170,126	105,887	92,119
Cash and cash equivalents and restricted cash at end of period	$ 1,930,351	$ 1,730,369	$ 1,607,131

See notes to consolidated financial statements.

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Supplemental Disclosure of Cash Flow Information:			
Cash payments for interest, excluding capitalized interest of $38,320, $40,855 and $67,980	$ 188,587	$ 210,052	$ 283,613
Cash payments for income taxes	$ 9,155	$ 15,105	$ 59,834
Non-Cash Investing and Financing Activities:			
Marketable securities transferred in connection with the defeasance of mortgage payable	$ (973,729)	$ —	$ (407,126)
Defeasance of mortgage payable	950,000	—	390,000
Increase in assets and liabilities resulting from the consolidation of One Park Avenue:			
Real estate	566,013	—	—
Identified intangible assets	139,545	—	—
Mortgages payable	525,000	—	—
Deferred revenue	18,884	—	—
Accrued capital expenditures included in accounts payable and accrued expenses	291,690	117,641	109,975
Write-off of fully depreciated assets	(123,537)	(189,250)	(122,813)
Reclassification of assets held for sale (included in "other assets")	80,005	—	—
Redeemable Class A unit measurement adjustment	(76,073)	344,043	70,810
Decrease (increase) in accumulated other comprehensive loss due to change in fair value of consolidated interest rate swaps	51,337	(29,972)	(47,885)
Reclassification of condominium units from "development costs and construction in progress" to "220 Central Park South condominium units ready for sale"	16,014	388,280	1,311,468
Decrease in assets and liabilities resulting from the deconsolidation of Moynihan Train Hall:			
Real estate, net	—	(1,291,804)	—
Moynihan Train Hall Obligation	—	(1,291,804)	—
Investments received in exchange for transfer to Fifth Avenue and Times Square JV:			
Preferred equity	—	—	2,327,750
Common equity	—	—	1,449,495
Lease liabilities arising from the recognition of right-of-use assets	—	—	526,866
Special dividend/distribution declared and payable on January 15, 2020	—	—	398,292
Recognition of negative basis related to the sale of our investment in 330 Madison Avenue	—	—	60,052
Amounts related to our investment in Pennsylvania Real Estate Investment Trust reclassified from "investments in partially owned entities" and "accumulated other comprehensive loss" to "marketable securities" upon conversion of operating partnership units to common shares	—	—	54,962

See notes to consolidated financial statements.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Partners
Vornado Realty L.P.
New York, New York

Opinion on the Financial Statements

We have audited the accompanying consolidated balance sheets of Vornado Realty L.P. and subsidiaries (the "Partnership") as of December 31, 2021 and 2020, the related consolidated statements of income, comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes and the schedule listed in the Index at Item 15 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Partnership as of December 31, 2021 and 2020, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with the accounting principles generally accepted in the United States of America.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Partnership's internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated February 14, 2022, expressed an unqualified opinion on the Partnership's internal control over financial reporting.

Basis for Opinion

These financial statements are the responsibility of the Partnership's management. Our responsibility is to express an opinion on the Partnership'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 Partnership in accordance with the US 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 critical audit matters does not alter in any way our opinion on the 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.

Real Estate Recoverability Assessment — Refer to Note 2 to the financial statements

Critical Audit Matter Description

The Partnership’s wholly owned properties are individually reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment exists when the carrying amount of an asset exceeds the aggregate projected future cash flows over the anticipated holding period on an undiscounted basis. The recoverability assessment is determined based on projected future cash flows that utilize capitalization rates and available market information. The Partnership’s undiscounted cash flows requires management to make significant estimates and assumptions related to future market rental rates and capitalization rates.

We identified the recoverability assessment of wholly owned properties as a critical audit matter because of the significant estimates and assumptions related to future market rental rates and capitalization rates. Performing audit procedures to evaluate the reasonableness of these estimates and assumptions required a high degree of auditor judgment and an increased extent of effort, including the need to involve our fair value specialists, where applicable.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the recoverability assessment of wholly owned properties included the following, among other things:

- We tested the effectiveness of controls over management's evaluation of recoverability of its wholly owned properties, including those over future market rental rates and capitalization rates used in the assessment.
- We evaluated the reasonableness of future market rental rates and capitalization rates used by management with independent market data, focusing on geographical location and property. In addition, we developed ranges of independent estimates of future market rental rates and capitalization rates and compared those to the amounts used by management.
- We involved our fair value specialists in providing comparable market transaction details to further support the future market rental rate and capitalization rate assumptions, as applicable.
- We evaluated the reasonableness of management's projected future cash flows by comparing management's projections to the Partnership's historical results.
- We evaluated whether the assumptions were consistent with evidence obtained in other areas of the audit.

/s/ DELOITTE & TOUCHE LLP

New York, New York
February 14, 2022

We have served as the Partnership's auditor since 1997.

VORNADO REALTY L.P.
CONSOLIDATED BALANCE SHEETS

(Amounts in thousands, except unit amounts)	As of December 31, 2021	2020
ASSETS		
Real estate, at cost:		
Land	$ 2,540,193	$ 2,420,054
Buildings and improvements	9,839,166	7,933,030
Development costs and construction in progress	718,694	1,604,637
Leasehold improvements and equipment	119,792	130,222
Total	13,217,845	12,087,943
Less accumulated depreciation and amortization	(3,376,347)	(3,169,446)
Real estate, net	9,841,498	8,918,497
Right-of-use assets	337,197	367,365
Cash and cash equivalents	1,760,225	1,624,482
Restricted cash	170,126	105,887
Tenant and other receivables	79,661	77,658
Investments in partially owned entities	3,297,389	3,491,107
Real estate fund investments	7,730	3,739
220 Central Park South condominium units ready for sale	57,142	128,215
Receivable arising from the straight-lining of rents	656,318	674,075
Deferred leasing costs, net of accumulated amortization of $211,775 and $196,972	391,693	372,919
Identified intangible assets, net of accumulated amortization of $97,186 and $93,113	154,895	23,856
Other assets	512,714	434,022
	$ 17,266,588	$ 16,221,822
LIABILITIES, REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY		
Mortgages payable, net	$ 6,053,343	$ 5,580,549
Senior unsecured notes, net	1,189,792	446,685
Unsecured term loan, net	797,812	796,762
Unsecured revolving credit facilities	575,000	575,000
Lease liabilities	370,206	401,008
Accounts payable and accrued expenses	613,497	427,202
Deferred revenue	48,118	40,110
Deferred compensation plan	110,174	105,564
Other liabilities	304,725	294,520
Total liabilities	10,062,667	8,667,400
Commitments and contingencies		
Redeemable noncontrolling interests:		
Class A units - 14,033,438 and 13,583,607 units outstanding	587,440	507,212
Series D cumulative redeemable preferred units - 141,400 and 141,401 units outstanding	3,535	4,535
Total redeemable noncontrolling partnership units	590,975	511,747
Redeemable noncontrolling interest in a consolidated subsidiary	97,708	94,520
Total redeemable noncontrolling interests	688,683	606,267
Partners' equity:		
Partners' capital	9,333,200	9,382,479
Earnings less than distributions	(3,079,320)	(2,774,182)
Accumulated other comprehensive loss	(17,534)	(75,099)
Total partners' equity	6,236,346	6,533,198
Noncontrolling interests in consolidated subsidiaries	278,892	414,957
Total equity	6,515,238	6,948,155
	$ 17,266,588	$ 16,221,822

See notes to the consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF INCOME

(Amounts in thousands, except per unit amounts)	For the Year Ended December 31,		
	2021	2020	2019
REVENUES:			
Rental revenues	$ 1,424,531	$ 1,377,635	$ 1,767,222
Fee and other income	164,679	150,316	157,478
Total revenues	1,589,210	1,527,951	1,924,700
EXPENSES:			
Operating	(797,315)	(789,066)	(917,981)
Depreciation and amortization	(412,347)	(399,695)	(419,107)
General and administrative	(134,545)	(181,509)	(169,920)
Expense from deferred compensation plan liability	(9,847)	(6,443)	(11,609)
Impairment losses, transaction related costs and other	(13,815)	(174,027)	(106,538)
Total expenses	(1,367,869)	(1,550,740)	(1,625,155)
Income (loss) from partially owned entities	130,517	(329,112)	78,865
Income (loss) from real estate fund investments	11,066	(226,327)	(104,082)
Interest and other investment income (loss), net	4,612	(5,499)	21,819
Income from deferred compensation plan assets	9,847	6,443	11,609
Interest and debt expense	(231,096)	(229,251)	(286,623)
Net gain on transfer to Fifth Avenue and Times Square JV	—	—	2,571,099
Net gains on disposition of wholly owned and partially owned assets	50,770	381,320	845,499
Income (loss) before income taxes	197,057	(425,215)	3,437,731
Income tax benefit (expense)	10,496	(36,630)	(103,439)
Income (loss) from continuing operations	207,553	(461,845)	3,334,292
Loss from discontinued operations	—	—	(30)
Net income (loss)	207,553	(461,845)	3,334,262
Less net (income) loss attributable to noncontrolling interests in consolidated subsidiaries	(24,014)	139,894	24,547
Net income (loss) attributable to Vornado Realty L.P.	183,539	(321,951)	3,358,809
Preferred unit distributions	(66,035)	(51,904)	(50,296)
Series K preferred unit issuance costs	(9,033)	—	—
NET INCOME (LOSS) attributable to Class A unitholders	$ 108,471	$ (373,855)	$ 3,308,513
INCOME (LOSS) PER CLASS A UNIT - BASIC:			
Net income (loss) per Class A unit	$ 0.52	$ (1.86)	$ 16.22
Weighted average units outstanding	204,728	203,503	202,947
INCOME (LOSS) PER CLASS A UNIT - DILUTED:			
Net income (loss) per Class A unit	$ 0.51	$ (1.86)	$ 16.19
Weighted average units outstanding	205,644	203,503	203,248

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Net income (loss)	$ 207,553	$ (461,845)	$ 3,334,262
Other comprehensive income (loss):			
Increase (reduction) in value of interest rate swaps and other	51,338	(29,971)	(47,883)
Other comprehensive income (loss) of nonconsolidated subsidiaries	10,275	(14,342)	(938)
Amounts reclassified from accumulated other comprehensive loss relating to nonconsolidated subsidiary	—	—	(2,311)
Comprehensive income (loss)	269,166	(506,158)	3,283,130
Less comprehensive (income) loss attributable to noncontrolling interests in consolidated subsidiaries	(24,014)	139,894	24,547
Comprehensive income (loss) attributable to Vornado Realty L.P.	$ 245,152	$ (366,264)	$ 3,307,677

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY

(Amounts in thousands, except per unit amount)	Preferred Units		Class A Units Owned by Vornado		Earnings Less Than Distributions	Accumulated Other Comprehensive (Loss) Income	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Units	Amount	Units	Amount				
Balance as of December 31, 2020	48,793	$1,182,339	191,355	$ 8,200,140	$ (2,774,182)	$ (75,099)	$ 414,957	$ 6,948,155
Net income attributable to Vornado Realty L.P.	—	—	—	—	183,539	—	—	183,539
Net income attributable to redeemable partnership units	—	—	—	—	(7,540)	—	—	(7,540)
Net income attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	20,826	20,826
Distributions to Vornado ($2.12 per unit)	—	—	—	—	(406,109)	—	—	(406,109)
Distributions to preferred unitholders (see Note 11 for distributions per unit amounts)	—	—	—	—	(65,880)	—	—	(65,880)
Series O cumulative redeemable preferred units issuance	12,000	291,153	—	—	—	—	—	291,153
Class A Units issued to Vornado:								
Upon redemption of redeemable Class A units, at redemption value	—	—	350	14,576	—	—	—	14,576
Under Vornado's employees' share option plan	—	—	1	22	—	—	—	22
Under Vornado's dividend reinvestment plan	—	—	21	877	—	—	—	877
Contributions	—	—	—	—	—	—	4,052	4,052
Distributions	—	—	—	—	—	—	(160,975)	(160,975)
Conversion of Series A preferred units to Class A units	—	(13)	1	13	—	—	—	—
Deferred compensation units and options	—	—	(4)	906	(114)	—	—	792
Other comprehensive income of nonconsolidated subsidiaries	—	—	—	—	—	10,275	—	10,275
Increase in value of interest rate swaps	—	—	—	—	—	51,337	—	51,337
Unearned 2018 Out-Performance Plan awards acceleration	—	—	—	10,283	—	—	—	10,283
Redeemable Class A unit measurement adjustment	—	—	—	(76,073)	—	—	—	(76,073)
Series K cumulative redeemable preferred units called for redemption	(12,000)	(290,967)	—	—	(9,033)	—	—	(300,000)
Redeemable partnership units' share of above adjustments	—	—	—	—	—	(4,048)	—	(4,048)
Other	—	(53)	—	(3)	(1)	1	32	(24)
Balance as of December 31, 2021	48,793	$1,182,459	191,724	$ 8,150,741	$ (3,079,320)	$ (17,534)	$ 278,892	$ 6,515,238

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY – CONTINUED

(Amounts in thousands, except per unit amounts)

	Preferred Units		Class A Units Owned by Vornado		Earnings Less Than Distributions	Accumulated Other Comprehensive (Loss) Income	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Units	Amount	Units	Amount				
Balance as of December 31, 2019	36,796	$ 891,214	190,986	$ 7,835,315	$ (1,954,266)	$ (40,233)	$ 578,948	$ 7,310,978
Cumulative effect of accounting change	—	—	—	—	(16,064)	—	—	(16,064)
Net loss attributable to Vornado Realty L.P.	—	—	—	—	(321,951)	—	—	(321,951)
Net loss attributable to redeemable partnership units	—	—	—	—	24,946	—	—	24,946
Net loss attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	(140,438)	(140,438)
Distributions to Vornado ($2.38 per unit)	—	—	—	—	(454,939)	—	—	(454,939)
Distributions to preferred unitholders (see Note 11 for distributions per unit amounts)	—	—	—	—	(51,739)	—	—	(51,739)
Series N cumulative redeemable preferred units issuance	12,000	291,182	—	—	—	—	—	291,182
Class A Units issued to Vornado:								
Upon redemption of redeemable Class A units, at redemption value	—	—	236	9,266	—	—	—	9,266
Under Vornado's employees' share option plan	—	—	69	3,517	—	—	—	3,517
Under Vornado's dividend reinvestment plan	—	—	47	2,345	—	—	—	2,345
Contributions:								
Real estate fund investments	—	—	—	—	—	—	3,389	3,389
Other	—	—	—	—	—	—	4,305	4,305
Distributions	—	—	—	—	—	—	(33,007)	(33,007)
Conversion of Series A preferred units to Class A units	(3)	(57)	4	57	—	—	—	—
Deferred compensation units and options	—	—	13	1,306	(137)	—	—	1,169
Other comprehensive loss of nonconsolidated subsidiaries	—	—	—	—	—	(14,342)	—	(14,342)
Reduction in value of interest rate swaps	—	—	—	—	—	(29,972)	—	(29,972)
Unearned 2017 Out-Performance Plan awards acceleration	—	—	—	10,824	—	—	—	10,824
Redeemable Class A unit measurement adjustment	—	—	—	344,043	—	—	—	344,043
Redeemable partnership units' share of above adjustments	—	—	—	—	—	2,914	—	2,914
Other	—	—	—	(6,533)	(32)	6,534	1,760	1,729
Balance as of December 31, 2020	48,793	$1,182,339	191,355	$ 8,200,140	$ (2,774,182)	$ (75,099)	$ 414,957	$ 6,948,155

See notes to consolidated financial statements.

(Amounts in thousands, except per unit amount)

	Preferred Units		Class A Units Owned by Vornado		Earnings Less Than Distributions	Accumulated Other Comprehensive Income (Loss)	Non-controlling Interests in Consolidated Subsidiaries	Total Equity
	Units	Amount	Units	Amount				
Balance as of December 31, 2018	36,800	$ 891,294	190,535	$ 7,733,457	$ (4,167,184)	$ 7,664	$ 642,652	$ 5,107,883
Net income attributable to Vornado Realty L.P.	—	—	—	—	3,358,809	—	—	3,358,809
Net income attributable to redeemable partnership units	—	—	—	—	(210,872)	—	—	(210,872)
Net loss attributable to noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	(24,547)	(24,547)
Distributions to Vornado:								
Special distribution ($1.95 per Class A unit)	—	—	—	—	(372,380)	—	—	(372,380)
Aggregate quarterly distributions to Vornado ($2.64 per Class A unit)	—	—	—	—	(503,785)	—	—	(503,785)
Distributions to preferred unitholders	—	—	—	—	(50,131)	—	—	(50,131)
Class A Units issued to Vornado:								
Upon redemption of redeemable Class A units, at redemption value	—	—	171	11,250	—	—	—	11,250
Under Vornado's employees' share option plan	—	—	245	5,489	(8,587)	—	—	(3,098)
Under Vornado's dividend reinvestment plan	—	—	22	1,414	—	—	—	1,414
Contributions:								
Real estate fund investments	—	—	—	—	—	—	9,023	9,023
Other	—	—	—	—	—	—	8,848	8,848
Distributions	—	—	—	—	—	—	(45,587)	(45,587)
Conversion of Series A preferred units to Class A units	(2)	(80)	6	80	—	—	—	—
Deferred compensation units and options	—	—	7	1,095	(105)	—	—	990
Other comprehensive loss of nonconsolidated subsidiaries	—	—	—	—	—	(938)	—	(938)
Reduction in value of interest rate swaps	—	—	—	—	—	(47,885)	—	(47,885)
Amounts reclassified related to a nonconsolidated subsidiary	—	—	—	—	—	(2,311)	—	(2,311)
Unearned 2016 Out-Performance Plan awards acceleration	—	—	—	11,720	—	—	—	11,720
Redeemable Class A unit measurement adjustment	—	—	—	70,810	—	—	—	70,810
Redeemable partnership units' share of above adjustments	—	—	—	—	—	3,235	—	3,235
Deconsolidation of partially owned entity	—	—	—	—	—	—	(11,441)	(11,441)
Other	(2)	—	—	—	(31)	2	—	(29)
Balance as of December 31, 2019	36,796	$ 891,214	190,986	$ 7,835,315	$ (1,954,266)	$ (40,233)	$ 578,948	$ 7,310,978

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Cash Flows from Operating Activities:			
Net income (loss)	$ 207,553	$ (461,845)	$ 3,334,262
Adjustments to reconcile net income (loss) to net cash provided by operating activities:			
Depreciation and amortization (including amortization of deferred financing costs)	432,594	417,942	438,933
Distributions of income from partially owned entities	214,521	175,246	116,826
Equity in net (income) loss of partially owned entities	(130,517)	329,112	(78,865)
Net gains on disposition of wholly owned and partially owned assets	(50,770)	(381,320)	(845,499)
Stock-based compensation expense	38,329	48,677	53,908
Defeasance cost in connection with refinancing of mortgage payable	23,729	—	—
Amortization of below-market leases, net	(9,249)	(16,878)	(19,830)
Straight-lining of rents	8,644	24,404	9,679
Real estate impairment losses	7,880	236,286	26,705
Write-off of lease receivables deemed uncollectible	7,695	63,204	17,237
Return of capital from real estate fund investments	5,104	—	—
Net realized and unrealized (income) loss on real estate fund investments	(4,621)	226,107	106,109
Non-cash (gain on extinguishment of 608 Fifth Avenue lease liability) impairment loss on 608 Fifth Avenue right-of-use asset	—	(70,260)	75,220
Credit losses on loans receivable	—	13,369	—
Decrease in fair value of marketable securities	—	4,938	5,533
Net gain on transfer to Fifth Avenue and Times Square JV	—	—	(2,571,099)
Prepayment penalty on redemption of senior unsecured notes due 2022	—	—	22,058
Other non-cash adjustments	7,368	6,739	(3,472)
Changes in operating assets and liabilities:			
Real estate fund investments	(4,474)	(7,197)	(10,000)
Tenant and other receivables	(187)	(5,330)	(25,988)
Prepaid assets	30,466	(137,452)	7,558
Other assets	(54,716)	(52,832)	(4,302)
Accounts payable and accrued expenses	35,856	14,868	5,940
Other liabilities	(3,399)	(3,538)	1,626
Net cash provided by operating activities	761,806	424,240	662,539
Cash Flows from Investing Activities:			
Development costs and construction in progress	(585,940)	(601,920)	(649,056)
Additions to real estate	(149,461)	(155,738)	(233,666)
Proceeds from sale of condominium units at 220 Central Park South	137,404	1,044,260	1,605,356
Acquisition of additional 45.0% ownership interest in One Park Avenue (inclusive of $5,806 of prorations and net working capital and net of $39,370 of cash and restricted cash balances consolidated upon acquisition)	(123,936)	—	—
Distributions of capital from partially owned entities	106,005	2,389	24,880
Proceeds from sales of real estate	100,024	—	324,201
Investments in partially owned entities	(14,997)	(8,959)	(18,257)
Acquisitions of real estate and other	(3,000)	(1,156)	(69,699)
Proceeds from repayments of loans receivable	1,554	—	1,395
Moynihan Train Hall expenditures	—	(395,051)	(438,935)
Proceeds from sales of marketable securities	—	28,375	168,314
Proceeds from transfer of interest in Fifth Avenue and Times Square JV (net of $35,562 of transaction costs and $10,899 of deconsolidated cash and restricted cash)	—	—	1,248,743
Proceeds from redemption of 640 Fifth Avenue preferred equity	—	—	500,000
Net cash (used in) provided by investing activities	(532,347)	(87,800)	2,463,276

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Cash Flows from Financing Activities:			
Proceeds from borrowings	$ 3,248,007	$ 1,056,315	$ 1,108,156
Repayments of borrowings	(1,584,243)	(1,067,564)	(2,718,987)
Purchase of marketable securities in connection with defeasance of mortgage payable	(973,729)	—	(407,126)
Distributions to Vornado	(406,109)	(827,319)	(503,785)
Redemption of preferred units	(300,000)	—	(893)
Proceeds from the issuance of preferred units	291,153	291,182	—
Distributions to redeemable security holders and noncontrolling interests in consolidated subsidiaries	(190,876)	(91,514)	(80,194)
Distributions to preferred unitholders	(65,880)	(64,271)	(50,131)
Debt issuance costs	(51,184)	(10,901)	(15,588)
Contributions from noncontrolling interests in consolidated subsidiaries	4,052	100,094	17,871
Repurchase of Class A units related to stock compensation agreements and related tax withholdings and other	(1,567)	(137)	(8,692)
Proceeds received from exercise of Vornado stock options and other	899	5,862	6,903
Moynihan Train Hall reimbursement from Empire State Development	—	395,051	438,935
Prepayment penalty on redemption of senior unsecured notes due 2022	—	—	(22,058)
Net cash used in financing activities	(29,477)	(213,202)	(2,235,589)
Net increase in cash and cash equivalents and restricted cash	199,982	123,238	890,226
Cash and cash equivalents and restricted cash at beginning of period	1,730,369	1,607,131	716,905
Cash and cash equivalents and restricted cash at end of period	$ 1,930,351	$ 1,730,369	$ 1,607,131
Reconciliation of Cash and Cash Equivalents and Restricted Cash:			
Cash and cash equivalents at beginning of period	$ 1,624,482	$ 1,515,012	$ 570,916
Restricted cash at beginning of period	105,887	92,119	145,989
Cash and cash equivalents and restricted cash at beginning of period	$ 1,730,369	$ 1,607,131	$ 716,905
Cash and cash equivalents at end of period	$ 1,760,225	$ 1,624,482	$ 1,515,012
Restricted cash at end of period	170,126	105,887	92,119
Cash and cash equivalents and restricted cash at end of period	$ 1,930,351	$ 1,730,369	$ 1,607,131

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Supplemental Disclosure of Cash Flow Information:			
Cash payments for interest, excluding capitalized interest of $38,320, $40,855 and $67,980	$ 188,587	$ 210,052	$ 283,613
Cash payments for income taxes	$ 9,155	$ 15,105	$ 59,834
Non-Cash Investing and Financing Activities:			
Marketable securities transferred in connection with the defeasance of mortgage payable	$ (973,729)	$ —	$ (407,126)
Defeasance of mortgage payable	950,000	—	390,000
Increase in assets and liabilities resulting from the consolidation of One Park Avenue:			
Real estate	566,013	—	—
Identified intangible assets	139,545	—	—
Mortgages payable	525,000	—	—
Deferred revenue	18,884	—	—
Accrued capital expenditures included in accounts payable and accrued expenses	291,690	117,641	109,975
Write-off of fully depreciated assets	(123,537)	(189,250)	(122,813)
Reclassification of assets held for sale (included in "other assets")	80,005	—	—
Redeemable Class A unit measurement adjustment	(76,073)	344,043	70,810
Decrease (increase) in accumulated other comprehensive loss due to change in fair value of consolidated interest rate swaps	51,337	(29,972)	(47,885)
Reclassification of condominium units from "development costs and construction in progress" to "220 Central Park South condominium units ready for sale"	16,014	388,280	1,311,468
Decrease in assets and liabilities resulting from the deconsolidation of Moynihan Train Hall:			
Real estate, net	—	(1,291,804)	—
Moynihan Train Hall Obligation	—	(1,291,804)	—
Investments received in exchange for transfer to Fifth Avenue and Times Square JV:			
Preferred equity	—	—	2,327,750
Common equity	—	—	1,449,495
Lease liabilities arising from the recognition of right-of-use assets	—	—	526,866
Special dividend/distribution declared and payable on January 15, 2020	—	—	398,292
Recognition of negative basis related to the sale of our investment in 330 Madison Avenue	—	—	60,052
Amounts related to our investment in Pennsylvania Real Estate Investment Trust reclassified from "investments in partially owned entities" and "accumulated other comprehensive loss" to "marketable securities" upon conversion of operating partnership units to common shares	—	—	54,962

See notes to consolidated financial statements.

1. Organization and Business

Vornado Realty Trust ("Vornado") is a fully-integrated real estate investment trust ("REIT") and conducts its business through, and substantially all of its interests in properties are held by, Vornado Realty L.P., a Delaware limited partnership (the "Operating Partnership"). Accordingly, Vornado's cash flow and ability to pay dividends to its shareholders are dependent upon the cash flow of the Operating Partnership and the ability of its direct and indirect subsidiaries to first satisfy their obligations to creditors. Vornado is the sole general partner of and owned approximately 92.6% of the common limited partnership interest in the Operating Partnership as of December 31, 2021. All references to the "Company," "we," "us" and "our" mean, collectively, Vornado, the Operating Partnership and those subsidiaries consolidated by Vornado.

We currently own all or portions of:

New York:

- 67 Manhattan operating properties consisting of:
  - 20.6 million square feet of office space in 32 of the properties;
  - 2.7 million square feet of street retail space in 60 of the properties;
  - 1,674 units in eight Manhattan residential properties;
- Multiple development sites, including Hotel Pennsylvania;
- A 32.4% interest in Alexander's, Inc. ("Alexander's") (NYSE: ALX), which owns six properties in the greater New York metropolitan area, including 731 Lexington Avenue, the 1.1 million square foot Bloomberg, L.P. headquarters building, and The Alexander, a 312-unit apartment tower in Queens;
- Signage throughout the Penn District and Times Square; and
- Building Maintenance Services LLC ("BMS"), a wholly owned subsidiary, which provides cleaning and security services for our buildings and third parties.

Other Real Estate and Investments:

- The 3.7 million square foot theMART in Chicago;
- A 70% controlling interest in 555 California Street, a three-building office complex in San Francisco's financial district aggregating 1.8 million square feet;
- A 25% interest in Vornado Capital Partners, our real estate fund (the "Fund"). We are the general partner and investment manager of the fund. The fund is in wind-down; and
- Other real estate and investments.

2. Basis of Presentation and Significant Accounting Policies

Basis of Presentation

The accompanying consolidated financial statements include the accounts of Vornado and the Operating Partnership and their consolidated subsidiaries. All inter-company amounts have been eliminated. Our consolidated financial statements are prepared in accordance with accounting principles generally accepted in the United States of America ("GAAP"), which require us to make estimates and assumptions that affect the reported amounts of assets and liabilities, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting periods. Actual results could differ from those estimates.

Recently Issued Accounting Literature

In March 2020, the Financial Accounting Standards Board ("FASB") issued an update ("ASU 2020-04") establishing Accounting Standards Codification ("ASC") Topic 848, *Reference Rate Reform*. ASU 2020-04 contains practical expedients for reference rate reform related activities that impact debt, leases, derivatives and other contracts. The guidance in ASU 2020-04 is optional and may be elected over time as reference rate reform activities occur. We have elected to apply the hedge accounting expedients related to probability and the assessments of effectiveness for future LIBOR-indexed cash flows to assume that the index upon which future hedged transactions will be based matches the index on the corresponding derivatives. Application of these expedients preserves the presentation of derivatives consistent with past presentation. We continue to evaluate the impact of the guidance and may apply other elections as applicable as additional changes in the market occur.

In August 2020, the FASB issued an update ("ASU 2020-06") *Debt - Debt with Conversion and Other Options (Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (Subtopic 815-40).* ASU 2020-06 simplifies the accounting for convertible instruments by reducing the number of accounting models for convertible debt instruments and convertible preferred stock, removes certain settlement conditions that are required for equity contracts to qualify for the derivative scope exception and also simplifies the diluted earnings per share calculation in certain areas. ASU 2020-06 is effective for reporting periods beginning after December 15, 2021, with early adoption permitted. We are currently evaluating the impact of the adoption of ASU 2020-06 on our consolidated financial statements, but do not believe the adoption of this standard will have a material impact on our consolidated financial statements.

2. Basis of Presentation and Significant Accounting Policies - continued

Recently Issued Accounting Literature - continued

In July 2021, the FASB issued an update ("ASU 2021-05") *Lessors - Certain Leases with Variable Lease Payments* to ASC Topic 842, *Leases* ("ASC 842"). ASU 2021-05 provides additional ASC 842 classification guidance as it relates to a lessor's accounting for certain leases with variable lease payments. ASU 2021-05 requires a lessor to classify a lease with variable payments that do not depend on an index or rate as an operating lease if either a sales-type lease or direct financing lease classification would trigger a day-one loss. ASU 2021-05 is effective for reporting periods beginning after December 15, 2021, with early adoption permitted. We are currently evaluating the impact of the adoption of ASU 2021-05 on our consolidated financial statements, but do not believe the adoption of this standard will have a material impact on our consolidated financial statements.

Significant Accounting Policies

Real Estate: Real estate is carried at cost, net of accumulated depreciation and amortization. Betterments, major renewals and certain costs directly related to the improvement and leasing of real estate are capitalized. Maintenance and repairs are expensed as incurred. For redevelopment of existing operating properties, the net book value of the existing property under redevelopment plus the cost for the construction and improvements incurred in connection with the redevelopment, including interest and debt expense, are capitalized to the extent the capitalized costs of the property do not exceed the estimated fair value of the redeveloped property when complete. If the cost of the redeveloped property, including the net book value of the existing property, exceeds the estimated fair value of the redeveloped property, the excess is charged to expense. Depreciation is recognized on a straight-line basis over the estimated useful lives of these assets which range from 7 to 40 years. Tenant allowances are amortized on a straight-line basis over the lives of the related leases, which approximate the useful lives of the assets.

Upon the acquisition of real estate, we assess whether the transaction should be accounted for as an asset acquisition or as a business combination. Acquisitions of integrated sets of assets and activities that do not meet the definition of a business are accounted for as asset acquisitions. Our acquisitions of real estate generally 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 identified intangible assets).

We assess the fair value of acquired assets (including land, buildings and improvements, identified intangibles, such as acquired above and below-market leases, acquired in-place leases and tenant relationships) and acquired liabilities and we allocate the purchase price based on these assessments which are on a relative fair value basis. We assess fair value based on estimated cash flow projections that utilize appropriate discount and capitalization rates and available market information. Estimates of future cash flows are based on a number of factors including historical operating results, known trends, and market/economic conditions. We amortize identified intangibles that have finite lives over the period they are expected to contribute directly or indirectly to the future cash flows of the property or business acquired.

Our properties, including any related right-of-use ("ROU") assets and intangible assets, are individually reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment exists when the carrying amount of an asset exceeds the aggregate projected future cash flows over the anticipated holding period on an undiscounted basis. An impairment loss is measured based on the excess of the property's carrying amount over its estimated fair value. Impairment analyses are based on our current plans, intended holding periods and available market information at the time the analyses are prepared. If our estimates of the future cash flows, anticipated holding periods, or market conditions change, our evaluation of impairment losses may be different and such differences could be material to our consolidated financial statements. Estimates of future cash flows are subjective and are based, in part, on assumptions regarding future occupancy, rental rates, capital requirements, capitalization rates and discount rates that could differ materially from actual results.

2. Basis of Presentation and Significant Accounting Policies - continued

Significant Accounting Policies - continued

Partially Owned Entities: We consolidate entities in which we have a controlling financial interest. In determining whether we have a controlling financial interest in a partially owned entity and the requirement to consolidate the accounts of that entity, we consider (i) whether the entity is a variable interest entity ("VIE") in which we are the primary beneficiary or (ii) whether the entity is a voting interest entity in which we have a majority of the voting interests of the entity. We are deemed to be the primary beneficiary of a VIE when we have (i) the power to direct the activities of the VIE that most significantly impact the VIE's economic performance and (ii) the obligation to absorb losses or receive benefits that could potentially be significant to the VIE. We generally do not control a partially owned entity if the approval of all of the partners/members is contractually required with respect to decisions that most significantly impact the performance of the partially owned entity. This includes decisions regarding operating/capital budgets, and the placement of new or additional financing secured by the assets of the venture, among others. We account for investments under the equity method when the requirements for consolidation are not met, and we have significant influence over the operations of the investee. Equity method investments are initially recorded at cost and subsequently adjusted for our share of net income or loss and cash contributions and distributions each period. Investments that do not qualify for consolidation or equity method accounting are accounted for under the cost method.

Investments in unconsolidated partially owned entities are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recorded when there is a decline in the fair value below the carrying value and we conclude such decline is other-than-temporary. An impairment loss is measured based on the excess of the carrying amount of an investment over its estimated fair value. Impairment analyses are based on current plans, intended holding periods, ability to hold, and available information at the time the analyses are prepared.

220 Central Park South Condominium Units Ready For Sale: Our 220 Central Park South ("220 CPS") residential condominium units are reclassified from "development costs and construction in progress" to "220 Central Park South condominium units ready for sale" upon receipt of the unit's temporary certificate of occupancy. These units are substantially complete and ready for sale. Each unit is carried at the lower of its carrying amount or fair value less costs to sell. We have used the relative sales value method to allocate costs to individual condominium units. GAAP income is recognized when legal title transfers upon closing of the condominium unit sales and is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income. As of December 31, 2021 and 2020, none of the 220 CPS condominium units ready for sale had a carrying value that exceeded fair value.

Cash and Cash Equivalents: Cash and cash equivalents consist of highly liquid investments with original maturities of three months or less and are carried at cost, which approximates fair value due to their short-term maturities. The majority of our cash and cash equivalents consists of (i) deposits at major commercial banks, which may at times exceed the Federal Deposit Insurance Corporation limit, (ii) United States Treasury Bills, and (iii) Certificate of Deposits placed through an Account Registry Service.

Restricted Cash: Restricted cash consists of security deposits, cash restricted for the purposes of facilitating a Section 1031 Like-Kind exchange, cash restricted in connection with our deferred compensation plan and cash escrowed under loan agreements, including for debt service, real estate taxes, property insurance and capital improvements.

Deferred Charges: Direct financing costs are deferred and amortized over the terms of the related agreements as a component of interest expense. Direct and incremental costs related to successful leasing activities are capitalized and amortized on a straight-line basis over the lives of the related leases. All other deferred charges are amortized on a straight-line basis, which approximates the effective interest rate method, in accordance with the terms of the agreements to which they relate.

2. Basis of Presentation and Significant Accounting Policies - continued

Significant Accounting Policies - continued

Revenue Recognition:

- Rental revenues include revenues from the leasing of space at our properties to tenants, revenues from the Hotel Pennsylvania (permanently closed on April 5, 2021), trade shows, tenant services and parking garage revenues.
    - Revenues from the leasing of space at our properties to tenants includes (i) lease components, including fixed and variable lease payments, and nonlease components which include reimbursement of common area maintenance expenses, and (ii) reimbursement of real estate taxes and insurance expenses. As lessor, we have elected to combine the lease and nonlease components of our operating lease agreements and account for the components as a single lease component in accordance with ASC 842.
        - Revenues from fixed lease payments for operating leases in our portfolio are recognized on a straight-line basis over the non-cancelable term of the lease, together with renewal options that are reasonably certain of being exercised. We commence revenue recognition when the tenant takes possession of the leased space and the leased space is substantially ready for its intended use.
        - Revenue derived from the reimbursement of real estate taxes, insurance expenses and common area maintenance expenses are generally recognized in the same period as the related expenses are incurred.
        - We recognize amortization of acquired below-market leases as an increase to rental revenues and amortization of acquired above-market leases as a decrease to rental revenues over the term of the lease (see Note 8 **-** *Identified Intangible Assets and Liabilities*).
    - Hotel revenues arising from the operation of Hotel Pennsylvania, which we permanently closed on April 5, 2021, consists of room revenue, food and beverage revenue, and banquet revenue. Room revenues are recognized when the rooms are made available for the guest, in accordance with ASC 842.
    - Trade shows revenues arising from the operation of trade shows is primarily booth rentals. These revenues are recognized upon the occurrence of the trade shows when the trade show booths are made available for use by the exhibitors, in accordance with ASC 842.
    - Tenant services revenues arises from sub-metered electric, elevator, trash removal and other services provided to tenants at their request. These revenues are recognized as the services are transferred in accordance with ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606").
    - Parking garage revenues arise from the operations of our parking facilities which charge a hourly or monthly fee to provide parking services. These revenues are recognized as the services are transferred in accordance with ASC 606.
- Fee and other income includes management, leasing and other revenue arising from contractual agreements with third parties or with partially owned entities and includes BMS cleaning, engineering and security services. This revenue is recognized as the services are transferred in accordance with ASC 606.

We evaluate on an individual lease basis whether it is probable that we will collect substantially all amounts due from our tenants and recognize changes in the collectability assessment of our operating leases as adjustments to rental revenue. Management exercises judgment in assessing collectability of tenant receivables and considers payment history, current credit status and publicly available information about the financial condition of the tenant, the impact of COVID-19 on tenants' businesses, and other factors. Tenant receivables, including receivables arising from the straight-lining of rents, are written off when management deems that the collectability of substantially all future lease payments from a specific lease is not probable of collection, at which point, the Company will limit future rental revenues to cash received.

We have made a policy election in accordance with the FASB Staff Q&A which provides relief in accounting for leases during the COVID-19 pandemic, allowing us to continue recognizing rental revenue on a straight-line basis for rent deferrals, with no impact to revenue recognition, and to recognize rent abatements as a reduction to rental revenue in the period granted.

2. Basis of Presentation and Significant Accounting Policies - continued

Significant Accounting Policies - continued

Income Taxes: Vornado operates in a manner intended to enable it to continue to qualify as a REIT under Sections 856-860 of the Internal Revenue Code of 1986, as amended. Under those sections, a REIT which distributes at least 90% of its REIT taxable income as a dividend to its shareholders each year and which meets certain other conditions will not be taxed on that portion of its taxable income which is distributed to its shareholders. Vornado distributes to its shareholders 100% of its REIT taxable income and therefore, no provision for Federal income taxes is required. Dividends distributed for the year ended December 31, 2021, were characterized, for federal income tax purposes, as 84.2% ordinary income under Section 199A of the Internal Revenue Code and 15.8% qualified dividend income (taxed as long-term capital gain). Dividends distributed for the year ended December 31, 2020, were characterized, for federal income tax purposes, as ordinary income. Dividends distributed for the year ended December 31, 2019, were characterized, for federal income tax purposes, as 62.1% ordinary income and 37.9% long-term capital gain.

We have elected to treat certain consolidated subsidiaries, and may in the future elect to treat newly formed subsidiaries, as taxable REIT subsidiaries pursuant to an amendment to the Internal Revenue Code that became effective January 1, 2001. Taxable REIT subsidiaries may participate in non-real estate related activities and/or perform non-customary services for tenants and are subject to Federal and State income tax at regular corporate tax rates. Farley Office and Retail, our 220 CPS condominium project and the operations of Hotel Pennsylvania, prior to its closure, are held through taxable REIT subsidiaries.

As of December 31, 2021 and 2020, our taxable REIT subsidiaries had deferred tax assets, net of valuation allowances, of \$8,582,000 and \$15,017,000, respectively, and are included in “other assets” on our consolidated balance sheets. As of December 31, 2021 and 2020, our taxable REIT subsidiaries had deferred tax liabilities of \$40,591,000 and \$29,348,000, respectively, which are included in "other liabilities" on our consolidated balance sheets. The deferred tax assets and liabilities relate to net operating loss carry forwards and temporary differences between the book and tax basis of assets and liabilities.

For the year ended December 31, 2021, we recognized \$10,496,000 of income tax benefit based on an effective tax rate of approximately (5.3)%. For the years ended December 31, 2020 and 2019, we recognized \$36,630,000 and \$103,439,000 of income tax expense, respectively, based on effective tax rates of approximately (8.6)% and 3.0%, respectively. Income tax benefit (expense) recorded in each of the years primarily relates to our consolidated taxable REIT subsidiaries, and certain state, local, and franchise taxes. The year ended December 31, 2021 included \$27,910,000 of income tax benefit recognized by our taxable REIT subsidiaries, \$10,868,000 of income tax expense resulting from book to tax differences (primarily straight-line rent adjustments and depreciation) on our investment in Farley Office and Retail and \$5,711,000 of income tax expense recognized on the sale of 220 CPS condominium units. The years ended December 31, 2020 and 2019, included \$49,221,000 and \$101,828,000, respectively, of income tax expense recognized on the sale of 220 CPS condominium units. The Company has no uncertain tax positions recognized as of December 31, 2021 and 2020.

The Operating Partnership’s partners are required to report their respective share of taxable income on their individual tax returns.

The estimated taxable income attributable to Vornado common shareholders (unaudited) for the years ended December 31, 2021, 2020 and 2019 was approximately \$413,026,000, \$419,812,000, and \$917,162,000, respectively. The book to tax differences between net income (loss) and estimated taxable income primarily result from differences in the income recognition or deductibility of depreciation and amortization, gain or loss from the sale of real estate and other capital transactions, impairment losses, straight-line rent adjustments, stock option expense and repairs expense related to the tangible property regulations.

The net basis of Vornado’s assets and liabilities for tax reporting purposes is approximately \$2.6 billion lower than the amounts reported in Vornado’s consolidated balance sheet as of December 31, 2021.

3. Revenue Recognition

Below is a summary of our revenues by segment. Additional financial information related to these reportable segments for the years ended December 31, 2021, 2020 and 2019 is set forth in Note 23 - *Segment Information.*

(Amounts in thousands)	For the Year Ended December 31, 2021		
	Total	New York	Other
Property rentals	$ 1,354,209	$ 1,071,816	$ 282,393
Trade shows[1]	19,482	—	19,482
Lease revenues[2]	1,373,691	1,071,816	301,875
Tenant services	37,449	26,048	11,401
Parking revenues	13,391	11,370	2,021
Rental revenues	1,424,531	1,109,234	315,297
BMS cleaning fees	119,780	126,891	(7,111) [3]
Management and leasing fees	11,725	12,177	(452)
Other income	33,174	9,297	23,877
Fee and other income	164,679	148,365	16,314
Total revenues	1,589,210	1,257,599	331,611

See notes on following page.

(Amounts in thousands)	For the Year Ended December 31, 2020		
	Total	New York	Other
Property rentals[4]	$ 1,323,347	$ 1,051,009	$ 272,338
Hotel Pennsylvania[5]	8,741	8,741	—
Trade shows[1]	11,303	—	11,303
Lease revenues[2]	1,343,391	1,059,750	283,641
Tenant services	34,244	23,750	10,494
Rental revenues	1,377,635	1,083,500	294,135
BMS cleaning fees	105,536	112,112	(6,576) [3]
Management and leasing fees	19,416	19,508	(92)
Other income	25,364	6,628	18,736
Fee and other income	150,316	138,248	12,068
Total revenues	$ 1,527,951	$ 1,221,748	$ 306,203

See notes on following page.

3. Revenue Recognition - continued

(Amounts in thousands)	For the Year Ended December 31, 2019		
	Total	New York	Other
Property rentals[4]	$ 1,589,539	$ 1,300,385	$ 289,154
Hotel Pennsylvania	89,594	89,594	—
Trade shows	40,577	—	40,577
Lease revenues[2]	1,719,710	1,389,979	329,731
Tenant services	47,512	35,011	12,501
Rental revenues	1,767,222	1,424,990	342,232
BMS cleaning fees	124,674	133,358	(8,684) [3]
Management and leasing fees	13,542	13,694	(152)
Other income	19,262	5,818	13,444
Fee and other income	157,478	152,870	4,608
Total revenues	$ 1,924,700	$ 1,577,860	$ 346,840

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(1) We cancelled trade shows at theMART beginning late March of 2020 due to the COVID-19 pandemic and resumed in the third quarter of 2021.

(2) The components of lease revenues were as follows:

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Fixed billings	$ 1,277,645	$ 1,292,174	$ 1,531,917
Variable billings	108,850	126,907	199,291
Total contractual operating lease billings	1,386,495	1,419,081	1,731,208
Adjustment for straight-line rents and amortization of acquired below-market leases and other, net	(5,109)	(12,486)	5,739
Less: write-off of straight-line rent and tenant receivables deemed uncollectible	(7,695)	(63,204)	(17,237)
Lease revenues	$ 1,373,691	$ 1,343,391	$ 1,719,710

(3) Represents the elimination of theMART and 555 California Street BMS cleaning fees which are included as income in the New York segment.

(4) Reduced by $63,204 and $17,237 for the years ended December 31, 2020 and 2019, respectively, for the write-off of lease receivables deemed uncollectible (primarily write-offs of receivables arising from the straight-lining of rents).

(5) We temporarily closed the Hotel Pennsylvania on April 1, 2020 and on April 5, 2021, we permanently closed the hotel and plan to develop an office tower on the site.

4. Real Estate Fund Investments

We are the general partner and investment manager of Vornado Capital Partners Real Estate Fund (the "Fund") and own a 25.0% interest in the Fund, which had an initial eight-year term ending February 2019. On January 29, 2018, the Fund's term was extended to February 2023. The Fund's three-year investment period ended in July 2013. The Fund is accounted for under ASC Topic 946, *Financial Services – Investment Companies* ("ASC 946") and its investments are reported on its balance sheet at fair value, with changes in value each period recognized in earnings. We consolidate the accounts of the Fund into our consolidated financial statements, retaining the fair value basis of accounting.

We are the general partner and investment manager of the Crowne Plaza Times Square Hotel Joint Venture (the "Crowne Plaza Joint Venture") and own a 57.1% interest in the joint venture which owns the 24.3% interest in the Crowne Plaza Times Square Hotel not owned by the Fund. The Crowne Plaza Joint Venture is also accounted for under ASC 946 and we consolidate the accounts of the joint venture into our consolidated financial statements, retaining the fair value basis of accounting. On June 9, 2020, the joint venture between the Fund and the Crowne Plaza Joint Venture defaulted on the $274,355,000 non-recourse loan on the Crowne Plaza Times Square Hotel. The interest-only loan, which bears interest at a floating rate of LIBOR plus 3.69% (3.79% as of December 31, 2021) and provides for additional default interest of 3.00%, was scheduled to mature on July 9, 2020.

On April 12, 2021, the Fund defaulted on the $82,750,000 non-recourse loan on 1100 Lincoln Road. The interest-only loan currently bears interest at a floating rate of prime plus 1.40% (4.65% as of December 31, 2021) and provides for additional default interest of 3.00%. The loan was scheduled to mature on July 27, 2021.

On December 7, 2021, the Fund completed the sale of the retail condominium located at 501 Broadway for $27,500,000. From the inception of this investment through its disposition, the Fund realized a $6,346,000 net loss.

As of December 31, 2021, we had three real estate fund investments through the Fund and the Crowne Plaza Joint Venture with an aggregate fair value of $7,730,000, $328,055,000 below cost, and had remaining unfunded commitments of $28,465,000, of which our share was $8,849,000. As of December 31, 2020, we had four real estate fund investments with an aggregate fair value of $3,739,000.

Below is a summary of income (loss) from the Fund and the Crowne Plaza Joint Venture.

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Net investment income (loss)	$ 6,445	$ (220)	$ 2,027
Net unrealized income (loss) on held investments	3,257	(226,107)	(106,109)
Net realized income on exited investments	1,364	—	—
Income (loss) from real estate fund investments	11,066	(226,327)	(104,082)
Less (income) loss attributable to noncontrolling interests in consolidated subsidiaries	(7,309)	163,213	55,274
Income (loss) from real estate fund investments net of noncontrolling interests in consolidated subsidiaries	$ 3,757	$ (63,114)	$ (48,808)

5. Investments in Partially Owned Entities

Fifth Avenue and Times Square JV

As of December 31, 2021, we own a 51.5% common interest in a joint venture ("Fifth Avenue and Times Square JV") which owns interests in properties located at 640 Fifth Avenue, 655 Fifth Avenue, 666 Fifth Avenue, 689 Fifth Avenue, 697-703 Fifth Avenue, 1535 Broadway and 1540 Broadway (collectively, the "Properties"). The remaining 48.5% common interest in the joint venture is owned by a group of institutional investors (the "Investors"). Our 51.5% common interest in the joint venture represents an effective 51.0% interest in the Properties. The 48.5% common interest in the joint venture owned by the Investors represents an effective 47.2% interest in the Properties.

We also own $1.828 billion of preferred equity security interests in certain of the properties. The preferred equity has an annual coupon of 4.25% through April 2024, increasing to 4.75% for the subsequent five years and thereafter at a formulaic rate. It can be redeemed under certain conditions on a tax deferred basis.

As of December 31, 2021, the carrying amount of our investment in the joint venture was less than our share of the equity in the net assets of the joint venture by approximately $387,402,000, the basis difference primarily resulting from non-cash impairment losses recognized during 2020. Substantially all of this basis difference was allocated, based on our estimates of the fair values of Fifth Avenue and Times Square JV's assets and liabilities, to real estate (land and buildings). We are amortizing the basis difference related to the buildings into earnings as a reduction to depreciation expense over their estimated useful lives.

Management, Development, Leasing and Other Agreements

We provide various services to Fifth Avenue and Times Square JV in accordance with management, development, leasing and other agreements, as described on the following page.

5. Investments in Partially Owned Entities - continued

Fifth Avenue and Times Square JV - continued

We receive an annual fee for managing the Properties equal to 2% of the gross revenues from the Properties. In addition, we are entitled to a development fee of 5% of development costs, plus reimbursement of certain costs, for development projects performed by us. We are entitled to 1.5% of development costs, plus reimbursement of certain costs, as a supervisory fee for development projects not performed by us. We provide leasing services for fees calculated based on a percentage of rents, less any commissions paid to third-party real estate brokers, if applicable. We jointly provide leasing services for the retail space with Crown Retail Services LLC, and exclusively provide leasing services for the office space. We recognized property management fee income, included in "fee and other income" on our consolidated statements of income, of $4,297,000, $3,982,000 and $3,085,000 for the years ended December 31, 2021, 2020 and 2019, respectively.

BMS, our wholly-owned subsidiary, supervises cleaning, security and engineering services at certain of the Properties. We recognized income for these services, included in "fee and other income" on our consolidated statements of income, of $3,993,000, $3,595,000 and $3,087,000 for the years ended December 31, 2021, 2020 and 2019, respectively.

We believe, based on comparable fees charged by other real estate companies, that the fees described above are consistent with the market.

Alexander's, Inc

As of December 31, 2021, we own 1,654,068 Alexander's common shares, or approximately 32.4% of Alexander's common equity. We manage, develop and lease Alexander's properties pursuant to agreements which expire in March of each year and are automatically renewable. As of December 31, 2021 and 2020, Alexander's owed us an aggregate of $879,000 and $1,516,000, respectively, pursuant to such agreements.

On June 4, 2021, Alexander's completed the sale of a parcel of land in the Bronx, New York for $10,000,000. As a result of the sale, we recognized our $2,956,000 share of the net gain and also received a $300,000 sales commission paid by Alexander's.

On October 4, 2021, Alexander's sold its Paramus, New Jersey property to IKEA Property, Inc. ("IKEA"), the tenant at the property, for $75,000,000 pursuant to IKEA's purchase option contained in the lease. The property was encumbered by a $68,000,000 mortgage loan which was repaid at closing of the sale. As a result of the sale, we recognized our $11,620,000 share of the net gain and also received a $750,000 sales commission paid by Alexander's.

As of December 31, 2021, the market value ("fair value" pursuant to ASC Topic 820, *Fair Value Measurements* ("ASC 820")) of our investment in Alexander's, based on Alexander's December 31, 2021 closing share price of $260.30, was $430,554,000, or $339,149,000 in excess of the carrying amount on our consolidated balance sheet. As of December 31, 2021, the carrying amount of our investment in Alexander's, excluding amounts owed to us, exceeds our share of the equity in the net assets of Alexander's by approximately $30,081,000. The majority of this basis difference resulted from the excess of our purchase price for the Alexander's common stock acquired over the book value of Alexander's net assets. Substantially all of this basis difference was allocated, based on our estimates of the fair values of Alexander's assets and liabilities, to real estate (land and buildings). We are amortizing the basis difference related to the buildings into earnings as additional depreciation expense over their estimated useful lives. This depreciation is not material to our share of equity in Alexander's net income.

Management, Development, Leasing and Other Agreements

We receive an annual fee for managing Alexander's and all of its properties equal to the sum of (i) $2,800,000, (ii) 2% of the gross revenue from the Rego Park II Shopping Center, (iii) $0.50 per square foot of the tenant-occupied office and retail space at 731 Lexington Avenue, and (iv) $344,000, escalating at 3% per annum, for managing the common area of 731 Lexington Avenue. In addition, we are entitled to a development fee of 6% of development costs, as defined.

We provide Alexander's with leasing services for a fee of 3% of rent for the first ten years of a lease term, 2% of rent for the eleventh through twentieth year of a lease term and 1% of rent for the twenty-first through thirtieth year of a lease term, subject to the payment of rents by Alexander's tenants. In the event third-party real estate brokers are used, our fee increases by 1% and we are responsible for the fees to the third-parties. We are also entitled to a commission upon the sale of any of Alexander's assets equal to 3% of gross proceeds, as defined, for asset sales less than $50,000,000, and 1% of gross proceeds, as defined, for asset sales of $50,000,000 or more.

BMS, our wholly-owned subsidiary, supervises (i) cleaning, engineering and security services at Alexander's 731 Lexington Avenue property and (ii) security services at Alexander's Rego Park I, Rego Park II properties and The Alexander apartment tower. During the years ended December 31, 2021, 2020 and 2019, we recognized $4,234,000, $3,613,000 and $3,613,000 of income, respectively, for these services.

5. Investments in Partially Owned Entities - continued

Below is a schedule of our investments in partially owned entities.

(Amounts in thousands)	Percentage Ownership at December 31, 2021	Balance as of December 31, 2021	Balance as of December 31, 2020
Investments:			
Fifth Avenue and Times Square JV (see page 90 for details)	51.5%	$ 2,770,633	$ 2,798,413
Partially owned office buildings/land(1)	Various	306,989	473,285
Alexander’s (see page 91 for details)	32.4%	91,405	82,902
Other investments(2)	Various	128,362	136,507
		$ 3,297,389	$ 3,491,107
Investments in partially owned entities included in other liabilities(3):			
7 West 34th Street	53.0%	$ (60,918)	$ (55,340)
85 Tenth Avenue	49.9%	(18,067)	(13,080)
		$ (78,985)	$ (68,420)

(1) Includes interests in 280 Park Avenue, 650 Madison Avenue, One Park Avenue (consolidated from August 5, 2021, see Note 7 - *Acquisitions and Dispositions* for details), 512 West 22nd Street, 61 Ninth Avenue and others.
(2) Includes interests in Independence Plaza, Rosslyn Plaza and others.
(3) Our negative basis results from distributions in excess of our investment.

Below is a schedule of income (loss) from partially owned entities.

(Amounts in thousands)	Percentage Ownership at December 31, 2021	For the Year Ended December 31, 2021	2020	2019
Our share of net income (loss):				
Fifth Avenue and Times Square JV (see page 90 for details):				
Equity in net income(1)	51.5%	$ 47,144	$ 21,063	$ 31,130
Return on preferred equity, net of our share of the expense		37,416	37,357	27,586
Non-cash impairment loss		—	(413,349)	—
		84,560	(354,929)	58,716
Alexander's (see page 91 for details):				
Equity in net income	32.4%	20,116	13,326 (2)	19,204
Net gain on sale of land		14,576	—	—
Management, leasing and development fees		5,429	5,309	4,575
		40,121	18,635	23,779
Partially owned office buildings(3)	Various	12,057	12,742	(3,443)
Other investments(4)	Various	(6,221)	(5,560)	(187)
		$ 130,517	$ (329,112)	$ 78,865

(1) 2021 includes decreases in our share of depreciation and amortization expense compared to the prior year of $17,448, primarily resulting from non-cash impairment losses recognized during 2020 (see page 90 for details). 2021 and 2020 include a $13,971 reduction in income related to a Forever 21 lease modification at 1540 Broadway. 2020 also includes $3,125 of write-offs of lease receivables deemed uncollectible.
(2) Includes our $4,846 share of write-offs of lease receivables deemed uncollectible.
(3) Includes interests in 280 Park Avenue, 650 Madison Avenue, One Park Avenue (consolidated from August 5, 2021, see Note 7 - *Acquisitions and Dispositions* for details), 7 West 34th Street, 512 West 22nd Street, 61 Ninth Avenue, 85 Tenth Avenue and others.
(4) Includes interests in Independence Plaza, Rosslyn Plaza, Urban Edge Properties (sold on March 4, 2019), Pennsylvania Real Estate Investment Trust (accounted for as a marketable security from March 12, 2019 and sold on January 23, 2020) and others.

5. Investments in Partially Owned Entities – continued

Below is a summary of the debt of our partially owned entities.

(Amounts in thousands)	Percentage Ownership at December 31, 2021	Maturity	Weighted Average Interest Rate at December 31, 2021	100% Partially Owned Entities' Debt at December 31,[1] 2021	2020
Mortgages Payable:					
Partially owned office buildings[2]	Various	2022-2029	2.95%	$ 3,348,149	$ 3,622,572
Alexander's	32.4%	2024-2027	1.43%	1,096,544	1,164,544
Fifth Avenue and Times Square JV	51.5%	2022-2024	2.61%	950,000	950,000
Other[3]	Various	2022-2026	3.67%	1,292,012	1,288,265

(1) All amounts are non-recourse to us except (i) the $500,000 mortgage loan on 640 Fifth Avenue, included in the Fifth Avenue and Times Square JV, and (ii) the $300,000 mortgage loan on 7 West 34th Street.
(2) Includes interests in 280 Park Avenue, 650 Madison Avenue, One Park Avenue (consolidated from August 5, 2021), 7 West 34th Street, 512 West 22nd Street, 61 Ninth Avenue, 85 Tenth Avenue and others.
(3) Includes interests in Independence Plaza, Rosslyn Plaza and others.

Based on our ownership interest in the partially owned entities above, our pro rata share of the debt of these partially owned entities was $2,699,405,000 and $2,873,174,000 as of December 31, 2021 and 2020, respectively

Summary of Condensed Combined Financial Information

The following is a summary of condensed combined financial information for all of our partially owned entities.

(Amounts in thousands)	As of December 31, 2021	2020
Balance Sheet:		
Assets	$ 12,689,000	$ 13,344,000
Liabilities	7,553,000	7,747,000
Noncontrolling interests	2,069,000	2,075,000
Equity	3,067,000	3,522,000

(Amounts in thousands)	For the Year Ended December 31, 2021	2020	2019
Income Statement:			
Total revenue	$ 1,184,000	$ 1,163,000	$ 1,504,000
Net income	190,000	45,000	39,000
Net income (loss) attributable to the entities	114,000	(33,000)	(32,000)

6. 220 Central Park South

During the year ended December 31, 2021, we closed on the sale of six condominium units at 220 CPS for net proceeds of $137,404,000 resulting in a financial statement net gain of $50,318,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income. In connection with these sales, $5,711,000 of income tax expense was recognized on our consolidated statements of income. In addition, during 2021 our taxable REIT subsidiaries recognized a $27,910,000 income tax benefit on our consolidated statements of income. From inception to December 31, 2021, we have closed on the sale of 106 units for net proceeds of $3,006,896,000 resulting in financial statement net gains of $1,117,255,000.

As of December 31, 2021, 95% of the condominium units have been sold.

7. Acquisitions and Dispositions

One Park Avenue

On August 5, 2021, pursuant to a right of first offer, we increased our ownership interest in One Park Avenue, a 944,000 square foot Manhattan office building, to 100.0% by acquiring our joint venture partner's 45.0% ownership interest in the property. The purchase price values the property at $875,000,000. We paid approximately $158,000,000 in cash and assumed our joint venture partner's share of the $525,000,000 mortgage loan (discussed below). We previously accounted for our investment under the equity method and have consolidated the accounts of the property from the date of acquisition of the additional 45.0% ownership interest. The aggregate purchase price and our existing basis in the property have been allocated between the assets acquired and the liabilities assumed (excluding working capital accounts) as follows:

(Amounts in thousands)		
Assets:		
Land	$	197,057
Building and improvements		368,956
Identified intangible assets		139,545
Assets consolidated		705,558
Liabilities:		
Mortgages payable		525,000
Deferred revenue		18,884
Liabilities consolidated		543,884
Net assets consolidated (excluding working capital)	$	161,674

On February 26, 2021, the joint venture completed a $525,000,000 refinancing of One Park Avenue. The interest-only loan bears a rate of LIBOR plus 1.11% (1.22% as of December 31, 2021) and matures in March 2023, with three one-year extension options (March 2026, as fully extended). We realized our $105,000,000 share of net proceeds. The loan replaced the previous $300,000,000 loan that bore interest at LIBOR plus 1.75% and was scheduled to mature in March 2021.

Madison Avenue

On September 24, 2021, we sold three Manhattan retail properties located at 677-679, 759-771 and 828-850 Madison Avenue in two separate sale transactions for an aggregate sales price of $100,000,000. Net proceeds from the sales were $96,503,000. In connection with the sales, we recorded $7,880,000 of non-cash impairment losses which are included in "impairment losses, transaction related costs and other" on our consolidated statements of income.

SoHo Properties

On May 10, 2021, we entered into an agreement to sell two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street for a sales price of $84,500,000. On January 13, 2022, we completed the sale transaction and realized net proceeds of $81,399,000. In connection with the sale, we will recognize a net gain of approximately $850,000 in the first quarter of 2022. As of December 31, 2021, $80,005,000 of assets associated with these properties were classified as held-for-sale and are included in "other assets" on our consolidated balance sheets.

8. Identified Intangible Assets and Liabilities

The following summarizes our identified intangible assets (primarily above-market leases) and liabilities (primarily below-market leases).

(Amounts in thousands)	Balance as of December 31,	
	2021	2020
Identified intangible assets:		
Gross amount	$ 252,081	$ 116,969
Accumulated amortization	(97,186)	(93,113)
Total, net	$ 154,895	$ 23,856
Identified intangible liabilities (included in deferred revenue):		
Gross amount	$ 256,065	$ 273,902
Accumulated amortization	(212,245)	(238,541)
Total, net	$ 43,820	$ 35,361

Amortization of acquired below-market leases, net of acquired above-market leases, resulted in an increase to rental revenues of $9,249,000, $16,878,000 and $19,830,000 for the years ended December 31, 2021, 2020 and 2019, respectively. Estimated annual amortization of acquired below-market leases, net of acquired above-market leases, for each of the five succeeding years commencing January 1, 2022 is as follows:

(Amounts in thousands)	
2022	$ 5,531
2023	5,151
2024	2,056
2025	843
2026	201

Amortization of all other identified intangible assets (a component of depreciation and amortization expense) was $7,330,000, $6,507,000 and $8,666,000 for the years ended December 31, 2021, 2020 and 2019, respectively. Estimated annual amortization of all other identified intangible assets including acquired in-place leases for each of the five succeeding years commencing January 1, 2022 is as follows:

(Amounts in thousands)	
2022	$ 9,805
2023	8,743
2024	7,906
2025	6,330
2026	6,136

9. Debt

Secured Debt

On March 7, 2021, we entered into an interest rate swap agreement for our $500,000,000 PENN 11 mortgage loan to swap the interest rate on the mortgage loan from LIBOR plus 2.75% to a fixed rate of 3.03% through March 2024. On December 1, 2021, we completed a loan modification which reduced the interest rate on the mortgage loan to LIBOR plus 1.95% (2.05% as of December 31, 2021) from LIBOR plus 2.75%, resulting in a fixed rate of 2.23% pursuant to the interest rate swap agreement.

On March 26, 2021, we completed a $350,000,000 refinancing of 909 Third Avenue, a 1.4 million square foot Manhattan office building. The interest-only loan bears a fixed rate of 3.23% and matures in April 2031. The loan replaced the previous $350,000,000 loan that bore interest at a fixed rate of 3.91% and was scheduled to mature in May 2021.

On May 10, 2021, we completed a $1.2 billion refinancing of 555 California Street, a three-building 1.8 million square foot office campus in San Francisco, in which we own a 70.0% controlling interest. The interest-only loan bears a rate of LIBOR plus 1.93% in years one through five (2.04% as of December 31, 2021), LIBOR plus 2.18% in year six and LIBOR plus 2.43% in year seven. The loan matures in May 2023, with five one-year extension options (May 2028 as fully extended). We swapped the interest rate on our $840,000,000 share of the loan to a fixed rate of 2.26% through May 2024. The loan replaced the previous $533,000,000 loan that bore interest at a fixed rate of 5.10% and was scheduled to mature in September 2021.

On May 28, 2021, we repaid the $675,000,000 mortgage loan on theMART, a 3.7 million square foot commercial building in Chicago, with proceeds from our senior unsecured notes offering discussed below. The loan bore interest at 2.70% and was scheduled to mature in September 2021.

On November 16, 2021, we completed a $950,000,000 refinancing of 1290 Avenue of the Americas, a 2.1 million square foot Class A Manhattan office building, in which we own a 70.0% controlling interest. The interest-only loan bears a rate of LIBOR plus 1.51% (1.62% as of December 31, 2021) in years one to five, increasing 0.25% in both years six and seven. The loan matures in November 2023 with five one-year extension options (November 2028 as fully extended). We defeased the existing $950,000,000 loan that bore interest at a fixed rate of 3.34% and was scheduled to mature in November 2022. As a result, we incurred $23,729,000 of defeasance costs, which are included in "interest and debt expense" on our consolidated statements of income, of which $7,119,000 is attributable to noncontrolling interest.

Unsecured Revolving Credit Facility

On April 15, 2021, we extended our $1.25 billion unsecured revolving credit facility from January 2023 (as fully extended) to April 2026 (as fully extended). The interest rate on the extended facility was lowered to LIBOR plus 0.90% from LIBOR plus 1.00%. We subsequently qualified for a sustainability margin adjustment by achieving certain key performance indicator (KPI) metrics, which reduced our interest rate by 0.01% to LIBOR plus 0.89%. The facility fee remains at 20 basis points. Our separate $1.50 billion unsecured revolving credit facility matures in March 2024 (as fully extended) and has an interest rate of LIBOR plus 0.90% and a facility fee of 20 basis points.

Senior Unsecured Notes

On May 24, 2021, we completed a green bond public offering of $400,000,000 2.15% senior unsecured notes due June 1, 2026 ("2026 Notes") and $350,000,000 3.40% senior unsecured notes due June 1, 2031 ("2031 Notes"). Interest on the senior unsecured notes is payable semi-annually on June 1 and December 1, commencing December 1, 2021. The 2026 Notes were sold at 99.86% of their face amount to yield 2.18% and the 2031 Notes were sold at 99.59% of their face amount to yield 3.45%.

9. Debt - continued

The following is a summary of our debt:

(Amounts in thousands)	Weighted Average Interest Rate at December 31, 2021	Balance as of December 31, 2021	Balance as of December 31, 2020
Mortgages Payable:			
Fixed rate	2.80%	$ 2,190,000	$ 3,012,643
Variable rate	1.68%	3,909,215	2,595,815
Total	2.08%	6,099,215	5,608,458
Deferred financing costs, net and other		(45,872)	(27,909)
Total, net		$ 6,053,343	$ 5,580,549
Unsecured Debt:			
Senior unsecured notes	3.02%	$ 1,200,000	$ 450,000
Deferred financing costs, net and other		(10,208)	(3,315)
Senior unsecured notes, net		1,189,792	446,685
Unsecured term loan	3.70%	800,000	800,000
Deferred financing costs, net and other		(2,188)	(3,238)
Unsecured term loan, net		797,812	796,762
Unsecured revolving credit facilities	1.00%	575,000	575,000
Total, net		$ 2,562,604	$ 1,818,447

The net carrying amount of properties collateralizing the above indebtedness amounted to $5.6 billion as of December 31, 2021.

As of December 31, 2021, the principal repayments required for the next five years and thereafter are as follows:

(Amounts in thousands)	Mortgages Payable	Unsecured Debt
Year Ended December 31,		
2022	$ 1,046,600	$ —
2023	3,198,400	575,000
2024	773,215	800,000
2025	331,000	450,000
2026	—	400,000
Thereafter	750,000	350,000

10. Redeemable Noncontrolling Interests

Redeemable Noncontrolling Partnership Units

Redeemable noncontrolling partnership units are primarily comprised of Class A Operating Partnership units held by third parties and are recorded at the greater of their carrying amount or redemption value at the end of each reporting period. Changes in the value from period to period are charged to “additional capital” in Vornado’s consolidated statements of changes in equity and to “partners’ capital” on the consolidated balance sheets of the Operating Partnership. Class A units may be tendered for redemption to the Operating Partnership for cash; Vornado, at its option, may assume that obligation and pay the holder either cash or Vornado common shares on a one-for-one basis. Because the number of Vornado common shares outstanding at all times equals the number of Class A units owned by Vornado, the redemption value of each Class A unit is equivalent to the market value of one Vornado common share, and the quarterly distribution to a Class A unitholder is equal to the quarterly dividend paid to a Vornado common shareholder.

10. Redeemable Noncontrolling Interests - continued

Redeemable Noncontrolling Partnership Units - continued

Below are the details of redeemable noncontrolling partnership units.

(Amounts in thousands, except units and per unit amounts)	Balance as of December 31,		Units Outstanding as of December 31,		Per Unit Liquidation Preference	Preferred or Annual Distribution Rate
Unit Series	2021	2020	2021	2020		
Common:						
Class A units held by third parties	$ 587,440 (1)	$ 507,212 (1)	14,033,438	13,583,607	n/a	$ 2.12
Perpetual Preferred/Redeemable Preferred:						
5.00% D-16 Cumulative Redeemable(2)	$ —	$ 1,000	—	1	n/a	n/a
3.25% D-17 Cumulative Redeemable(3)	$ 3,535	$ 3,535	141,400	141,400	$ 25.00	$ 0.8125

(1) Aggregate redemption value was based on Vornado's year-end closing common share price.
(2) Redeemed on October 18, 2021.
(3) Holders may tender units for redemption to the Operating Partnership for cash at their stated redemption amount; Vornado, at its option, may assume that obligation and pay the holders either cash or Vornado preferred shares on a one-for-one basis. These units are redeemable at Vornado's option at any time.

Below is a table summarizing the activity of redeemable noncontrolling partnership units.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	2020
Beginning balance	$ 511,747	$ 888,915
Net income (loss)	7,540	(24,946)
Other comprehensive income (loss)	4,048	(2,914)
Distributions	(29,901)	(32,595)
Redemption of Class A units for Vornado common shares, at redemption value	(14,576)	(9,266)
Redeemable Class A unit measurement adjustment	76,073	(344,043)
Other, net	36,044	36,596
Ending balance	$ 590,975	$ 511,747

Redeemable noncontrolling partnership units exclude our Series G-1 through G-4 convertible preferred units and Series D-13 cumulative redeemable preferred units, as they are accounted for as liabilities in accordance with ASC Topic 480, *Distinguishing Liabilities and Equity*, because of their possible settlement by issuing a variable number of Vornado common shares. Accordingly, the fair value of these units is included as a component of “other liabilities” on our consolidated balance sheets and aggregated $49,659,000 and $50,002,000 as of December 31, 2021 and 2020, respectively. Changes in the value from period to period, if any, are charged to “interest and debt expense” on our consolidated statements of income.

Redeemable Noncontrolling Interest in a Consolidated Subsidiary

A consolidated joint venture in which we own a 95% interest is developing Farley Office and Retail (the "Project"). During 2020, a historic tax credit investor (the "Tax Credit Investor") funded $92,400,000 of capital contributions and is expected to make additional capital contributions in future periods.

The arrangement includes a put option whereby the joint venture may be obligated to purchase the Tax Credit Investor’s ownership interest in the Project at a future date. The put price is calculated based on a pre-determined formula. As exercise of the put option is outside of the joint venture’s control, the Tax Credit Investor’s interest, together with the put option, have been recorded to “redeemable noncontrolling interest in a consolidated subsidiary” on our consolidated balance sheets as of December 31, 2021 and 2020. The redeemable noncontrolling interest is recorded at the greater of the carrying amount or redemption value at the end of each reporting period. Changes in the value from period to period are charged to “additional capital” in Vornado’s consolidated statements of changes in equity and to “partners’ capital” on the consolidated balance sheets of the Operating Partnership. There was no adjustment required for the years ended December 31, 2021 and 2020.

10. Redeemable Noncontrolling Interests - continued

Redeemable Noncontrolling Interest in a Consolidated Subsidiary - continued

Below is a table summarizing the activity of the redeemable noncontrolling interest in a consolidated subsidiary.

(Amounts in thousands)	For the Year Ended December 31, 2021	2020
Beginning balance	$ 94,520	$ —
Net income	3,188	544
Contributions	—	92,400
Other, net	—	1,576
Ending balance	$ 97,708	$ 94,520

11. Shareholders' Equity/Partners' Capital

Common Shares (Vornado Realty Trust)

As of December 31, 2021, there were 191,723,608 common shares outstanding. During 2021, we paid an aggregate of $406,109,000 of common dividends comprised of quarterly common dividends of $0.53 per share.

Class A Units (Vornado Realty L.P.)

As of December 31, 2021, there were 191,723,608 Class A units outstanding that were held by Vornado. These units are classified as “partners’ capital” on the consolidated balance sheets of the Operating Partnership. As of December 31, 2021, there were 14,033,438 Class A units outstanding, that were held by third parties. These units are classified outside of “partners’ capital” as “redeemable partnership units” on the consolidated balance sheets of the Operating Partnership (See Note 10 – *Redeemable Noncontrolling Interests*). During 2021, the Operating Partnership paid an aggregate of $406,109,000 of distributions to Vornado comprised of quarterly common distributions of $0.53 per unit.

Preferred Shares/Units

On September 22, 2021, Vornado sold 12,000,000 4.45% Series O cumulative redeemable preferred shares at a price of $25.00 per share, pursuant to an effective registration statement. Vornado received aggregate net proceeds of $291,153,000, after underwriters' discount and issuance costs, and contributed the net proceeds to the Operating Partnership in exchange for 12,000,000 4.45% Series O preferred units (with economic terms that mirror those of the Series O preferred shares). Dividends on the Series O preferred shares/units are cumulative and payable quarterly in arrears. The Series O preferred shares/units are not convertible into, or exchangeable for, any of our properties or securities. On or after five years from the date of issuance (or sooner under limited circumstances), Vornado may redeem the Series O preferred shares/units at a redemption price of $25.00 per share/unit, plus accrued and unpaid dividends/distributions through the date of redemption. The Series O preferred shares/units have no maturity date and will remain outstanding indefinitely unless redeemed by Vornado. Vornado used the net proceeds for the redemption of its 5.70% Series K cumulative redeemable preferred shares/units.

On October 13, 2021, we redeemed all of the outstanding 5.70% Series K preferred shares/units at their redemption price of $25.00 per share/unit, or $300,000,000 in the aggregate, plus accrued and unpaid dividends/distributions through the date of redemption. We recognized $9,033,000 of previously capitalized issuance costs in "Series K preferred share/unit issuance costs" on our consolidated statements of income during the third quarter of 2021, when the preferred shares/units were called for redemption.

11. Shareholders' Equity/Partners' Capital - continued

Preferred Shares/Units - continued

The following table sets forth the details of our preferred shares of beneficial interest and the preferred units of the Operating Partnership as of December 31, 2021 and 2020. During 2021, preferred dividends were $65,880,000.

(Amounts in thousands, except share/unit and per share/per unit amounts)

Preferred Shares/Units	Balance as of December 31, 2021	Balance as of December 31, 2020	Shares/Units Outstanding as of December 31, 2021	Shares/Units Outstanding as of December 31, 2020	Per Share/Unit: Liquidation Preference	Per Share/Unit: Annual Dividend/ Distribution(1)
Convertible Preferred:						
6.5% Series A: authorized 12,902 and 13,402 shares/units(2)	$ 920	$ 934	12,902	13,402	$ 50.00	$ 3.25
Cumulative Redeemable Preferred(3):						
5.70% Series K: authorized 12,000,000 shares/units(4)	—	290,971	—	12,000,000	n/a	n/a
5.40% Series L: authorized 13,800,000 shares/units	290,306	290,306	12,000,000	12,000,000	25.00	1.35
5.25% Series M: authorized 13,800,000 shares/units	308,946	308,946	12,780,000	12,780,000	25.00	1.3125
5.25% Series N: authorized 12,000,000 shares/units	291,134	291,182	12,000,000	12,000,000	25.00	1.3125
4.45% Series O: authorized 12,000,000 shares/units(5)	291,153	—	12,000,000	—	25.00	1.1125
	$ 1,182,459	$ 1,182,339	48,792,902	48,793,402		

(1) Dividends on preferred shares and distributions on preferred units are cumulative and are payable quarterly in arrears.
(2) Redeemable at the option of Vornado under certain circumstances, at a redemption price of 1.9531 common shares/Class A units per Series A Preferred Share/ Unit plus accrued and unpaid dividends/distributions through the date of redemption, or convertible at any time at the option of the holder for 1.9531 common shares/Class A units per Series A Preferred Share/Unit.
(3) Series L preferred shares/units are redeemable at Vornado's option at a redemption price of $25.00 per share/unit, plus accrued and unpaid dividends/distributions through the date of redemption. Series M preferred shares/units are redeemable commencing December 2022, Series N preferred shares/units are redeemable commencing November 2025 and Series O preferred shares/units are redeemable commencing September 2026. Series K preferred shares/units were redeemed on October 13, 2021.
(4) Redeemed on October 13, 2021.
(5) Issued in September 2021.

Accumulated Other Comprehensive Loss

The following table sets forth the changes in accumulated other comprehensive loss by component for the year ended December 31, 2021.

(Amounts in thousands)

	Total	Accumulated other comprehensive (loss) income of nonconsolidated subsidiaries	Interest rate swaps	Other
Balance as of December 31, 2020	$ (75,099)	$ (14,338)	$ (66,098)	$ 5,337
Other comprehensive income (loss)	57,565	10,275	51,337	(4,047)
Balance as of December 31, 2021	$ (17,534)	$ (4,063)	$ (14,761)	$ 1,290

12. Variable Interest Entities

Unconsolidated VIEs

As of December 31, 2021 and 2020, we have several unconsolidated VIEs. We do not consolidate these entities because we are not the primary beneficiary and the nature of our involvement in the activities of these entities does not give us power over decisions that significantly affect these entities' economic performance. We account for our investment in these entities under the equity method (see Note 5 – *Investments in Partially Owned Entities*). As of December 31, 2021 and 2020, the net carrying amount of our investments in these entities was $69,435,000 and $224,754,000, respectively, and our maximum exposure to loss in these entities is limited to the carrying amount of our investments.

Consolidated VIEs

Our most significant consolidated VIEs are the Operating Partnership (for Vornado), the Farley joint venture and certain properties that have non-controlling interests. These entities are VIEs because the non-controlling interests do not have substantive kick-out or participating rights. We consolidate these entities because we control all significant business activities.

As of December 31, 2021, the total assets and liabilities of our consolidated VIEs, excluding the Operating Partnership, were $4,564,621,000 and $2,517,652,000 respectively. As of December 31, 2020, the total assets and liabilities of our consolidated VIEs, excluding the Operating Partnership, were $4,053,841,000 and $1,722,719,000, respectively.

13. Fair Value Measurements

ASC 820 defines fair value and establishes a framework for measuring fair value. The objective of fair value is to determine the price that would be received upon the sale of an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date (the exit price). ASC 820 establishes a fair value hierarchy that prioritizes observable and unobservable inputs used to measure fair value into three levels: Level 1 – quoted prices (unadjusted) in active markets that are accessible at the measurement date for assets or liabilities; Level 2 – observable prices that are based on inputs not quoted in active markets, but corroborated by market data; and Level 3 – unobservable inputs that are used when little or no market data is available. The fair value hierarchy gives the highest priority to Level 1 inputs and the lowest priority to Level 3 inputs. In determining fair value, we utilize valuation techniques that maximize the use of observable inputs and minimize the use of unobservable inputs to the extent possible, as well as consider counterparty credit risk in our assessment of fair value. Considerable judgment is necessary to interpret Level 2 and 3 inputs in determining the fair value of our financial and non-financial assets and liabilities. Accordingly, our fair value estimates, which are made at the end of each reporting period, may be different than the amounts that may ultimately be realized upon sale or disposition of these assets.

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis

Financial assets and liabilities that are measured at fair value on our consolidated balance sheets consist of (i) real estate fund investments, (ii) the assets in our deferred compensation plan (for which there is a corresponding liability on our consolidated balance sheets), (iii) loans receivable for which we have elected the fair value option under ASC Subtopic 825-10, *Financial Instruments* ("ASC 825-10"), (iv) interest rate swaps and (v) mandatorily redeemable instruments (Series G-1 through G-4 convertible preferred units and Series D-13 cumulative redeemable preferred units). The tables below aggregate the fair values of these financial assets and liabilities by their levels in the fair value hierarchy.

(Amounts in thousands)	As of December 31, 2021			
	Total	Level 1	Level 2	Level 3
Real estate fund investments	$ 7,730	$ —	$ —	$ 7,730
Deferred compensation plan assets ($9,104 included in restricted cash and $101,070 in other assets)	110,174	65,158	—	45,016
Loans receivable ($46,444 included in investments in partially owned entities and $3,738 in other assets)	50,182	—	—	50,182
Interest rate swaps and caps (included in other assets)	18,929	—	18,929	—
Total assets	$ 187,015	$ 65,158	$ 18,929	$ 102,928
Mandatorily redeemable instruments (included in other liabilities)	$ 49,659	$ 49,659	$ —	$ —
Interest rate swaps (included in other liabilities)	32,837	—	32,837	—
Total liabilities	$ 82,496	$ 49,659	$ 32,837	$ —

(Amounts in thousands)	As of December 31, 2020			
	Total	Level 1	Level 2	Level 3
Real estate fund investments	$ 3,739	$ —	$ —	$ 3,739
Deferred compensation plan assets ($10,813 included in restricted cash and $94,751 in other assets)	105,564	65,636	—	39,928
Loans receivable ($43,008 included in investments in partially owned entities and $4,735 in other assets)	47,743	—	—	47,743
Interest rate swaps (included in other assets)	17	—	17	—
Total assets	$ 157,063	$ 65,636	$ 17	$ 91,410
Mandatorily redeemable instruments (included in other liabilities)	$ 50,002	$ 50,002	$ —	$ —
Interest rate swaps (included in other liabilities)	66,033	—	66,033	—
Total liabilities	$ 116,035	$ 50,002	$ 66,033	$ —

13. Fair Value Measurements - continued

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis - continued

Real Estate Fund Investments

As of December 31, 2021, we had three real estate fund investments with an aggregate fair value of $7,730,000, or $328,055,000 below cost. These investments are classified as Level 3.

Significant unobservable quantitative inputs used in determining the fair value of each investment include capitalization rates and discount rates. These rates are based on the location, type and nature of each property, current and anticipated market conditions, industry publications and from the experience of our Acquisitions and Capital Markets departments. Significant unobservable quantitative inputs in the table below were utilized in determining the fair value of these real estate fund investments.

	Range		Weighted Average (based on fair value of assets)	
Unobservable Quantitative Input	**December 31, 2021**	**December 31, 2020**	**December 31, 2021**	**December 31, 2020**
Discount rates	12.0% to 15.0%	7.6% to 15.0%	13.2%	12.7%
Terminal capitalization rates	5.5% to 8.8%	5.5% to 10.3%	7.4%	7.9%

The inputs above are subject to change based on changes in economic and market conditions and/or changes in use or timing of exit. Changes in discount rates and terminal capitalization rates result in increases or decreases in the fair values of these investments. The discount rates encompass, among other things, uncertainties in the valuation models with respect to terminal capitalization rates and the amount and timing of cash flows. Therefore, a change in the fair value of these investments resulting from a change in the terminal capitalization rate may be partially offset by a change in the discount rate. It is not possible for us to predict the effect of future economic or market conditions on our estimated fair values.

The table below summarizes the changes in the fair value of real estate fund investments that are classified as Level 3.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	**2020**
Beginning balance	$ 3,739	$ 222,649
Dispositions	(5,104)	—
Purchases/additional fundings	4,474	7,197
Net unrealized income (loss) on held investments	3,257	(226,107)
Net realized income on exited investments	1,364	—
Ending balance	$ 7,730	$ 3,739

Deferred Compensation Plan Assets

Deferred compensation plan assets that are classified as Level 3 consist of investments in limited partnerships and investment funds, which are managed by third parties. We receive quarterly financial reports that provide net asset values on a fair value basis from a third-party administrator, which are compiled from the quarterly reports provided to them from each limited partnership and investment fund. The period of time over which these underlying assets are expected to be liquidated is unknown. The third-party administrator does not adjust these values in determining our share of the net assets and we do not adjust these values when reported in our consolidated financial statements.

The table below summarizes the changes in the fair value of deferred compensation plan assets that are classified as Level 3.

(Amounts in thousands)	For the Year Ended December 31,	
	2021	**2020**
Beginning balance	$ 39,928	$ 32,435
Purchases	5,705	8,766
Sales	(4,766)	(5,467)
Realized and unrealized gains	2,250	808
Other, net	1,899	3,386
Ending balance	$ 45,016	$ 39,928

Loans Receivable

Loans receivable consist of loan investments in real estate related assets for which we have elected the fair value option under ASC 825-10. These investments are classified as Level 3.

Significant unobservable quantitative inputs used in determining the fair value of each investment include capitalization rates and discount rates. These rates are based on the location, type and nature of each property, current and anticipated market conditions, industry publications and from the experience of our Acquisitions and Capital Markets departments. Significant unobservable quantitative inputs in the table on the following page were utilized in determining the fair value of these loans receivable.

13. Fair Value Measurements - continued

Financial Assets and Liabilities Measured at Fair Value on a Recurring Basis - continued

Loans Receivable - continued

	Range		Weighted Average (based on fair value of investments)	
Unobservable Quantitative Input	**December 31, 2021**	**December 31, 2020**	**December 31, 2021**	**December 31, 2020**
Discount rates	6.5%	6.5%	6.5 %	6.5 %
Terminal capitalization rates	5.0%	5.0%	5.0 %	5.0 %

The table below summarizes the changes in fair value of loans receivable that are classified as Level 3.

	For the Year Ended December 31,	
(Amounts in thousands)	**2021**	**2020**
Beginning balance	$ 47,743	$ 59,251
Credit losses	—	(13,369)
Interest accrual	3,714	2,461
Paydowns	(1,275)	(600)
Ending balance	$ 50,182	$ 47,743

Derivatives and Hedging

We utilize various financial instruments to mitigate the impact of interest rate fluctuations on our cash flows and earnings, including hedging strategies, depending on our analysis of the interest rate environment and the costs and risks of such strategies. We recognize the fair values of all derivatives in "other assets" or "other liabilities" on our consolidated balance sheets. Derivatives that are not hedges are adjusted to fair value through earnings. If a derivative is a hedge, depending on the nature of the hedge, changes in the fair value of the derivative will either be offset against the change in fair value of the hedge asset, liability, or firm commitment through earnings, or recognized in other comprehensive income until the hedged item is recognized in earnings. Reported net income and equity may increase or decrease prospectively, depending on future levels of interest rates and other variables affecting the fair values of derivative instruments and hedged items, but will have no effect on cash flows.

The following tables summarize our consolidated derivative instruments, all of which hedge variable rate debt, as of December 31, 2021 and 2020, respectively.

(Amounts in thousands)	As of December 31, 2021					
			Variable Rate			
Hedged Item	**Fair Value**	**Notional Amount**	**Spread over LIBOR**	**Interest Rate**	**Swapped Rate**	**Expiration Date**
Included in other assets:						
555 California Street mortgage loan interest rate swap[(1)]	$ 11,814	$ 840,000 [(2)]	L+193	2.04%	2.26%	5/24
PENN 11 mortgage loan interest rate swap[(3)]	6,565	500,000	L+195	2.05%	2.23%	3/24
Various interest rate caps	550	1,650,000				
	$ 18,929	$ 2,990,000				
Included in other liabilities:						
Unsecured term loan interest rate swap	$ 28,976	$ 750,000 [(4)]	L+100	1.10%	3.87%	10/23
33-00 Northern Boulevard mortgage loan interest rate swap	3,861	100,000	L+180	1.91%	4.14%	1/25
	$ 32,837	$ 850,000				

(1) Entered into on May 15, 2021.
(2) Represents our 70.0% share of the $1.2 billion mortgage loan.
(3) Entered into on March 7, 2021.
(4) Remaining $50,000 balance of our unsecured term loan bears interest at a floating rate of LIBOR plus 1.00%.

(Amounts in thousands)	As of December 31, 2020					
			Variable Rate			
Hedged Item	**Fair Value**	**Notional Amount**	**Spread over LIBOR**	**Interest Rate**	**Swapped Rate**	**Expiration Date**
Included in other assets:						
Various interest rate caps	$ 17	$ 175,000				
Included in other liabilities:						
Unsecured term loan interest rate swap	$ 57,723	$ 750,000 [(1)]	L+100	1.15%	3.87%	10/23
33-00 Northern Boulevard mortgage loan interest rate swap	8,310	100,000	L+180	1.95%	4.14%	1/25
	$ 66,033	$ 850,000				

(1) Remaining $50,000 balance of our unsecured term loan bears interest at a floating rate of LIBOR plus 1.00%.

13. Fair Value Measurements - continued

Fair Value Measurements on a Nonrecurring Basis

There were no assets measured at fair value on a nonrecurring basis on our consolidated balance sheet as of December 31, 2021. As of December 31, 2020, assets measured at fair value on a nonrecurring basis on our consolidated balance sheet consisted of real estate assets that have been written down to estimated fair value for impairment purposes. The impairment losses primarily relate to wholly owned street retail assets.

Our estimate of the fair value of these assets was measured using widely accepted valuation techniques including (i) discounted cash flow analyses based upon market conditions and expectations of growth and utilized unobservable quantitative inputs, including a capitalization rate of 5.0% and discount rate of 7.0%, and (ii) comparable sales activity.

(Amounts in thousands)	As of December 31, 2020			
	Total	**Level 1**	**Level 2**	**Level 3**
Real estate assets	$ 191,116	$ —	$ —	$ 191,116

Financial Assets and Liabilities not Measured at Fair Value

Financial assets and liabilities that are not measured at fair value on our consolidated balance sheets include cash equivalents (primarily money market funds, which invest in obligations of the United States government), and our secured and unsecured debt. Estimates of the fair value of these instruments are determined by the standard practice of modeling the contractual cash flows required under the instrument and discounting them back to their present value at the appropriate current risk adjusted interest rate, which is provided by a third-party specialist. For floating rate debt, we use forward rates derived from observable market yield curves to project the expected cash flows we would be required to make under the instrument. The fair value of cash equivalents and borrowings under our unsecured revolving credit facilities and unsecured term loan are classified as Level 1. The fair value of our secured debt and unsecured debt are classified as Level 2. The table below summarizes the carrying amounts and fair value of these financial instruments.

(Amounts in thousands)	As of December 31, 2021		As of December 31, 2020	
	Carrying Amount	**Fair Value**	**Carrying Amount**	**Fair Value**
Cash equivalents	$ 1,346,684	$ 1,347,000	$ 1,476,427	$ 1,476,000
Debt:				
Mortgages payable	$ 6,099,215	$ 6,052,000	$ 5,608,458	$ 5,612,000
Senior unsecured notes	1,200,000	1,230,000	450,000	476,000
Unsecured term loan	800,000	800,000	800,000	800,000
Unsecured revolving credit facilities	575,000	575,000	575,000	575,000
Total	$ 8,674,215 (1)	$ 8,657,000	$ 7,433,458 (1)	$ 7,463,000

(1) Excludes $58,268 and $34,462 of deferred financing costs, net and other as of December 31, 2021 and 2020, respectively.

14. Stock-based Compensation

Vornado's 2019 Omnibus Share Plan (the "Plan") provides the Compensation Committee of Vornado's Board of Trustees (the "Committee") the ability to grant incentive and nonqualified Vornado stock options, restricted stock, restricted Operating Partnership units ("OP units"), out-performance plan awards ("OPPs"), appreciation-only long-term incentive plan units ("AO LTIP Units") and performance conditioned appreciation-only long-term incentive plan units ("Performance Conditioned AO LTIP Units") to certain of our employees and officers. Awards may be granted up to a maximum 5,500,000 shares, if all awards granted are Full Value awards, as defined in the Plan, and up to 11,000,000 shares, if all of the awards granted are Not Full Value Awards, as defined in the Plan. Full Value Awards are awards of securities, such as restricted shares, that, if all vesting requirements are met, do not require the payment of an exercise price or strike price to acquire the securities. Not Full Value Awards are awards of securities, such as options, that do require the payment of an exercise price or strike price. As of December 31, 2021, Vornado has approximately 3,490,000 shares available for future grants under the Plan, if all awards granted are Full Value Awards, as defined.

We account for all equity-based compensation in accordance with ASC Topic 718, *Compensation - Stock Compensation*. Below is a summary of our stock-based compensation expense, a component of "general and administrative" expense on our consolidated statements of income.

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
OP Units	$ 27,698	$ 33,431	$ 39,969
OPPs	8,629	9,579	1,944
AO LTIP Units	877	3,955	2,636
Vornado stock options	456	656	547
Vornado restricted stock	450	649	549
Performance Conditioned AO LTIP Units	219	407	8,263
	$ 38,329	$ 48,677	$ 53,908

Below is a summary of unrecognized compensation expense for the year ended December 31, 2021.

(Amounts in thousands)	As of December 31, 2021	Weighted-Average Remaining Contractual Term
OP Units	$ 13,460	1.3
OPPs	5,104	2.0
AO LTIP Units	565	1.2
Vornado stock options	489	1.4
Vornado restricted stock	483	1.4
Performance Conditioned AO LTIP Units	94	1.0
	$ 20,195	1.5

OPPs

OPPs are multi-year, performance-based equity compensation plans under which participants have the opportunity to earn a class of units ("OPP units") of the Operating Partnership if, and only if, Vornado outperforms a predetermined total shareholder return ("TSR") and/or outperforms the market with respect to a relative TSR during the three-year or four-year performance period (the "Performance Period") as described on the following page. OPP units, if earned, become convertible into Class A units of the Operating Partnership (and ultimately into Vornado common shares) following vesting.

2021 OPP

On January 12, 2021, the Committee approved the 2021 OPP, a multi-year, $30,000,000 performance-based equity compensation plan. Awards under the 2021 OPP may potentially be earned if Vornado (i) achieves a TSR greater than 28% over a four-year performance period (the "2021 OPP Absolute Component"), and /or (ii) achieves a TSR above a benchmark weighted index (the "Index"), comprised of 80% of the constituents of the SNL US Office REIT Index at the time awards were granted, and 20% of the constituents of the SNL US Retail Index at the time awards were granted, over the Performance Period (the "2021 OPP Relative Component").

14. Stock-based Compensation – continued

2021 OPP - continued

The value of awards under the 2021 OPP Absolute Component and 2021 OPP Relative Component will be calculated separately and will each be subject to an aggregate $30,000,000 maximum award cap for all participants. The two components will be added together to determine the aggregate award size, which shall also be subject to the aggregate $30,000,000 maximum award cap for all participants. In the event awards are earned under the 2021 OPP Absolute Component, but Vornado underperforms the Index by more than 200 basis points per annum over the Performance Period (800 basis points over the four years), the amount earned under the 2021 OPP Absolute Component will be reduced based on the degree by which the Index exceeds Vornado's TSR with the maximum payout being 50% under the 2021 OPP Absolute Component. In the event awards are earned under the 2021 OPP Relative Component, but Vornado fails to achieve a TSR of at least 2% per annum, awards earned under the 2021 OPP Relative Component will be reduced on a ratable sliding scale based on Vornado's absolute TSR performance, with the maximum payout being 50% under the 2021 OPP Relative Component in the event Vornado's TSR during the four-year measurement period is 0% or negative. If the designated performance objectives are achieved, awards earned under 2021 OPP will vest 50% in year four and 50% in year five. In addition, all of Vornado's senior executives are required to hold any earned and vested awards for one year following each such vesting date. Dividends on awards granted under the 2021 OPP accrue during the four-year performance period and are paid to participants if awards are ultimately earned based on the achievement of the designated performance objectives.

Below is the summary of the OPP units granted during the years December 31, 2021, 2020 and 2018.

Plan Year	Total Plan Notional Amount	Percentage of Notional Amount Granted	Grant Date Fair Value[(1)]	OPP Units Earned
2021	$ 30,000,000	99.1 %	$ 9,950,000	To be determined in 2025
2020	35,000,000	94.0 %	11,700,000	To be determined in 2023
2018	35,000,000	78.2 %	10,300,000	Not earned

(1) During the years ended December 31, 2021, 2020 and 2018, $6,140,000, $7,583,000 and $8,040,000, respectively, was immediately expensed on the respective grant date due to acceleration of vesting for employees who are retirement eligible (have reached age 65 or age 60 with at least 20 years of service).

Vornado Stock Options

Vornado stock options are granted at an exercise price equal to the average of the high and low market price of Vornado's common shares on the NYSE on the date of grant, generally vest over four years and expire ten years from the date of grant. Compensation expense related to Vornado stock option awards is recognized on a straight-line basis over the vesting period.

Below is a summary of Vornado's stock option activity for the year ended December 31, 2021.

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2020	765,637	$ 64.79		
Exercised	(598)	36.72		
Forfeited	(3,008)	56.92		
Expired	(570,098)	64.70		
Outstanding as of December 31, 2021	191,933	$ 65.27	5.75	$ 152,920
Options exercisable as of December 31, 2021	124,805	$ 70.13	4.71	$ 37,820

There were no Vornado stock options granted during the year ended December 31, 2021. The fair value of each option grant is estimated on the date of grant using an option-pricing model with the following weighted-average assumptions for grants in the years ended December 31, 2020 and 2019.

	As of December 31,	
	2020	2019
Expected volatility	35% - 36%	35%
Expected life	5.0 years	5.0 years
Risk free interest rate	0.57% - 1.76%	2.50%
Expected dividend yield	3.2% - 3.4%	2.9%

The weighted average grant date fair value per share for options granted during the years ended December 31, 2020 and 2019 was $12.28 and $16.64, respectively. Cash received from option exercises for the years ended December 31, 2021, 2020 and 2019 was $22,000, $3,516,000 and $5,495,000, respectively. The total intrinsic value of options exercised during the years ended December 31, 2021, 2020 and 2019 was $5,500, $859,000 and $18,954,000, respectively.

14. Stock-based Compensation – continued

Performance Conditioned AO LTIP Units

Performance Conditioned AO LTIP Units are AO LTIP Units that require the achievement of certain performance conditions by a specified date or they are forfeited. The performance-based condition is met if Vornado common shares trade at or above 110% of the grant price per share for any 20 consecutive days on or before the fourth anniversary following the date of grant. If the performance conditions are not met, the awards are forfeited. If the performance conditions are met, once vested, the awards may be converted into Class A Operating Partnership units in the same manner as AO LTIP Units until ten years from the date of grant.

Below is a summary of Performance Conditioned AO LTIP Units activity for the year ended December 31, 2021.

	Units	Weighted-Average Grant-Date Fair Value	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2020	496,792 [(1)]	$ 62.62		
Outstanding as of December 31, 2021	496,792 [(1)]	$ 62.62	7.04	$ —
Options exercisable at December 31, 2021	322,313	$ 62.62	7.04	$ —

(1) Granted in 2019 at a grant price of $64.48 and a fair value of $8,983,000 at the date of grant.

The fair value of each Performance Conditioned AO LTIP Units granted is estimated on the date of grant using an option-pricing model with the following weighted average assumptions for grants in the year ended December 31, 2019.

Expected volatility	35%
Expected life	8.0 years
Risk free interest rate	2.76%
Expected dividend yield	3.1%

AO LTIP Units

AO LTIP Units are a class of partnership interests in the Operating Partnership that are intended to qualify as "profits interests" for federal income tax purposes and generally only allow the recipient to realize value to the extent the fair market value of a Vornado common share exceeds the threshold level set at the time the AO LTIP Units are granted, subject to any vesting conditions applicable to the award. The threshold level is intended to be equal to 100% of the then fair market value of a Vornado common share on the date of grant. The value of vested AO LTIP Units is realized through conversion of the AO LTIP Units into Class A Operating Partnership units. The number of Class A Units into which vested AO LTIP Units may be converted is determined based on the quotient of (i) the excess of the conversion value on the conversion date over the threshold value designated at the time the AO LTIP Unit was granted, divided by (ii) the conversion value on the conversion date. The "conversion value" is the value of a Vornado common share on the conversion date multiplied by the Conversion Factor as defined in the Partnership Agreement, which is currently one. AO LTIP Units have a term of ten years from the grant date. Each holder will generally receive special income allocations in respect of an AO LTIP Unit equal to 10% (or such other percentage specified in the applicable award agreement) of the income allocated in respect of a Class A Unit. Upon conversion of AO LTIP Units to Class A Units, holders will be entitled to receive in respect of each such AO LTIP Unit, on a per unit basis, a special distribution equal to 10% (or such other percentage specified in the applicable award agreement) of the distributions received by a holder of an equivalent number of Class A Units during the period from the grant date of the AO LTIP Units through the date of conversion.

Below is a summary of AO LTIP Units activity for the year ended December 31, 2021.

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2020	717,581	$ 59.71		
Exercised	(16,669)	36.72		
Forfeited	(60,927)	56.30		
Expired	(72,246)	66.32		
Outstanding as of December 31, 2021	567,739	$ 59.91	7.29	$ 640,711
Options exercisable as of December 31, 2021	327,535	$ 61.83	7.06	$ 279,164

14. Stock-based Compensation – continued

AO LTIP Units - continued

There were no AO LTIP Units granted during the year ended December 31, 2021. AO LTIP Units granted during the years ended December 31, 2020 and 2019 had a fair value of $4,319,000 and $3,429,000, respectively. The fair value of each AO LTIP Unit granted is estimated on the date of grant using an option-pricing model with the following weighted-average assumptions for grants in the years ended December 31, 2020 and 2019.

	As of December 31,	
	2020	2019
Expected volatility	35% - 36%	35%
Expected life	5.0 years	5.0 years
Risk free interest rate	0.57% - 1.76%	2.50%
Expected dividend yield	3.2% - 3.4%	2.90%

OP Units

OP Units are granted at the average of the high and low market price of Vornado's common shares on the NYSE on the date of grant, vest ratably over four years and are subject to a taxable book-up event, as defined. Compensation expense related to OP Units is recognized ratably over the vesting period using a graded vesting attribution model. Distributions paid on unvested OP Units amounted to $2,634,000, $5,316,000 and $4,070,000 in the years ended December 31, 2021, 2020 and 2019, respectively.

Below is a summary of restricted OP unit activity for the year ended December 31, 2021.

Unvested Units	Units	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2020	1,152,418	$ 53.17
Granted	816,019	32.10
Vested	(867,747)	42.11
Forfeited	(17,603)	52.73
Unvested as of December 31, 2021	1,083,087	53.99

OP Units granted in 2021, 2020 and 2019 had a fair value of $26,194,000, $18,013,000 and $58,732,000, respectively. The fair value of OP Units that vested during the years ended December 31, 2021, 2020 and 2019 was $36,541,000, $24,373,000 and $27,821,000, respectively.

Vornado Restricted Stock

Vornado restricted stock awards are granted at the average of the high and low market price of Vornado's common shares on the NYSE on the date of grant and generally vest over four years. Compensation expense related to Vornado's restricted stock awards is recognized on a straight-line basis over the vesting period. Dividends paid on unvested Vornado restricted stock are charged directly to retained earnings and amounted to $35,000, $98,000 and $51,000 for the years ended December 31, 2021, 2020 and 2019, respectively.

Below is a summary of Vornado's restricted stock activity for the year ended December 31, 2021.

Unvested Shares	Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2020	25,315	$ 60.06
Vested	(8,833)	64.17
Forfeited	(708)	58.56
Unvested as of December 31, 2021	15,774	57.82

There were no Vornado restricted stock awards granted during the year ended December 31, 2021. Vornado restricted stock awards granted in 2020 and 2019 had a fair value of $853,000 and $568,000, respectively. The fair value of restricted stock that vested during the years ended December 31, 2021, 2020, and 2019 was $567,000, $602,000 and $477,000, respectively.

15. Impairment Losses, Transaction Related Costs and Other

The following table sets forth the details of impairment losses, transaction related costs and other:

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Real estate impairment losses	$ (7,880) [(1)]	$ (236,286)	$ (8,065)
Transaction related costs	(5,935)	(8,001)	(4,613)
608 Fifth Avenue lease liability extinguishment gain in 2020 and impairment loss and related write-offs in 2019	—	70,260	(93,860)
	$ (13,815)	$ (174,027)	$ (106,538)

(1) See Note 7 - *Acquisitions and Dispositions* for additional information.

16. Interest and Other Investment Income (Loss), Net

The following table sets forth the details of interest and other investment income (loss), net:

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Interest on loans receivable	$ 2,517	$ 3,384	$ 6,326
Interest on cash and cash equivalents and restricted cash	284	5,793	13,380
Credit losses on loans receivable	—	(13,369)	—
Market-to-market decrease in the fair value of marketable security (sold on January 23, 2020)	—	(4,938)	(5,533)
Dividends on marketable securities	—	—	3,938
Other, net	1,811	3,631	3,708
	$ 4,612	$ (5,499)	$ 21,819

17. Interest and Debt Expense

The following table sets forth the details of interest and debt expense:

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Interest expense[(1)]	$ 249,169	$ 251,847	$ 335,016
Capitalized interest and debt expense	(38,320)	(41,056)	(72,200)
Amortization of deferred financing costs	20,247	18,460	23,807
	$ 231,096	$ 229,251	$ 286,623

(1) 2021 includes $23,729 of defeasance costs, of which $7,119 is attributable to noncontrolling interest, in connection with the refinancing of 1290 Avenue of the Americas, a property in which we own a 70% controlling interest. See Note 9 - *Debt* for additional information. 2019 includes $22,540 of debt prepayment costs in connection with the redemption of $400,000 5.00% senior unsecured notes which were scheduled to mature in January 2022.

18. Income (Loss) Per Share/Income (Loss) Per Class A Unit

Vornado Realty Trust

The following table presents the calculations of (i) basic income (loss) per common share which includes the weighted average number of common shares outstanding without regard to dilutive potential common shares and (ii) diluted income (loss) per common share which includes the weighted average common shares and dilutive share equivalents. Unvested share-based payment awards that contain nonforfeitable rights to dividends, whether paid or unpaid, are accounted for as participating securities. Earnings are allocated to participating securities, which include restricted stock awards, based on the two-class method. Other potential dilutive share equivalents such as our employee stock options, OP Units, OPPs, AO LTIP Units and Performance Conditioned AO LTIP Units are included in the computation of diluted earnings per share ("EPS") using the treasury stock method, while the dilutive effect of our Series A convertible preferred shares is reflected in diluted EPS by application of the if-converted method.

(Amounts in thousands, except per share amounts)	For the Year Ended December 31,		
	2021	2020	2019
Numerator:			
Income (loss) from continuing operations, net of (income) loss attributable to noncontrolling interests	$ 175,999	$ (297,005)	$ 3,147,965
Loss from discontinued operations	—	—	(28)
Net income (loss) attributable to Vornado	175,999	(297,005)	3,147,937
Preferred share dividends	(65,880)	(51,739)	(50,131)
Series K preferred share issuance costs	(9,033)	—	—
Net income (loss) attributable to common shareholders	101,086	(348,744)	3,097,806
Earnings allocated to unvested participating securities	(34)	(99)	(309)
Numerator for basic income (loss) per share	101,052	(348,843)	3,097,497
Impact of assumed conversions:			
Convertible preferred share dividends	—	—	57
Earnings allocated to Out-Performance Plan units	—	—	9
Numerator for basic and diluted income (loss) per share	$ 101,052	$ (348,843)	$ 3,097,563
Denominator:			
Denominator for basic income (loss) per share – weighted average shares	191,551	191,146	190,801
Effect of dilutive securities[(1)]:			
Employee stock options, restricted stock awards, AO LTIP Units and OPPs	571	—	218
Convertible preferred shares	—	—	34
Denominator for diluted income (loss) per share – weighted average shares and assumed conversions	192,122	191,146	191,053
INCOME (LOSS) PER COMMON SHARE - BASIC:			
Net income (loss) per common share	$ 0.53	$ (1.83)	$ 16.23
INCOME (LOSS) PER COMMON SHARE - DILUTED:			
Net income (loss) per common share	$ 0.53	$ (1.83)	$ 16.21

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(1) The effect of dilutive securities excluded an aggregate of 13,835, 14,007 and 13,020 weighted average common share equivalents in the years ended December 31, 2021, 2020 and 2019, respectively, as their effect was anti-dilutive.

18. Income (Loss) Per Share/Income (Loss) Per Class A Unit – continued

Vornado Realty L.P.

The following table presents the calculations of (i) basic income (loss) per Class A unit which includes the weighted average number of Class A units outstanding without regard to dilutive potential Class A units and (ii) diluted income (loss) per Class A unit which includes the weighted average Class A units and dilutive Class A unit equivalents. Unvested share-based payment awards that contain non-forfeitable rights to dividends, whether paid or unpaid, are accounted for as participating securities. Earnings are allocated to participating securities, which include Vornado restricted stock awards, OP Units and OPPs, based on the two-class method. Other potential dilutive unit equivalents such as Vornado stock options, AO LTIP Units and Performance Conditioned AO LTIP Units are included in the computation of diluted income per unit ("EPU") using the treasury stock method, while the dilutive effect of our Series A convertible preferred units is reflected in diluted EPU by application of the if-converted method.

(Amounts in thousands, except per unit amounts)	For the Year Ended December 31,		
	2021	2020	2019
Numerator:			
Income (loss) from continuing operations, net of (income) loss attributable to noncontrolling interests in consolidated subsidiaries	$ 183,539	$ (321,951)	$ 3,358,839
Loss from discontinued operations	—	—	(30)
Net income (loss) attributable to Vornado Realty L.P.	183,539	(321,951)	3,358,809
Preferred unit distributions	(66,035)	(51,904)	(50,296)
Series K preferred unit issuance costs	(9,033)	—	—
Net income (loss) attributable to Class A unitholders	108,471	(373,855)	3,308,513
Earnings allocated to unvested participating securities	(2,668)	(5,417)	(17,296)
Numerator for basic income (loss) per Class A unit	105,803	(379,272)	3,291,217
Impact of assumed conversions:			
Convertible preferred unit distributions	—	—	57
Numerator for basic and diluted income (loss) per Class A unit	$ 105,803	$ (379,272)	$ 3,291,274
Denominator:			
Denominator for basic income (loss) per Class A unit – weighted average units	204,728	203,503	202,947
Effect of dilutive securities[(1)]:			
Vornado stock options, Vornado restricted stock awards, OP Units, AO LTIP Units and OPPs	916	—	267
Convertible preferred units	—	—	34
Denominator for diluted income (loss) per Class A unit – weighted average units and assumed conversions	205,644	203,503	203,248
INCOME (LOSS) PER CLASS A UNIT - BASIC:			
Net income (loss) per Class A unit	$ 0.52	$ (1.86)	$ 16.22
INCOME (LOSS) PER CLASS A UNIT - DILUTED:			
Net income (loss) per Class A unit	$ 0.51	$ (1.86)	$ 16.19

(1) The effect of dilutive securities excluded an aggregate of 313, 1,650 and 825 weighted average Class A unit equivalents in the years ended December 31, 2021, 2020 and 2019 respectively, as their effect was anti-dilutive.

19. Leases

As lessor

We lease space to tenants under operating leases. Most of the leases provide for the payment of fixed base rent payable monthly in advance. Leases typically provide for periodic step-ups in rent over the term of the lease and pass through to tenants their share of increases in real estate taxes and operating expenses over a base year. Certain leases also require additional variable rent payments based on a percentage of the tenants' sales. Electricity is provided to tenants on a sub-metered basis or included in rent based on surveys and adjusted for subsequent utility rate increases. Leases also typically provide for free rent and tenant improvement allowances for all or a portion of the tenant's initial construction costs of its premises.

As of December 31, 2021, future undiscounted cash flows under non-cancelable operating leases were as follows:

(Amounts in thousands)		As of December 31, 2021
For the year ended December 31,		
2022	$	1,313,854
2023		1,266,425
2024		1,132,125
2025		1,021,434
2026		977,834
Thereafter		7,068,874

As lessee

We have a number of ground leases which are classified as operating leases. As of December 31, 2021, our ROU assets and lease liabilities were $337,197,000 and $370,206,000, respectively. As of December 31, 2020, our ROU assets and lease liabilities were $367,365,000 and $401,008,000, respectively.

The discount rate applied to measure each ROU asset and lease liability is based on our incremental borrowing rate ("IBR"). We consider the general economic environment and our credit rating and factor in various financing and asset specific adjustments to ensure the IBR is appropriate to the intended use of the underlying lease. Certain of our ground leases offer renewal options which we assess against relevant economic factors to determine whether we are reasonably certain of exercising or not exercising the option. Lease payments associated with renewal periods that we are reasonably certain will be exercised are included in the measurement of the lease liability and corresponding ROU asset.

Certain of our ground leases are subject to fair market rent resets based on a percentage of the appraised value of the underlying assets at specified future dates. Fair market rent resets occurring during the lease term do not give rise to remeasurement of the related ROU assets and lease liabilities. Fair market rent resets occurring during the lease term, which may be material, will be recognized in the periods in which they are incurred as variable rent expense.

The following table sets forth information related to the measurement of our lease liabilities as of December 31, 2021, 2020 and 2019:

(Amounts in thousands)	For the Year Ended December 31,					
	2021		2020		2019	
Weighted average remaining lease term (in years)		44.4		44.8		40.2
Weighted average discount rate		4.85%		4.91%		4.84%
Cash paid for operating leases	$	22,382	$	23,932	$	27,817

We recognize rent expense as a component of "operating" expenses on our consolidated statements of income. Rent expense is comprised of fixed and variable lease payments. The following table sets forth the details of rent expense for the years ended December 31, 2021, 2020 and 2019:

(Amounts in thousands)	For the Year Ended December 31,					
	2021		2020		2019	
Fixed rent expense	$	24,901	$	28,503	$	33,738
Variable rent expense		13,078		1,178		1,978
Rent expense	$	37,979	$	29,681	$	35,716

19. Leases - continued

As lessee - continued

As of December 31, 2021, future lease payments under operating ground leases were as follows:

(Amounts in thousands)	As of December 31, 2021
For the year ended December 31,	
2022	$ 21,080
2023	22,802
2024	23,154
2025	23,522
2026	23,911
Thereafter	833,728
Total undiscounted cash flows	948,197
Present value discount	(577,991)
Lease liabilities	$ 370,206

Farley Office and Retail

The future lease payments detailed above exclude the ground and building lease at Farley Office and Retail. Our 95% consolidated joint venture has a 99-year triple-net lease with Empire State Development ("ESD") for 845,000 rentable square feet of commercial space at the property, comprised of approximately 730,000 square feet of office space and approximately 115,000 square feet of restaurant and retail space. Our lease of the commercial space at the property is accounted for as a “failed sale-leaseback” as a result of us being deemed the "accounting owner" during development of the property in accordance with ASC 842-40-55 and the lease subsequently meeting "finance lease" classification pursuant to ASC 842-40-25 upon substantial completion. The lease calls for annual rent payments and fixed payments in lieu of real estate taxes ("PILOT") through June 2030. Following the fixed PILOT payment period, the PILOT is calculated in a manner consistent with buildings subject to New York City real estate taxes and assessments. As of December 31, 2021, future rent and fixed PILOT payments are $542,631,000.

20. Multiemployer Benefit Plans

Our subsidiaries make contributions to certain multiemployer defined benefit plans (“Multiemployer Pension Plans”) and health plans (“Multiemployer Health Plans”) for our union represented employees, pursuant to the respective collective bargaining agreements.

Multiemployer Pension Plans

Multiemployer Pension Plans differ from single-employer pension plans in that (i) contributions to multiemployer plans may be used to provide benefits to employees of other participating employers and (ii) if other participating employers fail to make their contributions, each of our participating subsidiaries may be required to bear its then pro rata share of unfunded obligations. If a participating subsidiary withdraws from a plan in which it participates, it may be subject to a withdrawal liability. As of December 31, 2021, our subsidiaries’ participation in these plans was not significant to our consolidated financial statements.

In the years ended December 31, 2021, 2020 and 2019, we contributed $19,851,000, $7,049,000 and $10,793,000, respectively, towards Multiemployer Pension Plans, which is included as a component of “operating” expenses on our consolidated statements of income. During the year ended December 31, 2021, the Company funded its pension withdrawal liability in relation to the permanent closure of Hotel Pennsylvania which resulted in the Company funding more than 5% of total employer contributions to the related plan for the year. For our other Multiemployer Pension Plans, our subsidiaries’ contributions did not represent more than 5% of total employer contributions for the years ended December 31, 2021, 2020 and 2019.

Multiemployer Health Plans

Multiemployer Health Plans in which our subsidiaries participate provide health benefits to eligible active and retired employees. In the years ended December 31, 2021, 2020 and 2019, our subsidiaries contributed $23,431,000, $26,938,000 and $32,407,000, respectively, towards these plans, which is included as a component of “operating” expenses on our consolidated statements of income.

21. Commitments and Contingencies

Insurance

For our properties, we maintain general liability insurance with limits of $300,000,000 per occurrence and per property, of which $250,000,000 includes communicable disease coverage, and we maintain all risk property and rental value insurance with limits of $2.0 billion per occurrence, with sub-limits for certain perils such as flood and earthquake, excluding communicable disease coverage. Our California properties have earthquake insurance with coverage of $350,000,000 per occurrence and in the aggregate, subject to a deductible in the amount of 5% of the value of the affected property. We maintain coverage for certified terrorism acts with limits of $6.0 billion per occurrence and in the aggregate (as listed below), $1.2 billion for non-certified acts of terrorism, and $5.0 billion per occurrence and in the aggregate for terrorism involving nuclear, biological, chemical and radiological ("NBCR") terrorism events, as defined by the Terrorism Risk Insurance Act of 2002, as amended to date and which has been extended through December 2027.

Penn Plaza Insurance Company, LLC ("PPIC"), our wholly owned consolidated subsidiary, acts as a re-insurer with respect to a portion of all risk property and rental value insurance and a portion of our earthquake insurance coverage, and as a direct insurer for coverage for acts of terrorism including NBCR acts. Coverage for acts of terrorism (excluding NBCR acts) is fully reinsured by third party insurance companies and the Federal government with no exposure to PPIC. For NBCR acts, PPIC is responsible for a deductible of $1,785,910 and 20% of the balance of a covered loss and the Federal government is responsible for the remaining portion of a covered loss. We are ultimately responsible for any loss incurred by PPIC.

Certain condominiums in which we own an interest (including our leasehold interest in the Farley Condominiums) own insurance policies with different per occurrence and aggregate limits than our policies described above.

We continue to monitor the state of the insurance market and the scope and costs of coverage for acts of terrorism and other events. However, we cannot anticipate what coverage will be available on commercially reasonable terms in the future. We are responsible for uninsured losses and for deductibles and losses in excess of our insurance coverage, which could be material.

Our debt instruments, consisting of mortgage loans secured by our properties, senior unsecured notes and revolving credit agreements contain customary covenants requiring us to maintain insurance. Although we believe that we have adequate insurance coverage for purposes of these agreements, we may not be able to obtain an equivalent amount of coverage at reasonable costs in the future. Further, if lenders insist on greater coverage than we are able to obtain it could adversely affect our ability to finance or refinance our properties and expand our portfolio.

Other Commitments and Contingencies

We are from time to time involved in legal actions arising in the ordinary course of business. In our opinion, after consultation with legal counsel, the outcome of such matters is not currently expected to have a material adverse effect on our financial position, results of operations or cash flows.

Each of our properties has been subjected to varying degrees of environmental assessment at various times. The environmental assessments did not reveal any material environmental contamination. However, there can be no assurance that the identification of new areas of contamination, changes in the extent or known scope of contamination, the discovery of additional sites, or changes in cleanup requirements would not result in significant costs to us.

In July 2018, we leased 78,000 square feet at 345 Montgomery Street in San Francisco, CA, to a subsidiary of Regus PLC, for an initial term of 15 years. The obligations under the lease were guaranteed by Regus PLC in an amount of up to $90,000,000. The tenant purported to terminate the lease prior to space delivery. We commenced a suit on October 23, 2019 seeking to enforce the lease and the guaranty. On May 11, 2021, the court issued a final statement of decision in our favor and on July 7, 2021, the Regus subsidiary appealed the decision. On October 9, 2020, the successor to Regus PLC filed for bankruptcy in Luxembourg. We are actively pursuing claims relating to the guaranty against the successor to Regus PLC and its parent in Luxembourg and other jurisdictions.

In November 2011, we entered into an agreement with the New York City Economic Development Corporation ("EDC") to lease Piers 92 and 94 (the "Piers"). In February 2019, EDC issued an order for us to vacate Pier 92 due to structural problems. Beginning March 2020 through August 2021, we did not pay EDC the monthly rent due under the non-recourse lease due to the loss of our right to use or occupy Pier 92. On August 31, 2021, both parties entered into a mutual release with respect to claims by EDC for unpaid rent owed and claims by the Company for costs and damages as a result of our inability to use or occupy Pier 92.

Our mortgage loans are non-recourse to us, except for the mortgage loans secured by 640 Fifth Avenue, 7 West 34th Street and 435 Seventh Avenue, which we guaranteed and therefore are part of our tax basis. In certain cases we have provided guarantees or master leased tenant space. These guarantees and master leases terminate either upon the satisfaction of specified circumstances or repayment of the underlying loans. In addition, we have guaranteed the rent and payments in lieu of real estate taxes due to ESD, an entity of New York State, for Farley Office and Retail. As of December 31, 2021, the aggregate dollar amount of these guarantees and master leases is approximately $1,648,000,000.

21. Commitments and Contingencies – continued

Other Commitments and Contingencies - continued

As of December 31, 2021, $15,273,000 of letters of credit were outstanding under one of our unsecured revolving credit facilities. Our unsecured revolving credit facilities contain financial covenants that require us to maintain minimum interest coverage and maximum debt to market capitalization ratios, and provide for higher interest rates in the event of a decline in our ratings below Baa3/BBB. Our unsecured revolving credit facilities also contain customary conditions precedent to borrowing, including representations and warranties, and also contain customary events of default that could give rise to accelerated repayment, including such items as failure to pay interest or principal.

Our 95% consolidated joint venture (5% is owned by Related Companies ("Related")) is developing Farley Office and Retail. In connection with the development of the property, the joint venture admitted a historic tax credit investor partner. Under the terms of the historic tax credit arrangement, the joint venture is required to comply with various laws, regulations, and contractual provisions. Non-compliance with applicable requirements could result in projected tax benefits not being realized and, therefore, may require a refund or reduction of the Tax Credit Investor's capital contributions. As of December 31, 2021, the Tax Credit Investor has made $92,400,000 in capital contributions. Vornado and Related have guaranteed certain of the joint venture's obligations to the Tax Credit Investor.

As investment manager of the Fund we are entitled to an incentive allocation after the limited partners have received a preferred return on their invested capital. The incentive allocation is subject to catch-up and clawback provisions. Accordingly, based on the December 31, 2021 fair value of the Fund assets, at liquidation we would be required to make a $27,100,000 payment to the limited partners, net of amounts owed to us, representing a clawback of previously paid incentive allocations, which would have no income statement impact as it was previously accrued.

As of December 31, 2021, we expect to fund additional capital to certain of our partially owned entities aggregating approximately $10,300,000.

As of December 31, 2021, we have construction commitments aggregating approximately $494,000,000.

22. Related Party Transactions

Alexander's, Inc.

We own 32.4% of Alexander's. Steven Roth, the Chairman of Vornado's Board of Trustee's and its Chief Executive Officer, is also the Chairman of the Board of Directors and Chief Executive Officer of Alexander's. We provide various services to Alexander's in accordance with management, development and leasing agreements. These agreements are described in Note 5 - *Investments in Partially Owned Entities*.

Interstate Properties ("Interstate")

Interstate is a general partnership in which Mr. Roth is the managing general partner. David Mandelbaum and Russell B. Wight, Jr., Trustees of Vornado and Directors of Alexander's, respectively, are Interstate's two other general partners. As of December 31, 2021, Interstate and its partners beneficially owned an aggregate of approximately 6.9% of the common shares of beneficial interest of Vornado and 26.1% of Alexander's common stock.

We manage and lease the real estate assets of Interstate pursuant to a management agreement for which we receive an annual fee equal to 4% of annual base rent and percentage rent. The management agreement has a term of one year and is automatically renewable unless terminated by either of the parties on 60 days' notice at the end of the term. We believe, based upon comparable fees charged by other real estate companies, that the management agreement terms are consistent with the market. We earned $203,000, $203,000, and $300,000 of management fees under the agreement for the years ended December 31, 2021, 2020 and 2019, respectively.

Fifth Avenue and Times Square JV

We provide various services to Fifth Avenue and Times Square JV in accordance with management, development, leasing and other agreements. These agreements are described in Note 5 - *Investments in Partially Owned Entities*. Haim Chera, Executive Vice President - Head of Retail, has an investment in Crown Acquisitions Inc. and Crown Retail Services LLC (collectively, "Crown"), companies controlled by Mr. Chera's family. Crown has a nominal minority interest in Fifth Avenue and Times Square JV. Additionally, we have other investments with Crown.

23. Segment Information

We operate in two reportable segments, New York and Other, which is based on how we manage our business.

Net operating income ("NOI") at share represents total revenues less operating expenses including our share of partially owned entities. NOI at share - cash basis represents NOI at share adjusted to exclude straight-line rental income and expense, amortization of acquired below and above market leases, net and other non-cash adjustments. We consider NOI at share - cash basis to be the primary non-GAAP financial measure for making decisions and assessing the unlevered performance of our segments as it relates to the total return on assets as opposed to the levered return on equity. As properties are bought and sold based on NOI at share - cash basis, we utilize this measure to make investment decisions as well as to compare the performance of our assets to that of our peers. NOI at share and NOI at share - cash basis should not be considered alternatives to net income or cash flow from operations and may not be comparable to similarly titled measures employed by other companies. NOI at share - cash basis includes rent that has been deferred as a result of the COVID-19 pandemic.

Below is a summary of NOI at share, NOI at share - cash basis and selected balance sheet data by segment for the years ended December 31, 2021, 2020 and 2019.

(Amounts in thousands)	For the Year Ended December 31, 2021		
	Total	New York	Other
Total revenues	$ 1,589,210	$ 1,257,599	$ 331,611
Operating expenses	(797,315)	(626,386)	(170,929)
NOI - consolidated	791,895	631,213	160,682
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(69,385)	(38,980)	(30,405)
Add: NOI from partially owned entities	310,858	300,721	10,137
NOI at share	1,033,368	892,954	140,414
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	1,318	(1,188)	2,506
NOI at share - cash basis	$ 1,034,686	$ 891,766	$ 142,920
Balance Sheet Data:			
Real estate, at cost	$ 13,217,845	$ 10,702,008	$ 2,515,837
Investments in partially owned entities	3,297,389	3,265,933	31,456
Total assets	17,266,588	15,969,498	1,297,090

(Amounts in thousands)	For the Year Ended December 31, 2020		
	Total	New York	Other
Total revenues	$ 1,527,951	$ 1,221,748	$ 306,203
Operating expenses	(789,066)	(640,531)	(148,535)
NOI - consolidated	738,885	581,217	157,668
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(72,801)	(43,773)	(29,028)
Add: NOI from partially owned entities	306,495	296,447	10,048
NOI at share	972,579	833,891	138,688
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	46,246	36,715	9,531
NOI at share - cash basis	$ 1,018,825	$ 870,606	$ 148,219
Balance Sheet Data:			
Real estate, at cost	$ 12,087,943	$ 9,581,830	$ 2,506,113
Investments in partially owned entities	3,491,107	3,459,142	31,965
Total assets	16,221,822	15,046,469	1,175,353

23. Segment Information - continued

(Amounts in thousands)	For the Year Ended December 31, 2019		
	Total	New York	Other
Total revenues	$ 1,924,700	$ 1,577,860	$ 346,840
Operating expenses	(917,981)	(758,304)	(159,677)
NOI - consolidated	1,006,719	819,556	187,163
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(69,332)	(40,896)	(28,436)
Add: NOI from partially owned entities	322,390	294,168	28,222
NOI at share	1,259,777	1,072,828	186,949
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	(6,060)	(12,318)	6,258
NOI at share - cash basis	$ 1,253,717	$ 1,060,510	$ 193,207

Below is a reconciliation of net income (loss) to NOI at share and NOI at share - cash basis for the years ended December 31, 2021, 2020 and 2019.

(Amounts in thousands)	For the Year Ended December 31,		
	2021	2020	2019
Net income (loss)	$ 207,553	$ (461,845)	$ 3,334,262
Depreciation and amortization expense	412,347	399,695	419,107
General and administrative expense	134,545	181,509	169,920
Impairment losses, transaction related costs and other	13,815	174,027	106,538
(Income) loss from partially owned entities	(130,517)	329,112	(78,865)
(Income) loss from real estate fund investments	(11,066)	226,327	104,082
Interest and other investment (income) loss, net	(4,612)	5,499	(21,819)
Interest and debt expense	231,096	229,251	286,623
Net gain on transfer to Fifth Avenue and Times Square JV	—	—	(2,571,099)
Net gains on disposition of wholly owned and partially owned assets	(50,770)	(381,320)	(845,499)
Income tax (benefit) expense	(10,496)	36,630	103,439
Loss from discontinued operations	—	—	30
NOI from partially owned entities	310,858	306,495	322,390
NOI attributable to noncontrolling interests in consolidated subsidiaries	(69,385)	(72,801)	(69,332)
NOI at share	1,033,368	972,579	1,259,777
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	1,318	46,246	(6,060)
NOI at share - cash basis	$ 1,034,686	$ 1,018,825	$ 1,253,717

24. Subsequent Event

2022 Long-Term Performance Award

On January 12, 2022, the Compensation Committee approved the 2022 Long-Term Performance Plan (“LTPP”), a multi-year, LTIP units-based performance equity compensation plan. Awards under the 2022 LTPP are bifurcated between operational performance (50%) and relative performance (50%) measurements and may be earned at specified threshold, target and maximum levels.

The operational component awards may be earned based on Vornado’s 2022 operational performance in the following categories:

- Comparable FFO per share (75% weighting); and
- ESG performance metrics consisting of greenhouse emissions reductions, GRESB score and Green Building Certification (LEED) achievements (aggregate 25% weighting).

Any LTPP award units tentatively earned based on Vornado’s 2022 operational performance are subject to an absolute return modifier pursuant to which such award units are subject to a potential reduction (but not increase) of up to 30% if Vornado’s aggregate total 3-year TSR for 2022-2025 is below specified levels.

Awards under relative components may be earned based on Vornado’s 3-year TSR, measured against the Dow Jones U.S. Real Estate Office Index (50% weighting) and a Northeast peer group custom index (50% weighting). Awards earned under the relative component of the LTPP are subject to reductions of up to 30% if Vornado’s 3-year TSR is below specified levels.

If the designated performance objectives are achieved, awards earned under 2022 LTPP will vest 50% in January 2025 and 50% in January 2026. In addition, the Chief Executive Officer is required to hold any earned and vested awards for three years following each such vesting date and all other award recipients are required to hold such awards for one year following each such vesting date. Dividends on awards granted under the 2022 LTPP accrue during the applicable performance period and are paid to participants if awards are ultimately earned based on the achievement of the designated performance objectives.

Sale of SoHo Properties

On January 13, 2022, we sold two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street. See Note 7 - *Acquisitions and Dispositions* for additional information.

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

None.

ITEM 9A. CONTROLS AND PROCEDURES

Vornado Realty Trust

Disclosure Controls and Procedures: Our management, with the participation of Vornado's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15 (e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, Vornado's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, our disclosure controls and procedures are effective.

Internal Control Over Financial Reporting: There have not been any changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended) during the fourth quarter of the fiscal year to which this report relates that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management of Vornado Realty Trust, together with its consolidated subsidiaries (the "Company"), is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed under the supervision of Vornado's principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America.

As of December 31, 2021, management conducted an assessment of the effectiveness of our internal control over financial reporting based on the framework established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has determined that our internal control over financial reporting as of December 31, 2021 was effective.

Our internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurances that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States, and that receipts and expenditures are being made only in accordance with authorizations of management and our trustees; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

The effectiveness of our internal control over financial reporting as of December 31, 2021 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing on the following page, which expresses an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2021.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Trustees
Vornado Realty Trust
New York, New York

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Vornado Realty Trust and subsidiaries (the "Company") as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013*) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Company and our report dated February 14, 2022, expressed an unqualified opinion on those financial statements.

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 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/ DELOITTE & TOUCHE LLP

New York, New York
February 14, 2022

Vornado Realty L.P.

Disclosure Controls and Procedures: Vornado Realty L.P.'s management, with the participation of Vornado's Chief Executive Officer and Chief Financial Officer, has evaluated the effectiveness of our disclosure controls and procedures (as such term is defined in Rule 13a-15 (e) under the Securities Exchange Act of 1934, as amended) as of the end of the period covered by this Annual Report on Form 10-K. Based on such evaluation, Vornado's Chief Executive Officer and Chief Financial Officer have concluded that, as of the end of such period, our disclosure controls and procedures are effective.

Internal Control Over Financial Reporting: There have not been any changes in our internal control over financial reporting (as defined in Rule 13a-15(f) under the Securities Exchange Act of 1934, as amended) during the fourth quarter of the fiscal year to which this report relates that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

Management's Report on Internal Control over Financial Reporting

Management of Vornado Realty Trust, sole general partner of Vornado Realty L.P., together with Vornado Realty L.P.'s consolidated subsidiaries (the "Company"), is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed under the supervision of Vornado's principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with accounting principles generally accepted in the United States of America.

As of December 31, 2021, management conducted an assessment of the effectiveness of our internal control over financial reporting based on the framework established in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on this assessment, management has determined that our internal control over financial reporting as of December 31, 2021 was effective.

Our internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurances that transactions are recorded as necessary to permit preparation of financial statements in accordance with accounting principles generally accepted in the United States, and that receipts and expenditures are being made only in accordance with authorizations of management and Vornado's trustees; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of our assets that could have a material effect on our financial statements.

The effectiveness of our internal control over financial reporting as of December 31, 2021 has been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report appearing on the following page, which expresses an unqualified opinion on the effectiveness of our internal control over financial reporting as of December 31, 2021.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Partners
Vornado Realty L.P.
New York, New York

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Vornado Realty L.P. and subsidiaries (the "Partnership") as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Partnership maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Partnership and our report dated February 14, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Partnership'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 Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Partnership'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 Partnership 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/ DELOITTE & TOUCHE LLP

New York, New York
February 14, 2022

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

Information relating to trustees of Vornado, the Operating Partnership's sole general partner, including its audit committee and audit committee financial expert, will be contained in Vornado's definitive Proxy Statement involving the election of Vornado's trustees which Vornado will file with the Securities and Exchange Commission pursuant to Regulation 14A under the Securities Exchange Act of 1934 not later than 120 days after December 31, 2021, and such information is incorporated herein by reference. Also incorporated herein by reference is the information under the caption "16(a) Beneficial Ownership Reporting Compliance" of the Proxy Statement.

Executive Officers of the Registrant

The following is a list of the names, ages, principal occupations and positions with Vornado of the executive officers of Vornado and the positions held by such officers during the past five years. All executive officers of Vornado have terms of office that run until the next succeeding meeting of the Board of Trustees of Vornado following the Annual Meeting of Vornado's Shareholders unless they are removed sooner by Vornado's Board.

Name	Age	PRINCIPAL OCCUPATION, POSITION AND OFFICE (Current and during past five years with Vornado unless otherwise stated)
Steven Roth	80	Chairman of the Board; Chief Executive Officer since April 2013 and from May 1989 to May 2009; Managing General Partner of Interstate Properties, an owner of shopping centers and an investor in securities and partnerships; Chief Executive Officer of Alexander's, Inc. since March 1995, a Director since 1989, and Chairman of the Board since May 2004.
Michael J. Franco	53	President and Chief Financial Officer since December 2020; President since April 2019; Executive Vice President - Chief Investment Officer from April 2015 to April 2019; Executive Vice President - Head of Acquisitions and Capital Markets from November 2010 to April 2015.
Haim Chera	52	Executive Vice President - Head of Retail since April 2019; Principal at Crown Acquisitions from January 2000 - April 2019.
Barry S. Langer	43	Executive Vice President - Development - Co-Head of Real Estate since April 2019; Executive Vice President - Head of Development from May 2015 to April 2019.
Glen J. Weiss	52	Executive Vice President - Office Leasing - Co-Head of Real Estate since April 2019; Executive Vice President - Office Leasing from May 2013 to April 2019.

Vornado, the Operating Partnership's sole general partner, has adopted a Code of Business Conduct and Ethics that applies to all officers and employees. This Code is available on Vornado's website at www.vno.com.

ITEM 11. EXECUTIVE COMPENSATION

Information relating to Vornado's executive officer and trustee compensation will be contained in Vornado's Proxy Statement referred to above in Item 10, "Directors, Executive Officers and Corporate Governance," and such information is incorporated herein by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

Information relating to security ownership of certain beneficial owners and management and related stockholder matters will be contained in Vornado's Proxy Statement referred to in Item 10, "Directors, Executive Officers and Corporate Governance," and such information is incorporated herein by reference.

Equity compensation plan information

The following table provides information as of December 31, 2021 regarding Vornado's equity compensation plans.

Plan Category	Number of securities to be issued upon exercise of outstanding options, warrants and rights	Weighted-average exercise price of outstanding options, warrants and rights	Number of securities remaining available for future issuance under equity compensation plans (excluding securities reflected in the second column)
Equity compensation plans approved by security holders	6,099,655 (1)	$ 65.27	3,489,732 (2)
Equity compensation awards not approved by security holders	—	—	—
Total	6,099,655	$ 65.27	3,489,732

(1) Includes shares/units of (i) 191,933 Vornado Stock Options (124,805 of which are vested and exercisable), (ii) 567,739 Appreciation-Only Long-Term Incentive Plan ("AO LTIP") units (327,535 of which are vested and exercisable), (iii) 496,762 Performance Conditioned AO LTIP units (322,313 of which are vested and exercisable), (iv) 2,911,216 restricted Operating Partnership units (1,828,129 of which are vested and exercisable) and (v) 1,932,005 unearned Out-Performance Plan ("OPP") units, which do not have an exercise price. OPP units, if earned, become convertible into Class A units of the Operating Partnership (and ultimately into Vornado common shares) following vesting.

Does not include 15,774 shares of Vornado Restricted Stock, as they have been reflected in Vornado's total shares outstanding.

(2) Based on awards being granted as "Full Value Awards," as defined. If we were to grant "Not Full Value Awards," as defined, the number of securities available for future grants is approximately 6,980,000 shares.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

Information relating to certain relationships and related transactions, and director independence will be contained in Vornado's Proxy Statement referred to in Item 10, "Directors, Executive Officers and Corporate Governance," and such information is incorporated herein by reference.

ITEM 14. PRINCIPAL ACCOUNTING FEES AND SERVICES

Information relating to principal accounting fees and services will be contained in Vornado's Proxy Statement referred to in Item 10, "Directors, Executive Officers and Corporate Governance," under the caption "Ratification of The Appointment of Independent Accounting Firm" and such information is incorporated herein by reference.

PART IV

ITEM 15. EXHIBITS, FINANCIAL STATEMENT SCHEDULES

(a) The following documents are filed as part of this report:

1. The consolidated financial statements are set forth in Item 8 of this Annual Report on Form 10-K.

The following financial statement schedules should be read in conjunction with the financial statements included in Item 8 of this Annual Report on Form 10-K.

	Page in this Annual Report on Form 10-K
III--Real Estate and Accumulated Depreciation as of December 31, 2021, 2020 and 2019	125

Schedules other than those listed above are omitted because they are not applicable or the information required is included in the consolidated financial statements or the notes thereto.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
SCHEDULE III
REAL ESTATE AND ACCUMULATED DEPRECIATION
(Amounts in thousands)

COLUMN A	COLUMN B	COLUMN C		COLUMN D	COLUMN E			COLUMN F	COLUMN G	COLUMN H	COLUMN I
		Initial cost to company			Gross amount at which carried at close of period						
	Encumbrances (1)	Land	Buildings and improvements	Costs capitalized subsequent to acquisition	Land	Buildings and improvements	Total (2)	Accumulated depreciation and amortization	Date of construction (3)	Date acquired	Life on which depreciation in latest income statement is computed
New York											
Manhattan											
1290 Avenue of the Americas	$ 950,000	$ 518,244	$ 926,992	$ 268,355	$ 518,244	$ 1,195,347	$ 1,713,591	$ 440,097	1963	2007	(4)
One Park Avenue	525,000	197,057	369,016	1,525	197,057	370,541	567,598	4,538	1926	2021	(4)
350 Park Avenue	400,000	265,889	363,381	49,025	265,889	412,406	678,295	157,691	1960	2006	(4)
PENN 1	—	—	412,169	675,839	—	1,088,008	1,088,008	364,744	1972	1998	(4)
100 West 33rd Street	398,402	242,776	247,970	44,038	242,776	292,008	534,784	115,295	1911	2007	(4)
150 West 34th Street	205,000	119,657	268,509	—	119,657	268,509	388,166	44,192	1900	2015	(4)
PENN 2	575,000 **(5)**	53,615	164,903	261,859	52,689	427,688	480,377	106,149	1968	1997	(4)
90 Park Avenue	—	8,000	175,890	198,970	8,000	374,860	382,860	177,978	1964	1997	(4)
Manhattan Mall	181,598	88,595	113,473	31,237	88,595	144,710	233,305	52,851	2009	2007	(4)
770 Broadway	700,000	52,898	95,686	188,436	52,898	284,122	337,020	127,420	1907	1998	(4)
888 Seventh Avenue	299,400	—	117,269	164,940	—	282,209	282,209	153,517	1980	1998	(4)
PENN 11	500,000	40,333	85,259	118,666	40,333	203,925	244,258	93,045	1923	1997	(4)
909 Third Avenue	350,000	—	120,723	121,136	—	241,859	241,859	122,466	1969	1999	(4)
150 East 58th Street	—	39,303	80,216	57,661	39,303	137,877	177,180	71,938	1969	1998	(4)
595 Madison Avenue	—	62,731	62,888	68,956	62,731	131,844	194,575	53,220	1968	1999	(4)
330 West 34th Street	—	—	8,599	154,213	—	162,812	162,812	49,803	1925	1998	(4)
715 Lexington Avenue	—	—	26,903	20,217	30,085	17,035	47,120	965	1923	2001	(4)
484-486 Broadway	—	10,000	6,688	7,358	10,000	14,046	24,046	4,235	2009	2007	(4)
4 Union Square South	120,000	24,079	55,220	11,398	24,079	66,618	90,697	25,826	1965/2004	1993	(4)
Farley Office and Retail	—	—	476,235	911,408	—	1,387,643	1,387,643	4,189	1912	2018	(4)
260 Eleventh Avenue	—	—	80,482	5,530	—	86,012	86,012	14,146	1911	2015	(4)
510 Fifth Avenue	—	34,602	18,728	36,745	48,403	41,672	90,075	12,270		2010	(4)
606 Broadway	74,119	45,406	8,993	51,709	45,298	60,810	106,108	4,213		2016	(4)
40 Fulton Street	—	15,732	26,388	41,597	15,732	67,985	83,717	25,521	1987	1998	(4)
443 Broadway	—	11,187	41,186	(36,197)	3,457	12,719	16,176	391		2013	(4)
435 Seventh Avenue	95,696	19,893	19,091	2,166	19,893	21,257	41,150	10,732	2002	1997	(4)
692 Broadway	—	6,053	22,908	3,901	6,053	26,809	32,862	11,503		2005	(4)
131-135 West 33rd Street	—	8,315	21,312	477	8,315	21,789	30,104	3,161		2016	(4)

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
SCHEDULE III
REAL ESTATE AND ACCUMULATED DEPRECIATION - CONTINUED
(Amounts in thousands)

COLUMN A	COLUMN B	COLUMN C		COLUMN D	COLUMN E			COLUMN F	COLUMN G	COLUMN H	COLUMN I
		Initial cost to company			Gross amount at which carried at close of period						
	Encumbrances (1)	Land	Buildings and improvements	Costs capitalized subsequent to acquisition	Land	Buildings and improvements	Total (2)	Accumulated depreciation and amortization	Date of construction (3)	Date acquired	Life on which depreciation in latest income statement is computed
New York - continued											
Manhattan - continued											
304 Canal Street	$ —	$ 3,511	$ 12,905	$ (8,456)	$ 1,771	$ 6,189	$ 7,960	$ 169	1910	2014	(4)
1131 Third Avenue	—	7,844	7,844	5,683	7,844	13,527	21,371	3,093		1997	(4)
431 Seventh Avenue	—	16,700	2,751	—	16,700	2,751	19,451	1,014		2007	(4)
138-142 West 32nd Street	—	9,252	9,936	2,002	9,252	11,938	21,190	1,844	1920	2015	(4)
334 Canal Street	—	1,693	6,507	(1,170)	752	6,278	7,030	205		2011	(4)
966 Third Avenue	—	8,869	3,631	—	8,869	3,631	12,500	756		2013	(4)
148 Spring Street	—	3,200	8,112	398	3,200	8,510	11,710	2,941		2008	(4)
150 Spring Street	—	3,200	5,822	312	3,200	6,134	9,334	2,109		2008	(4)
137 West 33rd Street	—	6,398	1,550	—	6,398	1,550	7,948	262	1932	2015	(4)
825 Seventh Avenue	—	1,483	697	3,940	1,483	4,637	6,120	829		1997	(4)
537 West 26th Street	—	10,370	17,632	19,925	26,631	21,296	47,927	2,062		2018	(4)
339 Greenwich Street	—	2,622	12,333	(10,019)	865	4,071	4,936	123		2017	(4)
PENN 15 (Hotel Pennsylvania site)	—	29,903	121,712	266,365	29,903	388,077	417,980	145,938	1919	1997	(4)
Other (Including Signage)	—	140,477	31,892	3,477	94,788	81,058	175,846	23,571			
Total Manhattan	5,374,215	2,109,887	4,660,401	3,743,622	2,111,143	8,402,767	10,513,910	2,437,012			
Other Properties											
33-00 Northern Boulevard, Queens, New York	100,000	46,505	86,226	14,493	46,505	100,719	147,224	17,829	1915	2015	(4)
Paramus, New Jersey	—	—	—	23,348	1,036	22,312	23,348	19,393	1967	1987	(4)
Total Other Properties	100,000	46,505	86,226	37,841	47,541	123,031	170,572	37,222			
Total New York	5,474,215	2,156,392	4,746,627	3,781,463	2,158,684	8,525,798	10,684,482	2,474,234			

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
SCHEDULE III
REAL ESTATE AND ACCUMULATED DEPRECIATION - CONTINUED
(Amounts in thousands)

COLUMN A	COLUMN B	COLUMN C		COLUMN D	COLUMN E			COLUMN F	COLUMN G	COLUMN H	COLUMN I
		Initial cost to company			Gross amount at which carried at close of period						
	Encumbrances (1)	Land	Buildings and improvements	Costs capitalized subsequent to acquisition	Land	Buildings and improvements	Total (2)	Accumulated depreciation and amortization	Date of construction (3)	Date acquired	Life on which depreciation in latest income statement is computed
Other											
theMART											
theMART, Illinois	$ —	$ 64,528	$ 319,146	$ 413,854	$ 64,535	$ 732,993	$ 797,528	$ 369,439	1930	1998	(4)
527 West Kinzie, Illinois	—	5,166	—	197	5,166	197	5,363	—		1998	
Piers 92 and 94, New York	—	—	—	19,144	—	19,144	19,144	3,905		2008	(4)
Total theMART	—	69,694	319,146	433,195	69,701	752,334	822,035	373,344			
555 California Street, California	1,200,000	223,446	895,379	256,718	223,446	1,152,097	1,375,543	395,120	1922,1969 -1970	2007	(4)
220 Central Park South, New York	—	115,720	16,445	(106,014)	—	26,151	26,151	—		2005	(4)
Borgata Land, Atlantic City, NJ	—	83,089	—	—	83,089	—	83,089	—		2010	
759-771 Madison Avenue (40 East 66th) Residential, New York	—	8,454	13,321	(8,193)	5,273	8,309	13,582	3,101		2005	(4)
Annapolis, Maryland	—	—	9,652	—	—	9,652	9,652	4,713		2005	(4)
Wayne Towne Center, New Jersey	—	—	26,137	47,347	—	73,484	73,484	34,112		2010	(4)
Other	—	—	—	10,035	—	10,035	10,035	1,942			(4)
Total Other	1,200,000	500,403	1,280,080	633,088	381,509	2,032,062	2,413,571	812,332			
Leasehold improvements equipment and other	—	—	—	119,792	—	119,792	119,792	89,781			
Total December 31, 2021	$ 6,674,215	$2,656,795	$ 6,026,707	$ 4,534,343	$ 2,540,193	$ 10,677,652	$13,217,845	$ 3,376,347			

(1) Represents contractual debt obligations.
(2) The net basis of Vornado's assets and liabilities for tax reporting purposes is approximately $2.6 billion lower than the amounts reported for financial statement purposes.
(3) Date of original construction — many properties have had substantial renovation or additional construction — see Column D.
(4) Depreciation of the buildings and improvements are calculated over lives ranging from the life of the lease to forty years.
(5) Secured amount outstanding on revolving credit facilities.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
SCHEDULE III
REAL ESTATE AND ACCUMULATED DEPRECIATION
(Amounts in thousands)

The following is a reconciliation of real estate assets and accumulated depreciation:

	Year Ended December 31,		
	2021	2020	2019
Real Estate			
Balance at beginning of period	$ 12,087,943	$ 13,074,012	$ 16,237,883
Additions during the period:			
Land	197,057	1,372	46,074
Buildings & improvements and other	1,286,474	1,127,593	1,391,784
	13,571,474	14,202,977	17,675,741
Less: Assets sold, written-off, reclassified to ready for sale and deconsolidated	353,629	2,115,034	4,601,729
Balance at end of period	$ 13,217,845	$ 12,087,943	$ 13,074,012
Accumulated Depreciation			
Balance at beginning of period	$ 3,169,446	$ 3,015,958	$ 3,180,175
Additions charged to operating expenses	362,311	344,301	360,194
	3,531,757	3,360,259	3,540,369
Less: Accumulated depreciation on assets sold, written-off and deconsolidated	155,410	190,813	524,411
Balance at end of period	$ 3,376,347	$ 3,169,446	$ 3,015,958

(b) Exhibits:

Exhibit No.			
2.1	—	Master Transaction Agreement, dated as of October 31, 2016, by and among Vornado Realty Trust, Vornado Realty L.P., JBG Properties, Inc., JBG/Operating Partners, L.P., certain affiliates of JBG Properties Inc. and JBG/Operating Partners set forth on Schedule A thereto, JBG SMITH Properties and JBG SMITH Properties LP. Incorporated by reference to Exhibit 2.1 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2016 (File No.001-11954), filed February 13, 2017	*
3.1	—	Articles of Restatement of Vornado Realty Trust, as filed with the State Department of Assessments and Taxation of Maryland on July 30, 2007 - Incorporated by reference to Exhibit 3.75 to Vornado Realty Trust’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2007 (File No. 001-11954), filed on July 31, 2007	*
3.2	—	Amended and Restated Bylaws of Vornado Realty Trust, as amended on July 25, 2018 - Incorporated by reference to Exhibit 3.55 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 (File No. 001-11954), filed on July 30, 2018	*
3.3	—	Articles of Amendment to Declaration of Trust, dated September 30, 2016 – Incorporated by reference to Exhibit 3.3 to Vornado Realty Trust’s Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11954), filed on February 16, 2021	*
3.4	—	Articles of Amendment of Vornado Realty Trust, as filed with the State Department of Assessments and Taxation of Maryland on October 4, 2016—Incorporated by reference to Annex B to Vornado Realty Trust's Definitive Proxy Statement on Schedule 14A (File No. 001-11954), filed on April 8, 2016.	*
3.5	—	Articles of Amendment to Declaration of Trust, dated June 13, 2018 - Incorporated by reference to Exhibit 3.54 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2018 (File No. 001-11954), filed on July 30, 2018	*
3.6	—	Articles of Amendment to Declaration of Trust, dated August 7, 2019 - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on August 8, 2019	*
3.7	—	Articles Supplementary, 5.40% Series L Cumulative Redeemable Preferred Shares of Beneficial Interest, liquidation preference $25.00 per share, no par value – Incorporated by reference to Exhibit 3.6 to Vornado Realty Trust’s Registration Statement on Form 8-A (File No. 001-11954), filed on January 25, 2013	*
3.8	—	Articles Supplementary Classifying Vornado Realty Trust's 5.25% Series M Cumulative Redeemable Preferred Shares of Beneficial Interest, liquidation preference $25.00 per share, no par value - Incorporated by reference to Exhibit 3.7 to Vornado Realty Trust's Registration Statement on Form 8-A (File No. 001-11954), filed on December 13, 2017	*
3.9	—	Articles Supplementary Classifying Vornado Realty Trust's 5.25% Series N Cumulative Redeemable Preferred Shares of Beneficial Interest, liquidation preference $25.00 per share, no par value - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on November 24, 2020	*
3.10	—	Articles Supplementary Classifying Vornado Realty Trust's 4.45% Series O Cumulative Redeemable Preferred Shares of Beneficial Interest, liquidation preference $25.00 per share, no par value - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on September 22, 2021	*
3.11	—	Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as of October 20, 1997 (the “Partnership Agreement”) – Incorporated by reference to Exhibit 3.26 to Vornado Realty Trust’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 (File No. 001-11954), filed on May 8, 2003	*
3.12	—	Amendment to the Partnership Agreement, dated as of December 16, 1997 – Incorporated by reference to Exhibit 3.27 to Vornado Realty Trust’s Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 (File No. 001-11954), filed on May 8, 2003	*
3.13	—	Second Amendment to the Partnership Agreement, dated as of April 1, 1998 – Incorporated by reference to Exhibit 3.5 to Vornado Realty Trust’s Registration Statement on Form S-3 (File No. 333-50095), filed on April 14, 1998	*
3.14	—	Third Amendment to the Partnership Agreement, dated as of November 12, 1998 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on November 30, 1998	*
3.15	—	Fourth Amendment to the Partnership Agreement, dated as of November 30, 1998 - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on February 9, 1999	*
3.16	—	Fifth Amendment to the Partnership Agreement, dated as of March 3, 1999 - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on March 17, 1999	*
3.17	—	Sixth Amendment to the Partnership Agreement, dated as of March 17, 1999 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on July 7, 1999	*
3.18	—	Seventh Amendment to the Partnership Agreement, dated as of May 20, 1999 - Incorporated by reference to Exhibit 3.3 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on July 7, 1999	*
3.19	—	Eighth Amendment to the Partnership Agreement, dated as of May 27, 1999 - Incorporated by reference to Exhibit 3.4 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on July 7, 1999	*
3.20	—	Ninth Amendment to the Partnership Agreement, dated as of September 3, 1999 - Incorporated by reference to Exhibit 3.3 to Vornado Realty Trust’s Current Report on Form 8-K (File No. 001-11954), filed on October 25, 1999	*
3.21	—	Tenth Amendment to the Partnership Agreement, dated as of September 3, 1999 - Incorporated by reference to Exhibit 3.4 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on October 25, 1999	*

* Incorporated by reference

3.22	—	Eleventh Amendment to the Partnership Agreement, dated as of November 24, 1999 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on December 23, 1999	*
3.23	—	Twelfth Amendment to the Partnership Agreement, dated as of May 1, 2000 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on May 19, 2000	*
3.24	—	Thirteenth Amendment to the Partnership Agreement, dated as of May 25, 2000 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on June 16, 2000	*
3.25	—	Fourteenth Amendment to the Partnership Agreement, dated as of December 8, 2000 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on December 28, 2000	*
3.26	—	Fifteenth Amendment to the Partnership Agreement, dated as of December 15, 2000 - Incorporated by reference to Exhibit 4.35 to Vornado Realty Trust's Registration Statement on Form S-8 (File No. 333-68462), filed on August 27, 2001	*
3.27	—	Sixteenth Amendment to the Partnership Agreement, dated as of July 25, 2001 - Incorporated by reference to Exhibit 3.3 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on October 12, 2001	*
3.28	—	Seventeenth Amendment to the Partnership Agreement, dated as of September 21, 2001 - Incorporated by reference to Exhibit 3.4 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on October 12, 2001	*
3.29	—	Eighteenth Amendment to the Partnership Agreement, dated as of January 1, 2002 - Incorporated by reference to Exhibit 3.1 to Vornado Realty Trust's Current Report on Form 8-K/A (File No. 001-11954), filed on March 18, 2002	*
3.30	—	Nineteenth Amendment to the Partnership Agreement, dated as of July 1, 2002 - Incorporated by reference to Exhibit 3.47 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 001-11954), filed on August 7, 2002	*
3.31	—	Twentieth Amendment to the Partnership Agreement, dated April 9, 2003 - Incorporated by reference to Exhibit 3.46 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2003 (File No. 001-11954), filed on May 8, 2003	*
3.32	—	Twenty-First Amendment to the Partnership Agreement, dated as of July 31, 2003 - Incorporated by reference to Exhibit 3.47 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended September 30, 2003 (File No. 001-11954), filed on November 7, 2003	*
3.33	—	Twenty-Second Amendment to the Partnership Agreement, dated as of November 17, 2003 – Incorporated by reference to Exhibit 3.49 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2003 (File No. 001-11954), filed on March 3, 2004	*
3.34	—	Twenty-Third Amendment to the Partnership Agreement, dated May 27, 2004 – Incorporated by reference to Exhibit 99.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on June 14, 2004	*
3.35	—	Twenty-Fourth Amendment to the Partnership Agreement, dated August 17, 2004 – Incorporated by reference to Exhibit 3.57 to Vornado Realty Trust and Vornado Realty L.P.'s Registration Statement on Form S-3 (File No. 333-122306), filed on January 26, 2005	*
3.36	—	Twenty-Fifth Amendment to the Partnership Agreement, dated November 17, 2004 – Incorporated by reference to Exhibit 3.58 to Vornado Realty Trust and Vornado Realty L.P.'s Registration Statement on Form S-3 (File No. 333-122306), filed on January 26, 2005	*
3.37	—	Twenty-Sixth Amendment to the Partnership Agreement, dated December 17, 2004 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on December 21, 2004	*
3.38	—	Twenty-Seventh Amendment to the Partnership Agreement, dated December 20, 2004 – Incorporated by reference to Exhibit 3.2 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on December 21, 2004	*
3.39	—	Twenty-Eighth Amendment to the Partnership Agreement, dated December 30, 2004 - Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on January 4, 2005	*
3.40	—	Twenty-Ninth Amendment to the Partnership Agreement, dated June 17, 2005 - Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on June 21, 2005	*
3.41	—	Thirtieth Amendment to the Partnership Agreement, dated August 31, 2005 - Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on September 1, 2005	*
3.42	—	Thirty-First Amendment to the Partnership Agreement, dated September 9, 2005 - Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on September 14, 2005	*
3.43	—	Thirty-Second Amendment and Restated Agreement of Limited Partnership, dated as of December 19, 2005 – Incorporated by reference to Exhibit 3.59 to Vornado Realty L.P.'s Quarterly Report on Form 10-Q for the quarter ended March 31, 2006 (File No. 000-22685), filed on May 8, 2006	*
3.44	—	Thirty-Third Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of April 25, 2006 – Incorporated by reference to Exhibit 10.2 to Vornado Realty Trust's Form 8-K (File No. 001-11954), filed on May 1, 2006	*
3.45	—	Thirty-Fourth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of May 2, 2006 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on May 3, 2006	*
3.46	—	Thirty-Fifth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of August 17, 2006 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Form 8-K (File No. 000-22685), filed on August 23, 2006	*

* Incorporated by reference

3.47		—	Thirty-Sixth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of October 2, 2006 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Form 8-K (File No. 000-22685), filed on January 22, 2007	*
3.48		—	Thirty-Seventh Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of June 28, 2007 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on June 27, 2007	*
3.49		—	Thirty-Eighth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of June 28, 2007 – Incorporated by reference to Exhibit 3.2 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on June 27, 2007	*
3.50		—	Thirty-Ninth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of June 28, 2007 – Incorporated by reference to Exhibit 3.3 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on June 27, 2007	*
3.51		—	Fortieth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of June 28, 2007 – Incorporated by reference to Exhibit 3.4 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on June 27, 2007	*
3.52		—	Forty-First Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of March 31, 2008 – Incorporated by reference to Exhibit 3.44 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2008 (file No. 001-11954), filed on May 6, 2008	*
3.53		—	Forty-Second Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of December 17, 2010 – Incorporated by reference to Exhibit 99.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No 000-22685), filed on December 21, 2010	*
3.54		—	Forty-Third Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of April 20, 2011 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 000-22685), filed on April 21, 2011	*
3.55		—	Forty-Fourth Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as, of March 30, 2012 - Incorporated by reference to Exhibit 99.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 001-34482), filed on April 5, 2012	*
3.56		—	Forty-Fourth Amendment to Second Amended and Restated Agreement of Limited Partnership dated as of July 18, 2012 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 001-34482), filed on July 18, 2012	*
3.57		—	Forty-Fifth Amendment to Second Amended and Restated Agreement of Limited Partnership, dated as of January 25, 2013 – Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 001-34482), filed on January 25, 2013	*
3.58		—	Forty-Sixth Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated April 1, 2015 - Incorporated by reference to Exhibit 3.1 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 001-34482), filed on April 2, 2015	*
3.59	**	—	Forty-Seventh Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated December 13, 2017 - Incorporated by reference to Exhibit 3.2 to Vornado Realty L.P.'s Current Report on Form 8-K (File No. 001-34482), filed on December 13, 2017	*
3.60	**	—	Forty-Eighth Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as of January 12, 2018 - Incorporated by reference to Exhibit 3.53 to Vornado Realty Trust's Annual Report on 10-K for the year ended December 31, 2017 (File No. 001-11954), filed on February 12, 2018	*
3.61		—	Forty-Ninth Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as of August 7, 2019 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on August 8, 2019	*
3.62		—	Fiftieth Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as of November 24, 2020 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on November 24, 2020	*
3.63		—	Fifty-First Amendment to Second Amended and Restated Agreement of Limited Partnership of Vornado Realty L.P., dated as of September 22, 2021 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on September 22, 2021	*
4.1		—	Indenture, dated as of November 25, 2003, between Vornado Realty L.P. and The Bank of New York, as Trustee - Incorporated by reference to Exhibit 4.10 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2005 (File No. 001-11954), filed on April 28, 2005	*
4.2		—	Indenture, dated as of November 20, 2006, among Vornado Realty Trust, as Issuer, Vornado Realty L.P., as Guarantor and The Bank of New York, as Trustee – Incorporated by reference to Exhibit 4.1 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954), filed on November 27, 2006	*
			Certain instruments defining the rights of holders of long-term debt securities of Vornado Realty Trust and its subsidiaries are omitted pursuant to Item 601(b)(4)(iii) of Regulation S-K. Vornado Realty Trust hereby undertakes to furnish to the Securities and Exchange Commission, upon request, copies of such instruments	
4.3		—	Description of the Vornado Realty Trust securities registered pursuant to Section 12 of the Securities Exchange Act	***

* Incorporated by reference

** Management contract or compensatory agreement

*** Filed herewith

4.4		—	Description of Class A units of Vornado Realty L.P. and certain provisions of its agreement of limited partnership	***
10.1		—	Registration Rights Agreement between Vornado, Inc. and Steven Roth, dated December 29, 1992 - Incorporated by reference to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 1992 (File No. 001-11954), filed February 16, 1993	*
10.2	**	—	Management Agreement between Interstate Properties and Vornado, Inc. dated July 13, 1992 – Incorporated by reference to Vornado, Inc.'s Annual Report on Form 10-K for the year ended December 31, 1992 (File No. 001-11954), filed February 16, 1993	*
10.3		—	Tax Reporting and Protection Agreement, dated December 31, 2001, by and among Vornado, Vornado Realty L.P., Charles E. Smith Commercial Realty L.P. and Charles E. Smith Commercial Realty L.L.C. - Incorporated by reference to Exhibit 10.3 to Vornado Realty Trust's Current Report on Form 8-K/A (File No. 1-11954), filed on March 18, 2002	*
10.4	**	—	Amendment to Real Estate Retention Agreement, dated as of July 3, 2002, by and between Alexander's, Inc. and Vornado Realty L.P. - Incorporated by reference to Exhibit 10(i)(E)(3) to Alexander's Inc.'s Quarterly Report for the quarter ended June 30, 2002 (File No. 001-06064), filed on August 7, 2002	*
10.5	**	—	59th Street Real Estate Retention Agreement, dated as of July 3, 2002, by and between Vornado Realty L.P., 731 Residential LLC and 731 Commercial LLC - Incorporated by reference to Exhibit 10(i)(E)(4) to Alexander's Inc.'s Quarterly Report for the quarter ended June 30, 2002 (File No. 001-06064), filed on August 7, 2002	*
10.6		—	Amended and Restated Management and Development Agreement, dated as of July 3, 2002, by and between Alexander's, Inc., the subsidiaries party thereto and Vornado Management Corp. - Incorporated by reference to Exhibit 10(i)(F)(1) to Alexander's Inc.'s Quarterly Report on Form 10-Q for the quarter ended June 30, 2002 (File No. 001-06064), filed on August 7, 2020	*
10.7	**	—	Second Amendment to Real Estate Retention Agreement, dated January 1, 2007, by and between Vornado Realty L.P. and Alexander's Inc. – Incorporated by reference to Exhibit 10.55 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2006 (File No. 001-11954), filed on February 27, 2007	*
10.8	**	—	Amendment to 59th Street Real Estate Retention Agreement, dated January 1, 2007, by and among Vornado Realty L.P., 731 Retail One LLC, 731 Restaurant LLC, 731 Office One LLC and 731 Office Two LLC. – Incorporated by reference to Exhibit 10.56 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2006 (File No. 001-11954), filed on February 27, 2007	*
10.9	**	—	Vornado Realty Trust's 2010 Omnibus Share Plan - Incorporated by reference to Exhibit 10.41 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2010 (File No. 001-11954) filed on August 3, 2010	*
10.10	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan Incentive / Non-Qualified Stock Option Agreement - Incorporated by reference to Exhibit 99.1 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954) filed on April 5, 2012	*
10.11	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan Restricted Stock Agreement - Incorporated by reference to Exhibit 99.2 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954) filed on April 5, 2012	*
10.12	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan Restricted LTIP Unit Agreement - Incorporated by reference to Exhibit 99.3 to Vornado Realty Trust's Current Report on Form 8-K (File No. 001-11954) filed on April 5, 2012	*
10.13	**	—	Form of Vornado Realty Trust 2012 Outperformance Plan Award Agreement - Incorporated by reference to Exhibit 10.45 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2012 (File No. 001-11954) filed on February 26, 2013	*
10.14	**	—	Form of Vornado Realty Trust 2013 Outperformance Plan Award Agreement - Incorporated by reference to Exhibit 10.50 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2013 (File No. 001-11954), filed on May 6, 2013	*
10.15	**	—	Employment agreement between Vornado Realty Trust and Michael J. Franco dated January 10, 2014 - Incorporated by reference to Exhibit 10.52 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2014 (File No. 001-11954), filed on May 5, 2014	*
10.16	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan AO LTIP Unit Award Agreement - Incorporated by reference to Exhibit 10.34 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2017 (File No. 001-11954), filed on February 12, 2018	*
10.17		—	Amended and Restated Term Loan Agreement dated as of October 26, 2018 among Vornado Realty L.P. as Borrower, Vornado Realty Trust as General Partner, the Banks listed on the signature pages thereof, and JP Morgan Chase Bank N.A. as Administrative Agent for the Banks - Incorporated by reference to Exhibit 10.36 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended September 30, 2018 (File No. 001-11954), filed on October 29, 2018	*
10.18	**	—	Form of Performance Conditioned AO LTIP Award Agreement - Incorporated by reference to Exhibit 10.36 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11954), filed on February 11, 2019	*
10.19	**	—	Form of 2019 Amendment to Restricted LTIP Unit and Restricted Stock Agreements - Incorporated by reference to Exhibit 10.37 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11954), filed on February 11, 2019	*
10.20	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan Restricted LTIP Unit Agreement - Incorporated by reference to Exhibit 10.38 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11954), filed on February 11, 2019	*
10.21	**	—	Form of Vornado Realty Trust 2010 Omnibus Share Plan Restricted Stock Agreement - Incorporated by reference to Exhibit 10.39 to Vornado Realty Trust's Annual Report on Form 10-K for the year ended December 31, 2018 (File No. 001-11954), filed on February 11, 2019	*

* Incorporated by reference

** Management contract or compensatory agreement

*** Filed herewith

10.22		—	Second Amended and Restated Revolving Credit Agreement dated as of March 26, 2019, among Vornado Realty L.P., as Borrower, Vornado Realty Trust as General Partner, the Banks listed on the signature pages thereof, and JPMorgan Chase Bank N.A., as Administrative Agent for the Banks - Incorporated by reference to Exhibit 10.40 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2019 (File No. 001-11954), filed on April 29, 2019	*
10.23	**	—	Vornado Realty Trust 2019 Omnibus Share Plan - Incorporated by reference to Annex B to Vornado Realty Trust's Proxy Statement dated April 5, 2019 (File No. 001-11954), filed on April 5, 2019	*
10.24		—	Transaction Agreement between Vornado Realty L.P. and Crown Jewel Partner LLC, dated April 18, 2019 - Incorporated by reference to Exhibit 10.42 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2019 (File No. 001-11954), filed on July 29, 2019	*
10.25	**	—	Form of Vornado Realty Trust 2019 Omnibus Share Plan Restricted Stock Agreement - Incorporated by reference to Exhibit 10.32 to Vornado Realty Trust's Quarterly Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11954), filed on February 18, 2020	*
10.26	**	—	Form of Vornado Realty Trust 2019 Omnibus Share Plan Restricted LTIP Unit Agreement - Incorporated by reference to Exhibit 10.33 to Vornado Realty Trust's Quarterly Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11954), filed on February 18, 2020	*
10.27	**	—	Form of Vornado Realty Trust 2019 Omnibus Share Plan Incentive/Non-Qualified Stock Option Agreement - Incorporated by reference to Exhibit 10.34 to Vornado Realty Trust's Quarterly Report on Form 10-K for the year ended December 31, 2019 (File No. 001-11954), filed on February 18, 2020	*
10.28	**	—	Employment agreement between Vornado Realty Trust and Glen J. Weiss dated May 25, 2018 - Incorporated by reference to Exhibit 10.35 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 (File No. 001-11954), filed on May 4, 2020	*
10.29	**	—	Employment agreement between Vornado Realty Trust and Haim Chera dated April 19, 2019 - Incorporated by reference to Exhibit 10.36 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 (File No. 001-11954), filed on May 4, 2020	*
10.30	**	—	Form of Vornado Realty Trust 2020 Outperformance Plan Award Agreement - Incorporated by reference to Exhibit 10.37 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2020 (File No. 001-11954), filed on May 4, 2020	*
10.31	**	—	Form of Vornado Realty Trust 2021 Outperformance Plan Award Agreement for Executives – Incorporated by reference to Exhibit 10.42 to Vornado Realty Trust’s Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11954), filed on February 16, 2021	*
10.32	**	—	Form of Vornado Realty Trust 2021 Outperformance Plan Award Agreement for Non-Executives – Incorporated by reference to Exhibit 10.43 to Vornado Realty Trust’s Annual Report on Form 10-K for the year ended December 31, 2020 (File No. 001-11954), filed on February 16, 2021	*
10.33		—	Second Amended and Restated Revolving Credit Agreement dated as of April 15, 2021 among Vornado Realty L.P., as Borrower, the Banks listed on the signature pages thereof, and JPMorgan Chase Bank N.A., as Administrative Agent for the Banks - Incorporated by reference to Exhibit 10.44 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 (File No. 001-11954), filed on August 2, 2021	*
10.34		—	Amendment No. 1 to Second Amended and Restated Revolving Credit Agreement dated as of April 16, 2021 among Vornado Realty L.P. as Borrower, the Banks listed on the signature pages thereof, and JP Morgan Chase Bank N.A. as Administrative Agent for the Banks - Incorporated by reference to Exhibit 10.45 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 (File No. 001-11954), filed on August 2, 2021	*
10.35		—	Amendment No. 2 to Amended and Restated Term Loan Agreement dated as of April 16, 2021 among Vornado Realty L.P. as Borrower, the Banks listed on the signature pages thereof, and JP Morgan Chase Bank N.A. as Administrative Agent for the Banks - Incorporated by reference to Exhibit 10.46 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2021 (File No. 001-11954), filed on August 2, 2021	*
10.36		—	Form of Vornado Realty Trust 2022 Long-term Performance Plan LTIP Unit Award Agreement	***

* Incorporated by reference

** Management contract or compensatory agreement

*** Filed herewith

21	—	Subsidiaries of Vornado Realty Trust and Vornado Realty L.P.	***
23.1	—	Consent of Independent Registered Public Accounting Firm for Vornado Realty Trust	***
23.2	—	Consent of Independent Registered Public Accounting Firm for Vornado Realty L.P.	***
31.1	—	Rule 13a-14 (a) Certification of the Chief Executive Officer of Vornado Realty Trust	***
31.2	—	Rule 13a-14 (a) Certification of the Chief Financial Officer of Vornado Realty Trust	***
31.3	—	Rule 13a-14 (a) Certification of the Chief Executive Officer of Vornado Realty L.P.	***
31.4	—	Rule 13a-14 (a) Certification of the Chief Financial Officer of Vornado Realty L.P.	***
32.1	—	Section 1350 Certification of the Chief Executive Officer of Vornado Realty Trust	***
32.2	—	Section 1350 Certification of the Chief Financial Officer of Vornado Realty Trust	***
32.3	—	Section 1350 Certification of the Chief Executive Officer of Vornado Realty L.P.	***
32.4	—	Section 1350 Certification of the Chief Financial Officer of Vornado Realty L.P.	***
101	—	The following financial information from Vornado Realty Trust and Vornado Realty L.P. Annual Report on Form 10-K for the year ended December 31, 2021, formatted in Inline Extensible Business Reporting Language (iXBRL) includes: (i) consolidated balance sheets, (ii) consolidated statements of income, (iii) consolidated statements of comprehensive income, (iv) consolidated statements of changes in equity, (v) consolidated statements of cash flows, and (vi) the notes to consolidated financial statements.	***
104	—	The cover page from the Vornado Realty Trust and Vornado Realty L.P. Annual Report on Form 10-K for the year ended December 31, 2021, formatted as iXBRL and contained in Exhibit 101.	***

*** Filed herewith

ITEM 16. FORM 10-K SUMMARY

None.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

VORNADO REALTY TRUST
(Registrant)

February 14, 2022 By: /s/ Deirdre Maddock

Deirdre Maddock, Chief Accounting Officer
(duly authorized officer and principal accounting officer)

SIGNATURES - CONTINUED

Pursuant to the requirements of the Securities Exchange Act of 1934, this report 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
By:	/s/Steven Roth (Steven Roth)	Chairman of the Board of Trustees and Chief Executive Officer (Principal Executive Officer)	February 14, 2022
By:	/s/Candace K. Beinecke (Candace K. Beinecke)	Trustee	February 14, 2022
By:	/s/Michael D. Fascitelli (Michael D. Fascitelli)	Trustee	February 14, 2022
By:	/s/Beatrice Hamza Bassey (Beatrice Hamza Bassey)	Trustee	February 14, 2022
By:	/s/William W. Helman IV (William W. Helman IV)	Trustee	February 14, 2022
By:	/s/David Mandelbaum (David Mandelbaum)	Trustee	February 14, 2022
By:	/s/Mandakini Puri (Mandakini Puri)	Trustee	February 14, 2022
By:	/s/Daniel R. Tisch (Daniel R. Tisch)	Trustee	February 14, 2022
By:	/s/Richard R. West (Richard R. West)	Trustee	February 14, 2022
By:	/s/Russell B. Wight, Jr. (Russell B. Wight, Jr.)	Trustee	February 14, 2022
By:	/s/Michael J. Franco (Michael J. Franco)	President and Chief Financial Officer (Principal Financial Officer)	February 14, 2022
By:	/s/Deirdre Maddock (Deirdre Maddock)	Chief Accounting Officer (Principal Accounting Officer)	February 14, 2022

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned thereunto duly authorized.

		VORNADO REALTY L.P.
		(Registrant)
February 14, 2022	By:	/s/ Deirdre Maddock
		Deirdre Maddock, Chief Accounting Officer of Vornado Realty Trust, sole General Partner of Vornado Realty L.P. (duly authorized officer and principal accounting officer)

SIGNATURES - CONTINUED

Pursuant to the requirements of the Securities Exchange Act of 1934, this report 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
By:	/s/Steven Roth (Steven Roth)	Chairman of the Board of Trustees and Chief Executive Officer of Vornado Realty Trust (Principal Executive Officer)	February 14, 2022
By:	/s/Candace K. Beinecke (Candace K. Beinecke)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Michael D. Fascitelli (Michael D. Fascitelli)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Beatrice Hamza Bassey (Beatrice Hamza Bassey)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/William W. Helman IV (William W. Helman IV)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/David Mandelbaum (David Mandelbaum)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Mandakini Puri (Mandakini Puri)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Daniel R. Tisch (Daniel R. Tisch)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Richard R. West (Richard R. West)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Russell B. Wight, Jr. (Russell B. Wight, Jr.)	Trustee of Vornado Realty Trust	February 14, 2022
By:	/s/Michael J. Franco (Michael J. Franco)	President and Chief Financial Officer of Vornado Realty Trust (Principal Financial Officer)	February 14, 2022
By:	/s/Deirdre Maddock (Deirdre Maddock)	Chief Accounting Officer of Vornado Realty Trust (Principal Accounting Officer)	February 14, 2022