

2022 ANNUAL REPORT

VORNADO
REALTY TRUST



THE PENN DISTRICT - PENN 1 / PENN 2



This Annual Report is printed on recycled paper and is recyclable.

THIS PAGE INTENTIONALLY LEFT BLANK

VORNADO COMPANY PROFILE

Vornado Realty Trust is a fully-integrated real estate operating company.

Our business is 86% New York-centric and 77% office-centric. We own all or portions of:

- 62 Manhattan properties consisting of:
 - 19.9 million square feet of office space in 30 of the properties;
 - 2.6 million square feet of street retail space in 56 of the properties;
 - 1,664 residential units in six Manhattan properties;
 - Multiple future development sites, including 350 Park Avenue and the Hotel Pennsylvania;
- THE **PENN DISTRICT** is our campus-like development currently consisting of 9 million square feet in over a dozen buildings and land sites surrounding New York's Pennsylvania Station, the busiest transportation hub in North America;
- A 32.4% interest in Alexander's, Inc. (NYSE:ALX) which owns six properties in the New York metropolitan area, including 731 Lexington Avenue, the 1.1 million square foot Bloomberg L.P. headquarters building;
- Signage throughout Times Square and THE **PENN DISTRICT**;
- BMS, our wholly owned subsidiary, which provides cleaning and security services for our buildings and third parties, currently employing 2,622 associates;
- The 3.7 million square foot MART in Chicago; and
- 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.

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

THIS PAGE INTENTIONALLY LEFT BLANK

Financial Highlights

As Reported	Year Ended December 31,	
	2022	2021
Revenues	\$ 1,799,995,000	\$ 1,589,210,000
Net income/(loss)	\$ (408,615,000)	\$ 101,086,000
Net income/(loss) per share - basic	\$ (2.13)	\$ 0.53
Net income/(loss) per share - diluted	\$ (2.13)	\$ 0.53
Total assets	\$ 16,493,375,000	\$ 17,266,588,000
Total equity	\$ 6,076,380,000	\$ 6,515,238,000
Net operating income	\$ 1,162,048,000	\$ 1,033,368,000
Funds from operations	\$ 638,928,000	\$ 571,074,000
Funds from operations per share	\$ 3.30	\$ 2.97
% increase/(decrease) in funds from operations per share	11.1%	(24.4)%

As Adjusted	Year Ended December 31,	
	2022	2021
Net income	\$ 126,468,000	\$ 88,153,000
Net income per share	\$ 0.66	\$ 0.46
Funds from operations	\$ 608,892,000	\$ 549,863,000
Funds from operations per share	\$ 3.15	\$ 2.86
% increase in funds from operations per share	10.1%	9.2%

These financial highlights and the letter to shareholders present certain non-GAAP measures, including net income (loss), net operating income ("NOI"), funds from operations ("FFO"), earnings before interests, taxes, depreciation and amortization ("EBITDA"), all as adjusted, as well as NOI, FFO and EBITDA. We have provided reconciliations of these non-GAAP measures to the applicable GAAP measures in the appendix section of this letter to shareholders and in the Company's Annual Report on Form 10-K under "Item 7 Management's Discussion and Analysis of Financial Condition and Results of Operations," which accompanies this letter or can be viewed at www.vno.com.

To Our Shareholders

Net Income/(Loss) attributable to common shares for the year ended December 31, 2022 was (\$408.6) million, (\$2.13) per diluted share, compared to \$101.1 million, \$0.53 per diluted share, for the previous year.

Funds from Operations, as Adjusted (an apples-to-apples comparison of our continuing business, eliminating certain one-timers) for the year ended December 31, 2022 was \$608.9 million, \$3.15 per diluted share, compared to \$549.9 million, \$2.86 per diluted share, for the previous year, an increase of \$0.29 per share. This increase is detailed on page 5.

Funds from Operations, as Reported (apples-to-oranges including one-timers) for the year ended December 31, 2022 was \$638.9 million, \$3.30 per diluted share, compared to \$571.1 million, \$2.97 per diluted share, for the previous year. See page 5 for a reconciliation of Funds from Operations, as Reported, to Funds from Operations, as Adjusted.

Here are our financial results (presented in Net Operating Income format) by business unit:

(\$ IN MILLIONS)	Net Operating Income				
	2022 Same Store % Increase	% of 2022	2022	2021	2020
New York:					
Office	0.2 %	62.8 %	718.7	677.2	672.5
Retail	16.0 %	18.0 %	205.7	173.4	147.3
Residential	10.2 %	1.7 %	19.6	17.8	20.7
Alexander's	3.8 %	3.3 %	37.5	37.3	35.9
Hotel Pennsylvania	N/A	— %	—	(12.7)	(42.5)
Total New York	3.5 %	85.8 %	981.5	893.0	833.9
THE MART	64.2 %	8.5 %	96.9	58.9	69.2
555 California Street	2.7 %	5.7 %	65.7	64.8	60.3
	7.1 %	100.0 %	1,144.1	1,016.7	963.4
Other			17.9	16.7	9.2
Total Net Operating Income			1,162.0	1,033.4	972.6

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. 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. Currently, some of the factors are the increase in interest rates and inflation and the continuing effect of the COVID-19 pandemic on our business, financial condition, results of operations, cash flows, operating performance and the effect that these factors have 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. For further discussion of factors that could materially affect the outcome of our forward-looking statements, see "Item 1A. Risk Factors" in Part I of our Annual Report on Form 10-K for the year ended December 31, 2022, a copy of which accompanies this letter or can be viewed at www.vno.com. 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. 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 letter.

The following chart reconciles Funds from Operations, as Reported, to Funds from Operations, as Adjusted:

(\$ IN MILLIONS, EXCEPT PER SHARE)	2022	2021
Funds from Operations, as Reported	638.9	571.1
Adjustments for certain items that impact FFO:		
After-tax gain on sale of 220 Central Park South units	(35.9)	(44.6)
Net gains on disposition of wholly owned and partially owned assets	(17.4)	(0.6)
Tax benefit from taxable REIT subsidiaries	—	(27.9)
Defeasance cost - 1290 Avenue of the Americas refinancing	—	17.9
Hotel Pennsylvania	—	12.3
Deferred tax liability - Farley	13.7	10.9
Series K preferred shares issuance costs	—	9.0
Other, including noncontrolling interests' share of above adjustments	9.6	1.8
Total adjustments	(30.0)	(21.2)
Funds from Operations, as Adjusted	608.9	549.9
Funds from Operations, as Adjusted per share	3.15	2.86

Funds from Operations, as Adjusted, increased in 2022 by \$59.0 million, or \$0.29 per share, a 10.1% increase. Here is the detail:

(\$ IN MILLIONS, EXCEPT PER SHARE)	Increase/(Decrease)	
	Amount	Per Share
Acquisitions/dispositions, net	7.2	0.03
Variable businesses	28.4	0.14
Farley and other tenant items	67.7	0.33
Net interest expense	(59.2)	(0.28)
Real estate tax expense - THE MART	30.0	0.14
PENN 1 ground rent	(21.3)	(0.10)
Other	6.2	0.03
Increase in FFO, as Adjusted	59.0	0.29

Report Card

Since I have run Vornado from 1980, total shareholder return has been 10% per annum, but subpar lately. Dividends have represented 2.9 percentage points of Vornado's annual return.

Here is a table that shows Vornado's total return to shareholders compared to our New York-centric peers and the Office REIT index for various periods ending December 31, 2022, and for 2023 year-to-date:

	Vornado	NY REIT Peers ⁽¹⁾	Office REIT Index
2023 YTD	(25.0)%	(20.5)%	(15.9)%
One-year	(46.7)%	(40.0)%	(37.6)%
Five-year	(64.7)%	(57.1)%	(30.3)%
Ten-year	(45.6)%	— %	10.7 %
Twenty-year	85.8 %	— %	160.9 %

Recent returns have been negatively affected by COVID. Had we done this table as of December 31, 2019, pre-COVID, the numbers on the "twenty-year" line would have been, reading across, 569.9%, —%, and 468.9%.

In last year's letter and in a handful of prior years, we included a graph dramatizing the disconnect between our stock price and the value of our assets (NAV). Somehow it doesn't seem all that relevant this year.

Ten-Year Earnings Record

As is our custom, we present the table below that traces our ten-year record, both in absolute dollars and per share amounts:

(\$ AND SHARES IN MILLIONS, EXCEPT PER SHARE DATA)	NOI ⁽²⁾		FFO, As Adjusted			Shares Outstanding
	Amount	% Change	Amount	% Change	Per Share	
2022	1,153.7	11.6%	608.9	10.7%	3.15	207.4
2021	1,033.4	2.3%	549.9	9.8%	2.86	205.7
2020	1,010.1	(13.6)%	501.0	(24.1)%	2.62	203.7
2019	1,168.5	0.8%	660.5	(6.0)%	3.46	203.1
2018	1,158.9	0.0%	702.8	0.3%	3.68	202.3
2017	1,158.6	3.4%	701.0	4.3%	3.66	201.6
2016	1,121.0	3.3%	672.3	6.8%	3.53	200.5
2015	1,085.3	9.2%	629.7	24.1%	3.32	199.9
2014	994.0	5.7%	507.3	8.4%	2.69	198.5
2013	940.3	13.4%	468.0	30.9%	2.49	197.8

¹ Comprised of New York City-centric peers: SL Green, Empire State Realty Trust, and Paramount Group.

² All years include only the properties owned at the end of 2022 excluding the Hotel Pennsylvania.

Acquisitions/Dispositions

Here is a ten-year schedule of acquisitions and dispositions.

(\$ IN MILLIONS)	Number of Transactions	Net Acquisitions/ (Dispositions)	Acquisitions	Dispositions	Gain
2023 to date	—	—	—	—	—
2022	7	(409.3)	—	409.3	69.0
2021	6	262.6	397.0	134.4	7.9
2020	3	3.7	3.7	—	—
2019	7	(2,818.6)	67.1	2,885.7	1,384.1
2018	9	336.0	573.5	237.5	170.4
2017	9	(5,901.9)	145.7	6,047.6	5.1
2016	11	(875.1)	147.4	1,022.5	664.4
2015	25	(3,717.1)	955.8	4,672.9	316.7
2014	17	(412.3)	648.1	1,060.4	523.4
2013	26	(616.5)	813.3	1,429.8	434.1
	120	(14,148.5)	3,751.6	17,900.1	3,575.1

Over the ten-year period, our dispositions totaled \$17.9 billion and we were a net seller of \$14.1 billion. Our activity has declined since 2020 as prices spiked.

2019 Dispositions include \$2.665 billion for the Retail Joint Venture at a 4.5% cap rate resulting in a gain of \$1.205 billion.⁽³⁾ 2017 Dispositions include \$5.997 billion for the JBG SMITH spin-off and 2015 Dispositions include \$3.700 billion for the Urban Edge Properties spin-off. No gain was recognized on these spin-offs.

The action here takes place on the 45th floor where our acquisitions/dispositions team resides. Thanks to Michael Franco, EVP Michael Schnitt, Corporate counsel Steve Borenstein, SVPs Cliff Broser, Brian Cantrell, Adam Green and Jared Toothman, and to VP Tatiana Melamed.

³ The GAAP gain reported in our published financial statements was \$2.571 billion, the difference being the step-up in basis to fair value of the retained portion of the assets. Much of this gain was reversed by impairment charges of \$409.1 million in 2020 and \$483.0 million in 2022.

Lease...Lease...Lease

The mission of our business is to create value for shareholders by growing our asset base through the addition of carefully selected properties and by adding value through intensive and efficient management. Our operating platform is where the rubber meets the road, and leasing is the main event.

As is our practice, we present below leasing and occupancy statistics for our businesses.

(SQUARE FEET IN THOUSANDS)	New York		THE MART	555 California Street
	Office	Street Retail		Street
2022				
Square feet leased	894	111	299	210
Initial Rent	84.51	266.25	52.40	96.40
GAAP Mark-to-Market	9.0 %	(38.3)%	(4.8)%	24.3 %
Cash Mark-to-Market	5.4 %	(34.2)%	(5.4)%	13.6 %
Number of transactions	86	22	63	6
2021				
Square feet leased	2,252	229	330	74
Initial Rent	83.26	145.44	51.18	114.70
GAAP Mark-to-Market	15.9 %	37.1 %	(0.5)%	29.5 %
Cash Mark-to-Market	10.8 %	13.2 %	0.0 %	25.4 %
Number of transactions	98	36	60	4

The negative mark-to-market for Retail in 2022 was driven by a rent reduction in Hollister's lease renewal at 666 Fifth Avenue. Excluding this deal, our Retail GAAP and cash mark-to-markets would have been positive 33.5% and 23.4%, respectively.

Occupancy rate:	New York		THE MART	555 California Street
	Office	Street Retail		Street
2022	91.9 %	74.4 %	81.6 %	94.7 %
2021	92.2 %	80.7 %	88.9 %	93.8 %
2020	93.4 %	78.8 %	89.5 %	98.4 %
2019	96.9 %	94.5 %	94.6 %	99.8 %
2018	97.2 %	97.3 %	94.7 %	99.4 %
2017	97.1 %	96.9 %	98.6 %	94.2 %
2016	96.3 %	97.1 %	98.9 %	92.4 %
2015	96.3 %	96.2 %	98.6 %	93.3 %
2014	96.9 %	96.5 %	94.7 %	97.6 %
2013	96.6 %	97.4 %	96.4 %	94.5 %

Thanks to our leasing captains: Glen Weiss and Haim Chera. Also thanks to the New York Office leasing machine: EVP Josh Glick, Edward Riguardi, Jared Silverman, Jared Solomon, Ryan Levy, Anthony Cugini and Jordan Donohue; and for Retail: EVP Ed Hogan, Jason Morrison, and Jenniel Davis; to EVP Paul Heinen, who runs leasing at both THE MART and 555 California Street; and Toni McIntosh and Byron Morton at THE MART. Our thanks also to our in-house legal teams and their leaders, EVPs Pam Caruso, and Elana Butler.



Clockwise from top left: 1290 Avenue of the Americas, THE MART, 888 Seventh Avenue, 770 Broadway

Capital Markets

At year-end, we had \$3.4 billion of immediate liquidity consisting of \$1.0 billion of cash and restricted cash, \$472 million of U.S. Treasury bills and \$1.9 billion available on our \$2.5 billion revolving credit facilities. Today, we have \$3.2 billion of immediate liquidity. We also have over \$8 billion of unencumbered assets.

Since January 1, 2022, we have executed five capital markets transactions totaling \$3.3 billion. Our capital markets team had another strong year. Special thanks to VP Tatiana Melamed and to SVP Jared Toothman.

In June, we completed a \$480 million refinancing of 100 West 33rd Street, a 1.1 million square foot building comprised of 859,000 square feet of office space and 255,000 square feet of retail space. The interest-only loan bears a rate of SOFR plus 1.65% through March 2024, increasing to SOFR plus 1.85% thereafter. The interest rate on the loan was swapped to a fixed rate of 5.06% through March 2024, and 5.26% through June 2027. The loan matures in June 2027, with two one-year extension options subject to debt service coverage ratio and loan-to-value tests. The loan replaces the previous \$580 million loan that bore interest at LIBOR plus 1.55% and was scheduled to mature in April 2024.

In June, we completed a \$700 million refinancing and extension of 770 Broadway, a 1.2 million square foot Manhattan office building. The interest-only loan bears a rate of SOFR plus 2.25% and matures in July 2024 with three one-year extension options (July 2027 as fully extended). The interest rate on the loan was swapped to a fixed rate of 4.98% through July 2027. The loan replaces the previous \$700 million loan that bore interest at SOFR plus 1.86% and was scheduled to mature in July 2022.

In June, we amended and extended one of our two revolving credit facilities. The \$1.25 billion amended facility bears interest at a rate of SOFR plus 1.15%. The term of the facility was extended from March 2024 to December 2027, as fully extended. The facility fee is 25 basis points. On August 16, 2022, the interest rate on the \$575 million drawn on the facility was swapped to a fixed rate of 3.88% through August 2027. Our other \$1.25 billion revolving credit facility matures in April 2026, as fully extended, bears a rate of SOFR plus 1.19% with a facility fee of 25 basis points, and is fully available.

In June, we extended our \$800 million unsecured term loan from February 2024 to December 2027. The extended loan bears interest at a rate of SOFR plus 1.30% and is swapped to a fixed rate of 4.05%.

In August, the joint venture that owns the fee interest in the 330 West 34th Street land, in which we have a 34.8% interest, completed a \$100 million refinancing. The interest-only loan bears interest at a fixed rate of 4.55% and matures in September 2032. In connection with the refinancing, we realized net proceeds of \$10.5 million. The loan replaces the previous \$50.2 million loan that bore interest at a fixed rate of 5.71%.

In December, the \$450 million non-recourse mortgage loan on 697-703 Fifth Avenue, in which we have a 44.8% interest through the Fifth Avenue and Times Square JV, matured and was not repaid, at which time the lenders declared an event of default. During December, \$29 million of property-level funds were applied by the lenders against the principal balance resulting in a \$421 million loan balance as of December 31, 2022. The JV is in negotiations with the lenders regarding a restructuring but there can be no assurance as to the timing and ultimate resolution of these negotiations. The impairment charges recognized to date have reduced our equity basis to our share of the \$421 million nonrecourse loan balance and, as such, we do not believe there will be any further impairment charges.

During the year, we entered into \$2.0 billion of interest rate swaps and extended a \$500 million swap, reducing our variable rate debt as a percentage of total debt to 27% from 47%. Our exposure to LIBOR/SOFR increases on our \$2.8 billion of unswapped variable rate debt is mitigated over the next year by \$2.2 billion of interest rate caps. Interest income on our more than \$1 billion of cash acts as a natural hedge.

Below is the right-hand side of our balance sheet at December 31, 2022, 2021 and 2020.

(\$ IN MILLIONS)	2022	2021	2020
Secured debt	5,878	6,099	5,608
Unsecured debt	2,575	2,575	1,825
Share of non-consolidated debt	2,697	2,700	2,873
Noncontrolling interests' share of consolidated debt	(682)	(682)	(483)
Total debt	10,468	10,692	9,823
Cash, restricted cash, and U.S. Treasury bills	(1,598)	(2,035)	(1,835)
Projected cash proceeds from 220 Central Park South	(90)	(148)	(275)
Net debt	8,780	8,509	7,713
EBITDA as adjusted	1,091	949	910
Net debt/EBITDA as adjusted	8.0 x	9.0 x	8.5 x

Our credit statistics have been negatively affected by COVID-related reductions in our income and higher interest rates. This resulted in downgrades by S&P to BBB- and by Moody's to Baa3.⁽⁴⁾ We aim to earn our rating back as our income reverts and improves, as our variable businesses continue to recover, as our occupancy climbs back to our historical 97%, and as PENN 2 leases up.

Fixed-rate debt accounted for 73% of debt with a weighted average interest rate of 3.6% and a weighted average term of 4.4 years; floating-rate debt accounted for 27% of debt with a weighted average interest rate of 5.9% and a weighted average term of 2.8 years. Taking account of interest rate caps, 27% is reduced to 6%. Our caps and swaps are of shorter durations than our loan maturities.

Vornado remains committed to maintaining our investment grade rating.

⁴ All of our New York peers and most of the CBD office REITs are in the same boat.

Retail

Retail has bottomed. Tenant activity is picking up from no interest and no tours to now a fairly active market, but still at bottom-fishing pricing. We expect activity and pricing to accelerate from here.

We are making more than our fair share of deals – a sampling is Fendi, Berluti, Sephora, Whole Foods, Wegmans, Canada Goose, Chase, Duane Reade, Bond Street Sushi, Stefano Ricci, Five Below, DSW Shoes, Hollister...

Individually, and collectively, we own great assets... a portfolio of 56 properties, 2.6 million square feet of flagship street retail concentrated on the best high streets – Fifth Avenue, Times Square, THE PENN DISTRICT and SoHo. Please see www.vno.com for portfolio details and images. Here is the math for our retail business:

(\$ IN MILLIONS, EXCEPT PROPERTIES)	Number of Properties	NOI	
		GAAP Basis	Cash Basis
2022	56	205.7	188.8
2021	60	173.4	160.8
2020	63	147.3	158.7
2019	62	273.2	267.7
2018	63	353.4	324.2
2017	63	359.9	324.3

For comparability, 2018 and 2019 cash basis NOI of \$324.2 million and \$267.7 million should be adjusted for the Retail Joint Venture, other sales and out-of-service assets bringing our cash basis NOI, as adjusted, to \$178 million and \$194 million, respectively.

We guided that cash basis NOI would not be less than \$135 million in 2021 and \$175 million in 2022. We “beat” 2021 guidance by \$25 million and 2022 guidance by \$14 million.

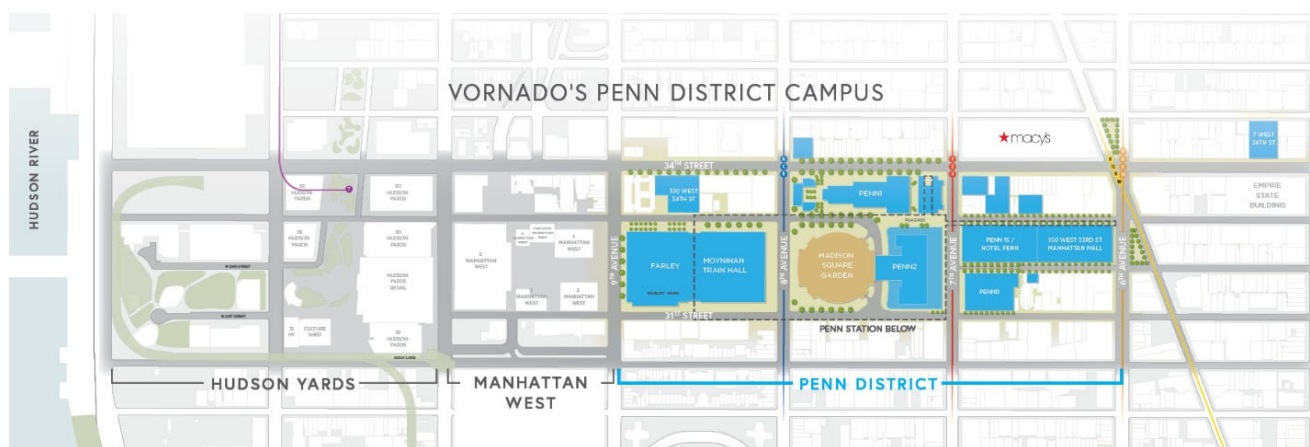
Below, we break down our retail business by submarket:

(\$ IN MILLIONS, EXCEPT %)	NOI			
	GAAP Basis		Cash Basis	
	Amount	%	Amount	%
Fifth Avenue	77.2	37.6	72.0	38.1
Times Square	30.9	15.0	29.6	15.7
THE PENN DISTRICT	24.1	11.7	17.7	9.4
SoHo	6.8	3.3	6.0	3.2
Other	66.7	32.4	63.5	33.6
Total	205.7	100.0	188.8	100.0

THE PENN DISTRICT

A VORNADO CAMPUS

We are the largest owner in THE PENN DISTRICT with 9 million square feet. THE PENN DISTRICT's time has come. THE PENN DISTRICT is different from our other office assets...it is a large multi-building complex, it is long-term and it is development focused (*development* and *long-term* are two of the dirtiest words in REITland). THE PENN DISTRICT is the highest growth opportunity in our portfolio.



Our development plans for Farley, PENN 1 and PENN 2 were outlined in my letters to shareholders over the last years. Images, budgets, returns⁵⁾ and delivery dates are on our website. Two of these three large, exciting projects are now open and the third, PENN 2, is scheduled for completion by year end. When completed, these three, aggregating 5.2 million square feet, will constitute the debut of our vision for THE PENN DISTRICT. Here's an update:

- The acclaimed Moynihan Train Hall is open to the public, as is our Moynihan Food Hall. Our retail leasing in the Train Hall is well along, with 31 leases executed. In the western half of Farley, we are developing 90,000 square feet of retail which will serve as the connecting link between Manhattan West and Hudson Yards, our neighbors to the west, and the Moynihan/Penn Station complex to the east. This retail is organized around the 32nd Street corridor (read mall) that will act as a funnel that we expect will collect thousands of office workers heading to and from Penn Station.
- The doubling in width and doubling in height of the Long Island Rail Road concourse to 60 feet wide and 18 feet high is now complete. Anyone who thinks PENN Station cannot be turned into a world-class facility without moving Madison Square Garden (highly unlikely and backbreakingly expensive) should take a look at this grand concourse. We own the retail on both sides of the LIRR concourse.
- Vornado was honored to be a major principal in both the Moynihan Train Hall and LIRR concourse public/private partnerships.
- At Farley, Meta (formerly Facebook) has taken occupancy of their 730,000 square feet under a 15-year lease.
- At PENN 11, our major tenant has expanded to 400,000 square feet.
- At PENN 1, our grand new lobby and multi-floor amenity offerings are completed and open. Our amenities here are extensive (we believe the largest amenity package in the City, by far) and unique, tailored to the demographic of our tenants' workforce, and are receiving rave reviews from tenants and brokers.
- On the seventh floor of PENN 1, our experience and leasing center is open and busy. This 14,000 square foot facility, complete with multiple scale models and floor-to-ceiling, wall-to-wall videos, vividly illustrates and brings to life our vision and plans for the buildings, restaurants, retail, amenities, and lifestyle and workstyle that THE PENN DISTRICT will become.
- At PENN 2, the Bustle is complete. Recladding of the curtainwall is 85% complete. Loggia work is ongoing and lobby construction has commenced. The LED lighting on the underside of the Bustle is about half complete and is spectacular – take a look.
- At Hotel Penn, structural demolition is down to the seventh floor with expected completion by year end.

Our PENN DISTRICT development team is led by Barry Langer with David Bellman, Judy Kessler, Alan Reagan, Sandy Reis, Brian Thompson, Nicole Dosso, Alejandro Knopoff, Andrew Hunt and Morgan Mann. Special shout out and kudos to Glen Weiss, Barry Langer, Josh Glick and Brad Zizmor who have been the guiding lights in the creation of PENN 1's unique food, gathering and social spaces. And, thank you to Dan Shannon for his excellent and creative work on PENN 2.

⁵ We review budgets and returns annually. This year, we updated our projected incremental cash yields on Farley to 6.2% from 6.4%, PENN 2 to 9.5% from 9.0%, and PENN 1 to 13.2% from 12.2%, increasing the weighted average return on all three to 8.3% from 8.0%.

Some Thoughts, 2022 Version

Portions reprinted from last year.

- I begin with a shoutout and **thank you to our very talented Vornado people** in New York, Paramus, Chicago and San Francisco, in leasing, development, the 45th floor, Paramus, operations, and BMS all of whom are A+, head of the class.
- **2022 was an excellent year.** Referring to page 4, each of our profit centers improved over the prior year, in the aggregate by \$128.6 million, or 12.4%. The short-term future, however, will be more challenging.
- We are now **approaching the eye of the economic storm**, and I expect it will get even worse. The Federal Reserve is doing its job as an inflation fighter and interest rates and the stock market are re-rating, the economy is slowing and layoffs are beginning. In this cycle, CBD office towers, nationwide, are the **common enemy**. Defaults and “give back the keys” have already started, led by some of the industry’s largest companies. There is no new debt available for office, so no buying, no selling, no new builds. When a loan comes due, the only refinance available (and that with a fight) is from the existing lender. There is a mere trickle of equity at deal-stealing prices. How long and deep this all goes is unknowable and so liquidity is the main event.

Our balance sheet strategy is to rely primarily (70%) on project-level, nonrecourse debt (old fashioned mortgages), which is collateralized by assets we estimate to have an aggregate fair value of \$10.6 billion (loan-to-value of 74%). We have over \$8 billion of unencumbered real estate assets. Only 25%⁽⁶⁾ of our debt is recourse. Here is the detail of recourse debt:

(\$ IN THOUSANDS)	Years to		
	Amount	Maturity	Maturity
Corporate debt recourse to Vornado:			
3.50% senior unsecured notes	450,000	1/25	1.8
Unsecured revolving credit facility (\$1.25 billion available)	—	4/26	3.0
2.15% senior unsecured notes	400,000	6/26	3.2
Unsecured term loan	800,000	12/27	4.7
Unsecured revolving credit facility (\$675 million available)	575,000	12/27	4.7
3.40% senior unsecured notes	350,000	6/31	8.2
	<u>2,575,000</u>		4.4

- Steel, concrete, and curtainwall are important, but in our business, **capital is the essential raw material**. We are now in the middle of a Federal Reserve tightening cycle, the result of which is interest rates are up (more than double), values are down, and CRE capital markets are frozen. Notwithstanding Fed funds at 5%, most run-of-the-mill real estate operators can’t borrow at 10%, or can’t borrow at all.

Here’s what we have done:

- Several years ago when we began the Farley/Facebook, PENN 1 and PENN 2 projects, we loaded in over \$2 billion in cash to prefund 100% of our development and construction costs. We didn’t know then how prescient that would be. So Farley/Facebook is now finished and paid for, PENN 1 almost so, and PENN 2 will finish by year end. These three assets, aggregating 5.2 million square feet, will be free and clear and unencumbered... and that’s quite a feat.
- We handled all of our 2023 and almost all of our 2024 debt maturities.
- We put on a series of swaps and caps bringing our effective floating rate exposure down to 6% of total debt. While very helpful, these swaps and caps do not, in most instances, match the maturity dates of the loans and therefore provide only partial protection.

I would observe that there really is no protection against loans that mature into a rising market. And I further observe that the stock market marks to market, valuing at then-current interest rates, giving no value to lower-rate loans even if locked in for term.

- Beginning first quarter of this year, we declared a rightsized (lowered) dividend allowing us to retain \$128 million of cash annually. It is our policy that our dividends mirror taxable income.
- The Federal Reserve tightening and the resulting **real estate capital markets freeze will create opportunities**, a la the RTC days. Trouble always creates opportunity. By and large, lenders really don’t want the keys back and actually do need to get the defaulted loans off their books, initially at small discounts and eventually at whatever discount clears the market. So, coming out of the cycle, many good but overleveraged buildings will change hands, will be de-levered, and the second or third owner will enjoy a much lower basis. We have a best-in-class operating platform and intend to participate in this death and rebirth cycle.

⁶ In addition, there are three mortgage loans totaling \$514 million that for tax purposes are guaranteed.

- Nationwide, the **stocks of office companies have been crushed**. Geography, portfolio quality, and even balance sheet strength doesn't seem to matter. Is the stock market predicting that office buildings are obsolete, disrupted by the kitchen table and Zoom? Is the stock market predicting that the future of work, the future of office, and even the future of our cities is challenged? We don't think so.

We don't think WFH or WFA is an existential threat. While companies are still grappling with hybrid work policies and the right level of flexibility, overall sentiment is shifting toward pre-pandemic norms. We are seeing a real pick up in return to office throughout our portfolio, particularly Tuesday through Thursday. Utilization rates are approaching 60% and the momentum is improving month by month. Both employers and employees recognize the productivity, collaboration, creativity and cultural benefits of **working in the office together**.

On our fourth quarter earnings call in response to a question about hybrid work I said, "I think you can assume Friday is dead, forever. Consider Friday as a holiday... and Monday is touch and go." In last year's letter, I asked "does anybody think a nine hour, four day workweek with three days off has legs?"

- In January 2023, we completed **an important deal with Citadel** for our 350 Park Avenue building, which involved their master leasing the entire 585,000 square foot building (relieving us of 225,000 square feet of vacancy). This deal will almost certainly result in a teardown and a new build of a grand 1.7 million square foot tower on a larger assembled site. Please see our press release of December 9, 2022. We have a lot of friends on Wall Street and I might venture that by any measure (return on equity, return per employee, etc.), Citadel is at the head of the class, intensely focused and aggressively growing. This deal validates the quality of our site, our development team, and New York.

There is a learning here with regard to WFH and WFA... Interestingly, Ken tells me that a significant differentiator for his firm is the simple fact that everybody comes to work every day, five days a week (I think they start at 7:30am). I think companies that embrace work-from-home will be left behind. And I think it's absurd to think that years from now, tens of millions of Americans will be working from home, alone at their kitchen table. And that office towers and our great cities will be empty. And by the way, Zoom (a.k.a. Hollywood Squares) may be a disruptor, but its stock is down from \$588 to a still high \$74.

- The market is demanding **highest quality, heavily amenitized, transportation-based space**. Our portfolio fits the bill: **PENN DISTRICT**, 770 Broadway, Farley, 1290 Avenue of the Americas, 555 California Street, **THE MART**, future development sites 350 Park Avenue and **PENN 15**, to name a few.
- **My excitement and conviction about our PENN DISTRICT** grows quarter by quarter. I still believe that a winning strategy is to allow investors to choose between the high growth, development-oriented **PENN DISTRICT** or our other, pretty terrific in their own right, Class A traditional core assets, or both and that the most efficient way to do so is initially by tracker. Nonetheless, we have decided to pause. This is purely an internal transaction with no counterparty or deadline and I believe it wise to delay until COVID and the current economic storm are resolved, workers return en masse to the office, construction is further along, etc. No rush, let's get it right.
- The **GPP process** has been a little contentious and is in litigation. I inadvertently created a whirlwind when I made what I thought was an obvious comment on our third quarter 2022 conference call that, "the headwinds in the current environment are not at all conducive to ground-up development", which was interpreted as our abandoning the grand plan. Nothing could be further from the truth. A pause necessitated by economic conditions is not abandoning.

By the way, **we have earned our stripes** with what we have already accomplished in **THE PENN DISTRICT**... just look at the Moynihan Train Hall, the LIRR Concourse, Facebook at Farley, **PENN 1**, **PENN 2** and the two-block-long Bustle along Seventh Avenue.

- With inflation the topic du jour, it should be noted that **replacement cost** for New York office buildings is rising aggressively. Replacement cost has always been a leading indicator, foretelling that our existing stock of office buildings will be increasing in value.

In the history of New York real estate, **all great bull landlord markets** followed a period of constrained supply, and here we are. Capital markets are now making it almost impossible to build new.

- As we look through our portfolio of assets, we have more than a half dozen outstanding **residential development/conversion opportunities** in Manhattan, Queens, and one in Northern Virginia. We have the expertise, as proven by our success at 220 and The Alexander in Rego Park, and will pursue these opportunities, all of which involve development and patience.
- One theme we do think will emerge this year is a heightened focus on the **quality of the landlord**. Many landlords, particularly private ones, are beginning to struggle with high leverage levels which may limit their ability to invest capital in their buildings or, in some cases, even retain their assets. Tenants and their brokers will shun these buildings. Strong, well capitalized landlords like Vornado will benefit.

- **We listen to our tenants** and, so, I am convinced that the way they want to work is rapidly changing. There is a large and growing list of tenants who are rejecting the rigid, closed door Uptown model in favor of the less formal, creative West Side model. Of New York's 400 million square feet, I'm guessing only about half of that space really qualifies for the workplace of the future.
- Our **soundstage** partnership continues to pursue and make good progress.
- After many years of proudly commanding a full page and hero picture in this letter, **220 Central Park South**, basically completed, now gets this short paragraph. Sales to date have totaled \$3.223 billion. We are over 97% sold with, I guesstimate, \$90 million still to come from the few remaining future sales. As an indicator of the singular success of this product, resale prices are up, and up substantially, and I believe 220 to be the only recent development where resale prices have increased.
- We are in conversation with an operator to bid for a gaming license in Manhattan on a site in THE **PENN DISTRICT**. Last year, I wrote the following about Manhattan gaming which is doubly valid today:

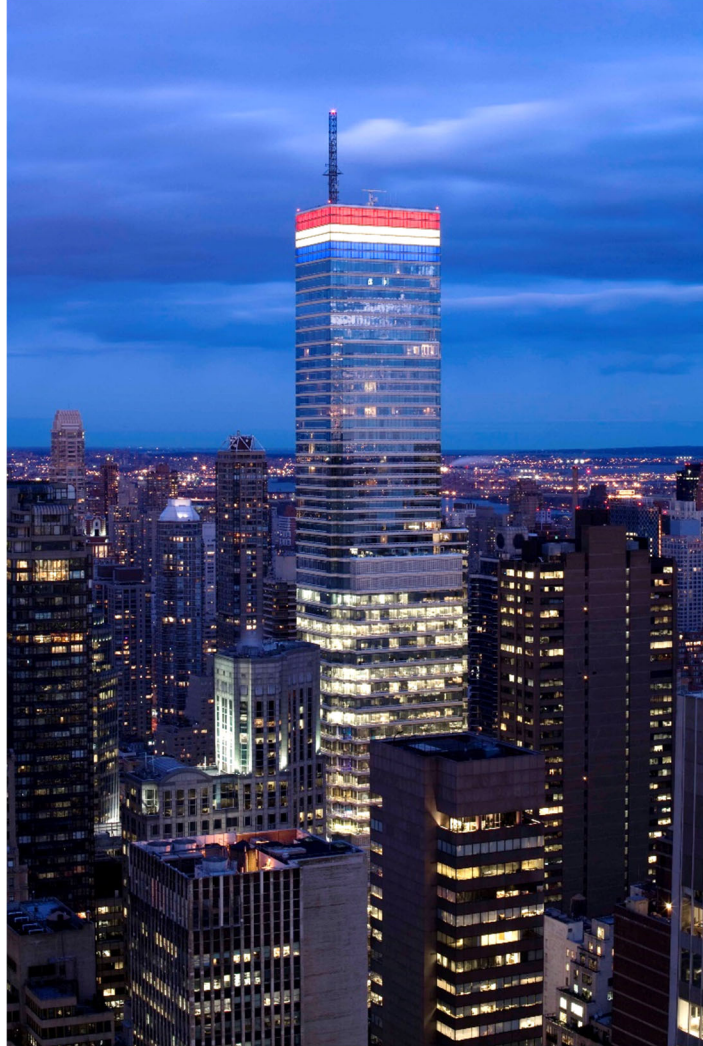
Gaming is now all around us. There are as many as 30 gaming venues within an easy drive of Manhattan. Internet gaming is the next big thing, predicted to have a much larger audience than even brick-and-mortar casinos (I understand one can even bet on the coin toss or each down or each free throw). New York State has authorized seven casino licenses, four of which have already been issued Upstate (I understand they are not doing well) with a seven-year head start on three Downstate licenses. There is a rising level of chatter that the issuance of the Downstate licenses will be accelerated, and that Manhattan will be in play. There are two Downstate racetrack licenses (slot machines only) at Yonkers Raceway and Aqueduct Raceway that are performing well. Scuttlebutt is that these two will be awarded two of the three full Downstate casino licenses and then where will the third go? To my mind, it makes little sense for the third license to go to another venue in either Long Island or Westchester which would split revenue with the existing Yonkers or Aqueduct. It makes perfect sense for the third and final license to go to Manhattan. Being the center of everything, Manhattan will generate by far the highest revenue for our education system; after all, aren't we in it to maximize the tax revenue? And Manhattan has, by far, the largest number of hotel rooms, restaurants, museums, tourist attractions, and the region's transportation network was designed with Manhattan as its hub.

- The competition between **high-tax**, densely populated urban centers and **low-tax/no-tax**, generally warm weather, business welcoming states is the topic du jour. In the "this will never happen... but it should department", the first governor of a northern, densely populated, urban state who recognizes all this and reduces taxes will be lionized.

For the fourth year in a row, I question the wisdom of the New York State **estate tax**. I repeat here what I have said before:

In New York State, the top 2% pay a full 50% of personal income taxes so it is critical that they remain tax-paying residents. The vulnerability comes with the 2%-ers, who are at the end of their careers. Most of the folks I know are willing to pay higher income taxes for the privilege of living in New York, but hate the prospect of a 16% toll for the privilege of dying in New York. New York State's estate tax brings in only about 1/150th of the state's annual budget. The estate tax should be repealed. Keeping our highest taxpayers through the end of their lives is both good economic policy and good politics. By the way, high-tax California has no estate tax, New Jersey repealed its estate tax in 2018.

- A year ago, I was on four public company boards, all in the family – Vornado, Alexander's, Urban Edge and JBG SMITH. Today, I am on two boards - Vornado and Alexander's.
- We are keenly aware that our stock has declined 25% since the beginning of the year, down to a hard-to-believe \$15; the fact that everyone else is in the same boat gives me no solace. This brings to mind the topic of **buybacks**. We know how to do buybacks; way back when, we bought back 60% of Vornado's stock over a four-year period. For good reason, we have stood by in recent years while others did buybacks and while commentators pounded us about closing the proverbial NAV gap. In this period of great volatility and closed markets, it's very difficult to estimate NAV, nonetheless our current stock price looks interesting.
- **We believe in New York**, our hometown, the most important city in America. New York is the economic and cultural capital of the United States (there is a reason the Statue of Liberty is in New York Harbor); it is the finance center of the world; it attracts the best and the brightest; it has a large and growing highly educated and diverse workforce, eight professional sports teams, Lincoln Center and Carnegie Hall, Broadway, great museums, great restaurants and nightlife, the best hospitals and universities, and, of course, the largest concentration of Fortune 500 headquarters, and is now a large and growing tech center... you get the message.



731 Lexington Avenue

Environmental, Social and Governance (“ESG”)

Our Board and senior management are proud of Vornado’s national leadership in ESG, improving our communities, our buildings, and our tenant experiences. We continue to build upon our Vision 2030 and Science Based Target commitment through our robust ESG program. Our complete plan can be found on our website at www.vno.com/sustainability.

Key achievements include:

- Procured 100% renewable energy credits (RECs) for electricity directly managed by Vornado in the key markets in which we operate. These RECs include those sourced from hydroelectric, solar and wind facilities located in the States of New York and California.
- Achieved a 28% reduction in overall energy consumption across our in-service office portfolio, since 2009
- Reached a 64% waste diversion rate this year across our in-service office portfolio against our long-term target of 75%
- Received multiple awards recognizing our continued industry leadership in sustainability including the 12th NAREIT Leader in the Light Award; Energy Star Partner of the Year with Sustained Excellence and Global “Sector Leader” for Diversified Office/Retail REITs in the Global Real Estate Sustainability Benchmark (GRESB), ranking #1 in the USA amongst peers

We use data to measure progress against our goals, align our goals with our tenants, plan for our longer-term projects and engage with our stakeholders in meaningful ways. We use carbon accounting software, energy audits and models and building automation software to:

- Manage our portfolio-wide waste, water and energy reduction strategies
- Create roadmaps for each building to understand how to achieve carbon neutrality
- Provide accurate and actionable data for our measurement, verification and reporting requirements

We have expanded services focused on the health and well-being of our best-in-class employees with continuing education and career development. Through our Vornado Volunteers program, our employees supported local organizations including Habitat for Humanity, Breaking Ground, the Central Park Conservancy and Project Cicero. In THE PENN DISTRICT, we launched WorkLife, Vornado’s amenity ecosystem that allows our tenants, employees and communities to focus on work and self-care. We offer regular thought leadership, entertainment and wellness programs focused on supporting our organizations and individuals.

Our Board, and particularly our Nominating and Governance Committee, is assigned with oversight of ESG, which includes climate change risk. In 2023, we continued the assignment of ESG performance metrics as part of our Executive Compensation program. Our discussion on corporate governance is included in our proxy statement, which can be viewed at www.vno.com/proxy and the governance section of our website at www.vno.com/governance. In 2023, we will continue to monitor developments from the Securities and Exchange Commission on potential rule making for climate disclosures. Our ESG narrative is told with transparency and supported by data. All can be found at www.vno.com/sustainability.

Thanks to Lauren Moss, Samantha Benvenuto and Steve Borenstein who lead our ESG efforts.

We continually broaden our leadership team through promotions from within our Company. Please join me in congratulating this year's class; they deserve it.

Paul Heinen was promoted to Executive Vice President and Chief Operating Officer, THE MART
Jerald Kohrs was promoted to Senior Vice President, PENN DISTRICT Marketing
Jason Morrison was promoted to Senior Vice President, Retail Leasing
Maulik Shah was promoted to Senior Vice President, Building Operations and Construction, THE MART
Jesse Burns was promoted to Vice President, Benefits
Julian Ferraldo was promoted to Vice President, Retail Design
Mike Lipitz was promoted to Vice President, Energy Management and Reporting
Byron Morton was promoted to Vice President, Co-Head of Leasing, THE MART
Toni McIntosh was promoted to Vice President, Co-Head of Leasing, THE MART
Danielle Owen was promoted to Vice President, Chicago Collective and Women's Edition, THE MART

Welcome to Lauren Moss, Senior Vice President, Chief Sustainability Officer.

Thank you and congratulations to Myron Mauer, who has retired after 35 years of service. We will miss him and wish him well.

Our operating platform heads are the best in the business. I pay my respects to my partners, Michael Franco, Glen Weiss, Barry Langer, Haim Chera and Tom Sanelli; and to David Greenbaum and Joe Macnow, my long-time partners who are now part-timers. Our exceptional 14 Division Executive Vice Presidents deserve special recognition and our thanks. Thank you as well to our very talented and hardworking 25 Senior Vice Presidents and 58 Vice Presidents who make the trains run on time, every day.

Our Vornado Family has grown with 9 marriages and 15 births this year, 7 girls and 8 boys.

On behalf of Vornado's Board, senior management and 3,146 associates, we thank our shareholders, analysts and other stakeholders for their continued support.

Steven Roth
Chairman and CEO
March 31, 2023

Again, this year, I offer to assist shareholders with tickets to my wife's award-winning Broadway production of *Life of Pi*. Please call if I can be of help.

Emi is ED D'27 Woo Hoo

Below is a reconciliation of net income (loss) to NOI, as adjusted (properties owned at the end of 2022):

(\$ IN MILLIONS)	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Net income (loss)	(382.6)	207.5	(461.8)	3,334.3	422.6	264.1	982.0	859.4	1,009.0	564.7
Our share of (income) loss from partially owned entities	461.3	(130.5)	329.1	(78.9)	(9.1)	(15.2)	(168.9)	9.9	58.5	336.3
Our share of (income) loss from real estate fund	(3.6)	(11.1)	226.3	104.1	89.2	(3.2)	23.6	(74.1)	(163.0)	(102.9)
Interest and other investment (income) loss, net	(19.9)	(4.6)	5.5	(21.8)	(17.1)	(37.8)	(29.6)	(27.2)	(38.6)	20.8
Net gains on disposition of assets	(100.6)	(50.8)	(381.3)	(845.5)	(246.0)	(0.5)	(160.4)	(149.4)	(13.6)	(2.0)
Net gain on transfer to Fifth Ave. and Times Square JV	—	—	—	(2,571.1)	—	—	—	—	—	—
Purchase price fair value adjustment	—	—	—	—	(44.1)	—	—	—	—	—
(Income) loss from discontinued operations	—	—	—	—	(0.6)	13.2	(404.9)	(223.5)	(686.9)	(666.8)
NOI attributable to noncontrolling interests	(70.0)	(69.4)	(72.8)	(69.3)	(71.2)	(65.3)	(66.2)	(64.9)	(55.0)	(58.6)
Depreciation, amortization expense and income taxes	526.2	401.9	436.3	522.6	484.2	470.4	428.2	294.8	360.7	342.5
General and administrative expense	133.7	134.6	181.5	169.9	141.9	159.0	149.6	149.3	141.9	150.3
Acquisition and transaction related costs	31.7	13.8	174.0	106.5	31.3	1.8	9.4	12.5	18.4	24.9
Our share of NOI from partially owned entities	306.0	310.9	306.5	322.4	253.6	269.2	271.1	245.8	207.7	175.1
Interest and debt expense	279.8	231.1	229.3	286.6	347.9	345.6	330.2	309.3	337.4	323.5
NOI	1,162.0	1,033.4	972.6	1,259.8	1,382.6	1,401.3	1,364.1	1,341.9	1,176.5	1,107.8
Certain items that impact NOI	(8.3)	—	37.5	(91.3)	(223.7)	(242.7)	(243.1)	(256.6)	(182.5)	(167.5)
NOI, as adjusted (properties owned at the end of 2022)	1,153.7	1,033.4	1,010.1	1,168.5	1,158.9	1,158.6	1,121.0	1,085.3	994.0	940.3

Below is a reconciliation of net (loss) income to FFO and FFO, as adjusted:

(\$ IN MILLIONS)	2022	2021	2020	2019	2018	2017	2016	2015	2014	2013
Net income (loss) attributable to Vornado	(346.5)	176.0	(297.0)	3,147.9	449.9	227.4	906.9	760.4	864.9	476.0
Preferred share dividends and issuance costs	(62.1)	(74.9)	(51.7)	(50.1)	(65.1)	(65.4)	(83.3)	(80.6)	(81.5)	(84.0)
Net income (loss) applicable to common shares	(408.6)	101.1	(348.7)	3,097.8	384.8	162.0	823.6	679.8	783.4	392.0
Depreciation and amortization of real property	456.9	373.8	368.6	389.0	413.1	468.0	531.6	514.1	517.5	501.8
Net gains on sale of real estate	(58.7)	—	—	(178.7)	(158.1)	(3.5)	(177.0)	(289.1)	(507.2)	(411.6)
Real estate impairment losses	19.1	7.9	236.3	32.0	12.0	—	160.7	0.3	26.5	37.1
Decrease in fair value of marketable securities	—	—	4.9	5.5	26.5	—	—	—	—	—
Net gain on transfer to Fifth Avenue and Times Square JV, net of NCI	—	—	—	(2,559.1)	—	—	—	—	—	—
Net gain from sale of Urban Edge shares	—	—	—	(62.4)	—	—	—	—	—	—
After tax purchase price fair value adjustment	—	—	—	—	(27.3)	—	—	—	—	—
Partially owned entities adjustments:										
Depreciation of real property	130.6	139.2	156.6	134.7	101.6	137.0	154.8	144.0	117.8	157.3
Net gains on sale of real estate	(0.2)	(15.7)	—	—	(4.0)	(17.8)	(2.9)	(4.5)	(11.6)	(0.5)
Income tax effect of adjustments	—	—	—	—	—	—	—	—	(7.3)	(26.7)
Real estate impairment losses	576.4	—	409.1	—	—	7.7	6.3	16.8	—	6.6
(Increase) decrease in fair value of marketable securities	—	(1.1)	2.8	2.9	3.9	—	—	—	—	—
Noncontrolling interests' share adjustments	(77.9)	(34.1)	(79.1)	141.7	(22.8)	(36.7)	(41.1)	(22.4)	(8.0)	(15.1)
Preferred share dividends	1.3	—	—	—	—	1.1	1.6	—	—	0.1
FFO	638.9	571.1	750.5	1,003.4	729.7	717.8	1,457.6	1,039.0	911.1	641.0
Certain items that impact FFO	(30.0)	(21.2)	(249.5)	(342.9)	(26.9)	(16.8)	(785.3)	(409.3)	(403.8)	(173.0)
FFO, as adjusted	608.9	549.9	501.0	660.5	702.8	701.0	672.3	629.7	507.3	468.0

Below is a reconciliation of net income (loss) to EBITDA, as adjusted

(\$ IN MILLIONS)	2022	2021	2020
Net income (loss) (before noncontrolling interests)	(382.6)	207.5	(461.8)
Less: net (income) loss attributable to noncontrolling interests in consolidated subsidiaries	5.7	(24.0)	139.9
Net income (loss) attributable to the Operating Partnership	(376.9)	183.5	(321.9)
Interest and debt expense	362.3	297.1	309.0
Depreciation and amortization	593.3	526.5	532.3
Net gain on sale of real estate	(58.9)	(15.6)	—
Impairment losses on real estate	595.5	7.9	645.3
Income tax expense/(benefit)	23.4	(9.8)	36.2
EBITDA	1,138.7	989.6	1,200.9
Gain on sale of 220 Central Park South units	(41.9)	(50.3)	(381.3)
Net gains on disposition of assets	(17.4)	(0.6)	—
608 Fifth Avenue lease liability gain	—	—	(70.3)
Severance and other reduction in force expenses	—	—	23.4
Credit losses on loans receivable	—	—	13.4
Hotel Pennsylvania, Real Estate Fund and other	11.2	10.3	124.2
EBITDA, as adjusted	1,090.6	949.0	910.3

Below is a reconciliation of net income (loss) to net income, as adjusted:

(\$ IN MILLIONS)	2022	2021
Net income (loss) applicable to common shares	(408.6)	101.1
Non-cash impairment losses	595.5	7.9
Hotel Pennsylvania (permanently closed April 5, 2021)	71.1	29.5
Net gains on disposition of assets	(62.7)	(15.3)
220 Central Park South gains	(35.9)	(44.6)
Deferred tax liability on our investment in Farley	13.7	10.9
Refund of NYC transfer taxes	(13.6)	—
Certain other items that impact net income	(33.0)	(1.3)
Net income, as adjusted	126.5	88.2

**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, 2022

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:

<u>Registrant</u>	<u>Title of Each Class</u>	<u>Trading Symbol(s)</u>	<u>Name of Exchange on Which Registered</u>
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:

<u>Registrant</u>	<u>Title of Each Class</u>
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:

<input checked="" type="checkbox"/> Large Accelerated Filer	<input type="checkbox"/> Accelerated Filer
<input type="checkbox"/> Non-Accelerated Filer	<input type="checkbox"/> Smaller Reporting Company
	<input type="checkbox"/> 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.

Vornado Realty L.P.:

<input type="checkbox"/> Large Accelerated Filer	<input type="checkbox"/> Accelerated Filer
<input checked="" type="checkbox"/> Non-Accelerated Filer	<input type="checkbox"/> Smaller Reporting Company
	<input type="checkbox"/> 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: Vornado Realty L.P.:

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements.

Vornado Realty Trust: Vornado Realty L.P.:

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b).

Vornado Realty Trust: Vornado Realty L.P.:

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 \$5,074,142,000 at June 30, 2022.

As of December 31, 2022, there were 191,866,880 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, 2022 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 \$319,516,000 at June 30, 2022.

Documents Incorporated by Reference

Part III: Portions of Proxy Statement for Annual Meeting of Vornado Realty Trust's Shareholders to be held on May 18, 2023.

EXPLANATORY NOTE

This report combines the Annual Reports on Form 10-K for the fiscal year ended December 31, 2022 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% 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 facilities, 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. (Loss) Income Per Share/(Loss) Income 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.

INDEX

Item	Financial Information:	Page Number
PART I.		
1.	Business	7
1A.	Risk Factors	11
1B.	Unresolved Staff Comments	24
2.	Properties	25
3.	Legal Proceedings	31
4.	Mine Safety Disclosures	31
PART II.		
5.	Market for Registrant’s Common Equity, Related Stockholder Matters and Issuer Purchases of Equity Securities	31
6.	Reserved	32
7.	Management's Discussion and Analysis of Financial Condition and Results of Operations	33
7A.	Quantitative and Qualitative Disclosures about Market Risk	56
8.	Financial Statements and Supplementary Data	58
9.	Changes in and Disagreements with Accountants on Accounting and Financial Disclosure	118
9A.	Controls and Procedures	118
9B.	Other Information	122
9C.	Disclosure Regarding Foreign Jurisdictions That Prevent Inspections	122
PART III.		
10.	Directors, Executive Officers and Corporate Governance ⁽¹⁾	122
11.	Executive Compensation ⁽¹⁾	122
12.	Security Ownership of Certain Beneficial Owners and Management and Related Stockholder Matters ⁽¹⁾	123
13.	Certain Relationships and Related Transactions, and Director Independence ⁽¹⁾	123
14.	Principal Accountant Fees and Services ⁽¹⁾	123
PART IV.		
15.	Exhibits, Financial Statement Schedules	123
16.	Form 10-K Summary	133
Signatures		134

(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, 2022, 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, some of the factors are the increase in interest rates and inflation and the continuing effect of the COVID-19 pandemic on our business, financial condition, results of operations, cash flows, operating performance and the effect that these factors have 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.

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% of the common limited partnership interest in the Operating Partnership as of December 31, 2022.

We currently own all or portions of:

New York:

- 62 Manhattan operating properties consisting of:
 - 19.9 million square feet of office space in 30 of the properties;
 - 2.6 million square feet of street retail space in 56 of the properties;
 - 1,664 units in six residential properties;
- Multiple development sites, including 350 Park Avenue and the Hotel Pennsylvania site;
- 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; 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.

DISPOSITIONS

We completed the following sale transactions during 2022:

- \$173 million sale of the Center Building located at 33-00 Northern Boulevard in Long Island City, New York;
- \$101 million sale of 40 Fulton Street;
- \$88 million net proceeds from the sale of three condominium units and ancillary amenities at 220 Central Park South ("220 CPS");
- \$85 million aggregate sale of two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street; and
- \$24 million sale of 484-486 Broadway.

FINANCINGS

We completed the following financing transactions during 2022:

- \$2.0 billion of interest rate swap arrangements and a \$500 million extension of an existing interest rate swap arrangement;
- \$1.25 billion unsecured revolving credit facility amended and extended from March 2024 to December 2027;
- \$800 million unsecured term loan extended from February 2024 to December 2027;
- \$700 million refinancing of 770 Broadway;
- \$480 million refinancing of 100 West 33rd Street; and
- \$100 million refinancing of 330 West 34th Street land owner joint venture (\$35 million at our 34.8% interest).

DEVELOPMENT AND REDEVELOPMENT EXPENDITURES

PENN District

The Farley Building

Our 95% joint venture (5% is owned by the Related Companies ("Related")) is completing the development of The Farley Building, which includes approximately 846,000 rentable square feet of commercial space, comprised of approximately 730,000 square feet of office space and approximately 116,000 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 \$1,111,493,000 of cash has been expended as of December 31, 2022.

PENN 1

We are redeveloping PENN 1, a 2,546,000 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"). Skanska USA Civil Northeast, Inc. is performing the redevelopment under a fixed price contract for \$396,000,000 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 of our PENN 1 project is estimated to be \$450,000,000, of which \$375,810,000 of cash has been expended as of December 31, 2022.

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 \$393,126,000 of cash has been expended as of December 31, 2022.

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 \$41,776,000 of cash has been expended as of December 31, 2022.

We are also evaluating other development and redevelopment opportunities at certain of our properties in Manhattan including, in particular, the PENN District and 350 Park Avenue.

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, investors, employees and communities that we serve. 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 2022, we (i) were selected as a global "Sector Leader" for Diversified Office/Retail REITs in the Global Real Estate Sustainability Benchmark ("GRESB"), ranking first in the United States amongst peers and ranking third among 112 responding listed companies within the Americas, and received the "Green Star" distinction for the tenth consecutive year and GRESB's five star rating, (ii) received the Leader in the Light Award by the National Association for Real Estate Investment Trusts (NAREIT) for diversified REITs for the twelfth time, and (iii) were recognized as an EPA ENERGY STAR Partner of the Year with the distinction of having demonstrated seven years of sustained excellence.

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 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, retrofitting and ongoing maintenance and operations of our portfolio of buildings. We operate our buildings sustainably and efficiently by seeking to establish 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. We undertake significant outreach with our tenants, employees and investors regarding Vornado's sustainability programs and strategies.

Our 2022 and 2023 long-term performance plan awards formally tie senior management compensation to achievement of certain ESG targets, including reductions in greenhouse emissions, achieving a specified GRESB score and targeting a specified percentage of LEED Gold or Platinum certified square footage in our office portfolio.

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. We also submit public reports to CDP (formerly, the Carbon Disclosure Project), CSA (the S&P Global Corporate Sustainability Assessment) and EP100 (global initiative led by Climate Group). Further details on our environmental sustainability initiatives and strategy, including our Vision 2030 Roadmap, can be found in our 2021 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, 2022, we have approximately 3,146 employees, consisting of (i) 2,622 employees of Building Maintenance Services LLC, a wholly owned subsidiary, which provides cleaning, security, engineering and parking services primarily to our New York properties, (ii) 236 employees in our corporate office, (iii) 158 employees in leasing and property management, and (iv) 130 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, commuter benefits, an employee assistance program and workplace flexibility.

HUMAN CAPITAL MANAGEMENT - CONTINUED

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.

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

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.

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 whom 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, 2022, 2021 and 2020 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, 2022, 2021 and 2020.

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

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

In 2022, approximately 77% of our net operating income ("NOI" a non-GAAP measure) 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. Changes in tenant space utilization, including increased acceptance of work from home and flexible work arrangement policies, may cause office tenants to reassess their long-term physical space needs, which could have an adverse effect on our business.

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 2022, approximately 86% of our NOI is 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;
- the effects of inflation and rising interest rates;
- 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 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 impact of the COVID-19 pandemic;

- quality of life conditions;
- infrastructure quality;
- increased government regulation and costs of complying with such regulations; 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.

In 2022, approximately 18% of our NOI is from Manhattan retail properties. 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 or other criminal acts, increasing competition from online retailers, other retail centers, and the impact of technological change upon the retail environment generally. Furthermore, 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;
- trends in office real estate, including many tenants' preferences for space in modern amenitized buildings which may require the landlord to incur significant capital expenditures;
- increased competition from online shopping and its impact on retail tenants and their demand for retail space;
- 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 tenant space utilization;
- 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;
- 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
- the impact of the COVID-19 pandemic or outbreaks of other infectious diseases.

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. These factors may cause the value of our real estate assets to decline, which may result in non-cash impairment charges and the impact could be material.

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 whom 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 unable to renew leases, lease vacant space or relet space as leases expire on favorable terms.

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 and/or space. 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, become insolvent or experience a material business downturn adversely affecting their ability to make timely rental payments in the future. The bankruptcy or insolvency of a major tenant may delay our efforts to collect past due balances under the relevant leases and could ultimately preclude collection of these amounts altogether. As a result, the bankruptcy or insolvency of, or nonpayment by, a major tenant could cause us to suffer lower revenues and operational difficulties, including leasing the remainder of the property, which could in turn result in decreased net income and funds available to pay our indebtedness or make distributions to equity holders.

Our business, financial condition, results of operations and cash flows have been and may continue to be adversely affected by the COVID-19 pandemic or future outbreaks of other highly infectious diseases.

Our business has been, and may continue to be, adversely affected by the economic and industry challenges created by the COVID-19 pandemic and preventive measures taken to curb the spread of the virus. While substantially all of the limitations and restrictions imposed during the onset of the pandemic have been lifted and/or eased and people have largely resumed pre-pandemic activities, economic conditions continue to negatively impact the financial health of our retail tenants. The impact of such conditions could cause retailers to continue to reduce the number and size of their physical locations and further increase reliance on e-commerce. Additionally, office tenants may see further delays in employee 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. This may lead our office tenants to reassess their long-term physical space needs. If the COVID-19 virus or another more contagious variant or disease were to spread, governmental agencies and other authorities may reorder closures or reimpose restrictions on businesses, which could further negatively impact the financial condition of our tenants. 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. We may continue to experience material impacts to our business, financial condition, and operating results due to the COVID-19 pandemic or variants or future outbreaks of other highly infectious diseases and those impacts may have the effect of heightening other risks described under this heading "Risk Factors."

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 \$1,774,525 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 the Farley Condominiums) maintain 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 adversely affect our business, results of operations and financial condition, the impact of which could be material.

Actual or threatened terrorist attacks or other criminal acts 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, the perceived threat of terrorism, or other criminal acts, 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 or have lower rates of crime 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 climate change, including rising sea levels, extreme weather, and increased flooding, 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 and retail 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 the future. 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, and New York City’s Intro 2317, or the “gas ban” bill, which limits 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

Significant inflation and continuing increases in the inflation rate could adversely affect our business and financial results.

Recent substantial increases in the rate of inflation and potential future elevated rates of inflation, both real and anticipated, may impact our investments and results of operations. 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 and financial results. Increased inflation could also adversely affect us by increasing costs of construction and renovation. 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 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 would increase our size and could result in alterations to our capital structure. Furthermore, 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. Our acquisition activities and their success are subject to the following risks:

- we may be unable to complete an acquisition of a property or portfolio even after entering into an acquisition agreement, 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;
- 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 cause an increase in the purchase price for a desired acquisition property or result in a competitor acquiring the desired property instead of us; 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. If we are unable to successfully acquire additional properties, our ability to grow our business could be adversely affected.

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

We are the owner of numerous development sites and 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) cost overruns, especially in the current inflationary environment, and untimely completion of construction (including risks beyond our control, such as weather or labor conditions, material shortages or supply chain delays); (iv) the potential for the fluctuation of occupancy rates and rents at redeveloped properties, which may result in our investment not being profitable; (v) start up, repositioning and redevelopment costs may be higher than anticipated; (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, prevent the initiation or the completion of redevelopment activities or reduce the ultimate rents achieved on new developments. These outcomes 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.

It may be difficult to sell real estate on a timely basis, 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 in areas in which we operate.

Our success depends on our ability to continue to attract, retain, and motivate qualified personnel. The U.S. job market continues to experience labor shortages and employee resignations at elevated levels. Factors impacting the labor shortage include demand for flexible working hours and remote work, higher pay from competitors, people leaving the workforce entirely, enhanced unemployment insurance benefits and many other factors. The increased ability and desire 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. Our inability to attract, retain, and motivate qualified personnel, could have a material adverse effect on our ability to operate our business.

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.

We are exposed to risks related to our properties that are subject to ground leases arrangements which could adversely affect our results of operations.

We are the lessee under long-term ground lease arrangements at certain of our properties. Unless we purchase a fee interest in the underlying land or extend the terms of these leases prior to expiration, we will no longer operate these properties upon expiration of the leases, which could adversely affect our financial condition and results of operations. Furthermore, rent payments under such leasehold interests are periodically adjusted pursuant to the relevant contractual arrangements and may result in significantly higher rents that could adversely affect our financial condition and results of operation. Additionally, due to the greater risk in a loan secured by a leasehold interest than a loan secured by a fee interest, we face risks related to the availability and pricing of financing on favorable terms or at all for such ground leasehold interests.

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 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 current rising interest rate environment has increased the interest payable on our variable rate debt that is not subject to interest rate swap and cap arrangements, reducing our operating cash flows. While certain of our debt is fixed by interest rate swap arrangements, the arrangements typically expire earlier than the mortgage loan maturity, resulting in future exposure to rising interest rates, which could further reduce our available cash. If the cost or amount of our indebtedness continues to increase 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.

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. Consequently, 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, 2022, there were six series of preferred units of the Operating Partnership not held by Vornado with a total liquidation value of \$52,918,000.

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, 2022, our consolidated mortgages and unsecured indebtedness, excluding related premium, discount and deferred financing costs, totaled \$8.5 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.

The hedge instruments we may use to manage our exposure to interest rate volatility involve risks.

The interest rate hedge instruments we may use to manage some of our exposure to interest rate volatility involve risks, including the risk that counterparties may fail to perform under these arrangements. If interest rates were to fall, these arrangements may cause us to pay higher interest on our debt obligations than would otherwise be the case. In addition, the use of such instruments may generate income that may not be treated as qualifying REIT income for purposes of the 75% gross income test or 95% gross income test. Furthermore, there can be no assurance that our hedging arrangements will qualify as "highly effective" cash flow hedges under applicable accounting standards. If our hedges do not qualify as "highly effective," the changes in the fair value of these instruments would be reflected in our results of operations and could adversely impact our earnings.

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 levels of certain ratios including total debt to total assets, secured debt to total assets, 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.

In addition, our debt instruments 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 result in acceleration of repayment of such debt instruments and adversely affect our ability to finance or refinance our properties and expand our portfolio.

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. Currently, our senior debt is rated BBB- by Fitch, Baa3 by Moody's and BBB- by S&P. 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, particularly to non-investment grade status, 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. For instance, if we fail to maintain the investment grade credit ratings assigned to our senior debt, the interest rates payable on outstanding debt under our unsecured term loan and revolving credit facilities would increase and we may be required to post additional collateral under certain of our existing loan agreements. Furthermore, any future lowering of our credit ratings or outlook would likely make it more difficult and/or more expensive for us to obtain additional debt financing. Our failure to maintain or improve our credit ratings 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.

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 and instead reference to SOFR or another floating rate.

As of December 31, 2022, we had consolidated variable rate debt indexed to LIBOR of \$2.2 billion, with \$840,000,000 subject to floating-to-fixed interest rate swap arrangements and \$950,000,000 subject to interest rate cap arrangements. As of December 31, 2022, our share of the variable rate debt indexed to LIBOR of our unconsolidated subsidiaries was \$1.2 billion, with \$301,000,000 subject to floating-to-fixed interest rate swap arrangements and \$710,000,000 subject to interest rate cap arrangements. The transition of our LIBOR-based obligations to SOFR could affect all-in interest rates on our debt and interest rate swap and cap arrangements and could result in interest payable that does not correlate over time with the interest that would be payable if LIBOR was available in its current form.

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 entered into amendments to certain of our financing agreements to provide for alternative benchmark rates upon the discontinuation of LIBOR. However, certain of our LIBOR-based contracts that may be in effect upon the discontinuation of LIBOR may not contain fallback language in the event LIBOR is unavailable or permanently discontinued, and uncertainty as to the extent and manner of future changes may result in interest rates and/or payments that differ 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.

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.

RISKS 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, 2022, Interstate Properties, a New Jersey general partnership, and its partners beneficially owned an aggregate of approximately 7.0% of the common shares of beneficial interest of Vornado and 26.0% 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, 2022, 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 2.3% that they indirectly own through Vornado, Interstate Properties, which is described above, and its partners owned 26.0% of the outstanding common stock of Alexander's as of December 31, 2022. 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 is a Trustee of Vornado and Director 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 and its lasting impacts. 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 particular, increases, 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;
- inflation;
- domestic and international economic factors unrelated to our performance (including the macro-economic impact of the conflict between Russia and Ukraine);
- fiscal policies or inaction at the U.S. federal government level that may lead to federal government shutdowns or negative impacts on the U.S. economy;
- 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, 2022, Vornado had authorized but unissued 58,133,120 common shares of beneficial interest, \$0.04 par value, and 58,387,098 preferred shares of beneficial interest, no par value; of which 22,123,781 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.

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

PROPERTY LISTING

We operate in two reportable segments: New York and Other. The following pages provide details of our real estate properties as of December 31, 2022.

NEW YORK SEGMENT Property	% Ownership	Type	% Occupancy	In Service	Square Feet	
					Under Development or Not Available for Lease	Total Property
PENN 1 (ground leased through 2098) ⁽¹⁾	100.0 %	Office / Retail	81.3%	2,307,000	239,000	2,546,000
1290 Avenue of the Americas	70.0 %	Office / Retail	99.2%	2,120,000	—	2,120,000
PENN 2	100.0 %	Office / Retail	100.0%	414,000	1,206,000	1,620,000
909 Third Avenue (ground leased through 2063) ⁽¹⁾	100.0 %	Office	93.1%	1,350,000	—	1,350,000
280 Park Avenue ⁽²⁾	50.0 %	Office / Retail	98.6%	1,264,000	—	1,264,000
Independence Plaza, Tribeca (1,327 units) ⁽²⁾	50.1 %	Retail / Residential	55.0% ⁽³⁾	1,258,000	—	1,258,000
770 Broadway	100.0 %	Office / Retail	99.3%	1,183,000	—	1,183,000
PENN 11	100.0 %	Office / Retail	99.3%	1,153,000	—	1,153,000
100 West 33rd Street	100.0 %	Office / Retail	75.1%	1,114,000	—	1,114,000
90 Park Avenue	100.0 %	Office / Retail	98.7%	956,000	—	956,000
One Park Avenue	100.0 %	Office / Retail	95.0%	945,000	—	945,000
888 Seventh Avenue (ground leased through 2067) ⁽¹⁾	100.0 %	Office / Retail	89.2%	887,000	—	887,000
The Farley Building (ground and building leased through 2116) ⁽¹⁾	95.0 %	Office / Retail	89.8%	846,000	—	846,000
330 West 34th Street (65.2% ground leased through 2149) ⁽¹⁾	100.0 %	Office / Retail	75.7%	724,000	—	724,000
85 Tenth Avenue ⁽²⁾	49.9 %	Office / Retail	89.6%	638,000	—	638,000
650 Madison Avenue ⁽²⁾	20.1 %	Office / Retail	86.1%	601,000	—	601,000
350 Park Avenue	100.0 %	Office / Retail	79.0%	585,000	—	585,000
150 East 58th Street ⁽⁴⁾	100.0 %	Office / Retail	88.1%	544,000	—	544,000
7 West 34th Street ⁽²⁾	53.0 %	Office / Retail	100.0%	477,000	—	477,000
595 Madison Avenue	100.0 %	Office / Retail	81.5%	331,000	—	331,000
640 Fifth Avenue ⁽²⁾	52.0 %	Office / Retail	92.9%	315,000	—	315,000
50-70 West 93rd Street (324 units) ⁽²⁾	49.9 %	Residential	97.4%	283,000	—	283,000
260 Eleventh Avenue (ground leased through 2114) ⁽¹⁾	100.0 %	Office	95.5%	209,000	—	209,000
4 Union Square South	100.0 %	Retail	100.0%	204,000	—	204,000
61 Ninth Avenue (2 buildings) (ground leased through 2115) ⁽¹⁾⁽²⁾	45.1 %	Office / Retail	100.0%	194,000	—	194,000
512 West 22nd Street ⁽²⁾	55.0 %	Office / Retail	82.6%	173,000	—	173,000
825 Seventh Avenue	51.2 %	Office ⁽²⁾ / Retail	78.9%	173,000	—	173,000
1540 Broadway ⁽²⁾	52.0 %	Retail	79.9%	161,000	—	161,000
Paramus	100.0 %	Office	84.6%	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	100.0%	107,000	—	107,000
57th Street (2 buildings) ⁽²⁾	50.0 %	Office / Retail	78.3%	103,000	—	103,000
689 Fifth Avenue ⁽²⁾	52.0 %	Office / Retail	93.9%	98,000	—	98,000
150 West 34th Street	100.0 %	Retail	100.0%	78,000	—	78,000
510 Fifth Avenue	100.0 %	Retail	25.2%	65,000	—	65,000
655 Fifth Avenue ⁽²⁾	50.0 %	Retail	100.0%	57,000	—	57,000
435 Seventh Avenue	100.0 %	Retail	100.0%	43,000	—	43,000
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

See notes on page 27.

PROPERTY LISTING – CONTINUED

NEW YORK SEGMENT – CONTINUED Property	% Ownership	Type	% Occupancy	Square Feet		
				In Service	Under Development or Not Available for Lease	Total Property
715 Lexington Avenue	100.0 %	Retail	100.0%	22,000	—	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	—% ⁽³⁾	14,000	—	14,000
304 Canal Street (4 units)	100.0 %	Retail / Residential	100.0% ⁽³⁾	13,000	—	13,000
759-771 Madison Avenue (40 East 66th Street) (4 units)	100.0 %	Residential	100.0%	10,000	—	10,000
431 Seventh Avenue	100.0 %	Retail	100.0%	9,000	—	9,000
138-142 West 32nd Street	100.0 %	Retail	100.0%	8,000	—	8,000
148 Spring Street	100.0 %	Retail	42.4%	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	(6)	—	—	—
Eighth Avenue and 34th Street	100.0 %	Land	(6)	—	—	—
Hotel Pennsylvania Site ⁽⁷⁾	100.0 %	Land	(6)	—	—	—
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%	1,079,000	—	1,079,000
Rego Park II, Queens (6.6 acres) ⁽²⁾	32.4 %	Retail	87.3%	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	98.7%	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	(6)	—	—	—
Total New York Segment			91.2%	24,753,000	1,658,000	26,411,000
Our Ownership Interest			90.4%	19,371,000	1,514,000	20,885,000

See notes on page 27.

PROPERTY LISTING – CONTINUED

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	81.6%	3,616,000	56,000	3,672,000
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	(6)	—	—	—
Other (2 properties) ⁽²⁾ , Chicago	50.0 %	Retail	93.9%	19,000	—	19,000
Total theMART			81.7%	3,635,000	264,000	3,899,000
Our Ownership Interest			81.6%	3,626,000	264,000	3,890,000
555 California Street:						
555 California Street	70.0 %	Office / Retail	99.0%	1,506,000	—	1,506,000
315 Montgomery Street	70.0 %	Office / Retail	99.7%	235,000	—	235,000
345 Montgomery Street	70.0 %	Office / Retail	—%	78,000	—	78,000
Total 555 California Street			94.7%	1,819,000	—	1,819,000
Our Ownership Interest			94.7%	1,273,000	—	1,273,000
Other:						
Rosslyn Plaza, VA (197 units) ⁽²⁾	45.6 %	Office / Residential	62.8% ⁽³⁾	685,000	304,000	989,000
Fashion Centre Mall / Washington Tower, VA ⁽²⁾	7.5 %	Office / Retail	92.0%	1,038,000	—	1,038,000
Wayne Towne Center, Wayne, NJ (ground leased through 2064) ⁽¹⁾	100.0 %	Retail	100.0%	681,000	9,000	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 VICI Properties for a portion of the Borgata Hotel and Casino complex)	100.0 %	Land	100.0%	—	—	—
Total Other			89.3%	2,532,000	313,000	2,845,000
Our Ownership Interest			92.6%	1,197,000	149,000	1,346,000

(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 (assuming all renewal options are exercised).

(5) 75,000 square feet is leased from 666 Fifth Avenue Office Condominium.

(6) Properties under development or to be developed.

(7) 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.

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.	1,451,153	\$ 158,889	8.8%
IPG and affiliates	967,552	67,279	3.6%
New York University	685,290	45,013	2.5%
Google/Motorola Mobility (guaranteed by Google)	759,446	41,220	2.2%
Bloomberg L.P.	306,768	40,252	2.2%
Equitable Financial Life Insurance Company	336,644	35,453	2.0%
Yahoo Inc.	313,726	32,202	1.8%
Amazon (including its Whole Foods subsidiary)	312,694	30,115	1.7%
Neuberger Berman Group LLC	306,612	27,283	1.5%
Madison Square Garden & Affiliates	412,551	27,143	1.5%

See note below.

ANNUALIZED ESCALATED RENTS⁽¹⁾ (AT SHARE) BY TENANT INDUSTRY:

Industry	Percentage
Office:	
Financial Services	20%
Technology	16%
Professional Services	7%
Advertising/Marketing	5%
Real Estate	4%
Entertainment and Electronics	4%
Insurance	3%
Education	3%
Communications	3%
Apparel	2%
Engineering, Architect & Surveying	2%
Health Services	2%
Government	1%
Other	6%
	78%
Retail:	
Apparel	5%
Luxury Retail	4%
Banking	2%
Restaurants	1%
Grocery	1%
Other	4%
	17%
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, 2022, our New York segment consisted of 26.4 million square feet in 65 properties. The 26.4 million square feet is comprised of 19.9 million square feet of Manhattan office in 30 of the properties, 2.6 million square feet of Manhattan street retail in 56 of the properties, 1,664 units in six 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 nine garages totaling 1.6 million square feet (4,804 spaces).

As of December 31, 2022, the occupancy rate for our New York segment was 90.4%.

Occupancy and weighted average annual rent per square foot:

Office:

As of December 31,	Total Square Feet	In Service Square Feet	Vornado's Ownership Interest		
			In Service Square Feet At Share	Occupancy Rate	Weighted Average Annual Escalated Rent Per Square Foot
2022	19,902,000	18,724,000	16,028,000	91.9%	\$ 83.98
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

See note below.

Retail:

As of December 31,	Total Square Feet	In Service Square Feet	Vornado's Ownership Interest		
			In Service Square Feet At Share	Occupancy Rate	Weighted Average Annual Escalated Rent Per Square Foot
2022	2,556,000	2,289,000	1,851,000	74.4%	\$ 215.72
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

(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.

Occupancy and average monthly rent per unit:

Residential:

As of December 31,	Total Number of Units	Vornado's Ownership Interest		
		Total Number of Units	Occupancy Rate	Average Monthly Rent Per Unit
2022	1,976	941	96.7%	\$ 3,882
2021	1,986	951	97.0%	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

NEW YORK – CONTINUED

Lease expirations as of December 31, 2022 (at share):

Year	Number of Expiring Leases	Square Feet of Expiring Leases ⁽¹⁾	Percentage of New York Square Feet	Annualized Escalated Rents of Expiring Leases	
				Total	Per Square Foot
Office:					
Fourth Quarter 2022 ⁽²⁾	7	47,000	0.3%	\$ 1,712,000	\$ 36.43
2023 ⁽³⁾	86	1,444,000	10.0%	137,383,000	95.14 ⁽⁴⁾
2024	91	943,000	6.5%	88,875,000	94.25
2025	75	699,000	4.8%	57,307,000	81.98
2026	84	1,217,000	8.4%	99,016,000	81.36
2027	87	1,160,000	8.0%	89,200,000	76.90
2028	60	1,003,000	6.9%	74,602,000	74.38
2029	39	1,161,000	8.0%	94,292,000	81.22
2030	48	623,000	4.3%	51,308,000	82.36
2031	33	899,000	6.2%	79,770,000	88.73
2032	22	404,000	2.8%	35,215,000	87.17
Retail:					
Fourth Quarter 2022 ⁽²⁾	5	16,000	1.3%	\$ 2,590,000	\$ 161.88
2023	15	149,000	12.3%	19,287,000	129.44 ⁽⁵⁾
2024	10	133,000	10.9%	22,680,000	170.53
2025	10	40,000	3.3%	12,898,000	322.45
2026	10	82,000	6.7%	26,076,000	318.00
2027	12	34,000	2.8%	18,872,000	555.06
2028	10	27,000	2.2%	13,470,000	498.89
2029	10	50,000	4.1%	26,772,000	535.44
2030	18	155,000	12.7%	22,645,000	146.10
2031	29	88,000	7.2%	29,201,000	331.83
2032	23	55,000	4.5%	28,490,000	518.00

(1) Excludes storage, vacancy and other.

(2) Includes month-to-month leases, holdover tenants, and leases expiring on the last day of the current quarter.

(3) 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.

(4) Based on current market conditions, we expect to re-lease this space at rents between \$85 to \$95 per square foot.

(5) Based on current market conditions, we expect to re-lease this space at rents between \$125 to \$150 per square foot.

Alexander's

As of December 31, 2022, 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. As of December 31, 2022, Alexander's had an occupancy rate of 96.4% and a weighted average annual rent per square foot of \$104.09.

OTHER REAL ESTATE AND INVESTMENTS

theMART

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, 2022, theMART had an occupancy rate of 81.6% and a weighted average annual rent per square foot of \$52.07.

555 California Street

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"). As of December 31, 2022, 555 California Street had an occupancy rate of 94.7% and a weighted average annual rent per square foot of \$92.81.

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 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, 2023, there were 783 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, 2023, there were 854 Class A unitholders of record.

Recent Sales of Unregistered Securities

During 2022, we issued 347,891 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 \$885,373 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.

On May 19, 2022, we granted 46,503 restricted units of the Operating Partnership at a market price of \$33.88 per unit to Vornado Trustees that are not executives of the Company as part of their annual Trustee fees. The units were issued outside of Vornado's omnibus share plan and were issued in reliance on an exemption from registration under Section 4(a)(2) of the Securities Act of 1933, as amended.

On December 12, 2022, we granted 135,564 restricted units of the Operating Partnership at a market price of \$22.13 per unit to Vornado consultants that are not executives of the Company for annual consulting fees. The units were issued outside of Vornado's omnibus share plan and 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.

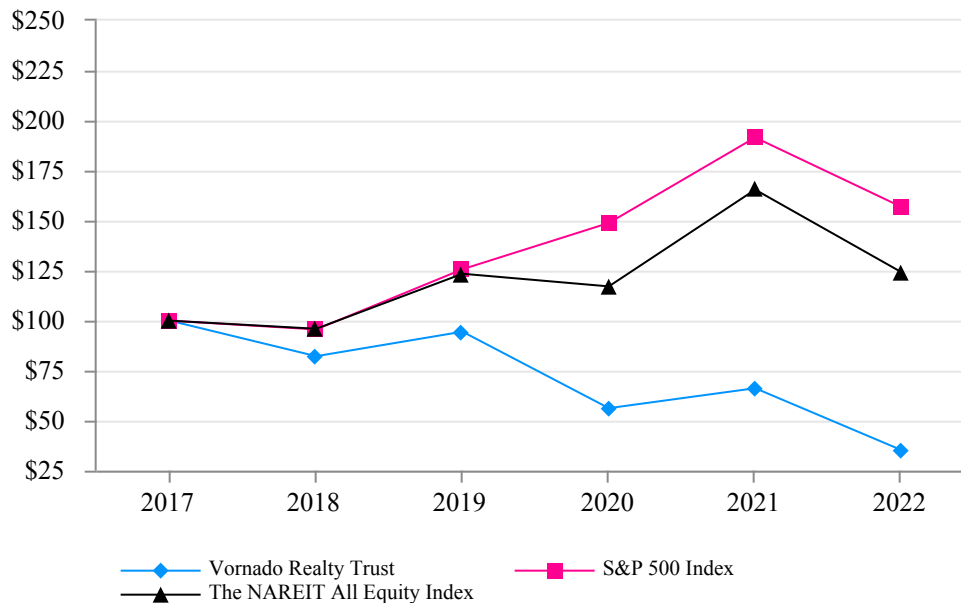
Recent Purchases of Equity Securities

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, 2017 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.

Comparison of Five-Year Cumulative Return



	2017	2018	2019	2020	2021	2022
Vornado Realty Trust	\$ 100	\$ 82	\$ 95	\$ 56	\$ 66	\$ 35
S&P 500 Index	100	96	126	149	192	157
The NAREIT All Equity Index	100	96	123	117	166	124

ITEM 6. RESERVED

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

	Page Number
Overview	34
Critical Accounting Estimates	40
Net Operating Income At Share by Segment for the Years Ended December 31, 2022 and 2021	41
Results of Operations for the Year Ended December 31, 2022 Compared to December 31, 2021	44
Related Party Transactions	48
Liquidity and Capital Resources	49
Funds From Operations for the Years Ended December 31, 2022 and 2021	55

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, 2022 and 2021, including year-to-year comparisons between these years. Our MD&A for the year ended December 31, 2020, including year-to-year comparisons between 2021 and 2020, 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, 2021.

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., (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% of the common limited partnership interest in the Operating Partnership as of December 31, 2022. 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, 2022:

	Total Return ⁽¹⁾		
	Vornado	Office REIT	MSCI
Three-month	(8.1%)	(1.5%)	5.2%
One-year	(46.7%)	(37.6%)	(24.5%)
Three-year	(62.7%)	(37.9%)	(0.2%)
Five-year	(64.7%)	(30.3%)	19.9%
Ten-year	(45.6%)	10.7%	87.3%

(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 whom 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.

Our business has been, and may continue to be, affected by the increase in interest rates and inflation and the continuing effect of the COVID-19 pandemic and other uncertainties including the potential for an economic downturn. These factors could have a material impact on our business, financial condition, results of operations and cash flows.

Vornado Realty Trust

Year Ended December 31, 2022 Financial Results Summary

Net loss attributable to common shareholders for the year ended December 31, 2022 was \$408,615,000, or \$2.13 per diluted share, compared to net income attributable to common shareholders of \$101,086,000, or \$0.53 per diluted share, for the year ended December 31, 2021. The years ended December 31, 2022 and 2021 include certain items that impact net (loss) income 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 loss attributable to common shareholders by \$535,083,000, or \$2.79 per diluted share, for the year ended December 31, 2022 and increased net income attributable to common shareholders by \$12,933,000, or \$0.07 per diluted share, for the year ended December 31, 2021.

Funds from operations ("FFO") attributable to common shareholders plus assumed conversions for the year ended December 31, 2022 was \$638,928,000, or \$3.30 per diluted share, compared to \$571,074,000, or \$2.97 per diluted share, for the year ended December 31, 2021. The years ended December 31, 2022 and 2021 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 \$30,036,000, or \$0.15 per diluted share, for the year ended December 31, 2022 and increased FFO by \$21,211,000, or \$0.11 per diluted share, for the year ended December 31, 2021.

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

(Amounts in thousands)

	For the Year Ended December 31,	
	2022	2021
Certain expense (income) items that impact net (loss) income attributable to common shareholders:		
Non-cash real estate impairment losses on wholly owned and partially owned assets	\$ 595,488	\$ 7,880
Hotel Pennsylvania loss (primarily accelerated building depreciation expense)	71,087	29,472
Net gains on disposition of wholly owned and partially owned assets	(62,685)	(15,315)
After-tax net gain on sale of 220 Central Park South ("220 CPS") condominium units and ancillary amenities	(35,858)	(44,607)
Deferred tax liability on our investment in The Farley Building (held through a taxable REIT subsidiary)	13,665	10,868
Refund of New York City transfer taxes related to the April 2019 transfer to Fifth Avenue and Times Square JV	(13,613)	—
Other	7,289	(2,436)
	575,373	(14,138)
Noncontrolling interests' share of above adjustments	(40,290)	1,205
Total of certain expense (income) items that impact net (loss) income attributable to common shareholders	\$ 535,083	\$ (12,933)

Overview - continued

Year Ended December 31, 2022 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,	
	2022	2021
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 and ancillary amenities	\$ (35,858)	\$ (44,607)
Net gains on disposition of wholly owned and partially owned assets	(17,372)	(643)
Deferred tax liability on our investment in The Farley Building (held through a taxable REIT subsidiary)	13,665	10,868
Other	7,289	12,026
	(32,276)	(22,356)
Noncontrolling interests' share of above adjustments	2,240	1,145
Total of certain (income) expense items that impact FFO attributable to common shareholders plus assumed conversions, net	<u>\$ (30,036)</u>	<u>\$ (21,211)</u>

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

The percentage increase 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 below.

Year Ended December 31, 2022 compared to December 31, 2021:	Total	New York	theMART ⁽¹⁾	555 California Street
Same store NOI at share % increase	7.1 %	3.5 %	64.2 %	2.7%
Same store NOI at share - cash basis % increase	9.0 %	5.0 %	58.0 %	13.3%

(1) Increase primarily due to (i) prior period accrual adjustments recorded in 2022 related to changes in the tax-assessed value and property tax rate of theMART and (ii) an increase in tradeshow activity in 2022 compared to 2021.

Calculations of same store NOI at share, reconciliations of our net (loss) 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.

Dispositions

220 CPS

During the year ended December 31, 2022, we closed on the sale of three condominium units and ancillary amenities at 220 CPS for net proceeds of \$88,019,000 resulting in a financial statement net gain of \$41,874,000 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, \$6,016,000 of income tax expense was recognized on our consolidated statements of income. From inception to December 31, 2022, we have closed on the sale of 109 units and ancillary amenities for net proceeds of \$3,094,915,000 resulting in financial statement net gains of \$1,159,129,000. As of December 31, 2022, we are 97% sold.

SoHo Properties

On January 13, 2022, we sold two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street for \$84,500,000 and realized net proceeds of \$81,399,000. In connection with the sale, we recognized a net gain of \$551,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

Center Building (33-00 Northern Boulevard)

On June 17, 2022, we sold the Center Building, an eight-story 498,000 square foot office building located at 33-00 Northern Boulevard in Long Island City, New York, for \$172,750,000. We realized net proceeds of \$58,946,000 after repayment of the existing \$100,000,000 mortgage loan and closing costs. In connection with the sale, we recognized a net gain of \$15,213,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

484-486 Broadway

On December 15, 2022, we sold 484-486 Broadway, a 30,000 square foot retail and residential building for \$23,520,000, and realized net proceeds of \$22,430,000. In connection with the sale, we recognized a net gain of \$2,919,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

40 Fulton Street

On December 21, 2022, we sold 40 Fulton Street, a 251,000 square foot Manhattan office and retail building, for \$101,000,000, and realized net proceeds of \$96,566,000. In connection with the sale, we recognized a net gain of \$31,876,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

Financings

100 West 33rd Street

On June 15, 2022, we completed a \$480,000,000 refinancing of 100 West 33rd Street, a 1.1 million square foot building comprised of 859,000 square feet of office space and 255,000 square feet of retail space. The interest-only loan bears a rate of SOFR plus 1.65% (5.96% as of December 31, 2022) through March 2024, increasing to SOFR plus 1.85% thereafter. The interest rate on the loan was swapped to a fixed rate of 5.06% through March 2024, and 5.26% through June 2027. The loan matures in June 2027, with two one-year extension options subject to debt service coverage ratio and loan-to-value tests. The loan replaces the previous \$580,000,000 loan that bore interest at LIBOR plus 1.55% and was scheduled to mature in April 2024.

770 Broadway

On June 28, 2022, we completed a \$700,000,000 refinancing of 770 Broadway, a 1.2 million square foot Class A Manhattan office building. The interest-only loan bears a rate of SOFR plus 2.25% (6.48% as of December 31, 2022) and matures in July 2024 with three one-year extension options (July 2027 as fully extended). The interest rate on the loan was swapped to a fixed rate of 4.98% through July 2027. The loan replaces the previous \$700,000,000 loan that bore interest at SOFR plus 1.86% and was scheduled to mature in July 2022.

Unsecured Revolving Credit Facility

On June 30, 2022, we amended and extended one of our two revolving credit facilities. The \$1.25 billion amended facility bears interest at a rate of SOFR plus 1.15% (5.47% as of December 31, 2022). The term of the facility was extended from March 2024 to December 2027, as fully extended. The facility fee is 25 basis points. On August 16, 2022, the interest rate on the \$575,000,000 drawn on the facility was swapped to a fixed interest rate of 3.88% through August 2027. Our other \$1.25 billion revolving credit facility matures in April 2026, as fully extended, and bears a rate of SOFR plus 1.19% with a facility fee of 25 basis points.

Unsecured Term Loan

On June 30, 2022, we extended our \$800,000,000 unsecured term loan from February 2024 to December 2027. The extended loan bears interest at a rate of SOFR plus 1.30% (5.62% as of December 31, 2022) and is currently swapped to a fixed rate of 4.05%.

330 West 34th Street land owner joint venture

On August 18, 2022, the joint venture that owns the fee interest in the 330 West 34th Street land, in which we have a 34.8% interest, completed a \$100,000,000 refinancing. The interest-only loan bears interest at a fixed rate of 4.55% and matures in September 2032. In connection with the refinancing, we realized net proceeds of \$10,500,000. The loan replaces the previous \$50,150,000 loan that bore interest at a fixed rate of 5.71%.

Financings - continued

697-703 Fifth Avenue (Fifth Avenue and Times Square JV)

On December 21, 2022, the 697-703 Fifth Avenue \$450,000,000 non-recourse mortgage loan matured and was not repaid, at which time the lenders declared an event of default. During December 2022, \$29,000,000 of property-level funds were applied by the lenders against the principal balance resulting in a \$421,000,000 loan balance as of December 31, 2022. The loan bears default interest at the Prime Rate plus 1.00% (8.50% as of December 31, 2022). The Fifth Avenue and Times Square JV is in negotiations with the lenders regarding a restructuring but there can be no assurance as to the timing and ultimate resolution of these negotiations. We do not believe that the resolution of these negotiations will result in further impairment losses on our investment in the Fifth Avenue and Times Square JV.

Interest Rate Hedging Activities

We entered into the following interest rate swap arrangements during the year ended December 31, 2022. See Note 13 - *Fair Value Measurements* in Part II, Item 8 of this Annual Report on Form 10-K for further information on our consolidated hedging instruments.

(Amounts in thousands)

	Notional Amount	All-In Swapped Rate	Swap Expiration Date	Variable Rate Spread
770 Broadway mortgage loan	\$ 700,000	4.98%	07/27	S+225
Unsecured revolving credit facility	575,000	3.88%	08/27	S+115
Unsecured term loan ⁽¹⁾	50,000	4.04%	08/27	S+130
Unsecured term loan (effective 10/23) ⁽¹⁾	500,000	4.39%	10/26	S+130
100 West 33rd Street mortgage loan	480,000	5.06%	06/27	S+165
888 Seventh Avenue mortgage loan ⁽²⁾	200,000	4.76%	09/27	S+180

(1) On February 7, 2023, we entered into a forward interest rate swap arrangement for \$150,000 of the \$800,000 unsecured term loan. The unsecured term loan, which matures in December 2027, is subject to various interest rate swap arrangements through August 2027, see below for details:

	Swapped Balance	All-In Swapped Rate	Unswapped Balance (bears interest at S+130)
Through 10/23	\$ 800,000	4.05%	\$ —
10/23 through 7/25	700,000	4.53%	100,000
7/25 through 10/26	550,000	4.36%	250,000
10/26 through 8/27	50,000	4.04%	750,000

(2) The remaining \$77,800 amortizing mortgage loan balance bears interest at a floating rate of SOFR plus 1.80%.

Leasing Activity For the Year Ended December 31, 2022

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.

- 894,000 square feet of New York Office space (753,000 square feet at share) at an initial rent of \$84.51 per square foot and a weighted average lease term of 8.9 years. The changes in the GAAP and cash mark-to-market rent on the 498,000 square feet of second generation space were positive 9.0% and positive 5.4%, respectively. Tenant improvements and leasing commissions were \$11.84 per square foot per annum, or 14.0% of initial rent.
- 111,000 square feet of New York Retail space (100,000 square feet at share) at an initial rent of \$266.25 per square foot and a weighted average lease term of 11.6 years. The changes in the GAAP and cash mark-to-market rent on the 42,000 square feet of second generation space were negative 38.3% and negative 34.2%, respectively. Tenant improvements and leasing commissions were \$22.68 per square foot per annum, or 8.5% of initial rent.
- 299,000 square feet at theMART (all at share) at an initial rent of \$52.40 per square foot and a weighted average lease term of 7.2 years. The changes in the GAAP and cash mark-to-market rent on the 244,000 square feet of second generation space were negative 4.8% and negative 5.4%, respectively. Tenant improvements and leasing commissions were \$10.48 per square foot per annum, or 20.0% of initial rent.
- 210,000 square feet at 555 California Street (147,000 square feet at share) at an initial rent of \$96.40 per square foot and a weighted average lease term of 5.9 years. The changes in the GAAP and cash mark-to-market rent on the 135,000 square feet of second generation space were positive 24.3% and positive 13.6%, respectively. Tenant improvements and leasing commissions were \$7.15 per square foot per annum, or 7.4% of initial rent.

Square footage (in service) and Occupancy as of December 31, 2022

(Square feet in thousands)

	Number of properties	Square Feet (in service)		Occupancy %
		Total Portfolio	Our Share	
New York:				
Office	30 ⁽¹⁾	18,724	16,028	91.9%
Retail (includes retail properties that are in the base of our office properties)	56 ⁽¹⁾	2,289	1,851	74.4%
Residential - 1,976 units ⁽²⁾	6 ⁽¹⁾	1,499	766	96.7% ⁽²⁾
Alexander's	6	2,241	726	96.4% ⁽²⁾
		<u>24,753</u>	<u>19,371</u>	90.4%
Other:				
theMART	4	3,635	3,626	81.6%
555 California Street	3	1,819	1,273	94.7%
Other	11	2,532	1,197	92.6%
		<u>7,986</u>	<u>6,096</u>	
Total square feet at December 31, 2022		<u>32,739</u>	<u>25,467</u>	

See notes below.

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

(Square feet in thousands)

	Number of properties	Square Feet (in service)		Occupancy %
		Total Portfolio	Our Share	
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	97.0% ⁽²⁾
Alexander's	6	2,218	719	95.6% ⁽²⁾
		<u>25,445</u>	<u>20,086</u>	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%
		<u>7,999</u>	<u>6,110</u>	
Total square feet at December 31, 2021		<u>33,444</u>	<u>26,196</u>	

⁽¹⁾ Reflects the Office, Retail and Residential space within our 71 and 76 total New York properties as of December 31, 2022 and 2021, 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. For our unconsolidated partially owned entities, we consider various qualitative factors to determine if a decrease in the value of our investment is other-than-temporary during our intended holding period. 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, capital expenditures, discount rates 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.

During the year ended December 31, 2022, we recognized non-cash impairment losses totaling \$595,488,000, net of noncontrolling interests of \$6,822,000, on certain wholly owned and partially owned assets. See Note 5 - *Investments in Partially Owned Entities* and Note 13 - *Fair Value Measurements* to our consolidated financial statements in this Annual Report on Form 10-K for further details.

Impairment analyses are based on information available at the time the analyses are prepared. Estimates of future cash flows are subjective and are based, in part, on assumptions regarding future rental revenues, operating expenses, capital expenditures, discount rates and capitalization rates which could differ materially from actual results.

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, 2022 and 2021

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.

Below is a summary of NOI at share and NOI at share - cash basis by segment for the years ended December 31, 2022 and 2021.

(Amounts in thousands)

	For the Year Ended December 31, 2022		
	Total	New York	Other
Total revenues	\$ 1,799,995	\$ 1,449,442	\$ 350,553
Operating expenses	(873,911)	(716,148)	(157,763)
NOI - consolidated	926,084	733,294	192,790
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(70,029)	(45,566)	(24,463)
Add: NOI from partially owned entities	305,993	293,780	12,213
NOI at share	1,162,048	981,508	180,540
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	(10,980)	(18,509)	7,529
NOI at share - cash basis	\$ 1,151,068	\$ 962,999	\$ 188,069

(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

NOI At Share by Segment for the Years Ended December 31, 2022 and 2021 - continued

The elements of our New York and Other NOI at share for the years ended December 31, 2022 and 2021 are summarized below.

(Amounts in thousands)	For the Year Ended December 31,	
	2022	2021
New York:		
Office	\$ 718,686	\$ 677,167
Retail	205,753	173,363
Residential	19,600	17,783
Alexander's	37,469	37,318
Hotel Pennsylvania ⁽¹⁾	—	(12,677)
Total New York	981,508	892,954
Other:		
theMART ⁽²⁾	96,906	58,909
555 California Street	65,692	64,826
Other investments	17,942	16,679
Total Other	180,540	140,414
NOI at share	\$ 1,162,048	\$ 1,033,368

See notes below.

The elements of our New York and Other NOI at share - cash basis for the years ended December 31, 2022 and 2021 are summarized below.

(Amounts in thousands)	For the Year Ended December 31,	
	2022	2021
New York:		
Office	\$ 715,407	\$ 686,507
Retail	188,846	160,801
Residential	18,214	16,656
Alexander's	40,532	40,525
Hotel Pennsylvania ⁽¹⁾	—	(12,723)
Total New York	962,999	891,766
Other:		
theMART ⁽²⁾	101,912	64,389
555 California Street	67,813	60,680
Other investments	18,344	17,851
Total Other	188,069	142,920
NOI at share - cash basis	\$ 1,151,068	\$ 1,034,686

- (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 Hotel Pennsylvania site.
- (2) Increase primarily due to (i) prior period accrual adjustments recorded in 2022 related to changes in the tax-assessed value and property tax rate of theMART and (ii) an increase in tradeshow activity in 2022 compared to 2021.

Reconciliation of Net (Loss) Income to NOI At Share and NOI At Share - Cash Basis for the Years Ended December 31, 2022 and 2021

Below is a reconciliation of net (loss) income to NOI at share and NOI at share - cash basis for the years ended December 31, 2022 and 2021.

(Amounts in thousands)

	For the Year Ended December 31,	
	2022	2021
Net (loss) income	\$ (382,612)	\$ 207,553
Depreciation and amortization expense	504,502	412,347
General and administrative expense	133,731	134,545
Impairment losses, transaction related costs and other	31,722	13,815
Loss (income) from partially owned entities	461,351	(130,517)
Income from real estate fund investments	(3,541)	(11,066)
Interest and other investment income, net	(19,869)	(4,612)
Interest and debt expense	279,765	231,096
Net gains on disposition of wholly owned and partially owned assets	(100,625)	(50,770)
Income tax expense (benefit)	21,660	(10,496)
NOI from partially owned entities	305,993	310,858
NOI attributable to noncontrolling interests in consolidated subsidiaries	(70,029)	(69,385)
NOI at share	1,162,048	1,033,368
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	(10,980)	1,318
NOI at share - cash basis	\$ 1,151,068	\$ 1,034,686

NOI At Share by Region

Region:	For the Year Ended December 31,	
	2022	2021
New York City metropolitan area	86%	88%
Chicago, IL	8%	6%
San Francisco, CA	6%	6%
	100%	100%

Results of Operations – Year Ended December 31, 2022 Compared to December 31, 2021

Revenues

Our revenues were \$1,799,995,000 for the year ended December 31, 2022 compared to \$1,589,210,000 in the prior year, an increase of \$210,785,000. 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	\$ 10,750	\$ 10,750	\$ —
Development and redevelopment	69,357	69,357	—
Trade shows ⁽¹⁾	13,187	—	13,187
Same store operations	89,860	90,840	(980)
	<u>183,154</u>	<u>170,947</u>	<u>12,207</u>
Fee and other income:			
BMS cleaning fees	17,893	19,639	(1,746)
Management and leasing fees	(686)	(532)	(154)
Other income	10,424	1,789	8,635
	<u>27,631</u>	<u>20,896</u>	<u>6,735</u>
Total increase in revenues	<u>\$ 210,785</u>	<u>\$ 191,843</u>	<u>\$ 18,942</u>

See notes below.

Expenses

Our expenses were \$1,534,249,000 for the year ended December 31, 2022 compared to \$1,367,869,000 in the prior year, an increase of \$166,380,000. Below are the details of the increase (decrease) by segment:

(Amounts in thousands)

Increase (decrease) due to:	Total	New York	Other
Operating:			
Acquisitions, dispositions and other	\$ 1,555	\$ 1,555	\$ —
Development and redevelopment	28,652	27,804	848
Non-reimbursable expenses	27,555	28,685	(1,130)
Trade shows ⁽¹⁾	2,607	—	2,607
Hotel Pennsylvania ⁽²⁾	(12,677)	(12,677)	—
BMS expenses	16,312	18,058	(1,746)
Same store operations	12,592	26,337	(13,745)
	<u>76,596</u>	<u>89,762</u>	<u>(13,166)</u>
Depreciation and amortization:			
Acquisitions, dispositions and other	63,366	63,366	—
Development and redevelopment	32,823	32,823	—
Same store operations	(4,034)	(4,932)	898
	<u>92,155</u>	<u>91,257</u>	<u>898</u>
General and administrative	<u>(814)</u>	<u>(2,143)</u>	<u>1,329</u>
Benefit from deferred compensation plan liability	<u>(19,464)</u>	<u>—</u>	<u>(19,464)</u>
Impairment losses, transaction related costs and other	<u>17,907</u>	<u>12,819</u> ⁽³⁾	<u>5,088</u>
Total increase (decrease) in expenses	<u>\$ 166,380</u>	<u>\$ 191,695</u>	<u>\$ (25,315)</u>

(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) 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 Hotel Pennsylvania site.

(3) Primarily due to an increase in impairment losses on wholly owned street retail assets (\$19,098 in 2022 and \$7,880 in 2021).

Results of Operations – Year Ended December 31, 2022 Compared to December 31, 2021 - continued

(Loss) Income from Partially Owned Entities

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

(Amounts in thousands)	Percentage Ownership at December 31, 2022	For the Year Ended December 31,	
		2022	2021
Our share of net (loss) income:			
Fifth Avenue and Times Square JV:			
Non-cash impairment loss ⁽¹⁾	51.5%	\$ (489,859)	\$ —
Equity in net income		55,248	47,144
Return on preferred equity, net of our share of the expense		37,416	37,416
		(397,195)	84,560
Partially owned office buildings ⁽²⁾	Various	(110,261)	6,384
Alexander's ⁽³⁾	32.4%	22,973	40,121
Other investments ⁽⁴⁾	Various	23,132	(548)
		\$ (461,351)	\$ 130,517

(1) See Note 5 - *Investments in Partially Owned Entities* to the consolidated financial statements in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

(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. 2022 includes a \$93,353 impairment loss on our investment in 650 Madison Avenue.

(3) 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.

(4) Includes interests in Independence Plaza, Rosslyn Plaza and others. 2022 includes \$17,185 of net gains from dispositions of two investments.

Income from Real Estate Fund Investments

Below is a summary of income from the Vornado Capital Partners Real Estate Fund (“the Fund”) and the Crowne Plaza Times Square Hotel Joint Venture.

(Amounts in thousands)	For the Year Ended December 31,	
	2022	2021
Previously recorded unrealized loss on exited investments	\$ 59,396	\$ —
Realized (loss) income on exited investments	(54,255)	1,364
Net unrealized (loss) income on held investments	(7,730)	3,257
Net investment income	6,130	6,445
Income from real estate fund investments	3,541	11,066
Less income attributable to noncontrolling interests in consolidated subsidiaries	(1,870)	(7,309)
Income from real estate fund investments net of noncontrolling interests in consolidated subsidiaries	\$ 1,671	\$ 3,757

Interest and Other Investment Income, net

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

(Amounts in thousands)	For the Year Ended December 31,	
	2022	2021
Interest on cash and cash equivalents and restricted cash	\$ 7,553	\$ 284
Amortization of discount on investments in U.S. Treasury bills	7,075	—
Interest on loans receivable	5,006	2,517
Other, net	235	1,811
	\$ 19,869	\$ 4,612

Results of Operations – Year Ended December 31, 2022 Compared to December 31, 2021 - continued

Interest and Debt Expense

Interest and debt expense was \$279,765,000 for the year ended December 31, 2022, compared to \$231,096,000 in the prior year, an increase of \$48,669,000. This was primarily due to (i) \$52,926,000 of higher interest expense resulting from higher average interest rates on our variable rate loans, and (ii) \$19,235,000 of lower capitalized interest and debt expense, partially offset by (iii) \$23,729,000 of lower interest expense relating to defeasance costs, of which \$7,119,000 is attributable to noncontrolling interest, in connection with the refinancing of 1290 Avenue of the Americas in 2021.

Net Gains on Disposition of Wholly Owned and Partially Owned Assets

Net gains on disposition of wholly owned and partially owned assets of \$100,625,000 for the year ended December 31, 2022, primarily consists of (i) \$41,874,000 from the sale of three condominium units and ancillary amenities at 220 CPS, (ii) \$31,876,000 from the sale of 40 Fulton Street, (iii) \$15,213,000 from the sale of Center Building located at 33-00 Northern Boulevard in Long Island City, New York, (iv) \$13,613,000 from the refund of New York City real property transfer tax paid in connection with the April 2019 Fifth Avenue and Times Square JV transaction, and (v) \$2,919,000 from the sale of 484-486 Broadway. Net gains on disposition of wholly owned and partially owned assets of \$50,770,000 for the year ended December 31, 2021, primarily consists of net gains from the sale of condominium units and ancillary amenities at 220 CPS.

Income Tax (Expense) Benefit

Income tax expense was \$21,660,000 for the year ended December 31, 2022, compared to a benefit of \$10,496,000 in the prior year, an increase in expense of \$32,156,000. This was primarily due to (i) additional expense in 2022 from book to tax differences on our investment in The Farley Building and (ii) a higher tax benefit recognized by our taxable REIT subsidiaries in 2021 compared to 2022.

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

Net loss attributable to noncontrolling interests in consolidated subsidiaries was \$5,737,000 for the year ended December 31, 2022, compared to net income of \$24,014,000 in the prior year, a decrease in income of \$29,751,000. This resulted primarily from a net loss in 2022 subject to allocation to the noncontrolling interests of our non-wholly owned consolidated subsidiaries compared to net income in 2021.

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

Net loss attributable to noncontrolling interests in the Operating Partnership was \$30,376,000 for the year ended December 31, 2022, compared to net income of \$7,540,000 in the prior year, a decrease in income of \$37,916,000. This resulted primarily from a net loss in 2022 subject to allocation to third party Class A unitholders compared to net income in 2021.

Preferred Share Dividends of Vornado Realty Trust

Preferred share dividends were \$62,116,000 for the year ended December 31, 2022, compared to \$65,880,000 in the prior year, a decrease of \$3,764,000.

Preferred Unit Distributions of Vornado Realty L.P.

Preferred unit distributions were \$62,231,000 for the year ended December 31, 2022, compared to \$66,035,000 in the prior year, a decrease of \$3,804,000.

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, 2022 Compared to December 31, 2021 - 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, 2022 compared to December 31, 2021.

(Amounts in thousands)

	Total	New York	theMART	555 California Street	Other
NOI at share for the year ended December 31, 2022	\$ 1,162,048	\$ 981,508	\$ 96,906	\$ 65,692	\$ 17,942
Less NOI at share from:					
Change in ownership interest in One Park Avenue	(13,370)	(13,370)	—	—	—
Dispositions	(9,494)	(9,494)	—	—	—
Development properties	(69,779)	(69,779)	—	—	—
Other non-same store income, net	(26,701)	(8,557)	(202)	—	(17,942)
Same store NOI at share for the year ended December 31, 2022	<u>\$ 1,042,704</u>	<u>\$ 880,308</u>	<u>\$ 96,704</u>	<u>\$ 65,692</u>	<u>\$ —</u>
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:					
Dispositions	(13,512)	(13,512)	—	—	—
Development properties	(31,291)	(30,443)	—	(848)	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	12,677	12,677	—	—	—
Other non-same store income, net	(27,774)	(11,095)	—	—	(16,679)
Same store NOI at share for the year ended December 31, 2021	<u>\$ 973,468</u>	<u>\$ 850,581</u>	<u>\$ 58,909</u>	<u>\$ 63,978</u>	<u>\$ —</u>
Increase in same store NOI at share	<u>\$ 69,236</u>	<u>\$ 29,727</u>	<u>\$ 37,795</u>	<u>\$ 1,714</u>	<u>\$ —</u>
% increase in same store NOI at share	<u>7.1 %</u>	<u>3.5 %</u>	<u>64.2 %</u>	<u>2.7 %</u>	<u>— %</u>

Results of Operations – Year Ended December 31, 2022 Compared to December 31, 2021 - 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, 2022 compared to December 31, 2021.

(Amounts in thousands)

	Total	New York	theMART	555 California Street	Other
NOI at share - cash basis for the year ended December 31, 2022	\$ 1,151,068	\$ 962,999	\$ 101,912	\$ 67,813	\$ 18,344
Less NOI at share - cash basis from:					
Change in ownership interest in One Park Avenue	(10,111)	(10,111)	—	—	—
Dispositions	(8,719)	(8,719)	—	—	—
Development properties	(47,846)	(47,846)	—	—	—
Other non-same store income, net	(28,211)	(9,665)	(202)	—	(18,344)
Same store NOI at share - cash basis for the year ended December 31, 2022	<u>\$ 1,056,181</u>	<u>\$ 886,658</u>	<u>\$ 101,710</u>	<u>\$ 67,813</u>	<u>\$ —</u>
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:					
Dispositions	(13,469)	(13,469)	—	—	—
Development properties	(32,453)	(31,605)	—	(848)	—
Hotel Pennsylvania (permanently closed on April 5, 2021)	12,723	12,723	—	—	—
Other non-same store income, net	(32,789)	(14,938)	—	—	(17,851)
Same store NOI at share - cash basis for the year ended December 31, 2021	<u>\$ 968,698</u>	<u>\$ 844,477</u>	<u>\$ 64,389</u>	<u>\$ 59,832</u>	<u>\$ —</u>
Increase in same store NOI at share - cash basis	<u>\$ 87,483</u>	<u>\$ 42,181</u>	<u>\$ 37,321</u>	<u>\$ 7,981</u>	<u>\$ —</u>
% increase in same store NOI at share - cash basis	<u>9.0 %</u>	<u>5.0 %</u>	<u>58.0 %</u>	<u>13.3 %</u>	<u>— %</u>

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, 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, 2022, we have \$3.4 billion of liquidity comprised of \$1.0 billion of cash and cash equivalents and restricted cash, \$472 million of investments in U.S. Treasury bills and \$1.9 billion available on our \$2.5 billion revolving credit facilities. The ongoing challenges posed by the increase in interest rates and inflation and the continuing effect of 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 \$1,021,157,000 at December 31, 2022, a \$909,194,000 decrease from the balance at December 31, 2021.

Our cash flow activities are summarized as follows:

(Amounts in thousands)

	For the Year Ended December 31,		Increase (Decrease) in Cash Flow
	2022	2021	
Net cash provided by operating activities	\$ 798,944	\$ 761,806	\$ 37,138
Net cash used in investing activities	(906,864)	(532,347)	(374,517)
Net cash used in financing activities	(801,274)	(29,477)	(771,797)

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, 2022, net cash provided by operating activities of \$798,944,000 was comprised of \$711,610,000 of cash from operations, including distributions of income from partially owned entities of \$184,501,000 and return of capital from real estate fund investments of \$5,141,000, and a net increase of \$87,334,000 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 Year Ended December 31,		(Decrease) Increase in Cash Flow
	2022	2021	
Purchase of U.S. Treasury bills	\$ (1,066,096)	\$ —	\$ (1,066,096)
Development costs and construction in progress	(737,999)	(585,940)	(152,059)
Proceeds from maturities of U.S. Treasury bills	597,499	—	597,499
Proceeds from sales of real estate	373,264	100,024	273,240
Additions to real estate	(159,796)	(149,461)	(10,335)
Proceeds from sale of condominium units and ancillary amenities at 220 Central Park South	88,019	137,404	(49,385)
Distributions of capital from partially owned entities	34,417	106,005	(71,588)
Investments in partially owned entities	(33,172)	(14,997)	(18,175)
Acquisitions of real estate and other	(3,000)	(3,000)	—
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
Proceeds from repayments of loan receivables	—	1,554	(1,554)
Net cash used in investing activities	<u>\$ (906,864)</u>	<u>\$ (532,347)</u>	<u>\$ (374,517)</u>

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 Year Ended December 31,		Increase (Decrease) in Cash Flow
	2022	2021	
Repayments of borrowings	\$ (1,251,373)	\$ (1,584,243)	\$ 332,870
Proceeds from borrowings	1,029,773	3,248,007	(2,218,234)
Dividends paid on common shares/Distributions to Vornado	(406,562)	(406,109)	(453)
Distributions to redeemable security holders and noncontrolling interests in consolidated subsidiaries	(84,699)	(190,876)	106,177
Dividends paid on preferred shares/Distributions to preferred unitholders	(62,116)	(65,880)	3,764
Debt issuance costs	(32,706)	(51,184)	18,478
Contributions from noncontrolling interests in consolidated subsidiaries	5,609	4,052	1,557
Proceeds received from exercise of Vornado stock options and other	885	899	(14)
Repurchase of shares/Class A units related to stock compensation agreements and related tax withholdings and other	(85)	(1,567)	1,482
Purchase of marketable securities in connection with defeasance of mortgage payable	—	(973,729)	973,729
Redemption of preferred shares/units	—	(300,000)	300,000
Proceeds from the issuance of preferred shares/units	—	291,153	(291,153)
Net cash used in financing activities	<u>\$ (801,274)</u>	<u>\$ (29,477)</u>	<u>\$ (771,797)</u>

Liquidity and Capital Resources - continued

Dividends

On January 18, 2023, Vornado declared a quarterly common dividend of \$0.375 per share (an indicated annual rate of \$1.50 per common share). This dividend, if declared by the Board of Trustees for all of 2023, would require the Operating Partnership to distribute (i) approximately \$288,000,000 of cash to Vornado for distribution to its common shareholders and (ii) \$22,000,000 of cash to third party Class A unitholders. Additionally, during 2023, Vornado expects to pay approximately \$62,000,000 of cash dividends on outstanding preferred shares.

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 and unsecured term loan 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 and unsecured term loan 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, 2022, we are in compliance with all of the financial covenants required by our senior unsecured notes, our unsecured revolving credit facilities and our unsecured term loan.

A summary of our consolidated debt as of December 31, 2022 and 2021 is presented below.

(Amounts in thousands)	As of December 31, 2022		As of December 31, 2021	
	Balance	Weighted Average Interest Rate ⁽¹⁾	Balance	Weighted Average Interest Rate ⁽¹⁾
Consolidated debt:				
Fixed rate	\$ 6,145,000	3.59%	\$ 4,140,000	3.06%
Variable rate	2,307,615	5.67%	4,534,215	1.59%
Total	8,452,615	4.16%	8,674,215	2.29%
Deferred financing costs, net and other	(63,572)		(58,268)	
Total, net	\$ 8,389,043		\$ 8,615,947	

(1) Represents the interest rate in effect as of period end based on the appropriate reference rate as of the contractual reset date plus contractual spread, adjusted for hedging instruments, as applicable.

During 2023 and 2024, \$21,600,000 and \$396,415,000, respectively, of our outstanding consolidated debt matures, assuming the exercise of as-of-right extension options. 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 2022 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, 2022 is as follows:

(Amounts in thousands)	Total	Less than 1 Year	1 – 3 Years	3 – 5 Years	Thereafter
Notes and mortgages payable	\$ 7,125,211	\$ 285,403	\$ 1,788,462	\$ 2,451,226	\$ 2,600,120
Senior unsecured notes due 2025	482,156	15,750	466,406	—	—
Senior unsecured notes due 2026	429,431	8,600	17,200	403,631	—
Senior unsecured notes due 2031	450,224	11,900	23,800	23,800	390,724
Unsecured term loan	976,841	34,700	73,162	868,979	—
Revolving credit facilities	686,833	22,598	45,258	618,977	—
Total contractual principal ⁽¹⁾ and interest ⁽²⁾ repayments	\$ 10,150,696	\$ 378,951	\$ 2,414,288	\$ 4,366,613	\$ 2,990,844

(1) Based on the contractual maturity of our loans, including as-of-right extension options, as of December 31, 2022.

(2) Estimated interest for variable rate debt based on the 1-month LIBOR or Term SOFR curve available as of December 31, 2022.

Liquidity and Capital Resources - continued

Capital Expenditures

Capital expenditures consist of expenditures to maintain and improve assets, tenant improvement allowances and leasing commissions. During 2023, we expect to incur \$250,000,000 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

The Farley Building

Our 95% joint venture (5% is owned by the Related Companies ("Related")) is completing the development of The Farley Building, which includes approximately 846,000 rentable square feet of commercial space, comprised of approximately 730,000 square feet of office space and approximately 116,000 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 \$1,111,493,000 of cash has been expended as of December 31, 2022.

PENN 1

We are redeveloping PENN 1, a 2,546,000 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"). Skanska USA Civil Northeast, Inc. is performing the redevelopment under a fixed price contract for \$396,000,000 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 of our PENN 1 project is estimated to be \$450,000,000, of which \$375,810,000 of cash has been expended as of December 31, 2022.

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 \$393,126,000 of cash has been expended as of December 31, 2022.

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 \$41,776,000 of cash has been expended as of December 31, 2022.

We are also evaluating other development and redevelopment opportunities at certain of our properties in Manhattan including, in particular, the PENN District and 350 Park Avenue.

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 2023, \$46,847,000 of lease payments are due, including fair market rent resets accounted for as variable rent. For 2024 and thereafter, we have \$2,509,517,000 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 \$1,774,525 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 the Farley Condominiums) maintain 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 January 31, 2023, the Court of Appeal affirmed the lower court’s 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.

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 The Farley Building. As of December 31, 2022, the aggregate dollar amount of these guarantees and master leases is approximately \$1,553,000,000.

As of December 31, 2022, \$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 current ratings). 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.

Liquidity and Capital Resources - continued

Other Commitments and Contingencies - continued

Our 95% consolidated joint venture (5% is owned by Related) is completing the development of The Farley Building. 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, 2022, 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, 2022 fair value of the Fund assets, at liquidation we would be required to make a \$26,400,000 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, 2022, we expect to fund additional capital to certain of our partially owned entities aggregating approximately \$10,300,000.

As of December 31, 2022, we have construction commitments aggregating approximately \$409,000,000.

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. The Company also uses FFO attributable to common shareholders plus assumed conversions, as adjusted for certain items that impact the comparability of period-to-period FFO, as one of several criteria to determine performance-based compensation for senior management. 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 – *(Loss) Income Per Share/(Loss) Income Per Class A Unit*, in our consolidated financial statements in Part II, Item 8 of this Annual Report on Form 10-K. Details of certain items that impact FFO are discussed in the financial results summary of our “Overview.”

Below is a reconciliation of net (loss) income attributable to common shareholders to FFO attributable to common shareholders plus assumed conversions for the year ended December 31, 2022 and 2021.

(Amounts in thousands, except per share amounts)

	For the Year Ended December 31,	
	2022	2021
Reconciliation of net (loss) income attributable to common shareholders to FFO attributable to common shareholders plus assumed conversions:		
Net (loss) income attributable to common shareholders	\$ (408,615)	\$ 101,086
Per diluted share	\$ (2.13)	\$ 0.53
FFO adjustments:		
Depreciation and amortization of real property	\$ 456,920	\$ 373,792
Real estate impairment losses	19,098	7,880
Net gains on sale of real estate	(58,751)	—
Proportionate share of adjustments to equity in net (loss) income of partially owned entities to arrive at FFO:		
Depreciation and amortization of real property	130,647	139,247
Net gains on sale of real estate	(169)	(15,675)
Increase in fair value of marketable securities	—	(1,155)
Real estate impairment losses	576,390	—
	1,124,135	504,089
Noncontrolling interests' share of above adjustments	(77,912)	(34,144)
FFO adjustments, net	\$ 1,046,223	\$ 469,945
FFO attributable to common shareholders	\$ 637,608	\$ 571,031
Convertible preferred share dividends	1,320	43
FFO attributable to common shareholders plus assumed conversions	\$ 638,928	\$ 571,074
Per diluted share	\$ 3.30	\$ 2.97
Reconciliation of weighted average shares outstanding:		
Weighted average common shares outstanding	191,775	191,551
Effect of dilutive securities:		
Convertible securities ⁽¹⁾	1,545	26
Share-based payment awards	250	571
Denominator for FFO per diluted share	193,570	192,148

(1) On January 1, 2022, we adopted Accounting Standards Update 2020-06, which requires us to include our Series D-13 cumulative redeemable preferred units and Series G-1 through G-4 convertible preferred units in our dilutive earnings per share calculations, if the effect is dilutive.

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)

	2022		
	December 31, Balance	Weighted Average Interest Rate ⁽¹⁾	Effect of 1% Change In Base Rates
Consolidated debt:			
Fixed rate ⁽²⁾	\$ 6,145,000	3.59%	\$ —
Variable rate ⁽³⁾	2,307,615	5.67%	23,076
	<u>\$ 8,452,615</u>	4.16%	<u>23,076</u>
Pro rata share of debt of non-consolidated entities:			
Fixed rate ⁽²⁾	\$ 1,447,457	3.72%	\$ —
Variable rate ⁽⁴⁾	1,249,769	6.19%	12,498
	<u>\$ 2,697,226</u>	4.87%	<u>12,498</u>
Noncontrolling interests' share of consolidated subsidiaries			(6,821)
Total change in annual net income attributable to the Operating Partnership			<u>28,753</u>
Noncontrolling interests' share of the Operating Partnership			(1,995)
Total change in annual net income attributable to Vornado			<u>\$ 26,758</u>
Total change in annual net income attributable to the Operating Partnership per diluted Class A unit			<u>\$ 0.14</u>
Total change in annual net income attributable to Vornado per diluted share			<u>\$ 0.14</u>

(1) Represents the interest rate in effect as of period end based on the appropriate reference rate as of the contractual reset date plus contractual spread, adjusted for hedging instruments, as applicable.

(2) Includes variable rate debt subject to interest rate swap arrangements as of period end.

(3) Includes variable rate debt subject to interest rate cap arrangements with a total notional amount of \$1,649,120, of which \$322,060 is attributable to noncontrolling interests. The interest rate cap arrangements have a weighted average strike rate of 4.14% and a weighted average remaining term of nine months. These amounts exclude the forward cap we entered into in December 2022 for the \$525,000 One Park Avenue mortgage loan effective upon the March 2023 expiration of the existing cap. The forward cap has a SOFR strike rate of 3.89% and expires in March 2024.

(4) Includes variable rate debt subject to interest rate cap arrangements with a total notional amount of \$850,710 at our pro rata share. The interest rate cap arrangements have a weighted average strike rate of 4.11% and a weighted average remaining term of ten months.

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, 2022, the estimated fair value of our consolidated debt was \$8,093,000,000.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK - continued

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 hedging instruments, all of which hedge variable rate debt, as of December 31, 2022 and 2021.

(Amounts in thousands)

	Fair Value Asset (Liability) as of		December 31, 2022		
	December 31, 2022	2021	Notional Amount	All-In Swapped Rate	Swap Expiration Date
Interest Rate Swaps:					
555 California Street mortgage loan	\$ 49,888	\$ 11,814	\$ 840,000 ⁽¹⁾	2.26%	05/24
770 Broadway mortgage loan	29,226	—	700,000	4.98%	07/27
PENN 11 mortgage loan	26,587	6,565	500,000	2.22%	03/24
Unsecured revolving credit facility	24,457	—	575,000	3.88%	08/27
Unsecured term loan	14,694	(28,976)	800,000	4.05%	(2)
100 West 33rd Street mortgage loan	6,886	—	480,000	5.06%	06/27
888 Seventh Avenue mortgage loan	6,544	—	200,000 ⁽³⁾	4.76%	09/27
Unsecured term loan (effective October 2023)	6,330	—	500,000	4.39%	10/26
4 Union Square South mortgage loan	4,050	(3,861)	100,000 ⁽⁴⁾	3.74%	01/25
Interest Rate Caps:					
1290 Avenue of the Americas mortgage loan	7,590	411	950,000	(5)	11/23
One Park Avenue mortgage loan	5,472	—	525,000	(6)	03/24
Various mortgage loans	2,080	139			
Included in other assets	<u>\$ 183,804</u>	<u>\$ 18,929</u>			
Included in other liabilities	<u>\$ —</u>	<u>\$ 32,837</u>			

(1) Represents our 70.0% share of the \$1.2 billion mortgage loan.

(2) Comprised of a \$750,000 interest rate swap arrangement expiring October 2023 and a \$50,000 interest rate swap arrangement expiring August 2027.

(3) The remaining \$77,800 amortizing mortgage loan balance bears interest at a floating rate of SOFR plus 1.80% (5.92% as of December 31, 2022).

(4) Upon the sale of 33-00 Northern Boulevard in June 2022, the \$100,000 corporate-level interest rate swap was reallocated and now hedges the interest rate on \$100,000 of the 4 Union Square South mortgage loan through January 2025. The remaining \$20,000 mortgage loan balance bears interest at a floating rate of SOFR plus 1.50% (5.62% as of December 31, 2022).

(5) LIBOR cap strike rate of 4.00%.

(6) SOFR cap strike rate of 4.39%. In December 2022, we entered into a forward cap for the \$525,000 One Park Avenue mortgage loan effective upon the March 2023 expiration of the existing cap. The forward cap has a SOFR strike rate of 3.89% and expires in March 2024.

ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA**INDEX TO FINANCIAL STATEMENTS**

	Page Number
<i>Vornado Realty Trust</i>	
Report of Independent Registered Public Accounting Firm (PCAOB ID No. 34)	59
Consolidated Balance Sheets at December 31, 2022 and 2021	61
Consolidated Statements of Income for the years ended December 31, 2022, 2021 and 2020	62
Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, 2021 and 2020	63
Consolidated Statements of Changes in Equity for the years ended December 31, 2022, 2021 and 2020	64
Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020	67
<i>Vornado Realty L.P.</i>	
Report of Independent Registered Public Accounting Firm (PCAOB ID No. 34)	70
Consolidated Balance Sheets at December 31, 2022 and 2021	72
Consolidated Statements of Income for the years ended December 31, 2022, 2021 and 2020	73
Consolidated Statements of Comprehensive Income for the years ended December 31, 2022, 2021 and 2020	74
Consolidated Statements of Changes in Equity for the years ended December 31, 2022, 2021 and 2020	75
Consolidated Statements of Cash Flows for the years ended December 31, 2022, 2021 and 2020	78
<i>Vornado Realty Trust and Vornado Realty L.P.</i>	
Notes to Consolidated Financial Statements	81

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, 2022 and 2021, 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, 2022, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with 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, 2022, 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 13, 2023, 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 Impairment – Refer to Notes 2, 5, 13, and 15 to the financial statements

Critical Audit Matter Description

The Company's real estate 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. An impairment loss is measured based on the excess of the property's carrying amount over its fair value. The Company also reviews its investments in partially owned entities for impairment when indications of potential impairment exist. An impairment loss for investments in partially owned entities is recorded when there is a decline in the fair value below the carrying value that is other than temporary. Fair value is determined based on estimated cash flow projections that utilize discount and capitalization rates and available market information.

Preparing the Company's estimated cash flow projections requires management to make significant estimates and assumptions related to future market rental rates, capitalization rates, and discount rates.

For the year ended December 31, 2022, the Company recognized impairment losses of \$19,098,000 which are included in "Impairment losses, transaction related costs and other" and \$583,212,000 which are included in "(Loss) income from partially owned entities" within the consolidated statements of income.

We identified the impairment of real estate properties as a critical audit matter because of the significant estimates and assumptions related to future market rental rates, capitalization rates and discount 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.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to impairment included the following, among others:

- We tested the effectiveness of controls over management’s evaluation of recoverability of its properties, including those over future market rental rates and capitalization rates used in the assessment.
- We tested the effectiveness of controls over management’s evaluation of impairment of its properties and investments in partially owned entities and measurement of that impairment based on discounted cash flows, including those over the future market rental rates, capitalization rates, and discount rates used in the assessment.
- We evaluated the reasonableness of future market rental rates, capitalization rates, and discount rates used by management with independent market data, focusing on geographical location and property type. In addition, we developed ranges of independent estimates of future market rental rates, capitalization rates, and discount 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 rates, capitalization rates and discount rates assumptions, as applicable.
- We evaluated the reasonableness of management’s projected future cash flow analyses 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 13, 2023

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,	
	2022	2021
ASSETS		
Real estate, at cost:		
Land	\$ 2,451,828	\$ 2,540,193
Buildings and improvements	9,804,204	9,839,166
Development costs and construction in progress	933,334	718,694
Leasehold improvements and equipment	125,389	119,792
Total	13,314,755	13,217,845
Less accumulated depreciation and amortization	(3,470,991)	(3,376,347)
Real estate, net	9,843,764	9,841,498
Right-of-use assets	684,380	337,197
Cash and cash equivalents	889,689	1,760,225
Restricted cash	131,468	170,126
Investments in U.S. Treasury bills	471,962	—
Tenant and other receivables	81,170	79,661
Investments in partially owned entities	2,665,073	3,297,389
Real estate fund investments	—	7,730
220 Central Park South condominium units ready for sale	43,599	57,142
Receivable arising from the straight-lining of rents	694,972	656,318
Deferred leasing costs, net of accumulated amortization of \$237,395 and \$211,775	373,555	391,693
Identified intangible assets, net of accumulated amortization of \$98,139 and \$97,186	139,638	154,895
Other assets	474,105	512,714
	<u>\$ 16,493,375</u>	<u>\$ 17,266,588</u>
LIABILITIES, REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY		
Mortgages payable, net	\$ 5,829,018	\$ 6,053,343
Senior unsecured notes, net	1,191,832	1,189,792
Unsecured term loan, net	793,193	797,812
Unsecured revolving credit facilities	575,000	575,000
Lease liabilities	735,969	370,206
Accounts payable and accrued expenses	450,881	613,497
Deferred revenue	39,882	48,118
Deferred compensation plan	96,322	110,174
Other liabilities	268,166	304,725
Total liabilities	9,980,263	10,062,667
Commitments and contingencies		
Redeemable noncontrolling interests:		
Class A units - 14,416,891 and 14,033,438 units outstanding	345,157	587,440
Series D cumulative redeemable preferred units - 141,400 units outstanding	3,535	3,535
Total redeemable noncontrolling partnership units	348,692	590,975
Redeemable noncontrolling interest in a consolidated subsidiary	88,040	97,708
Total redeemable noncontrolling interests	436,732	688,683
Shareholders' equity:		
Preferred shares of beneficial interest: no par value per share; authorized 110,000,000 shares; issued and outstanding 48,792,902 shares	1,182,459	1,182,459
Common shares of beneficial interest: \$0.04 par value per share; authorized 250,000,000 shares; issued and outstanding 191,866,880 and 191,723,608 shares	7,654	7,648
Additional capital	8,369,228	8,143,093
Earnings less than distributions	(3,894,580)	(3,079,320)
Accumulated other comprehensive income (loss)	174,967	(17,534)
Total shareholders' equity	5,839,728	6,236,346
Noncontrolling interests in consolidated subsidiaries	236,652	278,892
Total equity	6,076,380	6,515,238
	<u>\$ 16,493,375</u>	<u>\$ 17,266,588</u>

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,		
	2022	2021	2020
REVENUES:			
Rental revenues	\$ 1,607,685	\$ 1,424,531	\$ 1,377,635
Fee and other income	192,310	164,679	150,316
Total revenues	1,799,995	1,589,210	1,527,951
EXPENSES:			
Operating	(873,911)	(797,315)	(789,066)
Depreciation and amortization	(504,502)	(412,347)	(399,695)
General and administrative	(133,731)	(134,545)	(181,509)
Benefit (expense) from deferred compensation plan liability	9,617	(9,847)	(6,443)
Impairment losses, transaction related costs and other	(31,722)	(13,815)	(174,027)
Total expenses	(1,534,249)	(1,367,869)	(1,550,740)
(Loss) income from partially owned entities	(461,351)	130,517	(329,112)
Income (loss) from real estate fund investments	3,541	11,066	(226,327)
Interest and other investment income (loss), net	19,869	4,612	(5,499)
(Loss) income from deferred compensation plan assets	(9,617)	9,847	6,443
Interest and debt expense	(279,765)	(231,096)	(229,251)
Net gains on disposition of wholly owned and partially owned assets	100,625	50,770	381,320
(Loss) income before income taxes	(360,952)	197,057	(425,215)
Income tax (expense) benefit	(21,660)	10,496	(36,630)
Net (loss) income	(382,612)	207,553	(461,845)
Less net loss (income) attributable to noncontrolling interests in:			
Consolidated subsidiaries	5,737	(24,014)	139,894
Operating Partnership	30,376	(7,540)	24,946
Net (loss) income attributable to Vornado	(346,499)	175,999	(297,005)
Preferred share dividends	(62,116)	(65,880)	(51,739)
Series K preferred share issuance costs	—	(9,033)	—
NET (LOSS) INCOME attributable to common shareholders	\$ (408,615)	\$ 101,086	\$ (348,744)
(LOSS) INCOME PER COMMON SHARE - BASIC:			
Net (loss) income per common share	\$ (2.13)	\$ 0.53	\$ (1.83)
Weighted average shares outstanding	191,775	191,551	191,146
(LOSS) INCOME PER COMMON SHARE - DILUTED:			
Net (loss) income per common share	\$ (2.13)	\$ 0.53	\$ (1.83)
Weighted average shares outstanding	191,775	192,122	191,146

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Net (loss) income	\$ (382,612)	\$ 207,553	\$ (461,845)
Other comprehensive income (loss):			
Change in fair value of interest rate swaps and other	190,493	51,338	(29,971)
Other comprehensive income (loss) of nonconsolidated subsidiaries	18,874	10,275	(14,342)
Comprehensive (loss) income	(173,245)	269,166	(506,158)
Less comprehensive loss (income) attributable to noncontrolling interests	19,247	(35,602)	174,287
Comprehensive (loss) income attributable to Vornado	<u>\$ (153,998)</u>	<u>\$ 233,564</u>	<u>\$ (331,871)</u>

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, 2021	48,793	\$ 1,182,459	191,724	\$ 7,648	\$ 8,143,093	\$ (3,079,320)	\$ (17,534)	\$ 278,892	\$ 6,515,238
Net loss attributable to Vornado	—	—	—	—	—	(346,499)	—	—	(346,499)
Net income attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	—	3,931	3,931
Dividends on common shares (\$2.12 per share)	—	—	—	—	—	(406,562)	—	—	(406,562)
Dividends on preferred shares (see Note 11 for dividends per share amounts)	—	—	—	—	—	(62,116)	—	—	(62,116)
Common shares issued:									
Upon redemption of Class A units, at redemption value	—	—	117	5	3,519	—	—	—	3,524
Under employees' share option plan	—	—	—	—	7	—	—	—	7
Under dividend reinvestment plan	—	—	28	1	877	—	—	—	878
Contributions	—	—	—	—	—	—	—	5,609	5,609
Distributions	—	—	—	—	—	—	—	(54,388)	(54,388)
Deferred compensation shares and options	—	—	(2)	—	588	(85)	—	—	503
Other comprehensive income of nonconsolidated subsidiaries	—	—	—	—	—	—	18,874	—	18,874
Change in fair value of interest rate swaps and other	—	—	—	—	—	—	190,494	—	190,494
Redeemable Class A unit measurement adjustment	—	—	—	—	221,145	—	—	—	221,145
Noncontrolling interests' share of above adjustments	—	—	—	—	—	—	(16,866)	2,616	(14,250)
Other	—	—	—	—	(1)	2	(1)	(8)	(8)
Balance as of December 31, 2022	<u>48,793</u>	<u>\$ 1,182,459</u>	<u>191,867</u>	<u>\$ 7,654</u>	<u>\$ 8,369,228</u>	<u>\$ (3,894,580)</u>	<u>\$ 174,967</u>	<u>\$ 236,652</u>	<u>\$ 6,076,380</u>

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	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
Change in fair 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	<u>48,793</u>	<u>\$ 1,182,459</u>	<u>191,724</u>	<u>\$ 7,648</u>	<u>\$ 8,143,093</u>	<u>\$ (3,079,320)</u>	<u>\$ (17,534)</u>	<u>\$ 278,892</u>	<u>\$ 6,515,238</u>

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY - CONTINUED

(Amounts in thousands, except per share amount)

	Preferred Shares		Common Shares		Additional Capital	Earnings Less Than Distributions	Accumulated Other Comprehensive Loss	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 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)
Change in fair 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.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities:			
Net (loss) income	\$ (382,612)	\$ 207,553	\$ (461,845)
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization (including amortization of deferred financing costs)	526,306	432,594	417,942
Equity in net loss (income) of partially owned entities	461,351	(130,517)	329,112
Distributions of income from partially owned entities	184,501	214,521	175,246
Net gains on disposition of wholly owned and partially owned assets	(100,625)	(50,770)	(381,320)
Straight-lining of rents	(46,177)	8,644	24,404
Stock-based compensation expense	29,249	38,329	48,677
Real estate impairment losses	19,098	7,880	236,286
Change in deferred tax liability	14,005	11,243	(96)
Amortization of below-market leases, net	(5,178)	(9,249)	(16,878)
Return of capital from real estate fund investments	5,141	5,104	—
Net realized and unrealized loss (income) on real estate fund investments	2,589	(4,621)	226,107
Write-off of lease receivables deemed uncollectible	872	7,695	63,204
Defeasance cost in connection with refinancing of mortgage payable	—	23,729	—
Non-cash gain on extinguishment of 608 Fifth Avenue lease liability	—	—	(70,260)
Credit losses on loans receivable	—	—	13,369
Decrease in fair value of marketable securities	—	—	4,938
Other non-cash adjustments	3,090	(3,875)	6,835
Changes in operating assets and liabilities:			
Real estate fund investments	—	(4,474)	(7,197)
Tenant and other receivables	(4,437)	(187)	(5,330)
Prepaid assets	104,186	30,466	(137,452)
Other assets	(34,615)	(54,716)	(52,832)
Accounts payable and accrued expenses	5,718	35,856	14,868
Other liabilities	16,482	(3,399)	(3,538)
Net cash provided by operating activities	<u>798,944</u>	<u>761,806</u>	<u>424,240</u>
Cash Flows from Investing Activities:			
Purchase of U.S. Treasury bills	(1,066,096)	—	—
Development costs and construction in progress	(737,999)	(585,940)	(601,920)
Proceeds from maturities of U.S. Treasury bills	597,499	—	—
Proceeds from sales of real estate	373,264	100,024	—
Additions to real estate	(159,796)	(149,461)	(155,738)
Proceeds from sale of condominium units and ancillary amenities at 220 Central Park South	88,019	137,404	1,044,260
Distributions of capital from partially owned entities	34,417	106,005	2,389
Investments in partially owned entities	(33,172)	(14,997)	(8,959)
Acquisitions of real estate and other	(3,000)	(3,000)	(1,156)
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)	—
Proceeds from repayments of loan receivables	—	1,554	—
Moynihan Train Hall expenditures	—	—	(395,051)
Proceeds from sales of marketable securities	—	—	28,375
Net cash used in investing activities	<u>(906,864)</u>	<u>(532,347)</u>	<u>(87,800)</u>

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Cash Flows from Financing Activities:			
Repayments of borrowings	\$ (1,251,373)	\$ (1,584,243)	\$ (1,067,564)
Proceeds from borrowings	1,029,773	3,248,007	1,056,315
Dividends paid on common shares	(406,562)	(406,109)	(827,319)
Distributions to noncontrolling interests	(84,699)	(190,876)	(91,514)
Dividends paid on preferred shares	(62,116)	(65,880)	(64,271)
Debt issuance costs	(32,706)	(51,184)	(10,901)
Contributions from noncontrolling interests	5,609	4,052	100,094
Proceeds received from exercise of employee share options and other	885	899	5,862
Repurchase of shares related to stock compensation agreements and related tax withholdings and other	(85)	(1,567)	(137)
Purchase of marketable securities in connection with defeasance of mortgage payable	—	(973,729)	—
Redemption of preferred shares	—	(300,000)	—
Proceeds from the issuance of preferred shares	—	291,153	291,182
Moynihan Train Hall reimbursement from Empire State Development	—	—	395,051
Net cash used in financing activities	<u>(801,274)</u>	<u>(29,477)</u>	<u>(213,202)</u>
Net (decrease) increase in cash and cash equivalents and restricted cash	(909,194)	199,982	123,238
Cash and cash equivalents and restricted cash at beginning of period	1,930,351	1,730,369	1,607,131
Cash and cash equivalents and restricted cash at end of period	<u>\$ 1,021,157</u>	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>
Reconciliation of Cash and Cash Equivalents and Restricted Cash:			
Cash and cash equivalents at beginning of period	\$ 1,760,225	\$ 1,624,482	\$ 1,515,012
Restricted cash at beginning of period	170,126	105,887	92,119
Cash and cash equivalents and restricted cash at beginning of period	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>	<u>\$ 1,607,131</u>
Cash and cash equivalents at end of period	\$ 889,689	\$ 1,760,225	\$ 1,624,482
Restricted cash at end of period	131,468	170,126	105,887
Cash and cash equivalents and restricted cash at end of period	<u>\$ 1,021,157</u>	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>

See notes to consolidated financial statements.

VORNADO REALTY TRUST
CONSOLIDATED STATEMENTS OF CASH FLOWS – CONTINUED

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Supplemental Disclosure of Cash Flow Information:			
Cash payments for interest, excluding capitalized interest of \$19,085, \$38,320 and \$40,855	\$ 252,371	\$ 188,587	\$ 210,052
Cash payments for income taxes	\$ 7,947	\$ 9,155	\$ 15,105
Non-Cash Information:			
Additional estimated lease liability arising from the recognition of right-of-use asset	\$ 350,000	\$ —	\$ —
Write-off of fully depreciated assets	(278,561)	(123,537)	(189,250)
Redeemable Class A unit measurement adjustment	221,145	(76,073)	344,043
Change in fair value of consolidated interest rate swaps and other	190,494	51,337	(29,972)
Accrued capital expenditures included in accounts payable and accrued expenses	104,750	291,690	117,641
Reclassification of condominium units from "development costs and construction in progress" to "220 Central Park South condominium units ready for sale"	32,604	16,014	388,280
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	—
Marketable securities transferred in connection with the defeasance of mortgage payable	—	(973,729)	—
Defeasance of mortgage payable	—	950,000	—
Reclassification of assets held for sale (included in "other assets")	—	80,005	—
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)

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, 2022 and 2021, 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, 2022, 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, 2022 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2022, in conformity with 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, 2022, 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 13, 2023, 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 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 Impairment – Refer to Notes 2, 5, 13, and 15 to the financial statements

Critical Audit Matter Description

The Partnership's real estate 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. An impairment loss is measured based on the excess of the property's carrying amount over its fair value. The Partnership also reviews its investments in partially owned entities for impairment when indications of potential impairment exist. An impairment loss for investments in partially owned entities is recorded when there is a decline in the fair value below the carrying value that is other than temporary. Fair value is determined based on estimated cash flow projections that utilize discount and capitalization rates and available market information. Preparing the Partnership's estimated cash flow projections requires management to make significant estimates and assumptions related to future market rental rates, capitalization rates, and discount rates.

For the year ended December 31, 2022, the Partnership recognized impairment losses of \$19,098,000 which are included in "Impairment losses, transaction related costs and other" and \$583,212,000 which are included in "(Loss) income from partially owned entities" within the consolidated statements of income.

We identified the impairment of real estate properties as a critical audit matter because of the significant estimates and assumptions related to future market rental rates, capitalization rates and discount 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.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to impairment included the following, among others:

- We tested the effectiveness of controls over management’s evaluation of recoverability of its properties, including those over future market rental rates and capitalization rates used in the assessment.
- We tested the effectiveness of controls over management’s evaluation of impairment of its properties and investments in partially owned entities and measurement of that impairment based on discounted cash flows, including those over the future market rental rates, capitalization rates, and discount rates used in the assessment.
- We evaluated the reasonableness of future market rental rates, capitalization rates, and discount rates used by management with independent market data, focusing on geographical location and property type. In addition, we developed ranges of independent estimates of future market rental rates, capitalization rates, and discount 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 rates, capitalization rates and discount rates assumptions, as applicable.
- We evaluated the reasonableness of management’s projected future cash flow analyses 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 13, 2023

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,	
	2022	2021
ASSETS		
Real estate, at cost:		
Land	\$ 2,451,828	\$ 2,540,193
Buildings and improvements	9,804,204	9,839,166
Development costs and construction in progress	933,334	718,694
Leasehold improvements and equipment	125,389	119,792
Total	13,314,755	13,217,845
Less accumulated depreciation and amortization	(3,470,991)	(3,376,347)
Real estate, net	9,843,764	9,841,498
Right-of-use assets	684,380	337,197
Cash and cash equivalents	889,689	1,760,225
Restricted cash	131,468	170,126
Investments in U.S. Treasury bills	471,962	—
Tenant and other receivables	81,170	79,661
Investments in partially owned entities	2,665,073	3,297,389
Real estate fund investments	—	7,730
220 Central Park South condominium units ready for sale	43,599	57,142
Receivable arising from the straight-lining of rents	694,972	656,318
Deferred leasing costs, net of accumulated amortization of \$237,395 and \$211,775	373,555	391,693
Identified intangible assets, net of accumulated amortization of \$98,139 and \$97,186	139,638	154,895
Other assets	474,105	512,714
	<u>\$ 16,493,375</u>	<u>\$ 17,266,588</u>
LIABILITIES, REDEEMABLE NONCONTROLLING INTERESTS AND EQUITY		
Mortgages payable, net	\$ 5,829,018	\$ 6,053,343
Senior unsecured notes, net	1,191,832	1,189,792
Unsecured term loan, net	793,193	797,812
Unsecured revolving credit facilities	575,000	575,000
Lease liabilities	735,969	370,206
Accounts payable and accrued expenses	450,881	613,497
Deferred revenue	39,882	48,118
Deferred compensation plan	96,322	110,174
Other liabilities	268,166	304,725
Total liabilities	9,980,263	10,062,667
Commitments and contingencies		
Redeemable noncontrolling interests:		
Class A units - 14,416,891 and 14,033,438 units outstanding	345,157	587,440
Series D cumulative redeemable preferred units - 141,400 units outstanding	3,535	3,535
Total redeemable noncontrolling partnership units	348,692	590,975
Redeemable noncontrolling interest in a consolidated subsidiary	88,040	97,708
Total redeemable noncontrolling interests	436,732	688,683
Partners' equity:		
Partners' capital	9,559,341	9,333,200
Earnings less than distributions	(3,894,580)	(3,079,320)
Accumulated other comprehensive income (loss)	174,967	(17,534)
Total partners' equity	5,839,728	6,236,346
Noncontrolling interests in consolidated subsidiaries	236,652	278,892
Total equity	<u>6,076,380</u>	<u>6,515,238</u>
	<u>\$ 16,493,375</u>	<u>\$ 17,266,588</u>

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,		
	2022	2021	2020
REVENUES:			
Rental revenues	\$ 1,607,685	\$ 1,424,531	\$ 1,377,635
Fee and other income	192,310	164,679	150,316
Total revenues	1,799,995	1,589,210	1,527,951
EXPENSES:			
Operating	(873,911)	(797,315)	(789,066)
Depreciation and amortization	(504,502)	(412,347)	(399,695)
General and administrative	(133,731)	(134,545)	(181,509)
Benefit (expense) from deferred compensation plan liability	9,617	(9,847)	(6,443)
Impairment losses, transaction related costs and other	(31,722)	(13,815)	(174,027)
Total expenses	(1,534,249)	(1,367,869)	(1,550,740)
(Loss) income from partially owned entities	(461,351)	130,517	(329,112)
Income (loss) from real estate fund investments	3,541	11,066	(226,327)
Interest and other investment income (loss), net	19,869	4,612	(5,499)
(Loss) income from deferred compensation plan assets	(9,617)	9,847	6,443
Interest and debt expense	(279,765)	(231,096)	(229,251)
Net gains on disposition of wholly owned and partially owned assets	100,625	50,770	381,320
(Loss) income before income taxes	(360,952)	197,057	(425,215)
Income tax (expense) benefit	(21,660)	10,496	(36,630)
Net (loss) income	(382,612)	207,553	(461,845)
Less net loss (income) attributable to noncontrolling interests in consolidated subsidiaries	5,737	(24,014)	139,894
Net (loss) income attributable to Vornado Realty L.P.	(376,875)	183,539	(321,951)
Preferred unit distributions	(62,231)	(66,035)	(51,904)
Series K preferred unit issuance costs	—	(9,033)	—
NET (LOSS) INCOME attributable to Class A unitholders	\$ (439,106)	\$ 108,471	\$ (373,855)
(LOSS) INCOME PER CLASS A UNIT - BASIC:			
Net (loss) income per Class A unit	\$ (2.15)	\$ 0.52	\$ (1.86)
Weighted average units outstanding	205,315	204,728	203,503
(LOSS) INCOME PER CLASS A UNIT - DILUTED:			
Net (loss) income per Class A unit	\$ (2.15)	\$ 0.51	\$ (1.86)
Weighted average units outstanding	205,315	205,644	203,503

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Net (loss) income	\$ (382,612)	\$ 207,553	\$ (461,845)
Other comprehensive income (loss):			
Change in fair value of interest rate swaps and other	190,493	51,338	(29,971)
Other comprehensive income (loss) of nonconsolidated subsidiaries	18,874	10,275	(14,342)
Comprehensive (loss) income	(173,245)	269,166	(506,158)
Less comprehensive loss (income) attributable to noncontrolling interests in consolidated subsidiaries	3,121	(24,014)	139,894
Comprehensive (loss) income attributable to Vornado Realty L.P.	<u>\$ (170,124)</u>	<u>\$ 245,152</u>	<u>\$ (366,264)</u>

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, 2021	48,793	\$1,182,459	191,724	\$ 8,150,741	\$ (3,079,320)	\$ (17,534)	\$ 278,892	\$ 6,515,238
Net loss attributable to Vornado Realty L.P.	—	—	—	—	(376,875)	—	—	(376,875)
Net loss attributable to redeemable partnership units	—	—	—	—	30,376	—	—	30,376
Net income attributable to nonredeemable noncontrolling interests in consolidated subsidiaries	—	—	—	—	—	—	3,931	3,931
Distributions to Vornado (\$2.12 per unit)	—	—	—	—	(406,562)	—	—	(406,562)
Distributions to preferred unitholders (see Note 11 for distributions per unit amounts)	—	—	—	—	(62,116)	—	—	(62,116)
Class A Units issued to Vornado:								
Upon redemption of redeemable Class A units, at redemption value	—	—	117	3,524	—	—	—	3,524
Under Vornado's employees' share option plan	—	—	—	7	—	—	—	7
Under Vornado's dividend reinvestment plan	—	—	28	878	—	—	—	878
Contributions	—	—	—	—	—	—	5,609	5,609
Distributions	—	—	—	—	—	—	(54,388)	(54,388)
Deferred compensation units and options	—	—	(2)	588	(85)	—	—	503
Other comprehensive income of nonconsolidated subsidiaries	—	—	—	—	—	18,874	—	18,874
Change in fair value of interest rate swaps and other	—	—	—	—	—	190,494	—	190,494
Redeemable Class A unit measurement adjustment	—	—	—	221,145	—	—	—	221,145
Redeemable partnership units' share of above adjustments	—	—	—	—	—	(16,866)	2,616	(14,250)
Other	—	—	—	(1)	2	(1)	(8)	(8)
Balance as of December 31, 2022	<u>48,793</u>	<u>\$1,182,459</u>	<u>191,867</u>	<u>\$ 8,376,882</u>	<u>\$ (3,894,580)</u>	<u>\$ 174,967</u>	<u>\$ 236,652</u>	<u>\$ 6,076,380</u>

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	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
Change in fair 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	<u>48,793</u>	<u>\$1,182,459</u>	<u>191,724</u>	<u>\$ 8,150,741</u>	<u>\$ (3,079,320)</u>	<u>\$ (17,534)</u>	<u>\$ 278,892</u>	<u>\$ 6,515,238</u>

See notes to consolidated financial statements.

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

(Amounts in thousands, except per unit amount)

	Preferred Units		Class A Units Owned by Vornado		Earnings Less Than Distributions	Accumulated Other Comprehensive Loss	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)
Change in fair 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	<u>48,793</u>	<u>\$ 1,182,339</u>	<u>191,355</u>	<u>\$ 8,200,140</u>	<u>\$ (2,774,182)</u>	<u>\$ (75,099)</u>	<u>\$ 414,957</u>	<u>\$ 6,948,155</u>

See notes to consolidated financial statements.

VORNADO REALTY L.P.
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Cash Flows from Operating Activities:			
Net (loss) income	\$ (382,612)	\$ 207,553	\$ (461,845)
Adjustments to reconcile net (loss) income to net cash provided by operating activities:			
Depreciation and amortization (including amortization of deferred financing costs)	526,306	432,594	417,942
Equity in net loss (income) of partially owned entities	461,351	(130,517)	329,112
Distributions of income from partially owned entities	184,501	214,521	175,246
Net gains on disposition of wholly owned and partially owned assets	(100,625)	(50,770)	(381,320)
Straight-lining of rents	(46,177)	8,644	24,404
Stock-based compensation expense	29,249	38,329	48,677
Real estate impairment losses	19,098	7,880	236,286
Change in deferred tax liability	14,005	11,243	(96)
Amortization of below-market leases, net	(5,178)	(9,249)	(16,878)
Return of capital from real estate fund investments	5,141	5,104	—
Net realized and unrealized loss (income) on real estate fund investments	2,589	(4,621)	226,107
Write-off of lease receivables deemed uncollectible	872	7,695	63,204
Defeasance cost in connection with refinancing of mortgage payable	—	23,729	—
Non-cash gain on extinguishment of 608 Fifth Avenue lease liability	—	—	(70,260)
Credit losses on loans receivable	—	—	13,369
Decrease in fair value of marketable securities	—	—	4,938
Other non-cash adjustments	3,090	(3,875)	6,835
Changes in operating assets and liabilities:			
Real estate fund investments	—	(4,474)	(7,197)
Tenant and other receivables	(4,437)	(187)	(5,330)
Prepaid assets	104,186	30,466	(137,452)
Other assets	(34,615)	(54,716)	(52,832)
Accounts payable and accrued expenses	5,718	35,856	14,868
Other liabilities	16,482	(3,399)	(3,538)
Net cash provided by operating activities	<u>798,944</u>	<u>761,806</u>	<u>424,240</u>
Cash Flows from Investing Activities:			
Purchase of U.S. Treasury bills	(1,066,096)	—	—
Development costs and construction in progress	(737,999)	(585,940)	(601,920)
Proceeds from maturities of U.S. Treasury bills	597,499	—	—
Proceeds from sales of real estate	373,264	100,024	—
Additions to real estate	(159,796)	(149,461)	(155,738)
Proceeds from sale of condominium units and ancillary amenities at 220 Central Park South	88,019	137,404	1,044,260
Distributions of capital from partially owned entities	34,417	106,005	2,389
Investments in partially owned entities	(33,172)	(14,997)	(8,959)
Acquisitions of real estate and other	(3,000)	(3,000)	(1,156)
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)	—
Proceeds from repayments of loan receivables	—	1,554	—
Moynihan Train Hall expenditures	—	—	(395,051)
Proceeds from sales of marketable securities	—	—	28,375
Net cash used in investing activities	<u>(906,864)</u>	<u>(532,347)</u>	<u>(87,800)</u>

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,		
	2022	2021	2020
Cash Flows from Financing Activities:			
Repayments of borrowings	\$ (1,251,373)	\$ (1,584,243)	\$ (1,067,564)
Proceeds from borrowings	1,029,773	3,248,007	1,056,315
Distributions to Vornado	(406,562)	(406,109)	(827,319)
Distributions to redeemable security holders and noncontrolling interests in consolidated subsidiaries	(84,699)	(190,876)	(91,514)
Distributions to preferred unitholders	(62,116)	(65,880)	(64,271)
Debt issuance costs	(32,706)	(51,184)	(10,901)
Contributions from noncontrolling interests in consolidated subsidiaries	5,609	4,052	100,094
Proceeds received from exercise of Vornado stock options and other	885	899	5,862
Repurchase of Class A units related to stock compensation agreements and related tax withholdings and other	(85)	(1,567)	(137)
Purchase of marketable securities in connection with defeasance of mortgage payable	—	(973,729)	—
Redemption of preferred units	—	(300,000)	—
Proceeds from the issuance of preferred units	—	291,153	291,182
Moynihan Train Hall reimbursement from Empire State Development	—	—	395,051
Net cash used in financing activities	(801,274)	(29,477)	(213,202)
Net (decrease) increase in cash and cash equivalents and restricted cash	(909,194)	199,982	123,238
Cash and cash equivalents and restricted cash at beginning of period	1,930,351	1,730,369	1,607,131
Cash and cash equivalents and restricted cash at end of period	<u>\$ 1,021,157</u>	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>
Reconciliation of Cash and Cash Equivalents and Restricted Cash:			
Cash and cash equivalents at beginning of period	\$ 1,760,225	\$ 1,624,482	\$ 1,515,012
Restricted cash at beginning of period	170,126	105,887	92,119
Cash and cash equivalents and restricted cash at beginning of period	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>	<u>\$ 1,607,131</u>
Cash and cash equivalents at end of period	\$ 889,689	\$ 1,760,225	\$ 1,624,482
Restricted cash at end of period	131,468	170,126	105,887
Cash and cash equivalents and restricted cash at end of period	<u>\$ 1,021,157</u>	<u>\$ 1,930,351</u>	<u>\$ 1,730,369</u>

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,		
	2022	2021	2020
Supplemental Disclosure of Cash Flow Information:			
Cash payments for interest, excluding capitalized interest of \$19,085, \$38,320 and \$40,855	\$ 252,371	\$ 188,587	\$ 210,052
Cash payments for income taxes	\$ 7,947	\$ 9,155	\$ 15,105
Non-Cash Information:			
Additional estimated lease liability arising from the recognition of right-of-use asset	\$ 350,000	\$ —	\$ —
Write-off of fully depreciated assets	(278,561)	(123,537)	(189,250)
Redeemable Class A unit measurement adjustment	221,145	(76,073)	344,043
Change in fair value of consolidated interest rate swaps and other	190,494	51,337	(29,972)
Accrued capital expenditures included in accounts payable and accrued expenses	104,750	291,690	117,641
Reclassification of condominium units from "development costs and construction in progress" to "220 Central Park South condominium units ready for sale"	32,604	16,014	388,280
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	—
Marketable securities transferred in connection with the defeasance of mortgage payable	—	(973,729)	—
Defeasance of mortgage payable	—	950,000	—
Reclassification of assets held for sale (included in "other assets")	—	80,005	—
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)

See notes to consolidated financial statements.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
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. (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% of the common limited partnership interest in the Operating Partnership as of December 31, 2022. 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:

- 62 Manhattan operating properties consisting of:
 - 19.9 million square feet of office space in 30 of the properties;
 - 2.6 million square feet of street retail space in 56 of the properties;
 - 1,664 units in six Manhattan residential properties;
- Multiple development sites, including 350 Park Avenue and the Hotel Pennsylvania site;
- 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; 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. In addition, certain prior year balances have been reclassified in order to conform to the current period presentation.

Recently Issued Accounting Literature

In March 2020, the Financial Accounting Standards Board (“FASB”) issued Accounting Standards Update (“ASU”) 2020-04 establishing Accounting Standards Codification (“ASC”) Topic 848, *Reference Rate Reform*, and in January 2021, the FASB issued ASU 2021-01, *Reference Rate Reform (Topic 848): Scope* (collectively, “ASC 848”). ASC 848 contains practical expedients for reference rate reform related activities that impact debt, leases, derivatives and other contracts. The guidance in ASC 848 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. In December 2022, the FASB issued ASU 2022-06, *Deferral of the Sunset Date of Topic 848* (“ASU 2022-06”) which was issued to defer the sunset date of ASC 848 to December 31, 2024. ASU 2022-06 is effective immediately for all companies. ASU 2022-06 will have no impact on the Company’s consolidated financial statements for the year ended December 31, 2022. We continue to evaluate the impact of ASC 848 and may apply other elections as applicable as additional changes in the market occur.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

2. Basis of Presentation and Significant Accounting Policies - continued

Recently Issued Accounting Literature - continued

In August 2020, the FASB issued an update ("ASU 2020-06") *Debt - Debt with Conversion and Other Options (ASC Subtopic 470-20) and Derivatives and Hedging - Contracts in Entity's Own Equity (ASC 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 adopted this update effective January 1, 2022 using the modified retrospective approach which did not have a material impact on our consolidated financial statements and disclosures.

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 adopted this update effective January 1, 2022 which did not have an impact on our consolidated financial statements and disclosures.

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 information available at the time the analyses are prepared. Estimates of future cash flows are subjective and are based, in part, on assumptions regarding future rental revenues, operating expenses, capital expenditures, discount rates and capitalization rates which could differ materially from actual results.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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. Equity investments that do not qualify for consolidation or equity method accounting are recorded at fair value in accordance with ASC Topic 321, *Investments-Equity Securities* ("ASC 321") or, if fair value is not readily determinable, are initially recognized at cost and subsequently remeasured if there is an orderly transaction in an identical or similar investment of the same issuer or if the investment is impaired.

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 of an investment below its carrying value and we conclude that the decline is other-than-temporary during our intended holding period. 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 information available at the time the analyses are prepared. Estimates of future cash flows are subjective and are based, in part, on assumptions regarding future rental revenues, operating expenses, capital expenditures, discount rates and capitalization rates which could differ materially from actual results.

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, 2022 and 2021, 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 and (ii) 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.

Investments in U.S. Treasury Bills: Treasury bills are short-term debt obligations with maturities of one year or less issued by the U.S. Treasury Department and backed by the U.S. Government. Treasury bills yield no interest, but are issued at a discount to the redemption price. We classify our investments in U.S. Treasury bills as available-for-sale debt investments. We use quoted market prices to determine the fair value of our investments in U.S. Treasury bills.

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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, trade shows, tenant services and parking garage revenues.
 - Revenues from the leasing of space at our properties to tenants include (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 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.
 - Revenues 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*).
 - Revenues from the operation of trade shows at our properties, primarily derived from booth rentals, are recognized when the trade show booths are made available for use by the exhibitors, in accordance with ASC 842.
 - Revenues derived from sub-metered electric, elevator, trash removal and other services provided to our tenants at their request are recognized as the services are transferred in accordance with ASC Topic 606, *Revenue from Contracts with Customers* ("ASC 606").
 - Revenues derived from the operations of our parking facilities, which charge hourly or monthly fees to provide parking services to customers, are recognized as the services are transferred in accordance with ASC 606.
- We classify revenues derived from management, leasing and other contractual agreements (including BMS cleaning, engineering and security services) with third parties or with partially owned entities as "fee and other income" and recognize revenue 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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, 2022 were characterized, for federal income tax purposes, as ordinary income under Section 199A of the Internal Revenue Code. 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 under Section 199A of the Internal Revenue Code.

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. The Farley Building and our 220 CPS condominium project are held through taxable REIT subsidiaries.

As of December 31, 2022 and 2021, our taxable REIT subsidiaries had deferred tax assets, net of valuation allowances, of \$7,944,000 and \$8,582,000, respectively, which are included in "other assets" on our consolidated balance sheets. As of December 31, 2022 and 2021, our taxable REIT subsidiaries had deferred tax liabilities of \$54,597,000 and \$40,591,000, respectively, which are included in "other liabilities" on our consolidated balance sheets. The deferred tax assets relate to net operating loss carry forwards and temporary differences between the book and tax basis of our assets. The deferred tax liabilities relate to temporary differences between the book and tax basis of our assets.

As of December 31, 2022, our taxable REIT subsidiaries have an estimated \$166,000,000 of federal net operating loss ("NOL") carryforwards and \$208,000,000 of state and local NOL carryforwards, which are reduced by valuation allowances of \$145,000,000 for federal NOL carryforwards and \$186,000,000 for state and local NOL carryforwards. The NOL carryforwards are subject to certain limitations.

For the year ended December 31, 2022, we recognized \$21,660,000 of income tax expense based on a negative effective tax rate of approximately 6.0%. For the years ended December 31, 2021 and 2020, we recognized \$10,496,000 of income tax benefit and \$36,630,000 of income tax expense, based on negative effective tax rates of approximately 5.3% and 8.6%, respectively. Income tax (expense) benefit 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, 2022 included \$13,665,000 of income tax expense resulting from book to tax differences (primarily straight-line rent adjustments and depreciation) on our investment in The Farley Building and \$6,016,000 of income tax expense recognized on the sale of 220 CPS condominium units. 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 The Farley Building and \$5,711,000 of income tax expense recognized on the sale of 220 CPS condominium units. The year ended December 31, 2020 included \$49,221,000 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, 2022 and 2021.

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, 2022, 2021 and 2020 was approximately \$398,644,000, \$413,026,000, and \$419,812,000, respectively. The book to tax differences between net (loss) income 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 \$1.6 billion lower than the amounts reported in Vornado's consolidated balance sheet as of December 31, 2022.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, 2022, 2021 and 2020 is set forth in Note 23 - *Segment Information*.

(Amounts in thousands)

	For the Year Ended December 31, 2022		
	Total	New York	Other
Property rentals	\$ 1,510,648	\$ 1,230,851	\$ 279,797
Trade shows ⁽¹⁾	32,669	—	32,669
Lease revenues ⁽²⁾	1,543,317	1,230,851	312,466
Tenant services	45,211	33,351	11,860
Parking revenues	19,157	15,979	3,178
Rental revenues	1,607,685	1,280,181	327,504
BMS cleaning fees	137,673	146,530	(8,857) ⁽³⁾
Management and leasing fees	11,039	11,645	(606)
Other income	43,598	11,086	32,512
Fee and other income	192,310	169,261	23,049
Total revenues	\$ 1,799,995	\$ 1,449,442	\$ 350,553

See notes on following page.

(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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

3. Revenue Recognition - continued

(Amounts in thousands)

	For the Year Ended December 31, 2020		
	Total	New York	Other
Property rentals	\$ 1,323,347	\$ 1,051,009	\$ 272,338
Hotel Pennsylvania ⁽⁴⁾	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

(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,		
	2022	2021	2020
Fixed billings	\$ 1,376,527	\$ 1,277,645	\$ 1,292,174
Variable billings	122,947	108,850	126,907
Total contractual operating lease billings	1,499,474	1,386,495	1,419,081
Adjustment for straight-line rents and amortization of acquired below-market leases and other, net	44,715	(5,109)	(12,486)
Less: write-off of straight-line rent and tenant receivables deemed uncollectible	(872)	(7,695)	(63,204)
Lease revenues	<u>\$ 1,543,317</u>	<u>\$ 1,373,691</u>	<u>\$ 1,343,391</u>

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

(4) We permanently closed the Hotel Pennsylvania on April 5, 2021 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. The Fund had an initial eight-year term ending February 2019, which has been extended to December 2023, by which time the Fund intends to dispose of its remaining investments and wind down its business. 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. Through our interests in the Fund and the Crowne Plaza Joint Venture, in total we own an indirect, minority 32.8% interest in the Crowne Plaza Times Square Hotel. 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. As of December 31, 2022, our total investment in the Crowne Plaza Times Square Hotel had a carrying value of zero on our consolidated balance sheet. On June 9, 2020, the Fund and the Crowne Plaza Joint Venture (collectively, the “Crowne Plaza Co-Investors”) defaulted on the \$274,355,000 non-recourse loan on the Crowne Plaza Times Square Hotel.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

4. Real Estate Fund Investments - continued

In 2021, the mezzanine lender to the Crowne Plaza Co-Investors exercised its right under the loan documents and appointed an independent director to certain subsidiaries of the Crowne Plaza Co-Investors. Since then, neither we nor the Fund control Crowne Plaza Times Square Hotel nor have we or the Fund been involved in making any operating decisions relating to Crowne Plaza Times Square Hotel. In December 2022, the Fund entered into a Restructuring Support Agreement with certain subsidiaries and the lender of the loan on the Crowne Plaza Times Square Hotel, pursuant to which the independent director caused the subsidiaries to enter into a Chapter 11 bankruptcy restructuring process and the Fund agreed to work consensually with such subsidiaries and the lender to effectuate a transfer of ownership of the hotel property through a court supervised auction process, or an equitization of the secured loans held by the lender. We expect that, following the Chapter 11 restructuring, neither we nor the Fund will have any continuing ownership or other interest in the property and neither we nor the Fund will receive any proceeds or have any liability as a result of the restructuring.

On May 20, 2022, 1100 Lincoln Road was conveyed to the lender pursuant to a deed-in-lieu of foreclosure agreement in exchange for a \$5,672,000 payment to the Fund. From the inception of this investment through its disposition, the Fund realized a \$54,255,000 net loss.

As of December 31, 2022, we had two real estate fund investments through the Fund and the Crowne Plaza Joint Venture carried at zero on our consolidated balance sheet, \$276,390,000 below cost, and had remaining unfunded commitments of \$28,465,000, of which our share was \$8,849,000. As of December 31, 2021, we had three real estate fund investments with an aggregate fair value of \$7,730,000.

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,		
	2022	2021	2020
Previously recorded unrealized loss on exited investments	\$ 59,396	\$ —	\$ —
Realized (loss) income on exited investments	(54,255)	1,364	—
Net unrealized (loss) income on held investments	(7,730)	3,257	(226,107)
Net investment income (loss)	6,130	6,445	(220)
Income (loss) from real estate fund investments	3,541	11,066	(226,327)
Less (income) loss attributable to noncontrolling interests in consolidated subsidiaries	(1,870)	(7,309)	163,213
Income (loss) from real estate fund investments net of noncontrolling interests in consolidated subsidiaries	<u>\$ 1,671</u>	<u>\$ 3,757</u>	<u>\$ (63,114)</u>

The table below summarizes the changes in the fair value of the Fund and the Crowne Plaza Joint Venture.

(Amounts in thousands)

	For the Year Ended December 31,	
	2022	2021
Beginning balance	\$ 7,730	\$ 3,739
Previously recorded unrealized loss on exited investments	59,396	—
Realized (loss) income on exited investments	(54,255)	1,364
Net unrealized (loss) income on held investments	(7,730)	3,257
Dispositions	(5,141)	(5,104)
Purchases/additional fundings	—	4,474
Ending balance	<u>\$ —</u>	<u>\$ 7,730</u>

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

5. Investments in Partially Owned Entities

Fifth Avenue and Times Square JV

As of December 31, 2022, 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.

Fifth Avenue and Times Square JV was formed in April 2019, when we contributed our interests in the Properties to the joint venture and transferred a 48.5% common interest in the joint venture to the Investors (the "Transaction"). The Transaction valued the Properties at \$5.556 billion, resulting in a \$2.571 billion net gain, before noncontrolling interests of \$11,945,000, including a gain related to the step up in our basis of the retained portion of the assets to fair value. During 2020, Manhattan street retail suffered negative market conditions, which was further stressed by the COVID-19 pandemic, resulting in our recognition of other-than-temporary impairment losses of \$413,349,000, before noncontrolling interests of \$4,289,000, for the year ended December 31, 2020. While the Manhattan street retail market has since stabilized, the recovery of rental rates is likely to be further elongated and stabilize at lower levels than previously expected. These factors have resulted in a further decline in the value of our investment, which we determined was other-than-temporary based on our inability to forecast a recovery over our anticipated holding period. Accordingly, we recognized an impairment loss of \$489,859,000, before noncontrolling interests of \$6,822,000, for the year ended December 31, 2022 which is included in "(loss) income from partially owned entities" on our consolidated statements of income. In determining the fair value of our investment, we considered, among other factors, a discounted cash flow analysis based upon market conditions and expectations of growth.

As of December 31, 2022, 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 \$864,317,000, the basis difference primarily resulting from the non-cash impairment losses discussed above. 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.

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 \$4,397,000, \$4,297,000 and \$3,982,000 for the years ended December 31, 2022, 2021 and 2020, 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 \$4,571,000, \$3,993,000 and \$3,595,000 for the years ended December 31, 2022, 2021 and 2020, respectively.

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

On April 18, 2022, we received a \$13,613,000 refund of New York City real property transfer tax that we previously paid in connection with the transfer of the Properties to Fifth Avenue and Times Square JV in April 2019. The receipt of the refund was recognized in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income for the year ended December 31, 2022.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

5. Investments in Partially Owned Entities - continued

Fifth Avenue and Times Square JV - continued

On December 21, 2022, the 697-703 Fifth Avenue \$450,000,000 non-recourse mortgage loan matured and was not repaid, at which time the lenders declared an event of default. During December 2022, \$29,000,000 of property-level funds were applied by the lenders against the principal balance resulting in a \$421,000,000 loan balance as of December 31, 2022. The loan bears default interest at the Prime Rate plus 1.00% (8.50% as of December 31, 2022). The Fifth Avenue and Times Square JV is in negotiations with the lenders regarding a restructuring but there can be no assurance as to the timing and ultimate resolution of these negotiations.

Alexander's, Inc

As of December 31, 2022, 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, 2022 and 2021, Alexander's owed us an aggregate of \$801,000 and \$879,000, respectively, pursuant to such agreements.

As of December 31, 2022, 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, 2022 closing share price of \$220.06, was \$363,994,000, or \$276,198,000 in excess of the carrying amount on our consolidated balance sheet. As of December 31, 2022, 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 \$29,972,000. 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) \$354,000, 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, 2022, 2021 and 2020, we recognized \$4,601,000, \$4,234,000 and \$3,613,000 of income, respectively, for these services.

330 West 34th Street land owner joint venture

On August 18, 2022, the joint venture that owns the fee interest in the 330 West 34th Street land, in which we have a 34.8% interest, completed a \$100,000,000 refinancing. The interest-only loan bears interest at a fixed rate of 4.55% and matures in September 2032. In connection with the refinancing, we realized net proceeds of \$10,500,000. The loan replaces the previous \$50,150,000 loan that bore interest at a fixed rate of 5.71%.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, 2022	Balance as of December 31,	
		2022	2021
Investments:			
Fifth Avenue and Times Square JV (see page 89 for details)	51.5%	\$ 2,272,320	\$ 2,770,633
Partially owned office buildings/land ⁽¹⁾	Various	182,180	299,101
Alexander's (see page 90 for details)	32.4%	87,796	91,405
Other investments ⁽²⁾	Various	122,777	136,250
		<u>\$ 2,665,073</u>	<u>\$ 3,297,389</u>
Investments in partially owned entities included in other liabilities⁽³⁾:			
7 West 34th Street	53.0%	\$ (65,522)	\$ (60,918)
85 Tenth Avenue	49.9%	(16,006)	(18,067)
		<u>\$ (81,528)</u>	<u>\$ (78,985)</u>

(1) Includes interests in 280 Park Avenue, 650 Madison Avenue (balance reduced to zero in 2022), 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 (loss) income from partially owned entities.

(Amounts in thousands)

	Percentage Ownership at December 31, 2022	For the Year Ended December 31,		
		2022	2021	2020
Our share of net (loss) income:				
Fifth Avenue and Times Square JV (see page 89 for details)				
Non-cash impairment loss	51.5%	\$ (489,859)	\$ —	\$ (413,349)
Equity in net income ⁽¹⁾		55,248	47,144	21,063
Return on preferred equity, net of our share of the expense		37,416	37,416	37,357
		<u>(397,195)</u>	<u>84,560</u>	<u>(354,929)</u>
Alexander's (see page 90 for details):				
Equity in net income ⁽²⁾	32.4%	18,439	20,116	13,326
Net gain on sale of land		—	14,576	—
Management, leasing and development fees		4,534	5,429	5,309
		<u>22,973</u>	<u>40,121</u>	<u>18,635</u>
Partially owned office buildings ⁽³⁾	Various	(110,261)	6,384	11,943
Other investments ⁽⁴⁾	Various	23,132	(548)	(4,761)
		<u>\$ (461,351)</u>	<u>\$ 130,517</u>	<u>\$ (329,112)</u>

(1) Our share of depreciation and amortization expense in 2022 and 2021 was reduced compared to 2020 primarily due to non-cash impairment losses recognized in 2020.

(2) 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. 2022 includes a \$93,353 impairment loss on our investment in 650 Madison Avenue.

(4) Includes interests in Independence Plaza, Rosslyn Plaza and others. 2022 includes \$17,185 of net gains from dispositions of two investments.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, 2022	Maturity	Weighted Average Interest Rate at December 31, 2022 ⁽¹⁾	100% Partially Owned Entities' Debt ⁽²⁾ at December 31,	
				2022	2021
Mortgages Payable:					
Partially owned office buildings ⁽³⁾	Various	2023-2029	4.82%	\$ 3,288,977	\$ 3,297,999
Alexander's	32.4%	2024-2027	4.12%	1,096,544	1,096,544
Fifth Avenue and Times Square JV ⁽⁴⁾	51.5%	2022-2024	5.55%	921,000	950,000
Other ⁽⁵⁾	Various	2023-2032	5.14%	1,377,492	1,342,162

- (1) Represents the interest rate in effect as of period end based on the appropriate reference rate as of the contractual reset date plus contractual spread, adjusted for hedging instruments, as applicable.
- (2) 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.
- (3) Includes interests in 280 Park Avenue, 650 Madison Avenue, 7 West 34th Street, 512 West 22nd Street, 61 Ninth Avenue, 85 Tenth Avenue and others.
- (4) Includes the 697-703 Fifth Avenue mortgage loan which was not repaid upon its December 2022 maturity, resulting in an event of default. See page 90 for details.
- (5) 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 \$2,697,226,000 and \$2,699,405,000 as of December 31, 2022 and 2021, 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,	
	2022	2021
Balance Sheet:		
Assets	\$ 12,012,000	\$ 12,689,000
Liabilities	7,519,000	7,553,000
Noncontrolling interests	2,095,000	2,069,000
Equity	2,398,000	3,067,000

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Income Statement:			
Total revenue	\$ 1,189,000	\$ 1,184,000	\$ 1,163,000
Net (loss) income	(404,000)	190,000	45,000
Net (loss) income attributable to the entities	(483,000)	114,000	(33,000)

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

6. 220 Central Park South

During the year ended December 31, 2022, we closed on the sale of three condominium units and ancillary amenities at 220 CPS for net proceeds of \$88,019,000 resulting in a financial statement net gain of \$41,874,000 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, \$6,016,000 of income tax expense was recognized on our consolidated statements of income. From inception to December 31, 2022, we have closed on the sale of 109 units and ancillary amenities for net proceeds of \$3,094,915,000 resulting in financial statement net gains of \$1,159,129,000. As of December 31, 2022, we are 97% sold.

7. Dispositions

SoHo Properties

On January 13, 2022, we sold two Manhattan retail properties located at 478-482 Broadway and 155 Spring Street for \$84,500,000 and realized net proceeds of \$81,399,000. In connection with the sale, we recognized a net gain of \$551,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

Center Building (33-00 Northern Boulevard)

On June 17, 2022, we sold the Center Building, an eight-story 498,000 square foot office building located at 33-00 Northern Boulevard in Long Island City, New York, for \$172,750,000. We realized net proceeds of \$58,946,000 after repayment of the existing \$100,000,000 mortgage loan and closing costs. In connection with the sale, we recognized a net gain of \$15,213,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

484-486 Broadway

On December 15, 2022, we sold 484-486 Broadway, a 30,000 square foot retail and residential building for \$23,520,000, and realized net proceeds of \$22,430,000. In connection with the sale, we recognized a net gain of \$2,919,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

40 Fulton Street

On December 21, 2022, we sold 40 Fulton Street, a 251,000 square foot Manhattan office and retail building, for \$101,000,000, and realized net proceeds of \$96,566,000. In connection with the sale, we recognized a net gain of \$31,876,000 which is included in "net gains on disposition of wholly owned and partially owned assets" on our consolidated statements of income.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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,	
	2022	2021
Identified intangible assets:		
Gross amount	\$ 237,777	\$ 252,081
Accumulated amortization	(98,139)	(97,186)
Total, net	<u>\$ 139,638</u>	<u>\$ 154,895</u>
Identified intangible liabilities (included in deferred revenue):		
Gross amount	\$ 244,396	\$ 256,065
Accumulated amortization	(208,592)	(212,245)
Total, net	<u>\$ 35,804</u>	<u>\$ 43,820</u>

Amortization of acquired below-market leases, net of acquired above-market leases, resulted in an increase to rental revenues of \$5,178,000, \$9,249,000 and \$16,878,000 for the years ended December 31, 2022, 2021 and 2020, respectively. Estimated annual amortization for each of the five succeeding years commencing January 1, 2023 is below:

(Amounts in thousands)

2023	\$ 5,471
2024	2,352
2025	941
2026	299
2027	(148)

Amortization of all other identified intangible assets (a component of depreciation and amortization expense) was \$10,516,000, \$7,330,000 and \$6,507,000 for the years ended December 31, 2022, 2021 and 2020, respectively. Estimated annual amortization for each of the five succeeding years commencing January 1, 2023 is below:

(Amounts in thousands)

2023	\$ 7,948
2024	7,128
2025	6,077
2026	5,884
2027	5,449

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

9. Debt

Secured Debt

On June 15, 2022, we completed a \$480,000,000 refinancing of 100 West 33rd Street, a 1.1 million square foot building comprised of 859,000 square feet of office space and 255,000 square feet of retail space. The interest-only loan bears a rate of SOFR plus 1.65% (5.96% as of December 31, 2022) through March 2024, increasing to SOFR plus 1.85% thereafter. The interest rate on the loan was swapped to a fixed rate of 5.06% through March 2024, and 5.26% through June 2027. The loan matures in June 2027, with two one-year extension options subject to debt service coverage ratio and loan-to-value tests. The loan replaces the previous \$580,000,000 loan that bore interest at LIBOR plus 1.55% and was scheduled to mature in April 2024.

On June 28, 2022, we completed a \$700,000,000 refinancing of 770 Broadway, a 1.2 million square foot Class A Manhattan office building. The interest-only loan bears a rate of SOFR plus 2.25% (6.48% as of December 31, 2022) and matures in July 2024 with three one-year extension options (July 2027 as fully extended). The interest rate on the loan was swapped to a fixed rate of 4.98% through July 2027. The loan replaces the previous \$700,000,000 loan that bore interest at SOFR plus 1.86% and was scheduled to mature in July 2022.

Unsecured Revolving Credit Facility

On June 30, 2022, we amended and extended one of our two revolving credit facilities. The \$1.25 billion amended facility bears interest at a rate of SOFR plus 1.15% (5.47% as of December 31, 2022). The term of the facility was extended from March 2024 to December 2027, as fully extended. The facility fee is 25 basis points. On August 16, 2022, the interest rate on the \$575,000,000 drawn on the facility was swapped to a fixed interest rate of 3.88% through August 2027. Our other \$1.25 billion revolving credit facility matures in April 2026, as fully extended, and bears a rate of SOFR plus 1.19% with a facility fee of 25 basis points.

Unsecured Term Loan

On June 30, 2022, we extended our \$800,000,000 unsecured term loan from February 2024 to December 2027. The extended loan bears interest at a rate of SOFR plus 1.30% (5.62% as of December 31, 2022) and is currently swapped to a fixed rate of 4.05%.

Interest Rate Hedging Activities

We entered into the following interest rate swap arrangements during the year ended December 31, 2022. See Note 13 - *Fair Value Measurements* for further information on our consolidated hedging instruments.

(Amounts in thousands)

	Notional Amount	All-In Swapped Rate	Swap Expiration Date	Variable Rate Spread
770 Broadway mortgage loan	\$ 700,000	4.98%	07/27	S+225
Unsecured revolving credit facility	575,000	3.88%	08/27	S+115
Unsecured term loan ⁽¹⁾⁽²⁾	50,000	4.04%	08/27	S+130
Unsecured term loan (effective 10/23) ⁽²⁾	500,000	4.39%	10/26	S+130
100 West 33rd Street mortgage loan	480,000	5.06%	06/27	S+165
888 Seventh Avenue mortgage loan ⁽³⁾	200,000	4.76%	09/27	S+180

(1) Together with the existing \$750,000 interest rate swap arrangement expiring October 2023, the \$800,000 unsecured term loan balance currently bears interest at a fixed rate of 4.05%.

(2) On February 7, 2023, we entered into a forward interest rate swap arrangement for \$150,000 of the \$800,000 unsecured term loan, effective October 2023 and expiring July 2025.

(3) The remaining \$77,800 amortizing mortgage loan balance bears interest at a floating rate of SOFR plus 1.80%.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

9. Debt - continued

The following is a summary of our debt:

(Amounts in thousands)	Weighted Average Interest Rate at December 31, 2022 ⁽¹⁾	Balance as of December 31,	
		2022	2021
Mortgages Payable:			
Fixed rate	3.63%	\$ 3,570,000	\$ 2,190,000
Variable rate ⁽²⁾	5.67%	2,307,615	3,909,215
Total	4.43%	5,877,615	6,099,215
Deferred financing costs, net and other		(48,597)	(45,872)
Total, net		<u>\$ 5,829,018</u>	<u>\$ 6,053,343</u>
Unsecured Debt:			
Senior unsecured notes	3.02%	\$ 1,200,000	\$ 1,200,000
Deferred financing costs, net and other		(8,168)	(10,208)
Senior unsecured notes, net		<u>1,191,832</u>	<u>1,189,792</u>
Unsecured term loan	4.05%	800,000	800,000
Deferred financing costs, net and other		(6,807)	(2,188)
Unsecured term loan, net		<u>793,193</u>	<u>797,812</u>
Unsecured revolving credit facilities	3.88%	575,000	575,000
Total, net		<u>\$ 2,560,025</u>	<u>\$ 2,562,604</u>

- (1) Represents the interest rate in effect as of period end based on the appropriate reference rate as of the contractual reset date plus contractual spread, adjusted for hedging instruments, as applicable.
- (2) As of December 31, 2022, our variable rate debt is subject to interest rate cap arrangements with a total notional amount of \$1,649,120. The interest rate cap arrangements have a weighted average strike rate of 4.14% and a weighted average remaining term of nine months. These amounts exclude the forward cap we entered into in December 2022 for the \$525,000 One Park Avenue mortgage loan effective upon the March 2023 expiration of the existing cap. The forward cap has a SOFR strike rate of 3.89% and expires in March 2024.

The net carrying amount of properties collateralizing the above indebtedness amounted to \$5.6 billion as of December 31, 2022.

As of December 31, 2022, the principal maturities of mortgages payable and unsecured debt, including as-of-right extension options, for the next five years and thereafter are as follows:

(Amounts in thousands)	Mortgages Payable		Unsecured Debt	
Year Ended December 31,				
2023	\$	21,600	\$	—
2024		396,415		—
2025		854,600		450,000
2026		525,000		400,000
2027		1,580,000		1,375,000
Thereafter		2,500,000		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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

10. Redeemable Noncontrolling Interests - continued

Redeemable Noncontrolling Partnership Units - continued

Below are the details of redeemable noncontrolling partnership units.

Unit Series	Balance as of December 31,		Units Outstanding as of December 31,		Per Unit Liquidation Preference	Preferred or Annual Distribution Rate
	2022	2021	2022	2021		
<i>Common:</i>						
Class A units held by third parties	\$ 345,157 ⁽¹⁾	\$ 587,440 ⁽²⁾	14,416,891	14,033,438	n/a	\$ 2.12
<i>Perpetual Preferred/Redeemable Preferred:</i>						
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 carrying amount.

(2) Aggregate redemption value was based on Vornado's year-end closing common share price.

(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,	
	2022	2021
Beginning balance	\$ 590,975	\$ 511,747
Net (loss) income	(30,376)	7,540
Other comprehensive income	14,250	4,048
Distributions	(30,311)	(29,901)
Redemption of Class A units for Vornado common shares, at redemption value	(3,524)	(14,576)
Redeemable Class A unit measurement adjustment	(221,145)	76,073
Other, net	28,823	36,044
Ending balance	\$ 348,692	\$ 590,975

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*. Accordingly, the fair value of these units is included as a component of "other liabilities" on our consolidated balance sheets and aggregated \$49,383,000 and \$49,659,000 as of December 31, 2022 and 2021, 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 completing development of The Farley Building (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. 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, 2022 and 2021.

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,	
	2022	2021
Beginning balance	\$ 97,708	\$ 94,520
Net (loss) income	(9,668)	3,188
Ending balance	\$ 88,040	\$ 97,708

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

11. Shareholders' Equity/Partners' Capital

Common Shares (Vornado Realty Trust)

As of December 31, 2022, there were 191,866,880 common shares outstanding. During 2022, we paid an aggregate of \$406,562,000 of common dividends comprised of quarterly common dividends of \$0.53 per share.

Class A Units (Vornado Realty L.P.)

As of December 31, 2022, there were 191,866,880 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, 2022, there were 14,416,891 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 2022, the Operating Partnership paid an aggregate of \$406,562,000 of distributions to Vornado comprised of quarterly common distributions of \$0.53 per unit.

Preferred Shares/Units

The following table sets forth the details of our preferred shares of beneficial interest and the preferred units of the Operating Partnership outstanding as of December 31, 2022 and 2021. During 2022, preferred dividends were \$62,116,000.

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

Preferred Shares/Units	Balance	Shares/Units Outstanding	Per Share/Unit	
			Liquidation Preference	Annual Dividend/Distribution ⁽¹⁾
Convertible Preferred:				
6.5% Series A: authorized 12,902 shares/units ⁽²⁾	\$ 920	12,902	\$ 50.00	\$ 3.25
Cumulative Redeemable Preferred ⁽³⁾ :				
5.40% Series L: authorized 13,800,000 shares/units	290,306	12,000,000	25.00	1.35
5.25% Series M: authorized 13,800,000 shares/units	308,946	12,780,000	25.00	1.3125
5.25% Series N: authorized 12,000,000 shares/units	291,134	12,000,000	25.00	1.3125
4.45% Series O: authorized 12,000,000 shares/units	291,153	12,000,000	25.00	1.1125
	<u>\$ 1,182,459</u>	<u>48,792,902</u>		

- (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 and Series M 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 N preferred shares/units are redeemable commencing November 2025 and Series O preferred shares/units are redeemable commencing September 2026.

12. Variable Interest Entities

Unconsolidated VIEs

As of December 31, 2022 and 2021, we had 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, 2022 and 2021, the net carrying amount of our investments in these entities was \$68,223,000 and \$69,435,000, 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 noncontrolling interests. These entities are VIEs because the noncontrolling 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, 2022, the total assets and liabilities of our consolidated VIEs, excluding the Operating Partnership, were \$4,423,995,000 and \$2,345,726,000 respectively. 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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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 as well as certain U.S. Treasury securities that are highly liquid and are actively traded in secondary markets; 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) investments in U.S. Treasury bills (classified as available-for-sale), (ii) real estate fund investments, (iii) the assets in our deferred compensation plan (for which there is a corresponding liability on our consolidated balance sheets), (iv) loans receivable for which we have elected the fair value option under ASC Subtopic 825-10, *Financial Instruments* ("ASC 825-10"), (v) interest rate swaps and caps and (vi) 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.

	As of December 31, 2022			
	Total	Level 1	Level 2	Level 3
(Amounts in thousands)				
Investments in U.S. Treasury bills ⁽¹⁾	\$ 471,962	\$ 471,962	\$ —	\$ —
Deferred compensation plan assets (\$7,763 included in restricted cash and \$88,559 in other assets)	96,322	57,406	—	38,916
Loans receivable (\$50,091 included in investments in partially owned entities and \$4,306 in other assets)	54,397	—	—	54,397
Interest rate swaps and caps (included in other assets)	183,804	—	183,804	—
Total assets	<u>\$ 806,485</u>	<u>\$ 529,368</u>	<u>\$ 183,804</u>	<u>\$ 93,313</u>
Mandatorily redeemable instruments (included in other liabilities)	<u>\$ 49,383</u>	<u>\$ 49,383</u>	<u>\$ —</u>	<u>\$ —</u>
(Amounts in thousands)				
	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 (included in other assets)	18,929	—	18,929	—
Total assets	<u>\$ 187,015</u>	<u>\$ 65,158</u>	<u>\$ 18,929</u>	<u>\$ 102,928</u>
Mandatorily redeemable instruments (included in other liabilities)	<u>\$ 49,659</u>	<u>\$ 49,659</u>	<u>\$ —</u>	<u>\$ —</u>
Interest rate swaps (included in other liabilities)	32,837	—	32,837	—
Total liabilities	<u>\$ 82,496</u>	<u>\$ 49,659</u>	<u>\$ 32,837</u>	<u>\$ —</u>

(1) During the year ended December 31, 2022, we purchased \$1,066,096 in U.S. Treasury bills with an aggregate par value of \$1,077,000 and realized net proceeds of \$600,000 from maturing U.S. Treasury bills. As of December 31, 2022, our investments in U.S. Treasury bills have an aggregate accreted cost of \$473,171 and have remaining maturities of less than one year.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

13. Fair Value Measurements - continued

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

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,	
	2022	2021
Beginning balance	\$ 45,016	\$ 39,928
Purchases	4,507	5,705
Sales	(9,941)	(4,766)
Realized and unrealized (losses) gains	(3,781)	2,250
Other, net	3,115	1,899
Ending balance	<u>\$ 38,916</u>	<u>\$ 45,016</u>

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 below were utilized in determining the fair value of these loans receivable.

Unobservable Quantitative Input	As of December 31,	
	2022	2021
Discount rates	7.5%	6.5%
Terminal capitalization rates	5.5%	5.0%

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

(Amounts in thousands)	For the Year Ended December 31,	
	2022	2021
Beginning balance	\$ 50,182	\$ 47,743
Interest accrual	4,748	3,714
Paydowns	(533)	(1,275)
Ending balance	<u>\$ 54,397</u>	<u>\$ 50,182</u>

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

13. Fair Value Measurements - continued

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

Derivatives and Hedging

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 hedged 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 hedging instruments and hedged items, but will have no effect on cash flows.

The following table summarizes our consolidated hedging instruments, all of which hedge variable rate debt, as of December 31, 2022 and 2021, respectively.

(Amounts in thousands)

	Fair Value Asset (Liability) as of December 31,		As of December 31, 2022		
	2022	2021	Notional Amount	All-In Swapped Rate	Swap Expiration Date
Interest Rate Swaps:					
555 California Street mortgage loan	\$ 49,888	\$ 11,814	\$ 840,000 ⁽¹⁾	2.26%	05/24
770 Broadway mortgage loan	29,226	—	700,000	4.98%	07/27
PENN 11 mortgage loan	26,587	6,565	500,000	2.22%	03/24
Unsecured revolving credit facility	24,457	—	575,000	3.88%	08/27
Unsecured term loan	14,694	(28,976)	800,000	4.05%	(2)
100 West 33rd Street mortgage loan	6,886	—	480,000	5.06%	06/27
888 Seventh Avenue mortgage loan	6,544	—	200,000 ⁽³⁾	4.76%	09/27
Unsecured term loan (effective October 2023)	6,330	—	500,000	4.39%	10/26
4 Union Square South mortgage loan	4,050	(3,861)	100,000 ⁽⁴⁾	3.74%	01/25
Interest Rate Caps:					
1290 Avenue of the Americas mortgage loan	7,590	411	950,000	(5)	11/23
One Park Avenue mortgage loan	5,472	—	525,000	(6)	03/24
Various mortgage loans	2,080	139			
Included in other assets	<u>\$ 183,804</u>	<u>\$ 18,929</u>			
Included in other liabilities	<u>\$ —</u>	<u>\$ 32,837</u>			

(1) Represents our 70.0% share of the \$1.2 billion mortgage loan.

(2) Comprised of a \$750,000 interest rate swap arrangement expiring October 2023 and a \$50,000 interest rate swap arrangement expiring August 2027.

(3) The remaining \$77,800 amortizing mortgage loan balance bears interest at a floating rate of SOFR plus 1.80% (5.92% as of December 31, 2022).

(4) Upon the sale of 33-00 Northern Boulevard in June 2022, the \$100,000 corporate-level interest rate swap was reallocated and now hedges the interest rate on \$100,000 of the 4 Union Square South mortgage loan through January 2025. The remaining \$20,000 mortgage loan balance bears interest at a floating rate of SOFR plus 1.50% (5.62% as of December 31, 2022).

(5) LIBOR cap strike rate of 4.00%.

(6) SOFR cap strike rate of 4.39%. In December 2022, we entered into a forward cap for the \$525,000 One Park Avenue mortgage loan effective upon the March 2023 expiration of the existing cap. The forward cap has a SOFR strike rate of 3.89% and expires in March 2024.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

13. Fair Value Measurements - continued

Fair Value Measurements on a Nonrecurring Basis

As of December 31, 2022, we had assets measured at fair value on a nonrecurring basis on our consolidated balance sheets with an aggregate fair value of \$2,352,328,000, representing real estate investments, including our investment in Fifth Avenue and Times Square JV as well as wholly owned street retail assets, that have been written down to estimated fair value for impairment purposes. These investments are classified as Level 3. Our estimate of the fair value of these assets was measured using discounted cash flow analyses based upon market conditions and expectations of growth and utilized unobservable quantitative inputs including capitalization rates and discount rates. Significant unobservable quantitative inputs in the table below were utilized in determining the fair value of these real estate assets.

Unobservable Quantitative Input	December 31, 2022	
	Range	Weighted Average (based on fair value of investments)
Discount rates	7.50% - 8.00%	7.52%
Terminal capitalization rates	4.75% - 5.50%	4.78%

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, 2022		As of December 31, 2021	
	Carrying Amount	Fair Value	Carrying Amount	Fair Value
Cash equivalents	\$ 402,903	\$ 403,000	\$ 1,346,684	\$ 1,347,000
Debt:				
Mortgages payable	\$ 5,877,615	\$ 5,697,000	\$ 6,099,215	\$ 6,052,000
Senior unsecured notes	1,200,000	1,021,000	1,200,000	1,230,000
Unsecured term loan	800,000	800,000	800,000	800,000
Unsecured revolving credit facilities	575,000	575,000	575,000	575,000
Total	\$ 8,452,615 ⁽¹⁾	\$ 8,093,000	\$ 8,674,215 ⁽¹⁾	\$ 8,657,000

(1) Excludes \$63,572 and \$58,268 of deferred financing costs, net and other as of December 31, 2022 and 2021, respectively.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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"), performance conditioned appreciation-only long-term incentive plan units ("Performance Conditioned AO LTIP Units") and long-term performance plan LTIP units ("LTPP 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, 2022, Vornado has approximately 2,803,000 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,		
	2022	2021	2020
OP Units	\$ 21,086	\$ 27,698	\$ 33,431
LTPP Units	5,145	—	—
OPPs	1,906	8,629	9,579
AO LTIP Units	430	877	3,955
Vornado stock options	296	456	656
Vornado restricted stock	292	450	649
Performance Conditioned AO LTIP Units	94	219	407
	<u>\$ 29,249</u>	<u>\$ 38,329</u>	<u>\$ 48,677</u>

Below is a summary of unrecognized compensation expense for the year ended December 31, 2022.

(Amounts in thousands)

	As of December 31, 2022	Weighted-Average Remaining Contractual Term
OP Units	\$ 7,834	1.4
OPPs	3,198	1.6
LTPP Units	2,702	1.8
Vornado stock options	175	1.0
Vornado restricted stock	172	1.0
AO LTIP Units	131	1.0
	<u>\$ 14,212</u>	1.5

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

14. Stock-based Compensation - continued

LTPP Units

On January 12, 2022, the Committee approved the 2022 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:

- FFO, as adjusted per share (75% weighting); and
- ESG performance metrics consisting of greenhouse emissions reductions, Global Real Estate Sustainability Benchmark ("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 three-year shareholder return ("TSR") for 2022-2025 is below specified levels.

Awards under relative components may be earned based on Vornado's three-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 three-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. LTPP Units, if earned, become convertible into Class A units of the Operating Partnership (and ultimately into Vornado common shares) following vesting.

LTPP Units granted during the year ended December 31, 2022 had a total notional value of \$17,025,000 and a fair value of \$7,847,000, of which \$4,033,000 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 REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

14. Stock-based Compensation – continued

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. OPP units, if earned, become convertible into Class A units of the Operating Partnership (and ultimately into Vornado common shares) following vesting.

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

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

(1) During the years ended December 31, 2021 and 2020 \$6,140,000 and \$7,583,000, 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, 2022.

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2021	191,933	\$ 65.27		
Exercised	(197)	36.72		
Forfeited	(1,413)	53.42		
Expired	(13,618)	65.86		
Outstanding as of December 31, 2022	176,705	\$ 65.35	4.99	\$ —
Options exercisable as of December 31, 2022	140,031	\$ 68.25	4.48	\$ —

There were no Vornado stock options granted during the years ended December 31, 2022 and 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 year ended December 31, 2020.

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

The weighted average grant date fair value per share for options granted during the year ended December 31, 2020 was \$12.28. Cash received from option exercises for the years ended December 31, 2022, 2021 and 2020 was \$7,000, \$22,000 and \$3,516,000, respectively. The total intrinsic value of options exercised during the years ended December 31, 2022, 2021 and 2020 was \$842, \$5,500 and \$859,000, respectively.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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. On January 14, 2023, the outstanding Performance AO LTIPs, which were issued in 2019, were forfeited as the performance conditions were not satisfied.

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. 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, 2022.

	Shares	Weighted-Average Exercise Price	Weighted-Average Remaining Contractual Term	Aggregate Intrinsic Value
Outstanding as of December 31, 2021	567,739	\$ 59.91		
Forfeited	(886)	54.16		
Expired	(1,189)	56.29		
Outstanding as of December 31, 2022	<u>565,664</u>	<u>\$ 59.93</u>	<u>6.29</u>	<u>\$ —</u>
Options exercisable as of December 31, 2022	<u>437,372</u>	<u>\$ 61.39</u>	<u>6.12</u>	<u>\$ —</u>

There were no AO LTIP Units granted during the years ended December 31, 2022 and 2021. AO LTIP Units granted during the year ended December 31, 2020 had a fair value of \$4,319,000. 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 year ended December 31, 2020.

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

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

14. Stock-based Compensation – continued

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 \$2,197,000, \$2,634,000 and \$5,316,000 in the years ended December 31, 2022, 2021 and 2020, respectively.

Below is a summary of restricted OP unit activity for the year ended December 31, 2022.

Unvested Units	Units	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2021	1,083,087	\$ 53.99
Granted	501,169	30.82
Vested	(597,292)	42.12
Forfeited	(1,048)	44.25
Unvested as of December 31, 2022	<u>985,916</u>	49.41

OP Units granted in 2022, 2021 and 2020 had a fair value of \$15,446,000, \$26,194,000 and \$18,013,000, respectively. The fair value of OP Units that vested during the years ended December 31, 2022, 2021 and 2020 was \$25,158,000, \$36,541,000 and \$24,373,000, 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 \$18,000, \$35,000 and \$98,000 for the years ended December 31, 2022, 2021 and 2020, respectively.

Below is a summary of Vornado’s restricted stock activity for the year ended December 31, 2022.

Unvested Shares	Shares	Weighted-Average Grant-Date Fair Value
Unvested as of December 31, 2021	15,774	\$ 57.82
Vested	(7,069)	60.57
Forfeited	(326)	54.55
Unvested as of December 31, 2022	<u>8,379</u>	55.64

There were no Vornado restricted stock awards granted during the years ended December 31, 2022 and 2021. Vornado restricted stock awards granted in 2020 had a fair value of \$853,000. The fair value of restricted stock that vested during the years ended December 31, 2022, 2021 and 2020 was \$428,000, \$567,000 and \$602,000, respectively.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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,		
	2022	2021	2020
Real estate impairment losses ⁽¹⁾	\$ 19,098	\$ 7,880	\$ 236,286
Transaction related costs and other	12,624	5,935	8,001
608 Fifth Avenue lease liability extinguishment gain	—	—	(70,260)
	<u>\$ 31,722</u>	<u>\$ 13,815</u>	<u>\$ 174,027</u>

(1) See Note 13 - *Fair Value Measurements* 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,		
	2022	2021	2020
Interest on cash and cash equivalents and restricted cash	\$ 7,553	\$ 284	\$ 5,793
Amortization of discount on investments in U.S. Treasury bills	7,075	—	—
Interest on loans receivable	5,006	2,517	3,384
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	235	1,811	3,631
	<u>\$ 19,869</u>	<u>\$ 4,612</u>	<u>\$ (5,499)</u>

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,		
	2022	2021	2020
Interest expense ⁽¹⁾	\$ 277,046	\$ 249,169	\$ 251,847
Amortization of Deferred Financing Fees	21,804	20,247	18,460
Capitalized Interest & Debt Expense	(19,085)	(38,320)	(41,056)
	<u>\$ 279,765</u>	<u>\$ 231,096</u>	<u>\$ 229,251</u>

(1) 2021 includes \$23,729 of defeasance costs, of which \$7,119 is attributable to noncontrolling interests, in connection with the refinancing of 1290 Avenue of the Americas, a property in which we own a 70% controlling interest.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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

Vornado Realty Trust

The following table presents the calculations of (i) basic (loss) income per common share which includes the weighted average number of common shares outstanding without regard to dilutive potential common shares and (ii) diluted (loss) income per common share which includes weighted average common shares outstanding 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. Our share-based payment awards, including employee stock options, OP Units, OPPs, AO LTIP Units, Performance Conditioned AO LTIP Units and LTPP Units, are included in the calculation of diluted income per share using the treasury stock method if dilutive. Our convertible securities, including our Series A convertible preferred shares, Series G-1 through G-4 convertible preferred units and Series D-13 redeemable preferred units, are reflected in diluted income per share by application of the if-converted method if dilutive.

(Amounts in thousands, except per share amounts)

	For the Year Ended December 31,		
	2022	2021	2020
Numerator:			
Net (loss) income attributable to Vornado	\$ (346,499)	\$ 175,999	\$ (297,005)
Preferred share dividends	(62,116)	(65,880)	(51,739)
Series K preferred share issuance costs	—	(9,033)	—
Net (loss) income attributable to common shareholders	(408,615)	101,086	(348,744)
Earnings allocated to unvested participating securities	(18)	(34)	(99)
Numerator for basic (loss) income per share	<u>\$ (408,633)</u>	<u>\$ 101,052</u>	<u>\$ (348,843)</u>
Denominator:			
Denominator for basic (loss) income per share – weighted average shares	191,775	191,551	191,146
Effect of dilutive securities ⁽¹⁾ :			
Share-based payment awards	—	571	—
Denominator for diluted (loss) income per share – weighted average shares and assumed conversions	<u>191,775</u>	<u>192,122</u>	<u>191,146</u>
(LOSS) INCOME PER COMMON SHARE - BASIC:			
Net (loss) income per common share	<u>\$ (2.13)</u>	<u>\$ 0.53</u>	<u>\$ (1.83)</u>
(LOSS) INCOME PER COMMON SHARE - DILUTED:			
Net (loss) income per common share	<u>\$ (2.13)</u>	<u>\$ 0.53</u>	<u>\$ (1.83)</u>

(1) The effect of dilutive securities excluded an aggregate of 16,252, 13,835 and 14,007 weighted average common share equivalents in the years ended December 31, 2022, 2021 and 2020, respectively, as their effect was anti-dilutive.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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

Vornado Realty L.P.

The following table presents the calculations of (i) basic (loss) income 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 (loss) income per Class A unit which includes the weighted average Class A units outstanding 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 and our OP Units, based on the two-class method. Our other share-based payment awards, including Vornado stock options, OPPs, AO LTIP Units, Performance Conditioned AO LTIP Units and LTPP Units, are included in the calculation of diluted income per Class A unit using the treasury stock method if dilutive. Our convertible securities, including our Series A convertible preferred units, Series G-1 through G-4 convertible preferred units and Series D-13 redeemable preferred units, are reflected in diluted income per Class A unit by application of the if-converted method if dilutive.

(Amounts in thousands, except per unit amounts)

	For the Year Ended December 31,		
	2022	2021	2020
Numerator:			
Net (loss) income attributable to Vornado Realty L.P.	\$ (376,875)	\$ 183,539	\$ (321,951)
Preferred unit distributions	(62,231)	(66,035)	(51,904)
Series K preferred unit issuance costs	—	(9,033)	—
Net (loss) income attributable to Class A unitholders	(439,106)	108,471	(373,855)
Earnings allocated to unvested participating securities	(2,215)	(2,668)	(5,417)
Numerator for basic (loss) income per Class A unit	<u>\$ (441,321)</u>	<u>\$ 105,803</u>	<u>\$ (379,272)</u>
Denominator:			
Denominator for basic (loss) income per Class A unit – weighted average units	205,315	204,728	203,503
Effect of dilutive securities ⁽¹⁾ :			
Share-based payment awards	—	916	—
Denominator for diluted (loss) income per Class A unit – weighted average units and assumed conversions	<u>205,315</u>	<u>205,644</u>	<u>203,503</u>
(LOSS) INCOME PER CLASS A UNIT - BASIC:			
Net (loss) income per Class A unit	<u>\$ (2.15)</u>	<u>\$ 0.52</u>	<u>\$ (1.86)</u>
(LOSS) INCOME PER CLASS A UNIT - DILUTED:			
Net (loss) income per Class A unit	<u>\$ (2.15)</u>	<u>\$ 0.51</u>	<u>\$ (1.86)</u>

(1) The effect of dilutive securities excluded an aggregate of 2,712, 313 and 1,650 weighted average Class A unit equivalents for the years ended December 31, 2022, 2021 and 2020, respectively, as their effect was anti-dilutive.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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, 2022, future undiscounted cash flows under non-cancelable operating leases were as follows:

(Amounts in thousands)	<u>As of December 31, 2022</u>	
For the year ended December 31,		
2023	\$	1,304,777
2024		1,200,544
2025		1,102,476
2026		1,053,948
2027		950,515
Thereafter		6,515,202

As lessee

We have a number of ground leases which are classified as operating leases. As of December 31, 2022, our ROU assets and lease liabilities were \$684,380,000 and \$735,969,000, respectively. As of December 31, 2021, our ROU assets and lease liabilities were \$337,197,000 and \$370,206,000, respectively.

In January 2022, we exercised a 25-year renewal option on our PENN 1 ground lease extending the term through June 2073. As a result of the exercise, we remeasured the related ground lease liability to include our 25-year extension option and recorded an estimated incremental right-of-use asset and lease liability of approximately \$350,000,000 which is included in "right-of-use assets" and "lease liabilities", respectively, on our consolidated balance sheets. The ground lease is subject to fair market value resets every 25 years over the lease term, with the next reset occurring in June 2023.

When the rate implicit in a lease is not readily determinable, 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, 2022, 2021 and 2020:

(Amounts in thousands)	<u>For the Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Weighted average remaining lease term (in years)	48.4	44.4	44.8
Weighted average discount rate	5.54%	4.85%	4.91%
Cash paid for operating leases	\$ 21,861	\$ 22,382	\$ 23,932

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, 2022, 2021 and 2020:

(Amounts in thousands)	<u>For the Year Ended December 31,</u>		
	<u>2022</u>	<u>2021</u>	<u>2020</u>
Fixed rent expense	\$ 45,211	\$ 24,901	\$ 28,503
Variable rent expense	14,180	13,078	1,178
Rent expense	<u>\$ 59,391</u>	<u>\$ 37,979</u>	<u>\$ 29,681</u>

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

19. Leases - continued

As lessee - continued

As of December 31, 2022, future lease payments under operating ground leases were as follows:

(Amounts in thousands)	<u>As of December 31, 2022</u>	
For the year ended December 31,		
2023	\$	34,782
2024		46,859
2025		47,227
2026		47,616
2027		48,027
Thereafter		1,949,551
Total undiscounted cash flows		2,174,062
Present value discount		(1,438,093)
Lease liabilities	\$	<u>735,969</u>

The Farley Building

The future lease payments detailed above exclude the ground and building lease at The Farley Building. The consolidated joint venture, in which we own a 95% controlling interest, has a 99-year triple-net lease with Empire State Development ("ESD") for 846,000 rentable square feet of commercial space at the property, comprised of approximately 730,000 square feet of office space and approximately 116,000 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, 2022, future rent and fixed PILOT payments are \$535,188,000.

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, 2022, our subsidiaries' participation in these plans was not significant to our consolidated financial statements.

In the years ended December 31, 2022, 2021 and 2020, we contributed \$7,761,000, \$19,851,000 and \$7,049,000, 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, 2022, 2021 and 2020.

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, 2022, 2021 and 2020, our subsidiaries contributed \$26,514,000, \$23,431,000 and \$26,938,000, respectively, towards these plans, which is included as a component of "operating" expenses on our consolidated statements of income.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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 \$1,774,525 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 the Farley Condominiums) maintain 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 January 31, 2023, the Court of Appeal affirmed the lower court’s 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.

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 The Farley Building. As of December 31, 2022, the aggregate dollar amount of these guarantees and master leases is approximately \$1,553,000,000.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

21. Commitments and Contingencies – continued

Other Commitments and Contingencies - continued

As of December 31, 2022, \$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 current ratings). 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 completing the development of The Farley Building. 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, 2022, 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, 2022 fair value of the Fund assets, at liquidation we would be required to make a \$26,400,000 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, 2022, we expect to fund additional capital to certain of our partially owned entities aggregating approximately \$10,300,000.

As of December 31, 2022, we have construction commitments aggregating approximately \$409,000,000.

22. Related Party Transactions

Alexander's, Inc.

We own 32.4% of Alexander's. Steven Roth, the Chairman of Vornado's Board of Trustees 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, 2022, Interstate and its partners beneficially owned an aggregate of approximately 7.0% of the common shares of beneficial interest of Vornado and 26.0% 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 \$204,000, \$203,000, and \$203,000 of management fees under the agreement for the years ended December 31, 2022, 2021 and 2020, 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.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

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. Asset information by segment is not reported as we do not use this measure to assess segment performance or to make resource allocation decisions.

Below is a summary of NOI at share and NOI at share - cash basis by segment for the years ended December 31, 2022, 2021 and 2020.

(Amounts in thousands)

	For the Year Ended December 31, 2022		
	Total	New York	Other
Total revenues	\$ 1,799,995	\$ 1,449,442	\$ 350,553
Operating expenses	(873,911)	(716,148)	(157,763)
NOI - consolidated	926,084	733,294	192,790
Deduct: NOI attributable to noncontrolling interests in consolidated subsidiaries	(70,029)	(45,566)	(24,463)
Add: NOI from partially owned entities	305,993	293,780	12,213
NOI at share	1,162,048	981,508	180,540
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	(10,980)	(18,509)	7,529
NOI at share - cash basis	<u>\$ 1,151,068</u>	<u>\$ 962,999</u>	<u>\$ 188,069</u>

(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	<u>\$ 1,034,686</u>	<u>\$ 891,766</u>	<u>\$ 142,920</u>

(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	<u>\$ 1,018,825</u>	<u>\$ 870,606</u>	<u>\$ 148,219</u>

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

23. Segment Information - continued

Below is a reconciliation of net (loss) income to NOI at share for the years ended December 31, 2022, 2021 and 2020.

(Amounts in thousands)

	For the Year Ended December 31,		
	2022	2021	2020
Net (loss) income	\$ (382,612)	\$ 207,553	\$ (461,845)
Depreciation and amortization expense	504,502	412,347	399,695
General and administrative expense	133,731	134,545	181,509
Impairment losses, transaction related costs and other	31,722	13,815	174,027
Loss (income) from partially owned entities	461,351	(130,517)	329,112
(Income) loss from real estate fund investments	(3,541)	(11,066)	226,327
Interest and other investment (income) loss, net	(19,869)	(4,612)	5,499
Interest and debt expense	279,765	231,096	229,251
Net gains on disposition of wholly owned and partially owned assets	(100,625)	(50,770)	(381,320)
Income tax expense (benefit)	21,660	(10,496)	36,630
NOI from partially owned entities	305,993	310,858	306,495
NOI attributable to noncontrolling interests in consolidated subsidiaries	(70,029)	(69,385)	(72,801)
NOI at share	1,162,048	1,033,368	972,579
Non-cash adjustments for straight-line rents, amortization of acquired below-market leases, net and other	(10,980)	1,318	46,246
NOI at share - cash basis	<u>\$ 1,151,068</u>	<u>\$ 1,034,686</u>	<u>\$ 1,018,825</u>

24. Subsequent Events

150 West 34th Street Loan Participation

On January 9, 2023, our \$105,000,000 participation in the \$205,000,000 mortgage loan on 150 West 34th Street was repaid, which reduced “other assets” and “mortgages payable, net” on our consolidated balance sheets by \$105,000,000 in the first quarter of 2023. The remaining \$100,000,000 mortgage loan balance bears interest at SOFR plus 1.86%, subject to an interest rate cap arrangement with a SOFR strike rate of 4.10%, and matures in May 2024.

VORNADO REALTY TRUST AND VORNADO REALTY L.P.
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS (CONTINUED)

24. Subsequent Events - continued

350 Park Avenue

On January 24, 2023, we and the Rudin family (“Rudin”) completed agreements with Citadel Enterprise Americas LLC (“Citadel”) and with an affiliate of Kenneth C. Griffin, Citadel’s Founder and CEO (“KG”), for a series of transactions relating to 350 Park Avenue and 40 East 52nd Street.

Citadel will master lease 350 Park Avenue, a 585,000 square foot Manhattan office building, on an “as is” basis for ten years, with an initial annual net rent of \$36,000,000. Per the terms of the lease, no tenant allowance or free rent is being provided. Citadel will also master lease Rudin’s adjacent property at 40 East 52nd Street (390,000 square feet).

In addition, we have entered into a joint venture with Rudin (“Vornado/Rudin”) to purchase 39 East 51st Street for \$40,000,000 and, upon formation of the KG joint venture described below, will combine that property with 350 Park Avenue and 40 East 52nd Street to create a premier development site (collectively, the “Site”).

From October 2024 to June 2030, KG will have the option to either:

- acquire a 60% interest in a joint venture with Vornado/Rudin that would value the Site at \$1.2 billion (\$900,000,000 to Vornado and \$300,000,000 to Rudin) and build a new 1,700,000 square foot office tower (the “Project”) pursuant to East Midtown Subdistrict zoning with Vornado/Rudin as developer. KG would own 60% of the joint venture and Vornado/Rudin would own 40% (with Vornado owning 36% and Rudin owning 4% of the joint venture along with a \$250,000,000 preferred equity interest in the Vornado/Rudin joint venture).
 - at the joint venture formation, Citadel or its affiliates will execute a pre-negotiated 15-year anchor lease with renewal options for approximately 850,000 square feet (with expansion and contraction rights) at the Project for its primary office in New York City;
 - the rent for Citadel’s space will be determined by a formula based on a percentage return (that adjusts based on the actual cost of capital) on the total Project cost;
 - the master leases will terminate at the scheduled commencement of demolition;
- or, exercise an option to purchase the Site for \$1.4 billion (\$1.085 billion to Vornado and \$315,000,000 to Rudin), in which case Vornado/Rudin would not participate in the new development.

Further, Vornado/Rudin will have the option from October 2024 to September 2030 to put the Site to KG for \$1.2 billion (\$900,000,000 to Vornado and \$300,000,000 to Rudin). For ten years following any put option closing, unless the put option is exercised in response to KG’s request to form the joint venture or KG makes a \$200,000,000 termination payment, Vornado/Rudin will have the right to invest in a joint venture with KG on the terms described above if KG proceeds with development of the Site.

2023 LTTP

On January 11, 2023, the Compensation Committee approved the 2023 Long-Term Performance Plan (“2023 LTTP”), a multi-year, LTIP units-based performance equity compensation plan. Awards under the 2023 LTTP 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 2023 operational performance in the following categories:

- FFO, as adjusted 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 LTTP award units tentatively earned based on Vornado’s 2023 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 three-year TSR is below specified levels.

Awards under relative components may be earned based on Vornado’s three-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 2023 LTTP are subject to reductions of up to 30% if Vornado’s three-year TSR is below specified levels.

If the designated performance objectives are achieved, awards earned under 2023 LTTP will vest 50% in January 2026 and 50% in January 2027. 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 2023 LTTP 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.

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, 2022, 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, 2022 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, 2022 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, 2022.

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, 2022, 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, 2022, 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, 2022, of the Company and our report dated February 13, 2023, 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 13, 2023

ITEM 9A. CONTROLS AND PROCEDURES - CONTINUED

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, 2022, 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, 2022 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, 2022 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, 2022.

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, 2022, 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, 2022, 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, 2022, of the Partnership and our report dated February 13, 2023, 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 13, 2023

ITEM 9B. OTHER INFORMATION

None.

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

PART III**ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE**

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, 2022, 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	81	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	54	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	53	Executive Vice President - Head of Retail since April 2019; Principal at Crown Acquisitions from January 2000 - April 2019.
Barry S. Langer	44	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	53	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, 2022 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	6,517,835 ⁽¹⁾	\$ 65.35	2,803,063 ⁽²⁾
Equity compensation plans not approved by security holders	182,067 ⁽³⁾	N/A	—
Total	6,699,902	\$ 65.35	2,803,063

(1) Includes shares/units of (i) 176,705 Vornado Stock Options (140,031 of which are vested and exercisable), (ii) 565,664 Appreciation-Only Long-Term Incentive Plan ("AO LTIP") units (437,372 of which are vested and exercisable), (iii) 496,762 Performance Conditioned AO LTIP units (409,538 of which are vested and exercisable), (iv) 2,969,205 restricted Operating Partnership units (1,983,289 of which are vested and exercisable), (v) 1,932,005 unearned Out-Performance Plan units, and (vi) 377,494 unearned Long-Term Performance Plan LTIP Units. See Note 14 - *Stock-based Compensation* in Part II, Item 8 of this Annual Report on Form 10-K for additional information.

Does not include 8,379 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 5,606,000 shares.
- (3) Includes (i) 46,503 restricted Operating Partnership units granted at a market price of \$33.88 per unit to Vornado Trustees that are not executives of the Company as part of their annual Trustee fees and (ii) 135,564 restricted Operating Partnership units granted at a market price of \$22.13 per unit to Vornado consultants that are not executives of the Company for annual consulting fees.

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 ACCOUNTANT FEES AND SERVICES

Information relating to principal accountant 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:

- 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.

Schedule III - Real Estate and Accumulated Depreciation

**Page in this
Annual Report
on Form 10-K**

124

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
	Encumbrances ⁽¹⁾	Initial cost to company		Costs capitalized subsequent to acquisition	Gross amount at which carried at close of period			Accumulated depreciation and amortization	Date of construction ⁽³⁾	Date acquired	Life on which depreciation in latest income statement is computed
		Land	Buildings and improvements		Land	Buildings and improvements	Total ⁽²⁾				
<i>New York</i>											
Manhattan											
1290 Avenue of the Americas	\$ 950,000	\$ 518,244	\$ 926,992	\$ 269,875	\$ 518,244	\$ 1,196,867	\$ 1,715,111	\$ 478,343	1963	2007	(4)
One Park Avenue	525,000	197,057	369,016	2,936	197,057	371,952	569,009	14,868	1926	2021	(4)
350 Park Avenue	400,000	265,889	363,381	64,619	265,889	428,000	693,889	170,634	1960	2006	(4)
PENN 1	—	—	412,169	791,704	—	1,203,873	1,203,873	402,282	1972	1998	(4)
100 West 33rd Street	480,000	331,371	361,443	78,034	331,371	439,477	770,848	178,228	1911/2009	2007	(4)
150 West 34th Street	205,000 ⁽⁵⁾	119,657	268,509	—	119,657	268,509	388,166	50,905	1900	2015	(4)
PENN 2	575,000 ⁽⁶⁾	53,615	164,903	544,767	52,689	710,596	763,285	108,685	1968	1997	(4)
90 Park Avenue	—	8,000	175,890	199,485	8,000	375,375	383,375	192,616	1964	1997	(4)
770 Broadway	700,000	52,898	95,686	192,597	52,898	288,283	341,181	142,018	1907	1998	(4)
888 Seventh Avenue	277,800	—	117,269	170,408	—	287,677	287,677	155,181	1980	1998	(4)
PENN 11	500,000	40,333	85,259	135,639	40,333	220,898	261,231	102,565	1923	1997	(4)
909 Third Avenue	350,000	—	120,723	122,641	—	243,364	243,364	132,201	1969	1999	(4)
150 East 58th Street	—	39,303	80,216	62,924	39,303	143,140	182,443	75,535	1969	1998	(4)
595 Madison Avenue	—	62,731	62,888	79,646	62,731	142,534	205,265	58,669	1968	1999	(4)
330 West 34th Street	—	—	8,599	164,628	—	173,227	173,227	59,405	1925	1998	(4)
715 Lexington Avenue	—	—	26,903	20,218	30,086	17,035	47,121	1,925	1923	2001	(4)
4 Union Square South	120,000	24,079	55,220	12,513	24,079	67,733	91,812	28,102	1965/2004	1993	(4)
The Farley Building	—	—	476,235	949,500	—	1,425,735	1,425,735	54,042	1912	2018	(4)
260 Eleventh Avenue	—	—	80,482	6,937	—	87,419	87,419	16,227	1911	2015	(4)
510 Fifth Avenue	—	34,602	18,728	8,441	35,864	25,907	61,771	—	—	2010	(4)
606 Broadway	74,119	45,406	8,993	51,715	45,298	60,816	106,114	6,048	—	2016	(4)
443 Broadway	—	11,187	41,186	(41,283)	2,370	8,720	11,090	—	—	2013	(4)
435 Seventh Avenue	95,696	19,893	19,091	2,166	19,893	21,257	41,150	11,803	2002	1997	(4)
692 Broadway	—	6,053	22,908	(9,677)	3,552	15,732	19,284	—	—	2005	(4)
131-135 West 33rd Street	—	8,315	21,312	477	8,315	21,789	30,104	3,841	—	2016	(4)
304 Canal Street	—	3,511	12,905	(8,272)	1,771	6,373	8,144	337	1910	2014	(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	Buildings and improvements	Costs capitalized subsequent to acquisition	Gross amount at which carried at close of period			Accumulated depreciation and amortization	Date of construction ⁽³⁾	Date acquired	Life on which depreciation in latest income statement is computed
Encumbrances ⁽¹⁾	Land	Land			Buildings and improvements	Total ⁽²⁾					
<i>New York - continued</i>											
<i>Manhattan - continued</i>											
1131 Third Avenue	\$ —	\$ 7,844	\$ 7,844	\$ 5,683	\$ 7,844	\$ 13,527	\$ 21,371	\$ 3,489		1997	(4)
431 Seventh Avenue	—	16,700	2,751	—	16,700	2,751	19,451	1,083		2007	(4)
138-142 West 32nd Street	—	9,252	9,936	2,032	9,252	11,968	21,220	2,181	1920	2015	(4)
334 Canal Street	—	1,693	6,507	(1,169)	753	6,278	7,031	409		2011	(4)
966 Third Avenue	—	8,869	3,631	—	8,869	3,631	12,500	847		2013	(4)
148 Spring Street	—	3,200	8,112	408	3,200	8,520	11,720	3,163		2008	(4)
150 Spring Street	—	3,200	5,822	327	3,200	6,149	9,349	2,273		2008	(4)
137 West 33rd Street	—	6,398	1,550	—	6,398	1,550	7,948	300	1932	2015	(4)
825 Seventh Avenue	—	1,483	697	3,982	1,483	4,679	6,162	1,064		1997	(4)
537 West 26th Street	—	10,370	17,632	20,000	26,631	21,371	48,002	3,232		2018	(4)
339 Greenwich Street	—	2,622	12,333	(10,018)	866	4,071	4,937	245		2017	(4)
Hotel Pennsylvania site	—	29,903	121,712	109,425	29,903	231,137	261,040	—	1919	1997	(4)
Other (Including Signage)	—	140,477	31,892	22,106	94,787	99,688	194,475	28,002		—	(4)
Total Manhattan	5,252,615	2,084,155	4,627,325	4,025,414	2,069,286	8,667,608	10,736,894	2,490,748			
Other Properties											
Paramus, New Jersey	—	—	—	21,224	1,033	20,191	21,224	16,823	1967	1987	(4)
Total New York	5,252,615	2,084,155	4,627,325	4,046,638	2,070,319	8,687,799	10,758,118	2,507,571			

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
	Encumbrances ⁽¹⁾	Initial cost to company		Costs capitalized subsequent to acquisition	Gross amount at which carried at close of period			Accumulated depreciation and amortization	Date of construction ⁽³⁾	Date acquired	Life on which depreciation in latest income statement is computed
		Land	Buildings and improvements		Land	Buildings and improvements	Total ⁽²⁾				
<i>Other</i>											
theMART											
theMART, Illinois	\$ —	\$ 64,528	\$ 319,146	\$ 441,840	\$ 64,535	\$ 760,979	\$ 825,514	\$ 383,172	1930	1998	(4)
527 West Kinzie, Illinois	—	5,166	—	257	5,166	257	5,423	—		1998	
Piers 92 and 94, New York	—	—	—	23,838	—	23,838	23,838	4,339		2008	(4)
Total theMART	—	69,694	319,146	465,935	69,701	785,074	854,775	387,511			
555 California Street, California	1,200,000	223,446	895,379	269,215	223,446	1,164,594	1,388,040	432,128	1922,1969 -1970	2007	(4)
Borgata Land, Atlantic City, NJ	—	83,089	—	—	83,089	—	83,089	—		2010	
759-771 Madison Avenue (40 East 66th Street) Residential, New York	—	8,454	13,321	(8,193)	5,273	8,309	13,582	3,321		2005	(4)
Annapolis, Maryland	—	—	9,652	—	—	9,652	9,652	4,964		2005	(4)
Wayne Towne Center, New Jersey	—	—	26,137	48,011	—	74,148	74,148	38,228		2010	(4)
Other	—	—	—	7,962	—	7,962	7,962	2,103			(4)
Total Other	1,200,000	384,683	1,263,635	782,930	381,509	2,049,739	2,431,248	868,255			
Leasehold improvements, equipment and other	—	—	—	125,389	—	125,389	125,389	95,165			
Total December 31, 2022	\$ 6,452,615	\$2,468,838	\$ 5,890,960	\$ 4,954,957	\$ 2,451,828	\$ 10,862,927	\$13,314,755	\$ 3,470,991			

(1) Represents contractual debt obligations.

(2) The net basis of Vornado's assets and liabilities for tax reporting purposes is approximately \$1.6 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 "costs capitalized subsequent to acquisition" column.

(4) Depreciation of the buildings and improvements is calculated over lives ranging from the life of the lease to forty years.

(5) On January 9, 2023, our \$105,000 participation in the \$205,000 mortgage loan on 150 West 34th Street was repaid.

(6) 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,		
	2022	2021	2020
Real Estate			
Balance at beginning of period	\$ 13,217,845	\$ 12,087,943	\$ 13,074,012
Additions during the period:			
Land	—	197,057	1,372
Buildings & improvements and other	711,722	1,286,474	1,127,593
	<u>13,929,567</u>	<u>13,571,474</u>	<u>14,202,977</u>
Less: Assets sold, written-off, reclassified to ready for sale and deconsolidated	614,812	353,629	2,115,034
Balance at end of period	<u>\$ 13,314,755</u>	<u>\$ 13,217,845</u>	<u>\$ 12,087,943</u>
Accumulated Depreciation			
Balance at beginning of period	\$ 3,376,347	\$ 3,169,446	\$ 3,015,958
Depreciation expense	449,864	362,311	344,301
	<u>3,826,211</u>	<u>3,531,757</u>	<u>3,360,259</u>
Less: Accumulated depreciation on assets sold, written-off and deconsolidated	355,220	155,410	190,813
Balance at end of period	<u>\$ 3,470,991</u>	<u>\$ 3,376,347</u>	<u>\$ 3,169,446</u>

(b) Exhibits:

Exhibit No.

- 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 28, 2022 - Incorporated by reference to Exhibit 3.2 to Vornado Realty Trust’s Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 (File No. 001-11954), filed on August 1, 2022 *
- 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 *
- 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 *

* Incorporated by reference

- 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 *
- 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 *

* Incorporated by reference

- 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 Vornado Realty Trust securities registered pursuant to Section 12 of the Securities Exchange Act of 1934 ***
- 4.4 — Description of Class A units of Vornado Realty L.P. and certain provisions of its agreement of limited partnership ***

* Incorporated by reference
** Management contract or compensatory agreement
*** Filed herewith

- 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 ** — 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 *
- 10.4 ** — 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 *
- 10.5 — 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(j)(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 *
- 10.6 ** — 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 *
- 10.7 ** — 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 *
- 10.8 ** — 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 *
- 10.9 ** — 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 *
- 10.10 ** — 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 *
- 10.11 ** — 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 *
- 10.12 ** — 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 *
- 10.13 ** — 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 *
- 10.14 ** — 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 *
- 10.15 ** — 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 *
- 10.16 ** — 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 *
- 10.17 ** — 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 *
- 10.18 ** — 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 *
- 10.19 ** — 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 *
- 10.20 ** — 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 *
- 10.21 — 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 *

* Incorporated by reference

** Management contract or compensatory agreement

10.22	**	— 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	*
10.23	**	— 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	*
10.24	**	— 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	*
10.25	**	— 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	*
10.26	**	— 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	*
10.27	**	— 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	*
10.28	**	— 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	*
10.29	**	— 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	*
10.30		— 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	*
10.31	**	— Form of Vornado Realty Trust 2022 Long-term Performance Plan LTIP Unit 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, 2021 (File No. 001-11954), filed on February 14, 2022	*
10.32	**	— Employment agreement between Vornado Realty Trust and Barry Langer dated June 4, 2018 - Incorporated by reference to Exhibit 10.37 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended March 31, 2022 (File No. 001-11954), filed on May 2, 2022	*
10.33		— Second Amended and Restated Term Loan Agreement dated as of June 30, 2022, 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 10.38 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 (File No. 001-11954), filed on August 1, 2022	*
10.34		— Amendment No. 1 to Second Amended and Restated Revolving Credit Agreement dated as of June 30, 2022, 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 10.39 to Vornado Realty Trust's Quarterly Report on Form 10-Q for the quarter ended June 30, 2022 (File No. 001-11954), filed on August 1, 2022	*
10.35		— Third Amended and Restated Revolving Credit Agreement dated as of June 30, 2022, 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 June 30, 2022 (File No. 001-11954), filed on August 1, 2022	*
10.36	**	— Form of Vornado Realty Trust 2019 Omnibus Share Plan Restricted LTIP Unit Agreement granted in 2023	***
10.37	**	— Form of Vornado Realty Trust 2023 Long-term Performance Plan LTPP 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, 2022, 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, 2022, formatted as iXBRL and contained in Exhibit 101.	***

Filed herewith

ITEM 16. FORM 10-K SUMMARY

None.

VORNADO CORPORATE INFORMATION

TRUSTEES

STEVEN ROTH
Chairman of the Board

CANDACE K. BEINECKE, Lead Trustee
Senior Partner of Hughes Hubbard & Reed LLP

MICHAEL D. FASCITELLI
Owner of MDF Capital LLC and former President
and Chief Executive Officer of Vornado

BEATRICE HAMZA BASSEY*
Group General Counsel, Chief Compliance Officer
and Corporate Secretary, Atlas Mara Ltd.

WILLIAM W. HELMAN IV
General Partner, Greylock Partners

DAVID M. MANDELBAUM
Partner, Interstate Properties

RAYMOND J. MCGUIRE
President, Lazard Ltd.

MANDAKINI PURI*
Private Equity Consultant

DANIEL R. TISCH*
Managing Member,
TowerView LLC

RUSSELL B. WIGHT, JR
Partner, Interstate Properties

*Members of the Audit Committee

CORPORATE OFFICERS

STEVEN ROTH
Chairman of the Board
Chief Executive Officer

MICHAEL J. FRANCO
President and Chief Financial Officer

GLEN J. WEISS
Executive Vice President –
Office Leasing and Co-Head of Real Estate

BARRY S. LANGER
Executive Vice President –
Development and Co-Head of Real Estate

HAIM CHERA
Executive Vice President –
Head of Retail

THOMAS SANELLI
Executive Vice President –
Finance and Chief Administrative Officer

DEIRDRE MADDOCK
Senior Vice President –
Chief Accounting Officer

DAVID R. GREENBAUM
Vice Chairman

JOSEPH MACNOW
Senior Advisor

DIVISION EXECUTIVE VICE PRESIDENTS

DAVID BELLMAN
Design & Construction

ELANA BUTLER
Leasing Counsel

PAMELA CARUSO
Leasing Counsel

MICHAEL DOHERTY
President – BMS Division

ROBERT ENTIN
Chief Information Officer

RICHARD FAMULARO
Controller

JOSHUA GLICK
Director of PENN DISTRICT Leasing

FREDERICK HARRIS
Development

PAUL HEINEN
Chief Operating Officer – THE MART

ED HOGAN
Retail Leasing – New York Division

FRANK MAIORANO
Head of Tax and Compliance

MICHAEL SCHNITT
Acquisitions and Capital Markets

GASTON SILVA
Chief Operating Officer – New York Division

LISA VOGEL
Marketing

COMPANY DATA

EXECUTIVE OFFICES
888 Seventh Avenue
New York, New York 10019

INDEPENDENT REGISTERED
PUBLIC ACCOUNTING FIRM
Deloitte & Touche LLP
New York, New York

COUNSEL
Sullivan & Cromwell LLP
New York, New York

TRANSFER AGENT AND REGISTRAR
American Stock Transfer & Trust Co.
New York, New York

MANAGEMENT CERTIFICATIONS
The Company's Chief Executive Officer and Chief Financial Officer provided certifications to the Securities and Exchange Commission as required by Section 302 of the Sarbanes-Oxley Act of 2002 and these certifications are included in the Company's Annual Report on Form 10-K for the year ended December 31, 2022. In addition, as required by Section 303A.12(a) of the New York Stock Exchange (NYSE) Listed Company Manual, on May 24, 2022, the Company's Chief Executive Officer submitted to the NYSE the annual CEO certification regarding the Company's compliance with the NYSE's corporate governance listing standards.

REPORT ON FORM 10-K
Shareholders may obtain a copy of the Company's annual report on Form 10-K as filed with the Securities and Exchange Commission free of charge (except for exhibits), by writing to the Secretary, Vornado Realty Trust, 888 Seventh Avenue, New York, New York 10019; or visit the Company's website at www.vno.com and refer to the Company's SEC filings.

ANNUAL MEETING
The annual meeting of shareholders of Vornado Realty Trust, will be held virtually, via the internet, at 11:30 AM, New York City time on May 18, 2023.

To attend the virtual 2023 Annual Meeting you will need to access www.virtualshareholdermeeting.com/VNO2023 and enter the 16-digit control number found on your proxy card, voting instruction form or Notice of Internet Availability of Proxy Materials. There is no physical location for the annual meeting. We encourage you to allow ample time for online check-in, which will begin at 11:15 AM, New York City time. Additional details regarding how to participate in the Annual Meeting can be accessed at the Company's website, www.vno.com or at www.proxyvote.com.